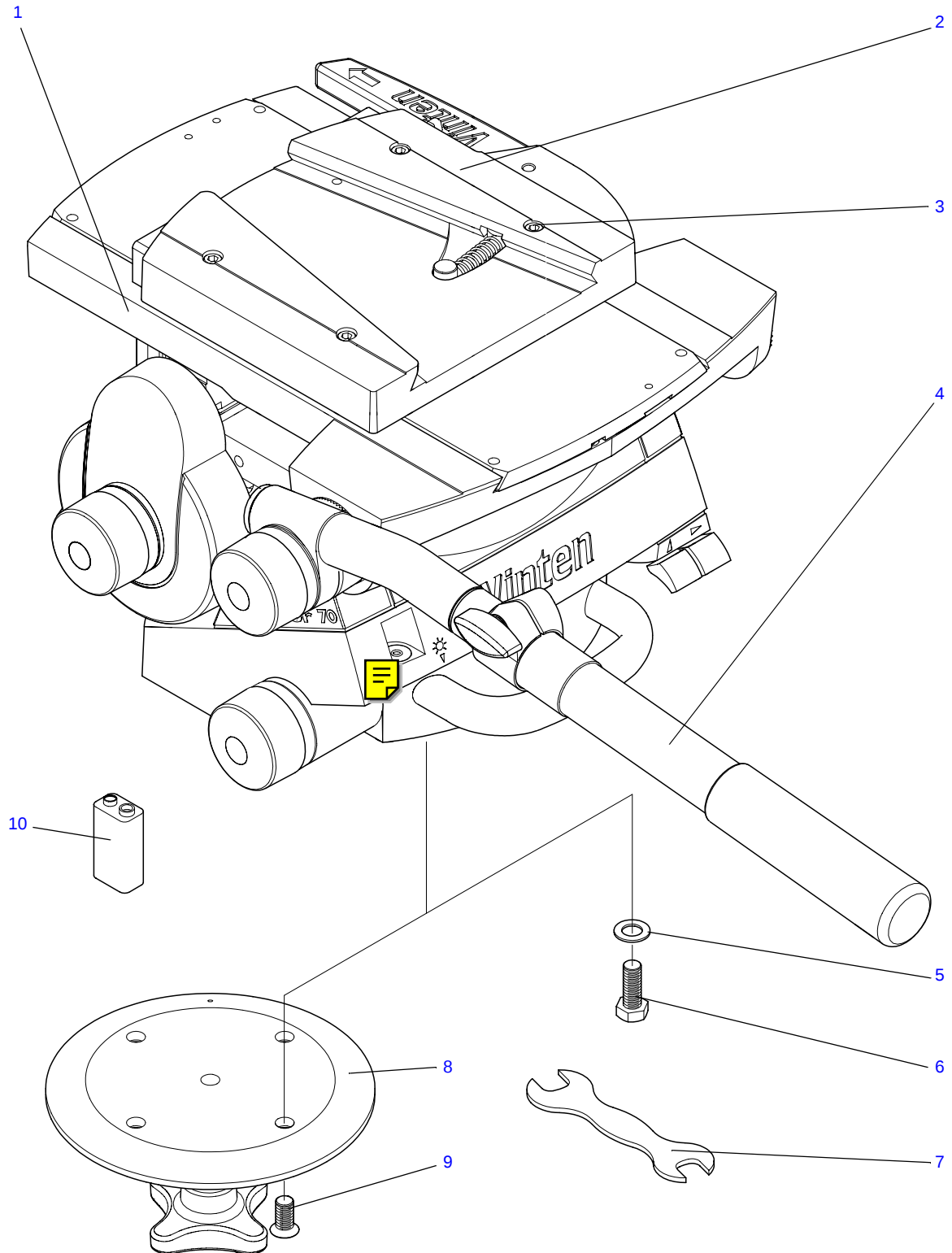




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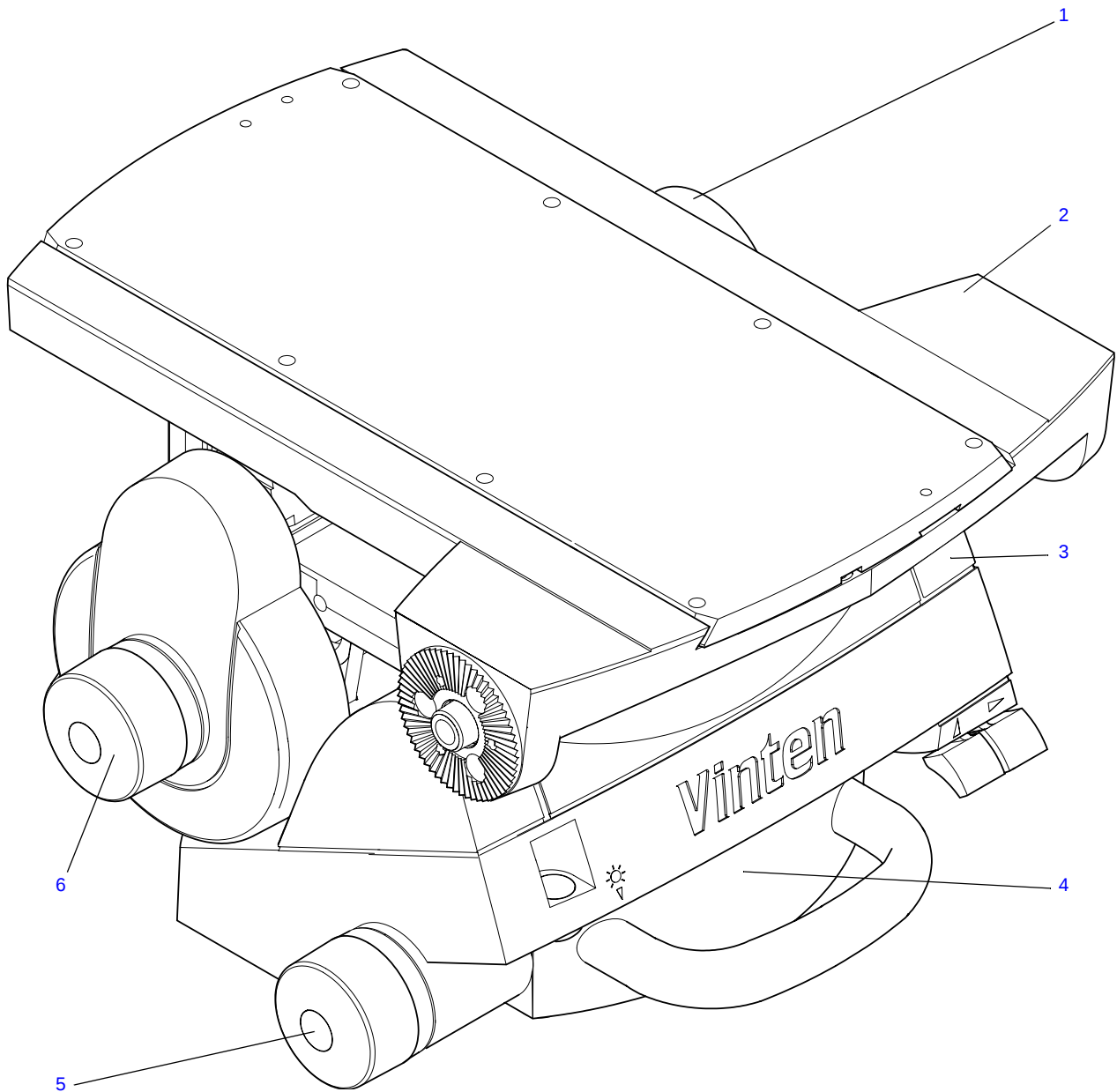
Fig 6.1 Vector 70/70H Pan and Tilt Head

**Fig 6.1 Vector 70/70H Pan and Tilt Head**

Item	Part No	Nomenclature	Qty
	3354-3	Final assembly - Vector 70, comprising	
1	3354-11	Main assembly - Vector 70 Head (Fig 6.2)	1
2	3389-3	Wedge adaptor assembly	1
3	M007-707	Screw, cap head, socket, M6 x 30 mm long	4
4	3219-62	Pan bar and clamp assembly (Fig 6.12)	1
5	L602-122	Washer, plain, small, heavy, 3/8 in.	4
6	L054-714	Bolt, hex head, 3/8 in. BSW x 1 in. long	4
7	J551-001	Spanner, open jaw, 1/4 in., and 5/16 in.	1
10	C550-023	Battery, 9 Volts, Size - PP3	1
	3354-3H	Vector 70H pan and tilt head, comprising:	
1	3348-42	Main assembly (Fig 6.2)	1
2	3389-3	Wedge adaptor assembly	1
3	M007-707	Screw, cap head, socket, M6 x 30 mm long	4
4	3219-62	Pan bar and clamp assembly (Fig 6.12)	1
5	L602-122	Washer, plain, small, heavy, 3/8 in.	4
6	L054-714	Bolt, hex head, 3/8 in. BSW x 1 in. long	4
7	J551-001	Spanner, open jaw, 1/4 in., and 5/16 in.	1
10	C550-023	Battery, 9 Volts, Size - PP3	1
	3354-5	Vector 70 pan and tilt head (USA), comprising:	
1	3348-11	Main assembly (Fig 6.2)	1
2	3389-3	Wedge adaptor assembly	1
3	M007-707	Screw, cap head, socket, M6 x 30 mm long	4
4	3219-62	Pan bar and clamp assembly (Fig 6.12)	1
8	3103-3	Lightweight adapter assembly (Mitchell to Vinten standard), including:	1
9	L054-010	Screw, countersunk head, socket, 3/8in. BSW x 3/4 in. long	4
10	C550-023	Battery, 9 Volts, Size - PP3	1
	3354-5H	Vector 70H pan and tilt head (USA), comprising:	
1	3348-42	Main assembly (Fig 6.2)	1
2	3389-3	Wedge adaptor assembly	1
3	M007-707	Screw, cap head, socket, M6 x 30 mm long	4
4	3219-62	Pan bar assembly (Fig 6.12)	1
8	3103-3	Lightweight adapter assembly (Mitchell to Vinten standard), including:	1

Fig 6.1 Vector 70/70H Pan and Tilt Head (Cont)

Item	Part No	Nomenclature	Qty
9	L054-010	Screw, countersunk head, socket, 3/8in. BSW x 3/4 in. long	4
10	C550-023	Battery, 9 Volts, Size - PP3	1



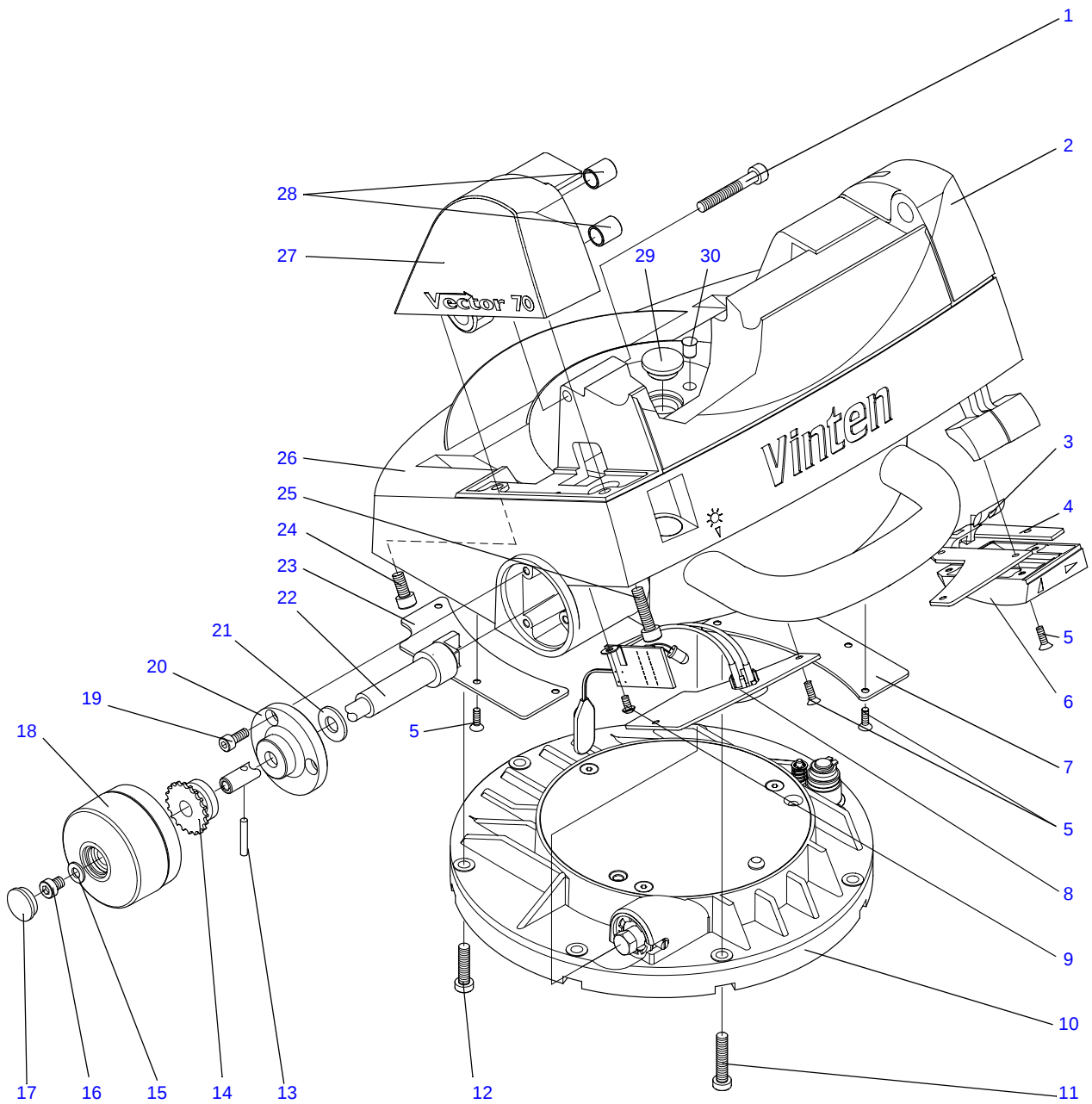
V70_ip02

Fig 6.2 Vector 70/70H Pan and Tilt Head - Main Assembly



Fig 6.2 Vector 70/70H Pan and Tilt Head - Main Assembly

Item	Part No	Nomenclature	Qty
	3354-11	Vector 70 main assembly, comprising:	
1	–	Tilt brake/balance knob/centre lock (Fig 6.10)	
2	3354-16	Platform assembly (Fig 6.11)	
3	3354-23	Brake lever support cap assembly (Fig 6.5)	
4	–	Base (Fig 6.3)	
5	–	Pan drag/brake mechanism (Fig 6.4)	
6	3354-13	Mechanism housing assembly (Fig 6.6)	
	3354-42	Vector 70H main assembly, comprising:	
1	–	Tilt brake/balance knob/centre lock (Fig 6.10)	
2	3354-46	Platform assembly (Vector 70H) (Fig 6.11)	
3	3354-48	Brake lever support cap assembly (Vector 70H) (Fig 6.5)	
4	–	Base (Fig 6.3)	
5	–	Pan drag/brake mechanism (Fig 6.4)	
6	3354-43	Mechanism housing assembly (70H)(Fig 6.6)	



V70_ip03

Fig 6.3 Vector 70/70H Pan and Tilt Head - Base

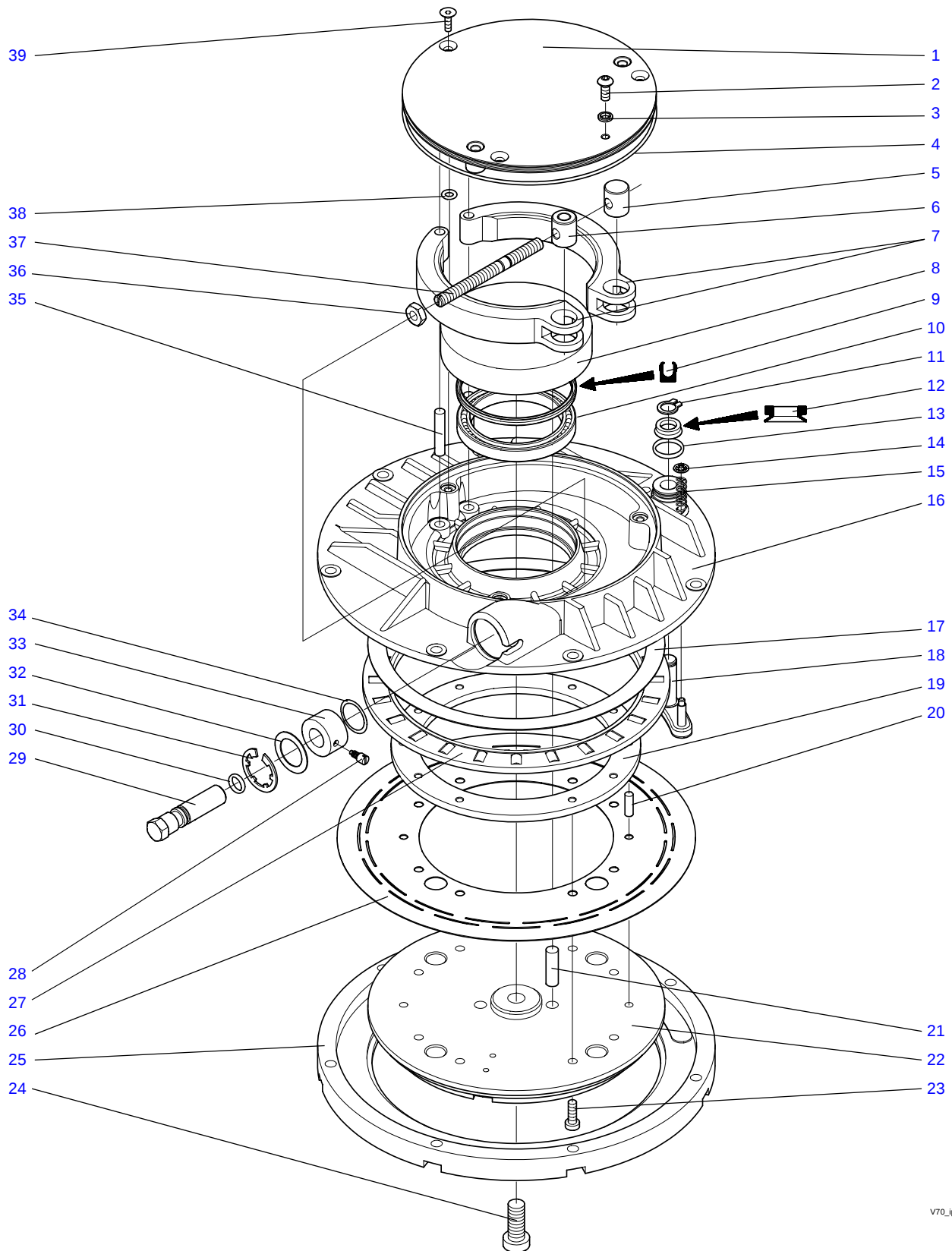
**Fig 6.3 Vector 70/70H Pan and Tilt Head - Base**

Item	Part No	Nomenclature	Qty
1	M006-718	Screw, cap head, socket, M5 x 40 mm long	1
2	3354-23	Brake lever support cap assembly (Fig 6.5), OR	1
	3354-48	Brake lever support cap assembly (Vector 70H) (Fig 6.5)	1
3	3354-347*	Buffer pad	1
4	3354-337*	Cover plate (plastic)	1
5	M004-103*	Screw, countersunk head, pozidrive, M3 x 8 mm long	12
6	3354-53	Brake lever guide bonding assembly	1
7	3354-304	Cover plate (Right hand)	1
8	3354-25*	Cover plate /PCB assembly (complete with switch, PCB, LED and battery connector)	1
9	M004-511*	Screw, button head, socket, M3 x 5 mm long	1
10	3354-20	Pan drag/brake assembly (Fig 6.4)	1
11	M006-738	Screw, low-profile, cap head, socket, M5 x 25 mm long	4
12	M006-740	Screw, low-profile, cap head, socket, M5 x 20 mm long	3
13	L801-105	Pin, dowel, 1/8 in. dia. x 9/16 in. long	1
14	3354-293	Serrated boss	1
15	M600-006*	Washer, plain, heavy, M5	1
16	M006-737*	Screw, low-profile, cap head, socket, M5 x 6 mm long	1
17	3354-292*	Knob bung	1
18	3354-340*	Drag knob	1
19	M005-717	Screw, cap head, socket, M4 x 10 mm long	3
20	3354-305	Location disk	1
21	M600-106	Washer, plain, light, M8	1
22	3354-307	Shaft (Pan drag knob)	1
23	3354-334	Cover (Base housing left hand)	1
24	M006-704	Screw, cap head, socket, M5 x 16 mm long	1
25	M006-705	Screw, cap head, socket, M5 x 20 mm long	1
26	3354-24*	Base housing (bonding) assembly	1
	3354-32	Support cap assembly left hand, comprising:	1



Fig 6.3 Vector 70/70H Pan and Tilt Head - Base (Cont)

Item	Part No	Nomenclature	Qty
27	3354-438	Support cap (left hand) new hole positions	1
28	P001-018*	Bearing, plain, du bush, 8 mm ID x 10 mm OD x 12 mm long	2
	3354-49	Support cap assembly - left hand (Vector 70H), comprising:	1
27	3354-440	Support cap (left hand) 70H new hole position	1
28	P001-018*	Bearing, plain, du bush, 8 mm ID x 10 mm OD x 12 mm long	2
29	3448-241	Blanking plug - base housing	1
30	3448-254	Hole plug	2



V70_ip04

Fig 6.4 Vector 70/70H Pan and Tilt Head - Pan Drag/Brake Mechanism

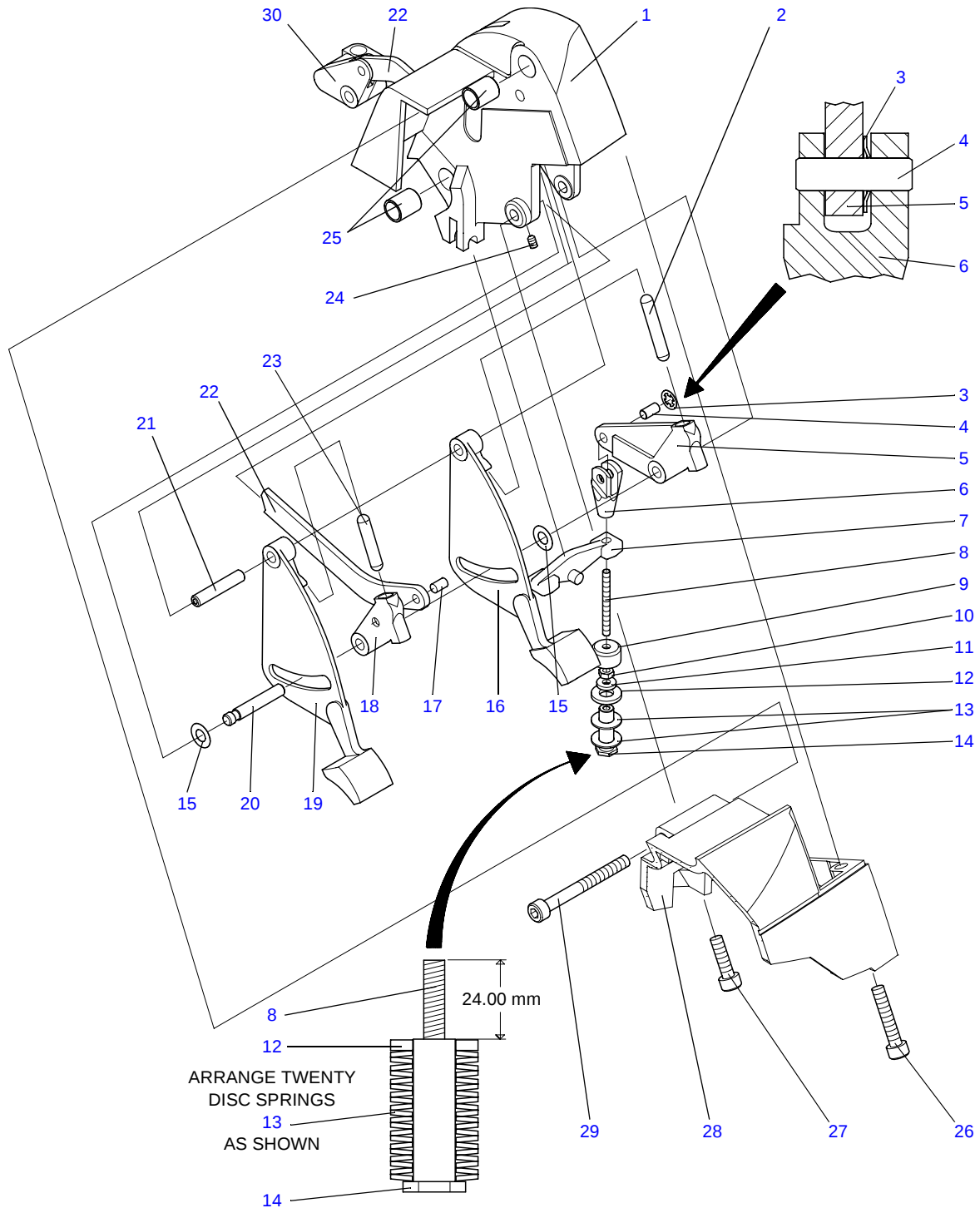
**Fig 6.4 Vector 70/70H Pan and Tilt Head - Pan Drag/Brake Mechanism**

Item	Part No	Nomenclature	Qty
1	3354-22	Pan drag lid (rivet bush) assembly	1
2	M005-513	Screw, button head, socket, M4 x 6 mm long	1
3	R200-004*	Seal, bonded, M4, 4.5 mm ID x 7.0 mm OD x 1.0 mm thick	1
4	Q900H040*	'O' ring, 4.75 in. ID x 0.0625 in. sect, Dowty 200-048-4460	1
5	3354-322	Trunnion right hand	1
6	3354-323	Trunnion left hand	1
7	3354-21*	Pan friction shoe assembly	2
8	3354-321	Friction drum - pan drag, with:	1
NI	M850-034	Threaded-insert, wire thread insert (helicoil), M8 x 1-1/2 diameters long	1
9	Q500-051*	Omniseal, 2.127 in. shaft dia. x 3/32 in. nominal section	1
10	P200-229*	Bearing, ball, radial, 45 mm ID x 58 mm OD x 7 mm long, open	1
11	M701-005	Circlip, external, standard, 8 mm shaft dia. x 0.80 mm thick	1
12	Q500-052*	'V'-Seal, to fit 6.5 to 8 mm shaft dia.	1
13	R900H019*	'O' ring, 21.1 mm ID x 1.6 mm sect, Dowty 202-514-4460	1
14	M701-060	Fastener, push-on, reinforced, 3 mm shaft dia. x 0.25 mm thick	2
15	J532-167	Spring, compression, 3/4 in. free length, 1/4 in. hole dia., 7.9 lbf/in. rate	2
16	3354-38	Pan drag plate sub-assembly	1
17	3354-328	Disc	1
18	3354-27*	Pan brake shoe bonding assembly	1
19	3354-319	Ring	1
20	M806-005	Pin, coiled-spring, 4 mm dia. x 12 mm long, hdp	2
21	M801-014	Pin, dowel, 6 mm dia. x 25 mm long	2
22	3354-316	Mounting plate, with:	1
NI	L850-053	Threaded-insert, wire thread insert (helicoil), 3/8 in. BSW x 1-1/2 diameters long	4
23	M005-740	Screw, locking, cap head, socket, M4 x 18 mm long	8
24	M008-704	Screw, cap head, socket, M8 x 20 mm long	1
25	3354-29	Pan brake reaction plate bonding assembly	1
26	3354-318	Brake disk	1
27	3354-34	Thrust bearing assembly, pan unit	1
28	3354-333	Pan coupling screw	1
29	3354-308*	Coupling (drag shoe assembly)	1



Fig 6.4 Vector 70/70H Pan and Tilt Head - Pan Drag/Brake Mechanism (Cont)

Item	Part No	Nomenclature	Qty
30	R900H009*	'O' ring, 9.1 mm ID x 1.6 mm sect, Dowty 202-511-4470	1
31	M700-037	Circlip, internal, increased abutment, 22 mm bore dia. x 1.00 mm thick	1
32	M601-016	Washer, wave, 16 mm ID x 22 mm OD x 0.25 mm thick	1
33	3354-309*	Sleeve (coupling seal)	1
34	R900H002*	'O' ring, 15.1 mm ID x 1.6 mm sect, Dowty 202-517-4470	1
35	M801-009	Pin, dowel, 5 mm dia. x 25 mm long	2
36	3354-325	Locknut left hand	1
37	3354-324	Adjuster rod	1
38	R900H018*	'O' ring, 3.1 mm ID x 1.6 mm sect, Dowty 202-505-4460	3
39	M005-903	Screw, countersunk head, socket, M4 x 12 mm long	3



V70_ip05

Fig 6.5 Vector 70/70H Pan and Tilt Head - Brake Lever Support Cap Assembly

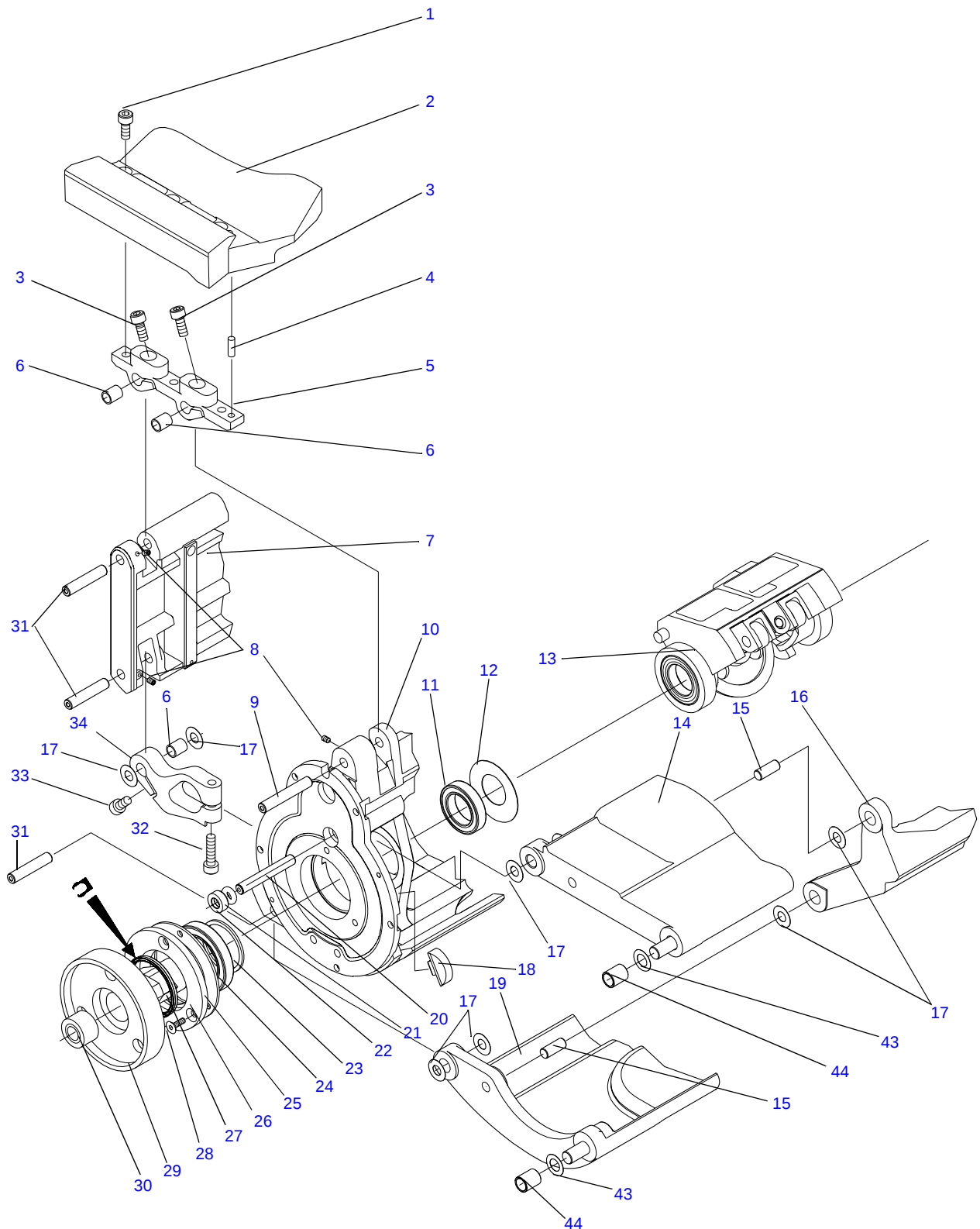

Fig 6.5 Vector 70/70H Pan and Tilt Head - Brake Lever Support Cap Assembly

Item	Part No	Nomenclature	Qty
	3354-23	Brake lever support cap assembly (Vector 70), comprising:	1
1	3354-439	Support cap (right hand) new hole positions	1
2	3354-250	Actuator rod	1
3	L701-082*	Fastener, push-on, standard, 0.156 in. shaft dia. x 0.010 in. thick	1
4	3354-276	Pin (Pan brake arm / Fork end pivot)	1
5	3354-311	Link arm (Pan brake casting)	1
6	3354-313	Fork end	1
7	3354-312	Rocker arm (Pan brake)	1
	3354-31	Spring sleeve assembly, pan brake, comprising:	1
8	3354-339	Stud	1
9	3354-338	Cup	1
10	M500-060	Nut, M3, standard (hex), full	1
11	3354-269	Washer	1
12	M600-007	Washer, plain, heavy, M6	1
13	M601-261	Spring, disc, 6.2 mm ID x 12.5 mm OD x 0.7 mm thick	20
14	3354-268	Pin	1
15	3354-272	Shim (brake link pivot)	A/R
16	3354-248*	Brake lever, pan	1
17	3354-273	Pin (Tilt brake arm con.) Link	1
18	3354-244	Link arm (Tilt brake)	1
19	3354-247*	Brake lever, tilt	1
20	3354-275	Pin (Pan/tilt Link arm pivot)	1
21	3354-274	Pin (brake lever pivot)	1
22	3354-249	Connecting link (Fig 6.10)	1
23	3354-270	Actuator rod	1
24	M004-807	Screw, grub, knurled cup point, socket head, M3 x 5 mm long	1
25	P001-018*	Bearing, plain, du bush, 8 mm ID x 10 mm OD x 12 mm long	2

3354-48 Brake lever support cap assembly (Vector 70H), comprising:

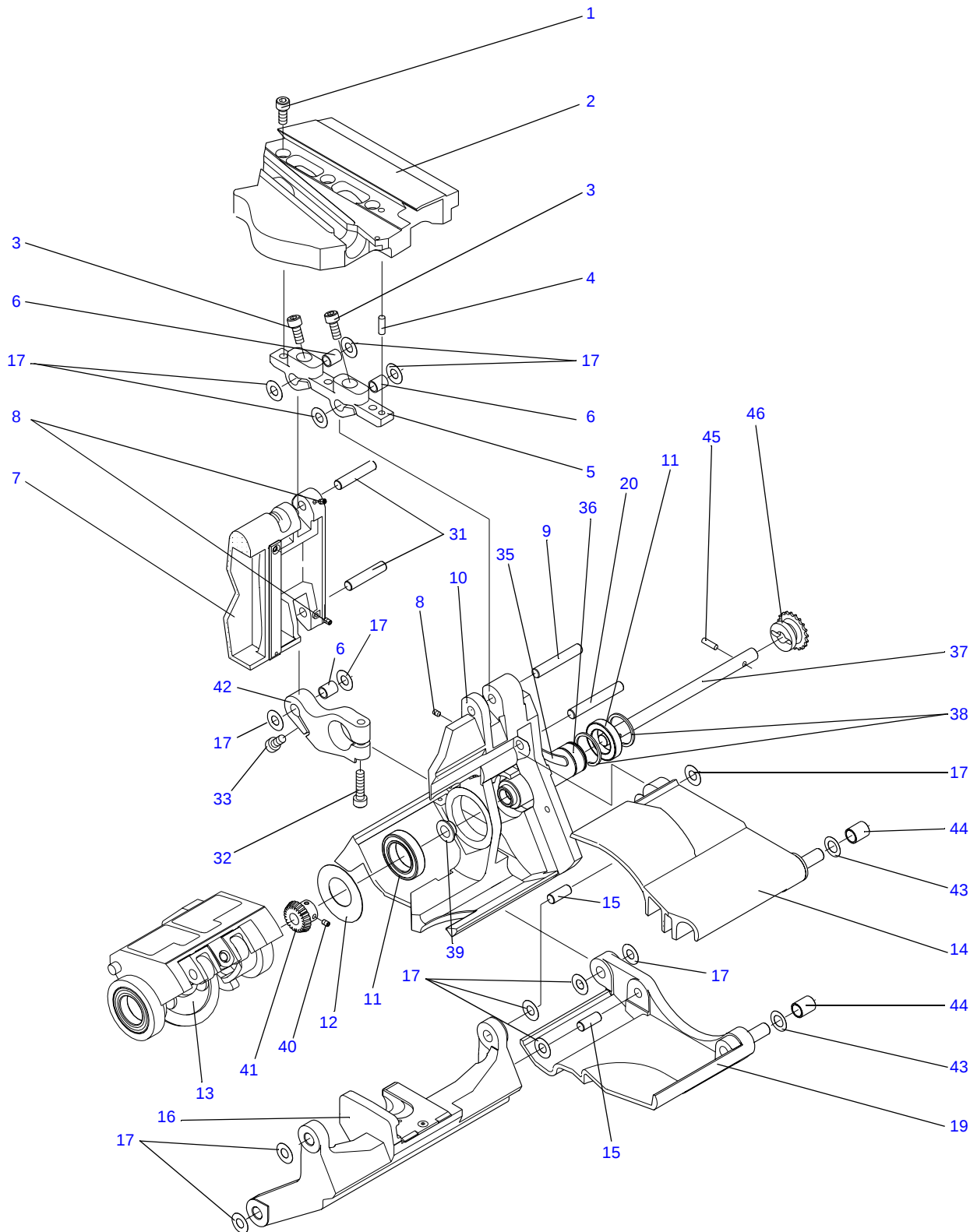
Fig 6.5 Vector 70/70H Pan and Tilt Head - Brake Lever Support Cap Assembly (Cont)

Item	Part No	Nomenclature	Qty
1	3354-441	Support cap (right hand) 70H new hole position	1
2	3354-250	Actuator rod	1
3	L701-082	Fastener, push-on, standard, 0.156 in. shaft dia. x 0.010 in. thick	1
4	3354-276	Pin (Pan brake arm / Fork end pivot)	1
5	3354-311	Link arm (Pan brake casting)	1
6	3354-313	Fork end	1
7	3354-312	Rocker arm (Pan brake)	1
	3354-31	Spring sleeve assembly, pan brake, comprising:	
8	3354-339	Stud	1
9	3354-338	Cup	1
10	M500-060	Nut, M3, standard (hex), full	1
11	3354-269	Washer	1
12	M600-007	Washer, plain, heavy, M6	1
13	M601-261	Spring, disc, 6.2 mm ID x 12.5 mm OD x 0.7 mm thick	20
14	3354-268	Pin	1
15	3354-272	Shim (brake link pivot)	A/R
16	3354-248*	Brake lever, pan	1
17	3354-273	Pin (Tilt brake arm con.) Link	1
18	3354-244	Link arm (Tilt brake)	1
19	3354-247*	Brake lever, tilt	1
20	3354-275	Pin (Pan/tilt Link arm pivot)	1
21	3354-274	Pin (brake lever pivot)	1
23	3354-249	Connecting link	1
22	3354-270	Actuator rod	1
23	M004-807	Screw, grub, knurled cup point, socket head, M3 x 5 mm long	1
24	P001-018*	Bearing, plain, du bush, 8 mm ID x 10 mm OD x 12 mm long	2
26	M006-705	Screw, cap head, socket, M5 x 20 mm long	1
27	M006-704	Screw, cap head, socket, M5 x 16 mm long	1
28	3354-24*	Base housing (bonding) assembly (Fig 6.3)	
29	M006-718	Screw, cap head, socket, M5 x 40 mm long	1
30	3354-246	Bell crank (Tilt brake) (Fig 6.10)	



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Fig 6.6 Vector 70/70H Pan and Tilt Head - Mechanism Housing Assembly (Sheet 1)



V70_ip07

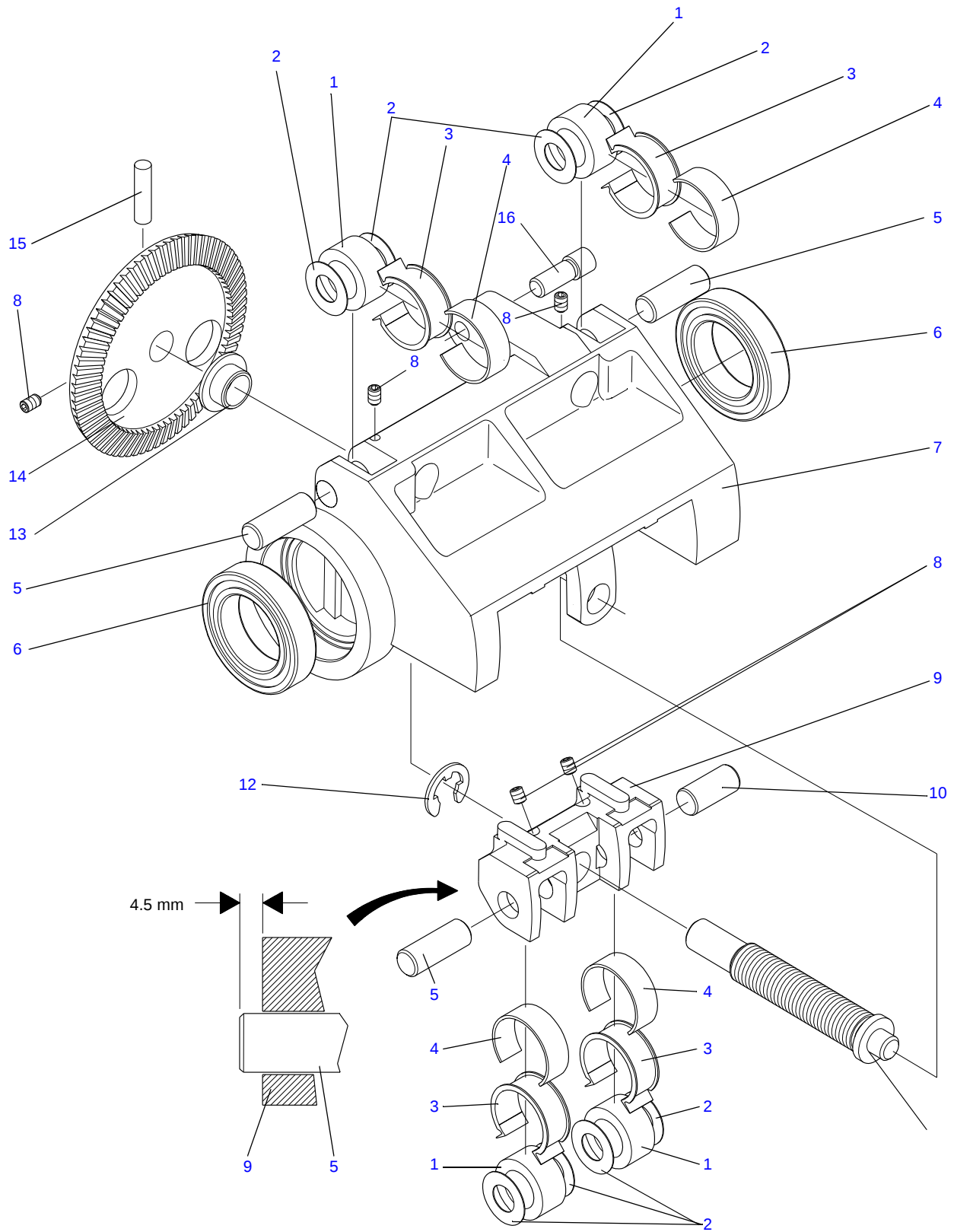
Fig 6.6 Vector 70/70H Pan and Tilt Head - Mechanism Housing Assembly (Sheet 2)

**Fig 6.6 Vector 70/70H Pan and Tilt Head - Mechanism Housing Assembly**

Item	Part No	Nomenclature	Qty
1	M006-702	Screw, cap head, socket, M5 x 10 mm long	6
2	3354-16	Platform assembly (Vector 70) (Fig 6.11) OR	1
	3354-46	Platform assembly (Vector 70H) (Fig 6.11)	
	3354-13	Mechanism housing assembly (Vector 70) OR	1
	3354-43	Mechanism housing assembly (Vector 70H)	
3	M006-703	Screw, cap head, socket, M5 x 12 mm long	4
4	M800-151	Pin, coiled-spring, 4 mm dia. x 12 mm long, mcp	2
5	3354-280	Block	2
6	N001-043*	Bearing, plain, du bush, 1/4 in. ID x 5/16 in. OD x 3/8 in. long	6
7	3354-923SP*	Vertical track assembly (Vector 70) OR	1
	3354-924SP*	Vertical track member assembly (Vector 70H)	1
8	M004-807	Screw, grub, knurled cup point, socket head, M3 x 5 mm long	8
9	3354-296	Pivot pin	2
10	3354-201	Balance mechanism housing	1
11	P302-016*	Bearing, ball, radial, 20 mm ID x 32 mm OD x 7 mm long, two seals	3
12	3354-229	Shim (adjustment housing)	2
13	3354-54*	Balance adjuster assembly (Vector 70) (Fig 6.7) OR	1
	3354-55*	Balance adjuster assembly (Vector 70H) (Fig 6.8)	
14	3354-926SP*	Drive arm assembly	1
15	3354-294	Pivot pin	4
16	3354-925SP*	Horizontal track assembly	1
17	3354-206*	Slim (Horizontal track member) (0.005 in.)	A/R
	3354-299*	Shim (Horizontal track member) (0.003 in.)	
18	3354-264	Rear tilt buffer (left hand) (Vector 70) OR	1
	3354-51	Rear tilt buffer assembly (Vector 70H)	1
19	3354-936SP*	Lower drive arm assembly	1
20	3354-297	Pivot pin	2
21	Q900H039*	'O' ring, 1/4 in. ID x 3/8 in. OD, Dowty 200-010-4460	1
22	3354-415	Seal insert	1
23	P605-003	Snap ring, external, 30 mm shaft dia. x 1.5 mm thick	1
24	P302-017*	Bearing, ball, radial, 30 mm ID x 42 mm OD x 7 mm long, two seals	1
25	3354-414*	Inner gasket	1


Fig 6.6 Vector 70/70H Pan and Tilt Head - Mechanism Housing Assembly (Cont)

Item	Part No	Nomenclature	Qty
26	3354-410	Seal plate	1
27	M005-912	Screw, countersunk head, socket, M4 x 10 mm long	3
28	Q500-040*	'Omniseal', 1.380 in. shaft dia. x 3/32 in. nominal section	1
29	3354-406	Tilt Drag shaft	1
30	P600-014*	Bearing, needle roller, radial, 19 mm ID x 27 mm OD x 20 mm long	1
31	3354-295	Pivot Pin	6
32	M006-714	Screw, cap head, socket, M5 x 25 mm long	2
33	M006-734	Screw, low-profile, cap head, socket, M5 x 10 mm long	2
34	3354-212	Actuator 40 mm (Left Hand)	1
35	3354-288*	Lining (Tilt brake reactor) (Fig 6.10)	1
36	3354-265	Actuator shaft	1
37	3354-218	Pinion shaft	1
38	P605-007	Snap ring, external, 20 mm shaft dia. x 1.2 mm thick	2
39	P003-001*	Bearing, plain flanged, plastic, 8 mm ID x 10 mm OD x 5.5 mm long	1
40	M004-812	Screw, grub, cone point, socket head, M3 x 5 mm long	2
41	3354-214	Bevel gear (pinion)	1
42	3354-216	Actuator 40 mm (Right hand)	1
43	3354-209	0.125 mm (0.005 in.) Shim.	A/R
	3354-217	0.075 mm (0.003 in.) Shim	
	3354-433	0.05 mm (0.002 in.) Shim	
44	P001-018*	Bearing, plain, du bush, 8 mm ID x 10 mm OD x 12 mm long (Fig 6.3)(Fig 6.5)	-
45	L801-105	Pin, dowel, 1/8 in. dia. x 9/16 in. long (Fig 6.10)	1
46	3354-293	Serrated boss (Fig 6.10)	1

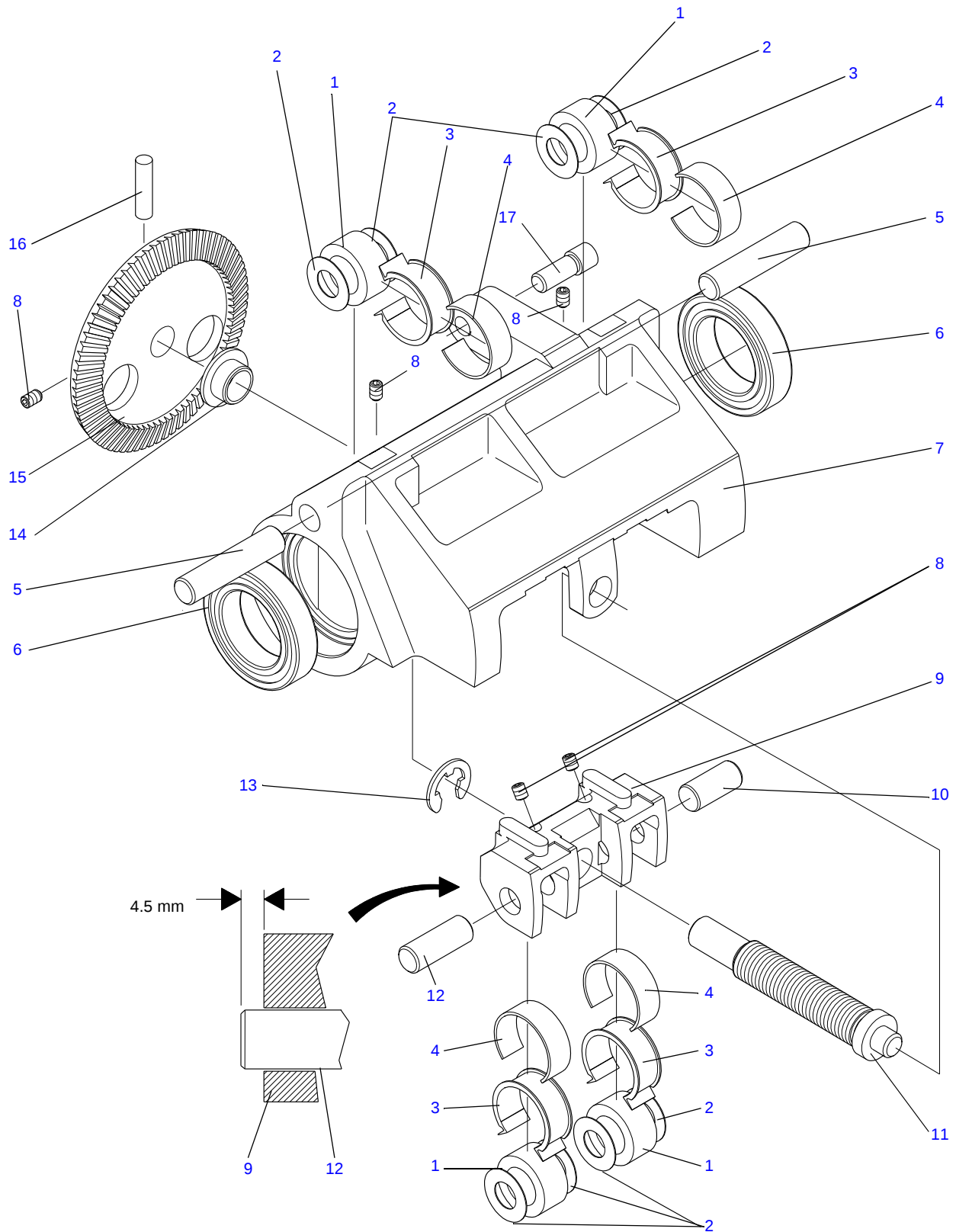


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Fig 6.7 Vector 70 Pan and Tilt Head - Balance Adjuster Assembly

Fig 6.7 Vector 70 Pan and Tilt Head - Balance Adjuster Assembly

Item	Part No	Nomenclature	Qty
	3354-54*	Adjustment housing assembly (Vector 70), comprising:	1
1	P603-003*	Bearing, track roller, yoke type, 7 mm bore dia., 16 mm roller dia. x 7.8 mm roller width	4
2	3354-220	Shim (Roller axle)	8
3	3354-227	Track wiper	4
4	3354-226	Track wiper outer	4
5	3354-231	Roller axle (18 mm long)	3
6	P302-016*	Bearing, ball, radial, 20 mm ID x 32 mm OD x 7 mm long, two seals	2
7	3354-446	Adjustment housing	1
8	M004-807	Screw, grub, knurled cup point, socket head, M3 x 5 mm long	4
9	3354-445	Adjustment carriage	1
10	3354-219	Roller axle (15 mm long)	1
11	3354-223	Adjustment thread	1
12	M701-004	'E'-Clip, standard, 9.50 mm shaft dia. x 0.90 mm thick	1
13	P003-001*	Bearing, plain flanged, plastic, 8 mm ID x 10 mm OD x 5.5 mm long	1
14	3354-443	Lift off pin (flat end)	1
15	3354-213	Gear	1
16	M806-006	Pin, coiled-spring, 4 mm dia. x 16 mm long, mcp	1

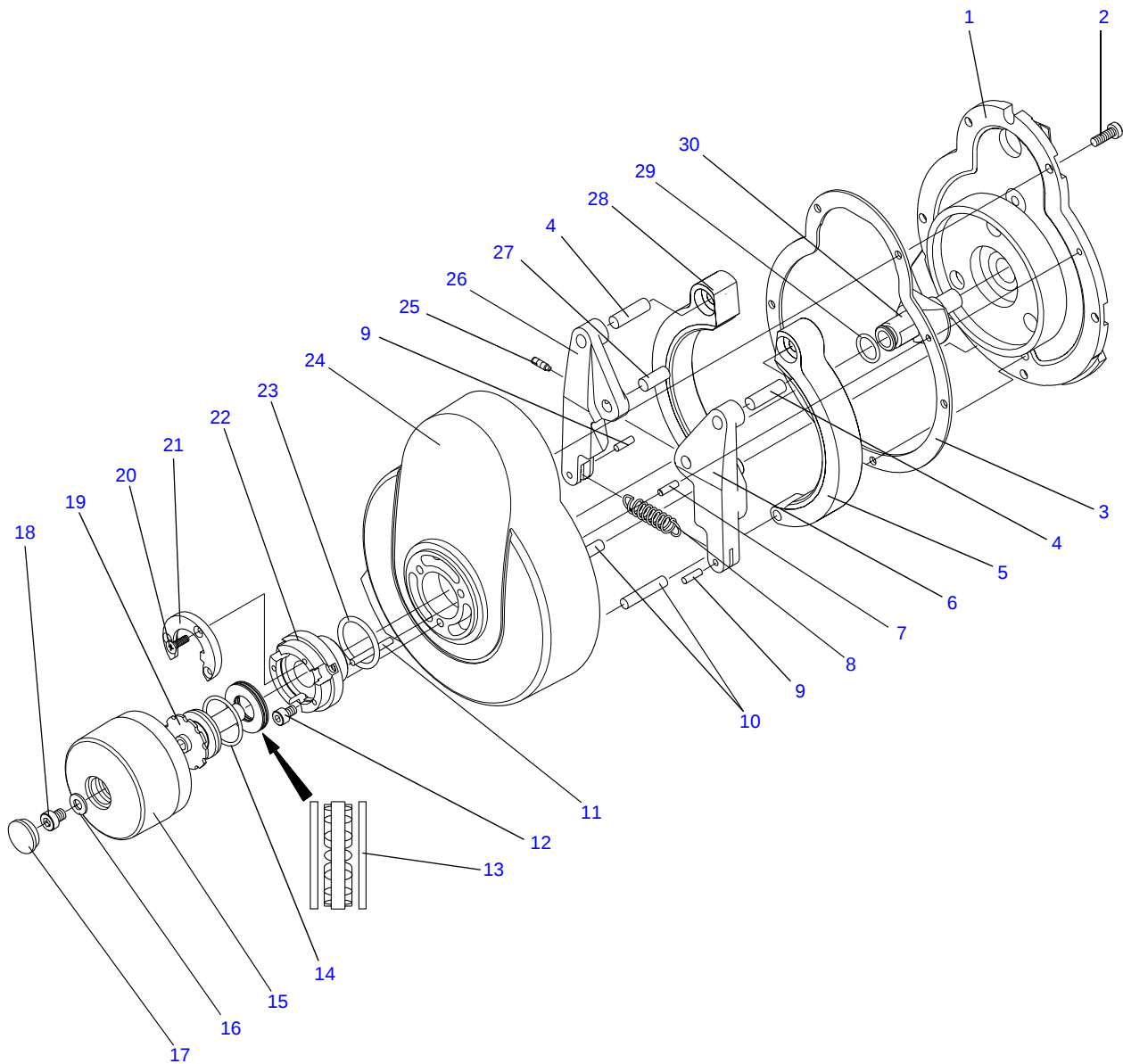


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Fig 6.8 Vector 70H Pan and Tilt Head - Balance Adjuster Assembly

**Fig 6.8 Vector 70H Pan and Tilt Head - Balance Adjuster Assembly**

Item	Part No	Nomenclature	Qty
	3354-55	Balance adjuster assembly (Vector 70H), comprising:	1
1	P603-003*	Bearing, track roller, yoke type, 7 mm bore dia., 16 mm roller dia. x 7.8 mm roller width	4
2	3354-220	Shim (Roller axle)	8
3	3354-227	Track wiper	4
4	3354-226	Track wiper outer	4
5	3354-428	Roller axle (27 mm long)	2
6	P302-016*	Bearing, ball, radial, 20 mm ID x 32 mm OD x 7 mm long, two seals	2
7	3354-447	Adjustment housing	1
8	M004-806	Screw, grub, knurled cup point, socket head, M3 x 4 mm long	5
9	3354-445	Adjustment carriage	1
10	3354-219	Roller axle (15 mm long)	1
11	3354-426	Adjustment thread	1
12	3354-231	Roller axle (18 mm long)	1
13	M701-004	'E'-Clip, standard, 9.50 mm shaft dia. x 0.90 mm thick	1
14	P003-001*	Bearing, plain flanged, plastic, 8 mm ID x 10 mm OD x 5.5 mm long	1
15	3354-213	Gear	1
16	M806-006	Pin, coiled-spring, 4 mm dia. x 16 mm long, mcp	1
17	3354-443	Lift off pin (flat end)	1



V70_ip10

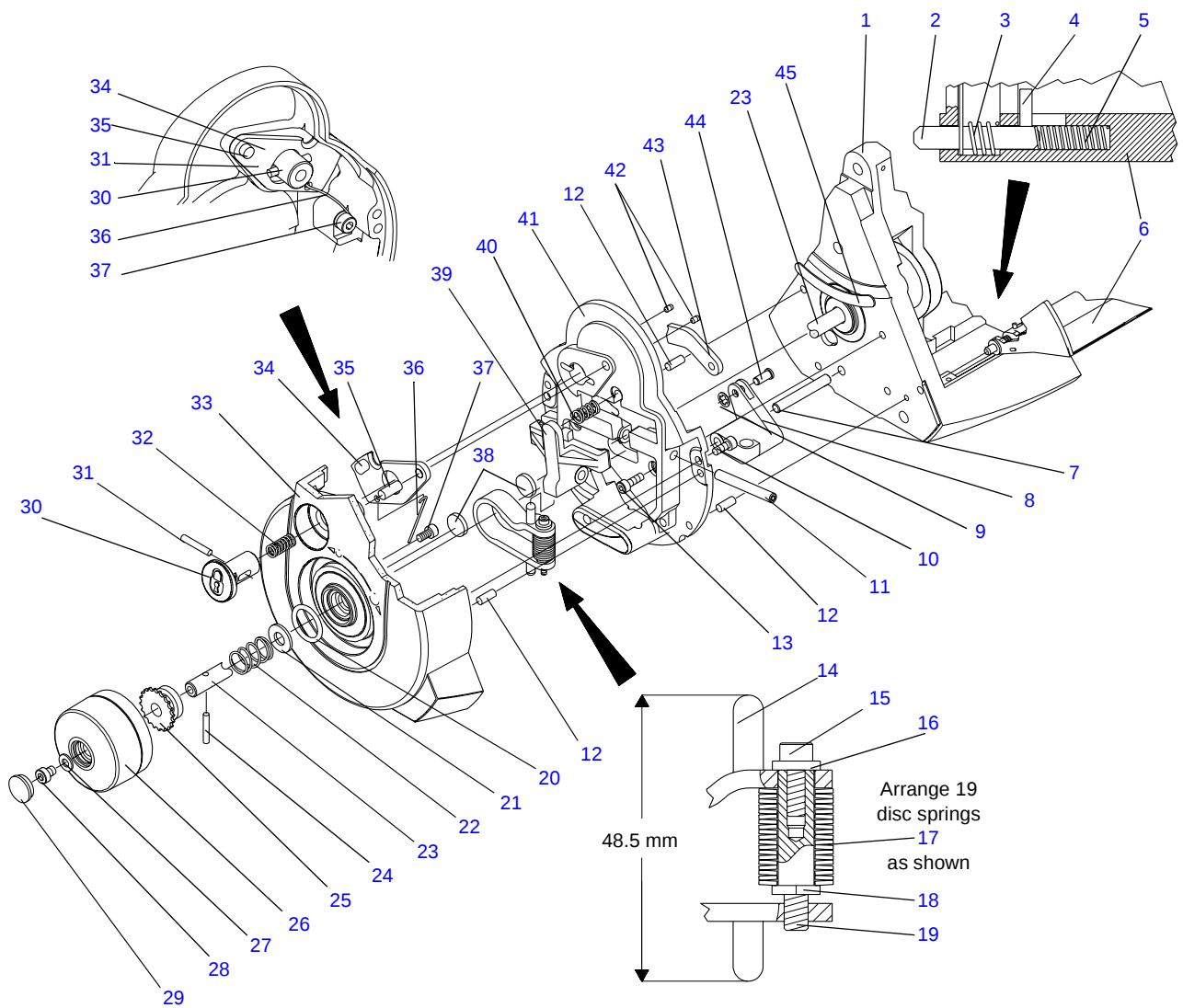
Fig 6.9 Vector 70/70H Pan and Tilt Head - Tilt Drag Mechanism

Fig 6.9 Vector 70/70H Pan and Tilt Head - Tilt Drag Mechanism

Item	Part No	Nomenclature	Qty
1	3354-201	Balance mechanism housing (Fig 6.6)	1
2	M005-734	Screw, low-profile, cap head, socket, M4 x 10 mm long	5
3	3354-412*	Gasket	1
4	M801-021	Pin, dowel, 6 mm dia. x 20 mm long	2
5	3354-18*	Tilt drag shoe assembly (type B)	1
6	3354-403	Actuator link "B"	1
7	M801-001	Pin, dowel, 3 mm dia. x 10 mm long	2
8	J530-031	Spring, tension, 1.375 in. length, 0.313 in. OD, 5.20 lbf/in. rate	1
9	M806-014	Pin, coiled-spring, 3 mm dia. x 10 mm long, mdp	2
10	M801-009	Pin, dowel, 5 mm dia. x 25 mm long	2
11	M801-047	Pin, dowel, 3 mm dia. x 25 mm long	1
12	M005-736	Screw, low-profile, cap head, socket, M4 x 6 mm long	3
13		Thrust bearing, comprising:	1
	N552-019*	Bearing, needle roller, thrust, 0.502 in. ID x 0.927 in. OD x 0.078 in. long, with cage assembly	1
	N552-020*	Washer, thrust, bearing, 0.502 in. ID x 0.927 in. OD x 0.030 / 0.032 in. thick	2
14	R900H011	'O' ring, 20 mm ID	1
15	3354-340*	Drag knob	1
16	M600-006*	Washer, plain, heavy, M5	1
17	3354-292*	Knob bung	1
18	M006-737*	Screw, low-profile, cap head, socket, M5 x 6 mm long	1
19	3354-416	Knob Boss/ Threaded shaft	1
20	M003-103	Screw, countersunk head, pozidrive, M2.5 x 8 mm long	3
21	3322-286	Drag knob retainer/stop (pan) detent version	1
22	3354-413	Outer boss	1
23	Q900H038	'O' ring, 3/4 in. ID	1
24	3354-400	Tilt drag cover	1
25	M004-803	Screw, grub, dog point, socket head, M3 x 8 mm long	1
26	3354-402	Actuator Link "A"	1
27	M801-032	Pin, dowel, 6 mm dia. x 14 mm long	1
28	3354-17*	Tilt drag shoe assembly (type A)	1

**Fig 6.9 Vector 70/70H Pan and Tilt Head - Tilt Drag Mechanism (Cont)**

Item	Part No	Nomenclature	Qty
29	Q001-014*	'O'-Ring, 3/8 in. nominal ID x 0.070 in. section, hardness 70 IRHD	1
30	3354-444	Actuator cam shaft (increased sealing length)	1



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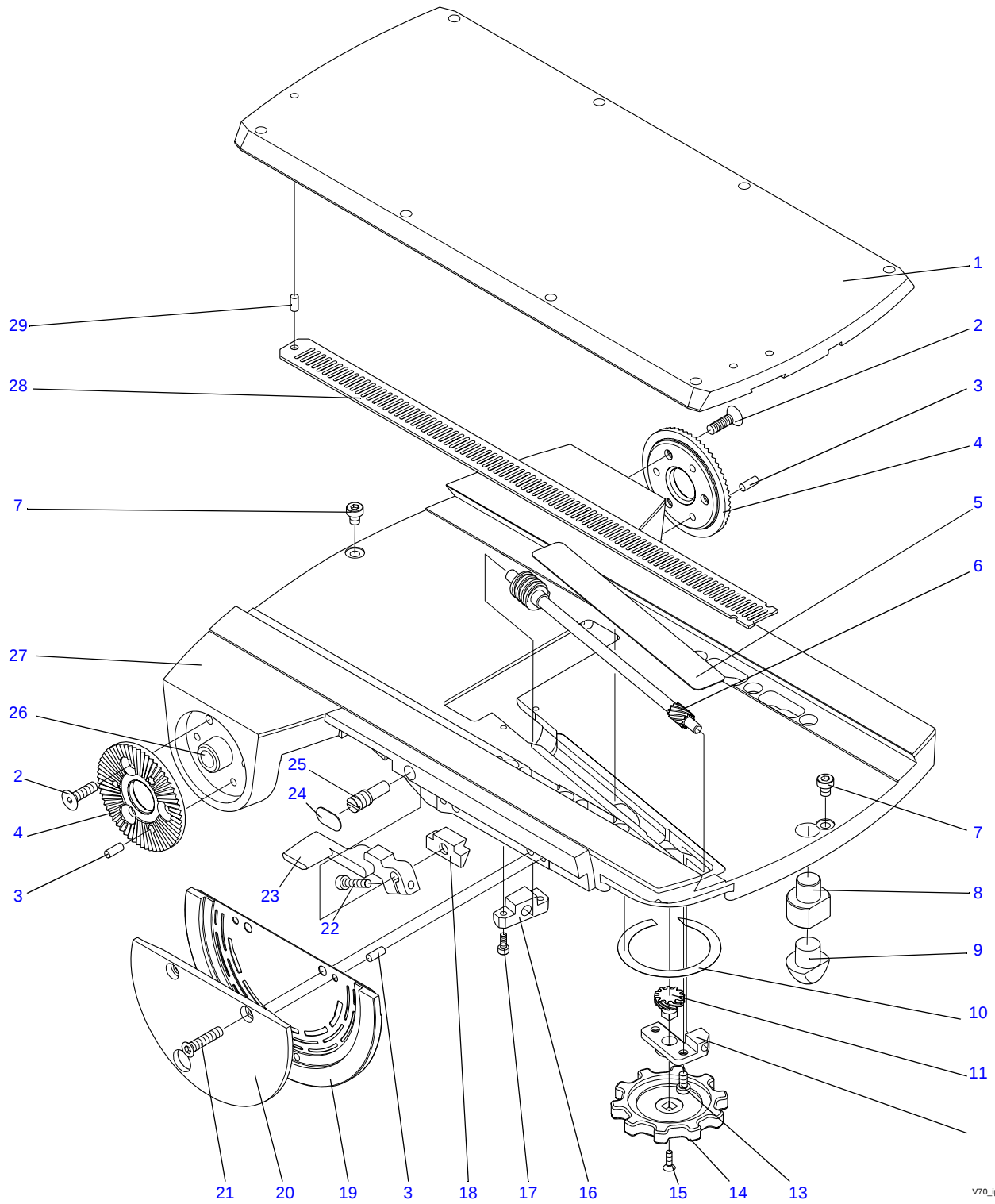
Fig 6.10 Vector 70/70H Pan and Tilt Head - Tilt Brake/Balance Knob/Centre Lock

**Fig 6.10 Vector 70/70H Pan and Tilt Head - Tilt Brake/Balance Knob/Centre Lock**

Item	Part No	Nomenclature	Qty
1	3354-13	Mechanism housing assembly (Vector 70H) OR	
	3354-43	Mechanism housing assembly (Vector 70H) (Fig 6.6)	1
2	3354-279	Flap pin	2
3	3354-210	Flap spring (left hand)	1
NI	3354-215	Flap spring (Right hand)	1
4	M806-028	Pin, coiled-spring, 2 mm dia. x 10 mm long, mdp	2
5	J532-166	Spring, compression, 1/2 in. free length, 5/32 in. hole dia., 9.2 lbf/in. rate	2
6	3354-211	Flap guard (Moulding)	1
7	3354-285	Pin (Tilt brake bell crank pivot)	1
8	3354-246	Bell crank (Tilt brake)	1
9	L701-082	Fastener, push-on, standard, 0.156 in. shaft dia. x 0.010 in. thick	1
10	M005-734	Screw, low-profile, cap head, socket, M4 x 10 mm long	3
11	3354-284	Pin (Tilt brake shoe pivot crank)	1
12	M806-004	Pin, coiled-spring, 4 mm dia. x 10 mm long, hdp	2
13	M005-706	Screw, cap head, socket, M4 x 16 mm long	4
	3354-30	Push rod/spring fork assembly tilt brake, comprising:	1
14	3354-267	Push rod / Spring fork.	1
15	M004-718	Screw, cap head, socket, M3 x 10 mm long	1
16	3354-269	Washer	1
17	M601-261	Spring, disc, 6.2 mm ID x 12.5 mm OD x 0.7 mm thick	19
18	3354-268	Pin	1
19	M005-811	Screw, grub, cone point, socket head, M4 x 10 mm long	1
20	Q001-015*	'O'-Ring, 5/16 in. nominal ID x 0.103 in. section, hardness 75 IRHD	1
21	M600-106	Washer, plain, light, M8	1
22	J532-164	Spring, compression, 5/8 in. free length, 1/2 in. hole dia., 15.6 lbf/in. rate	1
23	3354-218	Pinion shaft (Fig 6.6)	1
24	L801-105	Pin, dowel, 1/8 in. dia. x 9/16 in. long	1
25	3354-293	Serrated boss	1
26	3354-341*	Counter balance knob	1
27	M600-006*	Washer, plain, heavy, M5	1
28	M006-737*	Screw, low-profile, cap head, socket, M5 x 6 mm long	1
29	3354-292*	Knob bung	1

**Fig 6.10 Vector 70/70H Pan and Tilt Head - Tilt Brake/Balance Knob/Centre Lock**

Item	Part No	Nomenclature	Qty
	3354-37	Tilt cover/centre lock assembly, comprising:	1
30	3354-258	Centre lock plunger	1
31	L801-106	Pin, dowel, 1/8 in. dia. x 3/4 in. long	1
32	J532-165	Spring, compression, 0.500 in. free length, 0.180 in. OD x 0.188 in. hole dia., 7.00 lbf/in. rate	1
33	3354-256	Tilt housing cover R.H	1
34	3354-259	Centre lock release lever	1
35	M801-048	Pin, dowel, 5 mm dia. x 12 mm long	1
36	3354-260	Spring, Centre lock release lever	1
37	M005-716	Screw, cap head, socket, M4 x 8 mm long	1
38	3354-424	Buffer pad	2
39	3354-33*	Tilt brake shoe bonding assembly	1
40	J532-145	Spring, compression, 0.500 in. free length, 0.300 in. OD x 0.313 in. hole dia., 46.00 lbf/in. rate	1
41	3354-257	Tilt back plate	1
42	M004-807	Screw, grub, knurled cup point, socket head, M3 x 5 mm long	2
43	3354-249	Connecting link (Fig 6.5)	1
44	3354-283	Pin (Conn. Link/bell crank)	1
45	3354-288	Lining (Tilt brake reactor) (Part of 3354-13/3354-43)	1

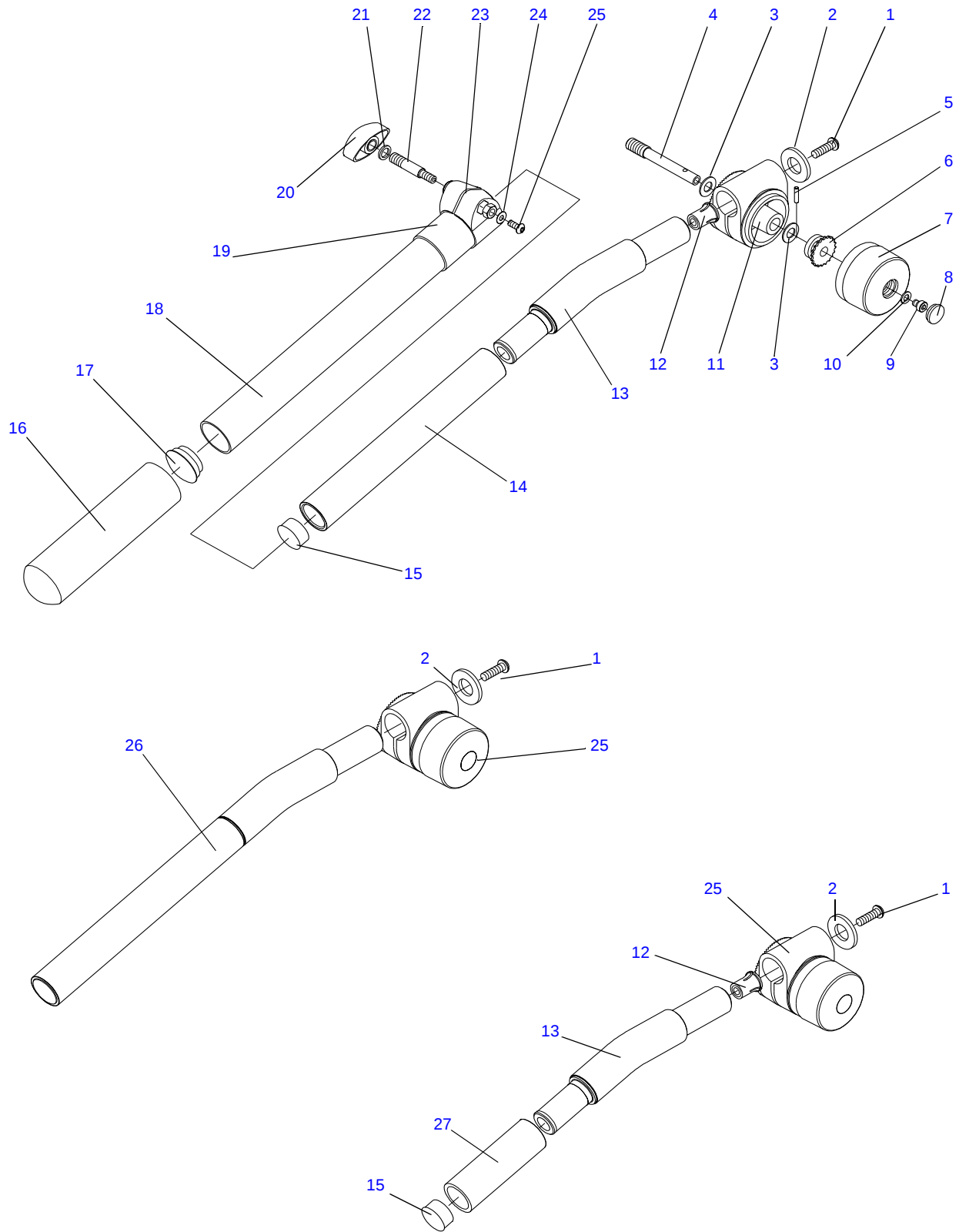


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Fig 6.11 Vector 70/70H Pan and Tilt Head - Platform Assembly

Fig 6.11 Vector 70/70H Pan and Tilt Head - Platform Assembly

Item	Part No	Nomenclature	Qty
1	3354-242	Standard platform slide	1
2	M006-921*	Screw, countersunk head, socket, M5 x 10 mm long	6
3	M806-004*	Pin, coiled-spring, 4 mm dia. x 10 mm long, hdp	8
4	3354-261*	Serrated disc (Mk7 type)	2
5	3354-255*	Label	1
6	3354-52	Adjustment shaft assembly	1
7	M006-737	Screw, low-profile, cap head, socket, M5 x 6 mm long	2
8	3354-425*	Front stop bung (Vector 70H only)	1
9	3354-266*	Platform buffer	1
10	3354-278*	PTFE Strip	1
11	3354-238	Platform adjuster pinion	1
12	3354-243	Bearing bracket	1
13	M005-733	Screw, cap head, socket, M4 x 8 mm long	2
14	3354-239*	Platform adjuster knob	1
15	M004-103	Screw, countersunk head, pozidrive, M3 x 8 mm long	1
16	3354-240	Shaft support	1
17	M004-703	Screw, cap head, socket, M3 x 8 mm long	2
18	3354-448*	Slide clamp block	1
19	3354-36*	Brake disk tilt assembly	1
20	3354-263*	Tilt brake centre	1
21	M006-923*	Screw, countersunk head, socket, M5 x 16 mm long	2
22	M005-706	Screw, cap head, socket, M4 x 16 mm long	1
23	3354-235*	Slide clamp lever	1
24	3354-234*	Cover, slide clamp lever	1
25	3354-233	Slide clamp screw	1
26	L850-036*	Threaded-insert, wire thread insert (helicoil), 3/8 in. BSF x 1-1/2 Diameters long	2
27	3354-230*	Platform	1
28	3354-236	Rack strip	1
29	M806-031	Pin, coiled-spring, 4 mm dia. x 8 mm long, mdp	3



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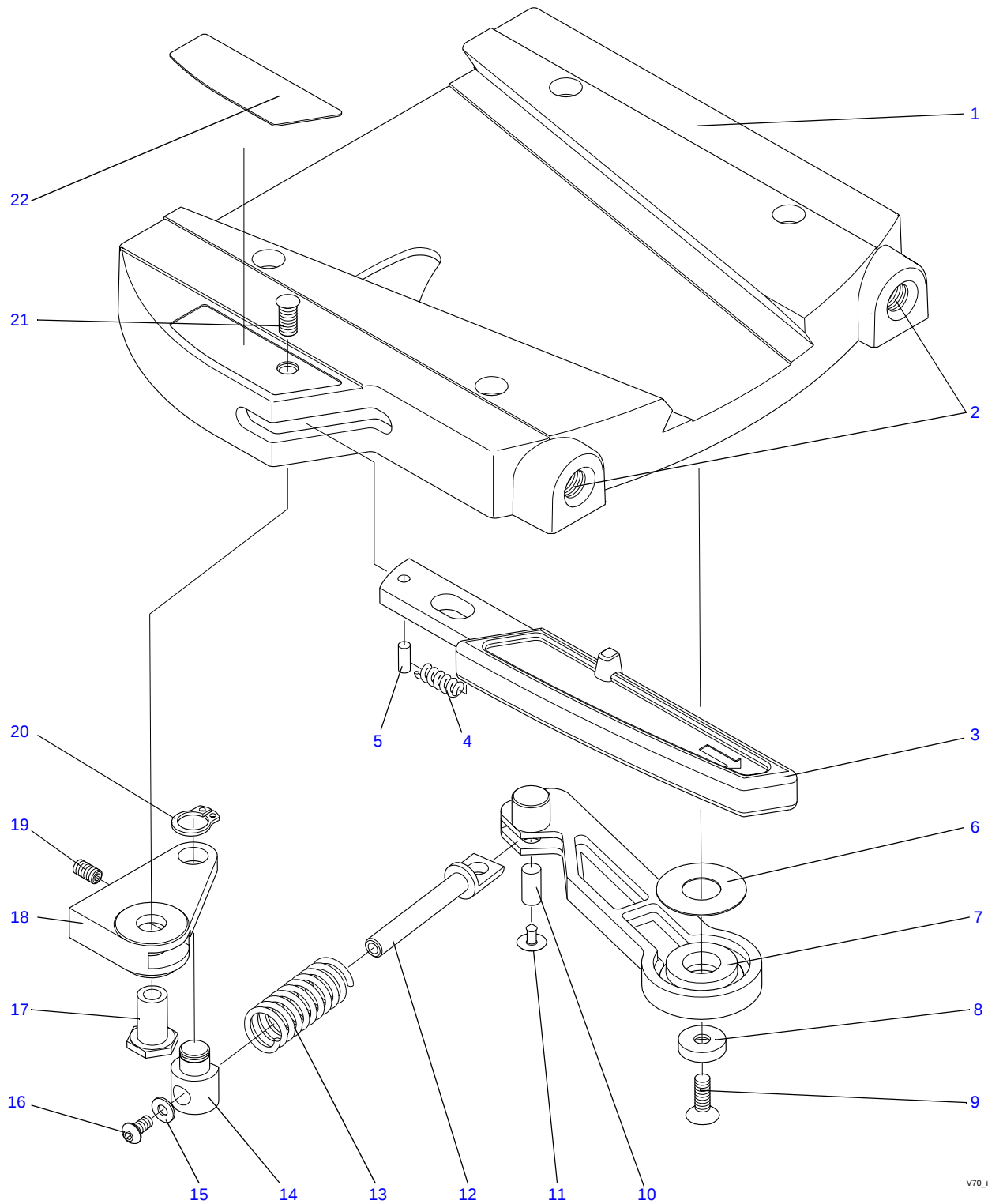
Fig 6.12 Vector 70/70H Pan and Tilt Head - Pan Bars

**Fig 6.12 Vector 70/70H Pan and Tilt Head - Pan Bars**

Item	Part No	Nomenclature	Qty
	3219-62	Pan bar and clamp assembly, comprising:	
1	M007-506	Screw, button head, socket, M6 x 20 mm long	1
2	3308-159	Washer	1
	3219-60	Pan bar clamp assembly (Vector 70), consisting of:	
3	M600-009	Washer, plain, heavy, M8	2
4	3219-283	Pan bar clamp shaft [was 3354-295]	1
5	L801-105	Pin, dowel, 1/8 in. dia. x 9/16 in. long	1
6	3354-293	Serrated boss	1
7	3354-290	Knob	1
8	3354-292*	Knob bung	1
9	M006-737*	Screw, low-profile, cap head, socket, M5 x 6 mm long	1
10	M600-006*	Washer, plain, heavy, M5	1
11	3219-280	Pan bar clamp (Vector)	1
	3219-61	Pan bar assembly (Vector 70), consisting of:	
	3219-65	Fixed bar assembly (Vector 70), consisting of:	
12	M500-085	Threaded-insert, blind captive nut, M6	1
13	3219-290	Fixed tube spigot end for long bar	1
14	3219-291	Fixed tube control end long	1
15	J550-093	Plug, tube-end, to fit 1 in. tube OD	1
	3219-64	Sliding tube assembly (Vector 70), consisting of:	
16	3219-276	Pan bar grip (Mk 7B)	1
17	J550-104	Plug, tube-end, to fit 1-1/4 in. tube OD	1
18	3219-63	Sliding tube / clamp assembly (Vector 70)	1
19	3219-289	Shrink wrap sleeve (Vector 70)	1
20	K403-014	Knob, locking-key, female, M8 thread, 40 mm wide	1
21	3219-211	Washer	1
22	3219-288	Clamp shaft (telescopic pan bar) (Vector 70)	1
23	M500-082	Nut, M6, standard (hex), full	1
24	M600-304	Washer, plain, large, M4	1
25	M005-511	Screw, button head, socket, M4 x 8 mm long	1
	3219-67	Short pan bar and clamp assembly (Vector 70), comprising:	

Fig 6.12 Vector 70/70H Pan and Tilt Head - Pan Bars (Cont)

Item	Part No	Nomenclature	Qty
1	M007-506	Screw, button head, socket, M6 x 20 mm long	1
2	3308-159	Washer	1
25	3219-60	Pan bar clamp assembly (Vector 70) - parts as above	1
26	3219-65	Fixed bar assembly (Vector 70) - parts as above	1
	3219-66	Fixed bar / clamp assembly (Vector 70), comprising:	
1	M007-506	Screw, button head, socket, M6 x 20 mm long	1
2	3308-159	Washer	1
	3219-68	Short pan bar assembly (Vector 70), consisting of:	
12	M500-085	Threaded-insert, blind captive nut, M6	1
13	3219-290	Fixed tube spigot end for long bar	1
15	J550-093	Plug, tube-end, to fit 1 in. tube OD	1
25	3219-60	Pan bar clamp assembly (Vector 70) - parts as above	1
27	3219-297	Short fixed tube	1



V70_ip14

Fig 6.13 Vector 70/70H Pan and Tilt Head - Wedge adaptor assembly

**Fig 6.13 Vector 70/70H Pan and Tilt Head - Wedge adaptor assembly**

Item	Part No.	Nomenclature	Qty
	3389-3	Automatic wedge adaptor, comprising:	1
1	3389-301	Body	1
2	L850-054	Threaded-insert, wire thread insert (helicoil), 3/8 in. BSW x 2 Diameters long	2
3	3389-21	Handle assembly (10mm pivot)	1
4	J532-159	Spring, compression, 0.750 in. free length, 0.180 in. OD x 0.188 in. hole dia., 17.00 lbf/in. rate	1
5	M806-004	Pin, coiled-spring, 4 mm dia. x 10 mm long, hdp	1
6	3389-210	Washer	1
7	3389-208	Swing Arm	1
8	3389-212	Screw head spacer	1
9	M006-911	Screw, countersunk head, socket, M5 x 12 mm long	1
10	L801-103	Pin, dowel, extractable, 1/4 in. dia. x 1/2 in. long	1
11	3389-310	Running plate	1
12	3389-206	Shaft	1
13	J532-161	Spring, compression, 1.516 in. free length, 0.473 in. OD x 0.792 in. hole dia., 109.744 lbf/in. rate	1
14	3389-205	Pivot bush	1
15	M600-004	Washer, plain, heavy, M4	1
16	M005-513	Screw, button head, socket, M4 x 6 mm long	1
17	3389-304	Lever pivot (10mm diameter)	1
18	3389-302	Lever mounting (adjustable 10mm pivot)	1
19	M006-812	Screw, grub, dog point, socket head, M5 x 8 mm long	1
20	M701-002	Circlip, external, standard, 5 mm shaft dia. x 0.60 mm thick	1
21	M100-003	Stud, self-clinching, M6 thread x 12 mm long	1
22	3389-309	Name label	

Fig 6.14 Vector 70/70H Pan and Tilt Head - Composite Spare Parts

Part No	Nomenclature	Qty
3354-914SP	Seal kit, comprising:	
3354-412	Gasket	1
3354-414	Inner gasket	1
R200-004	Seal, bonded, M4, 4.5 mm ID x 7.0 mm OD x 1.0 mm thick	1
R900H001	'O' ring, 7.1 mm ID, Dowty 202-509-4470	
R900H002	'O' ring, 15.1 mm ID x 1.6 mm sect, Dowty 202-517-4470	1
R900H018	'O' ring, 3.1 mm ID x 1.6 mm sect, Dowty 202-505-4460	3
R900H019	'O' ring, 21.1 mm ID x 1.6 mm sect, Dowty 202-514-4460	1
R900H020	'O' ring, 22.1 mm ID x 1.6 mm sect, Dowty 202-524-4470	1
Q001-014	'O'-Ring, 3/8 in. nominal ID x 0.070 in. section, hardness 70 IRHD	1
Q001-015	'O'-Ring, 5/16 in. nominal ID x 0.103 in. section, hardness 75 IRHD	1
Q500-040	'Omniseal', 1.380 in. shaft dia. x 3/32 in. nominal section	1
Q500-051	'Omniseal', 2.127 in. shaft dia. x 3/32 in. nominal section	1
Q500-052	'V'-Seal, to fit 6.5 to 8 mm shaft dia.	1
Q900H039	'O' ring, 1/4 in. ID x 3/8 in. OD, Dowty 200-010-4460	1
Q900H040	'O' ring, 4.75 in. ID x 0.0625 in. sect, Dowty 200-048-4460	1
R900H009	'O' ring, 9.1 mm ID x 1.6 mm sect, Dowty 202-511-4470	1
3354-915SP	Bearings kit, comprising:	
N001-043	Bearing, plain, du bush, 1/4 in. ID x 5/16 in. OD x 3/8 in. long	10
N001-044	Bearing, plain, du bush, 1/4 in. ID x 5/16 in. OD x 1/4 in. long	4
N552-019	Bearing, needle roller, thrust, 0.502 in. ID x 0.927 in. OD x 0.078 in. long, with cage assembly	1
N552-020	Washer, thrust, bearing, 0.502 in. ID x 0.927 in. OD x 0.030 / 0.032 in. thick	2
P001-018	Bearing, plain, du bush, 8 mm ID x 10 mm OD x 12 mm long	4
P003-001	Bearing, plain flanged, plastic, 8 mm ID x 10 mm OD x 5.5 mm long	2
P200-229	Bearing, ball, radial, 45 mm ID x 58 mm OD x 7 mm long, open	1
P302-016	Bearing, ball, radial, 20 mm ID x 32 mm OD x 7 mm long, two seals	5
P302-017	Bearing, ball, radial, 30 mm ID x 42 mm OD x 7 mm long, two seals	1
P600-014	Bearing, needle roller, radial, 19 mm ID x 27 mm OD x 20 mm long	
P600-015	Roller, cylindrical, 5 mm x 8 mm long	24
P603-003	Bearing, track roller, yoke type, - mm bore dia., 16 mm roller dia. x 7.8 mm roller width	4

**Fig 6.14 Vector 70/70H Pan and Tilt Head - Composite Spare Parts (Cont)**

Part No	Nomenclature	Qty
3354-916SP	Set of drag shoes, comprising:	
3354-21	Pan friction shoe assembly	2
3354-17	Tilt drag shoe assembly (type A)	1
3354-18	Tilt drag shoe assembly (type B)	1
3354-917SP	Brake pads kit, comprising:	
3354-27	Pan brake shoe bonding assembly	1
3354-33	Tilt brake shoe bonding assembly	1
3354-288	Lining (Tilt brake reactor)	1
3354-336	Lining (brake shoe)	1
3354-918SP	Knobs kit, comprising:	
3354-292	Knob bung	3
3354-239	Platform adjuster knob	1
3354-340	Drag knob	2
3354-341	Counter balance knob	1
M004-103	Screw, countersunk head, pozidrive, M3 x 8 mm long	1
M006-737	Screw, low-profile, cap head, socket, M5 x 6 mm long	3
M600-006	Washer, plain, heavy, M5	3
3354-919SP	Levers kit, comprising:	
3354-235	Slide clamp lever	1
3354-247	Brake lever (Tilt brake)	1
3354-248	Brake lever (Pan)	1

Fig 6.14 Vector 70/70H Pan and Tilt Head - Composite Spare Parts (Cont)

Part No	Nomenclature	Qty
3354-922SP	Platform assembly (Spares), comprising:	
3354-230	Platform	1
3354-261	Serrated disc (Mk7 type)	2
3354-448	Slide clamp block	1
3354-266	Platform buffer	1
3354-425	Front stop bung	1
3354-278	PTFE Strip	1
3354-255	Label	1
3354-234	Cover, slide clamp lever	1
M006-921	Screw, countersunk head, socket, M5 x 10 mm long	6
L850-036	Threaded-insert, wire thread insert (helicoil), 3/8 in. BSF x 1-1/2 Dias lg	2
M806-004	Pin, coiled-spring, 4 mm dia. x 10 mm long, hdp	6
3354-923SP	Vertical track assembly (Vector 70), comprising:	
3354-207	Vertical track member	1
3354-208	Vertical track	2
L804-161	Rivet, blind-captive, countersink head, open type, 1/8 in. dia. x 0.236 in. long x 0.258 / 0.242 in. head dia.	2
L800-007	Pin, coiled-spring, headed, 5/64 in. dia. x 1/4 in. long, mbt	2
3354-924SP	Vertical track assembly (Vector 70H), comprising:	
3354-427	Vertical track member (HR)	1
3354-208	Vertical track	2
L804-161	Rivet, blind-captive, countersink head, open type, 1/8 in. dia. x 0.236 in. long x 0.258 / 0.242 in. head dia.	2
L800-007	Pin, coiled-spring, headed, 5/64 in. dia. x 1/4 in. long, mbt	2
3354-925SP	Horizontal track assembly, comprising:	
3354-204	Horizontal track member	1
3354-205	Horizontal track	1
M004-901	Screw, countersunk head, socket, M3 x 8 mm long	1
L800-007	Pin, coiled-spring, headed, 5/64 in. dia. x 1/4 in. long, mbt	1
N001-044	Bearing, plain, du bush, 1/4 in. ID x 5/16 in. OD x 1/4 in. long	4

Fig 6.14 Vector 70/70H Pan and Tilt Head - Composite Spare Parts (Cont)

Part No	Nomenclature	Qty
3354-926SP	Drive arm assembly, comprising:	
3354-202	Upper drive arm	1
3354-298	Pivot pin	2
N001-043	Bearing, plain, du bush, 1/4 in. ID x 5/16 in. OD x 3/8 in. long	2
3354-927SP	Base assembly with electronics, comprising:	
3354-24	Base housing (bonding) assembly	1
3354-25	Cover plate /PCB assembly	1
M004-103	Screw, countersunk head, pozidrive, M3 x 8 mm long	2
M004-511	Screw, button head, socket, M3 x 5 mm long	1
3354-929SP	Cover plate & buffer pad assembly, comprising:	
3354-337	Cover plate (plastic)	1
3354-347	Buffer pad	
3354-935SP	Tilt brake plate assembly, comprising:	
3354-36	Brake disk tilt assembly	1
3354-263	Tilt brake centre	1
M006-923	Screw, countersunk head, socket, M5 x 16 mm long	2
M806-004	Pin, coiled-spring, 4 mm dia. x 10 mm long, hdp	2
3354-936SP	Lower drive arm assembly, comprising:	
3354-203	Lower drive arm	1
3354-298	Pivot pin	2
N001-043	Bearing, plain, du bush, 1/4 in. ID x 5/16 in. OD x 3/8 in. long	2

Fig 6.14 Vector 70/70H Pan and Tilt Head - Composite Spare Parts (Cont)

Part No	Nomenclature	Qty
3354-937SP	Vert. Track /Act repair kit V70, comprising:	
3354-923SP	Vertical track assembly	1
3354-54	Adjustment housing assembly	1
3051-25	Vinten fluid in tin (sales service)	2
3354-206	Slim (Horizontal track member)	10
3354-299	Shim (0.075mm)	10
3354-412	Gasket	1
3354-414	Inner gasket	1
L701-082	Fastener, push-on, standard, 0.156 in. shaft dia. x 0.010 in. thick	1
M004-103	Screw, countersunk head, pozidrive, M3 x 8 mm long	12
M004-812	Screw, grub, cone point, socket head, M3 x 5 mm long	2
M005-706	Screw, cap head, socket, M4 x 16 mm long	4
M005-734	Screw, low-profile, cap head, socket, M4 x 10 mm long	8
M005-912	Screw, countersunk head, socket, M4 x 10 mm long	3
M006-704	Screw, cap head, socket, M5 x 16 mm long	2
M006-705	Screw, cap head, socket, M5 x 20 mm long	2
M006-718	Screw, cap head, socket, M5 x 40 mm long	2
M006-737	Screw, low-profile, cap head, socket, M5 x 6 mm long	1
Q500-040	'Omniseal', 1.380 in. shaft dia. x 3/32 in. nominal section	1

Fig 6.14 Vector 70/70H Pan and Tilt Head - Composite Spare Parts (Cont)

Part No	Nomenclature	Qty
3354-938SP	Vert. Track / Act. Repair kit V70H, comprising:	
3354-924SP	Vertical track member assembly (70H)	1
3354-55	Balance adjuster assembly (70H)	1
3051-25	Vinten fluid in tin (sales service)	2
3354-206	Slim (Horizontal track member)	10
3354-299	Shim (0.075mm)	10
3354-412	Gasket	1
3354-414	Inner gasket	1
L701-082	Fastener, push-on, standard, 0.156 in. shaft dia. x 0.010 in. thick	1
M004-103	Screw, countersunk head, pozidrive, M3 x 8 mm long	12
M004-812	Screw, grub, cone point, socket head, M3 x 5 mm long	2
M005-706	Screw, cap head, socket, M4 x 16 mm long	4
M005-734	Screw, low-profile, cap head, socket, M4 x 10 mm long	8
M005-912	Screw, countersunk head, socket, M4 x 10 mm long	3
M006-704	Screw, cap head, socket, M5 x 16 mm long	2
M006-705	Screw, cap head, socket, M5 x 20 mm long	2
M006-718	Screw, cap head, socket, M5 x 40 mm long	2
M006-737	Screw, low-profile, cap head, socket, M5 x 6 mm long	1
Q500-040	'Omniseal', 1.380 in. shaft dia. x 3/32 in. nominal section	1
3354-941SP	Pan drag coupling and sleeve assembly, comprising:	
3354-308	Coupling (Drag shoe assembly)	1
3354-309	Sleeve (Coupling seal)	1
R900H009	'O' ring, 9.1 mm ID, Dowty 202-511-4470	1
R900H002	'O' ring, 15.1 mm ID x 1.6 mm sect, Dowty 202-517-4470	1