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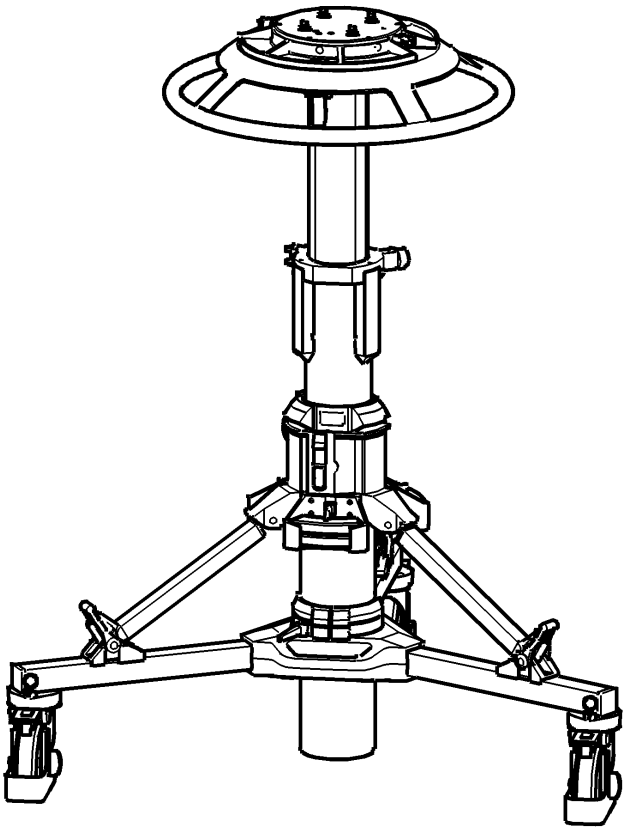
Maintenance Manual

Pro-Ped

Pedestal



Vinten

Camera Control Solutions

Pro-Ped

PEDESTAL
3381

MAINTENANCE MANUAL
AND
ILLUSTRATED PARTS LIST

PUBLICATION PART No. 3381-9

ISSUE 2

Foreword

This manual provides full and detailed maintenance and spare parts information for the Vinten® Pro-Ped pedestal.

WARNING!: Read the Safety Section on page 7 before using this pedestal or attempting any adjustment or repair

It is recommended that this manual is read carefully and the illustrations studied prior to operating or servicing the pedestal. Attention to the details contained herein will ensure that the pedestal will operate efficiently with the minimum of attention over a long service life. Particular attention must be paid to cleaning, especially after use in adverse conditions.

To order spare parts or to obtain further information, application should be made to Vinten Broadcast Limited or to your local distributor.

NOTE: Information contained in this document is subject to change.
Vinten Broadcast Ltd reserves the right, without notice, to make changes in equipment design or performance as progress in engineering, manufacturing or technology may warrant.

Notes to readers

This is the on-line version of ‘Pro-Ped Maintenance Manual’ (3381-9). Readers should be aware that the pagination differs between on-line and printed versions.

Navigation

Clicking the mouse on any blue text will move you around the document. For example, if you click on one of the blue call-outs on an exploded drawing, you will be taken to the appropriate line in the relevant parts list.

Contents Clicking here will take you to the Contents Page.

 Clicking here will take you to the first page.

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ASSOCIATED PUBLICATION

Pro-Ped Pedestal Operators Guide - publication Part No. 3381-8

Safety - Read This First!

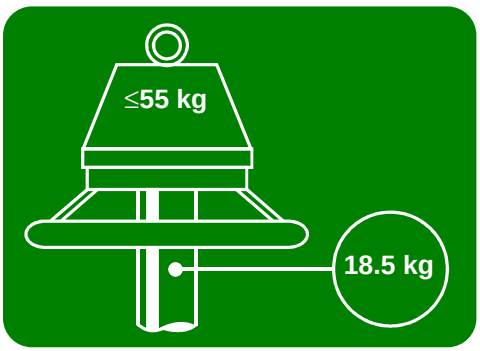
Warning symbols in this maintenance manual

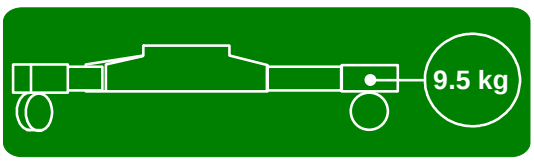
Where there is a risk of personal injury, injury to others, or damage to the pedestal or associated equipment, comments appear, highlighted by the word WARNING! and supported by the warning triangle symbol.

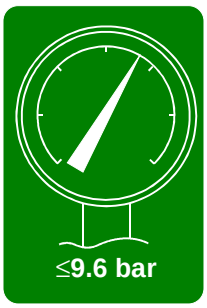
Warning symbols on the pedestal

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

Critical data







Mass

Column	**18.5 kg**	**(40.7 lb)**
Trim weights (total)	**3 kg**	**(6.6 lb)**
Skid	**9.5 kg**	**(21 lb)**

Load

Maximum Load	**55 kg**	**(121 lb)**

Pressure

Maximum Pressure	**9.6 bar**	**(140 psi)**

Abbreviations

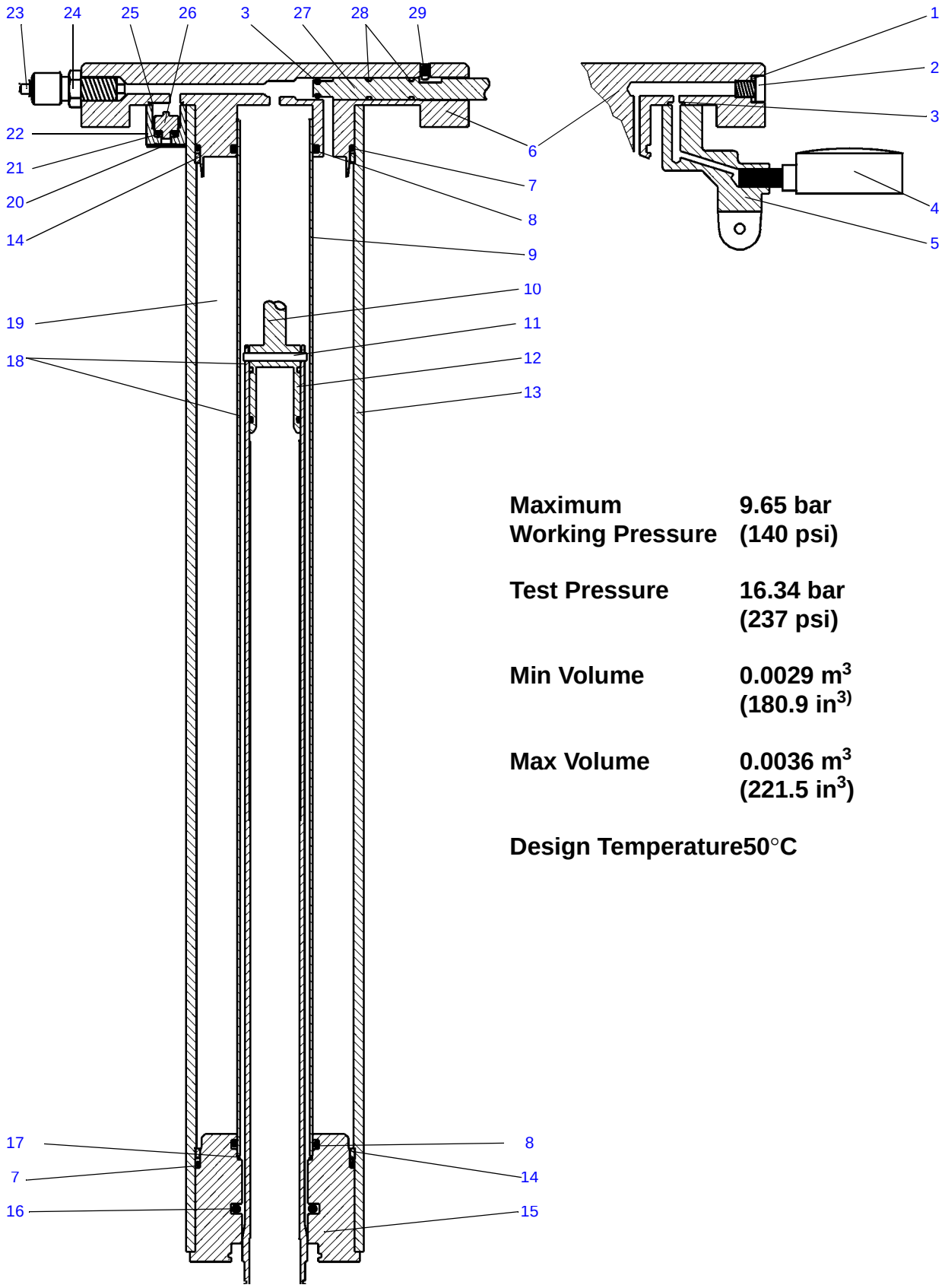
The following abbreviations are used in this publication:

ac	alternating current	lb	pound (weight)
A	Amps	LF	Lubricated Friction
AF	across flats	LH	left hand
A/R	as required	MISO	metric thread
ASME	American Society of Mech Engineers	m	metre
assy	assembly	mm	millimetre
BS	British Standard	N	Newton
BA	British Association thread	NPT	National Pipe thread
BSF	British Standard Fine thread	NI	not illustrated
BSP	British Standard Parallel Pipe thread	No.	number
BSW	British Standard Whitworth thread	OD	outside diameter
btn	button	PCB	printed circuit board
chs	cheese	PCD	pitch circle diameter
C of G	centre of gravity	pozi	Pozidriv
comp	compression	psi	pounds per square inch
csk	countersunk	pt	point
cu	cubic	PTFE	Polytetrafluoroethylene
c/w	complete with	PVC	Polyvinyl chloride
dc	direct current	RH	right hand
dia	diameter	sect	section
ft	foot	skt	socket
hd	head	SWG	standard wire gauge
hex	hexagon	thk	thick
Hz	Hertz (frequency)	UNC	Unified Coarse thread
IC	integrated circuit	UNF	Unified Fine thread
ID	inside diameter	V	Volts
in.	inch	W	Watts
kg	kilogram		

Technical Specification

NOTE: The drawings in this section are provided only as a guide to construction and material in the pressurized parts of the pedestal. They should NOT be used for dismantling and assembly or the ordering of spare parts. Please refer to Repair or Illustrated Parts List.

	STUDIO	OB
Weight		
Column	18.5 kg (40 lb)	18.5 kg (40 lb)
Skid	9.5 kg (20 lb)	9.5 kg (20 lb)
Trim weights	3 kg (6.6 lb)	3 kg (6.6 lb)
Total pedestal weight	31 kg (68.2 lb)	31 kg (68.2 lb)
Overall Dimensions		
Minimum height	68 cm (27 in.)	70 cm (27.5 in.)
Maximum height	150 cm (59 in.)	151 cm (59.5 in.)
On-shot stroke	48 cm (19 in.)	48 cm (19 in.)
Skid leg radius	48 cm (19 in.)	48 cm (19 in.)
Wheel diameter	12.5 cm (5 in.)	16 cm (6.3 in.)
Steering ring diameter	53.5 cm (21 in.)	53.5 cm (21 in.)
Payload	55 kg (120 lb)	55 kg (120 lb)
Pneumatic system		
Maximum working pressure	9.65 bar (140 psi)	9.65 bar (140 psi)
Relief valve pressure	11.38 bar (165 psi)	11.38 bar (165 psi)
Test pressure	16.34 bar (237 psi)	16.34 bar (237 psi)



Maximum Working Pressure	**9.65 bar (140 psi)**
Test Pressure	**16.34 bar (237 psi)**
Min Volume	**0.0029 m^3 (180.9 $in^{3)}$**
Max Volume	**0.0036 m^3 (221.5 in^3)**
Design Temperature	**50°C**

TANK ASSEMBLY (PART NO. 3381-20

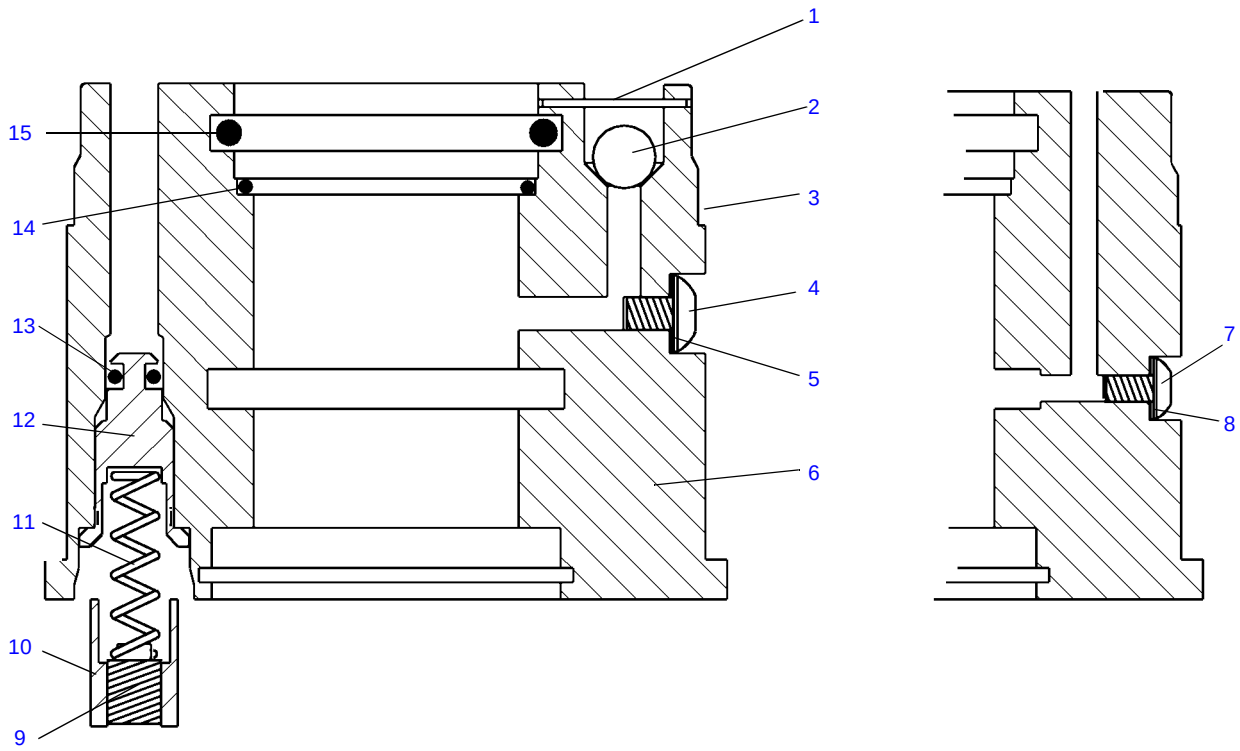
TANK ASSEMBLY (PART NO. 3381-20)

Item	Name	Qty	Material
1	Sealing ring, secured with:	1	Nylite nylon L29
	Loctite primer T	A/R	
	Loctite 542	A/R	
2	Screw, lp skt hd, M8 x 12 mm lg, secured with:	1	HT steel, de-embrittled, zinc and black passivated
	Loctite primer T	A/R	
	Loctite 542	A/R	
3	'O' ring	2	Medium nitrile rubber
4	Pressure gauge, secured with:	1	
	Loctite primer T	A/R	
	Loctite 542	A/R	
5	Catch bracket	1	Al alloy, LM4TF
6	Tank top plate	1	Al alloy, 2011 BS4300/5
7	'O' ring	4	Medium nitrile rubber
8	'O' ring	1	Medium nitrile rubber
9	Guide tube	1	Al alloy, 6082 T6 BS1474
10	Tapered ram bung	1	
11	Spirol pin	1	Nickel stainless steel
12	Tapered ram	1	
13	Tank tube	1	Al alloy, 6082 T6 BS1474 *
14	'O' ring retaining ring	2	Al alloy, 6082 T6 BS1474
15	Pressure relief valve assembly	1	See below
16	'O' ring	1	Medium nitrile rubber
17	'O' ring	1	Medium nitrile rubber
18	'O' ring	2	Medium nitrile rubber
19	Explosafe, tank	1	Explosafe Al mesh, Ref 454A
20	Inlet valve filter, secured with:		
21	Valve seal, 'V' ring		
22	Inlet valve housing, secured with:		
23	Pressure release button	1	Brass BS249 CZ121

*Material fully certified and covered by mechanical and chemical certificates

TANK ASSEMBLY (PART NO. 3381-20) (CONT)

Item	Name	Qty	Material
24	Schrader valve, secured with:	1	Schrader 9886, core 2300T
	Loctite primer T	A/R	
	Loctite 542	A/R	
25	O' ring	1	Medium nitrile rubber
26	Inlet valve	1	
27	Valve switchover shaft	1	
28	'O' ring	2	Medium nitrile rubber
29	Grubscrew, skt, secured with:		
	Loctite 222E		



PRESSURE RELIEF VALVE ASSEMBLY

PRESSURE RELIEF VALVE ASSEMBLY

Item	Name	Qty	Material
1	Spirol pin	1	Nickel stainless steel
2	Precision rubber ball	1	
3	‘O’ ring	1	Medium nitrile rubber
4	Screw, skt butt hd, M5 x 6 mm lg	1	Mild steel, cadmium plated and passivated
5	Sealing ring	1	Nylite nylon L29
6	Tank end plug	1	Al alloy 6082 T6 BS1474
7	Screw, skt butt hd, M4 x 5 mm lg	1	Mild steel, cadmium plated and passivated
8	Sealing ring	1	Nylite nylon L29
9	Tapped grub screw	1	Mild steel, cadmium plated and passivated
10	Relief valve spring retainer, secured with:	1	All alloy FC. I. BS4300/5
	Loctite 221	A/R	
	Screw, skt cap hd, M3 x 16 mm lg	2	Mild steel, cadmium plated and passivated
11	Compression spring	1	19 SWG
12	Relief valve piston	1	Stainless steel, BS970 303 S41
13	‘O’ ring	1	Medium nitrile rubber
14	‘O’ ring	1	Medium nitrile rubber
15	‘O’ ring	1	Medium nitrile rubber

Design Improvements

Details	Serial No. Information
Improved column drag	468
Improved head mounting bolts	513

Section 1

Introduction and Description

Contents **Para**

Introduction

1 The Pro-Ped Pedestal is a fully portable pneumatic camera mount with self-contained pump, designed for studio or outside broadcast (OB) use with payloads up to 55 kg (120 lbs). It is available in studio and outside broadcast (OB) versions

2 The pedestal comprises a central two-stage telescopic column and a skid assembly with castoring wheels. For transport, the telescopic column and skid may be separated and the skid folded.

3 Elevation of the bottom stage is assisted by a gas strut located within the column. To provide a suitable degree of assistance for various column loads, three versions of the gas strut are available, each designed to operate over a particular load range. Pedestals are supplied with a gas strut to suit a load in the range 32-55 kg (70-120 lb).

4 The top stage may be pressurized manually, using the self-contained pump, or from an external pressure source. Balance is achieved with approximately 1.5 bar pressure for every 10 kg of load (10 psi for every 10 lb). The studio version includes trim weights for fine balance.

5 The pedestal is equipped with a relief valve to prevent excessive build-up of pneumatic pressure and with a safety catch to prevent accidental extension of the telescopic column.

6 The skid comprises a centre casting with carrying handle, a fixed leg and two folding legs. Each leg carries a braked castoring wheel and a foot support with strap to secure the column leg. Two versions of the skid are available. The OB skid has 150 mm (6 in.) wheels with brakes. The studio skid has 125 mm (5 in.) wheels with brakes, cable guards and track locks which provide castor, track or steer movement of the pedestal.

Description

7 The pedestal consists of two main assemblies:

7.1 A skid assembly

7.2 A two-stage column

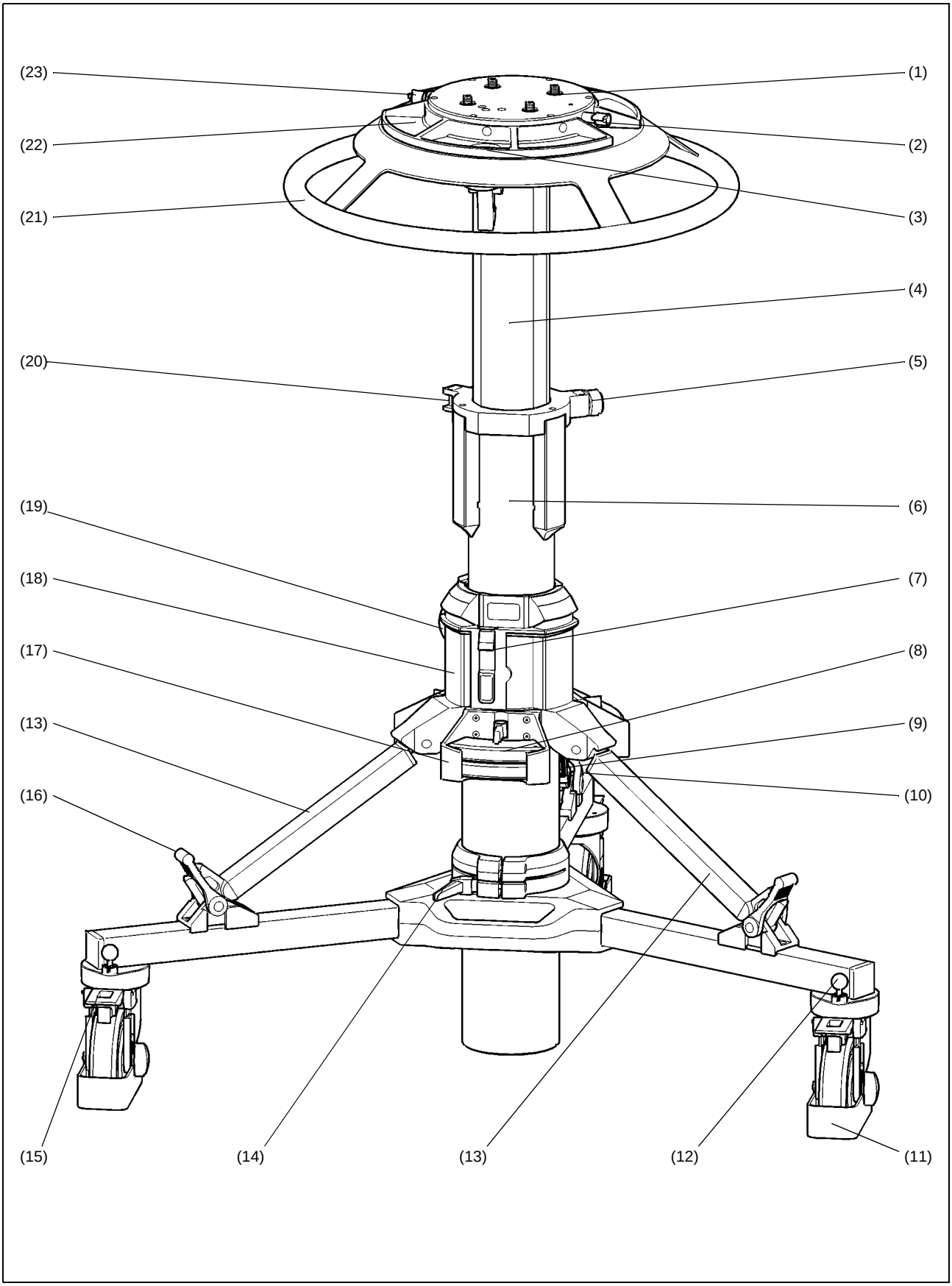


Fig 1.1 Pro-Ped pedestal - studio version

Skid assembly

8 The skid assembly comprises a centre casting, three equispaced skid legs and three wheels. The bottom stage of the telescopic column is secured to the centre casting by a clamp. Two of the legs may be folded for transportation. Each leg is fitted with a wheel: 125 mm (5 in.) diameter, fitted with brakes (15), cable guards (11) and track locks (12) for studio use; or 160 mm (6 in.) diameter, fitted with brakes (15) for OB use. A clamp and rubber strap (16) secures the bottom stage struts to the legs.

Two-stage column

9 The two-stage column consists of:

9.1 A bottom stage comprising an outer tube and an elevation tube.

9.2 A top stage comprising a tank assembly.

Outer tube

10 The outer tube (18) supports the bottom stage of the two-stage column. Its lower end is closed by an end plate and plug and fits in the centre casting of the skid assembly, where it is secured by the skid clamp (14). A top housing assembly is fitted to its upper end. The top housing has three equispaced pivots for the bottom stage struts (9)(13), which engage with foot supports (16) on the skid assembly and are secured with rubber straps to give the pedestal its strength and stability. The pedestal is supplied with a captive strap (10) to secure the struts to the outer tube during transportation and storage. A clamp (19) in the top housing secures the elevation tube in position. A safety catch (7) engages with the latch on the tank tube.

11 The studio version is provided with three pockets (17) for trim weights (8) when they are not in use.

Elevation tube

12 The elevation tube forms the bottom stage (6) of the two-stage column and the positioning of this tube, relative to the outer tube, broadly defines the working height of the pedestal. Once set at the required height the elevation tube is secured by the clamp (19) on the outer tube. The upper end of the elevation tube is fitted with three sets of rollers, which guide the tank assembly, an adjustable drag pad (5) and a top clamp (20), which acts as an on-shot lock and secures the tank assembly in position. The lower end is closed by an end plate. A pressurized gas strut is installed in the elevation tube, between a plug in the outer tube lower end plate and the top of the tank assembly ram.

Tank assembly

13 The tank assembly forms the top stage (4) of the two-stage column and provides the pneumatic counterbalancing force. It consists of a tank tube, a top plate, a relief valve assembly and a pressurization mechanism. An aluminium mesh tank filler is installed in the tank assembly to improve temperature stability of the top stage.

14 The tank tube has three equispaced longitudinal tracks on its outer wall which engage with rollers in the elevation tube to guide the tank assembly and prevent rotational movement.

15 The top plate, which closes the top of the tank tube, contains a Schrader valve (23), which allows for external charging and pressure release, a 0-13.5 bar (0-200 psi) pressure gauge (3), an inlet valve and a control valve (2). Attached to the top plate are a latch, which engages with the safety catch (7) on the bottom tube top housing and a steering ring (21). The upper end of the pressurization mechanism is retained in the top plate. The studio version is provided with two trim weight trays (22).

16 The relief valve assembly closes the bottom of the tank tube and acts as a guide for the bottom end of the pressurization mechanism. It contains a lower inlet valve and a pressure relief valve.

Section 2

Operation

General

1 To identify components, please refer to Fig 1.1. For further operating instructions, please refer to Pro-Ped Pedestal Operators Guide, Publication Part No. 3381-8.

Assembling the pedestal

2 To assemble the pedestal, proceed as follows:

2.1 Turn the skid upside-down, depress the leg locking plungers and swing each folding leg out until the plungers lock the legs in the open position.

2.2 Set the skid on the ground on its wheels and apply the brakes (15).

2.3 Ensure that the rubber straps (16) on each foot support are to the outside of the ball joint.

2.4 Hold the column upright and release the Velcro retaining strap (10) holding the three struts. Raise the long strut (9) to about 30° from horizontal. The strut joint is adjusted to retain the strut in this position.

2.5 Lift the column, holding the two shorter struts (13) out from the column. Align the long strut with the fixed leg of the skid and carefully lower the column base into the skid centre, at the same time engaging the struts with the ball joints on each foot support.

2.6 Secure the struts to the supports with the rubber straps (16).

2.7 Tighten the skid clamp (14) using moderate hand pressure only. The clamp lever has a spring loaded ratchet-type action and is operated as follows:

2.7.1 Turn the clamp lever clockwise as far as possible.

2.7.2 Pull the lever outward against the spring pressure, return it to vertical and release.

2.7.3 Turn lever clockwise again.

2.7.4 Repeat until the skid clamp is sufficiently tightened.

Pressurizing the pedestal

WARNING!: do not attempt to pressurize the pedestal with any gas other than 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 when charging this pedestal must not exceed 9.65bar (140psi). As a safeguard against over-pressurizing, the pedestal is fitted with a relief valve. Do not pressurize the pedestal beyond the safe working maximum pressure indicated by the leading edge of the red sector on the gauge.

3 The Pro-Ped may be pressurized manually, by using the self-contained pump, or from an external source. 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 top stage, with minimum effort, and it will maintain its position when the steering ring is released.

Pressurizing manually

4 To pressurize the pedestal manually, proceed as follows:

4.1 Set the control valve (2) to the PUMP position.

WARNING!: Bottom stage elevation is assisted by a gas strut. The bottom stage will rise rapidly if released with no payload fitted.
Do not lean over the pedestal when releasing the safety catch and/or the bottom clamp.

5 Ensure that the bottom stage is fully lowered and the red bottom clamp is applied. Release the safety catch and move the slide (7) to the OFF position.

5.1 Using the steering ring, raise the top stage until fully extended. Commence pumping by lowering and raising the top stage over the upper half of its travel. When the pressure gauge begins to register, pump the top stage over its full stroke. Stop pumping when maximum working pressure is reached (indicated by the lower edge of the red sector on the gauge (3)) during the pumping stroke.

WARNING!: Do not switch the control valve directly from ‘PUMP’ to ‘WORK’.

5.2 Set the control valve (2) to the INTERMEDIATE position and allow the top stage to rise fully. Set the control valve to the WORK position.

5.3 Install the camera mount and payload and balance the load as described below.

Pressurizing from an external source

6 To pressurize the pedestal using an external source, proceed as follows:

6.1 Set the control valve (2) to the WORK position.

6.2 Remove the Schrader valve cap (23) and connect the charging line from the pressure source.

6.3 Turn on the pressure supply and slowly increase the pedestal pressure. If not already fully extended, the top stage will rise. Shut off the supply when maximum working pressure is reached, indicated by the lower edge of the red sector on the gauge.

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

6.5 Install the camera mount and payload and balance the load as described below.

Fitting and balancing the load

7 After pressurization of the pedestal, the camera mounting and payload can be fitted and balanced. The Pro-Ped pedestal has the standard four-bolt mounting plate which permits the use of various Vinten camera mounts including pan and tilt heads, Quickfix and Mitchell adapters. The mounting bolts are captive in the pedestal and the bolt heads are accessible from the underside of the mounting plate. When the camera mount has been fitted, the bolts should be tightened securely using a spanner of the correct size. A Vinten spanner, Part No. J551-001, is available for this purpose.

8 When the camera mount has been secured proceed as follows:

8.1 Fit the payload to the fully-extended top stage of the pedestal, 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. If the studio version is in use, install three trim weights on the weight tray.

8.2 Using the Schrader valve cap (23), carefully reduce the pressure in steps of 0.15- 0.20bar (2-3psi) until the payload is correctly balanced. A correctly pressurized pedestal will balance its payload such that it may be moved to any position over the full on-shot stroke with minimum effort and will maintain its position when the steering ring is released. If the studio version is in use, fine balance may be achieved by adding or removing trim weights.

Using the pedestal

Brakes

9 Each of the skid wheels is fitted with a foot operated brake (15). The brake is applied by pressing down on the lever situated above the wheel and released by pressing down on the centre ‘pop-up’ lever which is raised when the brake is on.

Cable guards

10 The cable guards (11) fitted to the studio version are height-adjustable and should be set as required. Adjustment is carried out by slackening the knobs, setting the cable guards at the required height and re-tightening the knobs.

Pedestal movement

11 The wheels on the studio version of the skid can be locked in the straight-ahead position or set to castor freely. The castor/lock changeover is effected by spring-loaded track lock pins (12) on each wheel assembly. The pins on the folding legs have black knobs and the pin on the fixed leg has a red knob. To engage or disengage a pin, pull it up against the spring and turn through 90 degrees. The pin will only engage with the wheel when the wheel is properly aligned. This arrangement provides castor, track and steer motion.

WARNING!: To ensure maximum pedestal stability, particularly when moving over uneven ground, reduce pedestal height to minimum.

Castor Motion

12 For castor motion, disengage all three track locks. The skid can now be moved freely in any direction.

Tracking Motion

13 For tracking motion, engage all three track locks. The skid can now track backwards and forwards in a straight line.

Steer Motion

14 For steer motion:

14.1 Position the skid so that the fixed leg (with the red knob) is in the direction of travel. Disengage the red track lock.

14.2 Engage the black track locks.

14.3 With the fixed leg of the skid facing forwards the skid can now be moved with a ‘steering-type’ motion.

Height Adjustment

Lower Stage

NOTE: Lower stage pressure-assistance is provided by a gas strut located within the column. The strut is available in three pressure settings and the correct one should be installed according to the pedestal load (Section 4).

15 The lower stage of the pedestal has an adjustment range of 395 mm (15.5 in.) and is pressure-assisted to aid elevation whilst the pedestal is loaded. To adjust the height setting:

15.1 Lower the top stage and engage the top clamp (20).

15.2 Support the weight of the load by holding the steering ring and the slacken the bottom clamp by turning the red knob (19) counter-clockwise until the lower stage is free to move.

15.3 Use the steering ring to set the column at the required height and re-tighten the bottom clamp.

Top Stage

16 The top stage of the column has an on-shot stroke of 420mm (16.5in.) and the load can be moved over this distance, in perfect balance, by raising and lowering the steering ring. The movement is adjustable for drag and this is set according to operator preference by means of the drag control (5) located at the top of the lower stage. Turn the control clockwise to increase the drag setting, and counter-clockwise to decease it.

17 A clamp for the top stage is fitted to the pedestal. This can be used to hold the top stage in position if fixed height operation is required. Pull the clamp lever (20) outward from the column to apply the clamp and push it back to release the clamp.

Section 3

Tools and Materials

Special tools

1 No special tools are required

Consumable materials

2 The following consumable materials are required for certain procedures detailed in Sections 4 and 5

ITEM	PART No.	USE
Loctite 221	Z002-226	Thread locking
Loctite 222E	Z002-075	Thread locking
Loctite 270	Z002-034	Thread locking
Loctite 290	Z002-012	Bearing lock
Loctite 406	Z002-086	Adhesive - drag pad
Loctite 380	Z002-078	Adhesive - roller shaft ‘O’ rings
Loctite 415	Z002-062	Adhesive - bump-stop ‘O’ ring
Loctite 542	Z002-025	Pressure gauge
Loctite 601	Z002-020	Adhesive - leg index sleeves
Loctite 638	Z002-058	On-shot clamp and safety catch pivot pins
Loctite Primer 757	Z002-087	Primer for Loctite 406
Loctite Primer T	Z002-019	Primer for Loctite 542
Permabond E31	Z002-070	Adhesive - castor sleeve
Redux 410	Z002-072	Adhesive - clamp pad
Silcoset 153	Z002-036	Adhesive - Perspex disc, leg tube inserts, foot support caps
Grease, white bearing	Z150-085	General lubrication
Grease, Molycote 111	Z150-096	Drag pad
Paint, Nimbus Grey		Retouching

Section 4

Servicing

Contents Para

General

1 The Pro-Ped 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.

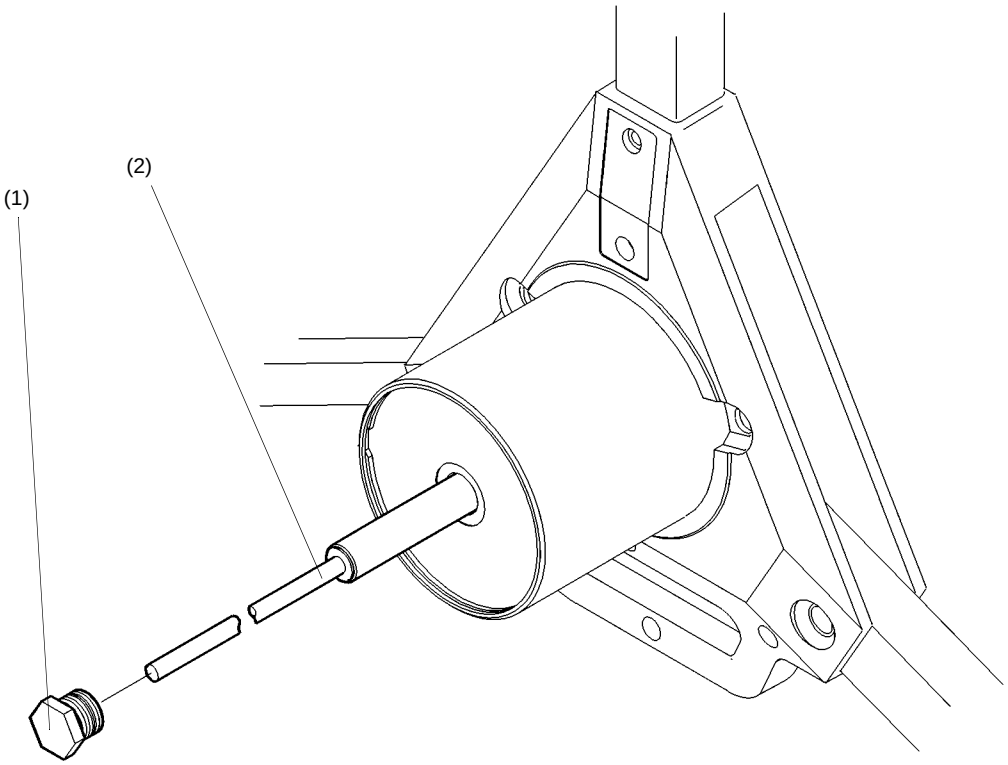
Cleaning

2 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.

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.

3 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.



LOAD RANGE	STRUT FORCE	PART No.
0-18 kg (0-40 lb)	270N	3328-307
18-32 kg (40-70 lb)	360N	3328-306
32-55 kg (70-120 lb)	450N	3328-305

Fig 4.1 Replacing the bottom stage gas strut

Routine checks

4 Check the following during normal use:

4.1 Check for ageing and cracking of the rubber strut securing straps and renew if necessary.

4.2 Check the effectiveness of the clamps.

4.3 Check for radial or side play in the top stage.

Gas struts

5 Bottom stage elevation assistance is provided by a gas strut located in the telescopic column. To allow for various column loads, three versions of the strut are available, each designed to operate over a particular load range.

6 To replace the bottom stage gas strut (Fig 4.1):

WARNING!: If the bottom stage is not set to its maximum height the gas strut will be under compression and injury could result when the end plug is removed.
The bottom stage may rise rapidly. Do not lean over the pedestal when releasing the bottom clamp.

6.1 Apply the wheel brakes, set the top stage to its minimum height and engage the top clamp. Remove the load, release the bottom clamp and set the bottom stage to its maximum height.

6.2 Tip the pedestal over and carefully lay it on its side.

6.3 Unscrew and remove the centre end plug (1) from the base of the telescopic column. Withdraw the gas strut (2) from the column.

6.4 Fit the new gas strut, cylinder end first, carefully guiding it up through the column until it is fully engaged. The strut is correctly fitted when the thread on the end plug (1) can be started in the column without compressing the strut.

6.5 Tighten the end plug.

6.6 Carefully stand the pedestal upright.

Adjustments

7 Adjustments that may become necessary after considerable use are as follows:

7.1 Taking up wear in the bottom clamp.

7.2 Taking up wear in the skid clamp.

7.3 Elimination of radial and side play on the top stage.

7.4 Wheel alignment

Bottom clamp adjustment

8 When applied finger-tight, the ‘V’ notch on the bottom clamp knob should be within the limits shown. Adjust the bottom clamp as follows (Fig 4.2):

8.1 Tighten the clamp finger-tight.

8.2 Remove the hole plug (1). Remove the screw (2) and washer (3) securing knob (4) to the spindle (5).

8.3 Remove the knob, turn counter-clockwise, then replace on spindle (5) so that the ‘V’ notch on the clamp knob is within the limits shown.

8.4 Degrease screw (2), coat with Loctite 222E and secure knob with washer (3) and screw (4). Replace hole plug (1).

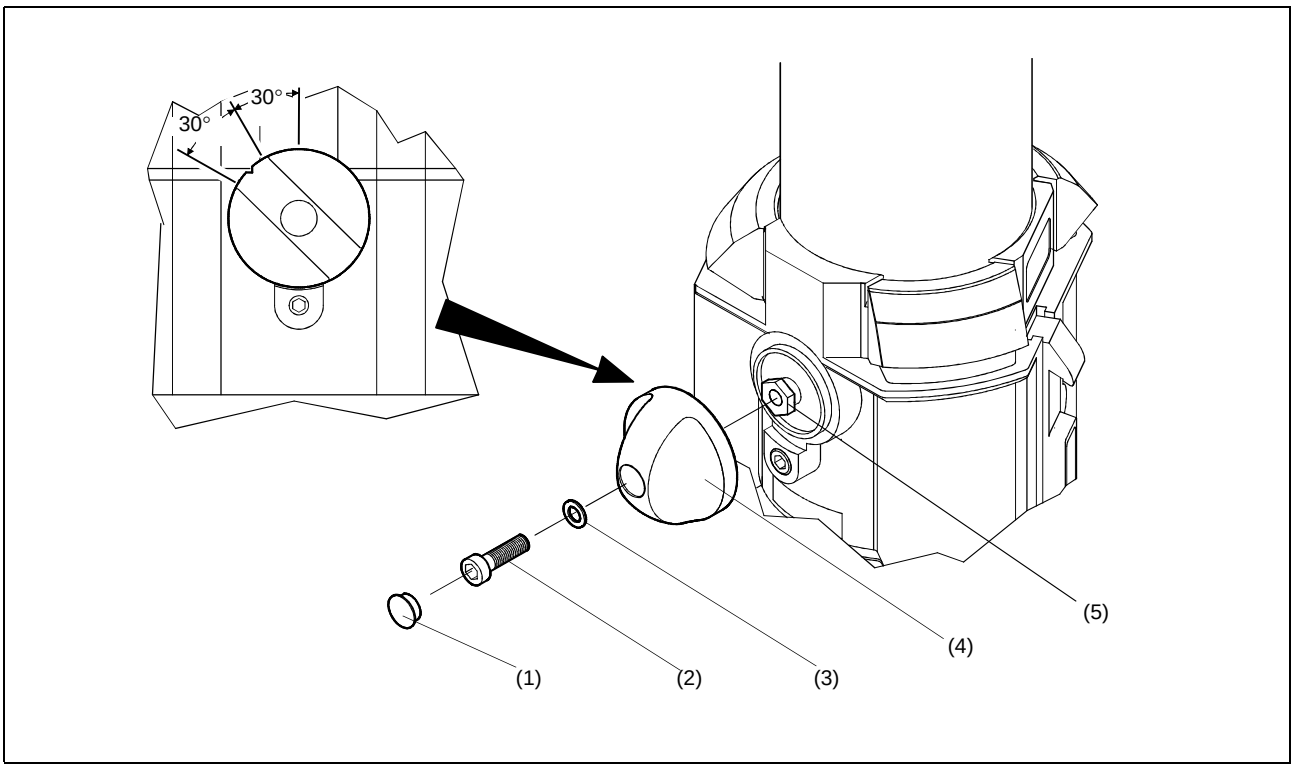


Fig 4.2 Bottom clamp adjustment

Skid clamp adjustment

9 The skid clamp is applied or released by turning the handle clockwise or counter-clockwise. The handle has a pull-off/push-on ratchet adjustment. To take up wear:

9.1 Pull the handle away from the spindle, rotate counter-clockwise and release.

9.2 Repeat the above procedure, as necessary, until the clamp locks when applied but allows free movement when released.

Elimination of radial and side play on the top stage

10 To eliminate radial and side play on the top stage (Fig 4.3):

10.1 Balance the top stage without a payload.

10.2 Remove the cover (2) from the roller housing opposite the bottom clamp by prising off with a flat-bladed screwdriver.

10.3 Remove and degrease each grub screw (1) and coat the threads with Loctite 222E.

10.4 Replace two upper grub screws and simultaneously torque tighten to 0.226 Nm (2lbf in.).

10.5 Move top stage over complete range and ensure that both upper rollers (3) rotate throughout. If not, slacken both grub screws and retighten to 0.226 Nm (2lbf in.).

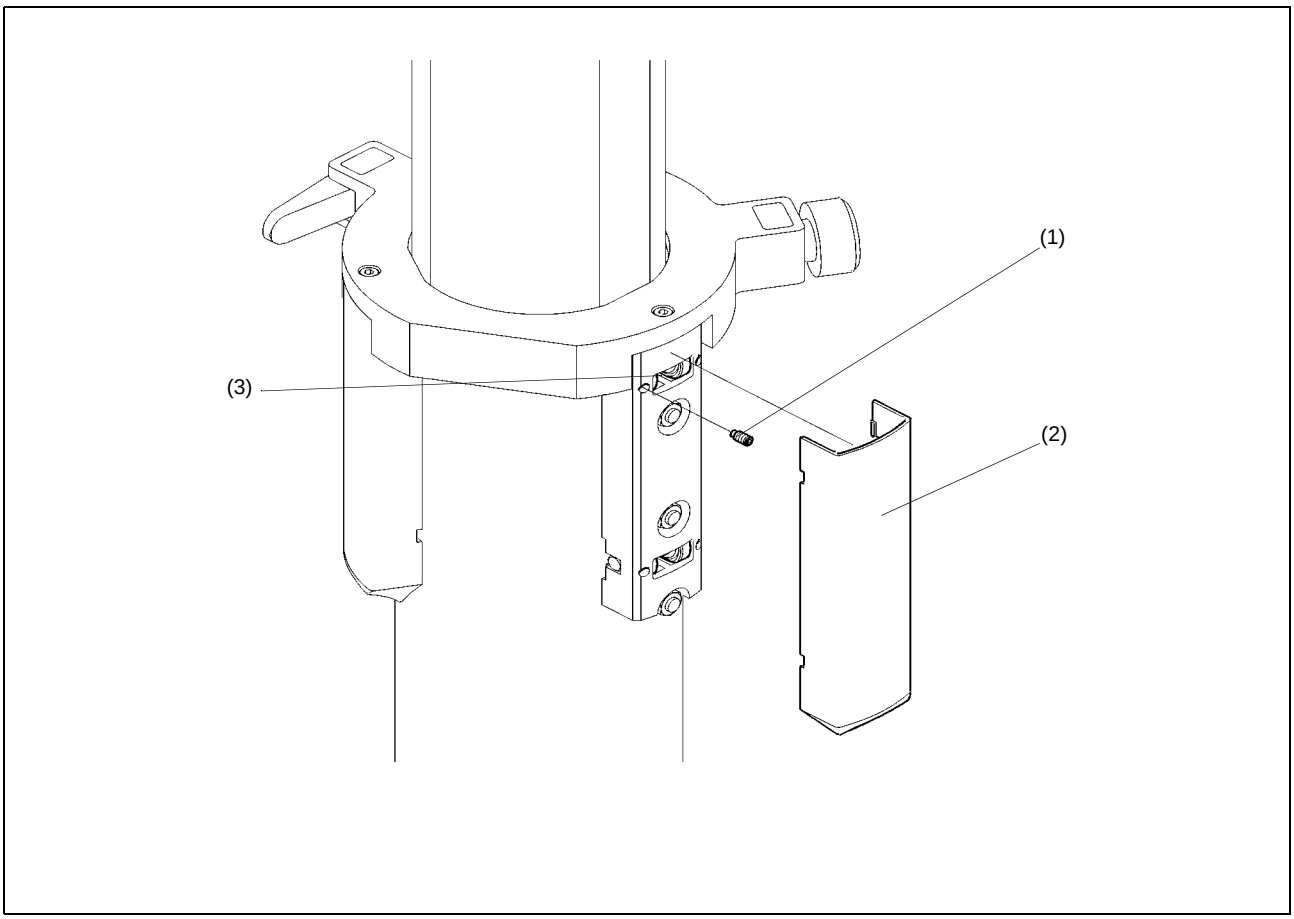


Fig 4.3 Elimination of radial and side play on the top stage

10.6 Repeat Para 10.4 and Para 10.5 for two lower grub screws.

10.7 Replace all covers.

Wheel alignment

11 To re-align the skid castors:

11.1 Referring to Fig 6.5 in the Illustrated Parts List, on each castor in turn, remove screw (24), washer (25) and screw (26). Apply Loctite 270 and replace screws and washer. Do not fully tighten screws.

11.2 Engage the track locks.

11.3 Align the wheel on the fixed leg so that it runs parallel to the leg.Tighten screws (24) and (26) on the fixed leg.

11.4 Adjust each other leg in turn so that the skid runs in a straight line, Tighten screws (24) and (26).

Section 5

Repair

Contents **Para**

General

1 Repair and renewal of damaged items involves disassembling various assemblies and must be carried out in accordance with the following instructions. Any load must be removed from the pedestal before carrying out the following procedures.

2 Disassembly and assembly of the various components is carried out in conjunction with figures in the Illustrated Parts List.

WARNING!: This pedestal is pressurized to a maximum of 9.6 bar (140 psi). Do not disassemble or interfere with any component in the pressure system without proper authority. Ensure all pressure is vented before disassembling any component in the pressure system.

Disassembly

Column

Column removal

3 To separate the telescopic column and skid:

NOTE: If the elevation tube is to be removed from the outer tube (Para 5), this should be done before separating the telescopic column from the skid.

3.1 Apply the wheel brakes.

3.2 Set the safety catch slide to ON, release the bottom clamp and fully depress both columns to engage the catch.

3.3 Remove the load from the pedestal.

3.4 Release all air pressure (if necessary) using the Schrader valve.

3.5 Release the skid clamp.

3.6 Release three rubber straps securing the struts to the feet.

3.7 Raise the long strut, which will remain raised, then raise and hold the two short struts.

3.8 Lift the telescopic column vertically until it is clear of the skid.

Gas strut

4 To remove the gas strut:

WARNING!: If the elevation tube is not set to maximum height the gas strut will be under compression and injury could result when the end plug is removed.

4.1 Release the bottom clamp and set the elevation tube to its maximum height.

4.2 Lay the pedestal on its side with padding under the steering ring.

4.3 Unscrew and remove end plug (Fig 6.2 item 22) from the base of the outer tube.

4.4 Withdraw the gas strut (Fig 6.4 item 21) from the column.

4.5 Lower the elevation tube.

Elevation tube

WARNING!: Ensure all pressure is vented before disassembling any part of the two-stage telescopic column.

5 To remove the elevation tube:

5.1 Remove the gas strut (Para 4).

5.2 Lower the column fully and apply the on-shot clamp.

5.3 Referring to Fig 6.2 remove grubscrew (51), spring (52) and guide pin (53) from top housing (12).

5.4 Rotate the elevation tube 60° clockwise (viewed from above).

5.5 Lift the elevation tube, complete with tank assembly, out of the outer tube.

5.6 Remove the clamp (2/3) and shim(s) (1) from the spindle of the bottom clamp (58).

5.7 Referring toFig 6.4, at the base of the elevation tube (20), remove four screws (22), four washers (23) and four washers (24).

5.8 Ensure the on-shot clamp and drag control are released then stand the assembly upside-down on the top plate.

5.9 Lift the elevation tube off the tank assembly.

6 To dismantle the elevation tube (Fig 6.3):

6.1 Remove three covers (23) from adjustable roller housing (2) and two fixed roller housings (26) by prising off with a flat-bladed screwdriver.

6.2 Remove three screws (27) securing roller housings (2, 26) to clamp housing (14).

6.3 Note the position of adjustable roller housing (2). Remove nine nuts (7) and washers (8) securing adjustable roller housing (2) and two fixed roller housings (26) to elevation tube (13). Remove roller housings and six dowel pins (10). Note arrangement of adjustable roller assemblies (4/5) and fixed roller assemblies (5/24/25) and remove them from the housings. If required, remove ‘O’ rings (24) from fixed roller assemblies.

6.4 Remove self-adhesive lock label (22). Remove dowel pin (21) securing clamp lever (15) to clamp housing (14). Remove end cap (16), screw (17), washer (18), spring plunger (19) and spring (20). Remove on-shot clamp pad assembly (1) from inside the clamp housing (14).

6.5 Remove self-adhesive drag label (29). Remove screw (28) and unscrew clamp screw (33) from clamp housing (14). Remove drag pad (28/31) and spring (32) from inside the clamp housing.

6.6 Remove three self-adhesive wipers (6) from inside the clamp housing (14).

NOTE: Do not remove captive studs (9) or attempt to separate the bottom end plate (12), the elevation tube (13) or the clamp housing (14) unless absolutely necessary.

Top stage

7 To dismantle the top stage (Fig 6.4):

7.1 Remove the elevation tube from the outer tube and separate the elevation tube and tank assembly (Para 5).

WARNING!: The top plate, tank tube, relief valve assembly and tapered ram assembly form the pressure vessel of the pneumatic system. These parts are supplied as a pressure tested assembly and should not be serviced or dismantled except as detailed in this manual.

7.2 If fitted (studio version), remove six screws (16) which secure RH and LH weight trays (15, 35) to the top plate of tank assembly (1).

7.3 Remove three screws (2) which secure catch bracket (8) to top plate of tank. Remove and discard 'O' ring (11).

7.4 Remove four circlips (37) securing washers (36), washers (33) and head fixing shafts (32) to top plate of tank assembly (1).

7.5 Remove six Nyloc nuts (31), washers (23) and screws (38) securing steering ring (29) to top plate of tank assembly (1).

7.6 If required, remove screw (6) and track clamp plate (5) from top of track (6) and screw (7) from bottom of track (6). Remove track.

Outer tube

8 To dismantle the outer tube (Fig 6.2):

8.1 Remove the gas strut and the top stage (elevation and tank tubes) from the outer tube (paras 4 and 5).

8.2 If fitted (studio version), remove 12 screws (44) which secure three trim weight pockets (40) to top housing assembly.

8.3 Remove two grubscrews (51) securing long strut (45-50) to the top housing assembly.

8.4 Remove two screws (15), two pivot shaft sleeves (16) and two strut pivot shafts (31) securing short struts (27-30) to top housing assembly.

8.5 Mark the position of skid clamp (26) horizontally and radially on the outer tube (20). Slacken retaining screw (25) and slide the skid clamp off the outer tube.

8.6 Remove hole plug (54) from clamp knob (57), remove screw (55) and shakeproof washer (56) and remove the knob. Remove clamp knob spindle (58).

8.7 Remove three top housing covers (59) by springing the sides apart and pulling them away from the top housing. The top housing cover springs (60) are attached to bosses in the covers and should be removed with care.

8.8 Remove self-adhesive catch label (11) and two screws (10) and washers (9) which secure spring sleeve catch (7), spring (6) and ball (4). Slide catch (8) up and out of top housing.

8.9 Remove outer snap ring (18) from the base of outer tube (14), by prising out the exposed bevel end with a screwdriver until enough of the ring is free of the annular groove to allow a second screwdriver to be inserted behind it. Progressively free the ring with two or three screwdrivers until it can be pulled from the outer tube with pliers. Discard snap ring (18).

8.10 Remove bottom end plug (19) and inner snap ring (18) from the base of the outer tube. Examine bump-stop 'O' ring (20) in bottom end plug (19) and remove if worn or damaged.

Skid

OB skid

9 To dismantle the OB skid (Fig 6.5):

9.1 To replace the foot support strap (3), if required, pull strap off lugs on foot support (6).

9.2 To replace foot support (6), prise out two plastic caps (4) on each foot support and drill out two pop rivets (5) using 3.2 mm (1/8 in.) drill.

9.3 Remove screw (24) and washer (25) to remove each castor (36).

9.4 Remove three leg tube inserts (10) and remove nut (9) from each.

9.5 With the skid upside-down, remove two screws (27), three screws (30) and one screw (31) securing lower centre housing (29) to upper centre housing (1). Note orientation of screws for assembly. Lift off the lower centre housing (29). Remove the fixed leg (7).

9.6 Remove plastic washer (35) from each folding leg (37). Lift folding legs off spindles (32), ensuring leg index plungers (33) and springs (34) are retained. Remove spindles (32) and plastic washers (35).

9.7 On each folding leg (37) prise out leg index sleeve (38) and leg tube insert (10), if required.

Studio skid

10 To dismantle the studio skid (Fig 6.5):

10.1 To remove cable guard (20), remove knob (22), washer (23) and spacer (16) and pull out bonded screw, spacer and sleeve (15,16 and 21). Replace screw, spacer and sleeve (15,16 and 21) spacer (16), washer (23) and knob (22) to retain wheel in castor.

10.2 Remove screw (24) washer (25) and screw (26) to free castor (17-19) and wheel lock housing (12).

10.3 Unscrew knobs (28), noting position and colour for assembly and drive out Spirol pin (11) to free wheel lock plunger (14) and spring (13).

10.4 To replace the foot support strap (3), if required, pull strap off lugs on foot support (6).

10.5 To replace foot support (6), prise out two plastic caps (4) on each foot support and drill out two pop rivets (5) using 3.2 mm (1/8 in.) drill.

10.6 Remove three leg tube inserts (10) and remove nut (8) and nut (9) from each.

10.7 With the skid upside-down, remove two screws (27), three screws (30) and one screw (31) securing lower centre housing (29) to upper centre housing (1). Note orientation of screws for assembly. Lift off the lower centre housing (29). Remove the fixed leg (7).

10.8 Remove plastic washer (35) from each folding leg (37). Lift folding legs off spindles (32), ensuring leg index plungers (33) and springs (34) are retained. Remove spindles (32) and plastic washers (35).

10.9 On each folding leg (37) prise out leg index sleeve (38) and leg tube insert (10), if required.

Assembly

Column

WARNING!: All seals and screws that are disturbed must be replaced with genuine vinten seals and screws.

Outer tube

11 To assemble the outer tube (Fig 6.2):

11.1 Install a spring (60) on the bosses in three top housing covers (59) and clip the covers into position on the top housing (12), engaging spring on lip in cover and against side of housing. Ensure covers move freely.

11.2 Slide catch (8) into top housing (12). Lubricate ball (4) and spring (6) with white bearing grease. Install ball, spring and spring sleeve catch (7) and secure with two washers (9) and screws (10). Check operation of sliding catch. Install self-adhesive catch label (11).

11.3 If the bump-stop ‘O’ ring (20) was removed from bottom end plug (19), degrease the plug and install a new ‘O’ ring using Loctite 415.

11.4 Install inner snap ring (18), bottom end plug (19) and outer snap ring (18) in the base of outer tube (14).

11.5 Position the long strut (45-50) in the top housing (12). Degrease the threads of two grubscrews (33) and coat with Loctite 222E. Tighten the grubscrews until the strut will hold its own weight when set at a right-angle to the tube.

11.6 Install two short struts (27-30) in the top housing (12) and secure with two screws (15), two pivot shaft sleeves (16) and two strut pivot shafts (31).

11.7 Slide the skid clamp (26) onto the outer tube, to the position marked in Para 8 and tighten retaining screw (25).

11.8 Lubricate clamp spindle (58) with white bearing grease and install in top housing. Do not install clamp knob (57) at this stage.

11.9 If fitted (studio version), install three trim weight pockets (40) on top housing and secure with 12 screws (44). Paint screw heads with Nimbus Grey paint.

Elevation tube

12 To assemble the elevation tube (Fig 6.3):

12.1 Install the on-shot clamp pad assembly (1) in the clamp housing (14). Install spring (20) and spring plunger (18) and secure to pad assembly with screw (17) and washer (18) using Loctite 222E. Install end cap (16) and clamp lever (15), ensuring lever is correctly oriented (clamp is applied when lever is pushed to left). Install dowel pin (21) using Loctite 638. Affix self-adhesive lock label (22).

12.2 Screw clamp screw (37) into clamp housing (18) until screw (33) can be fully tightened. Affix self-adhesive drag label (34).

12.3 If removed, adhere 'O' rings (24) to fixed roller shafts (25) using Loctite 380. Install two fixed roller shafts (5/24/25) in two fixed housings (26). Back off four grubscrews (3) in adjustable roller housings (2) until the points do not project into the slots for the roller shafts. Install adjustable rollers (4/5) in the adjustable roller housing.

12.4 Secure roller housings to the elevation tube using six dowel pins (10) and nine nuts (7) and washers (8). Ensure adjustable roller housing is installed in position noted during disassembly (Para 6). Tighten nuts (7) to a torque of 3.4 Nm (30 lbf in.).

12.5 Install three screws (27) which secure the clamp housing (14) to the roller housings.

12.6 Install three self-adhesive wipers (6) in the clamp housing.

13 To install the elevation tube (Fig 6.2):

13.1 Assemble the outer tube (Para 11). Assemble the tank (Para 14) and install it in the elevation tube (Para 15). Installing the elevation tube is facilitated if the outer tube is installed on the skid.

13.2 If removed, adhere clamp pad (3) to clamp (2) using Redux 410. Allow to cure and trim to size.

13.3 Install one shim (1) in the bore of clamp (2). Install clamp (2) in top housing (12), using white bearing grease to hold in position.

13.4 Position the elevation tube so that the adjustable roller housing is in line with the safety catch on the top housing. Lower the elevation tube into the outer tube, then rotate 60 degrees counter-clockwise until the groove in the tube aligns with the guide pin hole in the top housing. Degrease the thread of grubscrew (51) and coat it with Loctite 222E. Install guide pin (53), spring (52) and grubscrew (51) in top housing, ensuring grubscrew is flush with top housing

13.5 Tighten clamp spindle (58) finger-tight. Install the clamp knob (57) on the spindle with the 'V' notch in the position shown in Fig 4.2. If this position cannot be achieved, remove the elevation tube and install further shim(s) (1) in the bore of the clamp (2).

13.6 Secure clamp knob (57) with shakeproof washer (56) and screw (55). Install hole plug (54) in clamp knob.

Tank assembly

WARNING!: The tank assembly, incorporating the top plate, tank tube, relief valve and tapered ram, is supplied as a pressure-tested assembly. The tank assembly should not be serviced or dismantled except as detailed in this manual.

14 To assemble the mechanical parts of the tank assembly (Fig 6.4):

14.1 Assemble piston end ring (17) and shim(s) (18) onto the exposed end of the tapered ram projecting from the lower end of tank assembly (1) and secure using a new circlip (19). Adjust the number of shims (18) to eliminate end play.

14.2 If tracks (7) were removed from tank, thoroughly clean the track seating faces on the tank. Install and secure each track with clamp plate (5), screw (6) and screw (8), using Loctite 222E.

14.3 Adhere Perspex disc (34) to steering ring (29) using Silcoset 153. Install steering ring (29) on underside of tank top plate (1), ensuring that Perspex disc aligns with location for catch bracket/ pressure gauge. Secure with six screws (39), washers (23) and Nyloc nuts (31).

14.4 Position 'O' ring (11) on catch bracket (9) and secure catch bracket to underside of tank top plate (1) with three screws (2).

14.5 If removed, prime thread of pressure gauge (10) with Loctite Primer T and install in catch bracket (9) using Loctite 542. Ensure face of gauge is parallel to steering ring.

14.6 Install spring (27), steel ball (26) and catch lever (25) in catch bracket (9). Secure with catch lever spindle (28), using Loctite 638. Ensure adhesive does not restrict catch lever movement

14.7 If fitted (studio version), install RH and LH weight trays (15, 35) on tank top plate, ensuring hole in LH weight tray (35) aligns with pressure gauge. Secure each weight tray with three screws (16).

15 To install the tank assembly in the elevation tube (Fig 6.3):

15.1 Assemble the elevation tube (Para 12).

15.2 If removed, adhere friction pad (28) to drag pad (31) using Loctite primer 757 and Loctite 406.

15.3 Apply a small amount of Molykote 111 grease to the face of the friction pad (28) and install pad and spring (31) in the clamp housing.

15.4 Stand the tank assembly vertically on the top plate.

15.5 Ensure the drag clamp screw (33) and top clamp (15) are released.

15.6 Position the elevation tube so that the adjustable roller housing aligns with the track on the tank assembly adjacent to the control valve. Lower the elevation tube onto the tank assembly.

15.7 At the adjustable roller housing (2), degrease and coat the threads of four grubscrews (3) with Loctite 222E and simultaneously tighten each pair of grubscrews to a torque setting of 0.23 Nm (2 lbf in.).

15.8 Install three covers (23) by pushing them onto the roller housings.

15.9 Referring to Fig 6.4, align holes in piston end ring (17) with elevation tube end plate and secure with four washers (24), four washers (23) and four screws (22) using Loctite 222E.

Gas strut

16 To install the gas strut:

16.1 Release the bottom clamp and set the elevation tube to its maximum height. Tighten the bottom clamp.

16.2 Lay the pedestal on its side, with padding under the steering ring, to gain access to the lower end of the outer tube.

16.3 Insert the gas strut (Fig 6.4 item 21), cylinder end first, into the base of the column until it is fully engaged. The strut is correctly fitted when the thread of the end plug (Fig 6.2 item 22) can be started in the column without compressing the gas strut.

16.4 Tighten the end plug.

Skid

OB skid

17 To assemble the OB skid (Fig 6.5):

17.1 Install a leg index sleeve (38) in each folding leg tube (37), using Loctite 601

17.2 Install a leg tube insert (10) in the inner end of each folding leg tube (37), using Silcoset 153.

17.3 Position two leg pivot spindles (32) in upper centre housing (1). Install a plastic washer (35) on each spindle.

17.4 Position a folding leg (37) on each spindle (32). Install a spring (34) and leg index plunger (33) in each leg index sleeve (38). Install a plastic washer (35) on each spindle.

17.5 Position the fixed leg (7) over spigots in the upper centre housing (1)

17.6 Install the lower centre housing (29) and secure with two screws (27) through fixed leg, three screws (30) through body and one screw (31) through handle. All screws are secured with Loctite 221.

17.7 Install a nut (9) in three leg tube inserts (10). Install a leg tube insert in each leg.

17.8 Secure a castor (36) to each leg using washer (25), screw (24) and Loctite 270.

17.9 On each leg, install a foot support (6) using two pop rivets (5). Ensure foot supports are oriented correctly (long side to centre).

17.10 On each foot support (6) install two plastic caps (4) in rivet holes using Silcoset 153. Install a strap (3) on each foot support.

Studio skid

18 To assemble the studio skid (Fig 6.5):

18.1 Install a leg index sleeve (38) in each folding leg tube (37), using Loctite 601

18.2 Install a leg tube insert (10) in the inner end of each folding leg tube (37), using Silcoset 153.

18.3 Position two leg pivot spindles (32) in upper centre housing (1). Install a plastic washer (35) on each spindle.

18.4 Position a folding leg (37) on each spindle (32). Install a spring (34) and leg index plunger (33) in each leg index sleeve (38). Install a plastic washer (35) on each spindle.

18.5 Position the fixed leg (7) over spigots in the upper centre housing (1)

18.6 Install the lower centre housing (29) and secure with two screws (27) through fixed leg, three screws (30) through body and one screw (31) through handle. All screws are secured with Loctite 221.

18.7 Install a nut (9) in three leg tube inserts (10). Install a leg tube insert in each leg.

18.8 Install a wheel lock plunger (14) and spring (13) in each wheel lock housing (12) and secure with Spirol pin (11).

18.9 Lightly secure a castor (18) and wheel lock housing (12) to each leg using washer (25) and screw (24), screw (26) and Loctite 270. Ensure wheel lock housings are oriented correctly (track lock on fixed leg in line with leg, track locks on folding legs towards centre casting handle).

18.10 Engage the track locks.

18.11 Align the wheel on the fixed leg so that it runs parallel to the leg.Tighten screws (24) and (26) on the fixed leg.

18.12 Adjust each other leg in turn so that the skid runs in a straight line, Tighten screws (24) and (26).

18.13 Fit knobs (28) using Loctite 270, ensuring red knob is fitted to fixed leg and black knobs are fitted to folding legs.

18.14 On each leg, install a foot support (6) using two pop rivets (5). Ensure foot supports are oriented correctly (long side to centre).

18.15 On each foot support (6) install two plastic caps (4) in rivet holes using Silcoset 153. Install a strap (3) on each foot support.

18.16 If not already done, remove screw (15) from each castor and bond a spacer (16) and sleeve (21) onto screw (15) using Permabond E31.

18.17 Position cable guard (20) on each castor and secure with bonded screw, spacer and sleeve (15,16 and 21), spacer (16), washer (23) and knob (22).

Section 6

Illustrated Parts List

Contents Para

Illustrations Pagel

Introduction

1 This parts list is issued for the PRO-PED pedestal manufactured by VINTEN BROADCAST LIMITED, Western Way, Bury St Edmunds, Suffolk, IP33 3TB, England.

Ordering spare parts

2 Always quote the pedestal serial number when ordering a spare part.

3 When ordering a spare part, please quote the part number, NOT the item number. Certain part numbers have a -900SP series suffix, which denotes a composite spare part. These items are detailed in Fig 6.6 and indicated in the parts lists by an asterisk (*) against the part number.

4 Due to restrictions placed on the transport of adhesives and other materials, please obtain supplies of consumable materials, listed in Section 3, from your local distributor.

Main assembly part numbers

5 Please ensure that the correct part number is quoted when ordering main assemblies.

ASSEMBLY	PART No.
Pro-Ped Pedestal - OB Version	3381-3B
Pro-Ped Pedestal - Studio Version	3381-3C
OB Column	3381-14
Studio Column	3381-11
Skid - OB Version	3369-3B
Skid - Studio Version	3369-3C
Gas Strut - 0-18 kg (0-40 lb)	3328-307
Gas Strut - 18-32 kg (40-70 lb)	3328-306
Gas Strut - 32-55 kg (70-120 lb)	3328-305
Trim weight	3328-328
Spanner for head bolts	J551-001

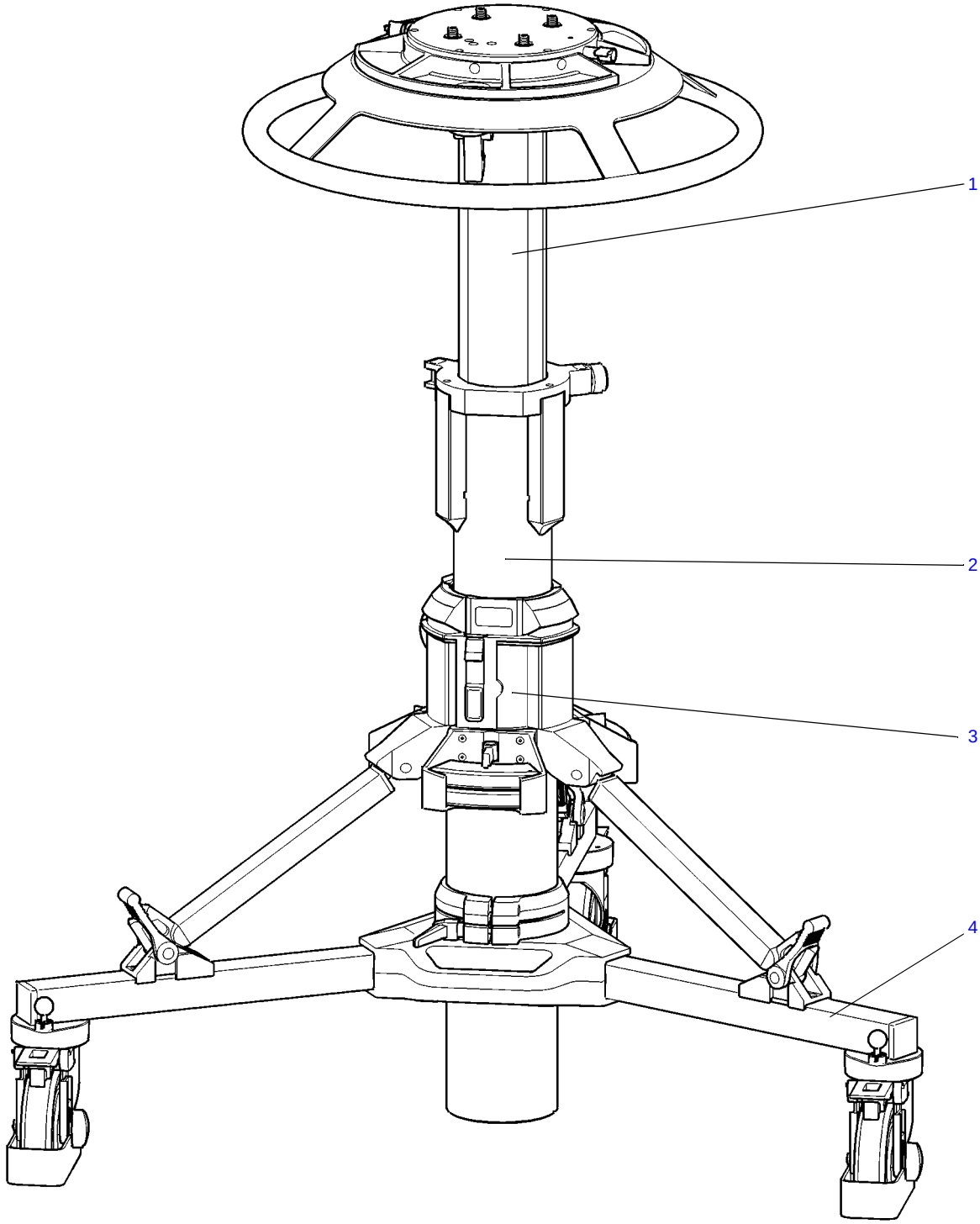


Fig 6.1 Pro-Ped Pedestal

Fig 6.1 Pro-Ped Pedestal

Item No.	Nomenclature
1	Top stage (Fig 6.4)
2	Elevation tube (Fig 6.3)
3	Outer tube (Fig 6.2)
4	Skid (Fig 6.5)

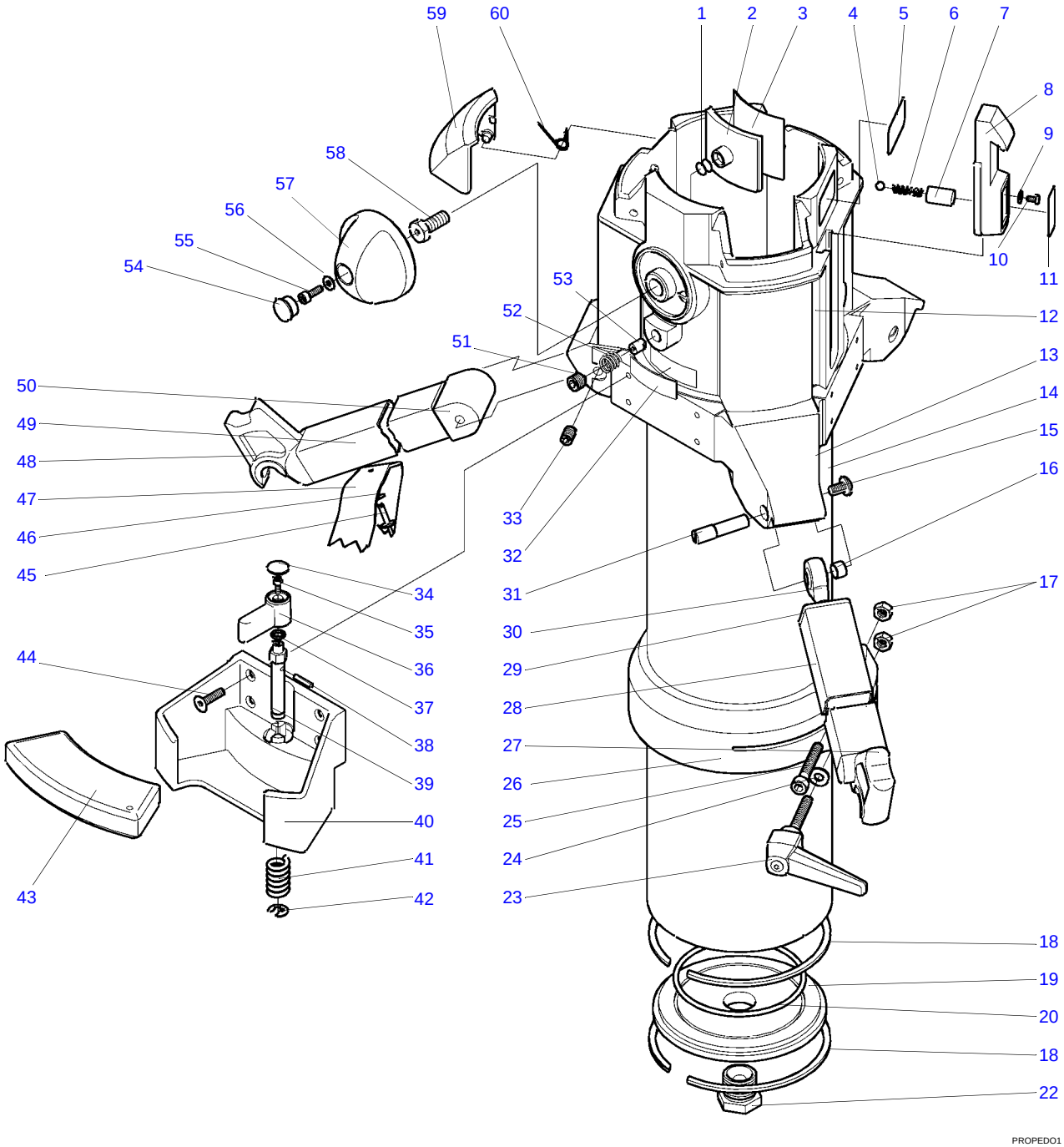


Fig 6.2 Pro-Ped Pedestal - Outer Tube

Fig 6.2 Pro-Ped Pedestal - Outer Tube

Item No.	Part No.	Nomenclature	Qty OB 3381-14	Qty Studio 3381-11
1	3320-240	Shim	A/R	A/R
	3328-26	Clamp assembly, comprising:	1	1
2	3328-212	Clamp	1	1
3	3328-212	Clamp pad	1	1
4	P900-010	Steel ball, 5 mm dia	1	1
5	3328-388	Warning label	1	1
6	J532-073	Spring, 3/32in. ID x 3/16in. OD x 3/4in. lg, 25swg	1	1
7	3328-240	Spring sleeve, catch	1	1
8	3328-208	Catch	1	1
9	M600-003	Washer, M3	2	2
10	M004-512	Screw, skt butt hd, M3 x 6 mm lg	2	2
11	3328-294	Catch label	1	1
	3326-13	Top housing assembly, comprising:	1	1
12	3326-201	Outer tube, top housing, with:	1	1
NI	3328-318	Top housing lining, long	2	2
NI	3328-319	Top housing lining, short, upper	1	1
NI	3328-347	Top housing lining, short, lower	1	1
NI	M850-025	Threaded insert, M8	1	1
13	3328-259	Strut mounting, with:	1	1
NI	M850-026	Helicoil insert, M6 x 6 mm lg	2	2
14	3328-224	Outer tube, with:	1	1
NI	M806-010	Spirol pin, 5 mm dia x 10 mm lg	1	1
15	M006-015	Screw, Pozi pan hd, M5 x 8 mm lg	2	2
16	3328-283	Sleeve, pivot shaft	2	2
17	M500-090	Nut, full, M6	2	2
18	P606-004	Snap ring, internal	2	2
19	3328-223	Outer tube end plug, bottom	1	1
20	R900H069*	'O' ring, 75 mm ID x 81 mm OD x 3 mm sect	1	1
22	3328-225	Threaded end plug	1	1
23	J402-046	Clamp lever	1	1

Fig 6.2 Pro-Ped Pedestal - Outer Tube (Cont)

Item No.	Part No.	Nomenclature	Qty OB 3381-14	Qty Studio 3381-11
24	M600-007	Washer, M6	1	1
25	M007-723	Screw, skt cap hd, M6 x 40 mm lg	1	1
	3328-31	Skid clamp assembly, comprising:	1	1
26	3328-241	Skid clamp	1	1
NI	3328-376	Clamp liner	1	1
	3381-13	Strut assembly, short, comprising:	2	2
27	3328-232	Foot moulding	2	2
28	3381-202	Strut tube, short	2	2
29	3328-280	Strut bung	2	2
30	P651-003	Rod end	2	2
31	3328-282	Strut pivot shaft	2	2
32	3320-255	'Vinten' nameplate	1	1
33	M007-816	Grubscrew, skt cone point, M6 x 10 mm lg	2	2
	3328-25	Trim weight/pocket assembly, comprising:	-	3
34	3364-343	Brake knob cap	-	3
35	M004-703	Screw, skt cap hd,M3 x 8 mm lg	-	3
36	3219-270	Pan bar clamp knob	-	3
37	Q001-010*	'O' ring, 1/4in. ID x 3/8in. OD x 1/16in. sect	-	3
38	M801-033	Dowel pin,3 mm dia x 14 mm lg	-	3
39	3328-327	Shaft, clamp lever	-	3
40	3328-326	Pocket	-	3
41	J532-054	Spring, compression	-	3
42	M701-018	Circlip, 8 mm shaft, series 'E'	-	3
43	3328-328	Trim weight	-	6
44	M005-904	Screw, skt csk hd, M4 x 16 mm lg	-	12
	3381-12	Strut assembly, long, comprising:	1	1
45	L804-126	Pop rivet, 1/8in. dia	1	1
46	L602-041	Washer, 4BA, plain large	1	1
47	3328-378	Strap	1	1
48	3328-232	Foot moulding	1	1

Fig 6.2 Pro-Ped Pedestal - Outer Tube (Cont)

Item No.	Part No.	Nomenclature	Qty OB 3381-14	Qty Studio 3381-11
49	3381-201	Strut tube, long	1	1
50	3328-234	Strut pivot	1	1
51	M008-812	Grubscrew, skt cup point, M8 x 8 mm lg	1	1
52	J532-128	Spring, 5/32in. ID x 1/4in. OD x 3/8in. lg, 24swg	1	1
53	3328-349	Guide pin	1	1
54	J550-081	Hole plug, 1/2in. dia	1	1
55	M005-718	Screw, skt cap hd, M4 x 12 mm lg	1	1
56	M601-006	Washer, shakeproof, M4	1	1
57	3320-217	Clamp knob	1	1
58	3328-348	Clamp knob spindle	1	1
59	3328-203	Top housing cover	3	3
60	3328-205	Top housing cover spring	3	3

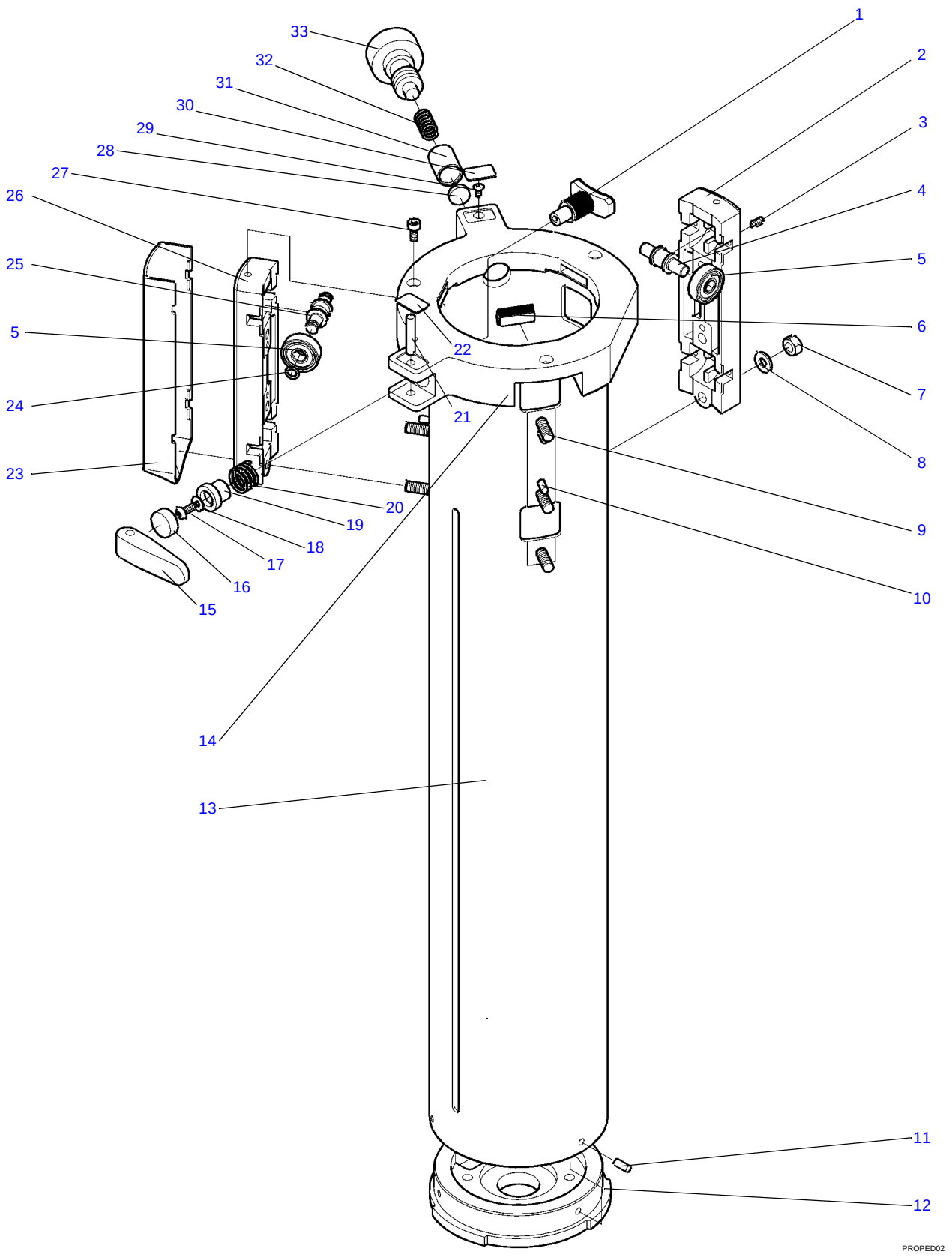


Fig 6.3 Pro-Ped Pedestal - Elevation Tube

Fig 6.3 Pro-Ped Pedestal - Elevation Tube

Item No.	Part No.	Nomenclature	Qty OB 3381-14	Qty Studio 3381-11
1	3328-903SP	On-shot clamp assembly	1	1
2	3328-358	Roller housing, adjustable	1	1
3	M005-303	Grubscrew, skt dog point, M4 x 8 mm lg	4	4
4	3328-360	Roller shaft	2	2
5	P300-012	Roller bearing, 8 mm ID x 22 mm OD x 7 mm wide	12	12
6	3328-287	Wiper	3	3
7	M500-090	Nut, full, M6	9	9
8	M605-004	Washer, fibre, M6	9	9
9	M100-002	Captive stud, M6 x 18 mm lg	9	9
10	M801-006	Dowel pin, 4 mm dia x 10 mm lg	6	6
11	M806-004	Spirol pin, 4 mm dia x 10 mm lg	3	3
12	3328-226	Bottom end plate, elevation tube	1	1
	3328-27	Elevation tube/clamp housing assembly, comprising:	1	1
13	3328-359	Elevation tube	1	1
14	3328-207	Tank tube clamp housing	1	1
15	3328-252	Clamp lever	1	1
16	3328-341	End cap	1	1
17	M005-513	Screw, skt butt hd, M4 x 6 mm lg	1	1
18	M600-005	Washer, M4	1	1
19	3328-239	Clamp spring plunger	1	1
20	J532-136	Spring	1	1
21	M801-009	Dowel pin, 5 mm dia x 25 mm lg	1	1
22	3328-315	Lock label	1	1
23	3328-204	Roller housing cover	3	3
24	Q001-007*	'O' ring	8	8
25	3328-370	Roller shaft	4	4
26	3328-356	Roller housing, fixed	2	2
27	M005-718	Screw, skt cap hd, M4 x 12 mm lg	3	3
28	3328-309	Friction pad	1	1
29	M004-101	Screw, Pozi csk hd, M3 x 5 mm lg	1	1

Fig 6.3 Pro-Ped Pedestal - Elevation Tube (Cont)

Item No.	Part No.	Nomenclature	Qty OB 3381-14	Qty Studio 3381-11
30	3328-316	Drag label	1	1
31	3328-308	Drag pad	1	1
32	J532-058	Spring	1	1
33	3328-277	Clamp screw	1	1

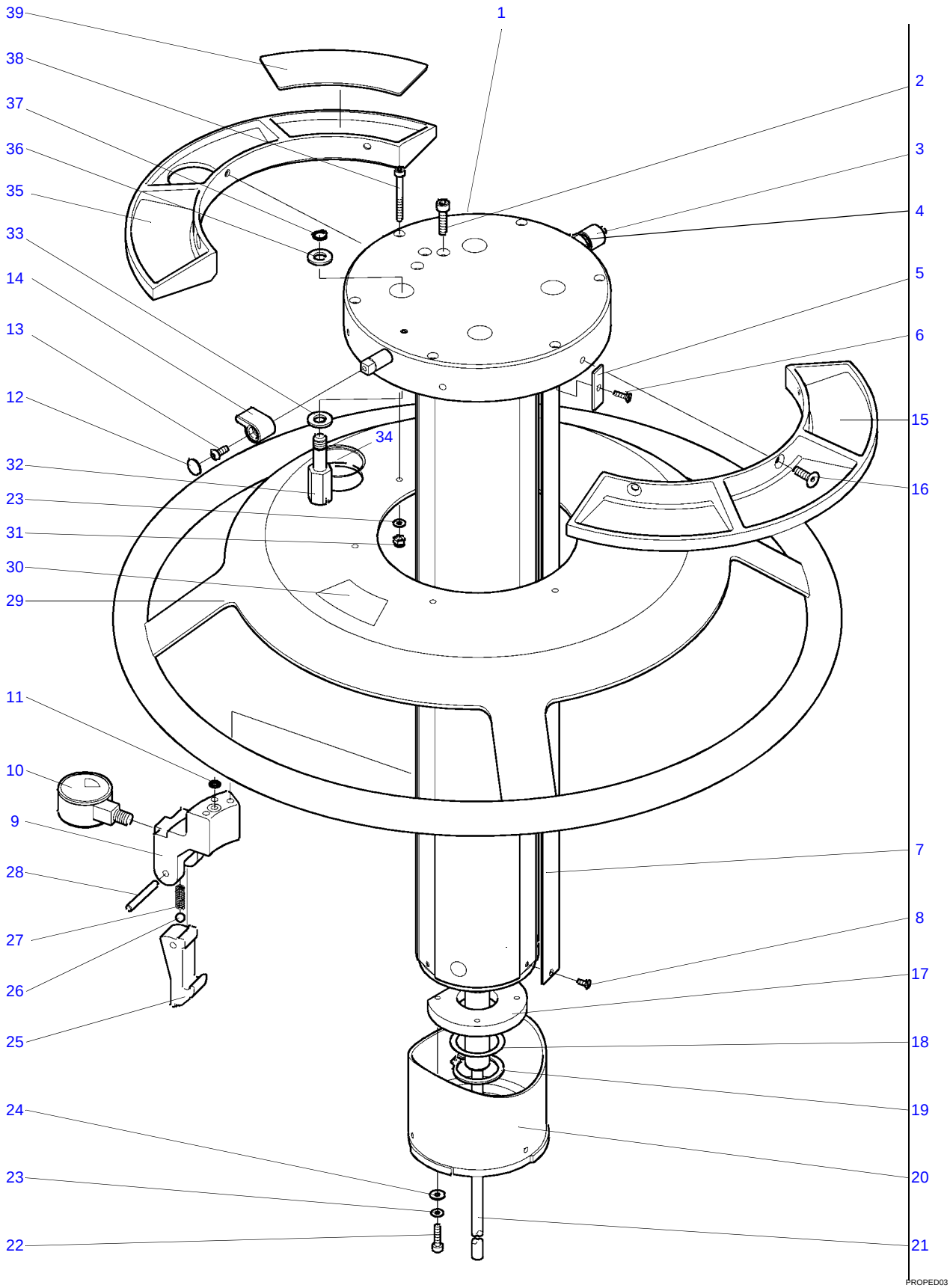


Fig 6.4 Pro-Ped Pedestal - Top Stage

Fig 6.4 Pro-Ped Pedestal - Top Stage

Item No.	Part No.	Nomenclature	Qty OB 3381-14	Qty Studio 3381-11
1	3381-20	Tank assembly, including:	1	1
2	M006-714	Screw, skt cap hd, M5 x 25 mm lg	3	3
3	3328-304*	Pressure release button	1	1
4	3328-303*	Schrader valve	1	1
5	3328-357	Track clamp plate	3	3
6	M004-221	Screw, csk slotted, M3 x 10 mm lg	3	3
7	3328-355	Track	3	3
8	M004-222	Screw, csk slotted, M3 x 8 mm lg	3	3
9	3328-210	Catch bracket	1	1
10	3381-207	Pressure gauge	1	1
11	Q001-011	'O' ring, 3/16 in. ID x 5/16 in. OD x 1/16 in. sect	1	1
12	3325-329	Knob cover	1	1
13	M005-503	Screw, skt butt hd, M4 x 8 mm lg	1	1
14	3325-328	Knob	1	1
15	3328-314	Weight tray, RH	-	1
16	M006-904	Screw, skt csk hd, M5 x 16 mm lg	-	6
17	3328-220	Piston end ring	1	1
18	3328-310	Shim	A/R	A/R
19	M701-036	External circlip	1	1
20		Elevation tube (Fig 6.2)		
21	3328-305	Gas strut, 450N (standard), or	1	1
	3328-306	Gas strut, 360N	1	1
	3328-307	Gas strut, 270N	1	1
22	M005-706	Screw, skt cap hd, M4 x 16 mm lg	4	4
23	M600-005	Washer,M4	10	10
24	L602-051	Washer, 2BA	4	4
25	3328-209	Catch lever	1	1
26	N600-016	Steel ball, 1/4 in. dia	1	1
27	J532-089	Spring	1	1
28	3328-251	Catch lever spindle	1	1

Fig 6.4 Pro-Ped Pedestal - Top Stage (Cont)

Item No.	Part No.	Nomenclature	Qty	
			OB 3381-14	Studio 3381-11
29	3381-15	Steering ring assembly	1	1
30	3328-293	Label, switchover shaft operation	1	1
31	M501-004	Nut, Nyloc, M4	6	6
32	3328-350	Head fixing shaft	4	4
33	L602-123	Washer, 3/8 in.	4	4
34	3328-258	Perspex disc	1	1
35	3328-313	Weight tray, LH	-	1
36	3064-227	Washer	4	4
37	L701-025	Circlip	4	4
38	M005-723	Screw, skt cap hd, M4 x 40 mm lg	6	6
39	3328-344	Weight tray lining	-	6

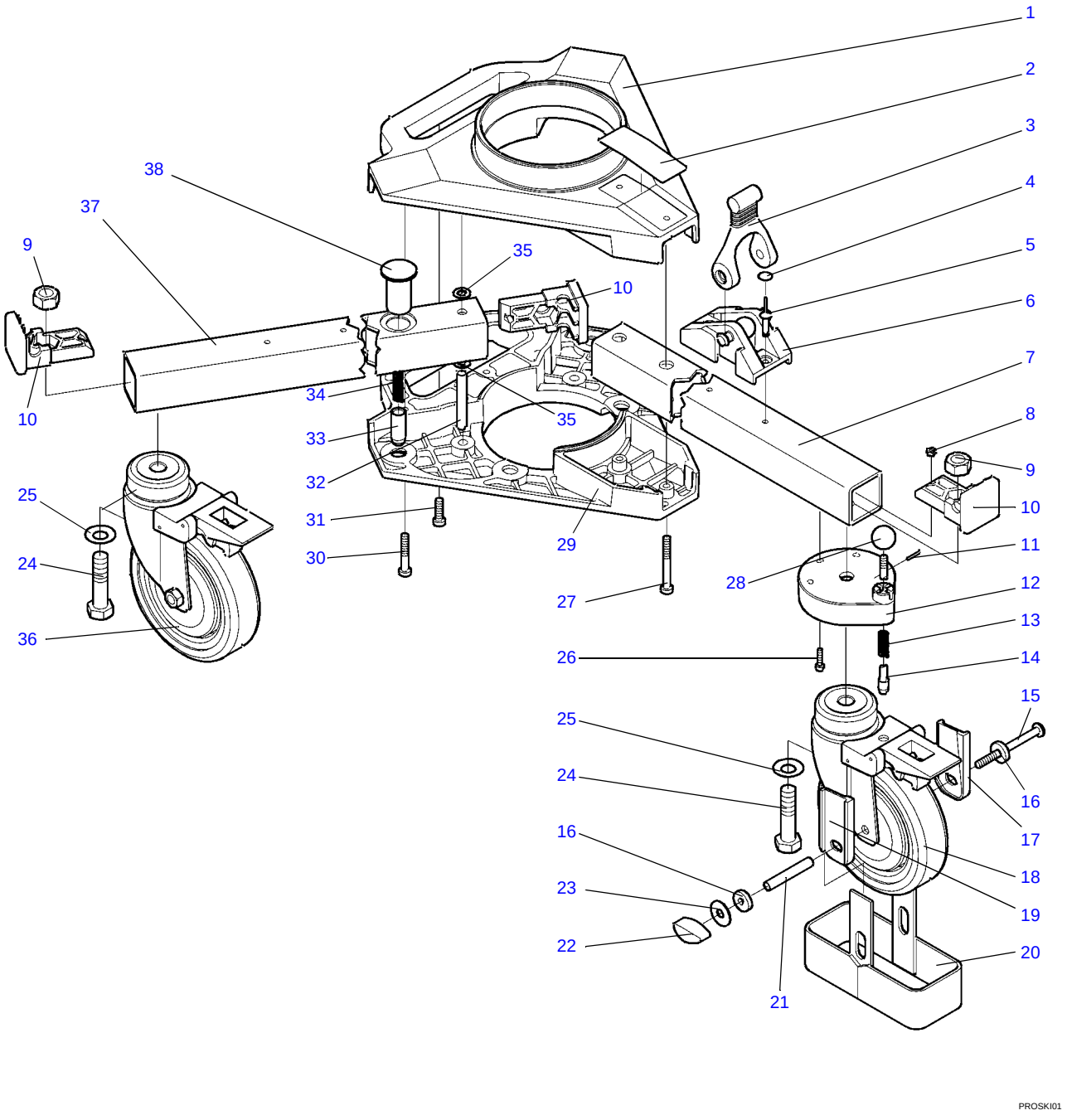


Fig 6.5 Pro-Ped Pedestal - Skid

Fig 6.5 Pro-Ped Pedestal - Skid

Item No.	Part No.	Nomenclature	Qty OB 3369-3B	Qty Studio 3369-3C
1	3369-16	Centre housing upper (bonding) assembly	1	1
2	3368-217	Label, 'Vinten'	1	1
3	3313-216	Strap, foot support	3	3
4	C510-133	Cap, plastic	6	6
5	M804-004	Pop rivet, TTPD670SS	6	6
6	3368-215	Foot support	3	3
7	3369-229	Leg tube, fixed	1	1
8	M500-070	Nut, hex, full, M4	-	3
9	M500-133	Nut, hex, full, M12	3	3
10	3368-214	Leg tube insert	5	5
11	M806-036	Spirol pin, 2 mm dia x 14 mm lg	-	3
12	3368-202	Wheel lock housing	-	3
13	J532-029	Spring, wheel lock	-	3
14	3319-211	Plunger, wheel lock	-	3
15	M007-016	Screw, pan head Pozi, M6 x 65 mm lg	-	3
16	M600-310	Clamp washer	-	6
17	3319-220*	Bracket, cable guard mounting LH	-	3
18	3368-210*	Castor, modified,125 mm wheel	-	3
19	3319-221*	Bracket, cable guard mounting RH	-	3
20	3327-24	Cable guard assembly	-	3
21	3327-239	Sleeve, wheel axle	-	3
22	K403-004	Knob, cable guard	-	3
23	M600-006	Washer, plain, heavy	-	3
24	M010-990	Screw, hex head, M12 x 50 mm lg	3	3
25	M601-252	Spring washer, 25 mm OD x 12.2 mm ID x 0.7 mm thk	3	3
26	M005-706	Screw, skt cap hd, M4 x 16 mm lg	-	3
27	M007-736	Screw, low profile, skt cap hd, M6 x 50 mm lg	2	2
28	C510-119	Knob, wheel lock, red (fixed leg)	-	1
NI	C510-056	Knob, wheel lock, black (folding legs)	-	2
29	3369-201	Centre housing lower	1	1

Fig 6.5 Pro-Ped Pedestal - Skid (Cont)

Item No.	Part No.	Nomenclature	Qty OB 3369-3B	Qty Studio 3369-3C
30	M007-737	Screw, low profile, skt cap hd, M6 x 35 mm lg	3	3
31	M007-738	Screw, low profile, skt cap hd, M6 x 20 mm lg	1	1
32	3368-209	Spindle, leg pivot	2	2
33	3368-208	Plunger, leg index	2	2
34	J532-150	Spring, leg index	2	2
35	M606-003	Washer, plastic, 14 mm OD x 8.1 mm ID x 1 mm thk	4	4
36	3511-17	Castor, 150 mm wheel	3	-
37	3369-230	Leg tube, folding	2	2
38	3368-207	Sleeve, leg index	2	2

Fig 6.6 Pro-Ped Pedestal - Composite Spare Parts List

Part No	Nomenclature	Qty
3328-903SP	On-shot clamp assembly, comprising:	
3328-237	Clamp pad shoe	1
3328-238	Clamp pad shaft	1
3328-285	Clamp pad	1
M600-007	Washer, plain, M6	1
M601-254	Washer, Belleville	18
3328-911SP	Schrader valve cap assembly, comprising:	
3328-384	Modified Schrader valve cap	1
3328-304	Pressure release button	1
3328-912SP	Customer seal kit (Osprey), comprising:	
Q001-007	‘O’ ring, 5/32in. x 9/32in. x 1/16in., R2015	8
Q001-010	‘O’ ring, 1/4in. x 3/8in. x 1/16in., R2025	3
Q001-051	‘O’ ring, 1 5/8in. x 1 7/8in. x 1/8in., R4162	1
R900H011	‘O’ ring, 20mm x 1.5mm, 206-020-4470	3
R900H012	‘O’ ring, 33mm x 1.5mm, 206-033-4470	6
R900H028	‘O’ ring, 15.6mm ID, 202-642	3
R900H068	‘O’ ring, 14mm x 3mm, 206-314-4470	1
R900H069	‘O’ ring, 75mm x 3mm, 206-375-4470	1
R900H101	‘O’ ring, 30mm ID, 204-630-4470	1
	NOTE: Not all the above seals are required for Pro-Ped	
3328-913SP	Service seal kit (Osprey), comprising:	
J550-099	Rubber ball, 5/16in.	1
Q001-007	‘O’ ring, 5/32in. x 9/32in. x 1/16in., R2015	8
Q001-010	‘O’ ring, 1/4in. x 3/8in. x 1/16in., R2025	3
Q001-011	‘O’ ring, 3/16in. x 5/16in. x 1/16in., 200-008-4460	2
Q001-012	‘O’ ring, 5/16in. x 7/16in. x 1/16in., R2031	1
Q001-019	‘O’ ring, 9/16in. x 11/16in. x 1/16in., 200-015-4490	1
Q001-051	‘O’ ring, 1 5/8in. x 1 7/8in. x 1/8in., R4162	1

Fig 6.6 Pro-Ped Pedestal - Composite Spare Parts List (Cont)

Part No	Nomenclature	Qty
Q001-104	'O' ring, 5/16in. x 7/16in. x 1/16in., 200-804-4470	2
Q001-121	'O' ring, 3/32in. x 9/32in. x 3/32in., 200-103-4460	1
Q900H013	'O' ring, 1 1/2in. x 1 3/4in. x 1/8in., 200-222-4470	2
Q900H016	'O' ring, 1 1/8in. x 1 3/8in. x 1/8in., 200-216-4470	1
Q900H037	'O' ring, 1 3/16in. x 1 9/16in. x 3/16in., 200-321-4460	1
R300-001	Seal ring, Nylite L29-M4	1
R300-002	Seal ring, Nylite L29-M5	1
R300-003	Seal ring, Nylite L29-M8	1
R300-004	Seal ring, Nylite V-5S	1
R900H011	'O' ring, 20mm x 1.5mm, 206-020-4470	3
R900H012	'O' ring, 33mm x 1.5mm, 206-033-4470	6
R900H015	'O' ring, 34mm x 2mm, 204-034-4470	2
R900H016	'O' ring, 16mm x 2mm, 206-016-4470	1
R900H017	'O' ring, 22mm x 2mm, 204-022-4470	4
R900H028	'O' ring, 15.6mm ID, 202-642	3
R900H036	'O' ring, 11.91mm x 2.62mm, 200-614-4470	1
R900H038	'O' ring, 11mm x 2.4mm, 202-637-4470	3
R900H068	'O' ring, 14mm x 3mm, 206-314-4470	1
R900H069	'O' ring, 75mm x 3mm, 206-375-4470	3
R900H101	'O' ring, 30mm ID, 204-630-4470	1

NOTE: Not all the above seals are required for Pro-Ped