PAN and TILT HEAD TYPE IIIA

INSTRUCTION BOOK

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PARTS LIST

Vinten

Technical information

PAN and TILT
HEAD
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CONTENTS

CONTENTS

CONTENTS

NOTES:

1. The VINTEN policy is one of continuous improvement, consequently, the equipment as supplied may vary slightly in certain aspects from the information given within this handbook.

2. The Vinten Camera Head Type IIIA is extensively covered by various Patents throughout the world. Infringements of any one of these Patents, without authorisation, could lead to litigation.

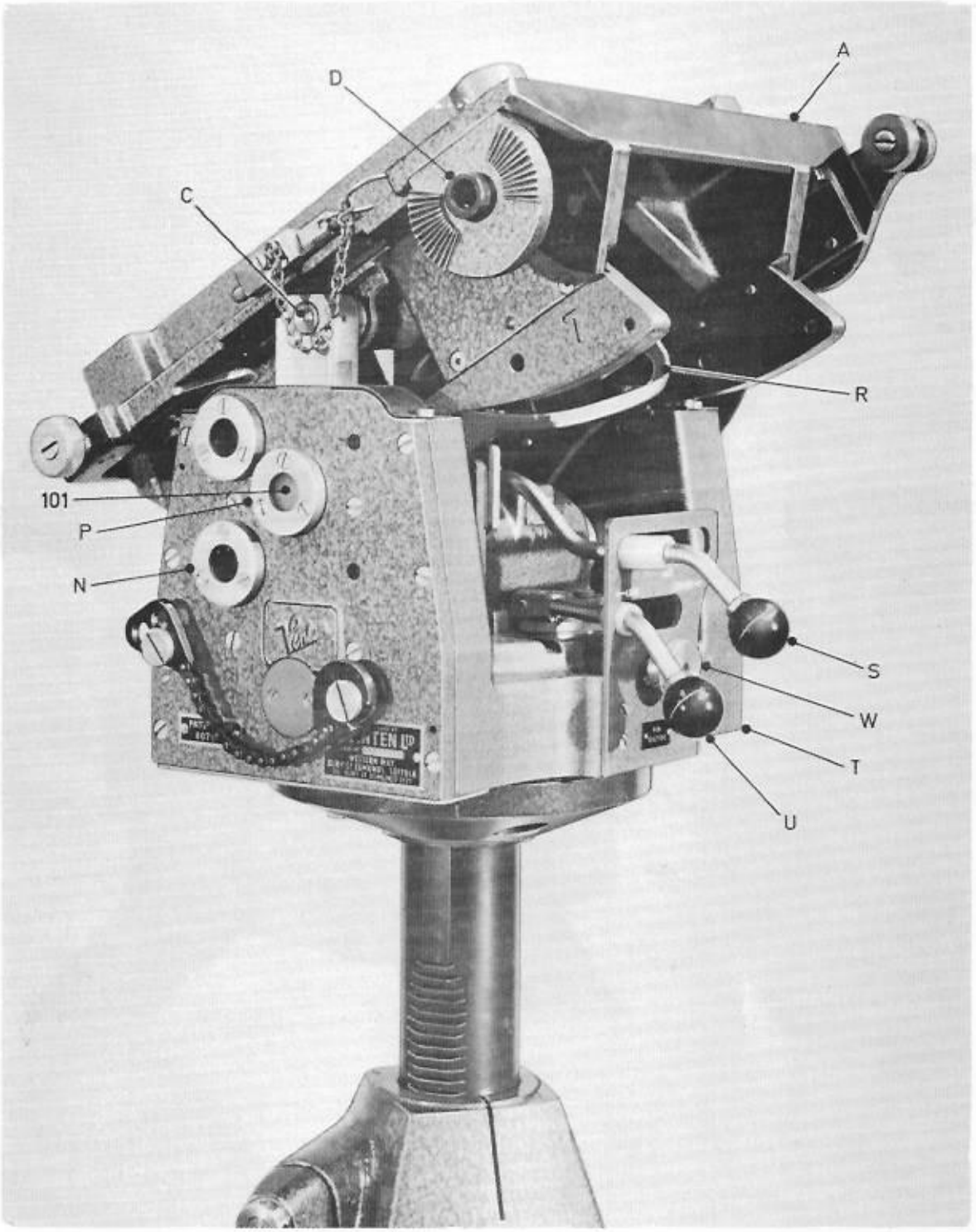


Fig.1 General View

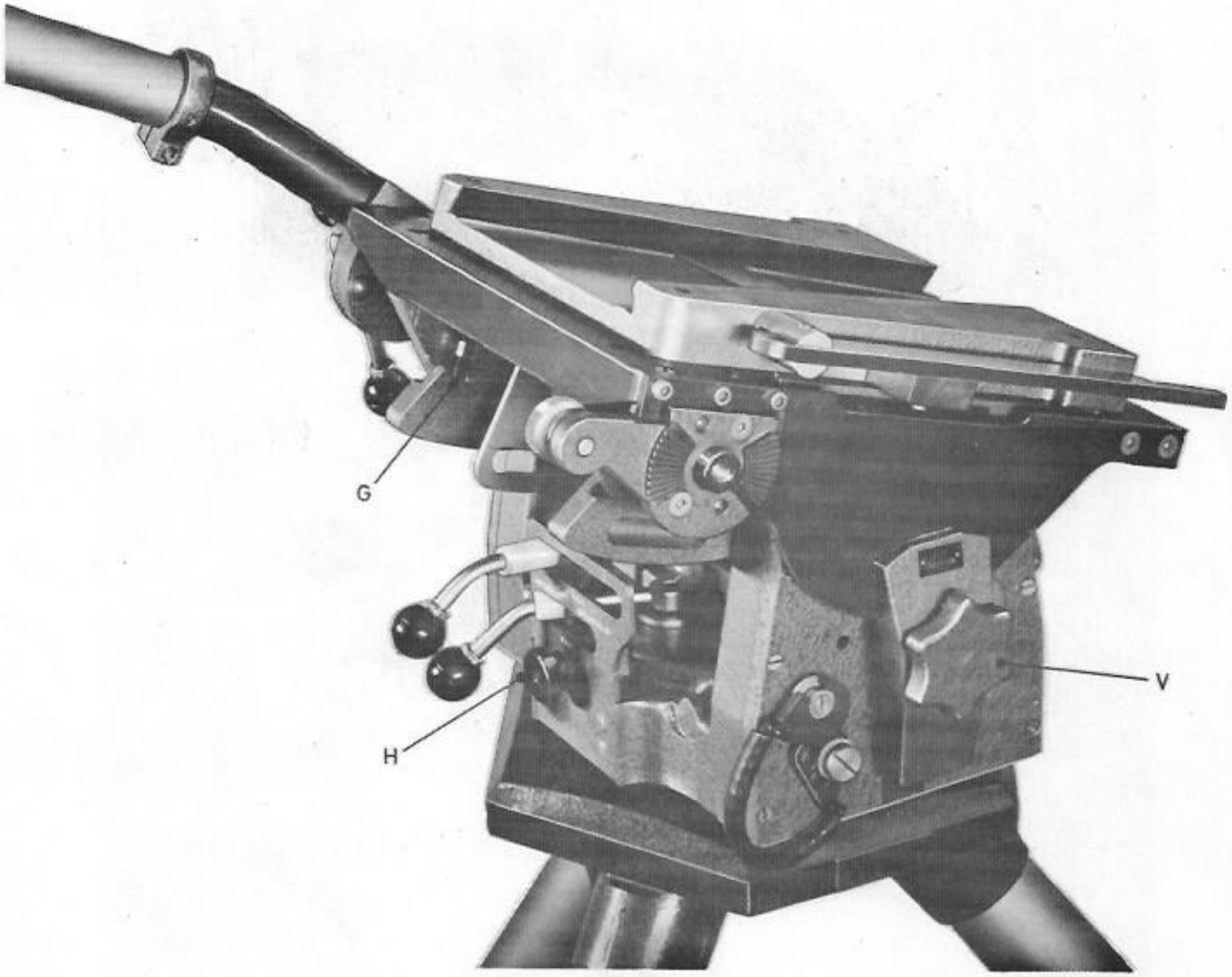


Fig.2 Right Hand View

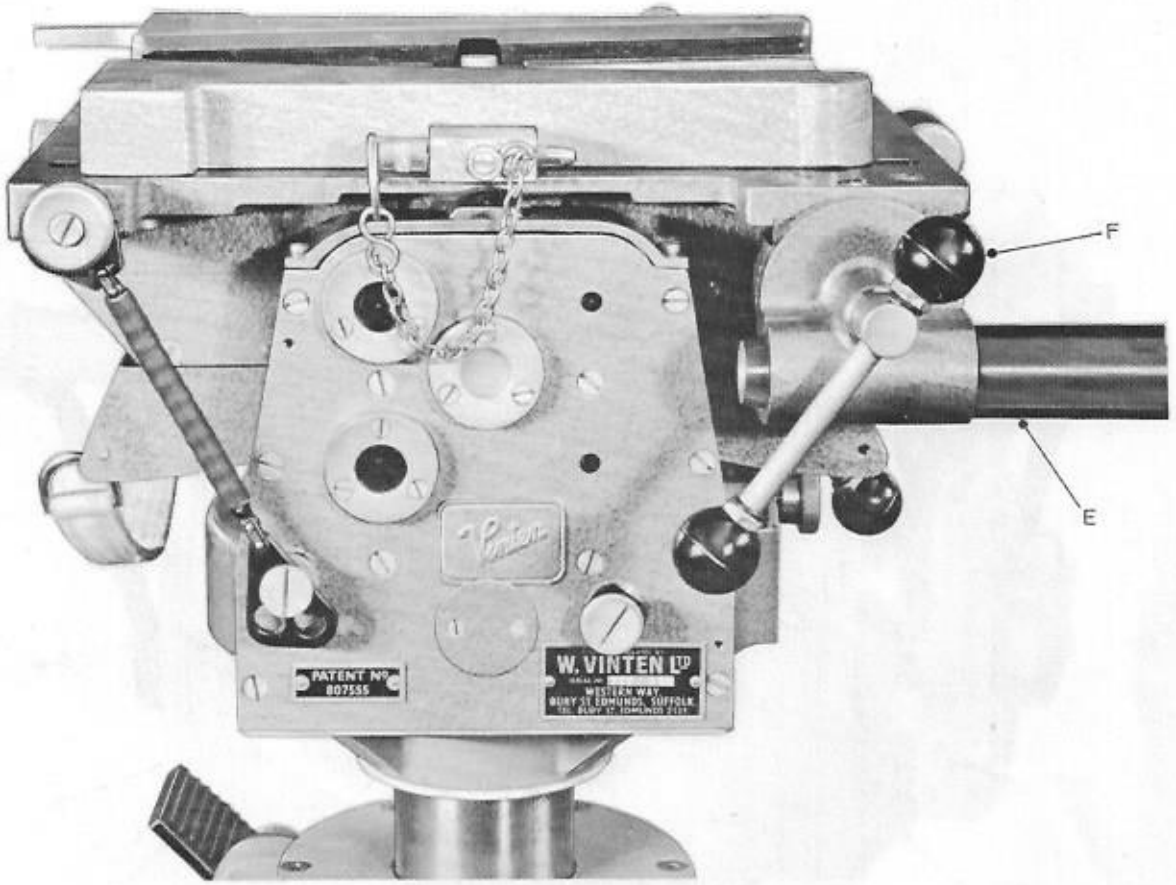


Fig. 3 Left Hand View

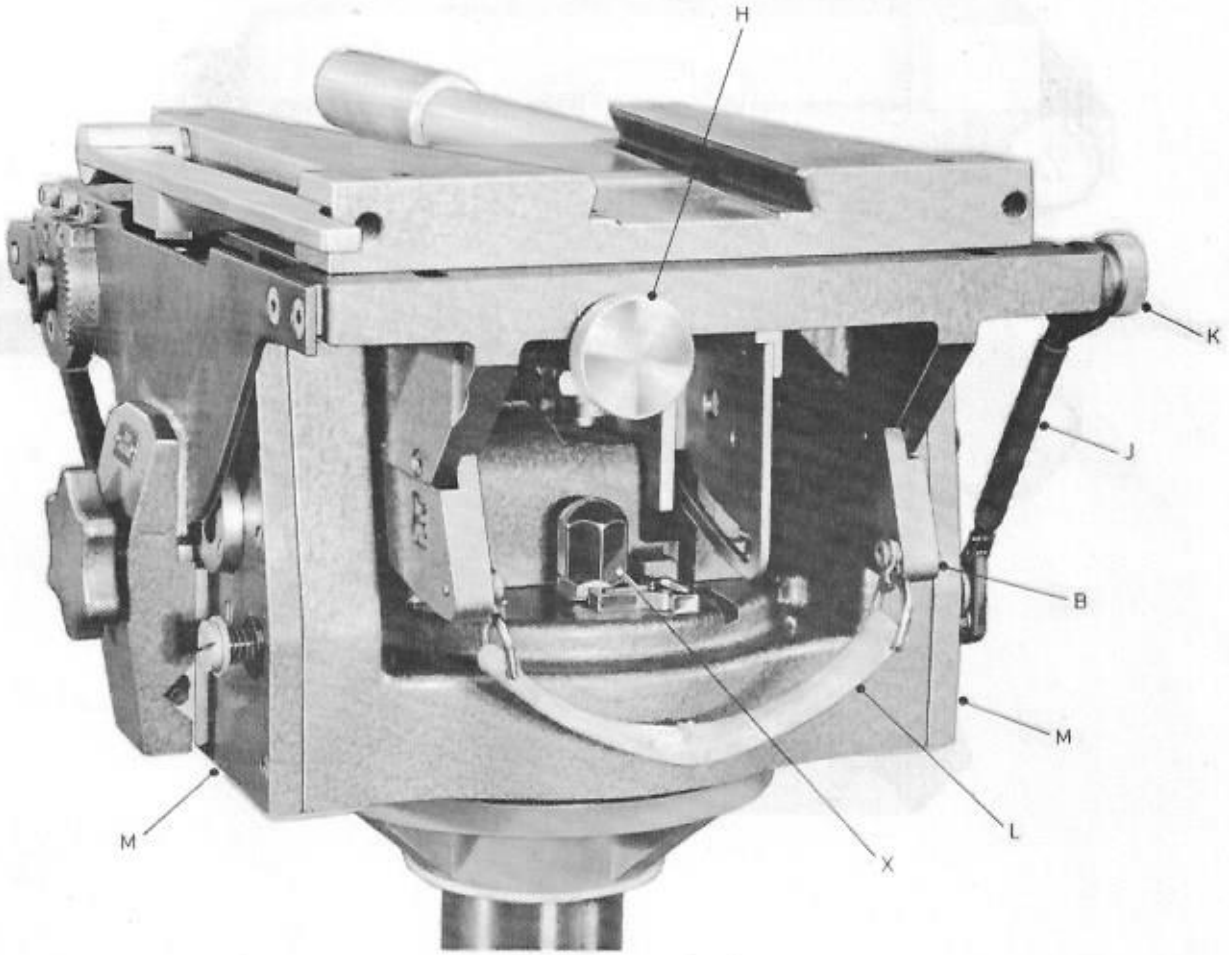
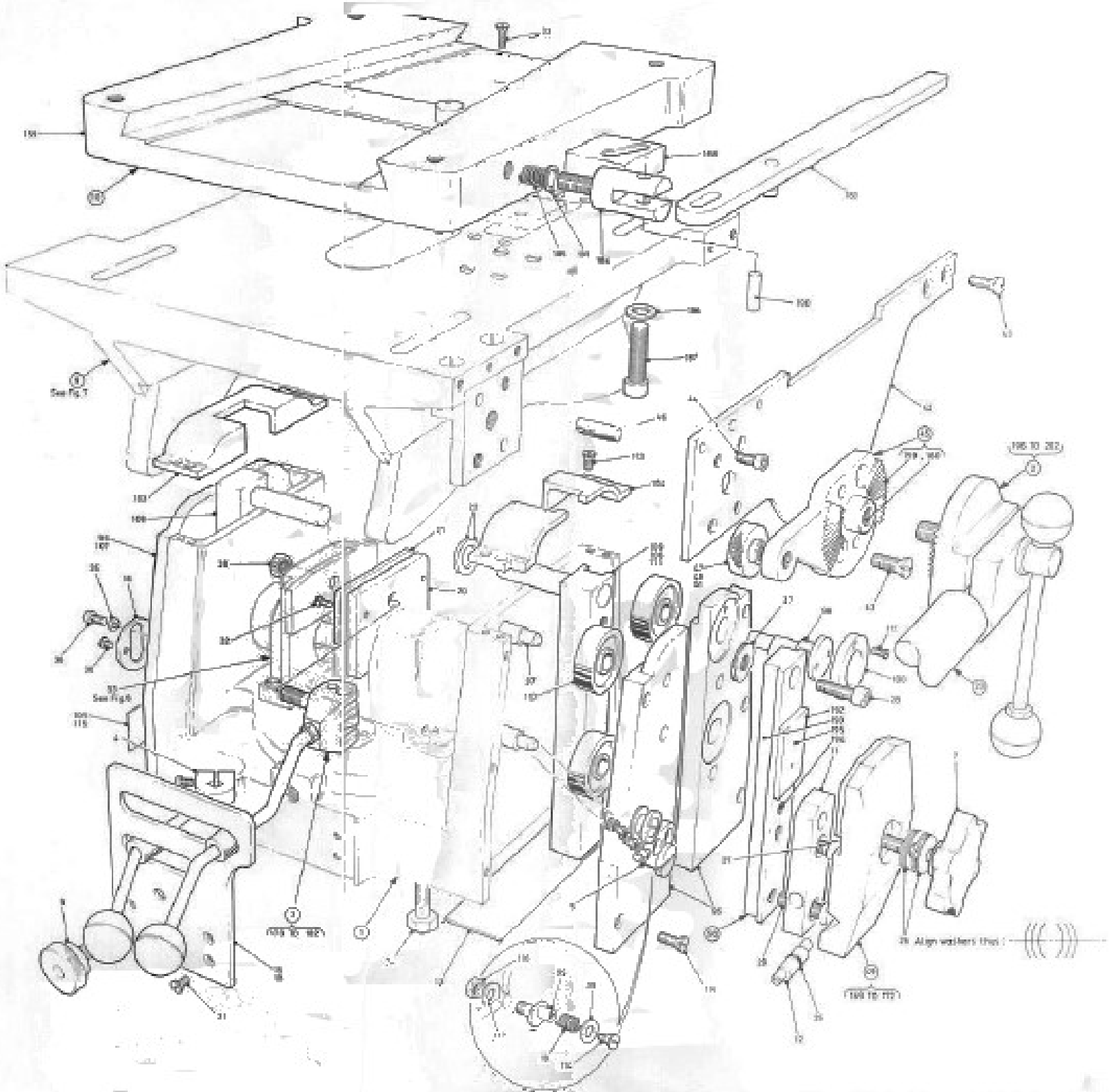


Fig. 4 Rear View



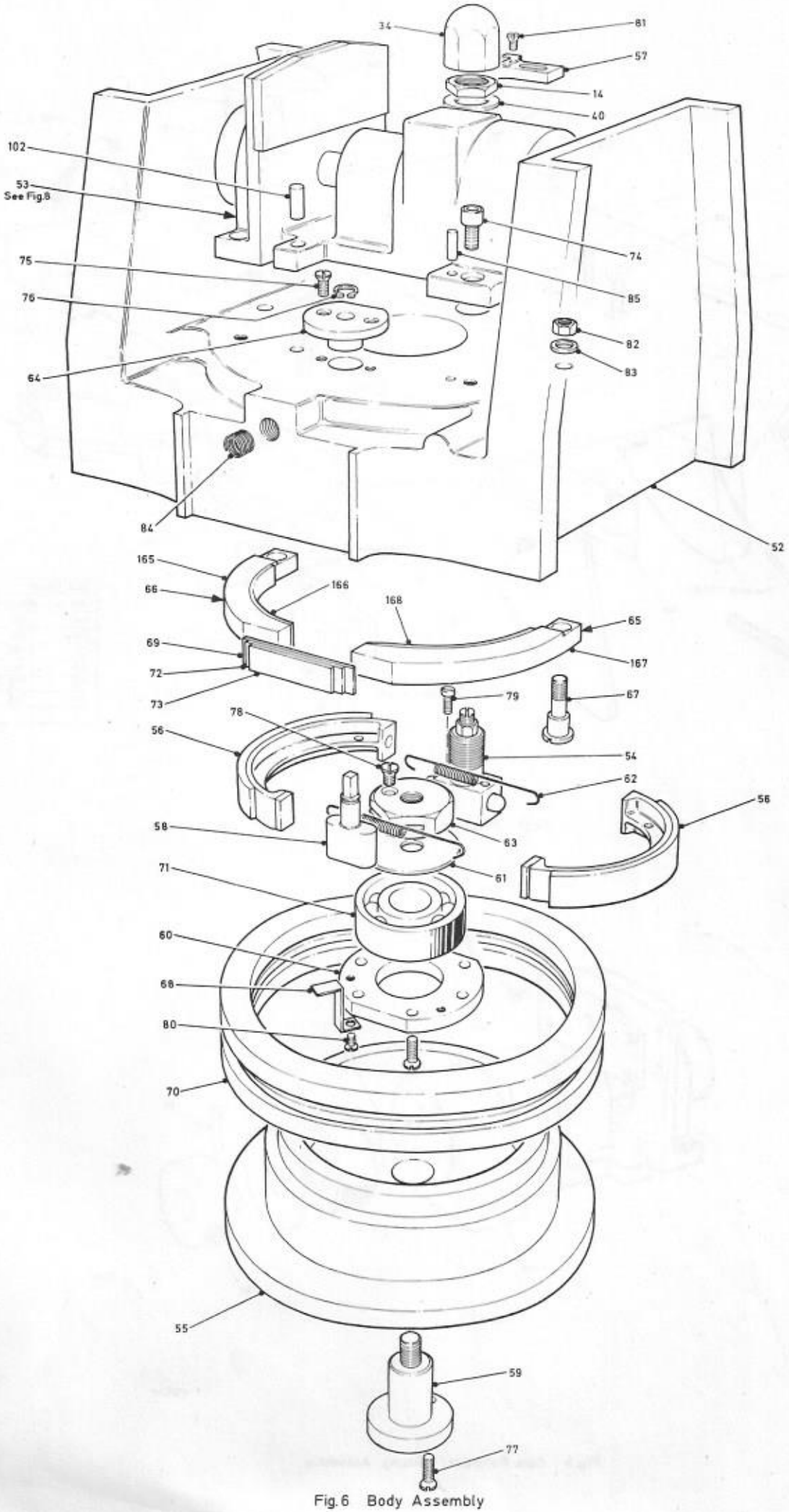
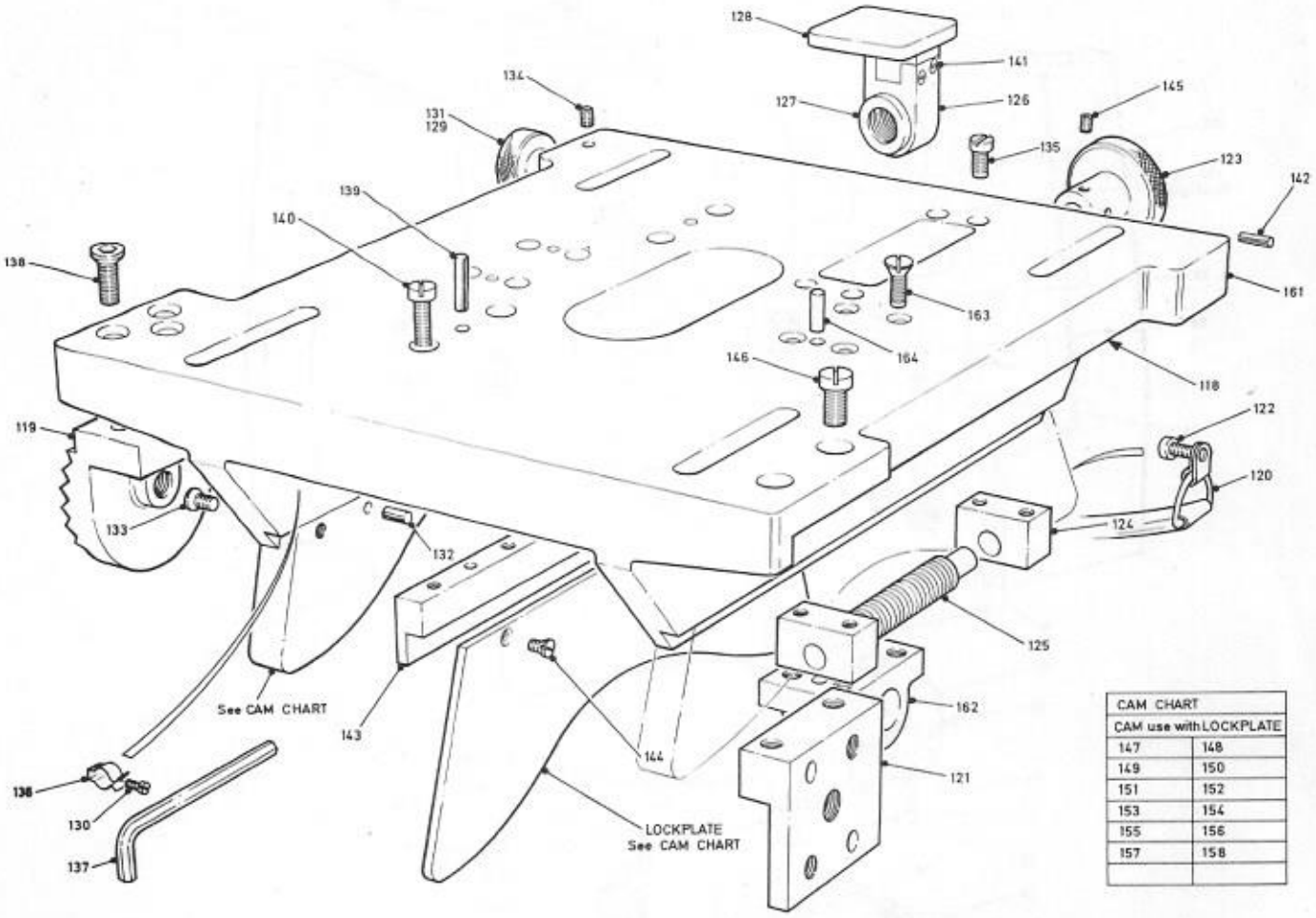


Fig. 6 Body Assembly



CAM CHART	
CAM use with LOCKPLATE	
147	148
149	150
151	152
153	154
155	156
157	158

Fig.7 Platform Assembly

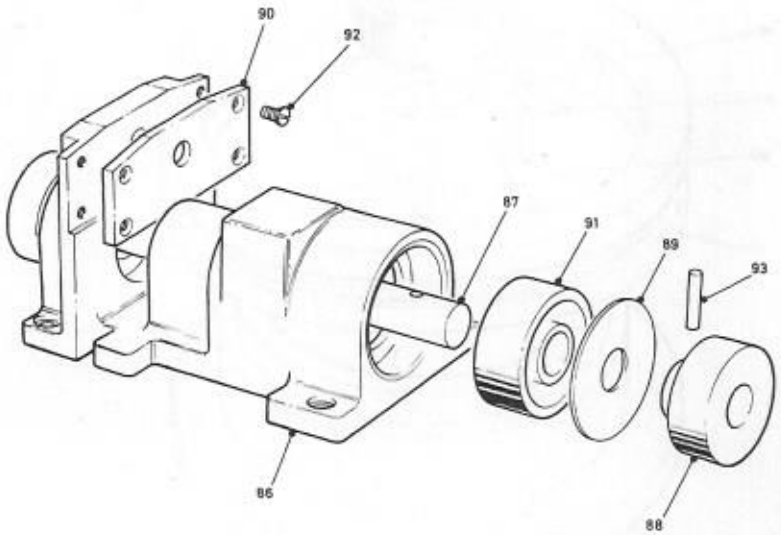


Fig.8 Cam Follower Housing Assembly

SECTION 1
GENERAL DESCRIPTION

1.1 INTRODUCTION (Fig. 1)

The Vinten Pan and Tilt Head, Type IIIA, is a modified version of the original and highly successful Type III Head. The Type IIIA retains the Vinten designed and evolved geometry of moving parts, i.e. no counter-balance weights or springs are used. This design enables perfect balance of the camera to be achieved at any angle within the 100 degree range of tilt. The carrying capacity of the Type IIIA has been increased up to 181 kg (400 lb), and at the same time modifications have been incorporated into the pan and tilt friction mechanisms to give an improved action.

1.2 LOCKS AND CONTROLS

The pan and tilt mechanisms are fitted with separate locks. Also, both mechanisms have independently adjustable friction controls. The controls have been designed and positioned to give the utmost ease of action and accessibility.

The pan bar that is provided can be adjusted for both angle and length by the user, to suit his particular needs, and can be attached to the left hand or the right hand side of the head.

1.3 HEAD AND CAMERA ATTACHMENT

The head is attached to its support by means of a four bolt fixing or by a centre screw.

A camera is attached to the head by means of a wedge-action adaptor plate. A fine screw adjustment enables the camera to be accurately balanced in the fore and the aft direction.

An angled camera mount can be provided to increase the angle of tilt (up or down) by 25 degrees.

1.4 CARRYING CASE

A robust fibre glass carrying case is available if required. This case contains the necessary fittings to firmly house the head when it is in transit. Clipped to the inside walls of the case are the two pan bars, the centre screw fixing, associated bolts, a box spanner and a tommy bar.

1.5 HEAD CONSTRUCTION

1.5.1 General information

The head consists basically of the two following main parts:

(1) The camera platform.

(1) The body assembly.

1.5.2 Camera platform

The camera platform (A, fig. 1) is a flat surfaced casting with two identical cam surfaces (B, fig. 4) bolted to the underside. These cams rest on steel rollers (C, fig. 1) which are mounted on a cross shaft that is rigidly supported by a housing mounted on the base of the head. The cams and rollers support the full weight of the camera and provide the unique features of the Vinten head. Several profiles are available for the cams to suit cameras having a Centre of Gravity, measured from the camera base of 5, 7, 8, 9, 10 and 11 inches.

Pivoted to the sides of the platform are two steel guide bars, these bars are located within the side arms by four ball races at each side. The guide bars can only move vertically between their support rollers, this eliminates any movement of the camera platform in a fore and aft direction.

A heavy bracket (D, fig. 1) is fitted to the back corner of the platform, this acts as an attachment for the pan bar (E, fig. 3). Radial serrations on the mating faces of the bracket permit the pan bar to be locked positively to the platform at any one of a large range of angles. The ball-ended tommy bar (F, fig. 3) is used to tighten the clamping bolt.

The pan bar is in two telescopic sections, its length being adjusted by slackening a bolt to release the split clamp.

Adaptor plate

A Vinten Camera Wedge Adaptor Plate is normally used with the Type IIIA head. The adaptor plate is free to slide in a fore and aft direction on the top surface of the platform, but is restrained from doing so by four socket-head screws that project downwards through slots in the platform. These screws may be locked by a key (G, fig.2) that is clipped, when not in use, to the platform casting.

The slots permit the Wedge Adaptor Plate to be moved over a range of 25.4 mm (1 inch) fore and aft of the centre line, thus compensating for variations in the horizontal position of the centre of gravity in different cameras, and enabling the camera C of G to be coincident with the pivot point at all times. A fine degree of control is obtained by rotating the knurled knob (H, fig.4), this turns a leadscrew below the platform. The leadscrew nut is bolted to the adaptor.

Chain latches

Each of the chain latches (J, fig.4), which are used to hold the platform in the horizontal position, consist of a chain, fitted at one end with a link, and at the other with a hook. The link pivots about an anchor pin secured to the base and is provided with two pivot holes to allow the overall chain length to be adjusted to suit different cams. When in use, the latch hooks are engaged with screwed studs, carrying knurled nuts (K, fig.4), situated at diametrically opposite corners of the platform. When the nuts are tightened, a chamfer on the hook, and a taper on the nut, ensures that sufficient tension is automatically obtained in the chains to secure and retain the platform in a level position. When not in use each hook locates on a retaining pivot screwed to the base.

Note: The latch chains are designed so that undue pressure on the pan bar will result in breakage of the hook, thus avoiding damaging the cam and the cam locking plates.

A carrying handle is attached to the forward corners of the two cams (L, fig.4).

1.5.3 Body assembly

The body assembly consists basically of a heavy casting, and this casting contains the panning mechanism in its base. Two integral arms are closed on the outside by two side plates (M, fig.4), these plates are retained by countersunk screws and are correctly located by dowel pins.

Four steel pins are held within each side member and on these are mounted ball races that support the vertical guide bars. The ball races aft of each guide bar are on fixed centres, but the pins within the front races have an accentric centre portion. These pins are headed and the heads are located outside the side plates by clamping rings (N, fig. 1). By slackening these rings the pins may be turned, thus advancing the ball races and positioning the guide bars with complete accuracy. Two holes have been drilled in the head of each pin, this enables the pins to be turned with a special key.

A third ring (P, fig. 1) on the left hand side of the head retains a plastic stop, this stop engages with a cheese-head screw at the bottom of the left hand guide bar, thus limiting the upward movement of the bar, and setting the limits of the up and down tilt.

1.6 PAN MECHANISM

1.6.1 Lock

Within the brake drum is an internally expanding brake having one leading and one trailing shoe. These shoes rest (at one end) upon an expander, this expander consists of a cam mounted on a short vertical shaft, and the shaft projects through the casting and carries a lever and knob (U, fig. 1) which works through the gate and forms the Pan Lock.

The other ends of the shoes rest upon an expander with a wedge action. This expander has a threaded portion which passes up through the base; the expander can be adjusted externally by removing a domed nut and turning a slotted control beneath it. This adjustment enables the wear on the brake shoes to be off-set.

1.6.2 Friction adjustment

A pair of friction shoes, operated by a knurled lead screw (W, fig. 1) adjuster, are fitted to the head. These shoes provide even tension during panning, and also serve to minimise back lash that occurs when a change of panning direction is made.

1.6.3 Bearings

The base (T, fig. 1) of the head is a hollow casting bored out to form a circular housing for a heavy ball thrust race. This is supported upon a static, circular base, that is bolted down to its support by four bolts. Alternatively, a four armed spider can be bolted to the bottom of the base which is provided with a centre screw fixing.

A steel bolt projects upwards from the centre of the circular base, and mounted on this bolt is an angular contact race about which the body rotates in all panning movements. The separate friction and brake mechanism, for panning operations, occupy the annular space between the two ball races.

1.7 TILT MECHANISM

1.7.1 Lock

A vertical plate (R, fig. 1) is attached to the underside of the camera platform, this plate has a milled slot similar in shape to the cam profile; and a clamping device passes through this slot.

The clamp consists of a friction plate pulled up against the inside of plate R by an over-centre cam. The cam is operated by a lever (S, fig. 1) working through a gate, and clamps the plate against a brake pressure pad.

1.7.2 Friction adjustment

The head is fitted with a side-mounted tilt friction shoe (item 49, fig. 5) together with a suitable adjustment knob (V, fig. 2). This enables tilt friction to be applied through a quadrant plate that is attached to the camera platform, so that even friction can be applied over the whole traverse of the head regardless of camera angle.

SECTION 2
SETTING-UP INSTRUCTIONS

2.1 HEAD ATTACHMENT

The head is attached to its support either by four bolts or by a centre screw. A box spanner and a tommy bar are provided (in the carrying case) for use when the four bolt attachment method is adopted.

After attachment, the head must be accurately aligned in both directions by means of the cross-level mounted at the front of the body casting. This alignment is facilitated by locking the camera platform at its full upward limit of tilt.

2.2 FITMENT OF CAMERA

First fit the platform chain latches into position by unscrewing the two knurled thumb nuts (K, fig.4) and locating each hook on its respective stud. Ensure that both hooks are correctly positioned and then tighten the nuts.

Note: When the chain latches are in use the tilt lock must be applied.

With the camera platform locked in a fixed position the camera can be fitted. The camera should be mounted on the wedge and inserted into the wedge adaptor plate, the lock bar should be pushed home and the safety pin inserted. The camera and wedge must not be forced home but pushed gently into the adaptor, thus allowing the locking bar to operate easily.

It is important to ensure that the camera is complete with all its ancillary equipment, such as lenses, coaxial cable, headphones, etc., otherwise the balancing procedure detailed below will be upset when additional equipment is added.

2.2.1 Balance of camera

To balance the camera, first release the tilt lock and free the chain latches, returning the hooks to their retaining pivots. The camera is now able to tilt and should be restrained with the pan bar. Test whether the assembly is front or back heavy and shift the camera as necessary, backwards or forwards (as detailed below) relative to the platform.

The camera can be shifted by slackening the four socket head screws (using the key provided), and then turning the knurled knob (clockwise for forward movement and anti-clockwise for backward movement of camera). By tilting the head slightly downwards the forward movement is assisted, and conversely, by tilting the head slightly upwards the backward movement is assisted.

If when this adjustment has been carried out, the camera falls forward and backwards heavily the centre of gravity of the camera is too high for the cams fitted. If the camera centres heavily the centre of gravity is too low for the cams fitted.

The chain latches must always be used when an out-of-balance load is put on the head, e.g. when a Zoom lens is used and the cradle and camera are in position without the front element. The latches must also be employed when the head is travelling unattended on a vehicle with camera mounted. It is also advisable to apply the latches when carrying the head or when stowing it in its case; in these circumstances the tilt lock must also be applied.

2.3 ADJUSTMENT OF CONTROLS

The tilt lock (S, fig. 1) and the pan lock (W, fig. 1) are both locked by movement to the left and unlocked by movement to the right. The tilt friction adjustment (V, fig. 2) and the pan friction adjustment (U, fig. 1) are rotated clock-wise to increase the friction.

SECTION 3
SERVICING

3.1 GENERAL INFORMATION

The Vinten Head is very robust and little servicing is required. The ball races are 'sealed for life units' which require no further attention.

Adjustments which may be needed after considerable use are:

(1) Elimination of fore and after play in the vertical guide bars.

(2) The taking up of wear in both the tilt and pan lock devices.

3.2 VERTICAL GUIDE BAR ADJUSTMENTS

After removing the camera:

(1) Loosen the three screws in each clamping ring (N, fig.1).

(2) Rotate, clockwise, the headed shafts, using a special spanner, until all side play is eliminated from the vertical guide bars, a check can be made by extending the bars and attempting to rock them by hand.

When the appropriate adjustments have been made, the clamping rings must be tightened by firmly screwing up the three screws in each ring.

CAUTION: Ensure that the guide bars, cam faces and rollers are free of oil or grease. Only a rolling action occurs at these points and the presence of grease is both unnecessary and liable to trap dust and dirt to the detriment of the surfaces. At intervals, these faces should be wiped over with a dry rag.

3.3 TILT LOCK ADJUSTMENT

Should it be found that the tilt lock is becoming less effective it may be adjusted as follows:

It will be seen that the centre pin of the clamping device passes through a slot in the platform locking plate and into a projecting lug on the housing below it. The centre pin is threaded and secure behind the lug by a nut. For Tilt Lock adjustment turn the adjusting nut clockwise to reduce the clearance in the lock assembly.

3.4 PAN LOCK ADJUSTMENT

Should it be found that the pan lock is becoming less effective an adjustment to the brake should be made, as described below:

Removal of the domed nut (X, fig.4) gives access to the adjuster. This comprises a threaded rod headed at the lower end, this head being machined to a conical point. At the top this rod is provided with a screwdriver slot. Two expander pins pass crosswise through the bottom end of the adjuster body and bear adjust the conical surface of the rod and the brake shoes rest against the outer ends of the pins.

After removing the domed nut, slacken the locking nut back one turn. Using a screwdriver, turn the threaded rod; a clockwise rotation expands the shoes to compensate for wear. Correct adjustment must leave the panning movement completely free when the pan lock is released.

After adjustment, tighten the lock nut and replace the domed nut.

3.5 DISMANTLING PROCEDURE

3.5.1 Overall disassembly

Should it become necessary to replace the friction band or the brake shoes in the panning mechanism, or to dismantle the head for any other reason it is essential to observe the following sequence of operations, otherwise damage may occur to the head:

(1) Remove the pan bar by unscrewing the tommy bar.

(2) Remove the control knobs and gate.

(3) Dismantle the tilt lock assembly by removing the nut on the tilt lock centre pin and withdrawing the complete assembly away from the platform locking plate.

(4) Remove the circular cover plate from the near bottom of side plates. This gives access to the end of the guide bar. Remove the cheese-headed stop screw from the bar.

(5) The camera platform is now free and may be removed by lifting upwards.

(6) Remove the pivot point housing by first removing four screws.

(7) Remove the locking screw located in the centre aperture of the body casting, from the top face of the large nut. Unscrew the nut. This permits the body that carries the angular contact ball race to be withdrawn from the centre pivot pin. This pin is attached to the base.

(8) Lift off the thrust race cage and balls.

(9) Invert the body casting; the friction adjustment and brake assemblies are now readily accessible from the bottom of the body.

(10) To remove the pan lock brake shoes first remove the two Z-shaped support brackets by unscrewing the two countersunk screws. The brake shoes are then free and may be withdrawn by expanding their static ends to disengage them from the adjuster assembly. The two shoes will come away complete with the return springs.

(11) Should it be necessary to dismantle the remainder of the brake mechanism, remove the dome nut giving access tothe adjuster housing, unscrew the retaining nut and withdraw the assembly.

(12) Detach the pan lock lever by unscrewing the clamp bolt and easing the lever from its square shaft.

(13) The brake expander cam and shaft may then be withdrawn from its bearing.

3.5.2 Side members disassembly

Should it become necessary to dismantle the side members of the body, proceed as follows:

(1) Remove the camera platform as detailed in 3.5.1 (4) and (5).

(2) Remove the ten countersunk screws in each side plate.

(3) Insert four screws (4BA) in the tapped holes in each side plate and screw home to break the joint. Each side plate can then be removed, carrying with it the four ball races and shafts.

(4) The rear pair of ball races are removed by extracting their shafts from the side plates.

(5) The front pair of ball races are removed by first unscrewing the countersunk clamping screws and detaching the clamp rings from the outside of the side plates.

(6) Each shaft must then be extracted from the side plate and the ball race simultaneously. If no suitable extractor is available, the shaft must be driven out carefully, using a soft metal driver against the inner end of the shaft, and ensuring that the side plate is adequately supported close to the head of the shaft.

3.5.3 Camera platform disassembly

It is very unlikely that the camera platform will need to be dismantled, but should this become necessary the method will, in general, be evident. If the vertical guide bars are removed for any reason note that each bar has a channel milled along one edge to afford transverse location. When re-assembling, ensure that the channels face the front of the camera.

3.5.4 Cams and tilt locking plate disassembly

The two cams are attached to cast webs beneath the camera platform. Each cam and web has a mating pair of rebated surfaces through which pass retaining bolts.

Note: Other cams are available to suit equipments that have a different centre of gravity.

In order to change from cams of one size to cams of another, detach the old cams and fit the new pair, as detailed previously. At the same time, fit the related tilt locking plate as described below.

Remove the tilt locking plate by unscrewing the countersunk screws, these screws together with two dowels hold the plate to a bolting face on the bottom of the camera platform. Fit the new tilt locking plate and re-assemble the head.

Note: When reassembling Tilt Friction Control (see figure 5) ensure that the six domed washers (item 26) are aligned thus: ((())) 3 concaves facing 3 concaves.

3.6 FITMENT OF WEDGE ADAPTOR PLATE

To fit a plate, first place the plate on top of the camera platform and locate it in position (the four holes near the corners must line up above the slots in the platform, and the three countersunk holes near the front must coincide with the tapped holes in the adjuster shoe). The adjuster shoe projects through a slot in the camera platform and must engage with the underside of the plate.

Screw the four socket-headed bolts upwards through slots in the platform into the tapped (bushed) holes in the plate: these bolts need only be finger tight. Insert three countersunk screws through the base of the plate and screw home into the shoe.

When the camera has been fitted and balanced, tighten the socket headed bolts fully by means of the key clipped beneath the camera platform.

Note: Application of a lubricant is necessary only to the pan and tilt friction pads. Apply Lewmarlube sparingly to pads as follows:

Pan friction pads - six monthly or as required.
Tilt friction pads - monthly or as required.

SECTION 4
DIMENSIONS AND WEIGHT

4.1 CARRYING CASE

Length	430 mm (17 in.)
Width	355 mm (14 in.)
Height	165 mm (6.5 in.)
Weight	5.7 kgs (12.5 lbs)

4.2 PAN AND TILT HEAD

Length	300 mm (12 in.)
Width	350 mm (14 in.)
* Height	175 mm (7 in.)
* Weight	14.6 kgs (32.25 lbs)

Note: *measured without adaptor plate.

SECTION 5
PARTS LISTS AND RECOMMENDED SPARES

Notes: 1. All dimensions given in the lists are in inches unless otherwise stated.

2. The numbers in the final columns indicate the number of 'Recommended spares' for the Type IIIA Head when one, five or ten heads are held.

5.1 GENERAL ASSEMBLY (3717-3)

All items are shown on figure 5 unless otherwise stated.

Item No.	Qty	Description	Part No.	Recommended Spares 1	5	10
1	1	Body and side plate assembly	3717-6			
2	1	Quadrant assembly	3426-4A	1	2	4
3 (See 5.11)	1	Tilt lock assembly	3426-5A		1	2
4	1	Pan brake lever assembly	3426-7A		1	2
5	1	Locking chain assembly (long)	3426-17A	1	1	2
6	1	Latch chain assembly (short)	3426-15A	1	1	2
7	1	Arm lock knob assembly	3711-11		1	1
8	1	Knob assembly	3711-12		1	1
9	1	Platform assembly	3717-7			
10 (See 5.12)	1	Wedge adaptor assembly	3506-6A			

GENERAL ASSEMBLY (contd)

Item No.	Qty	Description	Part No.	Recommended Spares 1	5	10
11	1	Block pivot	3711-206			
12	1	Eccentric	3711-207			
13	2	Cover	3426-63			
14 (fig. 6)	1	Nut	3426-65			
15	1	Guard	3426-70			
16	1	Cover plate	3426-82			
17	4	Captive screw	3426-98			
18	1	Guard (German)	3426-101			
19	4	Latch spring	3426-110		2	4
20	1	Brake pressure block	3506-3			
21	1	Brake pressure pad	3506-4			
22	4	Shim	3506-15			
23	1	Pan bar assy	3308-7A			
24	4	Head fixing screws	3308-104			
25	1	'0' ring (R2025 3/8 O/D x $\frac{1}{4}$ I/D) (Angus)	Q001-010			
26	8	Belleville washer (.718 O/D x .328 I/D) (1383/1 Terry)	L601-256			
27	1	Socket hd cap screw (5/16 BSF x $\frac{1}{2}$ lg dull chrome)	L022-901			

GENERAL ASSEMBLY (contd)

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
28	1	Socket hd cap screw (5/16 BSF x $\frac{3}{4}$ lg dull chrome)	L022-902	
29	1	Socket hd cap screw (5/16 BSF x $1\frac{1}{4}$ lg dull chrome)	L022-911	
30	2	C'sk hd screw (6BA x 3/16 lg dull chrome)	L004-046	
31	4	Raised hd c'sk screw (4BA x 5/16 lg dull chrome)	L006-102	
32	14	C'sk hd screw (8BA x $\frac{1}{4}$ lg dull chrome)	L003-035	
33	3	C'sk hd screw (2BA x 3/8 lg dull chrome)	L007-030	
34 (fig.6)		Domed nut ($\frac{1}{2}$ BSF-REF 310-40 (Purefoy)	L502-120	
35	1	Spring washer (5/16 dia single foil)	L601-119	
36	1	Ch. hd. screw (5/16 BSF x $\frac{1}{2}$ lg dull chrome)	L022-301	
37	8	Shim	3419-111	
38	1	Locknut	3717-206	

GENERAL ASSEMBLY (contd)

Item No.	Qty	Description	Part No.	Recommended Spares 1	5	10
39	4	Small bright washer (3/8 dia to BS 3410 dull chrome)	3L602-121			
40 (fig. 6)	1	Shakeproof washer ($\frac{1}{2}$ internal dull chrome)	L600-033			
41 (not shown)	2	Spanner ($\frac{1}{4}$-5/16 double ended 544A Terry Code No. 488006)	J551-001			
42	1	Friction plate	3711-225			
43	4	Socket c'sk hd screw ($\frac{1}{4}$ BSF x 5/8 lg dull chrome)	L021-042			
44	3	Socket hd cap screw (2BA x 3/8 lg dull chrome)	L007-903			
45	1	Pan handle bracket (RH)	3717-10		2	4
46	2	Dowel pin ($\frac{1}{4}$ x 5/8 lg clean)	L801-053			
47	1	Thumb nut	3426-69			
48	1	Socket set SC (4BA x 3/16 lg dull chrome)	L006-822			
49	1	Tilt friction assembly	3717-13		1	2
50	1	Block assembly	3717-14		1	2
51	1	Bracket stud	3426-111			

5.2 BODY ASSEMBLY (3717-4)

All items are shown in fig.6.

Item No.	Qty	Description	Part No.	Recommended Spares 1	5	10
52	1	Body	3426-1			
53	1	Cam follower housing assembly	3717-5			
54	1	Pan lock adjuster assembly	3426-10A			
55	1	Base assembly	3506-10A			1
56	2	Brake shoe assembly	3506-9A		3	5
57	1	'T' spirit level	3506-22			
58	1	Brake cam	3426-32			
59	1	Special bolt	3426-7			
60	1	Bearing plate	3426-24			
61	1	Dust excluder	3426-9			
62	2	Spring	3426-34			
63	1	Special nut	3426-8			
64	1	Bush	3426-30			
65	1	Shoe RH assembly	3717-11		1	2
66	1	Shoe LH assembly	3717-12		1	2
67	2	Pin	3711-209			
68	2	Brake shoe support	3426-91			
69	1	Bearing strip	3711-214			

BODY ASSEMBLY (contd)

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
70	1	Thrust bearing (XW5½B, Hoffman)	N550-013	
71	1	Angular contact bearing (LS8AC, Hoffman)	N205-003	
72	1	Bearing strip	3711-230	
73	1	Bearing strip	3711-231	
74	4	Socket hd cap screw (¼ BSF x ½ lg dull chrome)	L021-912	
75	2	C'sk hd screw (4BA x 7/16 lg dull chrome)	L006-032	
76	1	Retaining ring external (Ref. 5100-31, Salter)	L701-004	
77	7	C'sk hd screw (2BA x 5/8 lg dull chrome)	L007-034	
78	1	C'sk hd screw (2BA x 5/16 lg dull chrome)	L007-029	
79	2	Ch. hd. screw (6BA x 3/8 lg dull chrome)	L004-343	
80	2	C'sk hd screw (6BA x 3/16 lg dull chrome)	L004-046	
81	2	C'sk hd screw (8BA x 7/16 lg dull chrome)	L003-030	

BODY ASSEMBLY (contd)

Item No.	Qty	Description	Part No.	Recommended Spares 1	5	10
82	2	Hex. nut (2BA dull chrome)	L500-137			
83	2	Shakeproof washer (2BA dull chrome)	L600-028			
84	1	Helicoil insert ($\frac{1}{4}$ BSF x $2\frac{1}{2}$ dias. lg 1261-4)	L850-027			
85	2	Dowel pin (3/16 x $\frac{1}{2}$ lg)	L801-028			

5.3 CAM FOLLOWER HOUSING ASSEMBLY (3717-5)

All items are shown on fig.8.

Item No.	Qty	Description	Part No.	Recommended Spares 1	5	10
86	1	Cam follower housing	3717-202			
87	1	Cam follower shaft	3426-10			
88	2	Cam follower	3426-11			
89	2	Dust excluder	3426-12			
90	1	Brake pad	3506-2		1	2
91	2	Ball race (MS.5 Hoffman)	N200-302			
92	4	C'sk hd screw (6BA x $\frac{1}{4}$ lg)	L004-052			
93	2	Spring pin (3/32 dia x $\frac{3}{4}$ lg)	L800-036			

5.4 BODY AND SIDE PLATE ASSEMBLY (3717-6)

All items are shown on fig. 5 unless otherwise stated.

Item No.	Qty	Description	Part No.	Recommended Spares 1	5	10
	1	Body assembly	3717-4			
94	1	Chain bush	3711-211			
	1	Latch spring	3426-110		1	5
95	1	RH side casting	3717-201			
96	1	LH side casting	3426-4			
97	4	Bearing spindle	3426-35			
98	4	Bearing adjuster	3426-36			
99	4	Latch pivot	3426-97			
100	5	Clamp	3426-37			
101 (fig. 1)	1	Stop	3426-38			
102 (fig. 6)	2	Dowel pin	3L801-028			
103	1	Cover	3426-48			
104	1	Cover	3717-204			
105	1	Nameplate	3423-1			
106	1	Cover	3711-208			
107	1	Patent number plate (No. 807555)	3426-115			
108	1	Guide bar assembly (LH)	3426-6A			
109	1	Guide bar assembly (RH)	3426-13A			

BODY AND SIDE PLATE ASSEMBLY (contd)

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
	1	Washer	L602-121	
110	8	Bearing (Medium series MS.3 Hoffman)	N200-301	
111	2	Hammer drive screw (size 00 x 1/8 lg type 'U')	L102-001	
112	15	C'sk hd sc. (4BA x 2 lg dull chrome)	L006-033	
113	6	Ch. hd. sc. (4BA x $\frac{1}{4}$ lg dull chrome)	L006-329	
114	21	C'sk hd. sc. (2BA x $\frac{3}{4}$ lg dull chrome)	L007-035	
115	4	Hammer drive screw steel (3/32 x 00 type 'U')	L102-004	
116	4	Locknut (5/16 BSF dull chrome)	L502-030	
117	4	Shakeproof washer (5/16 internal dull chrome)	L600-030	

5.5 PLATFORM ASSEMBLY (3717-7)

All items are shown on fig.7.

Item No.	Qty	Description	Part No.	Recommended Spares 1	5	10
118	1	Platform bearing assembly	3717-8			
119	1	Bracket assembly (LH)	3426-21A			1
120	1	Handle assembly	3506-11A			
121	1	Bracket	3711-210			
122	2	Carrying handle screw	3426-78			
123	1	Knob	3426-71		1	2
124	2	Bearing	3426-39			
125	1	Adjusting screw	3426-42			
126	1	Nut retainer	3426-75			
127	1	Slide block nut	3426-75			
128	1	Slide block	3426-40			
129	1	Platform stud	3426-107			
130	1	Ch. hd. screw (8BA x $\frac{1}{4}$ lg dull chrome)	L003-332			
131	1	Thumb nut	3426-69			
132	4	Dowel pin (3/16 dia x $\frac{1}{2}$ lg)	L801-028			
133	8	Socket hd c'sk screw (2BA x $\frac{1}{2}$ lg dull chrome)	L007-041			
134	1	Socket set screw (4BA x 3/16 lg dull chrome)	L006-822			

PLATFORM ASSEMBLY (contd)

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
135	4	Ch. hd. screw (2BA x $\frac{1}{2}$ lg dull chrome)	L007-334	
136	1	Terry clip (size 000 No. 81)	L702-041	
137	1	Hex. wrench (No. W.7 Unbrako)	J551-006	
138	3	Socket hd. c'sk screw ($\frac{1}{4}$ BSF x $\frac{3}{4}$ lg dull chrome)	L021-043	
139	2	Dowel pin (3/16 dia x $\frac{3}{4}$ lg)	L801-030	
140	4	Ch. hd. screw (2BA x 1" lg. dull chrome)	L007-338	
141	4	C'sk hd. screw (6BA x $\frac{1}{4}$ lg dull chrome)	L004-052	
142	1	Spring pin (3/32 x 5/8 lg)	L800-035	
143	1	Locking plate adaptor	3426-92	
144	4	Socket hd c'sk (2BA x $\frac{1}{4}$ lg dull chrome)	L007-056	
145	1	Socket set sc. (6BA x 1/8 lg dull chrome)	L004-809	
146	2	Cheese hd screw ($\frac{1}{4}$ BSF x 5/8 lg dull chrome)	L021-301	
147	2	Cam (for 5" C of G camera)	3426-93	

PLATFORM ASSEMBLY (contd)

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
148	1	Lockplate (for 5" C of G camera)	3426-95	
149	2	Cam (for 7" C of G camera)	3426-80	
150	1	Lockplate (for 7" C of G camera)	3426-81	
151	2	Cam (for 8" C of G camera)	3426-60	
152	1	Lockplate (for 8" C of G camera)	3426-61	
153	2	Cam (for 9" C of G camera)	3506-20	
154	1	Lockplate (for 9" C of G camera)	3506-21	
155	2	Cam (for 10" C of G camera)	3426-118	
156	1	Lockplate (for 10" C of G camera)	3426-119	
157	2	Cam (for 11" C of G camera)	3506-7	
158	1	Lockplate (for 11" C of G camera)	3506-8	

5.6 PAN HANDLE BRACKET ASSEMBLY (R.H.) (3717-10)

All items are shown on fig.5.

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
159	1	Pan handle bracket	3717-205	
160	1	Heli-coil (3/8 BSF x $1\frac{1}{2}$ dia lg)	L850-036	

5.7 PLATFORM BEARING ASSEMBLY (3717-8)

All items are shown on fig.7.

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
161	1	Platform	3717-203	
162	2	Pivot bearing	3426-47	
163	8	C'sk hd screw (2BA x 5/8 lg dull chrome)	L007-034	
164	4	Dowel pin (3/16 dia x 5/8 lg)	L801-029	

5.8 FRICTION SHOE ASSEMBLY (L.H.) (3717-11)

All items are shown on fig.6.

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
165	1	Shoe (LH)	3711-205	
166	1	Pad	3711-217	

5.9 FRICTION SHOE ASSEMBLY (R.H.) (3717-12)

All items are shown on fig.6.

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
167	1	Shoe (RH)	3711-204	
168	1	Pad	3711-217	

5.10 TILT FRICTION ASSEMBLY (3717-13)

See item **49** on fig.5.

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
169	1	Bracket casting	3711-223	
170	1	Pad	3711-218	
171	1	Information plate (3426-103 used for Germany)	3308-155	
172	6	Hammer drive screw (size 00 x 3/16 lg type 'U')	L102-008	

5.11 TILT LOCK ASSEMBLY (3426-5A)

See Item 3 on fig. 5.

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
173	1	Tilt lock eccentric	3426-56	
174	1	Swing bolt (Mod to Purefoy)	3426-14	
175	1	Pin	3426-57	
176	1	Tilt lock lever	3426-58	
177	2	Tilt lock roller	3426-73	
178	1	1" dia knob with dual insert (5/16 BSF Patt No. 281)	C510-002	
179	1	Locknut (5/16 BSF full chrome)	L502-030	
180	1	Tilt lever buffer	3426-87	
181	2	Bush	3426-85	
182	2	Pin	3426-84	

5.12 WEDGE ADAPTOR ASSEMBLY (3506-6A)

All Items are shown on fig. 5

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
183	1	Lever arm assembly	3506-7A	
184	1	Swivel bolt	3506-13	
185	1	Helicoil insert	L850-050	
186	4	Washer	L602-112	
187	4	Socket head cap screw	L022-905	
188	1	Locking bar assembly	3506-8A	
189	1	Wedge adaptor	3506-14	
190	1	Dowel pin (1/4 dia x 3/4 lg)	L801-055	
191	2	Belleville washer (if required)	L601-256	

5.13 BLOCK ASSEMBLY (3717-14)

All Items are shown in fig. 5.

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
192	1	Pad	3711-216	
193	1	Block, rear	3711-224	
194	1	Helicoil (1/4 BSF x 1-1/2 dia.)	L850-029	
195	2	Hammerdrive screw (size 00 x 3/16, type U)	L102-008	

5.14 QUADRANT ASSEMBLY (3426-4A)

See Item 2 on fig. 5.

Item No.	Qty	Description	Part No.	Recommended Spares 1 5 10
196	1	Handle quadrant	3426-55	
197	1	Clamp bolt	3426-52	
198	1	Washer	3426-72	
199	1	Tommy bar	3426-53	
200	2	1" dia knob with Dural insert	C510-002	
201	1	Circlip	L701-025	
202	2	'0' ring	Q001-012	