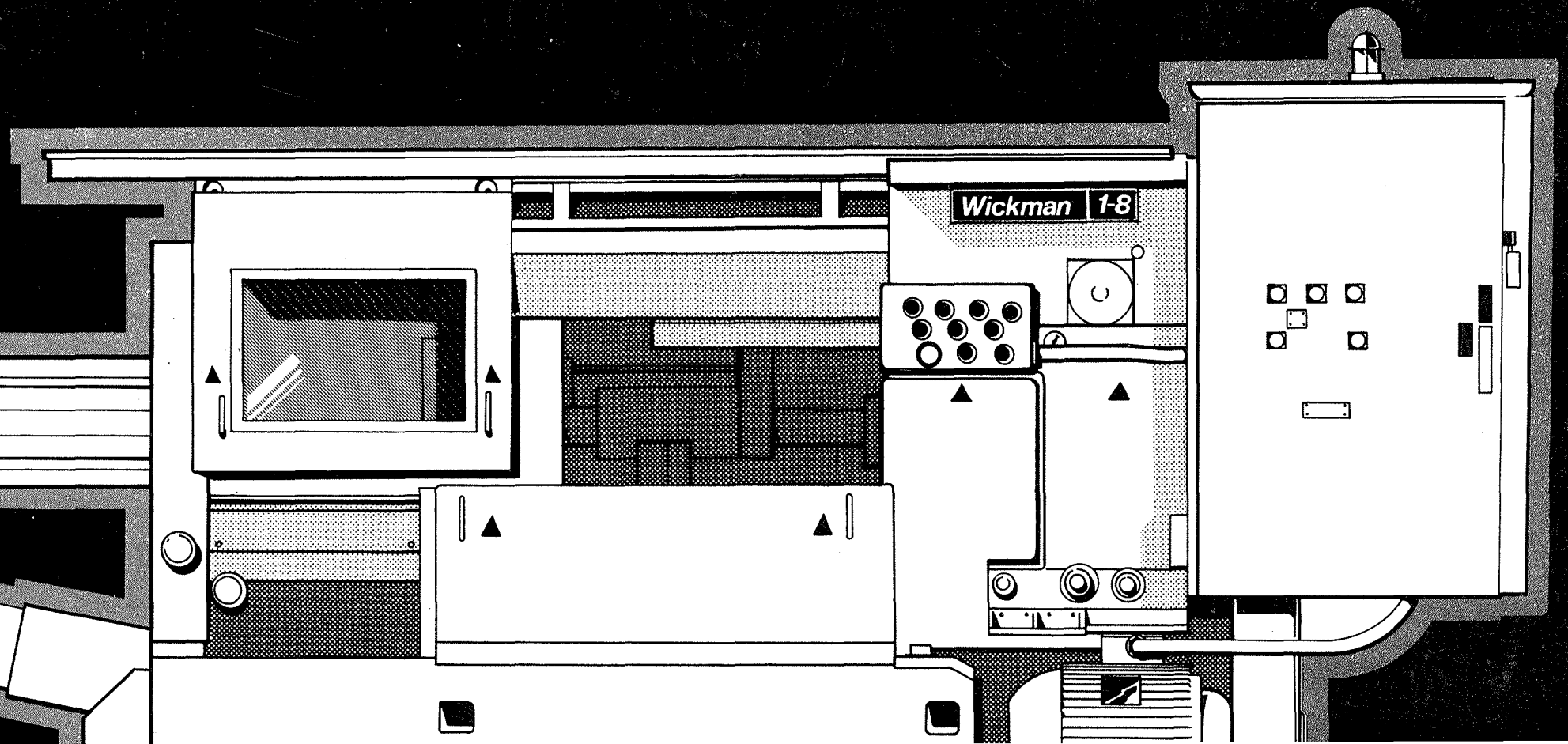




1in.8

Parts list





1in.8

Parts List for 1 in (25.4mm) 8 Spindle Bar Automatic and Attachments

Wickman Coventry Limited operate a policy of continual improvement.
We therefore reserve the right to change the specifications and
illustrations without notice.

Index to Standard Machine Arrangement Drawings & List of Parts

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						Swarf Conveyor Unit and Chutes	263 Z 1B	145

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**Wickman Coventry Limited
Automatic House
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Discovery Way
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Tel: 44 (0) 24 76547900

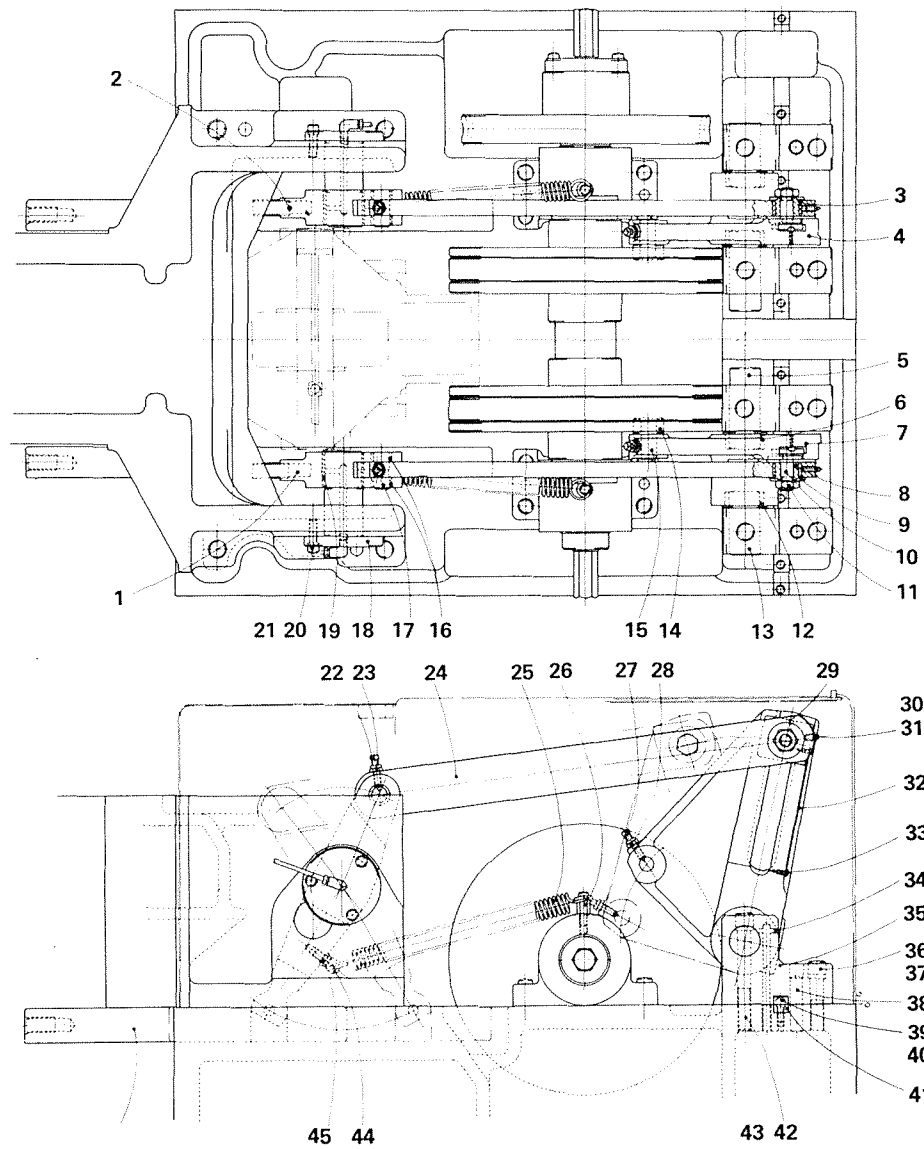
Facsimile 44 (0) 24 7654795

E-mail: sales@wickman.co.uk

Web site: www.wickman.co.uk

Index to Attachments Section

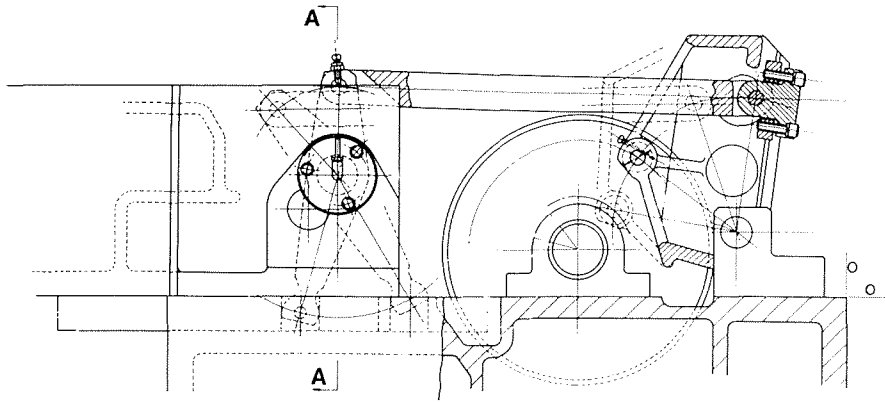
	Drawing No.	Page No.		Drawing No.	Page No.
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Auxiliary Cross Slide Motion, common parts	293 V 1	151	Pusher Bracket Threading and Reaming, stations 3, 4, 7 & 8	286 V 7	173
Auxiliary Cross Slide Motion, extra parts, stations 5 or 6	293 X 2	153	Synchronous Drive Threading Clutch Drive, stations 3, 4, 5, 6, 7 & 8	190 V 5	175
Auxiliary Cross Slide Motion, extra parts, stations 7 & 8 together	293 V 6	155	Threading Attachment Drive Sleeve	281 Y 2	177
Auxiliary Longitudinal Motion, stations 7 & 8	289 Z 3	157	Threading Cam, stations 5 & 6	282 V 3	179
Auxiliary Longitudinal Motion, stations 3, 4, 7 & 8	289 Z 5	159	Threading attachment, stations 3, 4, 5, 6, 7 & 8	286 Y 4C	181
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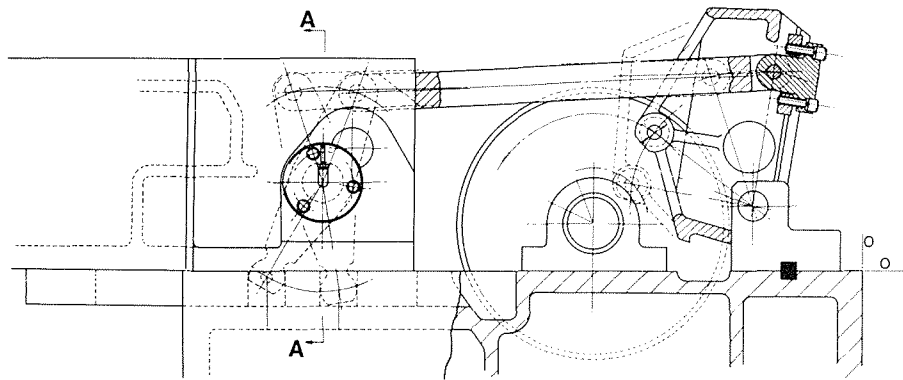
Auxiliary Longitudinal Slides Operation – Front and Rear

224Z1

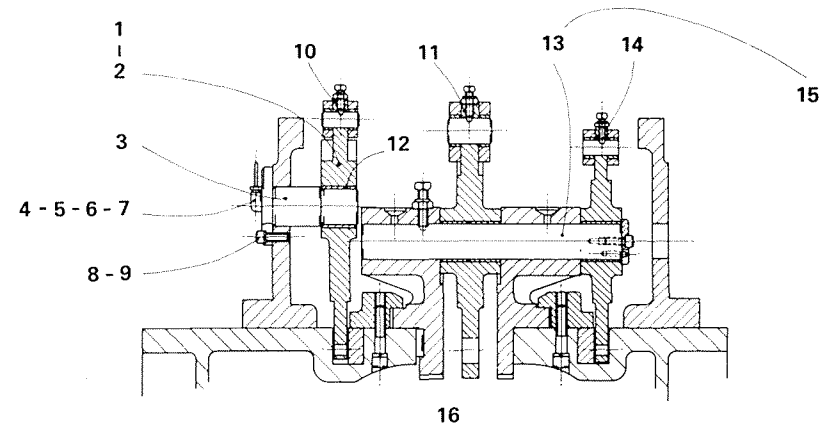
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	224V.151	Side Lever	20	155/0616	3/8" B.S.F. Socket Cap Screw 1" long	34	176/0404	1/4" B.S.F. Socket Head Screw Cup Point 1/4" long
2	224V.151	Side Lever	21	154/06	3/8" dia. Spring Washer	35	223V.107	Fulcrum Bracket
3	236/182212	Oil Retaining Bush	22	183/0524	5/16" Square Head Screw Taper Point 1.1/2" long	36	155/1044	5/8" B.S.F. Socket Head Cap Screw 2.3/4" long
4	225Z.150	Cam Lever—Rear	23	203/05	5/16" B.S.F. Self Locking Nut	37	154/10	5/8" dia. Spring Washer
5	224X.106	Fulcrum Pin	24	224V.153	Link	38	125/4044	5/8" dia. Taper Pin 2.3/4" long
6	123X.106	Quadrant Bush	25	MSE.350	Extension Spring	39	155/0512	5/16" B.S.F. Socket Head Screw Cap 3/4" long
7	224Z.150	Cam Lever—Front	26	189AX.130	Spring Anchor	40	154/05	5/16" dia. Spring Washer
8	141X.141	Sliding Sleeve	27	183/0524	5/16" B.S.F. Square Head Screw Taper Point 1.1/2"	41	323X.108	Fulcrum Tenon
9	141X.116	Slotted Washer	28	203/05	5/16" B.S.F. Self Locking Nut	42	155/1080	5/8" B.S.F. Socket Head Cap Screw 5" long
10	141X.119	Tee Bolt	29	156/206	2 B.A. Socket Head Cap Screw 3/8" long	43	154/10	5/8" dia. Spring Washer
11	173/10HL	5/8" B.S.F. Hexagon Head Locknut	30	210/1725	9/16" O/dia. Yellow Indicator Washer	44	389X.115	Spring Anchor
12	123X.110	Quadrant Bush	31	212/04	1/4" B.S.F. Grease Nipple	45	203/06L	3/8" B.S.F. Self Locking Nut Thin
13	223X.109	Fulcrum	32	224X.154	Scale	46	224Y.112	Pusher Arm
14	123X.104	Roller	33	165/204	2 B.A. Round Head Set Screw 1/4" long			
15	123X.103	Roller						
16	236/121609	Oil Retaining Bush						
17	123X.162	Link Pin						
18	224X.152	Lever Pivot						
19	236/283228	Oil Retaining Bush						



Tooling Dept. to specify Lever and Cams required



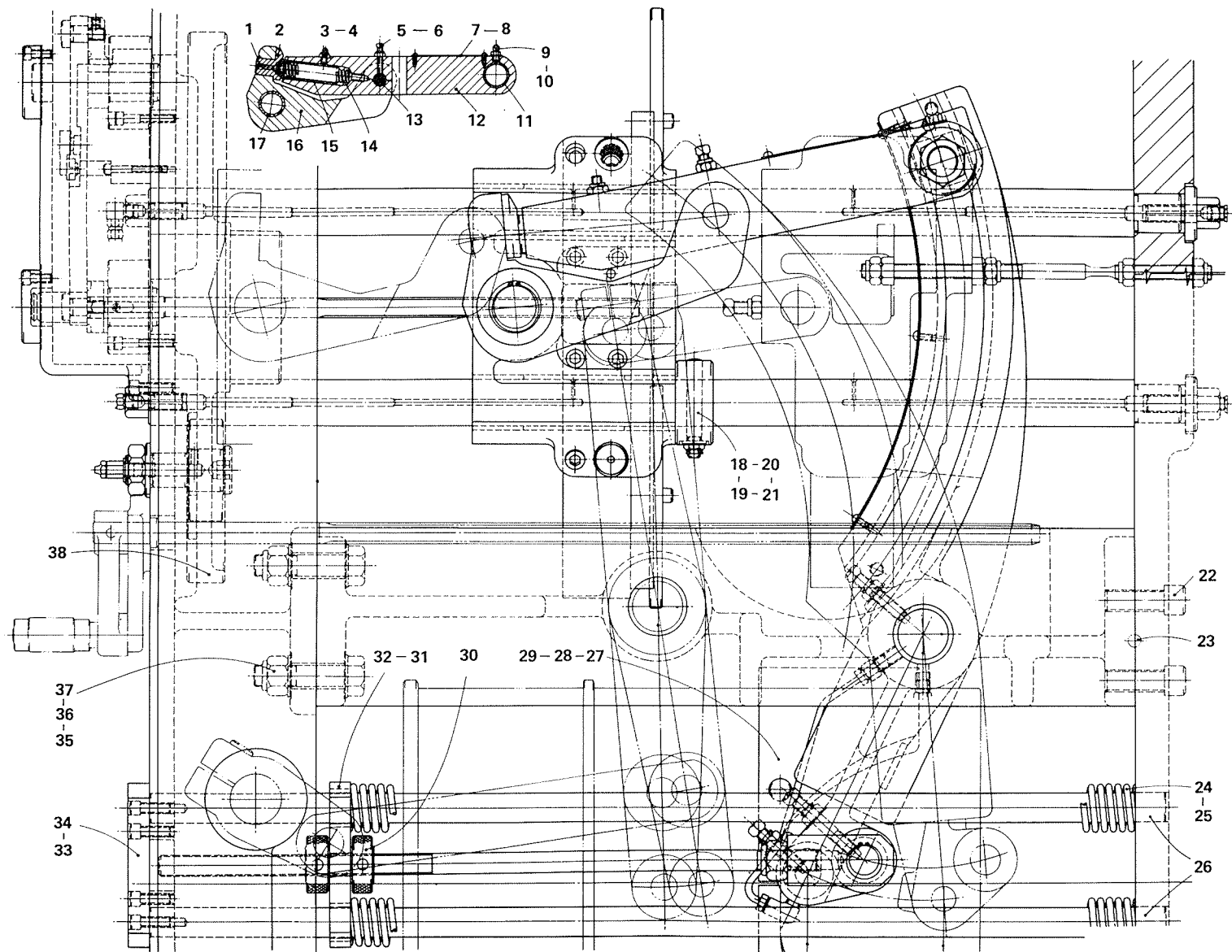
For other details see 223.Z. 1 and 2



Arrangement of Auxiliary Longitudinal Slides Operation 224Z2 (Optional Extra)

224Z2

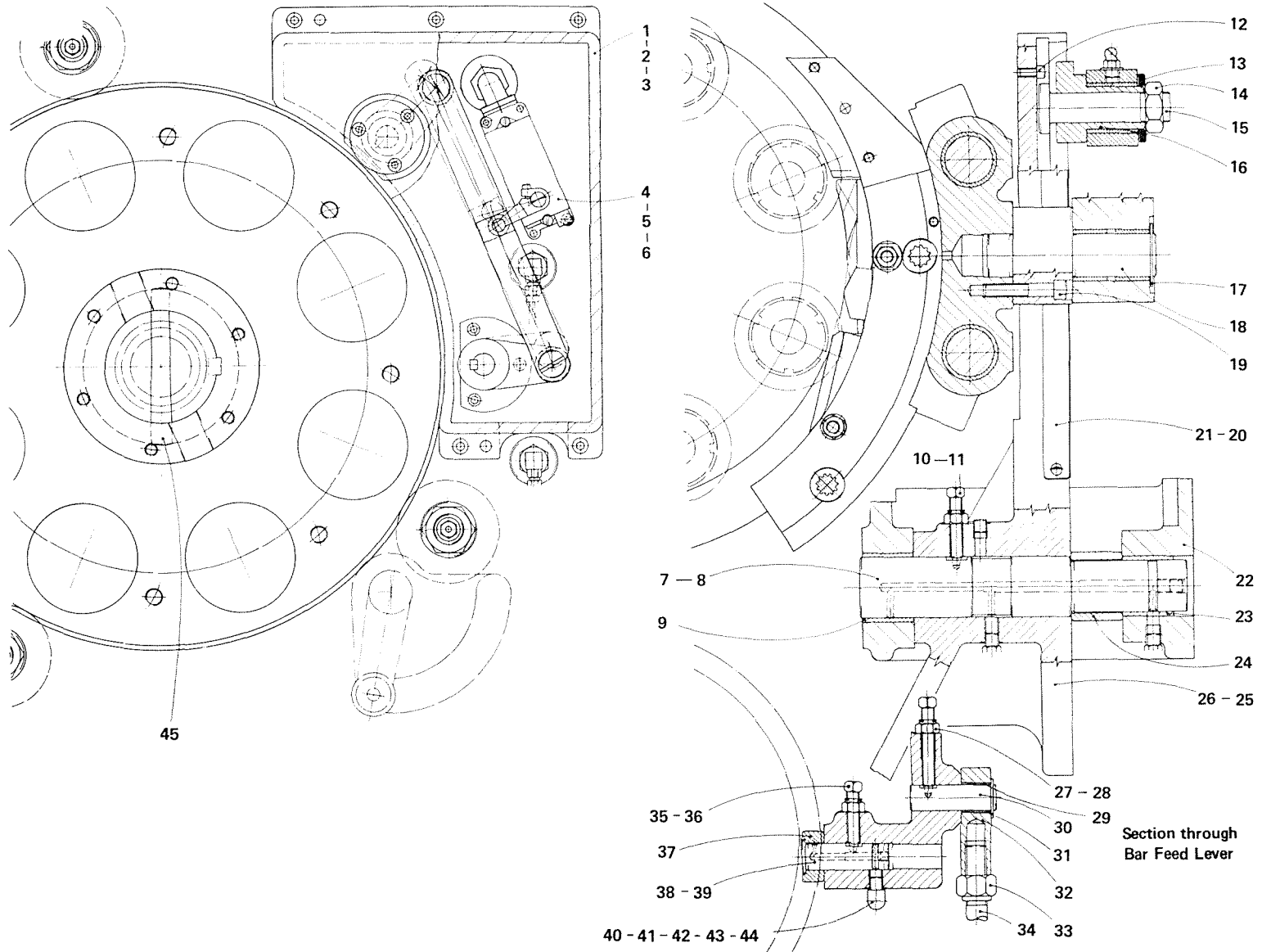
Item	Part No.	Description
1	224V.157	Side Lever (Use for 3.1/2" Stroke)
2	224V.156	Side Lever (Use for 5.1/4" Stroke)
3	224X.152	Lever Pivot
4	225/3050	Copper Tube, 3/16" dia.
5	215/3	Tubing Nut, 3/16"
6	221/3	Tubing Sleeve, 3/16"
7	219/17	Male Tube Adaptor, 3/16"
8	154/05	Spring Washer, for 5/16" dia.
9	155/0620	Hexagon Socket Head Cap Screw, 3/8" B.S.F. x 1.1/4" long
10	—	Section 224D 5th Station Lever
11	—	Centre Block Lever
12	236/28.32.28	Oil Retaining Bush, 1.3/4" x 2" x 1.3/4"
13	223X.121	Lever Shaft
14	—	Section 225 Standard 4th Station Lever
15	—	Used when either Section 224D or 225D is fitted Shaft 224X.155 to be used when Sections 224D and 225D are used concurrently
16	Key	



Front Bar Feed and Trip Mechanism, 8th Station

267Z1

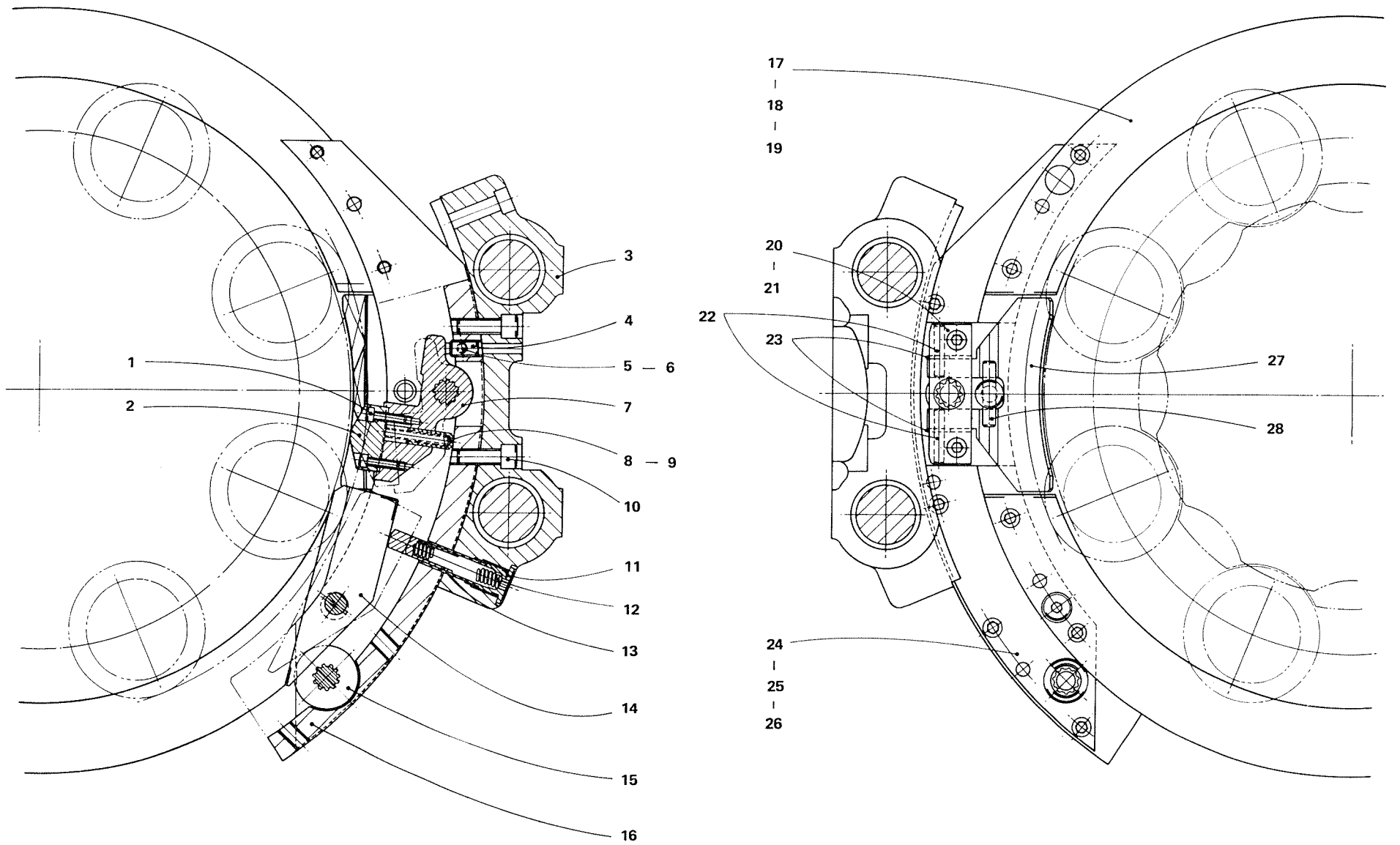
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	155/0416	1/4" B.S.F. Socket Head Cap Screw 1" long	15	358X.168	Plunger	26	258X.152	Spring Guide
2	358X.169	Plunger Seating	16	358Y.166A	Link Body	27	258Y.172	Bar Feed Cam Return
3	178/0516	5/16" B.S.F. Socket Set Screw 1" long 1/2 Dog Point	17	236/202416	1.1/4" x 1.1/2" Oil Retaining Bush 1.1/2" long	28	258Y.171	Bar Feed Cam Forward
4	203/05	5/16" B.S.F. Self Locking Nut	18	258X.162	Stop Collar	29	155/0716	7/16" B.S.F. Socket Head Cap Screw 1" long
5	183/0528	5/16" B.S.F. Socket Set Screw 1.3/4" long Taper Point	19	130/06	3/8" dia. Flat Washer	30	158X.178A	Locknut
6	203/05	5/16" B.S.F. Self Locking Nut	20	158X.163	Special Taper Pin	31	258X.181	Bush
7	172X.107B	Instruction Plate	21	203/06L	3/8" B.S.F. Self Locking Locknut	32	158X.153	Pressure Plate
8	165/206	2 B.A. Round Head Screw 3/8" long	22	155/1028	5/8" B.S.F. Socket Head Cap Screw 1.3/4" long	33	155/0514	5/16" B.S.F. Socket Head Cap Screw 7/8" long
9	212/4518	1/8" B.S.P. 45° Grease Nipple	23	126/1236	3/8" dia. Parallel Dowel 2.1/4" long Double Bar Feed Machines only	34	158X.155	Retaining Plate
10	210/2525	Indicator Washer	24	258X.161	Bar Feed Spring Single Bar Feed Machines only	35	203/10	5/8" B.S.F. Self Locking Nut
11	236/202424	1.1/4" x 1.1/2" Oil Retaining Bush 1.1/2" long	25	259/161	Bar Feed Spring Double Bar Feed Machines only	36	130/10	5/8" dia. Flat Washer
12	358V.119	Bar Feed Link				37	170/1044	5/8" B.S.F. Hexagon Head Bolt 2.3/4" long
13	358X.167	Pin				38	267Z.150	Driving Disc
14	358X.170	Spring						



Front Bar Feed and Trip Mechanism, 8th Station

267Z2

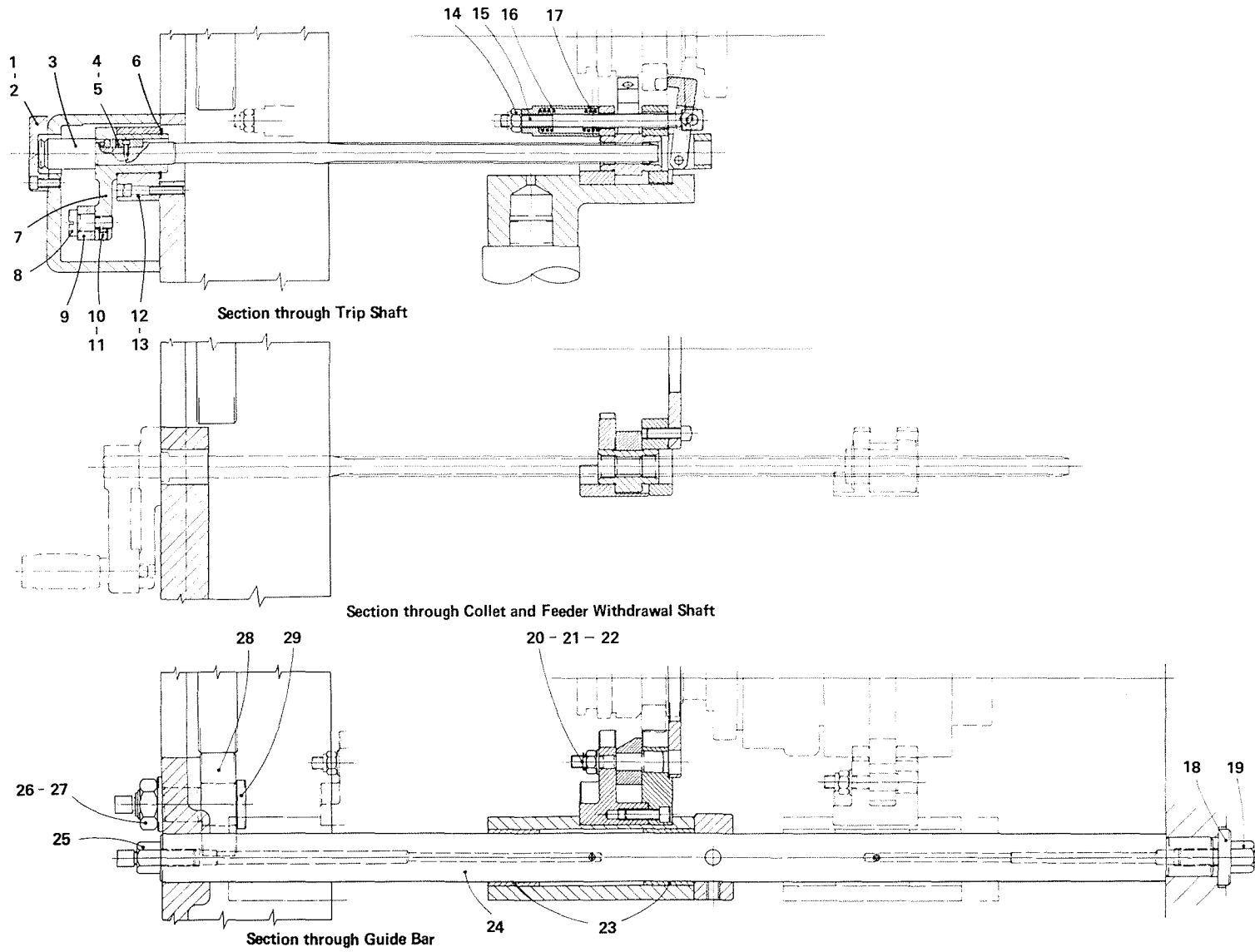
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	267Y.189	Trip Switch Cover	18	258X.123	Link Pivot	36	183/0628	3/8" B.S.F. Square Head Screw
2	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long	19	155/0632	3/8" B.S.F. Socket Head Cap Screw 2" long			Taper Point 1.3/4" long
3	141/3	11/32" dia. Tapped Taper Pin 1.1/4" long	20	165/206	2 B.A. Slotted Round Head Screw 3/8" long	37	158X.112A	Roller for Bar Feed and Collet Operation
4	Class 9007 AW12	Square 'D' Limit Switch	21	258V.109	Bar Feed Scale	38	258X.107	Roller Pin
5	BA-1	Square 'D' Operating Arm	22	267Z.103	Front Connecting Bridge	39	176/0404	1/4" B.S.F. Socket Set Screw Cup Point 1/4" long
6	156/224	2 B.A. Socket Head Cap Screw 1.1/2" long	23	236/242824	1.1/2" bore x 1.3/4" dia. Oil Retaining Bush 1.1/2" long	40	218/2	3/16" Tube - 1/8" B.S.P. Male Adaptor
7	194/1	1/8" B.S.P. Socket Pipe Plug	24	258X.115	Pivot Pin Spacer	41	225/3050	3/16" Copper Tube 14" long
8	268X.539	Modification to Pivot Pin	25	194/1	1/8" B.S.P. Socket Pipe Plug	42	221/3	3/16" Tubing Sleeve
9	236/283224	1.3/4" bore x 2" dia. Oil Retaining Bush 1.1/2" long	26	268X.525	Modification to Bar Feed Lever	43	215/3	3/16" Tubing Nut
10	203/06	3/8" B.S.F. Self Locking Nut	27	183/0640	3/8" B.S.F. Square Head Screw Taper Point 2.1/2" long	44	219/17	3/16" Tube - 1/8" B.S.P. Male Elbow Adaptor
11	183/0632	3/8" B.S.F. Square Head Screw Taper Point 2" long	28	203/06	3/8" B.S.F. Self Locking Nut	45	125/4072	5/8" dia. Plain Taper Pin 4.1/2" long
12	155/0408	1/4" B.S.F. Socket Head Cap Screw 1/2" long	29	236/121414	3/4" bore x 7/8" dia. Oil Retaining Bush 7/8" long			
13	341X.116	Slotted Washer	30	258X.160	Link Pin			
14	173/14LH	7/8" B.S.F. Locknut Hardened	31	101/6	3/4" dia. External Circlip			
15	358X.108	Pivot Bolt	32	599AX.108	Pusher Connection			
16	358V.127	Link Pivot	33	203/10	5/8" B.S.F. Self Locking Nut			
17	101/15	1.1/4" dia. External Circlip	34	258X.151	Spring Stud			
			35	203/06	3/8" B.S.F. Self Locking Nut			



Front Bar Feed and Trip Mechanism, 8th Station

267Z3

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	156/212	2 B.A. Socket Head Cap Screw 3/4" long	13	266X.114	Plunger	22	143/0820D	1/4" dia. Grooved Pin 1.1/4" long
2	267X.182	Trip Dog	14	267X.105	Bar Feed Shoe	23	267X.196	Spacer
3	267Z.101	Bar Feed Slide	15	267V.127	Feeder Withdrawal Cam	24	267Z.144	Shoe Carrier Side Plate
4	178/0612	3/8" B.S.F. Socket Set Screw Half Dog 3/4" long	16	267Z.143	Bar Feed Shoe Carrier	25	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long
5	176/0408	1/4" B.S.F. Socket Set Screw Cup Point 1/2" long	17	267Z.158	Aligning Ring	26	141/3	11/32" dia. Tapped Taper Pin 1.1/4" long
6	153/04	1/4" dia. Soft Pad	18	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long	27	267X.147A	Feeler Plate
7	267V.183	Trip Lever	19	141/2	11/32" dia. Tapped Taper Pin 1" long	28	126/1024	5/16" dia. Parallel Dowel 1.1/2" long
8	153X.164	Plunger	20	267X.146	Feeler Bracket			
9	145/108	Compression Spring 2" long	21	155/0524	5/16" B.S.F. Socket Head Cap Screw 1.1/2" long			
10	155/0616	3/8" B.S.F. Socket Head Cap Screw 1" long						
11	266X.115	Plunger Housing						
12	Flexo 103220	Compression Spring						

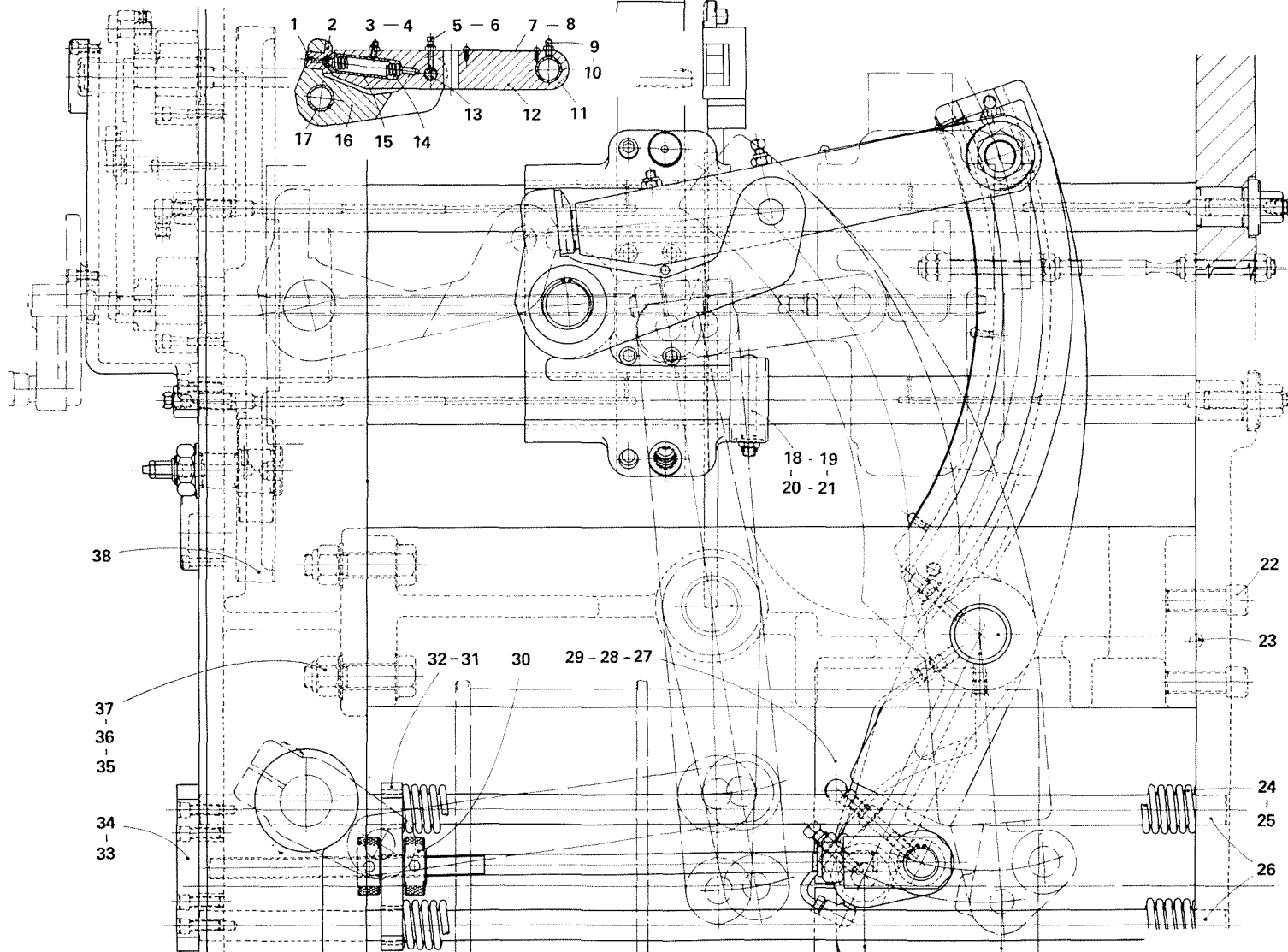


Bar Feed and Trip Mechanism

267Z4

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	155/0410	1/4" B.S.F. Socket Head Cap Screw 5/8" long	13	155/0424	1/4" B.S.F. Socket Head Cap Screw 1.1/2" long	25	268X.538	Adaptor
2	267X.188	Trip Shaft Cap	14	203/06	3/8" B.S.F. Self Locking Nut	26	130/14	7/8" dia. Plain Washer
3	267V.185	Trip Shaft	15	267X.148	Spring Rod	27	173/14LH	7/8" B.S.F. Locknut Hardened
4	156/404	4 B.A. Socket Head Cap Screw 1/4" long	16	145/176	5/8" dia. Compression Spring 3.1/2" long	28	358X.115	Roller
5	402X.110A	Brake Clutch Key	17	267X.149	Spring Thimble	29	358X.164A	Eccentric Roller Pin
6	101/13	1.1/8" dia. External Circlip	18	158X.117A	Guide Washer			
7	267X.186	Switch Lever	19	268X.537	Adaptor			
8	267X.195	Link Pin	20	266X.110	Shoe Pin			
9	267X.187	Switch Link	21	203/06	3/8" B.S.F. Self Locking Nut			
10	176/0404	1/4" B.S.F. Socket Set Screw Cup Point 1/4" long	22	130/06	3/8" dia. Plain Washer			
11	153/04	1/4" dia. Soft Pad	23	236/222624	1.3/8" bore x 1.5/8" dia. Oil Retaining Bush 1.1/2" long			
12	267X.184	Trip Shaft Bearing	24	268X.590	Modification to Guide Bar			

Half sized view of Link Assembly (not required on 1 - 8 D M/C's)

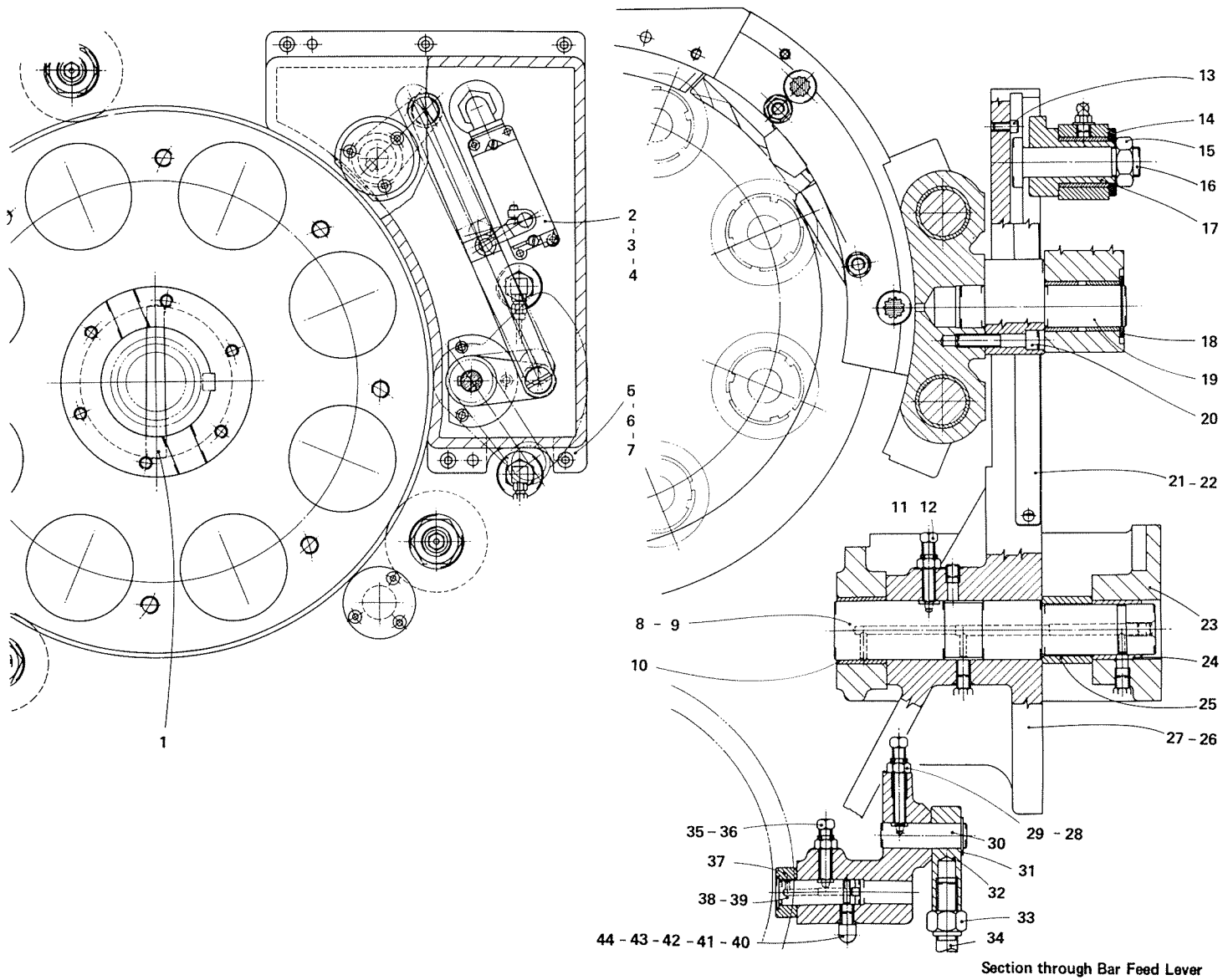


Bar Feed and Trip Mechanism, 7th Station

267Z5

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	155/0416	1/4" B.S.F. Socket Head Cap Screw 1" long	13	358X.167	Pin	28	258Y.171	Bar Feed Cam (Forward)
2	358X.169	Plunger Seating	14	358X.170	Spring	29	155/0716	7/16" B.S.F. Socket Head Cap Screw 1" long
3	178/0516	5/16" B.S.F. Socket Set Screw – Half Dog 1" long	15	358X.168	Plunger	30	158X.178A	Locknut
4	203/05	5/16" B.S.F. Self Locking Nut	16	358Y.166A	Link Body	31	258X.181	Bush
5	183/0528	5/16" B.S.F. Square Head Screw Taper Point 1.3/4" long	17	236/202416	1.1/4" bore x 1.1/2" dia. Oil Retaining Bush 1" long	32	158X.153	Pressure Plate
6	203/05	5/16" B.S.F. Self Locking Nut	18	258X.162	Stop Collar	33	155/0514	5/16" B.S.F. Socket Head Cap Screw 7/8" long
7	172X.107B	Instruction Plate	19	158X.163	Special Taper Pin	34	158X.155	Retaining Plate
8	165/206	2 B.A. Round Head Screw 3/8" long	20	130/06	3/8" dia. Plain Washer	35	203/10	5/8" B.S.F. Self Locking Nut
9	212/4518	1/8" B.S.P. 'Autolub' Nipple 45°	21	203/06L	3/8" B.S.F. Self Locking Nut	36	130/10	5/8" dia. Plain Washer
10	210/2525	1/8" B.S.P. 'Yellow' Indicator Washer	22	155/1028	5/8" B.S.F. Socket Head Cap Screw 1.3/4" long	37	170/1044	5/8" B.S.F. Hexagon Head Bolt 2.3/4" long
11	236/202424	1.1/4" bore x 1.1/2" dia. Oil Retaining Bush 1.1/2" long	23	126/1236	3/8" dia. Parallel Dowel 2.1/4" long	38	267Z.150	Driving Disc
12	358V.119	Bar Feed Link	24	258X.161	Bar Feed Spring			
			25	259X.161	Bar Feed Spring			
			26	258X.152	Spring Guide			
			27	258Y.172	Bar Feed Cam (Return)			

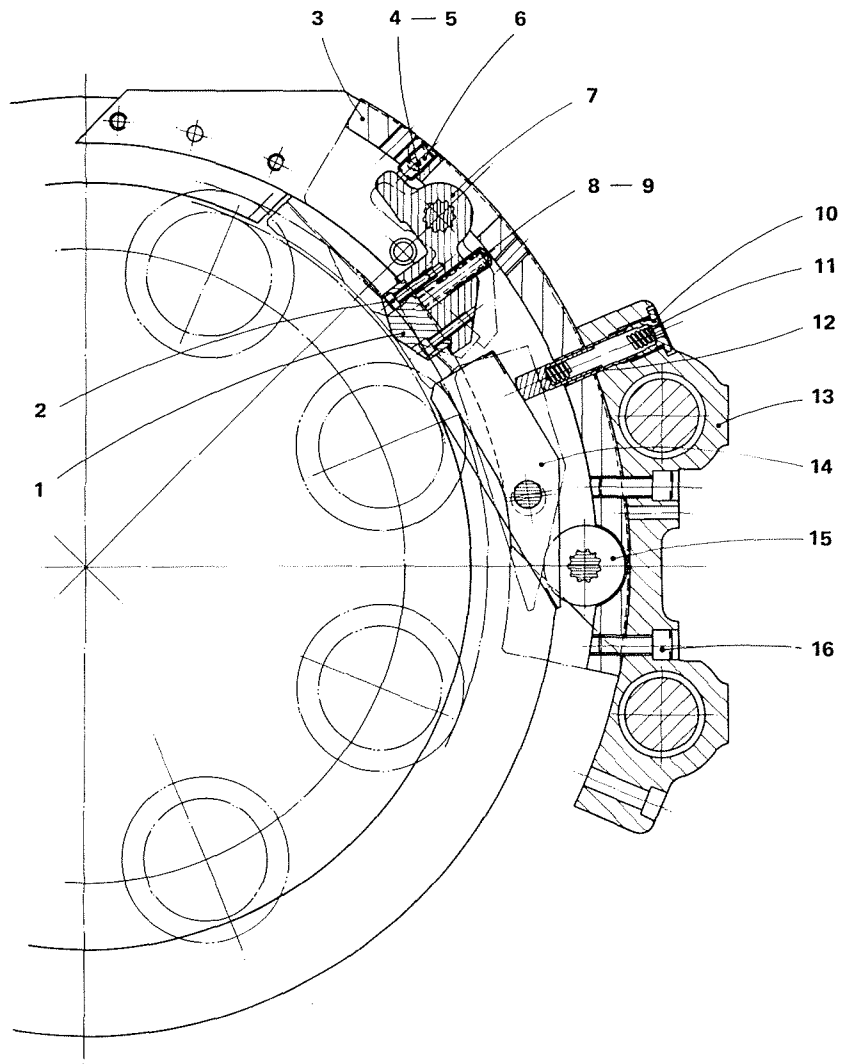
When ordering spare parts always quote the Inspection Number of the machine.



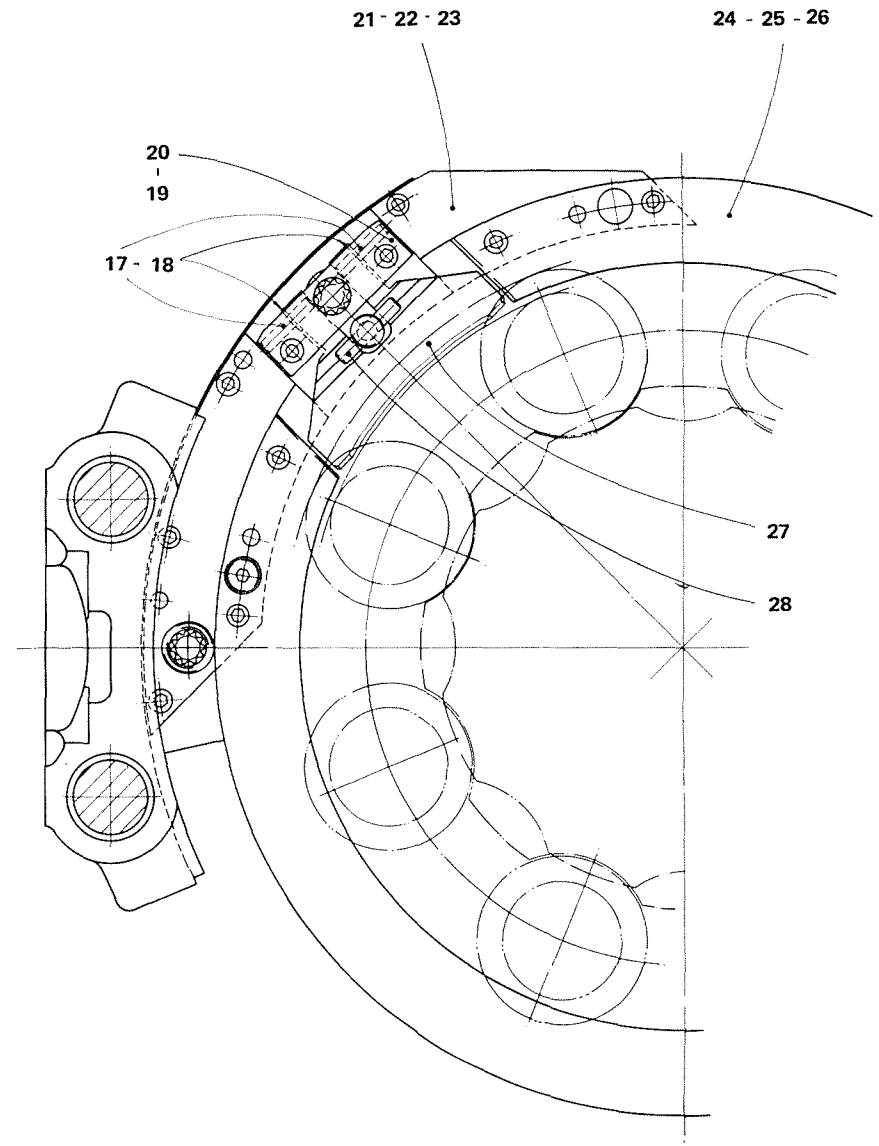
Bar Feed and Trip Mechanism,

267Z6

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	125/4072	5/8" dia. Plain Taper Pin 4.1/2" long	18	101/15	1.1/4" dia. External Circlip	38	258X.107	Roller Pin
2	Class 9007 AW12	Square 'D' Limit Switch	19	258X.123	Link Pivot	39	176/0404	1/4" B.S.F. Socket Set Screw Cup Point 1/4" long
3	BA-1	Square 'D' Operating Arm	20	155/0632	3/8" B.S.F. Socket Head Cap Screw 2" long	40	219/17	3/16" Tube – 1/8" B.S.P. Male Elbow Adaptor
4	156/224	2 B.A. Socket Head Cap Screw 1.1/2" long	21	258V.109	Bar Feed Scale	41	215/3	3/16" Tubing Nut
5	267Y.189	Trip Switch Cover	22	165/206	2 B.A. Slotted Round Head Screw 3/8" long	42	221/3	3/16" Tubing Sleeve
6	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long	23	267Z.103	Front Connecting Bridge	43	225/3035	3/16" dia. Copper Tube
7	141/3	11/32" dia. Tapped Taper Pin 1.1/4" long	24	236/242824	1.1/2" bore x 1.3/4" dia. Oil Retaining Bush 1.1/2" long	44	218/2	3/16" Tube – 1/8" B.S.P. Male Adaptor
8	194/1	1/8" B.S.P. Socket Pipe Plug	25	258X.115	Pivot Pin Spacer			
9	268X.539	Modification to Pivot Pin	26	194/1	1/8" B.S.P. Socket Pipe Plug			
10	236/283224	1.3/4" bore x 2" dia. Oil Retaining Bush 1.1/2" long	27	268X.525	Modification to Bar Feed Lever			
11	203/06	3/8" B.S.F. Self Locking Nut	28	203/06	3/8" B.S.F. Self Locking Nut			
12	183/0632	3/8" B.S.F. Square Head Screw Taper Point 2" long	29	183/0640	3/8" B.S.F. Square Head Screw Taper Point 2.1/2" long			
13	155/0408	1/4" B.S.F. Socket Head Cap Screw 1/2" long	30	258X.160	Link Pin			
14	341X.116	Slotted Washer	31	101/6	3/4" dia. External Circlip			
15	173/14LH	7/8" B.S.F. Hexagon Locknut Hardened	32	599AX.108	Pusher Connection			
16	358X.108	Pivot Bolt	33	203/10	5/8" B.S.F. Self Locking Nut			
17	358V.127	Link Pivot	34	258X.151	Spring Stud			
			35	203/06	3/8" B.S.F. Self Locking Nut			
			36	183/0628	3/8" B.S.F. Square Head Screw Taper Point 1.3/4" long			
			37	158X.112A	Roller for Bar Feed and Collet Operation			



Section through Trip Lever & Bar Feed Shoe

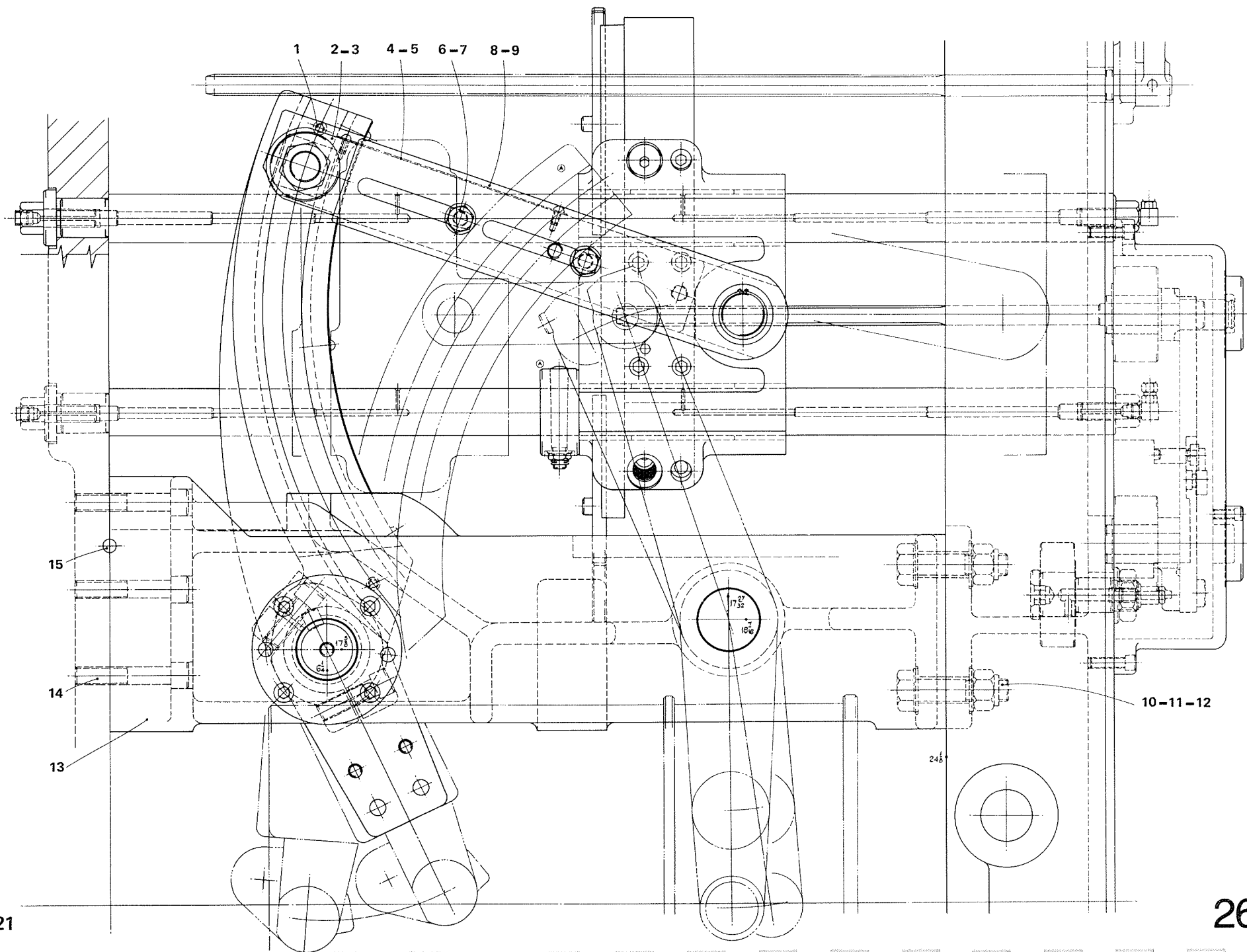


View from Drum Housing End

Bar Feed and Trip Mechanism,

267Z7

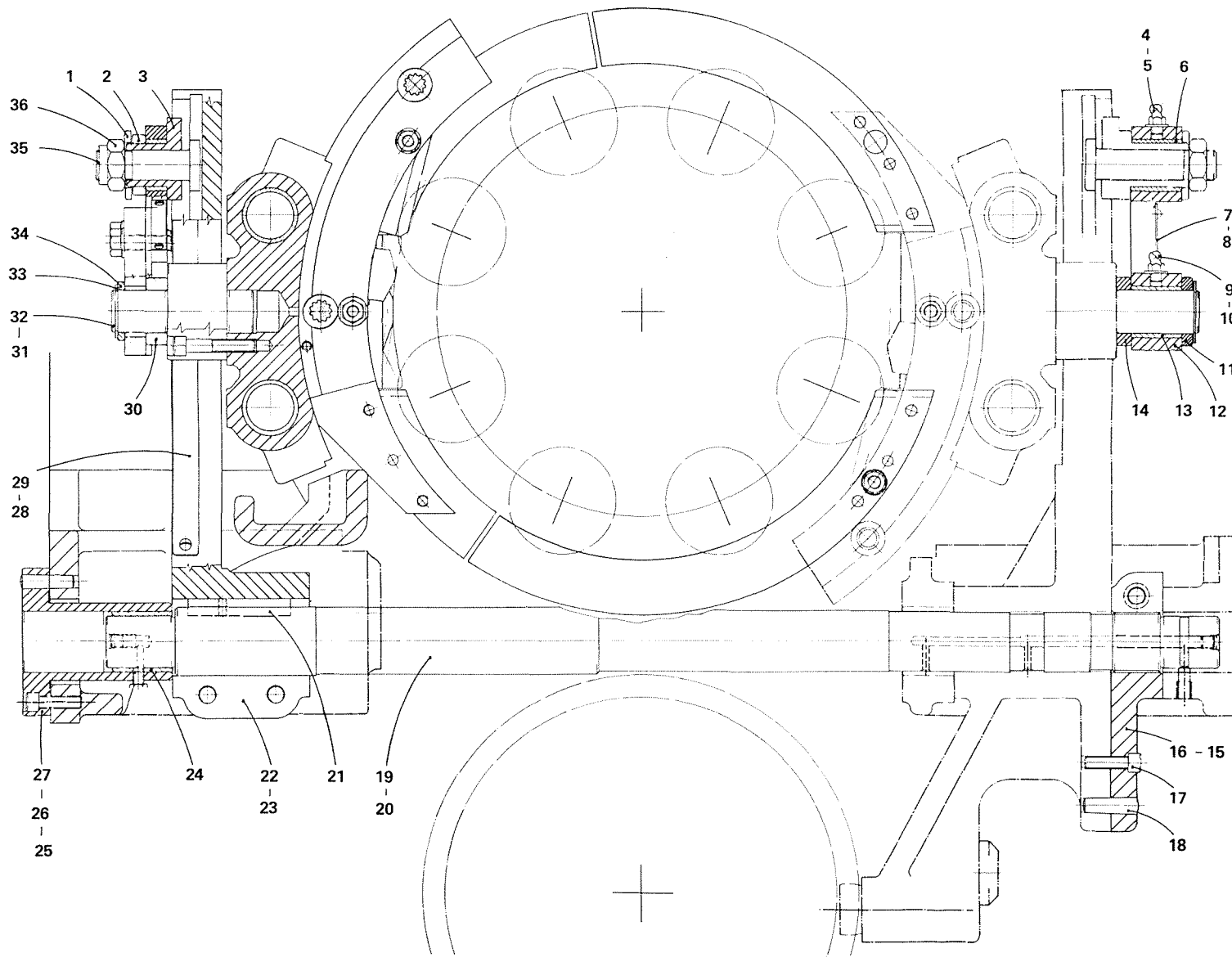
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	267X.182	Trip Dog	13	267Z.101	Bar Feed Slide	24	141/2	11/32" dia. Tapped Taper Pin 1" long
2	156/212	2 B.A. Socket Head Cap Screw 3/4" long	14	267X.105	Bar Feed Shoe	25	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long
3	267Z.143	Bar Feed Shoe Carrier	15	267V.127	Feeder Withdrawal Cam	26	267Z.158	Aligning Ring
4	176/0408	1/4" B.S.F. Socket Set Screw Cup Point 1/2" long	16	155/0616	3/8" B.S.F. Socket Head Cap Screw 1" long	27	267X.147A	Feeler Plate
5	153/04	1/4" dia. Soft Pad	17	143/0820D	1/4" dia. Grooved Pin 1.1/4" long	28	126/1024	5/16" dia. Parallel Dowel 1.1/2" long
6	178/0612	3/8" B.S.F. Socket Set Screw Half Dog 3/4" long	18	267X.196	Spacer			
7	267V.183	Trip Lever	19	155/0524	5/16" B.S.F. Socket Head Cap Screw 1.1/2" long			
8	153X.164	Plunger	20	267X.146	Feeler Bracket			
9	145/108	Compression Spring 2" long	21	141/3	11/32" dia. Tapped Taper Pin 1.1/4" long			
10	266X.115	Plunger Housing	22	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long			
11	Flexo 103220	Compression Spring	23	267Z.144	Shoe Carrier Side Plate			
12	266X.114	Plunger						



Rear Bar Feed and Trip Mechanism

267Z8

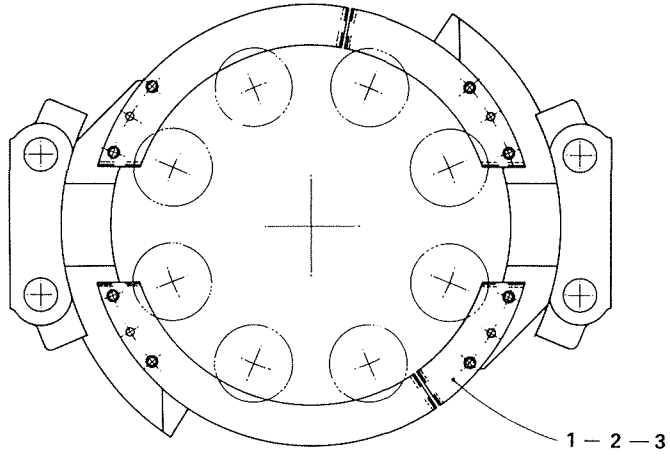
Item	Part No.	Description
1	155/0408	1/4" B.S.F. Socket Head Cap Screw 1/2" long
2	236/202410	1.1/4" x 1.1/2" Oil Retaining Bush 5/8" long
3	267V.190	Link Bottom Half
4	165/206	2 B.A. Round Head Screw 3/8" long
5	267X.192	Link Scale
6	130/07	7/16" dia. Flat Washer
7	167/0724	7/16" B.S.F. Hexagon Head Set Screw 1.1/2" long
8	236/202410	1.1/4" x 1.1/2" Oil Retaining Bush 5/8" long
9	267V.191	Link Top Half
10	170/1044	5/8" B.S.F. Hexagon Bolt 2.3/4" long
11	130/10	5/8" dia. Flat Washer
12	203/10	5/8" B.S.F. Self Locking Nut
13	267Z.102	Rear Connecting Bridge
14	155/0844	1/2" B.S.F. Socket Head Cap Screw 2.3/4" long
15	126/1236	3/8" dia. Parallel Dowel 2.1/4" long



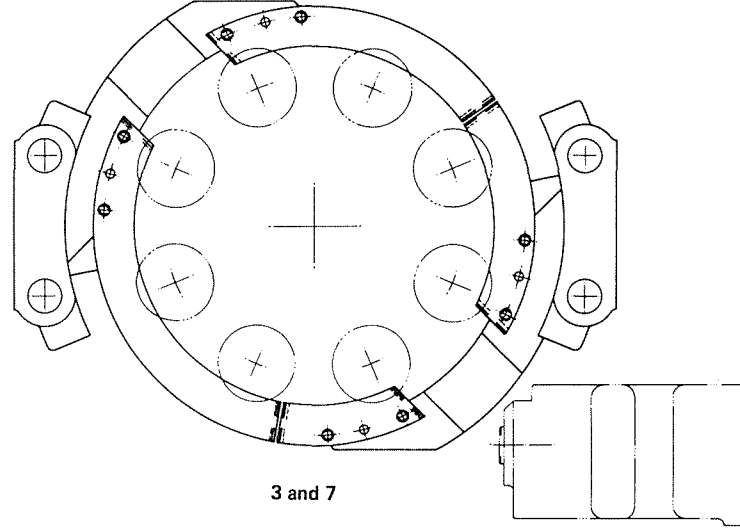
Rear Bar Feed and Trip Mechanism

267Z9

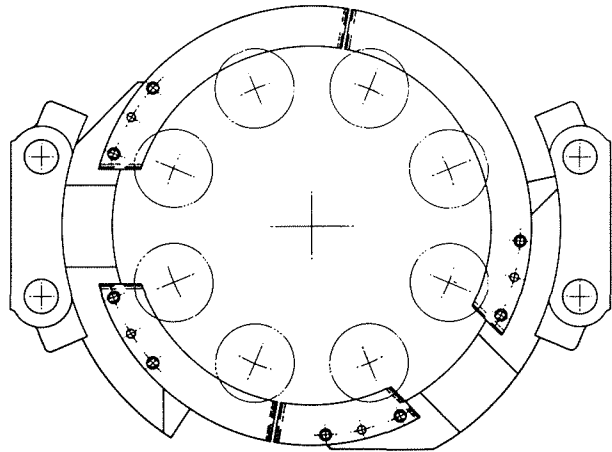
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	331X.116	Slotted Washer	14	258X.138	Spacer	25	155/0624	3/8" B.S.F. Socket Head Cap Screw
2	267X.193	Spacer	15	155/0824	1/2" B.S.F. Socket Head Cap Screw			1.1/2" long
3	259V.127	Link Pivot			1.1/2" long	26	141/6	13/32" dia. Taper Dowel 1.1/2"
4	212/4518	1/8" B.S.P. 45° Grease Nipple	16	259V.105A	Coupling Lever			Extractor Bush
5	210/2525	Indicator Washer	17	155/0620	3/8" B.S.F. Socket Head Cap Screw	27	268X.524	Modification to Bearing Housing
6	236/202424	1.1/4" x 1.1/2" Oil Retaining Bush			1.1/4" long	28	165/206	2 B.A. Round Head Screw x 3/8"
		1.1/2" long	18	125/3224	1/2" dia. Taper Pin 1.1/2" long	29	258V.109	Bar Feed Scale
7	172X.107B	Instruction Plate	19	268X.528	Modification to Feed Lever Shaft	30	267X.194	Spacer
8	165/206	2 B.A. Round Head Screw 3/8" long	20	194/1	1/8" B.S.P. Socket Pipe Plug	31	155/0632	3/8" B.S.F. Socket Head Cap Screw
			21	121/1648T	1/2" x 1/2" Parallel Key 3" long			2" long
9	212/4518	1/8" B.S.P. 45° Grease Nipple			Tapped	32	267X.123	Link Pivot
10	210/2525	Indicator Washer	22	259Y.104B	Bar Feed Lever	33	101/15	1.1/4" External Circlip
11	258X.139	Spacer	23	155/0828	1/2" B.S.F. Socket Head Cap Screw	34	118X.157	Adjustable Washer
12	358X.198A	Link			1.3/4" long	35	259X.108	Pivot Bolt
13	236/202424	1.1/4" x 1.1/2" Oil Retaining Bush	24	236/242828	1.1/2" x 1.3/4" Oil Retaining Bush	36	203/14L	7/8" B.S.F. Self Locking Nut
		1.1/2" long			1.3/4" long			



4 and 8

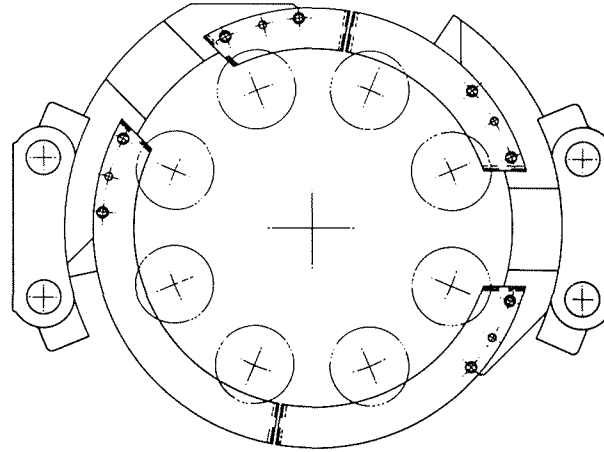


3 and 7



3 and 8

4



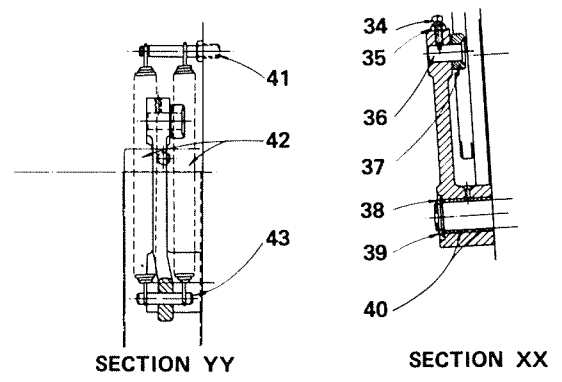
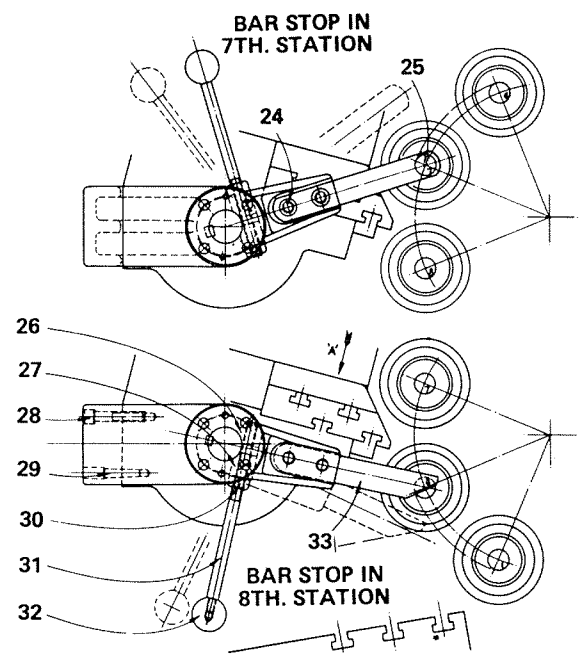
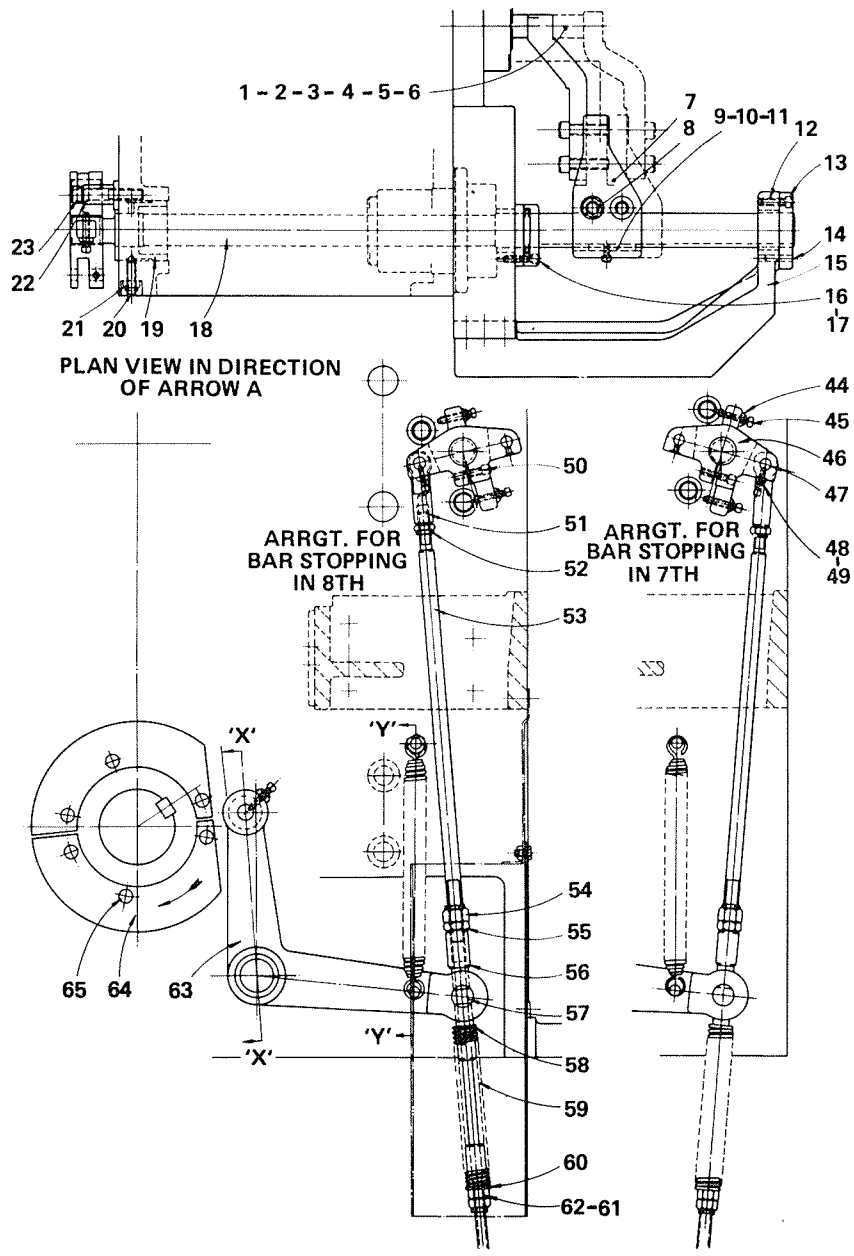
4 and 7

**VIEW FROM DRUM HOUSING END
SHOWING POSITIONS OF BAR FEED SHOE CARRIER,
SHOE CARRIER SIDE PLATE AND ALIGNING RING IN
VARIOUS STATIONS.**

Double Bar Feed (Aligning Ring)

267Z10

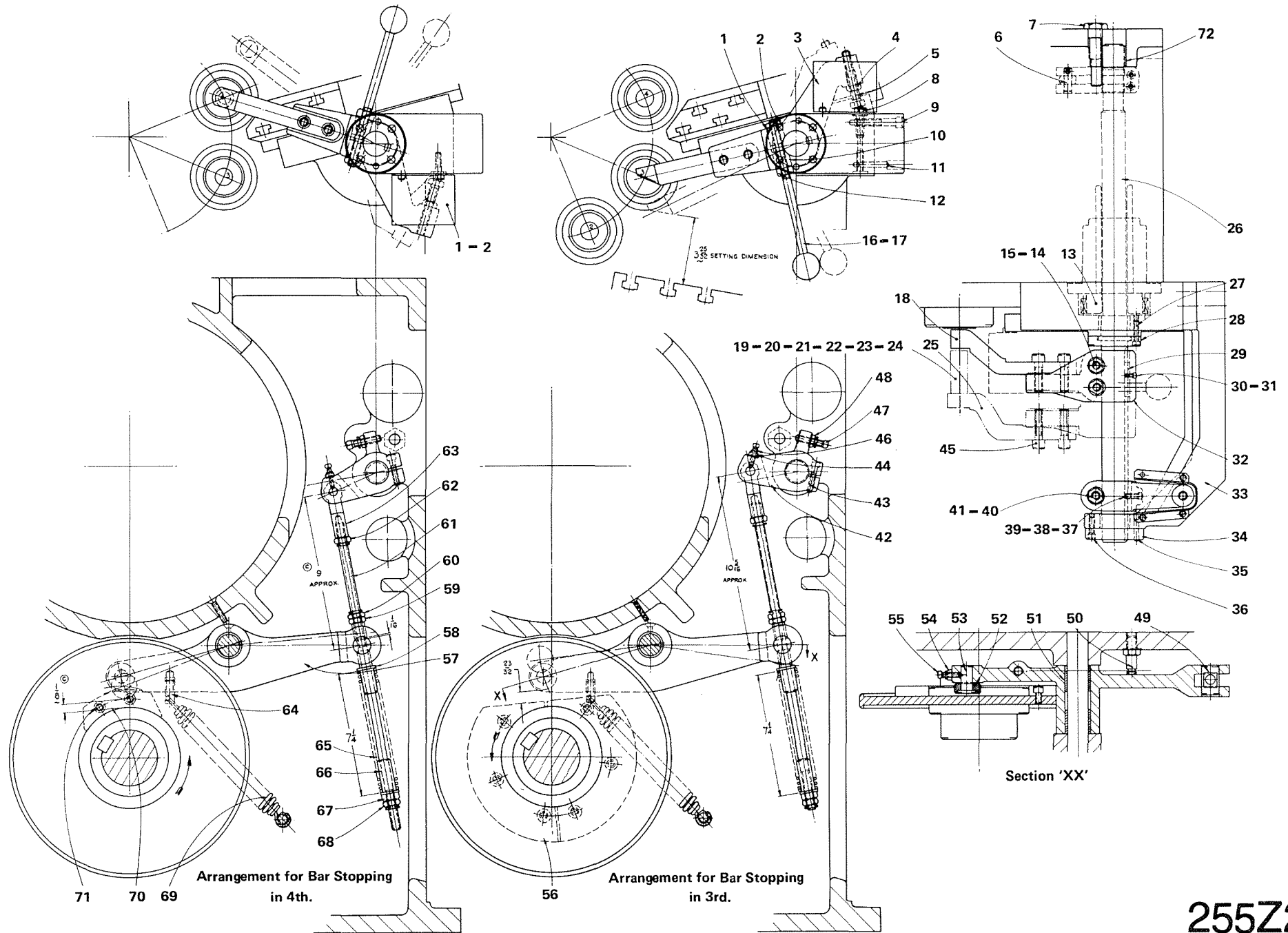
Item	Part No.	Description
1	267Z.145	Aligning Ring
2	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long
3	141/2	11/32" dia. Taper Dowel 1" long Extractor Bolt
4		View from Drum Housing End Showing positions of bar feed shoe carrier, shoe carrier side plate, and aligning ring in various stations.



Bar Stop Arrangement for 7th or 8th Stations

255 Z1

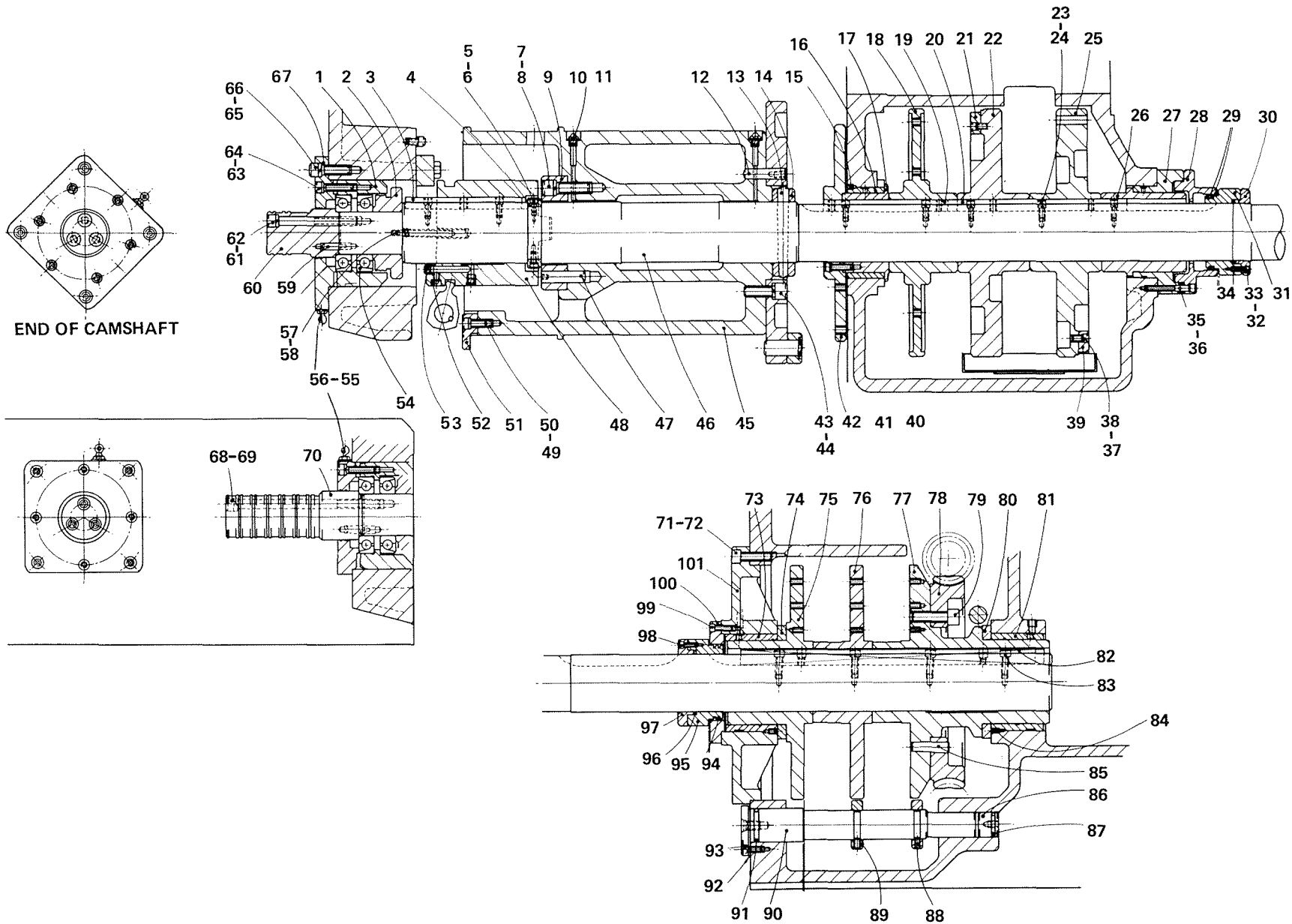
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	255X.162	Bar Stop 1/4" long) Supplied	23	155/0844	1/2" B.S.F. Socket Head Cap Screw 2.3/4" long	45	188/0524	5/16" B.S.F. Square Head Set Screw 1.1/2" long
2	255X.163	Bar Stop 3/4" long) in	24	155/0828	1/2" B.S.F. Socket Head Cap Screw 1.3/4" long	46	255Y.115	Bar Stop Lever
3	255X.164	Bar Stop 1.1/4" long) toolkit	25	255X.128A	Bar Stop Arm 7th Station only – Special Order only	47	150X.120	Link Pin
4	255X.165	Bar Stop 1.7/8" long) fit if	26	150X.111	Pad Bush	48	183/0416	1/4" B.S.F. Socket Set Screw 1" long Taper Point
5	255X.167	Bar Stop 3.1/4" long) required	27	150X.110	Pad Bush	49	203/04L	1/4" B.S.F. Self Locking Locknut
6	255X.166	Bar Stop 2.1/2" long – Standard Bar Stop	28	155/0736	7/16" B.S.F. Socket Head Cap Screw 2.1/4" long	50	155/0520	5/16" B.S.F. Socket Head Cap Screw 1.1/4" long
7	250V.108A	Bar Stop Bracket	29	141/3	11/32" dia. Taper Pin 1.3/4" long Extractable	51	161X.121A	Rod End
8	167/0840H	1/2" B.S.F. Hexagon Head Set Screw 2.1/2" long Hard	30	173/08H	1/2" B.S.F. Hexagon Nut Hard	52	203/08L	1/2" B.S.F. Self Locking Nut
9	155/0408	1/4" B.S.F. Socket Head Cap Screw 1/2" long	31	255X.132	Bar Stop Arm Hand Lever	53	250X.116A	Link Rod
10	154/04	1/4" dia. Spring Washer	32	241/13	1.1/2" dia. Black Knob	54	203/10	5/8" B.S.F. Self Locking Nut
11	122/1432T	7/16" x 9/32" Parallel Key 2" long Tapped	33	255X.109A	Bar Stop Finger 8th Station only	55	173/10L	5/8" B.S.F. Hexagon Locknut
12	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long	34	183/0520	5/16" B.S.F. Square Head Set Screw 1.1/4" long	56	250X.124A	Spacer
13	250X.134	Support	35	203/05	5/16" B.S.F. Self Locking Nut	57	150X.117A	Pivot Pin
14	125/1620	1/4" dia. Taper Pin 1.1/4" long	36	124X.116	Roller Pin	58	150X.140	Spring Guide
15	255Y.137	Support Bracket	37	141X.121	Roller	59	250X.106	Spring
16	255X.133	Clamp Plate	38	250X.126	Spacer	60	150X.141	Spring Retainer
17	155/0520	5/16" B.S.F. Socket Head Cap Screw 1.1/4" long	39	101/15	1.1/4" dia. External Circlip	61	208/08	1/2" B.S.F. Self Locking Nut
18	255X.112	Bar Stop Shaft	40	236/202416	1.1/4" x 1.1/2" Oil Retaining Bush 1" long	62	173/08	1/2" B.S.F. Hexagon Locknut
19	250X.138	Bush for Bar Stop Shaft	41	250X.123	Spring Anchor	63	250X.1040	Cam Lever
20	203/06	3/8" B.S.F. Self Locking Nut	42	250X.122A	Bar Stop Spring	64	250V.136	Front Bar Stop Cam
21	182/0628	3/8" B.S.F. Socket Set Screw 1.3/4" long Taper Point	43	143/1640K	5/8" dia. Groove Pin 2.1/2" long	65	155/0612	3/8" B.S.F. Socket Head Cap Screw 3/4" long
22	350X.142B	Stop Peg	44	203/05	5/16" B.S.F. Self Locking Nut			



Bar Stop Arrangement for Third or Fourth Stations

255Z2

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	150X.111	Pad Bush	29	122/1432T	7/16" x 9/32" Parallel Key 2" long Tapped	51	236/202424	1.1/4" x 1.1/2" Oil Retaining Bush
2	173/08L	1/2" B.S.F. Hexagon Locknut	30	155/0408	1/4" B.S.F. Socket Head Cap Screw 1/2" long	52	141X.121	Roller
3	255V.160	Bar Stop Precision Lever	31	154/04	1/4" dia. Spring Washer	53	124X.116	Roller Pin
4	173/08L	1/2" B.S.F. Hexagon Locknut	32	250V.108A	Bar Stop Bracket	54	203/05	5/16" B.S.F. Self Locking Nut
5	167/0848H	1/2" B.S.F. Hexagon Head Set Screw 3" long Hard	33	255Y.137	Support Bracket	55	183/0520	5/16" B.S.F. Square Head Set Screw 1.1/4" long Taper Point
6	150X.120	Link Pin	34	250X.134	Support	56	251V.136	Rear Bar Stop Cam – Special Order only
7	251X.142	Stop Pin	35	125/1620	1/4" dia. Taper Pin 1.1/4" long	57	251Y.104A	Bar Stop Cam Lever
8	561X.149	Stop Screw	36	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long	58	150X.140	Spring Guide
9	155/0736	7/16" B.S.F. Socket Head Cap Screw 2.1/4" long	37	122/1424T	7/16" x 9/32" Parallel Key 1.1/2" long Tapped	59	150X.124	Adjusting Nut
10	150X.110	Pad Bush	38	155/0412	1/4" B.S.F. Socket Head Cap Screw 3/4" long	60	203/08L	1/2" B.S.F. Self Locking Nut
11	141/3	11/32" Taper Dowel 1.3/4" long Extractable	39	154/04	1/4" dia. Spring Washer	61	255X.159	Bar Stop Operating Rod
12	173/08H	1/2" B.S.F. Hexagon Locknut Hard	40	167/0840H	1/2" B.S.F. Hexagon Head Set Screw 2.1/2" long Hard	62	203/08L	1/2" B.S.F. Self Locking Nut
13	255X.161	Operating Gear	41	173/08L	1/2" B.S.F. Hexagon Locknut	63	161X.121A	Rod End
14	167/0840H	1/2" B.S.F. Hexagon Head Set Screw 2.1/2" long Hard	42	251X.115A	Bar Stop Lever	64	251X.125	Spring Anchor
15	173/08L	1/2" B.S.F. Hexagon Locknut	43	155/0524	5/16" B.S.F. Socket Head Cap Screw 1.1/2" long	65	250X.106	Bar Stop Spring
16	255X.132	Bar Stop Arm Hand Lever	44	203/04	1/4" B.S.F. Self Locking Nut	66	250X.141	Spring Retainer
17	241/13	1.1/2" dia. Bakelite Knob	45	155/0828	1/2" B.S.F. Socket Head Cap Screw 1.3/4" long	67	173/08	1/2" B.S.F. Hexagon Locknut
18	255X.127A	Bar Stop Finger	46	183/0420	1/4" B.S.F. Square Head Set Screw 1.3/4" long Taper Point	68	203/08L	1/2" B.S.F. Self Locking Nut
19	255X.162	Bar Stop 1/4" long) Supplied	47	188/0628	3/8" B.S.F. Square Head Set Screw 1.3/4" long	69	351X.122A	Rear Bar Stop Spring
20	255X.163	Bar Stop 3/4" long) in	48	203/06	3/8" B.S.F. Self Locking Nut	70	251X.135	Rear Bar Stop Cam
21	255X.164	Bar Stop 1.1/4" long) toolkit	49	150X.117A	Pivot Pin	71	155/0612	3/8" B.S.F. Socket Head Cap Screw 3/4" long
22	255X.165	Bar Stop 1.7/8" long) fit if	50	251X.123	Spring Anchor	72	236/202420	1.1/4" x 1.1/2" Oil Retaining Bush 1.1/4" long
23	255X.167	Bar Stop 2.1/2" long) required						
24	255X.166	Bar Stop 2.1/2" long						
25	255X.128A	Bar Stop Arm						
26	255X.158	Bar Stop Shaft						
27	150/0520	5/16" B.S.F. Socket Head Cap Screw 1.1/4" long						
28	255X.133	Clamp Plate						

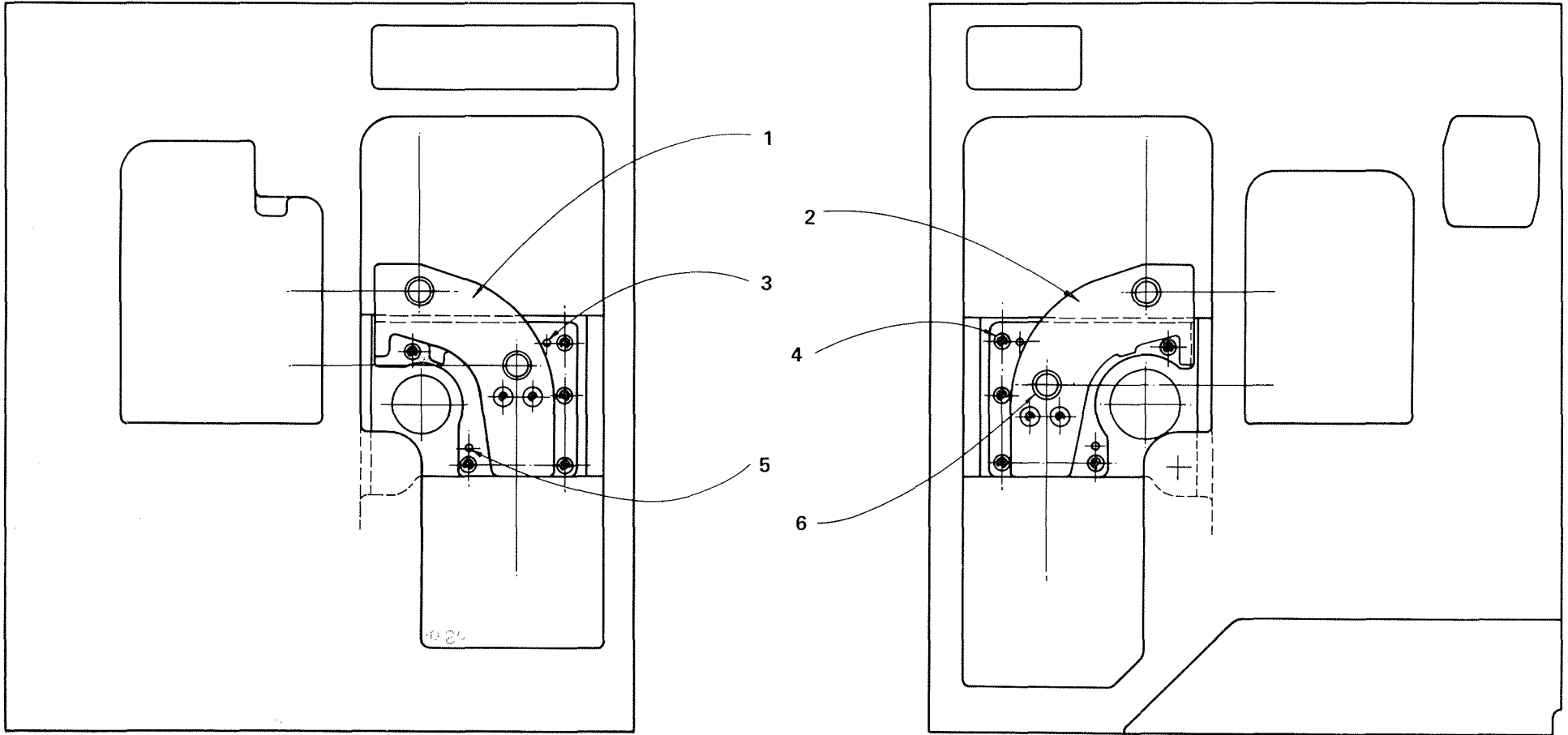


Main Cam Shaft

244Z2

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	544Y.121C	End Bearing Housing	37	155/0510	5/16" B.S.F. Socket Head Cap Screw 5/8" long	70	544Y.151A	Camshaft Extension Special Order only
2	344X.145B	Thrust Ring	38	154/05	5/16" dia. Spring Washer	71	194/1	1/8" B.S.P. Socket Pipe Plug
3	344X.147A	Camshaft Key	39	244X.112/1	Cam Insert Front	72	155/0828	1/2" B.S.F. Socket Head Cap Screw 1.3/4" long
4	344X.127	Thrust Ring	40	154/05	5/16" dia. Spring Washer	73	244V.164	Camshaft Bearing
5	155/0410	1/4" B.S.F. Socket Head Cap Screw 5/8" long	41	155/0520	5/16" B.S.F. Socket Head Cap Screw 1.1/4" long	74	244X.165	Thrust Washer
6	155/06	1/4" dia. Spring Washer	42	244Y.125	Carrier for Bar Stop Cams	75	244Z.168	Outer Cam Disc
7	155/1032	5/8" B.S.F. Socket Head Cap Screw 2" long	43	155/1028	5/8" B.S.F. Socket Head Cap Screw 1.3/4" long	76	244Z.169	Middle Cam Disc
8	154/10	5/8" dia. Spring Washer	44	154/10	5/8" dia. Spring Washer	77	244Z.170	Inner Cam Disc
9	344Y.122	Clutch Ring	45	244Y.102A	Cam Drum	78	218V.270	Lower Worm Wheel
10	212/18	1/8" B.S.P. Grease Nipple	46	244Y.161	Main Camshaft	79	155/1032	5/8" B.S.F. Socket Head Cap Screw 2" long
11	210/2525	Yellow Indicator Washer	47	344X.144	Dowel	80	244X.165	Thrust Washer
12	141/20	5/8" dia. Taper Pin 2.1/4" long	48	344Y.123B	Clutch Body	81	244V.164	Camshaft Bearing
13	125/4080	5/8" dia. Taper Pin 5" long	49	154/06	3/8" dia. Spring Washer	82	244V.162	Camshaft Key
14	544X.118	Collar	50	155/0620	3/8" B.S.F. Socket Head Cap Screw 1.1/4" long	83	155/0616	3/8" B.S.F. Socket Head Cap Screw 1" long
15	176/0406	1/4" B.S.F. Socket Set Screw 3/8" long Cup Point	51	345X.125	Detent	84	176/0406	1/4" B.S.F. Hollow Set Screw 3/8" long Cup Point
16	244X.134	Camshaft Bush	52	212/04	1/4" B.S.F. Grease Nipple	85	141/20	5/8" dia. Headed Taper Pin 2.1/4" long
17	244B.138	Camshaft Bearing Sleeve	53	1941	1/8" B.S.P. Socket Pipe Plug	86	244X.173	Plug
18	244Y.103	Auxiliary Cam Disc	54	263/60	60mm x 110mm x 22mm Light Type Bearing	87	354/21	1.1/8" dia. 'O' Ring
19	544X.147A	Key	55	210/2525	Yellow Indicator Washer	88	176/0508	5/16" B.S.F. Hollow Set Screw 1/2" long Cup Point
20	344X.148B	Camshaft Key	56	212/9018	1/8" B.S.P. 90° Nipple	89	244X.172	Collar
21	244X.112/2	Cam Insert Rear	57	244X.146	Spring Support	90	244V.171A	Quadrant Lever Charts
22	244Z.104	Rear Cross Slide Cam	58	244X.129A	Clutch Spring	91	354/28	1.1/2" dia. 'O' Ring
23	155/0616	3/8" B.S.F. Socket Head Cap Screw 1" long	59	544X.152	Coupling Pin	92	244X.174	Spacer
24	15406	3/8" dia. Spring Washer	60	344V.156A	Camshaft Extension	93	155/0512	5/16" B.S.F. Socket Head Cap Screw 3/4" long
25	244Z.105	Front Cross Slide Tap	61	154/08	1/2" dia. Spring Washer	94	244X.156	Piston Ring
26	244V.137A	Camshaft Bearing Sleeve	62	155/0872	1/2" B.S.F. Socket Head Cap Screw 4.1/2" long	95	244X.163	Ring Housing
27	244V.135A	Camshaft Bush	63	154/06	3/8" dia. Spring Washer	96	354/42	3/4" dia. 'O' Ring
28	244V.153	Camshaft Housing	64	155/0628	3/8" B.S.F. Socket Head Cap Screw 1.3/4" long	97	244X.155	End Cap
29	244X.156	Piston Ring	65	154/08	1/2" dia. Spring Washer	98	155/0412	1/4" B.S.F. Socket Head Cap Screw 3/4" long
30	244X.155	End Cap	66	155/0828	1/2" B.S.F. Socket Head Cap Screw 1.3/4" long	99	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long
31	244X.154	Ring Housing	67	544V.150A	End Cover	100	244V.166	Ring Seal Housing
32	154/04	1/4" dia. Spring Washer	68	155/08136	1/2" B.S.F. Socket Head Cap Screw 8.1/2" long	101	244Z.167	Bearing Plate
33	155/0412	1/4" B.S.F. Socket Head Cap Screw 3/4" long	69	154/08	1/2" dia. Spring Washer			
34	354/42	3/4" dia. 'O' Ring						
35	155/0532	5/16" B.S.F. Socket Head Cap Screw x 2" long						
36	154/05	5/16" dia. Spring Washer						

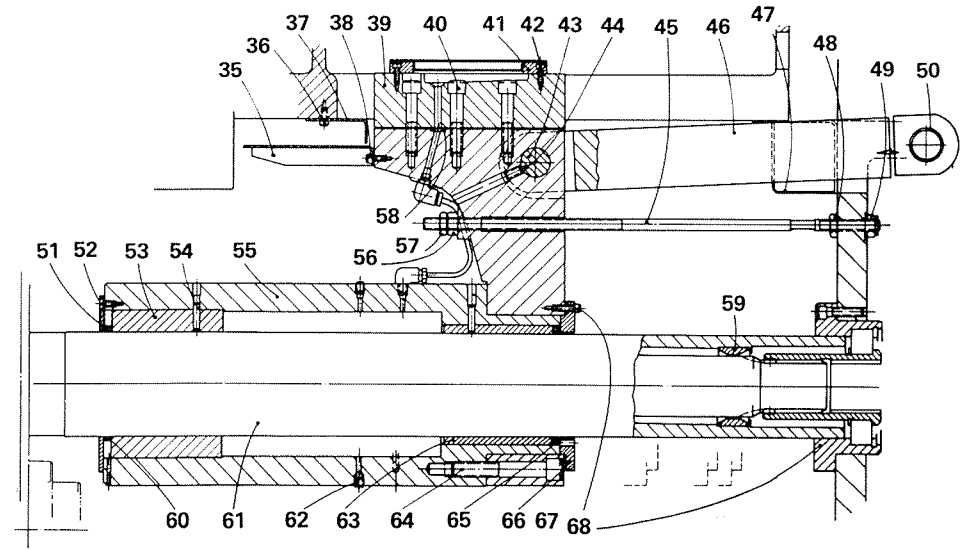
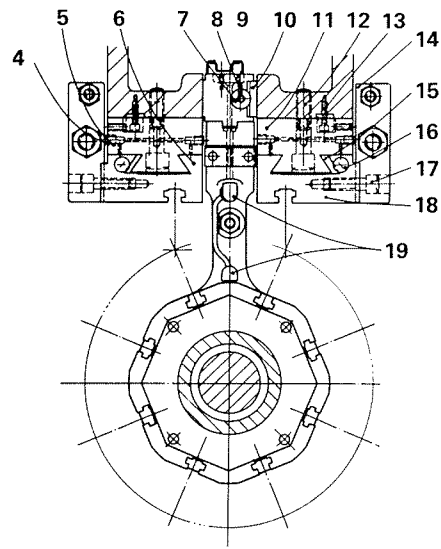
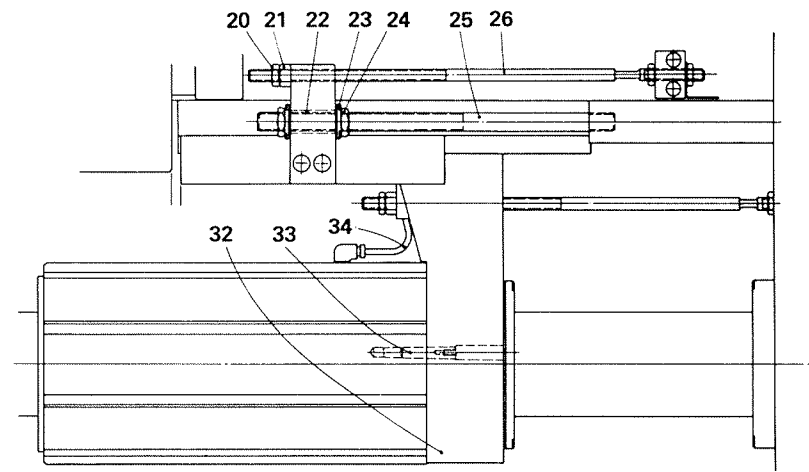
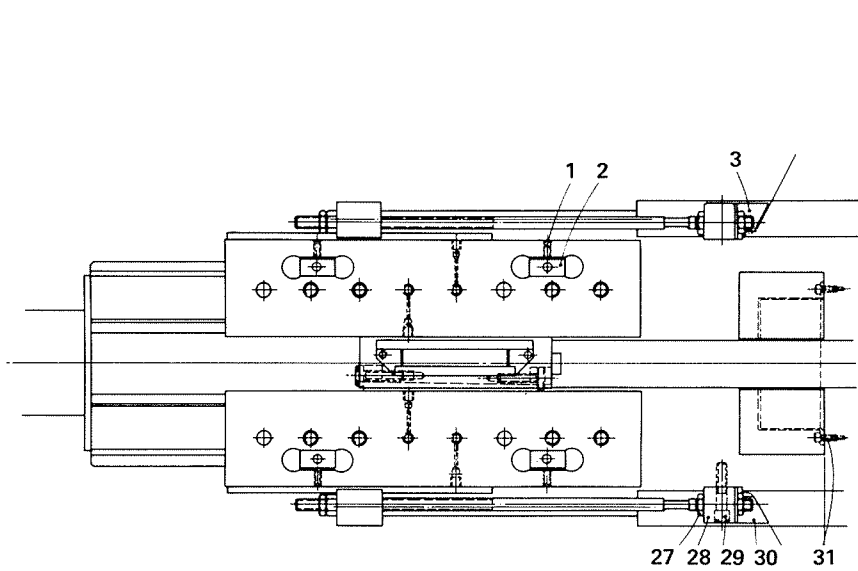
When ordering spare parts always quote the Inspection Number of the machine.



Lever Brackets for Auxiliary Motions

244Y3

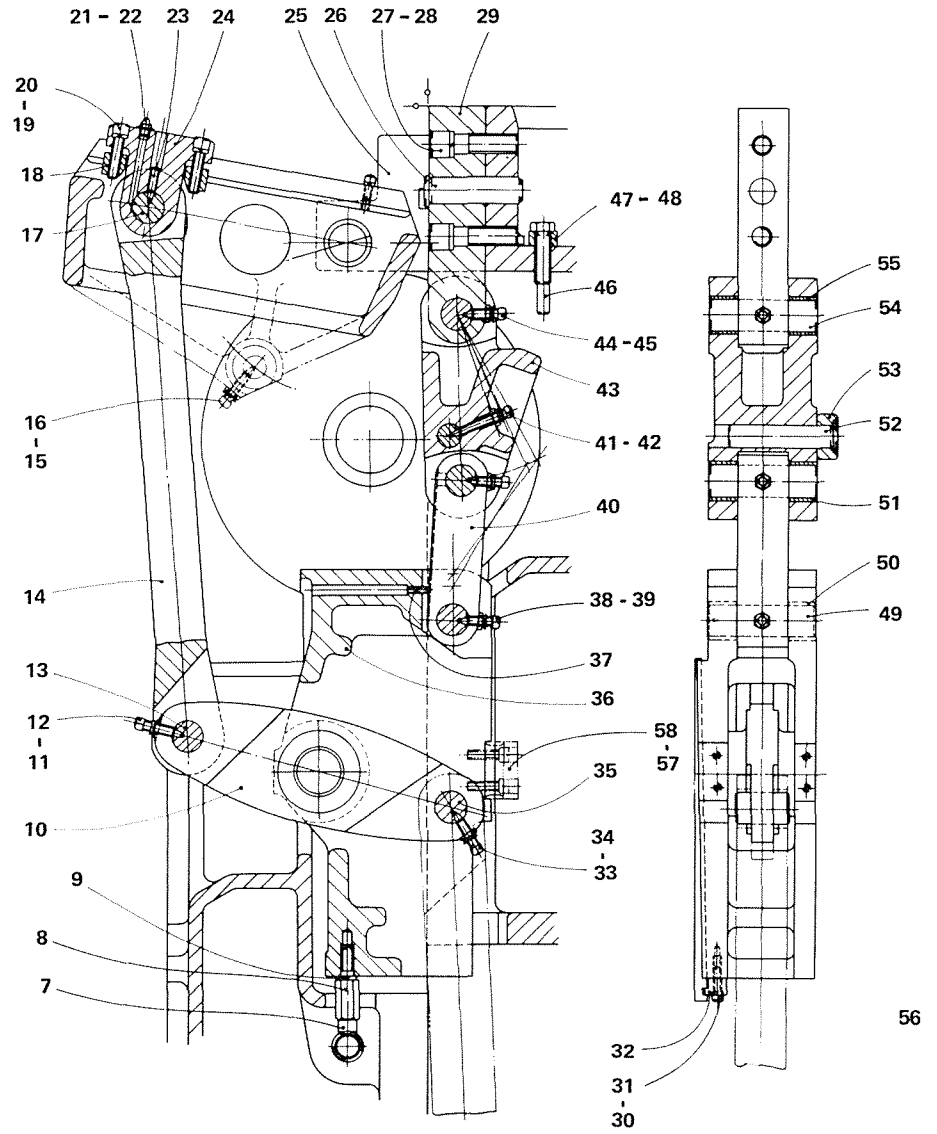
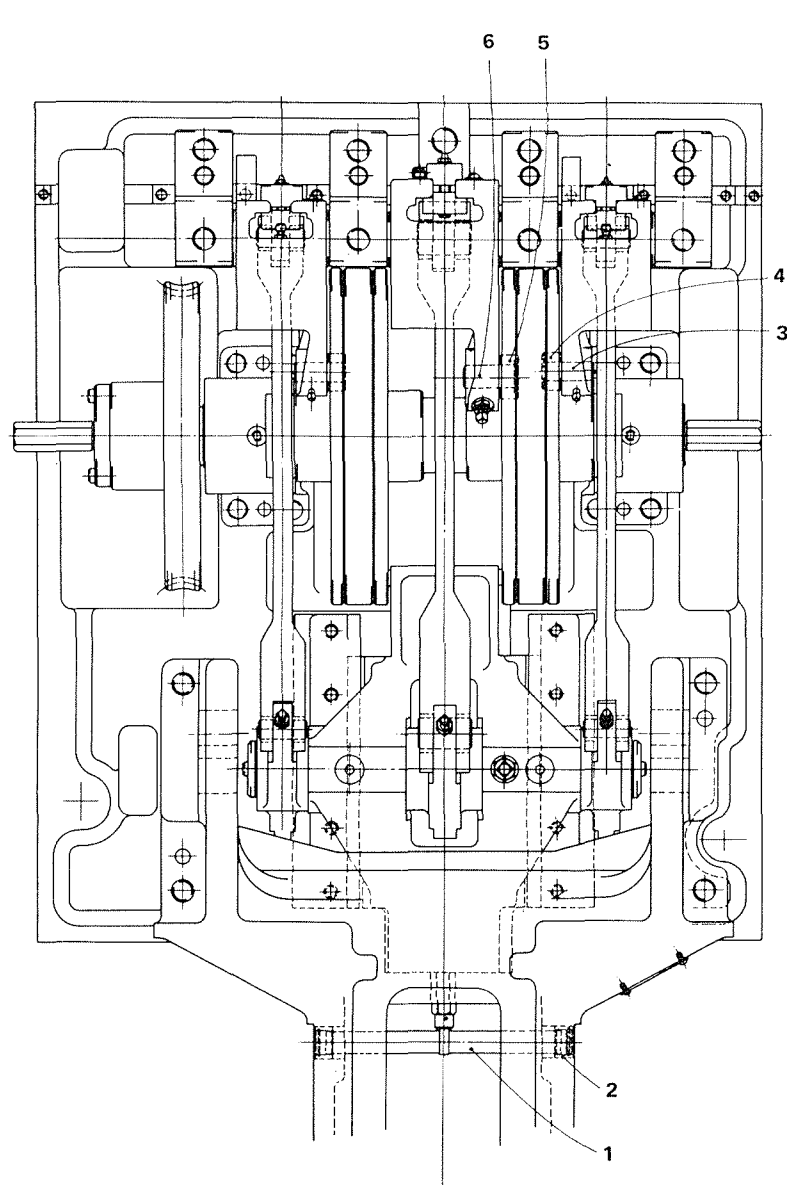
Item	Part No.	Description
1	244Z.177	Rear Lever Bracket
2	244Z.176	Front Lever Bracket
3	244X.178	Flatted Dowel
4	155/0824	1/2" B.S.F. Socket Head Cap Screw 1.1/2" long
5	126/1628	1/2" dia. Parallel Dowel 1.3/4" long
6	236/182224	1.1/8" x 1.3/8" Oil Retaining Bush 1.1/2" long



Centre Block and Longitudinal Slides

226 Z1

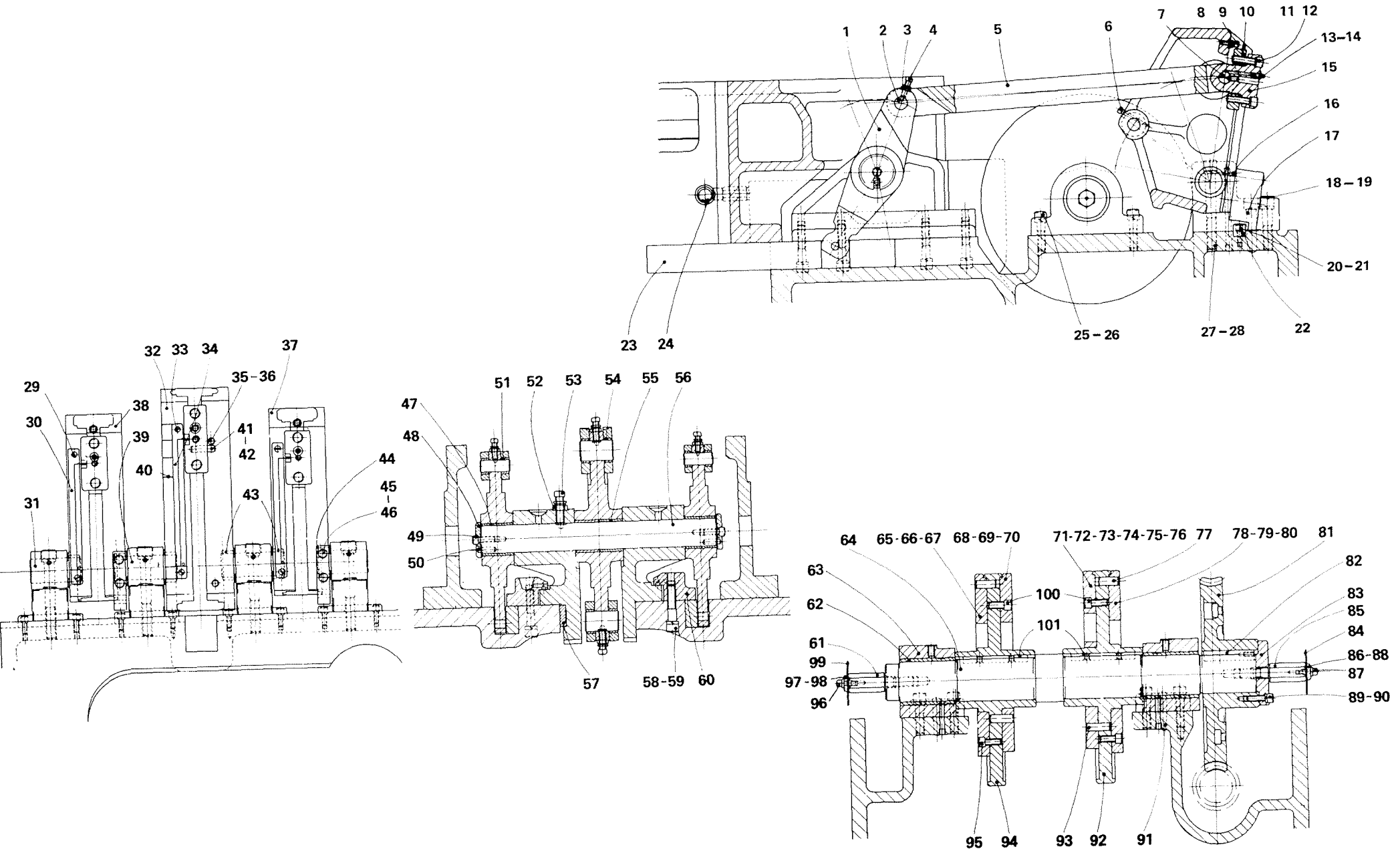
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	178/0512	5/16 BSF Socket set screw 3/4" long 1/2" dog point	26	329 X 111A	Stop screw	50	324 X 115	Link bush
2	229 X 105	Locating block	27	173/08HL	1/2 BSF Hexagon locknut hard	51	226 X 114	Front retaining plate
3	229 X 113	Rear guard plate	28	329 X 109A	Stop block	52	158/0410	1/4 BSF Countersunk headscrew 5/8" long
4	194/1	1/8 BSP Socket pipe plug	29	155/0732	7/16 BSF Socket head cap screw 2" long	53	226 X 103	Front bush
5	229 Y 102A	Toolblock guide	30	229 X 112	Front guard plate	54	226 X 115	Dowel
6	231 Y 101	Toolblock	31	155/0410	1/4 BSF Socket head cap screw 5/8" long	55	226 Z 101	Centre block
7	327 X 107	Gib adjusting screw	32	226 Y 102	Guide arm	56	173/08HL	1/2 BSF Hexagon locknut hard
8	176/0406	1/4 BSF Socket set screw 3/8" long cup point	33	141/15	1/2 dia. taper pin 2.1/4" long extractable	57	173/08H	1/2 BSF Hexagon nut hard
9	153/04	1/4 dia. brass pad	34	14.02.0610	6 mm copper pipe	58	227 X 116	Packing washer
10	127 X 106	Gib strip	35	227 X 126	Centre guide swarf guard	59	211 X 107	Steady bush
11	229 Y 102A	Toolblock guide	36	155/0408	1/4 BSF Socket head cap screw 1/2 long	60	226 X 113	Centre guide scraper ring
12	155/1044	5/8 BSF Socket head cap screw 2.3/4" long	37	227 X 127A	Centre guide swarf guard	61	211 Y 108	Centre guide
13	155/0414	1/4 BSF Socket head cap screw 7/8" long	38	155/0408	1/4 BSF Socket head cap screw 1/2" long	62	194/1	1/8 BSP Socket pipe plug
14	231 X 106	Extension arm	39	227 V 105B	Guide block	63	226 X 137	Rear bush for centre block
15	529 X 103	Gib strip	40	155/0840	1/2 BSF Socket head cap screw 2.1/2" long	64	155/1064	5/8 BSF Socket head cap screw 4" long
16	FX4539C	Gib adjusted screw	41	227 X 125	Centre guide oil filter	65	226 X 113	Centre guide scraper ring
17	155/0824	1/2 BSF Socket head cap screw 1.1/2" long	42	156/210	2BA Socket head cap screw 5/8" long	66	226 X 138	Rear retaining plate
18	231 Y 101	Toolblock	43	324 X 120	Link pin	67	155/0414	1/4 BSF Socket head cap screw 7/8 long
19	14.07.06	6 mm Tubing nut	44	182/0616	3/8 BSF Socket set screw 1" long taper point	68	217 V 167	Centre guide bearing
	14.08.06	6 mm Tubing sleeve	45	329 X 111A	Stop screw			
	14.75.0602	6 mm Straight connector	46	227 Y 120	Centre block link			
20	173/08HL	1/2 BSF self locking locknut hard	47	226 Y 128	Splash guard			
21	173/08H	1/2 BSF Hexagon nut hard	48	173/08HL	1/2 BSF Hexagon locknut hard			
22	529 X 110	Spacer	49	203/08	1/2 BSF Self locking nut			
23	130/12	3/4 dia. flat washer						
24	FX.2599	Hexagon nut						
25	229 X 107	Adjusting screw						



Centre Block and Longitudinal Slides Operation

223Z1

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	223X.169	Stop Shaft	23	182/0620	3/8" B.S.F. Socket Set Screw Taper Point 1.1/4" long	41	183/0636	3/8" B.S.F. Square Head Screw Taper Point 2.1/4" long
2	223X.177	Stop Shaft Bush	24	324X.104A	Stroke Adjusting Block	42	203/06	3/8" B.S.F. Self Locking Nut
3	123X.103	Roller Pin	25	223V.107	Fulcrum Bracket	43	223V.119A	Toggle Lever
4	123X.104	Roller	26	323X.167	Dowel Pin	44	183/0620	3/8" B.S.F. Square Head Screw Taper Point 1.1/4" long
5	523X.135	Cam Roller	27	155/1244	3/4" B.S.F. Socket Head Cap Screw 2.3/4" long	45	203/06	3/8" B.S.F. Self Locking Nut
6	341X.123	Roller Pin	28	154/12	3/4" Spring Lock Washer	46	323X.171	Toggle Stop Bolt
7	123X.178	Stop Pad	29	223V.160	Toggle Anchor	47	323X.172	Spacer
8	323X.140A	Stop Bolt	30	154/05	5/16" Spring Lock Washer	48	223X.172	Spacer
9	154/08	1/2" Spring Lock Washer	31	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long	49	223X.168	Toggle Pin
10	223Y.122	Centre Lever	32	223X.164	Gib Strip Anchor	50	323X.173	Toggle Bush
11	203/06	3/8" B.S.F. Self Locking Nut	33	183/0624	3/8" B.S.F. Square Head Screw Taper Point 1.1/2" long	51	323X.174	Toggle Bush
12	183/0624	3/8" B.S.F. Square Head Screw Taper Point	34	203/06	3/8" B.S.F. Self Locking Nut	52	341X.122	Roller Pin
13	324X.120	Link Pin	35	324X.120	Link Pin	53	523X.135	Cam Roller
14	223Y.116	Link	36	223Z.101A	Sliding Block	54	223X.168	Toggle Pin
15	203/06	3/8" B.S.F. Self Locking Nut	37	225/4050	Copper Pipe	55	323X.174	Toggle Bush
16	183/0624	3/8" B.S.F. Square Head Screw Taper Point 1.1/2" long	38	183/0620	3/8" B.S.F. Square Head Screw Taper Point 1.1/4" long	56	—	Section through Toggle and underneath view of sliding block
17	324X.109	Link Pin	39	203/06	3/8" B.S.F. Self Locking Nut	57	155/0520	5/16" B.S.F. Socket Head Cap Screw 1.1/4" long
18	324X.113	Clamp	40	223V.161	Toggle Link	58	223V.189	Reset bracket
19	155/0728	7/16" B.S.F. Socket Head Cap Screw 1.3/4" long						
20	154/07	7/16" Spring Lock Washer						
21	210/2525	Yellow Indicator Washer						
22	212/18	Grease Nipple 1/8" B.S.P.						

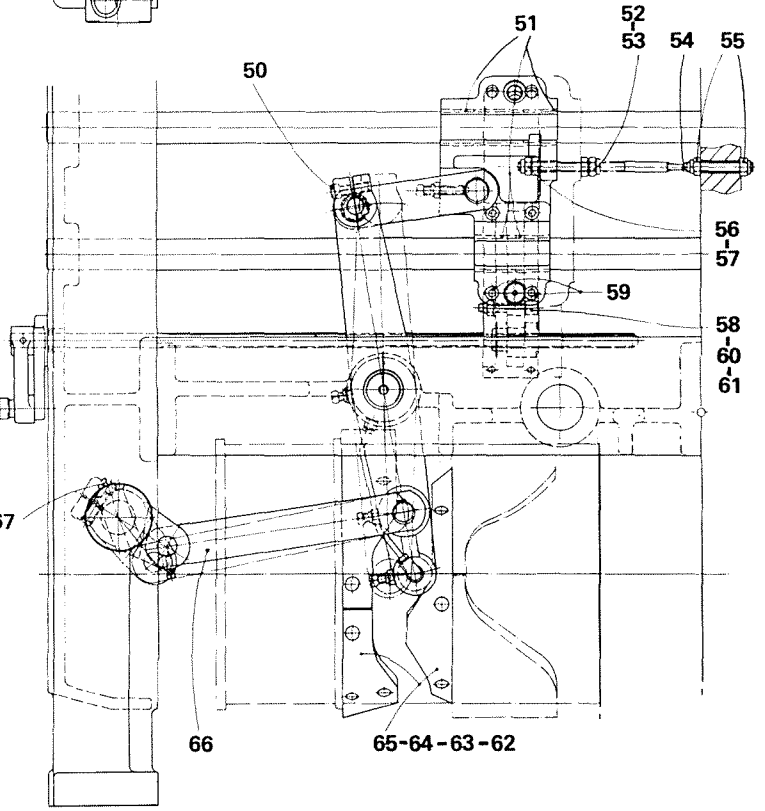
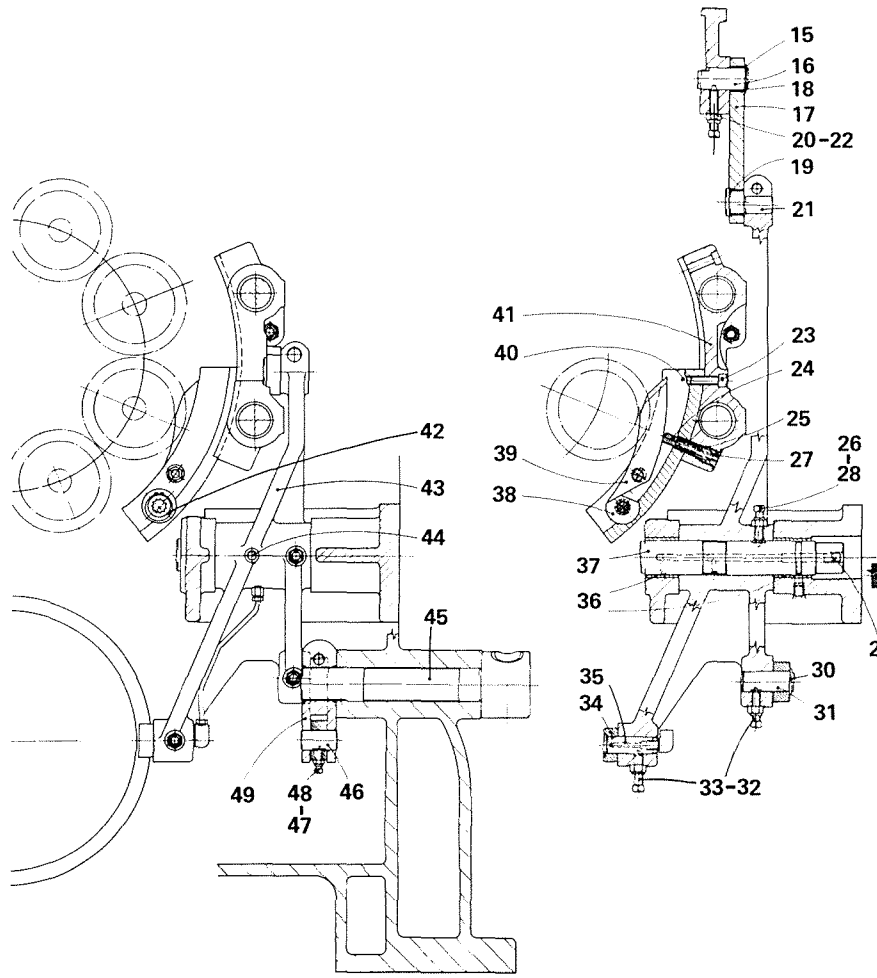
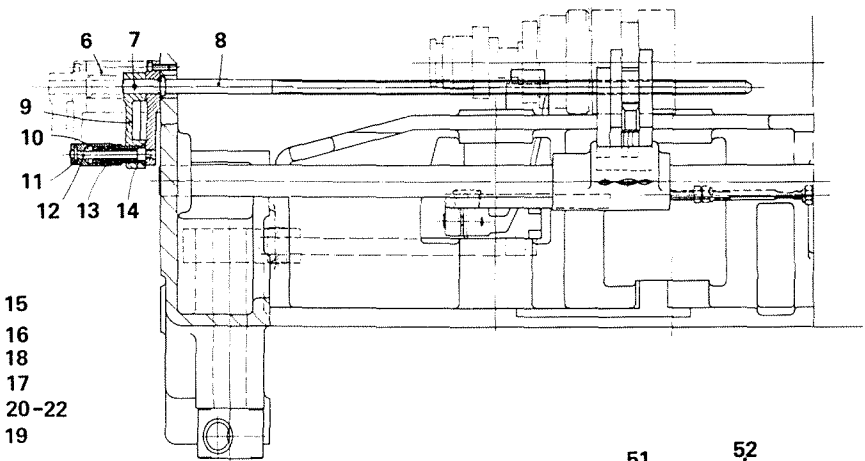
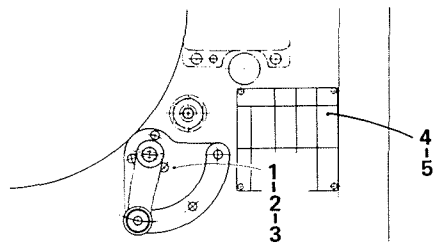


22372

Centre Block and Longitudinal Slides Operation

223Z2

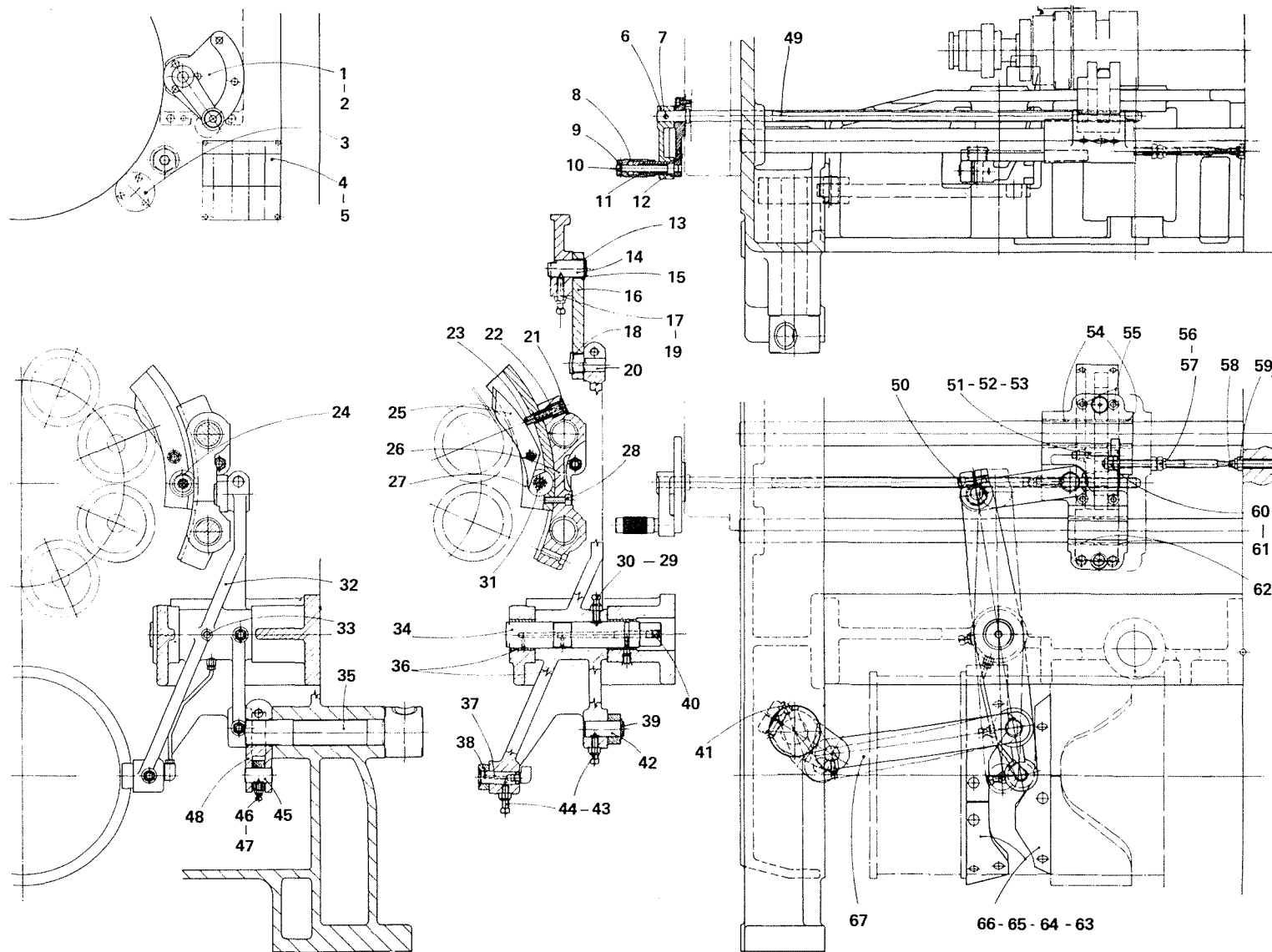
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	224Y.119	Side Lever	35	154/05	5/16" dia. Spring Lock Washer	71	223V.184	2.1/2" Fast Motion Guard Cam (To Special Order Only)
2	123X.162	Link Pin	36	155/0512	5/16" B.S.F. Socket Head Cap Screw 3/4" long	72	223V.185	2.1/2" Fast Motion Inner Cam (To Special Order Only)
3	203/05	1/4" B.S.F. Self Locking Nut	37	123Z.102B	Cam Lever	73	223V.186	2.1/2" Fast Motion Outer Cam (To Special Order Only)
4	183/0520	5/16" B.S.F. Square Head Screw Taper Point 1.1/4" long	38	224Z.101A	Front Cam Lever			
5	123Y.116	Link	39	224X.106	Fulcrum Pin			
6	139/4	1/4" dia. Headed Taper Pin	40	272X.121A	Instruction Plate	74	223V.182	3.1/2" Fast Motion Inner Cam
7	123X.114	Link Pin	41	143/1224D	3/8" dia. Pin 1.1/2" long	75	223V.183	3.1/2" Fast Motion Outer Cam
8	203/04	1/4" B.S.F. Self Locking Nut	42	165/204	2 B.A. Round Head Screw 1/4" long	76	223V.187	3.1/2" Fast Motion Guard Cam
9	155/0414	1/4" B.S.F. Socket Head Cap Screw 7/8" long	43	123X.110	Quadrant Bush	77	126/1620	1/2" dia. Parallel Dowel 1.1/4" long
10	123X.113A	Clamp	44	224X.130	Stop	78	225V.106	Guard Cam
11	155/0724	7/16" B.S.F. Socket Head Cap Screw 1.1/2" long	45	154/06	3/8" dia. Spring Lock Washer	79	225V.104	Feed Cam
12	154/07	7/16" dia. Spring Lock Washer	46	155/0632	3/8" B.S.F. Socket Head Cap Screw 2" long	80	225V.105	Return Cam
13	210/2525	Yellow Indicator Washer	47	236/283232	Oil Retaining Bush	81	218Y.125	Upper Wormwheel
14	212/18	1/4" B.S.F. Grease Nipple	48	224X.121	Retaining Plate	82	223X.131	Upper Camshaft Key
15	123X.111B	Stroke Setting Block	49	155/0616	3/8" B.S.F. Socket Head Cap Screw 1" long	83	223X.128	Clamp Plate
16	176/0404	1/4" B.S.F. Socket Head Screw Cup Point 1/4" long	50	143/1016D	5/16" dia. Pin 1" long	84	372X.158A	Indicator Plate
17	125/4044	5/8" dia. Taper Dowel 2.3/4" long	51	123X.115	Bush	85	223X.127B	Clamp Pillar
18	154/10	5/8" dia. Spring Lock Washer	52	203/08	1/2" B.S.F. Self Locking Nut	86	372X.160	Clamp Plate
19	155/1044	5/8" B.S.F. Socket Head Cap Screw 2.3/4" long	53	183/0832	1/2" B.S.F. Square Head Screw Taper Point 2" long	87	195/0512	5/16" B.S.F. Clamping Collar Head Screw 3/4" long
20	155/0512	5/16" B.S.F. Socket Head Cap Screw 3/4" long	54	324X.115	Link Bush	88	143/0406D	1/8" dia. Grooved Pin 3/8" long
21	154/05	5/16" dia. Spring Lock Washer	55	236/283224	Oil Retaining Bush	89	155/0620	3/8" B.S.F. Socket Head Cap Screw 1.1/4" long
22	323X.108	Fulcrum Bracket Tenon	56	223X.123	Lever Shaft	90	154/06	3/8" dia. Spring Washer
23	224Y.112	Pusher Arm	57	223V.163	Sliding Block Gib Strip	91	141/15	1/2" dia. Taper Dowel 2.1/4" long, extractable
24	102/11	1" dia. Internal Circlip	58	154/08	1/2" dia. Spring Lock Washer	92	223Y.153C	Rear Cam Carrier
25	154/08	1/2" dia. Spring Lock Washer	59	155/0840	1/2" B.S.F. Socket Head Cap Screw 2.1/2" long	93	126/1624	1/2" dia. Parallel Dowel 1.1/2" long
26	155/0832	1/2" B.S.F. Socket Head Cap Screw 2" long	60	223V.150	Retaining Strip	94	223Y.152C	Front Cam Carrier
27	155/1080	5/8" B.S.F. Socket Head Cap Screw 5" long	61	223X.127B	Clamp Pillar	95	155/0616	3/8" B.S.F. Socket Head Cap Screw 1" long
28	154/10	5/8" dia. Spring Lock Washer	62	223X.126	Camshaft Bearing	96	195/0512	5/16" B.S.F. Clamping Collar Head Screw 3/4" long
29	165/206	2 B.A. Round Head Screw 3/8" long	63	223X.130	Camshaft Bracket	97	143/0406D	1/8" dia. Grooved Pin 3/8" long
30	224X.102	Scale	64	223Y.124A	Upper Camshaft	98	372X.160	Clamp Plate
31	223X.109	Fulcrum Pin	65	224Y.122	Feed Cam	99	372X.158A	Lubricator Plate
32	223Z.102A	Centre Cam Lever	66	224V.123	Return Cam	100	155/0716	7/16" B.S.F. Socket Head Cap Screw 1" long
33	165/206	2 B.A. Round Head Screw 3/8" long	67	224V.124	Guard Cam	101	122/2064T	5/8" x 13/32" Parallel Key 4" long
34	223X.105	Scale	68	223Y.180	Centre Block Feed Cam			
			69	223V.181	Centre Block Return Cam			
			70	223V.188	Centre Block Guard Cam			



Arrangement of Collet Operating Mechanism, Station 8

266Z1

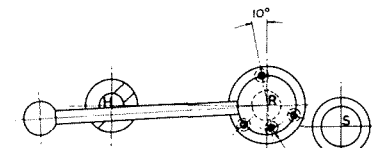
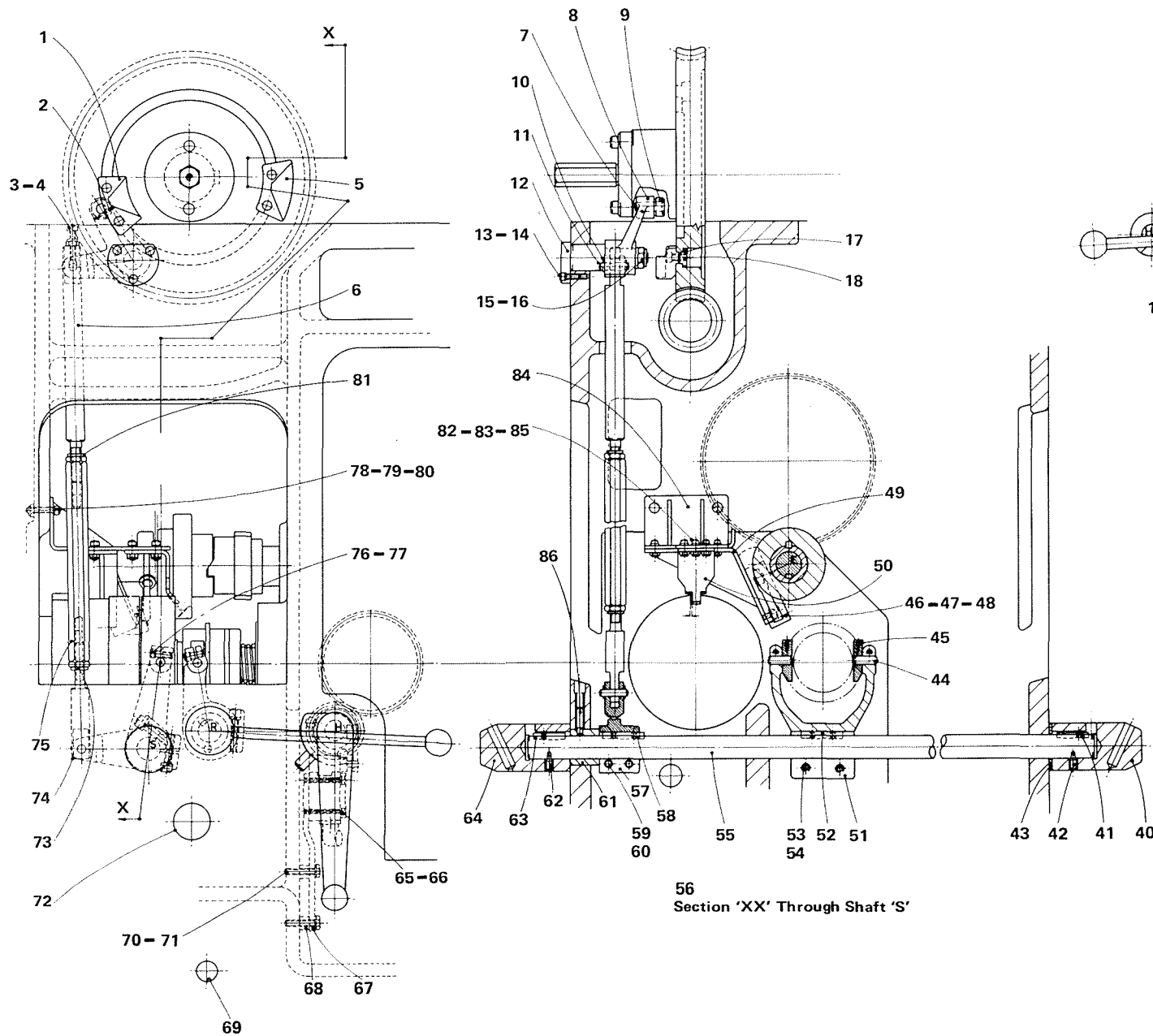
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	266V.133	Lever Quadrant	24	266X.114	Plunger	50	155/0720	7/16" B.S.F. Socket Cap Screw
2	155/0412	1/4" B.S.F. Socket Cap Screw 3/4" long	25	Flexo 103220	Compression Spring			1.1/4" long
3	155/0464	1/4" B.S.F. Socket Cap Screw 4" long	26	183/0624	3/8" B.S.F. Square Head Set Screw Taper Point 1.1/2" long	51	236/222624	1.3/8" bore x 1.5/8" dia. Oil Retaining Bush 1.1/2" long
4	266X.138	Instruction Plate – Single Bar Feed Machines only	27	266X.115	Plunger Housing	52	203/07	7/16" B.S.F. Self Locking Hexagon Nut
5	165/406	4 B.A. Round Head Screw 3/8" long	28	203/06	3/8" B.S.F. Self Locking Hexagon Nut	53	173/07H	7/16" B.S.F. Hexagon Nut Hardened
6	266X.135	Spacer – Spindle Stopper Machine only	29	194/1	1/8" B.S.P. Socket Pipe Plug	54	266X.131	Stop Rod
7	125/1620	1/4" dia. Taper Pin 1.1/4" long	30	101/9	External Circlip for 7/8" dia.	55	203/07	7/16" B.S.F. Self Locking Hexagon Nut
8	266V.126	Collet and Feeder Withdrawal Shaft	31	356X.140	Link Pin Hand-Operation to Collet	56	203/07	7/16" B.S.F. Self Locking Hexagon Nut
9	266X.134	Lever	32	203/06	3/8" B.S.F. Self Locking Hexagon Nut	57	173/07H	7/16" B.S.F. Hexagon Nut Hardened
10	158X.156	Plunger Knob	33	183/0624	3/8" B.S.F. Square Head Set Screw Taper Point 1.1/2" long	58	266X.110	Shoe Pin
11	125/0814	1/8" dia. Taper Pin 7/8" long	34	158X.112A	Roller	59	155/0628	3/8" B.S.F. Socket Cap Screw
12	158X.159	Plunger	35	158X.107A	Cam Roller Pin			1.3/4" long
13	145/155	1/2" dia. Compression Spring 2.1/2" long	36	236/242824	1.1/2" bore x 1.3/4" dia. Oil Retaining Bush 1.1/2" long	60	203/06	3/8" B.S.F. Self Locking Hexagon Nut
14	158X.154	Spring Housing	37	268X.527	Modification to Pivot Pin	61	130/06	3/8" Flat Washer
15	101/11	External Circlip for 1" dia.	38	266V.127	Collet Withdrawal Cam	62	155/0716	7/16" B.S.F. Socket Cap Screw 1" long
16	266X.132	Link Pin	39	266V.113	Collet Shoe	63	266V.173	Collet Closing Cam (front)
17	266X.104	Front Collet Operating Link	40	266Z.102	Collet Shoe Carrier	64	266V.172	Collet Guard Cam (front)
18	236/161810	1" bore x 1.1/8" dia. Oil Retaining Bush 5/8" long	41	266Z.101	Collet Operating Slide	65	266V.171	Collet Opening Cam (front)
19	236/161810	1" bore x 1.1/8" dia. Oil Retaining Bush 5/8" long	42	101/11	External Circlip for 1" dia.	66	256X.142A	Link
20	183/0632	3/8" B.S.F. Square Head Set Screw Taper Point 2" long	43	268X.526	Modification to Collet Operating Lever	67	155/0824	1/2" B.S.F. Socket Cap Screw
21	156X.133	Eccentric Pin	44	194/1	1/8" B.S.P. Socket Pipe Plug			1.1/2" long
22	203/06	3/8" B.S.F. Self Locking Hexagon Nut	45	356V.135	Shaft Hand-Operation to Collet			
23	155/0620	3/8" B.S.F. Socket Cap Screw 1.1/4" long	46	356X.141	Link Pin			
			47	203/04	1/4" B.S.F. Self Locking Hexagon Nut			
			48	183/0416	1/4" B.S.F. Square Head Set Screw Taper Point 1" long			
			49	356X.136A	Hand Operating Lever			



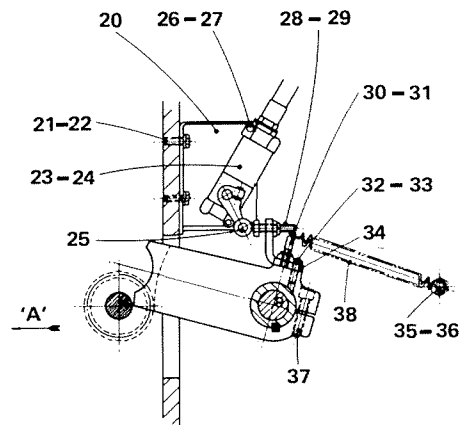
Arrangement of Collet Operating Mechanism, Station 7

266Z2

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	266V.133	Lever Quadrant	29	203/06	3/8" B.S.F. Self Locking Hexagon Nut	54	236/222624	1.3/8" bore x 1.5/8" dia. Oil Retaining Bush 1.1/2" long
2	155/0412	1/4" B.S.F. Socket Head Cap Screw 3/4" long	30	183/0624	3/8" B.S.F. Square Head Set Screw Taper Point 1.1/2" long	55	155/0628	3/8" B.S.F. Socket Head Cap Screw 1.3/4" long
3	267X.188	Trip Shaft Cap	31	266V.127	Collet Withdrawal Cam	56	203/07	7/16" B.S.F. Self Locking Hexagon Nut
4	266X.138	Instruction Plate — Single Bar Feed Machines only	32	268X.526	Modification to Collet Operating Lever	57	173/07H	7/16" B.S.F. Hexagon Nut Hardened
5	165/406	4 B.A. Round Head Screw 3/8" long	33	194/1	1/8" B.S.P. Socket Pipe Plug	58	266X.131	Stop Rod
6	266X.134	Lever	34	268X.527	Modification to Pivot Pin	59	203/07	7/16" B.S.F. Self Locking Hexagon Nut
7	125/1620	1/4" dia. Taper Pin 1.1/4" long	35	356V.135	Shaft Hand-Operation to Collet	60	203/07	7/16" B.S.F. Self Locking Hexagon Nut
8	158X.156	Plunger Knob	36	236/242824	1.1/2" bore x 1.3/4" dia. Oil Retaining Bush 1.1/2" long	61	173/07H	7/16" B.S.F. Hexagon Nut Hardened
9	125/0814	1/8" dia. Taper Pin 7/8" long	37	158X.107A	Cam Roller Pin	62	236/222624	1.3/8" bore x 1.5/8" dia. Oil Retaining Bush 1.1/2" long
10	158X.159	Plunger	38	158X.112A	Roller	63	155/0716	7/16" B.S.F. Socket Head Cap Screw 1" long
11	145/155	1/2" dia. Compression Spring 2.1/2" long	39	101/9	External Circlip for 7/8" dia.	64	266V.173	Collet Closing Cam (front)
12	158X.154	Spring Housing	40	194/1	1/8" B.S.P. Socket Pipe Plug	65	266V.172	Collet Guard Cam (front)
13	101/11	External Circlip for 1" dia.	41	155/0824	1/2" B.S.F. Socket Head Cap Screw 1.1/2" long	66	266V.171	Collet Opening Cam (front)
14	266X.132	Link Pin	42	356X.140	Link Pin Hand-Operation to Collet	67	256X.142A	Link
15	236/161810	1" bore x 1.1/8" dia. Oil Retaining Bush 5/8" long	43	203/06	3/8" B.S.F. Self Locking Hexagon Nut			
16	266X.104	Front Collet Operating Link	44	183/0624	3/8" B.S.F. Square Head Set Screw Taper Point 1.1/2" long			
17	183/0632	3/8" B.S.F. Square Head Set Screw Taper Point 2" long	45	356X.141	Link Pin			
18	236/161810	1" bore x 1.1/8" dia. Oil Retaining Bush 5/8" long	46	183/0416	1/4" B.S.F. Square Head Set Screw Taper Point 1" long			
19	203/06	3/8" B.S.F. Self Locking Hexagon Nut	47	203/04	1/4" B.S.F. Self Locking Hexagon Nut			
20	156X.133	Eccentric Pin	48	356X.136A	Hand Operating Lever			
21	266X.115	Plunger Housing	49	266V.126	Collet and Feeder Withdrawal Shaft			
22	Flexo 103220	Compression Spring	50	155/0720	7/16" B.S.F. Socket Head Cap Screw 1.1/4" long			
23	266X.114	Plunger	51	266X.110	Shoe Pin			
24	101/11	External Circlip for 1" dia.	52	203/06	3/8" B.S.F. Self Locking Hexagon Nut			
25	266V.113	Collet Shoe	53	130/06	3/8" Flat Washer			
26	266Z.101	Collet Operating Slide						
27	266Z.102	Collet Shoe Carrier						
28	155/0620	3/8" B.S.F. Socket Head Cap Screw 1.1/4" long						



19 View in Direction of Arrow 'A'
Stop Screw WSP. 155/0506



39 Section 'AA'
219 Z.5

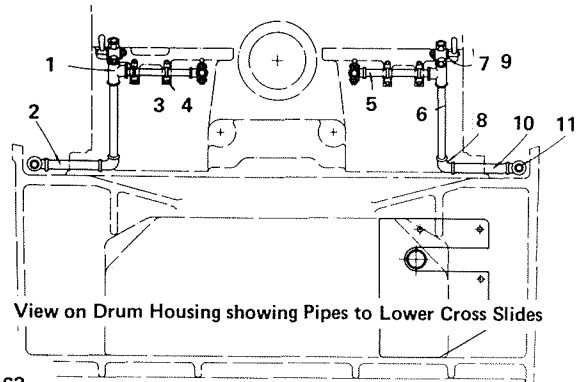
56 Section 'XX' Through Shaft 'S'

Control Shaft Arrangement

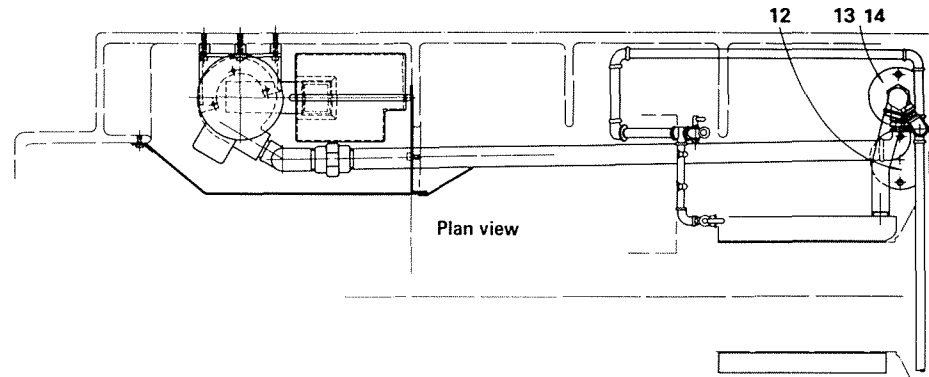
219Z6A

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	119X.130	Fast Motion Cam	31	319X.225	Spring Anchor	60	154/06	Spring Washer, for 3/8" dia.
2	125/1016	Taper Pin, 5/32" dia. x 1" long	32	167/0412	Hexagon Head Screw, 1/4" B.S.F. x 3/4" long	61	219X.103	Bearing Bush
3	188/0520	Square Head Set Screw, 5/16" B.S.F. x 1.1/4" long	33	198/8	Shakeproof Washer, for 1/4" dia.	62	182/0612	3/8" B.S.F. Socket Set Screw 1/4" long Taper Point
4	203/05	Self Locking Nut, 5/16" B.S.F.	34	319X.222	Trip Bracket	63	121/1024T	5/16" square Tapped Key 1.1/2" long
5	119X.131	Feed Motion Cam	35	219X.124	Spring Anchor	64	219X.135	Lever Boss
6	219X.139	Link End	36	203/06	Self Locking Nut, 3/8" B.S.F.	65	156/228	Socket Head Cap Screw, 2 B.A. x 1.3/4" long
7	119X.133	Roller Pin	37	155/0624	Socket Head Cap Screw, 3/8" B.S.F. x 1.1/2" long	66	154/03	Spring Washer, for 3/16" dia.
8	119Y.119A	Lever	38	MSE 325	Morris Spring	67	219X.233	Switch Bracket
9	119X.194	Roller	39	—	Section "A" 219Z5	68	219X.234	Spacer
10	127/0405	Split Pin, 1/16" dia. x 5/8" long	40	219X.135	Lever Boss	69	129/13	Welch Plug
11	119X.144	Link Pin	41	121/1024T	5/16" Square Tapped Key 1.1/2" long	70	167/0524	Hexagon Head Screw, 5/16" B.S.F. x 1.1/2" long
12	119X.175B	Lever Pivot Pin	42	182/0612	3/8" B.S.F. Socket Set Screw 3/4" long Taper Point	71	198/12	Shakeproof Washer, for 5/8" dia.
13	154/04	Spring Washer, for 1/4" dia.	43	219X.136	Spacer	72	541X.142	Plug for Drum Housing
14	155/0412	Socket Head Cap Screw, 1/4" B.S.F. x 3/4" long	44	219X.192	Glut Pin	73	203/08L	Locknut, 1/2" B.S.F.
15	130/08	Flat Washer, for 1/2" dia.	45	219X.110	Glut	74	219X.143	Link Connector
16	203/08L	Locknut, 1/2" B.S.F.	46	BZLN2-LHBE6	Honeywell Micro-Switch, 5ft. leads	75	119X.142A	Link
17	119X.176A	Outer Tee Nut	47	155/0408	Socket Head Cap Screw, 1/4" B.S.F. x 1/2" long	76	154/04	Spring Washer, for 1/4" dia.
18	155/0510	Socket Head Cap Screw, 5/16" B.S.F. x 5/8" long	48	198/8	Shakeproof Washer, for 1/4" dia.	77	155/0412	Socket Head Cap Screw, 1/4" B.S.F. x 3/4" long
19	—	View in direction of Arrow 'A'. Stop Screw 155/0506	49	218X.257	Switch Plate	78	203/05	Self Locking Nut, 5/16" B.S.F.
20	219X.235	Switch Bracket	50	218X.254	Restraining Arm	79	155/0520	Socket Head Cap Screw, 5/16" B.S.F. x 1.1/4" long
21	167/0412	Hexagon Head Screw, 1/4" B.S.F. x 3/4" long	51	219V.229	F.M. Glut Lever	80	154/0405	Spring Washer, for 5/16" dia.
22	198/8	Shakeproof Washer, for 1/4" dia.	52	121/1023T	Key, Tapped, 5/16" square x 2" long	81	119X.197	Special Locknut
23	2441/D87/X1	Limit Switch Conduit Seal	53	154/06	Spring Washer, for 3/8" dia.	82	203/04	Self Locking Nut, 1/4" B.S.F.
24	Type AW12	Square D Limit Switch	54	155/0624	Socket Head Cap Screw, 3/8" B.S.F. x 1.1/2" long	83	130/04	Flat Washer, for 1/4" dia.
25	MA1	Square D Operating Arm	55	219V.161A	Fast Motion Lever Shaft	84	218V.249	Support Bracket
26	154/03	Spring Washer, for 3/16" dia.	56	—	Section "XX" through shafts	85	155/0412	Socket Head Cap Screw, 1/4" B.S.F. x 3/4" long
27	156/224	Socket Head Cap Screw, 2 B.A. x 1.1/2" long	57	219X.125	Lever	86	182/0620	3/8" B.S.F. Socket Set Screw 1.1/4" long Taper Point
28	203/05	Self Locking Nut, 5/16" B.S.F.	58	121/1032T	Key, Tapped, 5/16" square x 2" long			
29	167/0524	Hexagon Head Screw, 5/16" B.S.F. x 1.1/2" long	59	155/0624	Socket Head Cap Screw, 3/8" B.S.F. x 1.1/2" long			
30	203/05	Self Locking Nut, 5/16" B.S.F.						

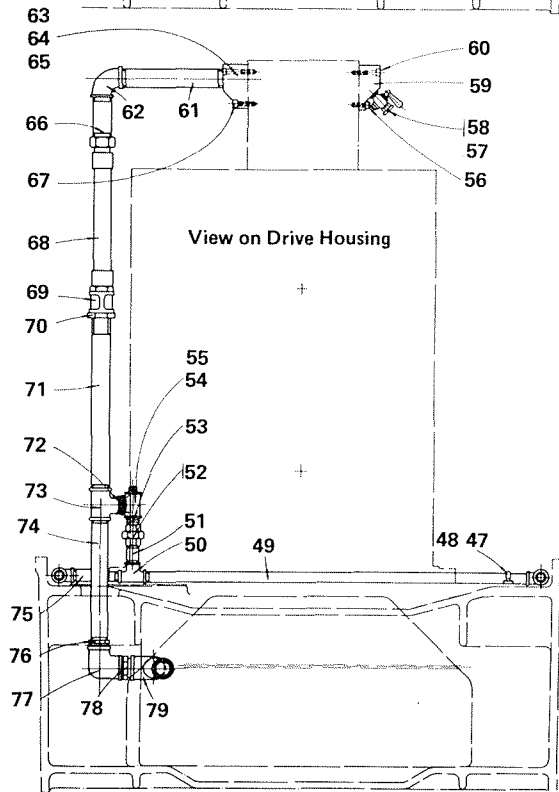
When ordering spare parts always quote the Inspection Number of the machine.



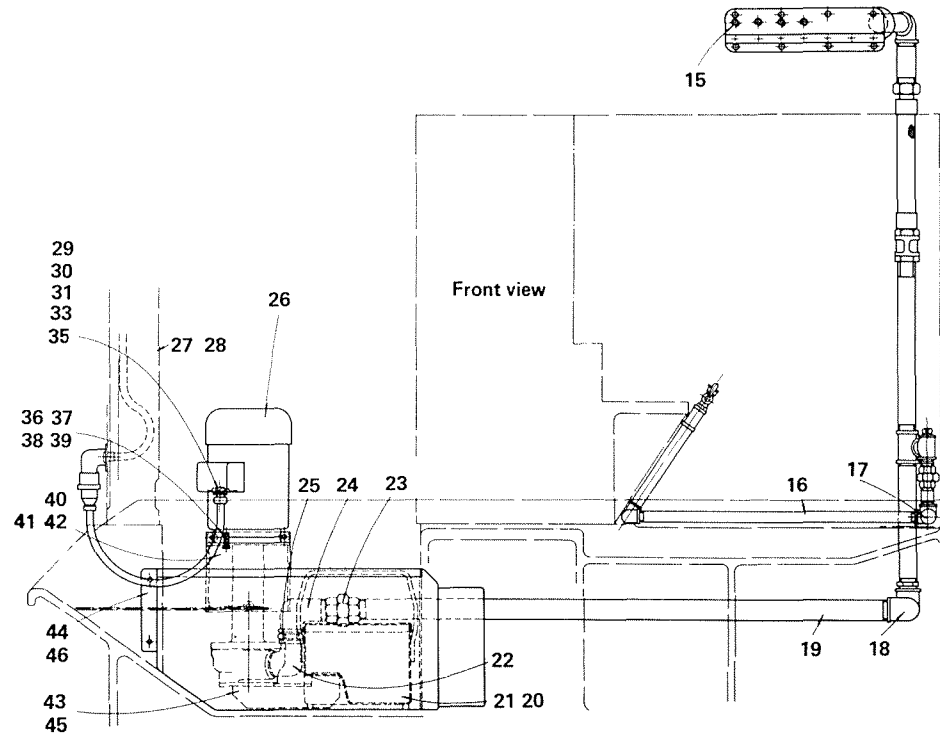
View on Drum Housing showing Pipes to Lower Cross Slides



Plan view



View on Drive Housing

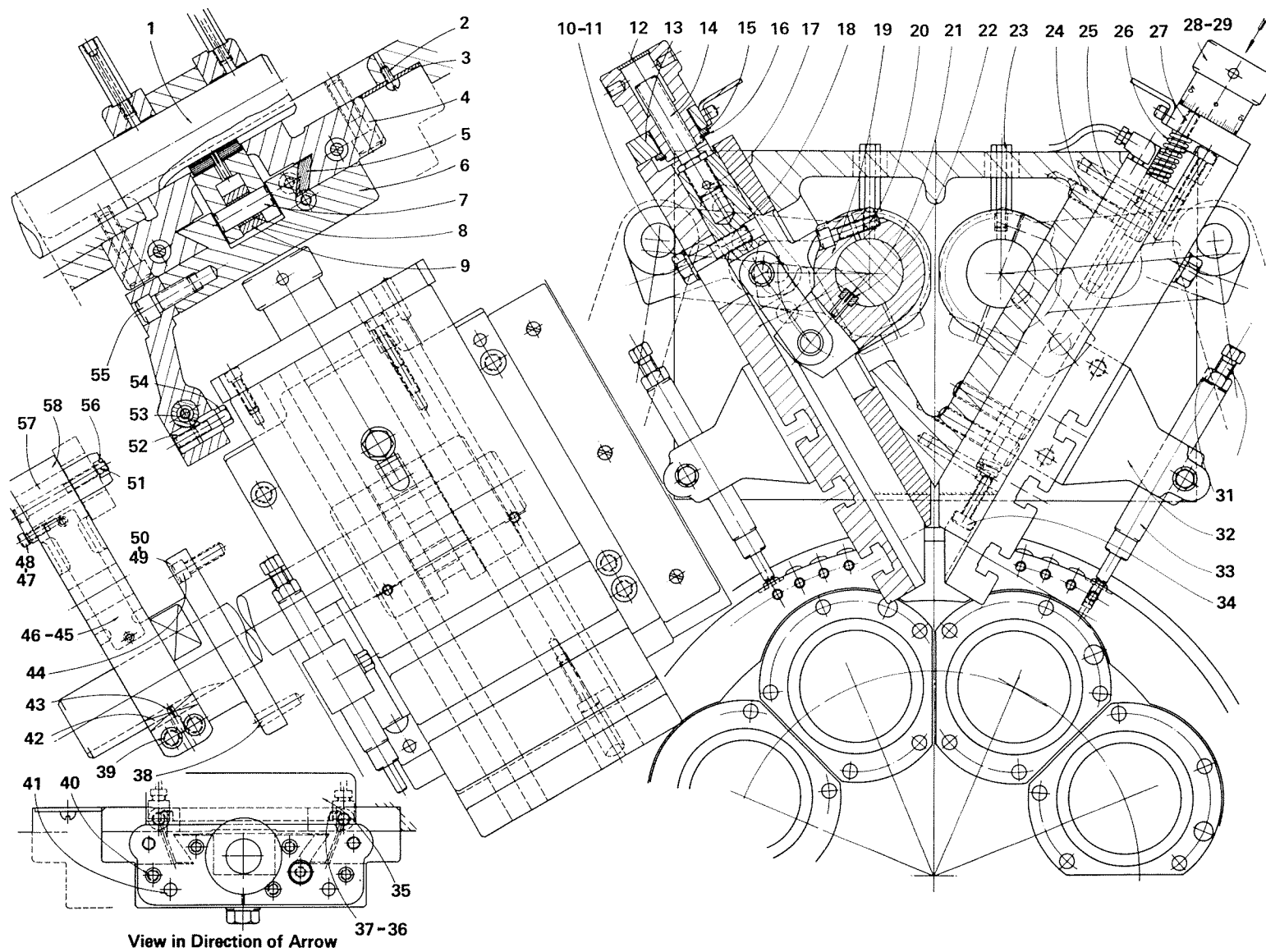


Front view

Cooling Pipe Assembly

269Z3

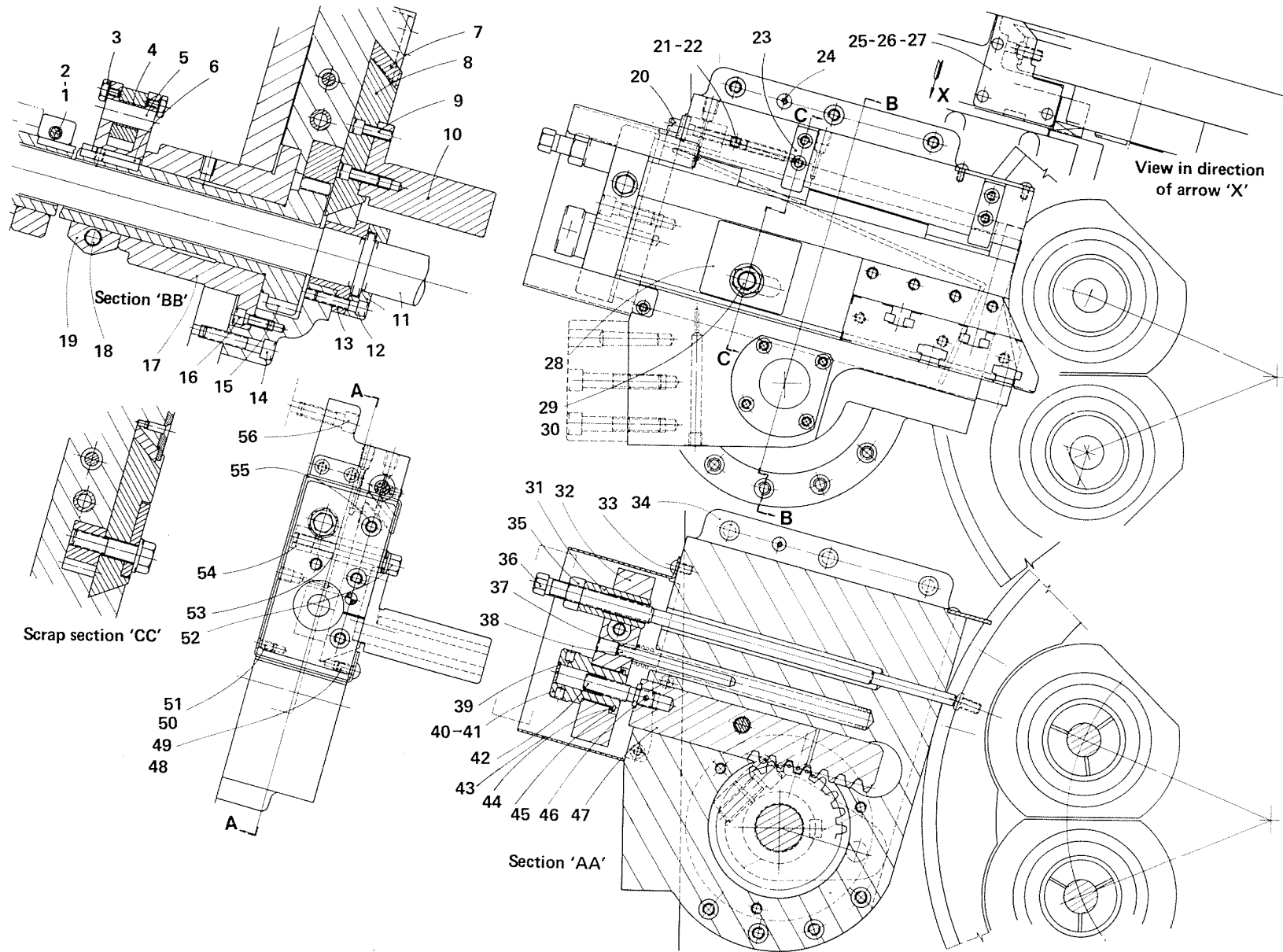
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1		1/2 x 3/8 x 3/8 BSP tee		269 Y 170/4	Coolant Pump Assembly –	50		1/2 x 1/2 x 3/4 BSP tee
2	360/0840B	1/2 BSP pipe 5" long			240/480 volt cycle	51	360/1220B	3/4 BSP pipe 2.1/2" long
3	162/212	2BA Round head screw 3/4" long	27	291/72	Legend Plate	52	361/2612	3/4 BSP female union
4		3/8 BSP Pipe support	28	165/406	4BA Round Head Screw 3/8" long	53	360/06	3/4 BSP barrel nipple
5	360/0654B	3/8 BSP Pipe 6.3/4" long			Niphan Plug	54	361/0912	3/4 BSP equal tee
6	360/0876B	1/2 BSP Pipe 9.1/2" long	29	N 885b	5/8" Anaconda 22" long	55	361/1812	3/4 BSP square head plug
7	P211	3/8 BSP tap	30	347/1022	Straight connector	56	155/0520	5/16 BSF Socket head cap screw 1.1/4" long
8	361/0108	1/2 BSP 90° female elbow	31	15.04.1600	Dowty seal	57	P211	3/8 BSP tap
9	194/3	3/8 BSP Socket pipe plug	32	11.03.10	Dowty seal	58	169 X 111	Front manifold gasket
10	360/0840B	1/2 BSP pipe 5" long	33	111.03.12	Dowty seal	59	169 Y 114	Coolant manifold
11	361/0108	1/2 BSP 90° female elbow	34	15.02.152016	20–16mm reducer	60	155/0536	5/16 BSF socket head cap screw 2.1/4" long
12	269 X 171	Blanking plate	35	15.02.1220	20mm conduit locknut	61	269 V 129A	Pipe bend
13	164/0510	5/16 BSF Round head screw 5/8" long	36	198/13	3/8 shakeproof washer 60 cy. motor only	62	361/0120	1.1/4 BSP Female elbow
14	269 X 144	Pipe collar	37	198/11	5/16 shakeproof washer 50 cy. motor only	63	155/0544	5/16 BSF Socket head cap screw 2.3/4" long
15	194/3	3/8 BSP Socket pipe plug	38		3/8 UNC hexagon head set screw 1.1/4" long 60 cy. motor only	64	169 Y 115	Rear coolant manifold
16	360/08216B	1/2 BSP Pipe 27" long	39	167/0520	5/16 BSF hexagon head set screw 1.1/4" long 50 cy. motor only	65	169 X 113A	Rear manifold gasket
17	361/0108	1/2 BSP 90° female elbow	40	155/0732	7/16 BSF socket head cap screw 2" long	66	360/2040C09	1.1/4" pipe 5" long
18	361/0224	1.1/2 BSP 90° male and female elbow	41	269 Y 169	Pump mounting bracket 60 cy. motor only	67	155/0528	5/16 BSF Socket head cap screw 1.3/4" long
19	360/24422B	1.1/2 BSP Pipe 52.3/4" long	42	269 Y 168	Pump mounting bracket 50 cy. motor only	68	169 X 138	1.1/4 BSP superflexit hose assembly
20	269 Y 172	Not required on 1"–8	43	155/0412	1/4 BSF Socket head cap screw 3/4" long	69	361/2120	1.1/4 BSP socket
21	269 Y 165	Coolant strainer	44	269 Y 167	Tray strainer	70		1.1/4 BSP backnut
22	361/0224	1.1/2 BSP 90° male and female elbow	45	269 V 166	Pump inlet	71	360/20148C24	1.1/4 BSP pipe 18.1/2" long
23	361/2624	1.1/2 BSP female union	46	155/0512	5/16 BSF Socket head cap screw 3/4" long	72	361/1612	3/4 BSP hexagon nipple
24	361/0224	1.1/2 BSP 90° male and female elbow	47		1/2 BSP Pipe support	73		1.1/4 x 1.1/4 x 3/4 BSP tee
25	361/1624	1.1/2 BSP hexagon nipple	48	162/212	2BA Round head screw 3/4" long	74	360/20100B	1.1/4 BSP Pipe 12.1/2 long
26	269 Y 170/1	Coolant Pump Assembly – 230/400 volt 50 cycle	49	360/08292B	1/2 BSP pipe 36.1/2" long	75	360/0836B	1/2 BSP pipe 4.1/2 long
	269 Y 170/2	Coolant Pump Assembly – 500 volt 50 cycle				76		1.1/2 – 1.1/4 BSP reducer
	269 Y 170/3	Coolant Pump Assembly – 600 volt 60 cycle				77	361/0124	1.1/2 BSP 90° female elbow
						78	361/1624	1.1/2 BSP hexagon nipple
						79	361/0124	1.1/2 BSP 90° female elbow



Upper Cross Slide

236 Z1

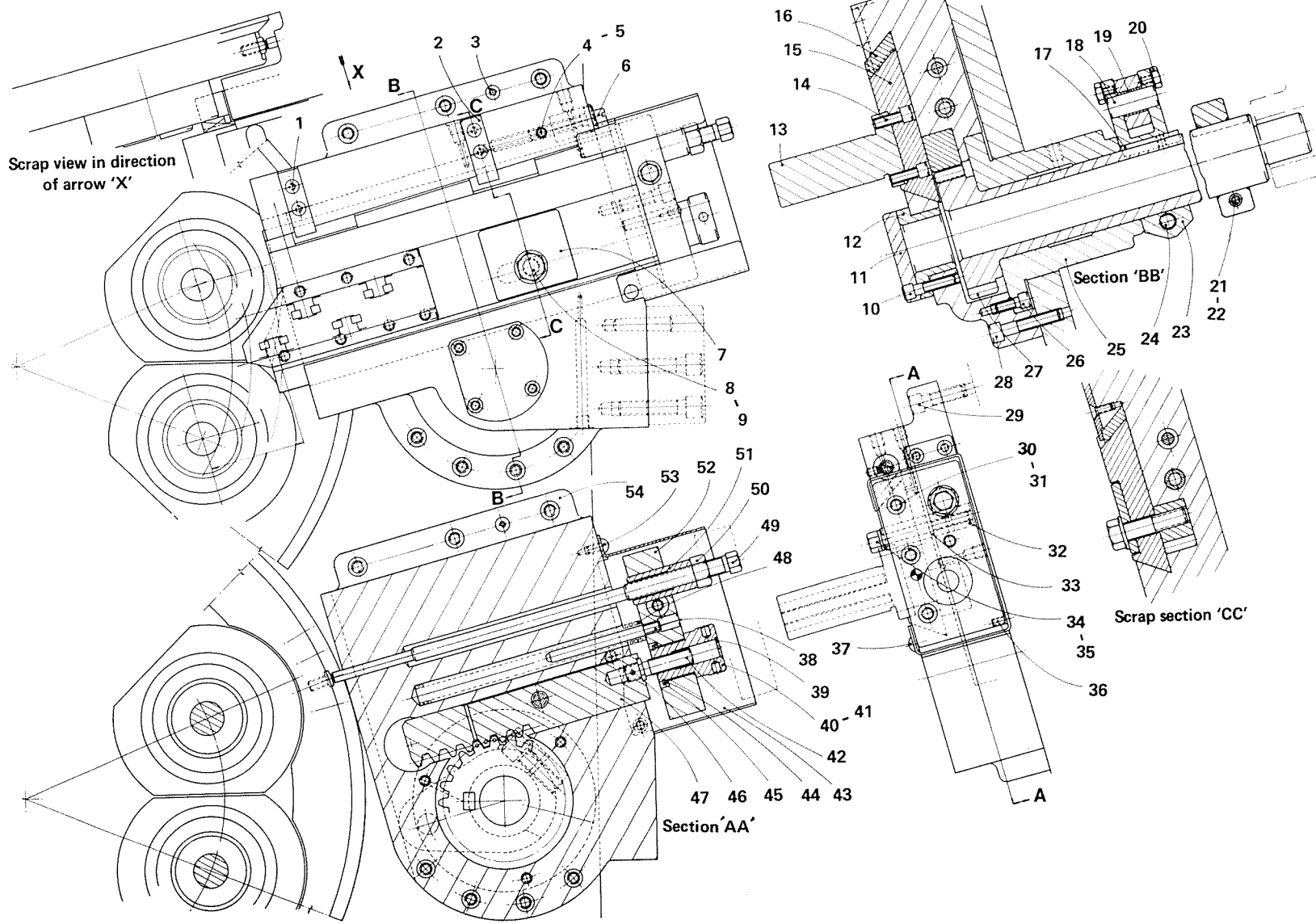
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	235 X 125	Operating shaft	27	235 X 110	Spring support	49	235 X 118	Rear bearing bracket
2	164/0408	1/4 BSF Round head screws 1/2" long	28	342 V 112E	Micrometer head – English	50	235 X 117	Front bearing bracket
3	235 X 115	Cover plate	29	342 V 112M	Micrometer head – Metric	51	155/0544	5/16 BSF Socket head cap screw 2.3/4" long
4	236 Z 101	Upper cross slide base	30	243 X 124	Stock bracket screw	52	342 X 125	Threader locking piece
5	533 X 105	Gib strip	31	173/07H	7/16 BSF Hexagon locknut – hard	53	342 X 126	Plain locking piece
6	236 Z 102	Upper cross slide	32	342 V 130D	Stop bracket	54	342 X 122	Stop bracket lock bolt
7	236 X 152	Link pin	33	243 X 123	Stop bracket bush	55	155/0820	1/2 BSF Socket head cap screw 1.1/4" long
8	236/101212	5/8 x 3/4 Oilite bush 3/4" long	34	FX 4539C	Gib adjusting screw	56	235 X 129	Retaining strip
9	236 X 137	Link	35	236 X 145	Guard plate	57	235 X 128A	Pivot pin
10	167/0832	1/2 BSF Hexagon head set screw 2" long	36	198/8	1/4 Dia. shakeproof washer	58	235 X 119B	Keyed upper lever
11	130/08	1/2 Dia. flat washer	37	155/0410	1/4 BSF Socket head cap screw 5/8" long			
12	129/13	1" Dia. Welch plug	38	141/6	13/32 taper dowel. 1.1/4" long, extractable			
13	236 X 106	End bracket	39	155/0728	7/16 BSF Socket head cap screw 1.3/4" long			
14	342 X 139	Adjusting screw	40	155/0516	5/16 BSF Socket head cap screw 1" long			
15	342 X 143	Spacer	41	141/3	11/32 Taper dowel 1.1/4" long, extractable			
16	101/15	1.1/4" Dia. external circlip	42	235 X 138	Operating arm key			
17	125/1624	1/4 Dia. taper pin 1.1/2" long	43	143/0614B	3/16 Grooved pin 7/8" long			
18	236 X 135	Adjusting block	44	155/0620	3/8 BSF Socket head cap screw 1.1/4" long			
19	236 V 120	Slide lever	45	572 X 111B	Instruction plate			
20	155/0624	3/8 BSF Socket head cap screw 1.1/2" long	46	165/204	2BA Round head screw 1/4" long			
21	143/0614B	3/16 grooved pin 7/8" long	47	198/8	1/4 Dia. shakeproof washer			
22	235 X 138	Operating arm key	48	155/0410	1/4 BSF Socket head cap screw 5/8" long			
23	235 X 140A	Tube adaptor						
24	155/0832	1/2 BSF Socket head cap screw 2" long						
25	141/7	13/32 taper pin 1.3/4" long						
26	235 X 109A	Upper cross slide spring						



Front Intermediate Cross Slide

238 Z1

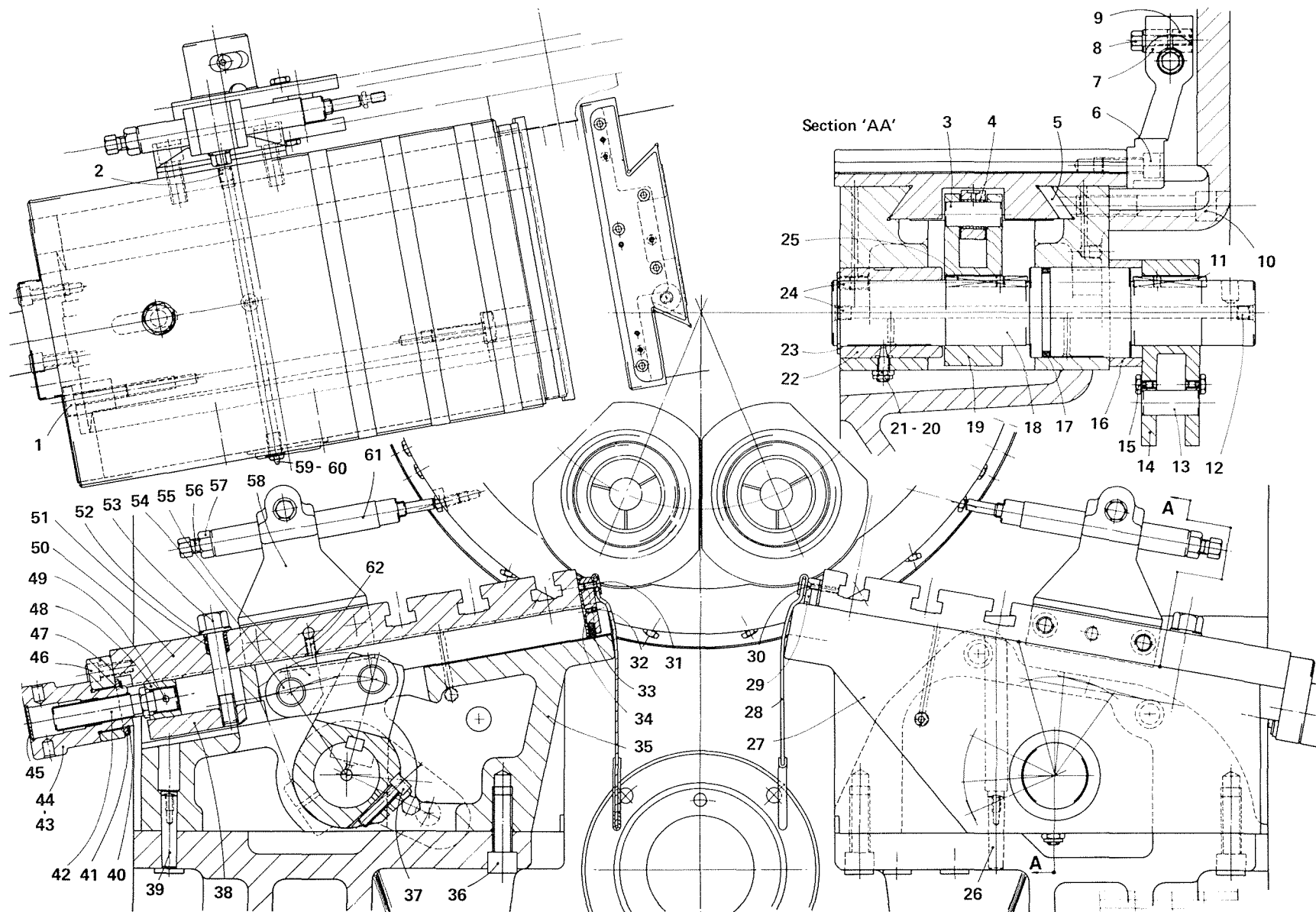
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	155/0624	3/8" BSF Socket Head Cap Screw 1.1/2" long	22	153/04	1/4" Dia. Soft Pad	46	125/0814	1/8" Dia Taper Pin 7/8" long
2	238 X 110	Stop Collet	23	238 X 138	Gib Strip Retainer	47	238 X 109	Back
3	242 X 153	Locating Screw	24	158/0410	1/4" BSF Socket Countersunk Head Screw 5/8" long	48	160/0408	1/4" BSF Drive Head Screw 1/2" long
4	236/101212	5/8" x 3/4" Retaining Bush 3/4" long	25	141/4	11/32" Taper Dowel 1.3/44" long, extractable	49	161/0408	1/4" BSF Countersunk Head Screw 1/2" long-slotted
5	237 X 164	Link Pin	26	238 X 137	Baffle Plate	50	130/05	5/16" Flat Washer
6	122/1628T	1/2" x 11/32" Parallel Key 1.3/4" long, tapped	27	160/206	2BA Round Head Screw 3/8" long	51	238 X 126	Stop Bush Lock Bolt
7	238 V 107	Gib Strip	28	238 X 127	Slide Bolt Cover	52	238 X 125	Plain Locking Piece
8	238 Y 103	Front Intermediate Slide	29	170/0832	1/2" BSF Hexagon Head Bolt 2" long	53	342 X 125	Thread Locking Piece
9	155/0514	6/16" BSF Socket Head Cap Screw 7/8" long	30	130/08	1/2" Dia Flat Washer	54	141/4	11/32" Taper Dowel 1.3/4" long, extractable
10	238 V 133	Front Slide Platform	31	238 X 114	Stop Screw Bush	55	155/0620	3/8" BSF Socket Head Cap Screw 1.1/4" long
11		Section 255	32	238 X 105	Front Slide End Plate	56	155/0628	3/8" BSF Socket Head Cap Screw 1.3/4" long
12	155/0520	5/16" BSF Socket Head Cap Screw 1.1/4" long	33	160/0408	1/4" BSF Dowel Head Screw 1/2" long			
13	238 X 115	Bar Stop Shaft Bush	34	238 Z 101	Front Intermediate Slide Bar			
14	155/0628	3/8" BSF Socket Head Cap Screw 1.3/4" long	35	173/08H	1/2" BSF Hexagon Nut, hard			
15	238 Y 111A	Operating Gear	36	238 X 113	Stop Screw			
16	155/0512	5/16" BSF Socket Head Cap Screw 3/4" long	37	135 X 109	Compression Spring			
17	238 X 124	Spigot	38	144 X 146	Spring Support			
18	155/0828	1/2" BSF Socket Head Cap Screw 1.3/4" long	39	129/7	5/8" Dia Welch Plug			
19	237 X 155	Operating Lever	40	137 V 165M	Micrometer Head, metric			
20	9237 X 109	Gib Screw	41	137 V 165E	Micrometer Head, English			
21	176/0405	1/4" BSF Socket Set Screw 5/16" long, cap point	42	137 X 161A	Adjusting Screw			
			43	238 V 129	Front Gears			
			44	137 X 162	Spacer			
			45	101/10	15/16" Dia External Circlip			



Rear Intermediate Cross Slide

238 Z2

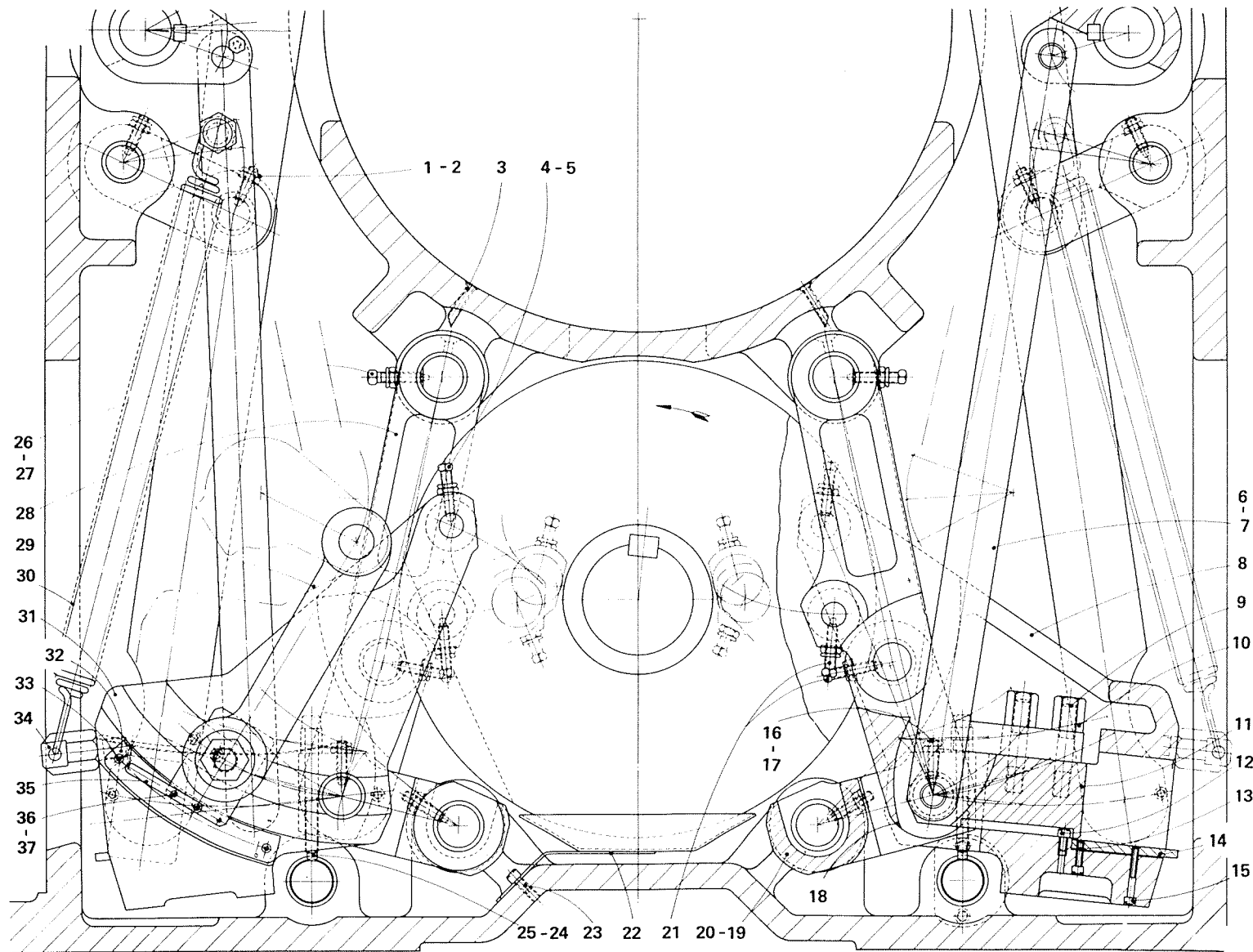
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	158/0410	1/4" B.S.F. Socket Countersunk Screw 5/8" long	21	238X.110	Stop Collar	38	144X.146	Spring Support
2	238X.138	Gib Strip Retainer	22	155/0624	3/8" B.S.F. Socket Head Cap Screw 1.1/2" long	39	129/7	5/8" dia. Welch Plug
3	141/4	11/32 Taper Dowel 1.3/4" long, extractable	23	237X.155	Operating Lever	40	137V.165E	Micrometer Head – English
4	176/0405	1/4" B.S.F. Socket Set Screw 5/16" long, cup point	24	155/0828	1/2" B.S.F. Socket Head Cap Screw 1.3/4" long	41	137V.165M	Micrometer Head – Metric
5	153/04	1/4" dia. Soft Pad	25	238X.124	Spigot	42	137X.161A	Adjusting Screw
6	9237X.109	Gib Screw	26	155/0512	5/16" B.S.F. Socket Head Cap Screw 3/4" long	43	238V.130	Rear Guard
7	238X.127	Slide Bolt Cover	27	238Y.112	Rear Operating Lever	44	137X.162	Spacer
8	170/0832H	1/2" B.S.F. Hexagon Head Bolt 2" long, hardened	28	155/0628	3/8" B.S.F. Socket Head Cap Screw 1.3/4" long	45	101/10	15/16" External Circlip
9	130/08	1/2" dia. Flat Washer	29	155/0620	5/8" B.S.F. Socket Head Cap Screw 1.1/4" long	46	125/0814	1/8" dia. Taper Pin 7/8" long
10	155/0520	5/16" B.S.F. Socket Head Cap Screw 1.1/4" long	30	155/0620	5/8" B.S.F. Socket Head Cap Screw 1.1/4" long	47	238X.109	Rack
11	238X.128	Cover Plate	31	141/4	11/32" Taper Dowel 1.3/4" long, extractable	48	135X.109	Compression Spring
12	238X.115	Bar Stop Shaft Bush	32	342X.125	Thread Locking Piece	49	238X.113	Stop Screw
13	238V.134	Rear Slide Platform	33	238X.125	Plain Locking Piece	50	173/08H	1/2" B.S.F. Hexagon Locknut Hard
14	155/0514	5/16" B.S.F. Socket Head Cap Screw 7/8" long	34	238X.126	Stop Bush Lock Bolt	51	238X.114	Stop Screw Bush
15	238Y.104	Rear Intermediate Slide	35	130/05	5/16" Flat Washer	52	238X.106	Rear Slide End Plate
16	238V.108	Gib Strip	36	161/0408	1/4" B.S.F. Countersunk Head Screw 1/2" long, slotted	53	160/0408	1/4" B.S.F. Socket Dome Head Screw 1/2" long
17	122/1628T	1/2" x 11/32" Parallel Key 1.3/4" long	37	160/0408	1/4" B.S.F. Socket Dowel Head Screw 1/2" long	54	238Z.102	Rear Intermediate Slide Base
18	237X.164	Link Pin						
19	236/101212	5/8" x 5/8" Oilite Bush 3/4" long						
20	242X.153	Locating Screw						



Lower Cross Slides

243Z1

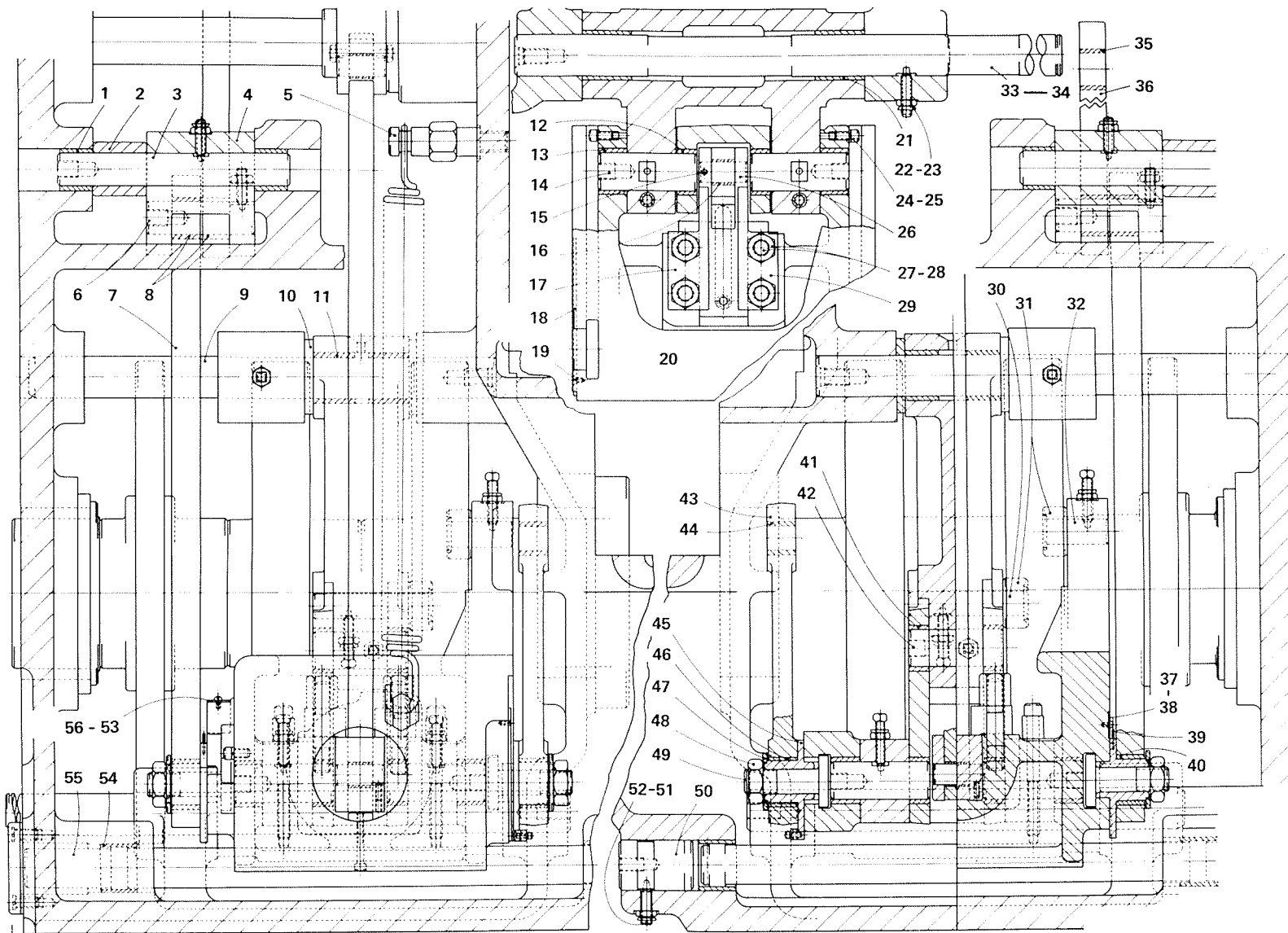
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	327X.107	Gib Adjusting Screw	23	101/22	2" dia. External Circlip	42	342X.139	Adjusting Screw
2	194/1	1/8" B.S.F. Socket Pipe Plug	24	194/1	1/8" B.S.F. Socket Pipe Plug	43	342V.112M	Micrometer Head, Metric
3	242X.152	Link Pin	25	122/1640T	1/2" x 11/32" Parallel Key 2.1/2" long, Tapped	44	342V.112E	Micrometer Head, English
4	236/121412	3/4" x 7/8" Oil Retaining Bush 3/4" long	26	141/15	1/2" dia. Taper Pin 2.1/4" long; Extractable	45	129/13	1" dia. Welch Plug
5	539Y.103	Gib Strip	27	243X.108	Lower Rear Slide Base	46	155/0616	3/8" B.S.F. Socket Head Cap Screw 1" long
6	155/0820	1/2" B.S.F. Socket Head Cap Screw 1.1/4" long	28	242V.129	Flap	47	243X.138	End Bracket
7	342X.126	Plain Locking Piece	29	242X.149	Front Plate for Slide Wiper	48	242V.141	Adjusting Block
8	342X.122	Stop Bracket Lock Bolt	30	159/212	2 B.A. Socket Countersunk Head Screw 3/4" long	49	125/1624	1/4" dia. Taper Pin 1.1/2" long
9	342X.125	Threaded Locking Piece	31	159/208	2 B.A. Socket Countersunk Head Screw 1/2" long	50	243Y.101	Lower Cross Slide
10	155/1056	5/8" B.S.F. Socket Head Cap Screw 3.1/2" long	32	159/406	4 B.A. Socket Countersunk Head Screw 3/8" long	51	237X.138	Bolt Support Spring
11	122/1636T	1/2" x 11/32" Parallel Key 2.1/4" Tapped	33	242X.147	Wiper	52	130/08	1/2" dia. Flat Washer
12	194/1	1/8" B.S.F. Socket Pipe Plug	34	242X.146	Back Plate for Slide Wiper	53	242X.145	Slide Bolt
13	337X.164	Pin	35	243Z.107	Lower Front Slide Base	54	242X.152	Link Pin
14	243V.134	Feed Lever	36	155/1028	5/8" B.S.F. Socket Head Cap Screw 1.3/4" long	55	242X.142	Link
15	242X.153	Locating Screw	37	155/0624	3/8" B.S.F. Socket Head Cap Screw 1.1/8" long	56	243X.124	Stop Bracket Screw
16	242X.151	Spacer	38	242X.144	Nut	57	173/07H	7/16" B.S.F. Hardened Locknut
17	4-035	Nu-Lip Sealing Ring	39	141/15	1/2" dia. Taper Pin 2.1/4" long, Extractable	58	342X.130D	Stop Bracket
18	243V.135	Operating Shaft	40	101/15	1.1/4" External Circlip	59	212/18	1/8" B.S.F. Grease Nipple
19	243V.120	Slide Lever	41	342X.143	Spacer	60	210/2525	Yellow Indicator Washer
20	203/06L	3/8" B.S.F. Self Locking Locknut				61	243X.123	Stop Bracket Bush
21	182/0616	5/8" B.S.F. Socket Set Screw 1" long, Taper Point				62	225/4050	1/4" dia. Copper Tube 1/2" long
22	242X.155	Bearing						



Cross Slide Operation (see also 241Z2A)

241Z1A

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	182/0530	Socket Head Set Screw, Taper Point, 5/16" B.S.F. x 1.1/4" long	14	237X.121	Scale	27	203/05	Self Locking Nut, 5/16" B.S.F.
2	203/05	Self Locking Nut, 5/16" B.S.F.	15	156/224	Socket Head Cap Screw, 2 B.A. x 1.1/2" long	28	241Y.104A	Approach Arm
3	225/4050	Copper Tube, 1/4" dia. x 1.1/4" long	16	182/0520	Socket Head Set Screw, Taper Point, 5/16" B.S.F. x 1.1/4" long	29	241V.106	Feed Link
4	183/0524	Square Head Set Screw, Taper Point, 5/16" B.S.F. x 1.1/2" long	17	203/05L	Self Locking Nut (Thin), 5/16" B.S.F.	30	341V.159B	Extension Spring
5	203/05	Self Locking Nut, 5/16" B.S.F.	18	241V.105A	Lower Approach Link	31	241Z.101C	Front Cross-Slide Cam Lever
6	237X.105A	Connecting Link	19	241V.103A	Approach Anchor Link	32	241X.135	Scale for Front Lower Cross-Slide
7	236/101212	Oil Retaining Bush, 5/8" x 3/4" x 3/4" long	20	203/05	Self Locking Nut, 5/16" B.S.F.	33	159/406	Countersunk Socket Head Screw, 4 B.A. x 3/8"
8	241Z.102C	Rear Cross-Slide Cam Lever	21	183/0524	Square Head Set Screw, Taper Point, 5/16"	34	541X.156	Sprint Anchor, Lower
9	237X.119	Stud	22	241Y.150	Oil Well	35	241X.160	Indicator Finger
10	237X.117	Deep Nut	23	155/0408	Socket Head Cap Screw, 1/4" B.S.F. x 1/2" long	36	156/406	Socket Head Cap Screw, 4 B.A. x 3/8" long
11	237X.110A	Carrier	24	241X.121	Distance Piece	37	154/04	Spring Washer, for 1/4" dia.
12	155/0406	Socket Head Cap Screw, 1/4" B.S.F. x 3/8" long	25	241X.120	Stop Screw			
13	156/212	Socket Head Cap Screw, 2 B.A. x 3/4" long	26	183/0524	Square Head Set Screw, Taper Point, 5/16"			



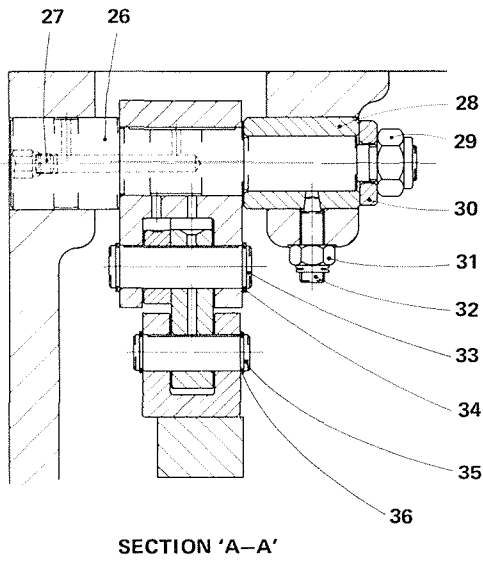
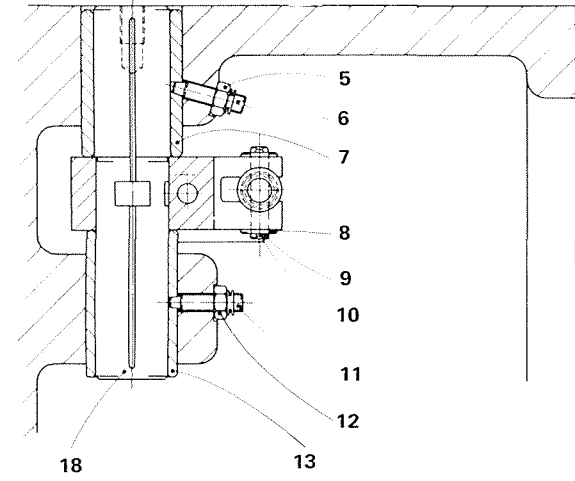
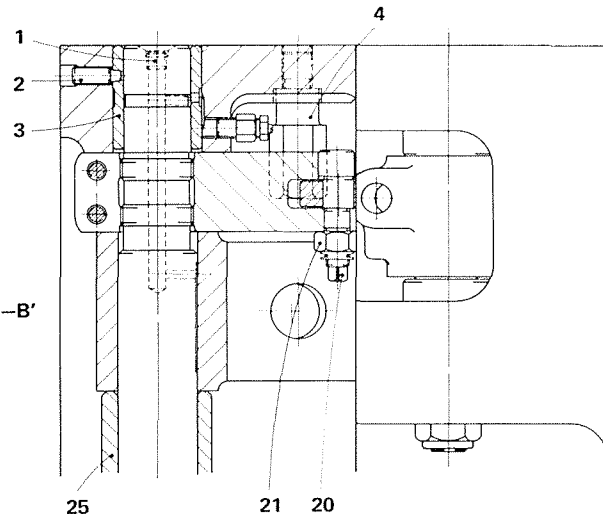
Cross Slide Operation, (see also 241Z1A)

241Z2A

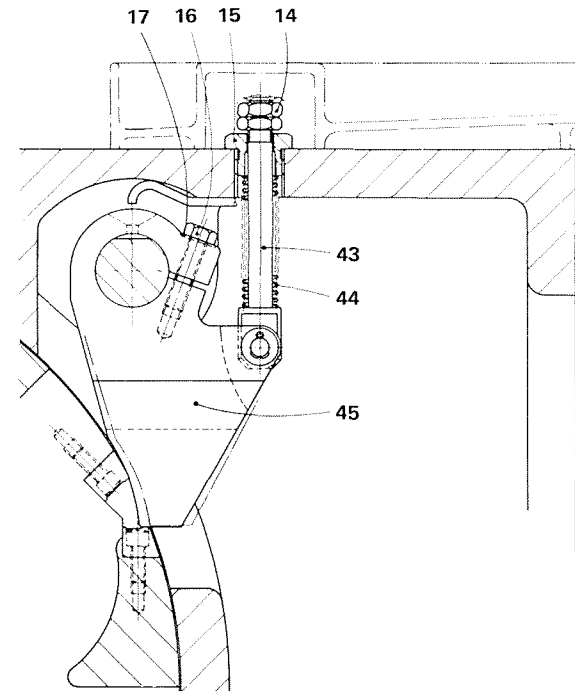
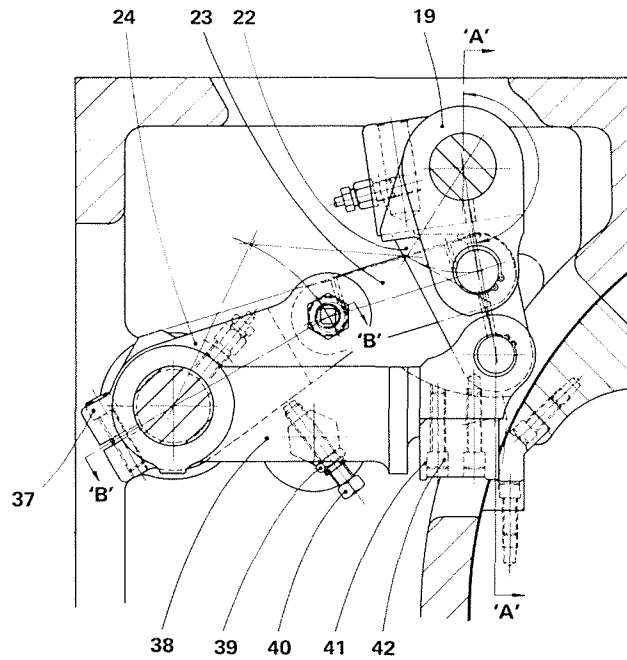
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	236/162014	Oil Retaining Bush, 1" x 1.1/4" x 7/8" long	21	236/202424	Oil Retaining Bush, 1.1/4" x 1.1/2" x 1.1/2" long	44	236/121614	Oil Retaining Bush, 3/4" x 1" x 7/8" long
2	241X.153	Spacer	22	182/0524	Socket Head Set Screw, Taper Point, 5/16" B.S.F. x 1.1/2" long	45	241X.141	Sliding Sleeve
3	241X.140	Pivot Pin for Forked Intermediate Lever	23	203/05	Self Locking Nut, 5/16" B.S.F.	46	236/202414	Oil Retaining Bush, 1.1/4" x 1.1/2" x 7/8" long
4	241V.109A	Forked Intermediate Lever	24	155/0408	Socket Head Cap Screw, 1/4" B.S.F. x 1/2" long	47	241X.116	Slotted Washer
5	241X.158	Spring Anchor	25	154/04	Spring Washer, for 1/4" dia.	48	173/12HL	Hexagon Locknut (Hardened) 3/4" B.S.F.
6	241X.126	Link Pin	26	227X.108	Link Pin	49	241X.119	Tee Bolt
7	241X.108A	Connecting Link	27	237X.119	Stud	50	222X.129	Plug (Section 222)
8	236/162014	Oil Retaining Bush, 1" x 1.1/4" x 7/8" long	28	237X.117	Deep Nut	51	203/05	Self Locking Nut, 5/16" B.S.F. (Section 222)
9	241X.139	Fulcrum Shaft for Approach Lever	29	237X.106	Clamp Plate	52	182/0520	Socket Set Screw, Taper Point, 5/16" B.S.F. x 1.1/4" long
10	141X.133	Adjusting Washer	30	241X.159	Roller Pin	53	165/406	Round Head Screw, 4 B.A. x 3/8" long
11	236/202420	Oil Retaining Bush, 1.1/4" x 1.1/2" x 1.1/4" long	31	123X.104	Roller	54	323X.174	Toggle Bush
12	246/182210	Oil Retaining Bush, Heavy Duty, 1.1/8" x 1.3/8" x 5/8" long	32	123X.103	Roller Pin	55	241X.130	Stop Shaft
13	246/182214	Oil Retaining Bush, Heavy Duty, 1.1/8" x 1.3/8" x 7/8" long	33	241X.129	Fulcrum Shaft for Anchor Link	56	241X.137	Scale for Front Upper Cross-Slide
14	241X.127	Pivot Pin	34	241X.151	Fulcrum Shaft for Anchor Link			
15	179/208	Socket Set Screw, Cup Point, 2 B.A. x 1/2" long	35	236/162014	Oil Retaining Bush, 1" x 1.1/2" x 7/8" long			
16	236/101212	Oil Retaining Bush, 5/8" x 3/4" x 3/4" long	36	241Y.111	Link to Upper Cross-Slides			
17	237X.107	Clamp Plate	37	241X.138	Scale for Rear Upper Cross-Slide			
18	241X.136	Scale for Rear Lower Cross-Slide	38	165/406	Round Head Screw, 4 B.A. x 3/8" long			
19	159/406	Countersunk Socket Head Screw, 4 B.A. x 3/8" long	39	241X.118	Indicator Pin			
20	—	Section of Approach Anchor Link & Plan of Cam Lever (Rear)	40	236/202414	Oil Retaining Bush, 1.1/4" x 1.1/2" x 7/8" long			
			41	246/182210	Oil Retaining Bush, Heavy Duty, 1.1/8" x 1.3/8" x 5/8" long			
			42	241X.125	Pivot Pin			
			43	241V.106	Feed Link			

When ordering spare parts always quote Inspection Number of the machine.

SECTION 'B-B'



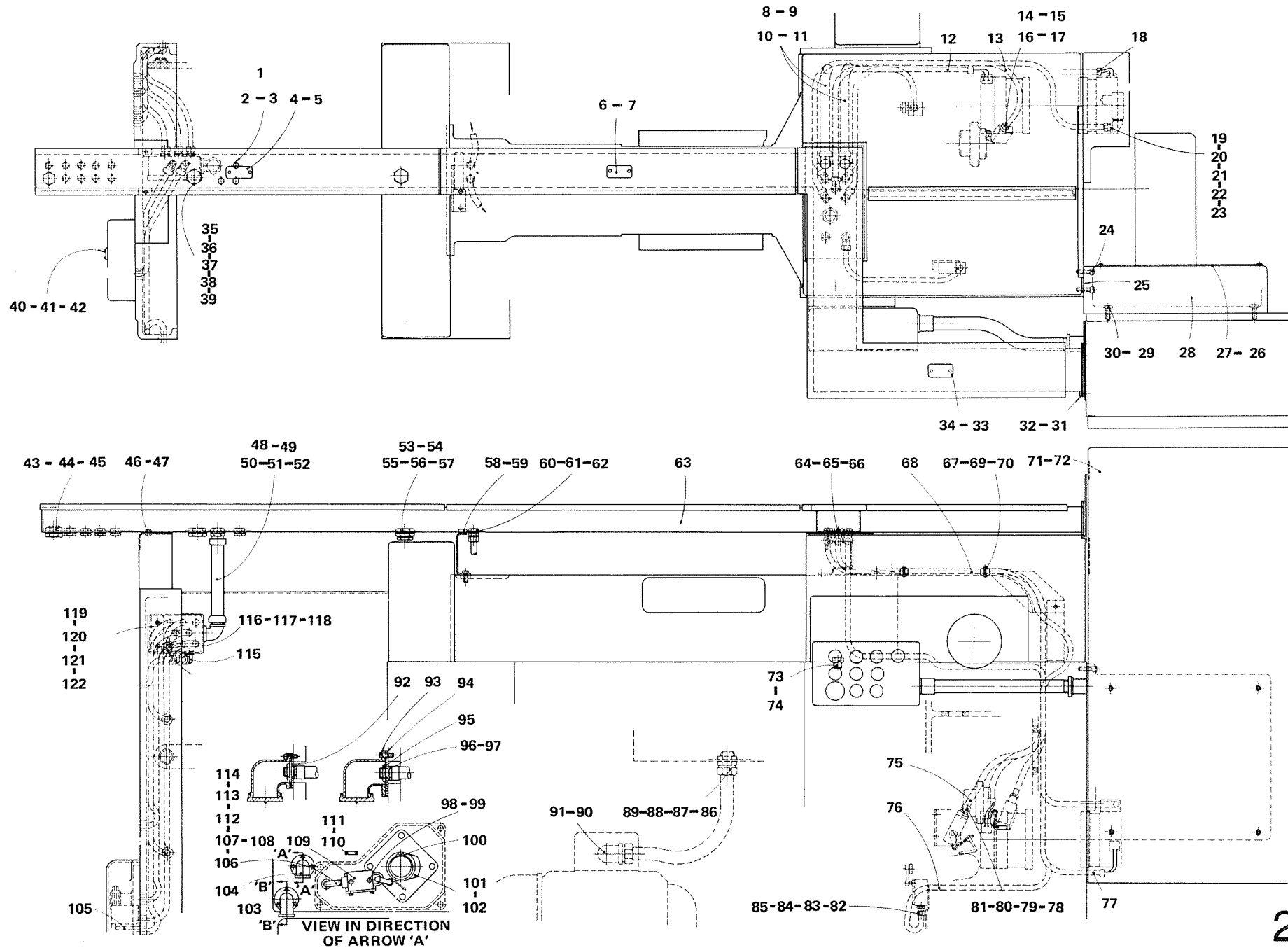
SECTION 'A-A'



Drum Locking Mechanism

262 Z1

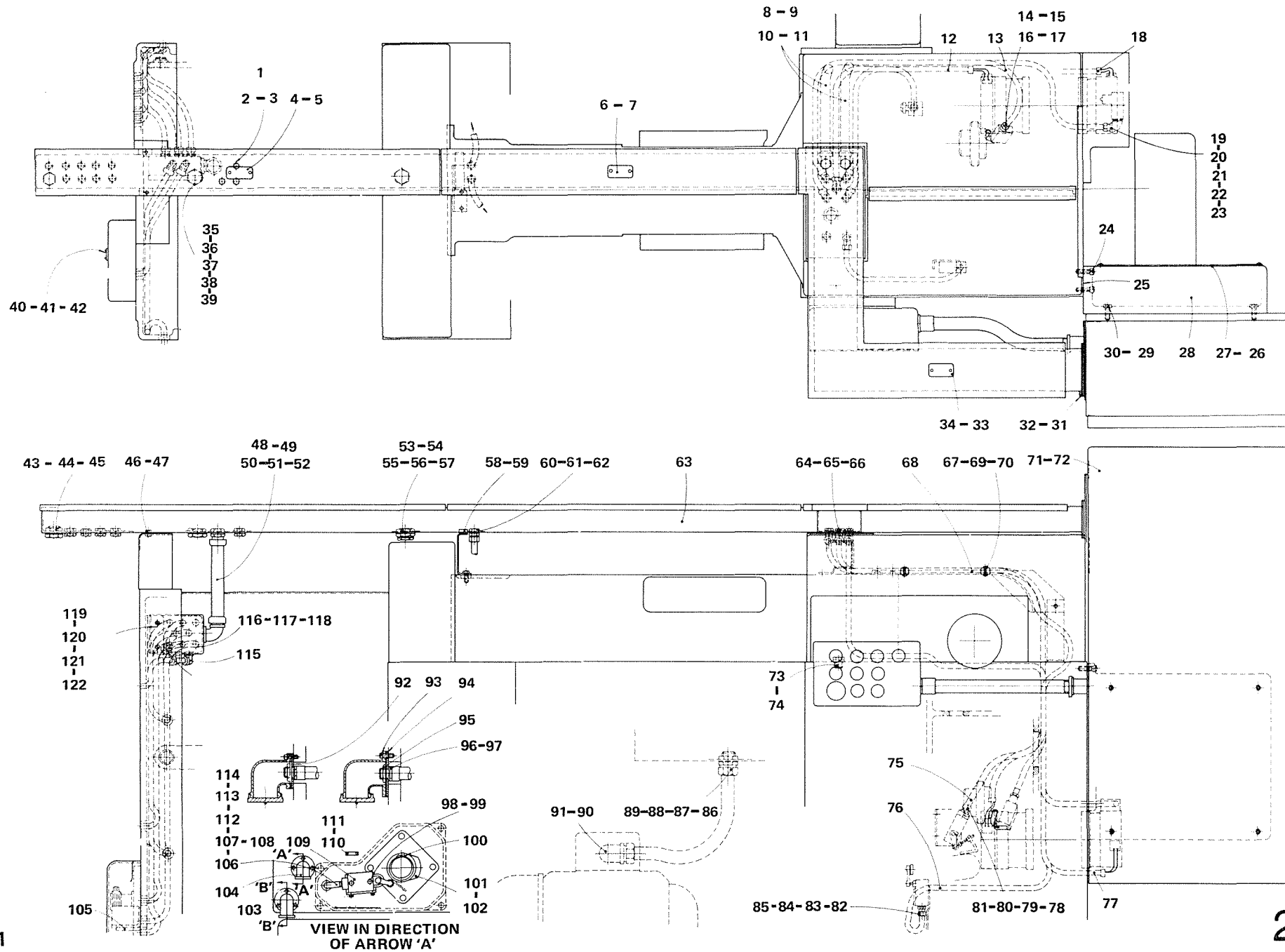
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	194/1	1/8" B.S.P. Socket Pipe Plug	19	261V.102A	Toggle Lever	38	262V.104	Lower Toggle Lever
2	182/0616	3/8" B.S.F. Socket Head Set Screw 1" long Taper Point	20	261X.151	Eccentric Pin	39	203/06L	3/8" B.S.F. Self Locking Locknut
3	261X.148	Bush	21	203/08	1/2" B.S.F. Self Locking Nut	40	188/0632	3/8" B.S.F. Square Head Set Screw 2" long
4	361X.149	Stop Anchor	22	261X.105	Toggle Lever	41	262X.131	Drum Locking Cam
5	203/06	3/8" B.S.F. Self Locking Nut	23	261X.146	Operating Link	42	155/0520	5/16" B.S.F. Socket Head Cap Screw 1.1/4" long
6	182/0624	3/8" B.S.F. Socket Set Screw 1.1/2" long Taper Point	24	261V.103A	Operating Lever	43	561X.141	Retaining Rod for Drum Latch
7	561X.111A	Bush for Drum Latch Pin	25	261X.129	Spacer	44	145/190	Compression Spring
8	130/36	3/8" Flat Washer	26	261V.128	Toggle Lever Eccentric Shaft	45	262V.108	Drum Latch
9	561X.142	Pin	27	194/1	1/8" B.S.P. Socket Pipe Plug			
10	327/0405	1/16" dia. Cotter Pin 5/8" long	28	261X.130	Locking Sleeve			
11	182/0624	3/8" B.S.F. Socket Set Screw 1.1/2" long Taper Point	29	203/12L	3/4" B.S.F. Self Locking Locknut			
12	203/06	3/8" B.S.F. Self Locking Nut	30	561X.129	Locking Washer			
13	561X.110	Bush for Drum Latch Pin	31	203/08	1/2" B.S.F. Self Locking Nut			
14	173/080	1/2" B.S.F. Hexagon Locknut	32	182/0828	1/2" B.S.F. Socket Set Screw 1.3/4" long Taper Point			
15	561X.114A	Spring Retaining Plug	33	261X.123	Pin			
16	167/0624	3/8" B.S.F. Hexagon Head Set Screw 1.1/2" long	34	101/9	7/8" dia. External Circlip			
17	198/13	3/8" dia. Shakeproof Washer	35	261X.125	Pin			
18	561X.109	Latch Pin	36	101/6	3/4" dia. External Circlip			
			37	155/0620	3/8" B.S.F. Socket Head Cap Screw 1.1/4" long			



Arrangement of Conduit and Fittings

271 Z2

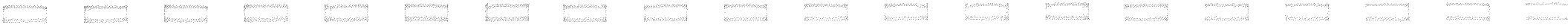
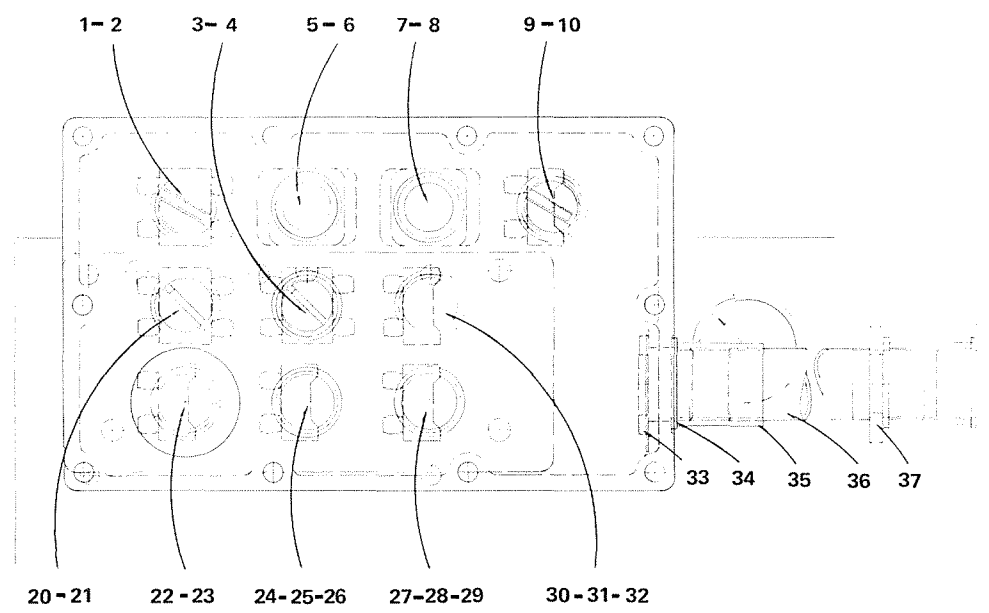
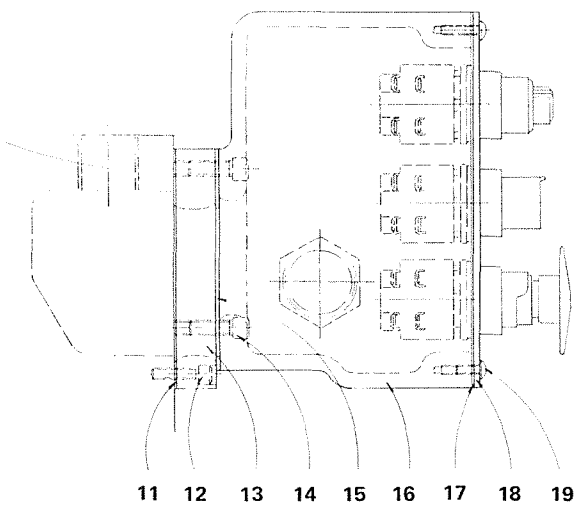
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	11.03.09	16mm Conduit Seal	27	371 X 110	Cover Plate	51	15.04.3290	32mm 90° Connector
2	15.02.1216	16mm Conduit Locknut	28	371 Y 107C	Bracket	52	11.03.18	32mm Conduit Seal
3	15.02.1016	16mm Conduit Plug	29	197/16	1/2" Lock Washer	53	15.02.151532	1.1/2" – 32mm Reducer
4	298A	Warning Plate	30	167/0824	1/2" BSF Hexagon Head Set Screw 1.1/2" long	54	11.03.18	32mm Conduit Seal
5	165/404	4BA Round Head Screw x 1/4" long	31	155/0410	1/4" BSF Socket Head Cap Screw 5/8" long	55	15.02.1032	32mm Conduit Plug
6	298A	Warning Plate	32	203/04	1/4" BSF Self Locking Nut	56	357/24	1.1/2" Conduit Seal
7	165/404	4BA Round Head Screw x 1/4" long	33	165/404	4BA Round Head Screw 1/4" long	57	237/246	1.1/2" Conduit Locknut
8	11.03.14	25mm Conduit Seal	34	298A	Warning Plate	58	271 V 167	Support Bracket
9	15.04.2590	25mm 90° Connector	35	237/246	1.1/2" Conduit Locknut	59	167/0616	3/8" BSF Hexagon Head Set Screw 1" long
10	347.1626	1" Anaconda 26" long	36	357/24	1.1/2" Conduit Seal	60	15.04.1600	16mm Straight Connector
11	15.04.2500	25mm Straight Connector	37	15.02.151532	1.1/2" – 32mm Reducer	61	15.02.1216	16mm Conduit Locknut
12	347/1066	5/8" Anaconda 66" long	38	15.02.1032	32mm Conduit Plug	62	11.03.09	16mm Conduit Seal
13	347/1060	5/8" Anaconda 60" long	39	11.03.18	32mm Conduit Seal	63	271 Z 166	Oil tight trunking
14	15.02.152016	20mm—16mm Reducer	40	291/5	Legend Plate	64	15.04.1690	16mm 90° Connector
15	11.03.10	16mm Conduit Seal	41	165/406	4BA Round Head Cap Screw x 3/8" long	65	15.02.1216	16mm Conduit Locknut
16	11.03.12	20mm Conduit Seal	42	291/6	Legend Plate	66	11.03.09	16mm Conduit Seal
17	15.04.1600	16mm Straight Connector	43	11.03.8	32mm Conduit Seal	67	67203/03	2BA Self Locking Nut
18		5/8" Conduit Ferrule	44	15.02.1032	32mm Conduit Plug	68	271 Y 169	Conduit Support Bracket
19	347/1082	5/8" Anaconda 82" long	45	15.02.1232	32mm Conduit Locknut	69	156/220	2BA Socket Head Cap Screw 1.1/4" long
20	15.02.152016	20mm—16mm Reducer	46	167/0408	1/4" BSF Hexagon Head Set Screw 1/2" long	70	271 X 170	Conduit Strap
21	11.03.10	16mm Conduit Seal	47	203/04	1/4" BSF Self Locking Nut	71	271 Y 135	Control Panel 220/380 volts
22	11.03.12	20mm Conduit Seal	48	15.02.1232	32mm Conduit Locknut	72	271 Y 132C	Control Panel 380/550 volts
23	15.04.1690	16mm 90° Connector	49	15.04.3200	32mm Straight Connector	73	11.03.18	32mm Conduit Seal
24	155/0728	7/16" BSF Socket Head Cap Screw 1.3/4" long	50	347/2009	1.1/4" Anaconda 9" long	74	15.02.1032	32mm Conduit Plug
25	371 X 132	Gasket				75	347/1050	5/8" Anaconda 50" long
26	164/0408	1/4" BSF Round Head Screw x 1/2" long				76	347/1066	5/8" Anaconda 66" long
						77	347/1074	5/8" Anaconda 74" long



Arrangement of Conduit and Fittings (Cont.)

271 Z2

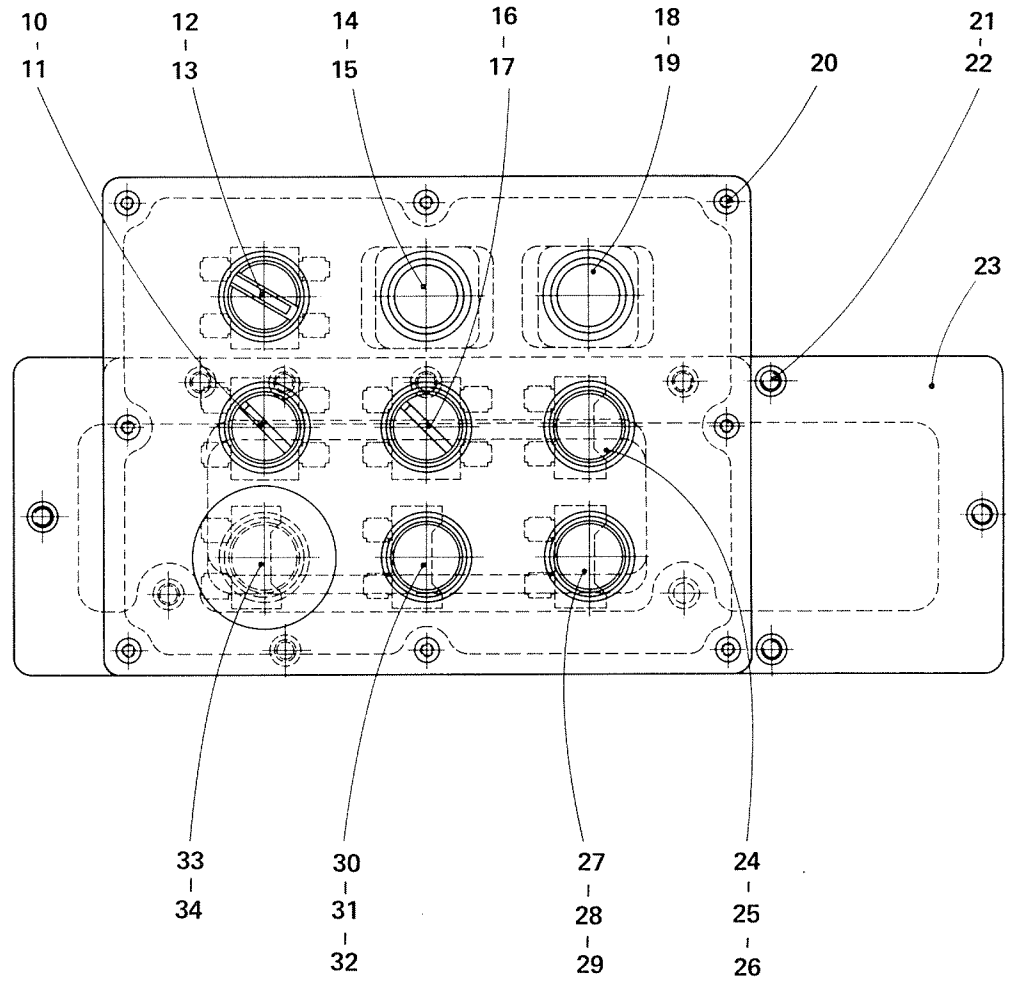
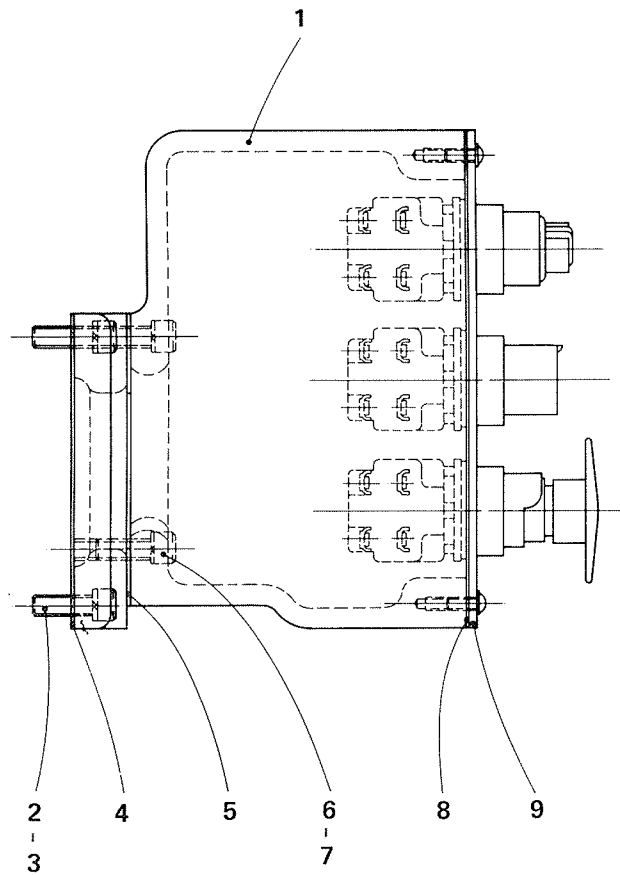
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78	15.04.1600	16mm Straight Connector	94	269 X 143	Niphen Plate	109	16 D 1200	BSA Snaplock Limit Switch
79	11.03.12	20mm Conduit Seal	95	15.02.1216	16mm Conduit Locknut	110	291/7	Legend Plate
80	11.03.10	16mm Conduit Seal	96	15.04.1600	16mm Straight Connector	111	165/406	4BA Round Head Screw 3/8" long
81	15.02.152016	20mm—16mm Reducer	97	11.03.10	16mm Conduit Seal	112	15.02.0316	16mm Conduit Elbow
82	15.04.1690	16mm 90° Connector	98	167/0410	1/4" BSF Hexagon Head Set Screw 5/8" long	113	15.02.1316	16mm Conduit Nipple
83	11.03.12	20mm Conduit Seal	99	198/8	1/4" dia. shakeproof washer	114	15.04.1600	16mm Straight Connector
84	11.03.10	16mm Conduit Seal	100	101/26	2.3/8" dia. External Circlip	115	15.04.1690	16mm 90° Connector
85	15.02.152016	20mm—16mm Reducer	101	176/0608	3/8" BSF Hollow Set Screw 1/2" long cup point	116	15.04.1600	16mm Straight Connector
86	237/246	1.1/2" Conduit Locknut	102	371 X 106 ^B	Switch Cam	117	15.02.1216	16mm Conduit Locknut
87	357/24	1.1/2" Conduit Seal	103	N811b	Niphen Socket Screw	118	11.03.09	16mm Conduit Seal
88	350/2400	1.1/2" Conduit Straight	104	N465b	Niphen Socket	119	371 X 111A	Angle Bracket
89	347/2424	1.1/2" Anaconda 24" long	105	504 V 155A	Switch Bracket	120	155/0612	3/8" BSF Socket Head Cap Screw 3/4" long
90	350/2490	1.1/2" Conduit 90°	106	15.02.152016	20mm—16mm Reducer	121	261 V 163	Conduit Box
91	357/24	1.1/2" Conduit Seal	107	11.03.10	16mm Conduit Seal	122	155/0408	1/4" BSF Socket Head Cap Screw 1/2" long
92	163 X 143	Attachment Plate	108	11.03.12	20mm Conduit Seal			
93	156/210	2BA Socket Head Cap Screw 5/8" long						



Front Push Button Panel

271Z28

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	Type TB	Square 'D' contact block	13	271 Y 145	Front adaptor plate	24	Type TR54	Square 'D' pushbutton operator
2	Type TS-1	Square 'D' selector switch	14	155/0514	5/16 BSF Socket head cap screw 7/8" long	25	Type TR6D	Colour insert
3	Type TB	Square 'D' contact block	15	271 V 120	Gasket	26	Type TA	Square 'D' contact block
4	Type TQ73	Square 'D' selector pushbutton operator	16	271 Y 164	Control Station	27	TR54	Square 'D' pushbutton operator
5	Type GL2	Square 'D' colour cap green	17	271 Y 163	Gasket for front control panel	28	Type T-6RD	Colour insert Red
6	Type TP21	Square 'D' pilot lamp	18	271 Y 161	Front Control Panel	29	Type TA	Square 'D' contact block
7	Type RL-2	Square 'D' colour cap Red	19	160/208	2BA dome head screw x 1/2" long	30	Type TR54	Pushbutton operator
8	Type TP21	Square 'D' pilot lamp	20	Type TQ73	Square 'D' selector pushbutton operator	31	Type T-6BK	Colour insert Black
9	Type TS-5	Square 'D' selector switch	21	Type TB	Square 'D' contact block	32	Type 2A	Square 'D' contact block
10	Type TA	Square 'D' contact block		TR-EQE-		33	237/356	1.1/2" conduit entry bush
11	271 X 105	Gasket	22	169	Pushbutton contact Red	34	357/24	1.1/2" Dowty seal
12	155/0416	1/4 BSF Socket head cap screw 1" long	23	Type TA	Square 'D' contact block	35	237/206	1.1/2" conduit coupler
						36	271 X 165	1.1/2" conduit pipe
						37	237/246	1.1/2" conduit locknut



Rear Push Button Panel

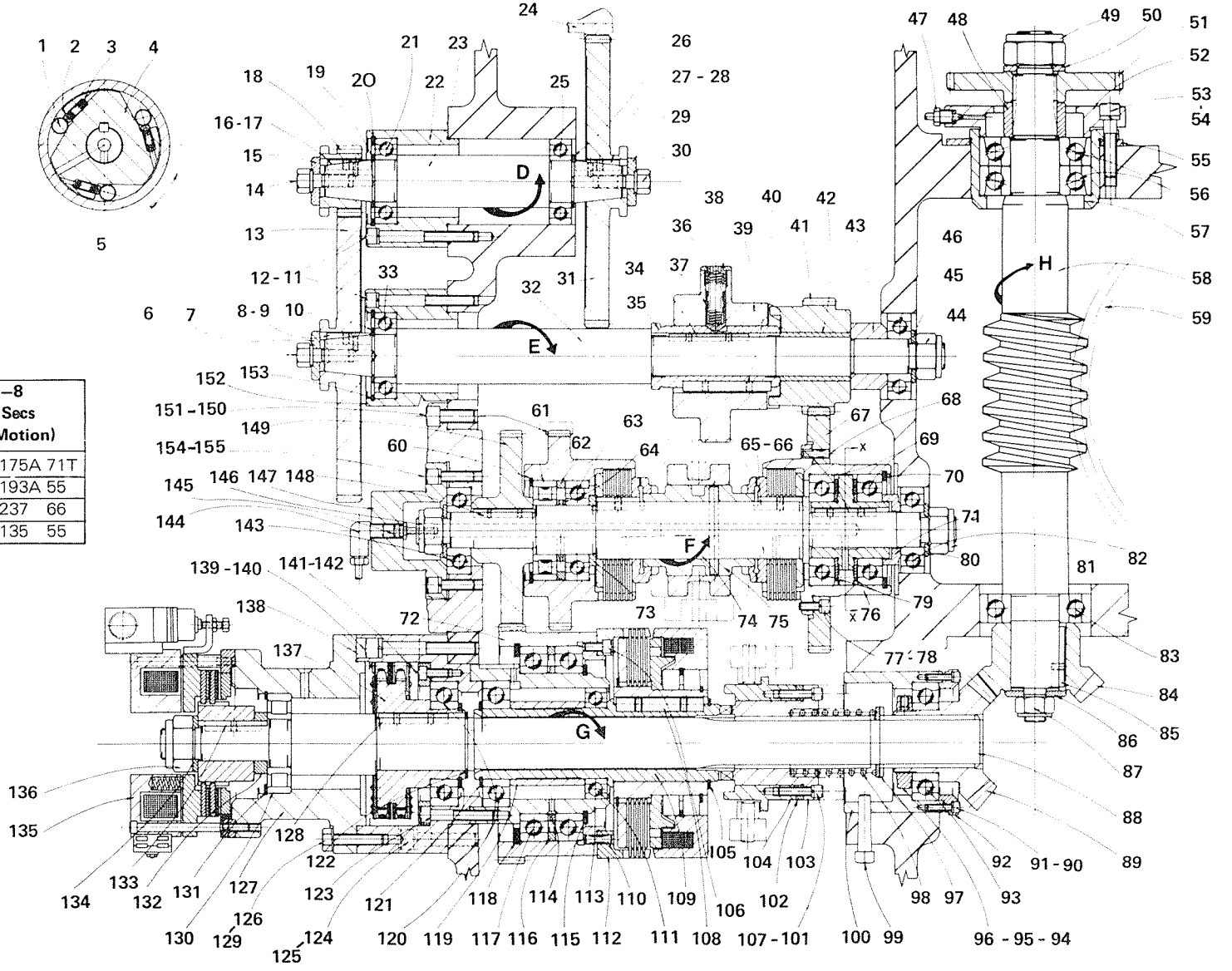
271Z29

Item	Part No.	Description	Item	Part No.	Description
1	271 Y 110	Control Station	17	Type TB	Square 'D' Contact Block
2	155/0516	5/16" BSF Socket Head Cap Screw 1" long	18	Type RL2	Square 'D' Colour Cap Red
3	154/05	5/16" Spring Washer	19	Type TP21	Square 'D' Pilot Lamp
4	271 V 113	Gasket	20	160/208	2 BA Dome Head Screw 1/2" long
5	271V 120	Gasket	21	154/05	5/16" Spring Washer
6	155/0514	5/16" BSF Socket Head Cap Screw 7/8" long	22	155/0516	5/16" BSF Socket Head Cap Screw 1" long
7	154/05	5/16" Spring Washer	23	271 Y 111	Adaptor Plate
8	271 V 114	Gasket	24	Type 2A	Square 'D' Contact Block
9	217 Y 162	Rear Control Panel	25	Type TR54	Square 'D' Pushbutton Operator
10	Type TQ73	Square 'D' Selector Pushbutton Operator	26	Type T6BK	Colour Insert Black
11	Type TB	Square 'D' Contact Block	27	Type 2A	Square 'D' Contact Block
12	Type TB	Square 'D' Contact Block	28	Type TR54	Square 'D' Pushbutton Operator
13	Type TS1	Square 'D' Selector Switch	29	Type TR6D	Colour Insert Red
14	Type GL2	Square 'D' Colour Cap Green	30	Type TA	Square 'D' Contact Block
15	Type TP21	Square 'D' Pilot Lamp	31	Type TR54	Square 'D' Pushbutton Operator
16	Type TW73	Square 'D' Selector Pushbutton Operator	32	Type T6RD	Square 'D' Colour Insert Red
			33	Type TREQE 169	Pushbutton Operator Contact Red
			34	Type TA	Square 'D' Contact Block

Electro-Magnetic Clutch and Brake for Feed Drive

218Z2A

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1		7/16" Dia. Roller	32	218V.149	Intermediate Shaft	66	121/0828T	1/4" x 1/4" Parallel Key 1.3/4" long, Tapped
2	118X.134	Free Wheel Plunger	33	258/30	30mm Light Journal	67	118X.192A	Feed Input Gear
3	118X.144A	Free Wheel Spring	34	122/1036T	7/32" x 5/16" Parallel Key 2.1/4" long, Tapped	68	118X.207	Drive Pin
4	118X.132	Free Wheel Body	35	118X.128A	Slipping Clutch Centre	69	258/40Z	40mm Light Journal
5		Section 'XX' through free wheel on Shaft F	36	317X.111	Clutch Spring	70	104/38	80mm Internal Circlip
6	118X.197A	Feed Slip Gear Screw	37	118X.199	Plunger	71	118X.142	Collar
7	118X.148	'C' Washer	38	118X.141	Spring Retaining Cap	72		'G' See Table
8	159/408	4 BA Socket Countersunk head screw 1/2" long	39	118X.127C	Slipping Clutch Body	73	118X.109	Collar
9	118X.200	Key for Pick Off Gears	40	121/1040T	5/16" x 5/16" Parallel Key 2.1/2" long, Tapped	74	118Y.151B	Fast Motion Clutch Shaft
10	103/19	30mm External Circlip	41	118X.130A	Gear	75	183X.126	Modified
11	155/0544	5/16" B.S.F. Socket Head Cap Screw 2.3/4" long	42	236/182232	1.1/8" x 1.3/8" Oilite Bush 2" long	76	118V.131B	Clutch cup
12	154/05	5/16" Dia. Spring Washer	43	118X.122A	Collar	77	154/04	1/4" Dia. Spring Washer
13		See Table	44	203/12L	3/4" B.S.F. Self Locking Locknut	78	155/0410	1/4" B.S.F. Socket Head Cap Screw 5/8" long
14	118X.197A	Feed Slip Gear Screw	45	130/12	3/4" Dia. Flat Washer	79	118X.133	Roller Retaining Plates
15	118X.148	'C' Washer	46	257/25	25mm Medium Journal	80	130/12	3/4" Dia. Flat Washer
16	159/408	4 BA Socket Countersunk Head Screw 1/2" long	47		Section 268	81	203/12L	3/4" B.S.F. Self Locking Locknut
17	118X.200	Key for Pick Off Gears	48	218X.158	Spacer	82	257/25	25mm Medium Journal
18		See Table	49	203/16L	1" B.S.F. Self Locking Locknut	83	257/35	35mm Medium Journal
19	103/19	30mm External Circlip	50	118X.161	Washer	84	218X.196	Mitre Wheel
20	104/33 q	62mm Internal Circlip	51	218X.195	Handwind Gear	85	121/1228T	3/8" x 3/8" Parallel Key 1.3/4" long, Tapped
21	258/30	30mm Light Journal	52	218X.115A	End Cap	86	218X.112	Washer
22	118X.101A	Bearing Housing	53	155/0628	3/8" B.S.F. Socket Head Cap Screw 1.3/4" long	87	203/10L	5/8" B.S.F. Self Locking Locknut
23	218X.145	Input Shaft	54	154/06	3/8" Dia. Spring Washer	88	218Y.232	Feed Clutch Shaft
24		Feed Motion Input Gear on Shaft C. See 217 Z 1	55	218X.159	Spacer	89	218X.241	Mitre Wheel
25	258/30	30mm Light Journal	56	SB 22	Medium Angular Contact Bearing	90	154/03	2 BA Flat Washer
26	103/19	30mm External Circlip	57	218X.113	Bearing Housing	91	156/210	2 BA Socket Head Cap Screw 5/8" long
27	118X.200	Key for Pick Off Gears	58	218V.137	Lower Wormshaft	92	218X.246	Clamp Ring
28	159/408	4 BA Socket Counter Sunk Head Screw 1/2" long	59	218V.270	Lower Wormwheel	93	258/45	45mm Light Journal
29	118X.148	'C' Washer	60	104/36	72mm Internal Circlip	94	176/0405	1/4" B.S.F. Socket Set Screw 5/16" long, cup point
30	118X.197A	Feed Slip Gear Screw	61	273/35Z	35mm Light Roller Journal			
31		See Table	62	118X.110	Spacer			
			63	258/35Z	35mm Light Journal			
			64	118X.108	Spacer			
			65	118X.202	Clutch Key			



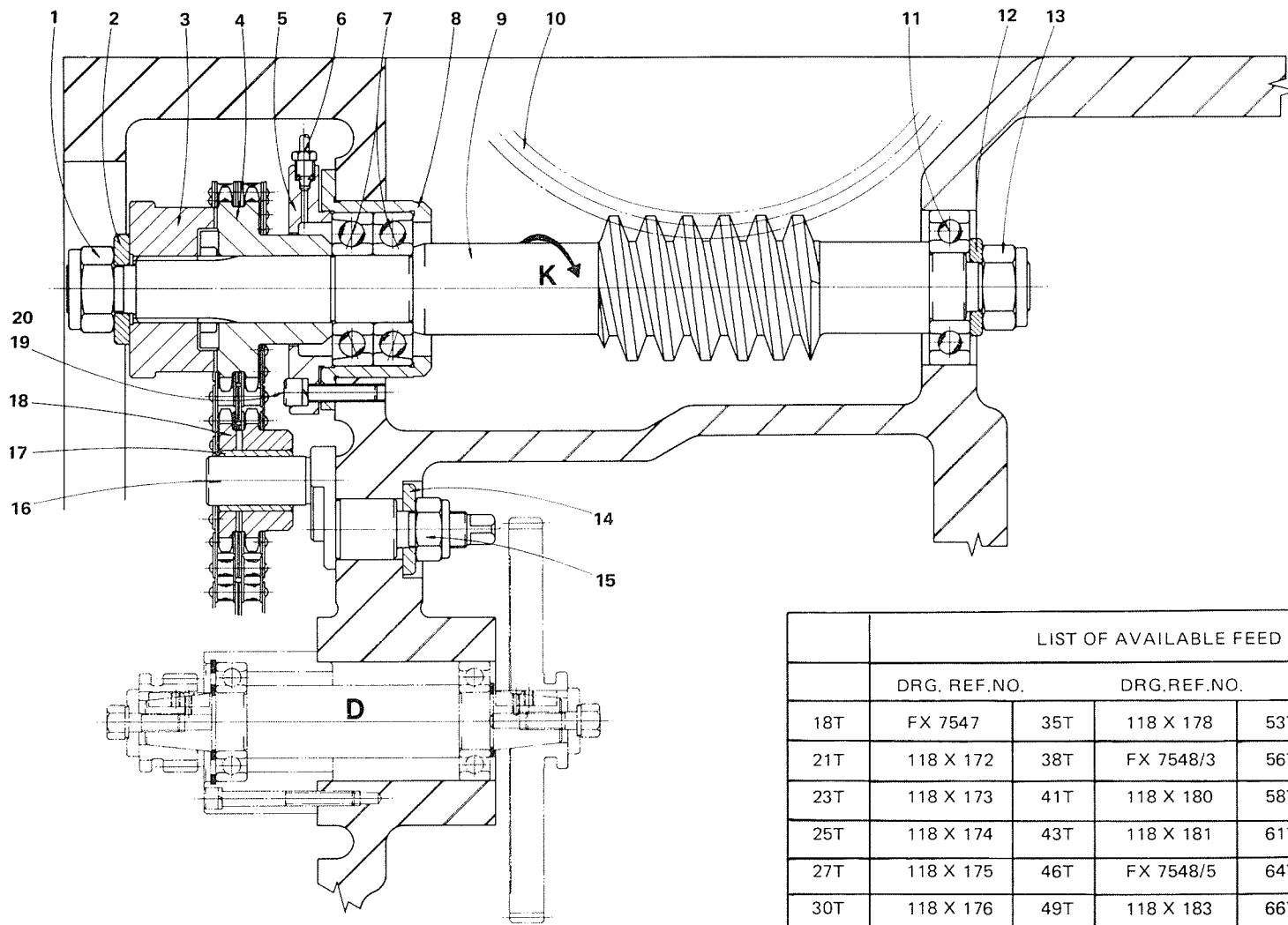
156

Gears	1"–8 (2.0 Secs Fast Motion)	1"–8 (1.6 Secs Fast Motion)	1"–8 (2.0 Secs Fast Motion)
D	218V176A 74T	218V176A 74T	218V175A 71T
F	218X193A 55	218X193A 55	218X193A 55
G	218V237 66	218V237 66	218V237 66
H	218X135 55	218X271 48	218X135 55

Electro-Magnetic Clutch and Brake for Feed Drive (Cont'd.)

218 Z2A

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
95	153/04	1/4" Dia. Soft Pad	120	258/50	50mm Light Journal	143	257/25	25mm Medium Journal
96	151/45	45mm Slotted Locknut	121	103/28	50mm External Circlip	144	219/17	3/16" Male Elbow Adaptor
97	318X.248	Spring Abutment	122	101/18	1.1/2" Dia. External Circlip	145	181AX.126	Oil Nipple
98	318X.251	Spring	123	155/0528	5/16" B.S.F. Socket Head Cap Screw 1.3/4" long	146	168X.160	Oil Bush
99	139/13	3/8" Dia. Headed Taper Dowel, Extractable	124	155/0628	3/8" B.S.F. Socket Head Cap Screw 1.3/4" long	147	218X.205	Bearing End Cap
100	218X.239	Bearing Housing	125	154/06	3/8" Dia. Spring Washer	148	121/0828T	1/4" x 1/4" Parallel Key 1.3/4" long, Tapped
101	155/0416	1/4" B.S.F. Socket Head Cap Screw 1" long	126	169/0524	5/16" B.S.F. Hexagon Head Set Screw 1.1/2" long	149		'F' See Table
102	318X.244	Adjusting Washer	127	218V.233	Brake Mounting Body	150	218V.107	Bearing Housing
103	318V.238	Sliding Clutch	128	318V.258	Metric Key	151	155/0620	3/8" B.S.F. Socket Head Cap Screw 1.1/4" long
104	218X.245	Bobbin	129	198/11	5/16" Dia. Shakeproof Washer	152	118X.101A	Bearing Housing
105	103/30	55mm External Circlip	130	273/35	35mm Light Roller Journal	153	104/33	62mm Internal Circlip
106	155/0408	1/4" B.S.F. Socket Head Cap Screw 1/2" long	131	104/36	72mm Internal Circlip	154	154/05	5/16" Spring Washer
107	154/04	1/4" Dia. Spring Washer	132	318X.266A	Spacer	155	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long
108	318X.260	Metric Key	133	118X.258	Metric Key	156	Key	
109	218Y.236	Clutch Sleeve	134	130/14	7/8" Dia. Flat Washer			
110	126/0812	1/4" Dia. Parallel Dowel 3/4" long	135	118V.231A	Electro Magnetic Brake			
111	268/50	50mm Extra Light Journal	136	203/14L	7/8" B.S.F. Self Locking Locknut			
112	318V.230A	Electro Magnetic Clutch	137	218X.240	Drive Sprocket			
113	218V.235	Bearing Housing Sleeve	138	218V.234	Bearing Housing			
114	318X.250	Inner Spacer	139	154/06	3/8" Dia. Spring Washer			
115	103/42	100mm External Circlip	140	155/0644	3/8" B.S.F. Socket Head Cap Screw 2.3/4" long			
116	318X.252	Outer Spacer	141	218X.242	Clamp Plate			
117	275/100	100mm Extra Light Ball Journal	142	155/0410	1/4" B.S.F. Socket Head Cap Screw 5/8" long			
118	104/50	140mm Internal Circlip						
119	318X.247	Spacer						

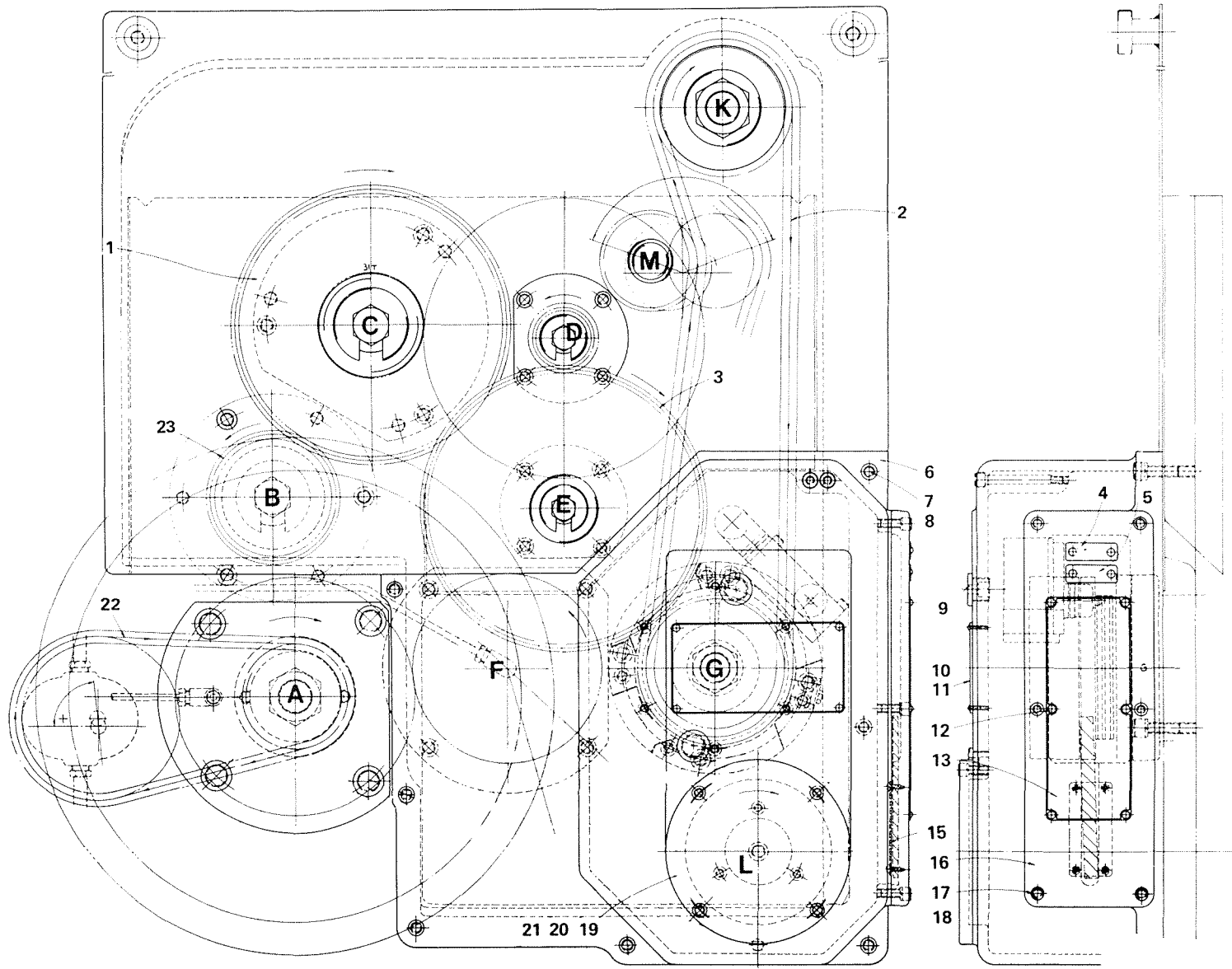


LIST OF AVAILABLE FEED GEARS 10 DP 20° PA							
	DRG. REF.NO.	DRG. REF.NO.	DRG. REF.NO.	DRG. REF.NO.	DRG. REF.NO.	DRG. REF.NO.	DRG. REF.NO.
18T	FX 7547	35T	118 X 178	53T	FX7548/6	71T	218 V 175
21T	118 X 172	38T	FX 7548/3	56T	118 X 186	74T	218 V 176
23T	118 X 173	41T	118 X 180	58T	218 X 172	76T	218 V 177
25T	118 X 174	43T	118 X 181	61T	118 X 188	78T	218 V 178
27T	118 X 175	46T	FX 7548/5	64T	218 V 180	81T	218 V 179
30T	118 X 176	49T	118 X 183	66T	118 Y 190A		
32T	118 X 177	50T	218 X 171	69T	218 V 174		

Electro-Magnetic Clutch and Brake for Feed Drive

218Z3

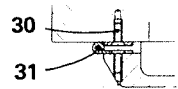
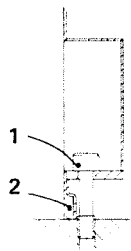
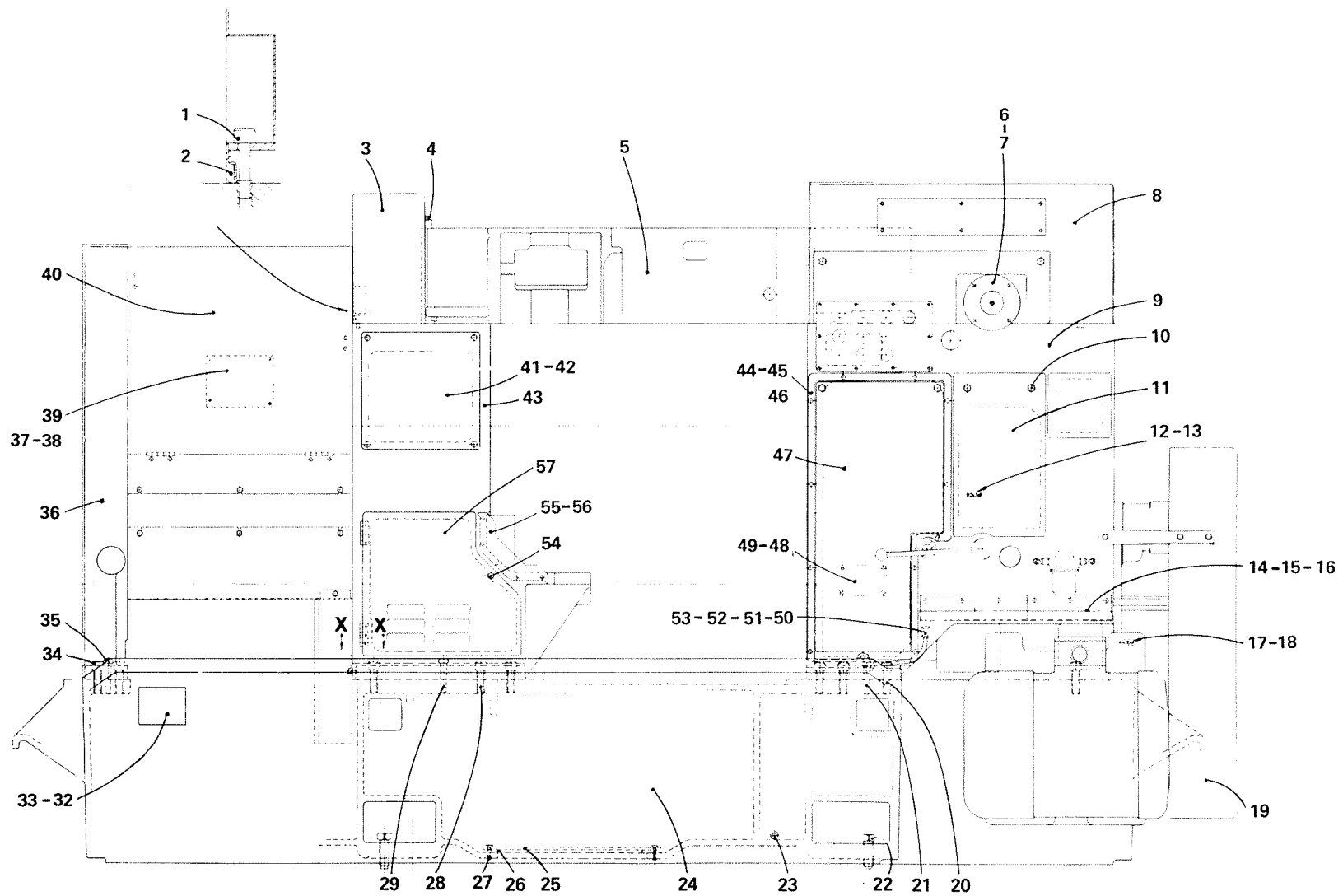
Item	Part No.	Description
1	203/16L	1" BSF Self Locking Locknut
2	317 X 126	Clamp washer
3	318 X 167	Clutch Member
4	318 X 168	Wormshaft sprocket
5	218 X 115A	End Cap
6		Section 268
7	SB 22	Medium Angular contact bearing
8	218 X 113	Bearing Housing
9	218 V 138	Upper wormshaft
10	218 Y 125	Upper wormwheel
11	257/35	35 mm Medium journal
12	318 X 111	Washer
13	203/16L	1" BSF Self Locking Lucknut
14	518 X 197	Collar
15	203/12L	3/4 BSF Self Locking Locknut
16	518 X 163	Jockey Eccentric
17	236/162024	1" x 1.1/4" Oil Retaining Bush 1.1/2" long
18	218 X 169	Jockey sprocket
19	155/0624	3/8 BSF Socket Head Cap Screw 1.1/4" long
20	154/06	3/8" dia. spring washer
21	Key	



Motor Drive End of Main Drive Housing (Electro-Magnetic Brake & Clutch)

218Z4A

Item	Part No.	Description	Item	Part No.	Description
1	—	Spindle Speed Pick-Off Gear, 34 teeth, 8 D.P.	13	118V.255	Brake Adjustment Nameplate
2	BS No. 7 Duplex	Chain 1/2" Pitch, 0.335" Roller dia. 92 pitches long	14	165/404	Round Head Set Screw, 4 B.A. x 1/4" long
3	—	Feed Pick-Off Gear, 27 teeth — 81 teeth, 10 D.P.	15	322X.242	Reset Pin Retaining Plate
4	291/81	Legend Plate, 2 LS	16	322V.241	Brake Housing Cover
5	291/2	Legend Plate, 2 MC	17	155/0410	Socket Head Cap Screw, 1/4" BSF. x 5/8" long
6	222Z.240	Magnetic Brake Housing	18	154/04	Spring Washer for 1/4" BSF.
7	155/0516	Socket Head Cap Screw, 5/16" BSF. x 1" long	19	322X.244	End Cover
8	154/05	Spring Washer for 5/16" dia.	20	155/0410	Socket Head Cap Screw 1/4" BSF. x 5/8" long
9	118X.141	Spring Retaining Plug	21	154/04	Spring Washer, for 1/4" BSF.
10	165/404	Round Head Set Screw, 4 B.A. x 1/4" long	22	BS. No. 3 Simple	Chain, 3/8" Pitch, 0.25" Roller dia. 64 Pitches long
11	318X.253	Brake Release Instruction Plate	23	—	Spindle Speed Pick-Off Gear, 28 teeth — 58 teeth, 8 D.P.
12	165/404	Round Head Set Screw, 4 B.A. x 1/4" long			

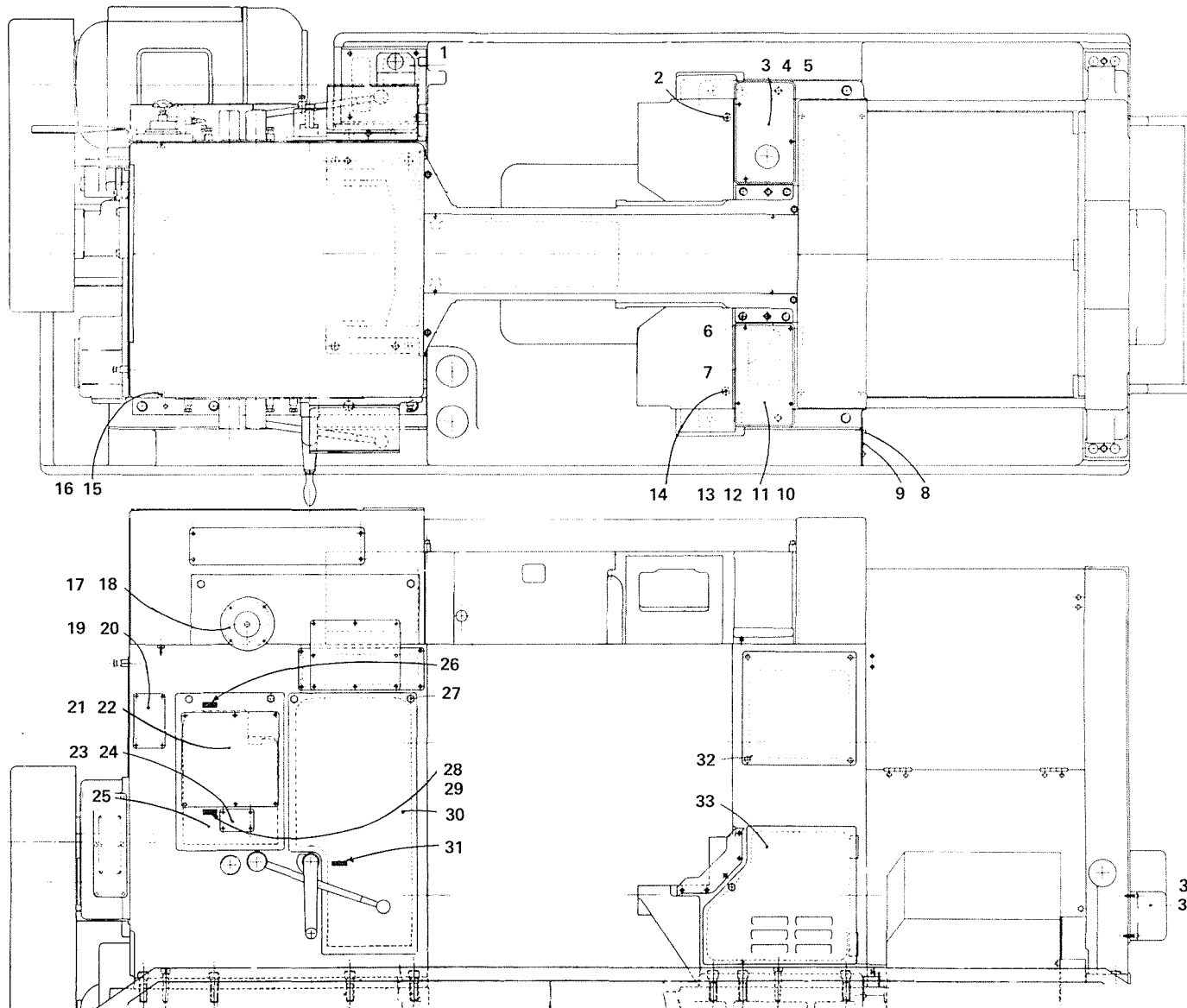


SECTION XX
THRO' HINGE

Cover Arrangement Front

222Z11

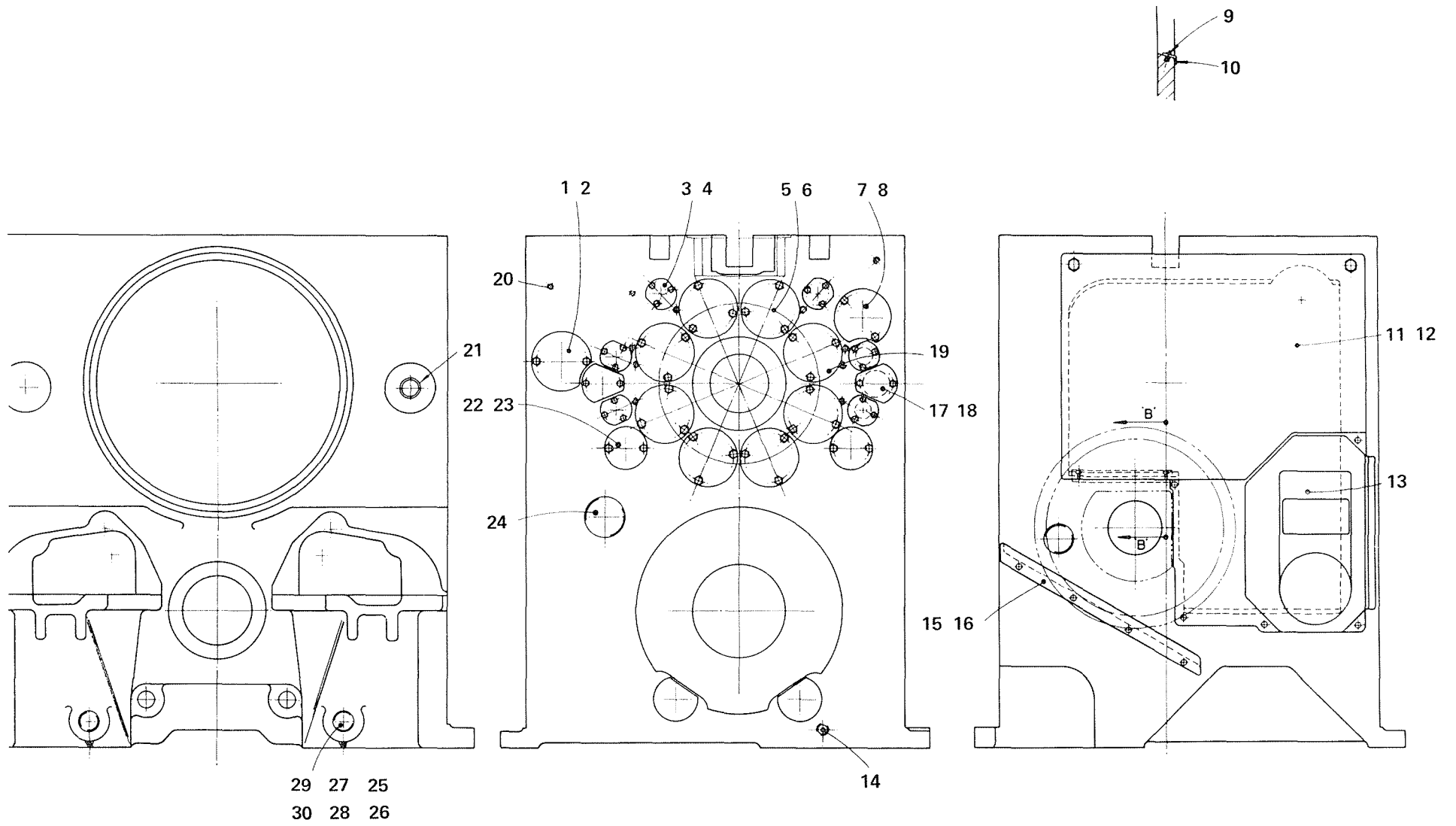
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	222 X 227	Screw	16	222 X 301	Gasket for oil drip tray	31	240/4024	Hinge 1.1/2" wide x 2.1/2" long
2		3/16 sponge neoprene strip 5/8" long	17	291/17	Legent plate	32	165/404	4BA round head screw 3/8" long
3	222 Z 267	Drum housing top motions cover	18	165/404	4BA Round head screw 1/4" long	33	272 X 142	Tray capacity construction plate
4	155/0624	3/8 BSF Socket head cap screw 1.1/2" long	19		See 216 Z 1C for belt guard assembly	34	155/1440	7/8 BSF Socket head cap screw 2.1/2" long
5	222 Z 264	Beam----Machine drawing	20	155/1440	7/8 BSF Socket head cap screw 2.1/2" long	35	139/27	5/8 dia. taper pin 3" long extractable
6	159/404	4BA Socket countersunk headscrew 1/4" long	21	139/27	5/8 dia. taper pin 3" long extractable	36	222 Z 262	End bracket
7	172 X 157D	Programme disc	22	188/1648	1" BSF Square head set screw 3" long	37	203/4	4BA Self locking nut
8		See 222 Z 14 for upper motions cover assembly	23	194/4	1/2 BSP socket pipe plug	38	165/406	4BA Round head screw 3/8" long
9	222 Z 265	Main Drive Housing	24	222 Y 275	Tray. Extra machining	39	153 Y 154A	Bar Feed Adjusting Plate
10	122 X 130A	Door bolt	25	125 V 228C	Cover for feed cam	40		See 222 Z 15 for bar feed covers assembly
11	22 V 269	Front drive cover	26	122 V 229A	Blanking plate for upper cross slides			
12	291/3	Legent plate	27	167/0620	3/8 BSF Hexagon head set screw 1.1/4" long			
13	165/404	4BA Round head screw 1/4" long	28	155/1440	7/8 BSF Socket head cap screw 2.1/2" long			
14	222 Z 273A	Oil drip tray	29	139/27	5/8 dia. taper pin 3" long extractable			
15	155/0512	5/16" BSF Socket head cap screw 3/4" long	30	159/208	2BA Countersunk head screw 1/2" long			



Cover Arrangement Rear

222Z12

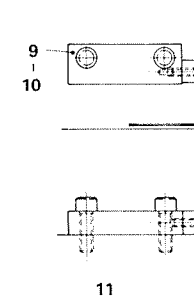
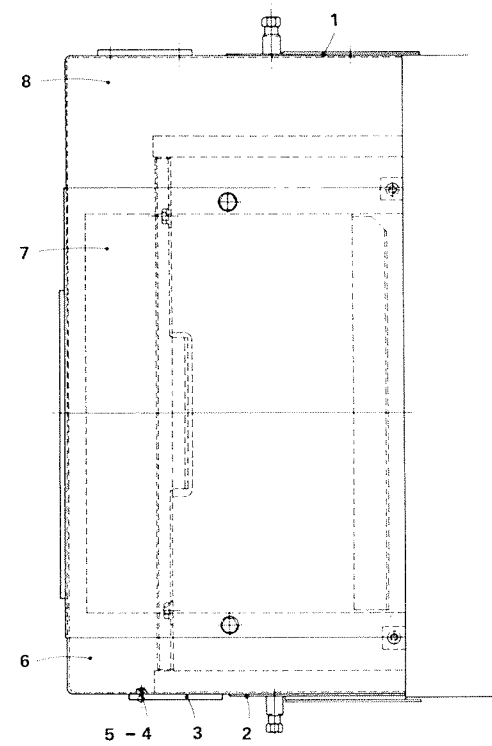
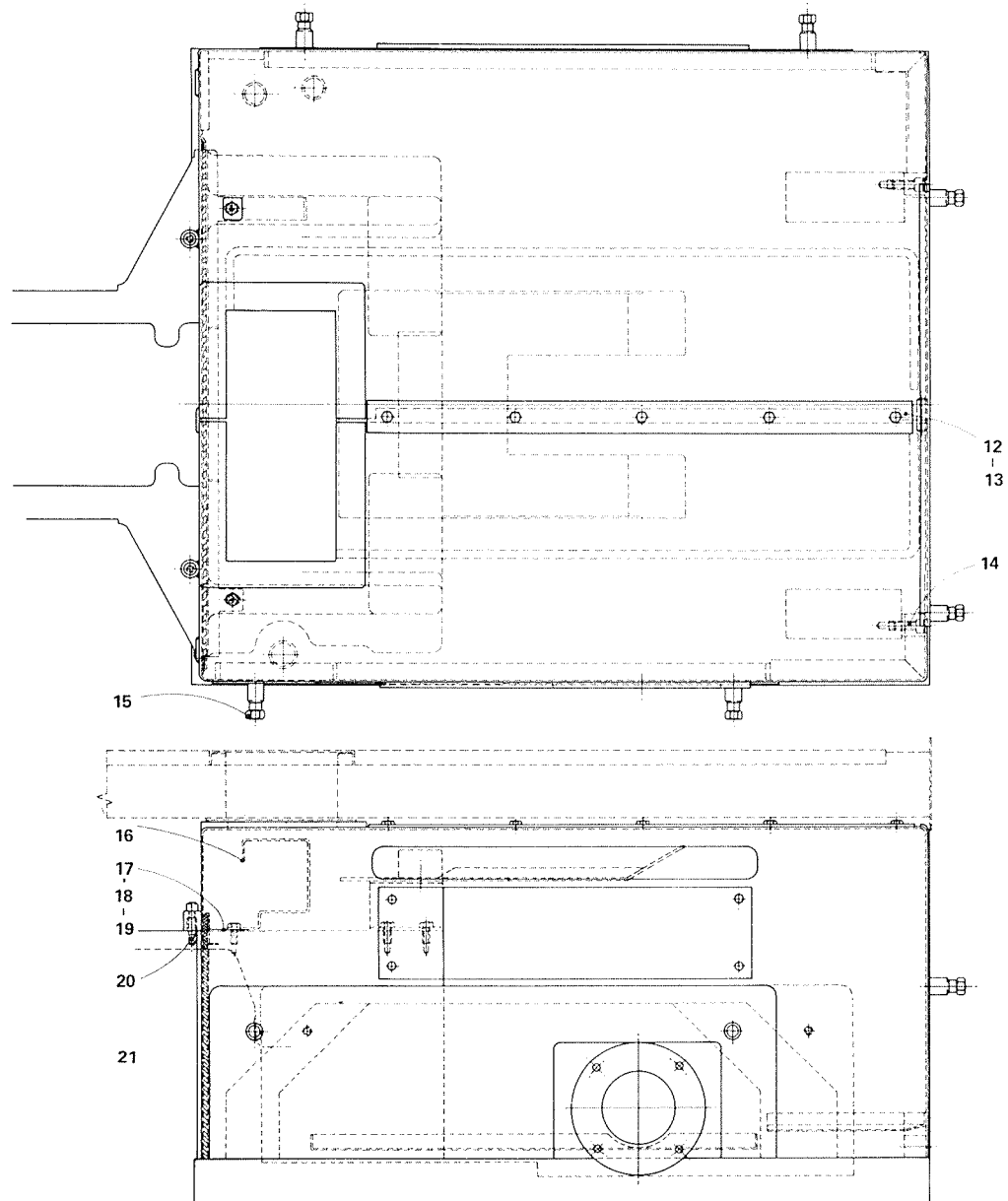
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1		See 268 Z 15 for arrangement of float switch	13	155/0414	1/4 BSF Socket head cap screw 7/8" long	26	291/1	Legent plate
2	194/4	Half BSP Socket pipe plug	14	194/4	1/2 BSP socket pipe plug	27	122 X 130A	Door bolt
3	222 Y 201B	Front tool tray	15	322 X 125	Filling piece	28	291/80	Legent plate
4	155/0414	1/4 BSF Socket head cap screw 7/8" long	16	155/0410	1/4 BSF Socket head cap screw 5/8" long	29	165/404	4BA Round head screw 1/4" long
5	222 X 203	Drip pipe	17	159/404	4BA Socket countersunk headscrew 1/4" long	30	222 Z 274	Rear attachment cover
6	155/1028	5/8 BSF Socket head screw 1.3/4" long	18	172 X 159B	Programme disc	31	291/4	Legent plate
7	139/26	5/8" dia. taper pin 2.1/2" long extractable	19	165/404	4BA Round head screw 1/4" long	32	222 X 140A	Drum housing cover
8	164/0408	1/4 BSF Round head screw 1/2" long	20	230E	Machine identification plate	33	222 V 138B	Rear drum housing door
9	222 X 191	Tray plate	21	165/204	2BA Round head screw 1/4" long	34	155/0516	5/16 BSF Socket head cap screw 1" long
10	222 X 203	Drip pipe	22	272 Y	Speed and feed plates	35	222 X 134	Cover
11	222 X 202B	Rear tool tray	23	165/404	4BA Round head screw 1/4" long			
12	222 X 213	Gasket for rear tool tray	24		Herberts clutch instruction plate			
			25	222 V 268	Feed box cover			



Cover Arrangement End Views

222Y13

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	167/0516	5/16" BSF Hexagon Head Set Screw 1" long	13		See 218 Z 4 for brake covers	22	222 X 277	Lower Pusher Bore Cover Plate
2	222 X 280	Rear Chasing Bore Cover Plate	14	194/4	1/2" BSP Socket Pipe Plug	23	167/0410	1/4" BSF Hexagon Head Set Screw 5/8" long
3	167/0410	1/4" BSF Hexagon Head Set Screw 5/8" long	15	155/0516	5/16" BSF Socket Head Cap Screw 1" long	24	537 X 116	Plug
4	222 X 279	Trip Rod Bore Cover Plate	16	322 X 157	Oil Drip Shield	25	203/05	5/16" BSF Self Locking Nut
5	167/0512	5/16" BSF Hexagon Head Set Screw 3/4" long	17	167/0410	1/4" BSF Hexagon Head Set Screw 5/8" long	26	155/0512	5/16" BSF Socket Head Cap Screw 3/4" long
6	222 X 276	Attachment Bore Cover Plate	18	222 X 278	Upper Pusher Bore Cover Plate	27	182/0520	5/16" BSF Socket Head Screw 1.1/4" long taper
7	167/0516	5/16" BSF Hexagon Head Set Screw 1" long	19	176/0612	3/8" BSF Socket Set Screw 3/4" long cup point	28	322 X 129	Retaining Plate
8	222 X 281	Front Chasing Bore Cover Plate	20	176/0510	5/16" BSF Socket Set Screw 5/8" long cup point	29	222 X 129	Plug
9	160/206	2BA Dome Headscrew 3/8" long	21	236/202420	1.1/4" x 1.1/2" Oil Retaining Bush 1.1/4" long	30	322 X 128	Gasket for Retaining Plate
10	222 X 153	Splash Plate						
11	222 Y 243	Change Gear Cover						
12	122 X 130A	Door Bolt						



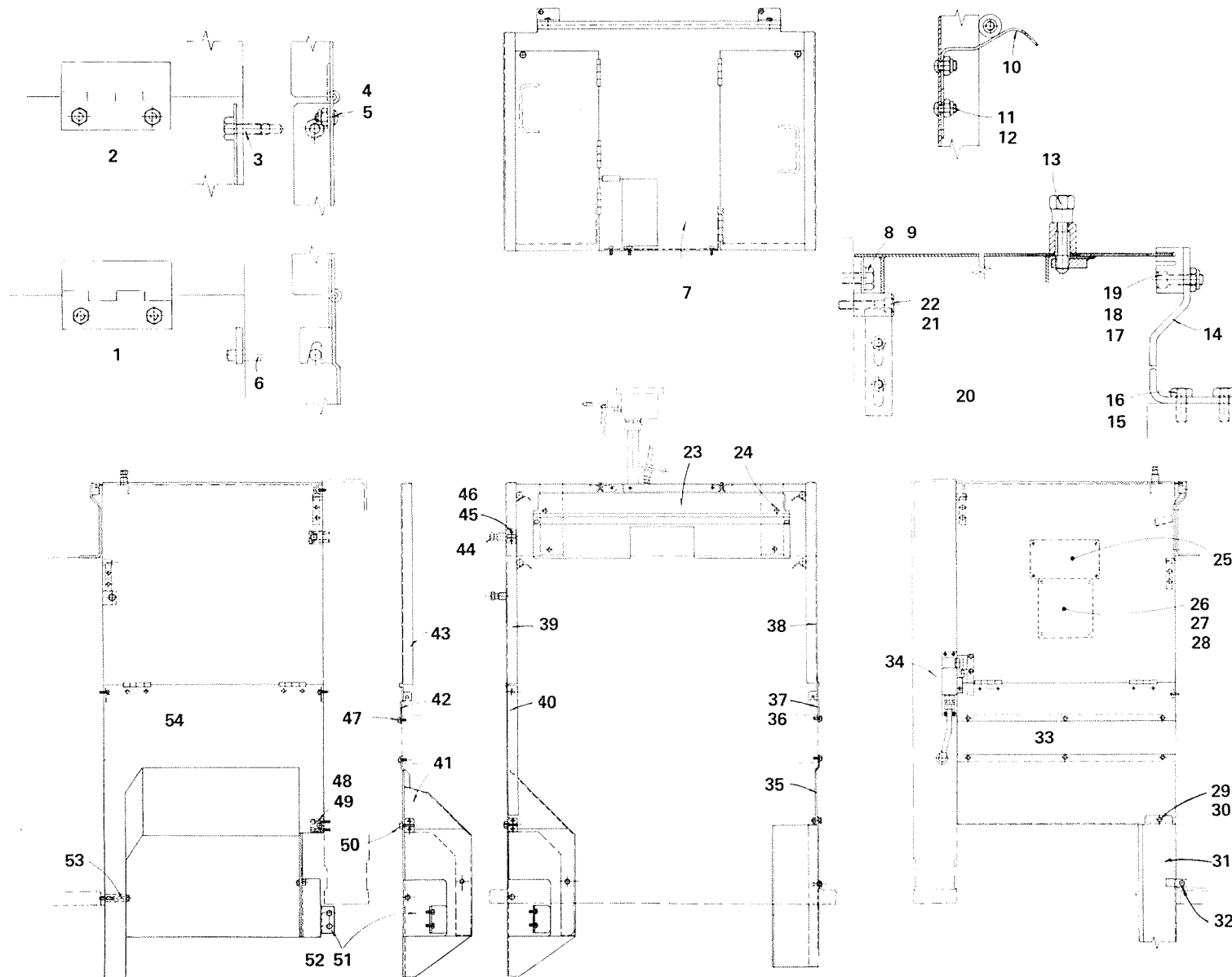
USE THIS DETAIL WHEN SECTION 224 & OR 225 IS NOT FITTED



Main Drive Housing Top Covers

222 Z14

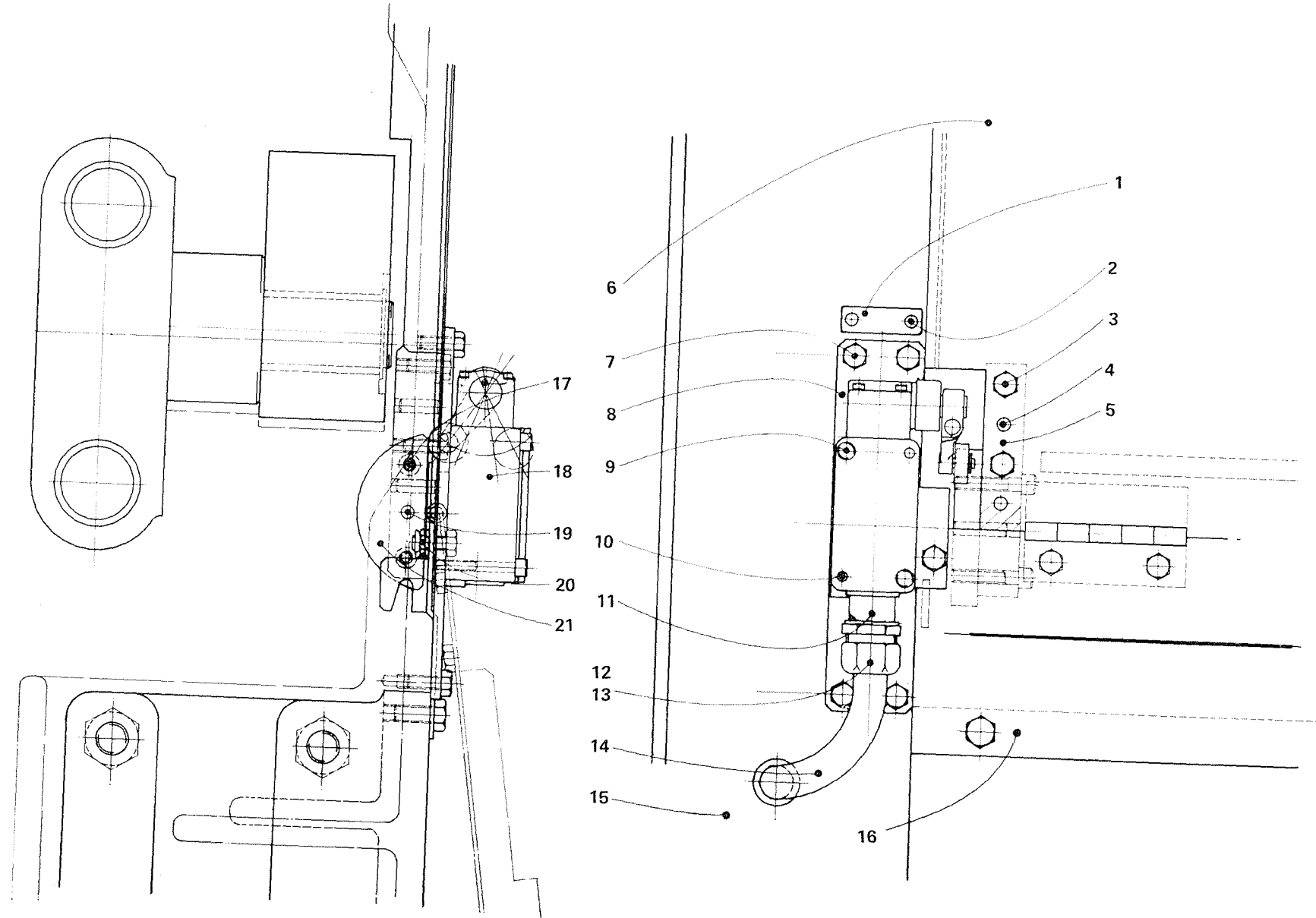
Item	Part No.	Description
1	222Y.250A	Drive Housing Rear Cover Plate
2	222Y.294	Drive Housing Front Cover Plate
3	222Y.282	Name Plate 1"—8
4	192/208	2 B.A. Instrument Head Screw 1/2" long
5	203/2L	2 B.A. Self Locking Locknut
6	222Z.292	Drive Housing Front Top Cover
7	222Y.300	Drive Housing End Cover
8	222Z.293	Drive Housing Rear Top Cover
9	222X.190	Securing Block
10	155/1028	5/8" B.S.F. Socket Head Cap Screw 1.3/4" long
11		Use this detail when section 224 and/or 225 is not fitted
12	222V.295	Drive Housing Top Cover Strip
13	167/0408	1/4" B.S.F. Hexagon Head Set Screw 1/2" long
14	155/0616	3/8" B.S.F. Socket Head Cap Screw 1" long
15	122X.130A	Door Bolt
16	222X.253	Conduit Support Brackets
17	222Y.252	Beam Sealing Strip
18	167/0512	5/16" B.S.F. Hexagon Head Set Screw 3/4" long
19	197/11	5/16" dia. Block Washer
20	222X.227	Screw
21		Volacel 'RZ' Type 3/16" thick. Neoprene (Soft closed type and oil resistance) 5/8" wide



Bar Feed Covers

222Z15A

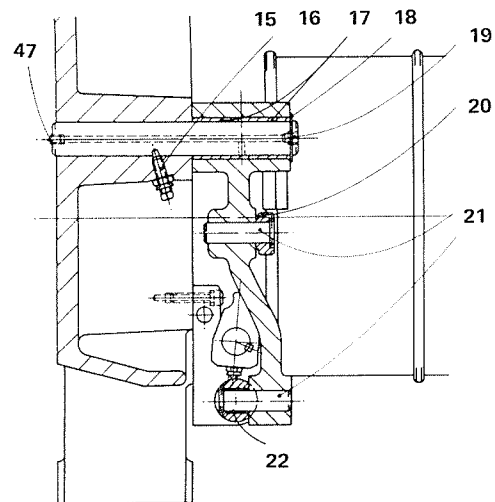
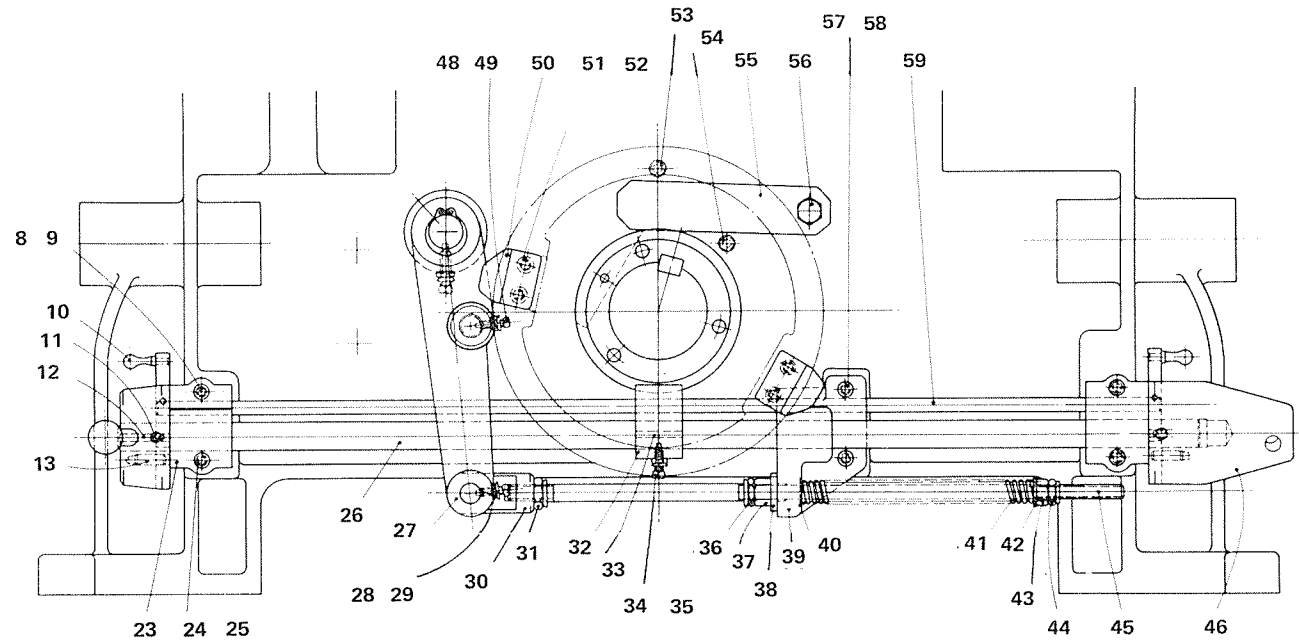
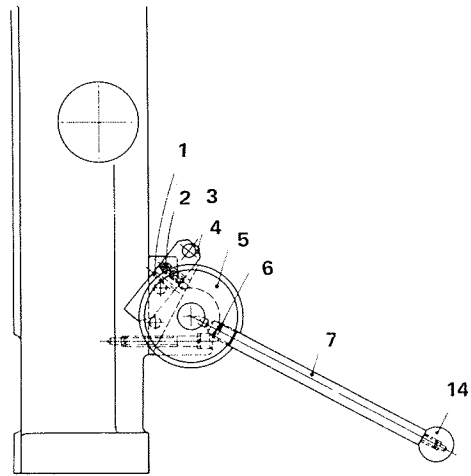
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1		Detail C. Two views of Cover Supports at Drum Housing. End only on Cover 222V.289A.	25	267X.198	Bar Feed Instruction) Double Plate) bar feed	48	155/0532	5/16" B.S.F. Socket Head Cap Screw 2" long
2		Detail B. Two views of Hinge Assembly and Cover Supports on Cover 222Z.285 only.	26	267X.197	Bar Feed Adjustable) and Plate) spindle	49	222X.288A	Cover Block
3	167/0512	5/16" B.S.F. Hexagon Head Gear Screw 3/4" long	27	165/406	4 B.A. Round Head) stopping Screw 3/8" long) double	50	167/0512	5/16" B.S.F. Hexagon) Double Head Set Screw 3/4") bar feed long) machines
4	203/04	1/4" B.S.F. Self Locking Nut	28	203/4	4 B.A. Self Locking) bar feed Nut) m/cs only	51	222V.287	Rear Cover for Bar Feed) only
5	160/040B	1/4" B.S.F. Socket Dome Head Screw 1/4" long	29	167/0512	5/16" B.S.F. Hexagon Head Set Screw 3/4" long	52	167/0512	5/16" B.S.F. Hexagon Head Set Screw 3/4" long
6	143/1016D	5/16" dia. Grooved Pin 1" long	30	203/05L	5/16" Self Locking Locknut	53	167/0548	5/16" B.S.F. Hexagon Head Set Screw 3.1/2" long
7	222Z.296	Upper Hinged Cover	31	222Y.283	Bar Stop Rod Gears	54		Rear View
8	167/0512	5/16" B.S.F. Hexagon Head Set Screw 3/4" long	32	167/0512	5/16" B.S.F. Hexagon Head Set Screw 3/4" long			
9	197/11	5/16" dia. Shakeproof Washer	33		Front View			
10	122X.116	Spring Catch	34		For details of Interlock Switches see 222 Y 16			
11	160/0408	1/4" B.S.F. Round Head Screw 1/2" long	35	222V.189	Fixed Lower Bar Feed Cover			
12	203/04	1/4" B.S.F. Self Locking Nut	36	167/0512	5/16" B.S.F. Hexagon Head Set Screw 3/4" long			
13	122X.130A	Door Knob	37	222V.289A	Fixed Bar Feed Cover			
14	222V.167	Top Cover Guide Bracket	38	222Y.297	Hinged Bar Feed Cover			
15	197/11	5/16" Shakeproof Washer	39	222Y.299	Hinged Bar Feed Cover) Single bar			
16	167/0512	5/16" B.S.F. Hexagon Head Set Screw 3/4" long	40	222Z.285	Fixed Lower Bar Feed) feed Cover) only			
17	203/05L	5/16" B.S.F. Self Locking Locknut	41	222Z.286	Fixed Lower Bar Feed) Cover) Double			
18	155/0516	5/16" B.S.F. Socket Head Cap Screw 1" long	42	222V.289A	Fixed Bar Feed Cover) bar feed			
19	222X.165	Top Cover Guide	43	222Y.298	Hinged Bar Feed Cover) machines			
20		Full Size Scrap Section of Top Cover Assembly	44	122X.130A	Door Knob) only			
21	155/0420	1/4" B.S.F. Socket Head Cap Screw 1.1/4" long	45	222X.288A	Cover Block)			
22	122X.204	Latch Post	46	155/0532	5/16" B.S.F. Socket) Head Cap Screw 2") long)			
23	222Y.290	End Cover	47	167/0512	5/16" B.S.F. Socket) Head Cap Screw 3/4") long)			



Front Bar Feed Cover Interlock

222Y16

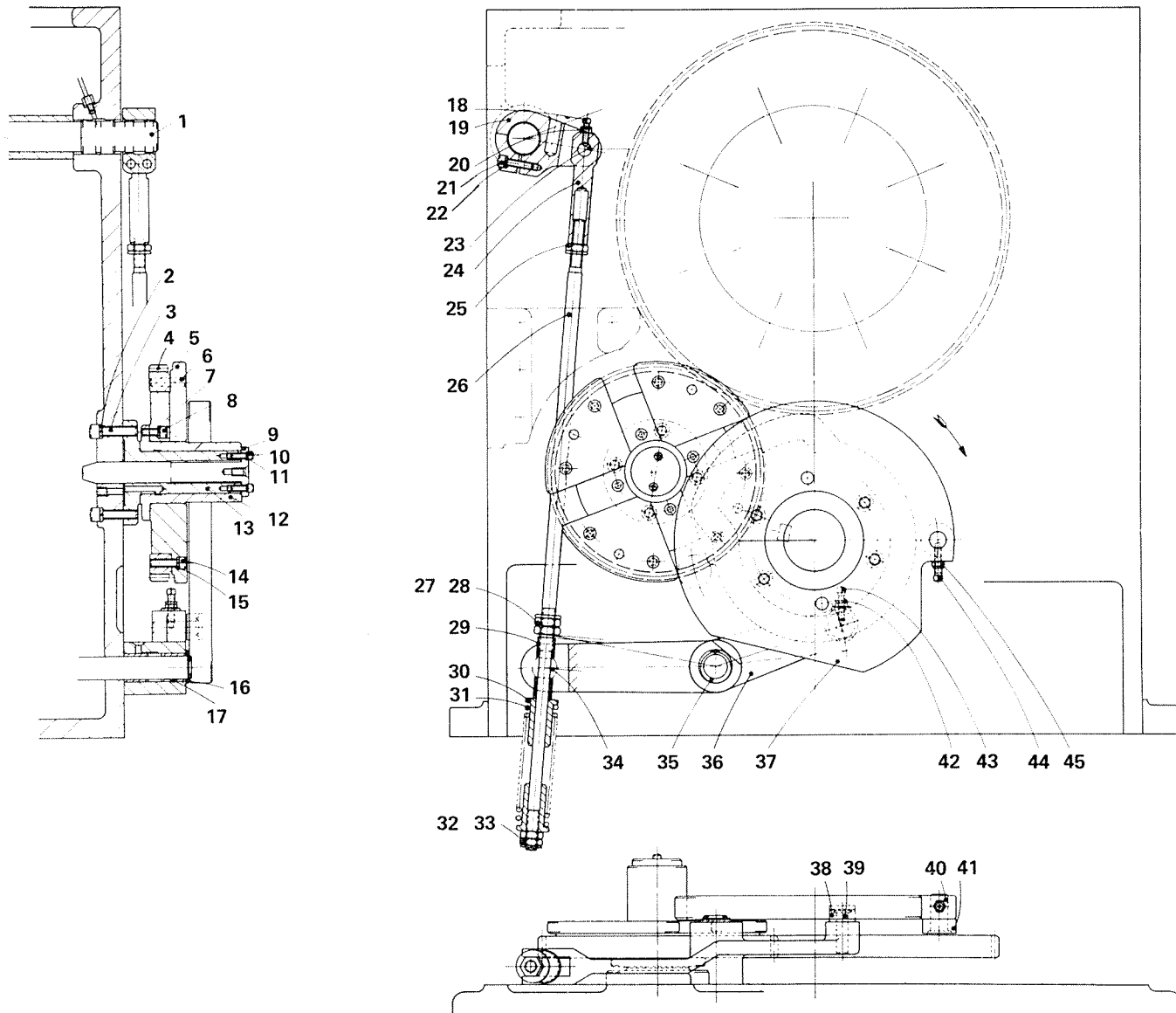
Item	Part No.	Description	Item	Part No.	Description
1	291/14	Legend plate	13	15.04.1600	16 mm – 5/8 conduit connector
2	165/404	4BA Round head screw 1/4" long	14	347/1072	5/8 conduit 6ft long
3	167/0410	1/4 BSF Hexagon head set screw 5/8" long	15	222 V 241	Brake housing cover
4	326/0812	1/4 dia. tension pin 3/4 long	16	222 V 289A	Fixed bar feed cover
5	122 X 251	Mounting block	17	155/0420	1/4 BSF Socket head cap screw 1.1/4" long
6	222 Y 257	Front cam feed cover	18	3SE3 120-1G	Siemens limit switch
7	167/0410	1/4 BSF Hexagon head set screw 5/8 long	19	326/0816	1/4 dia. tension pin 1" long
8	122 X 254	Switch plate	20	203/04	1/4 BSF Self locking nut
9	156/224	2BA Socket head cap screw 1.1/2" long	21	122 X 250	Switch cam
10	08.06.0514	5 mm dia. tension pin			
11	15.01.1316.13.5P	16 mm adaptor			
12	11.03.09	16 mm rubber seal			



Index Clutch Operation

245Z2

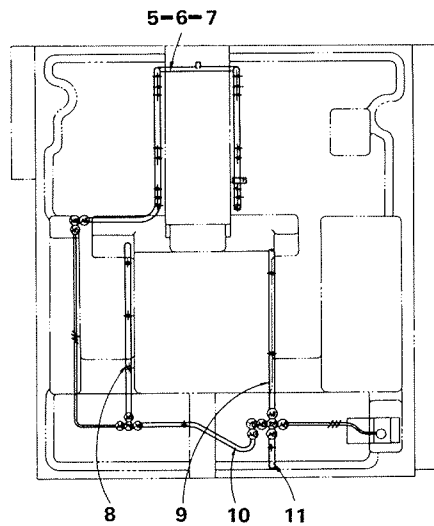
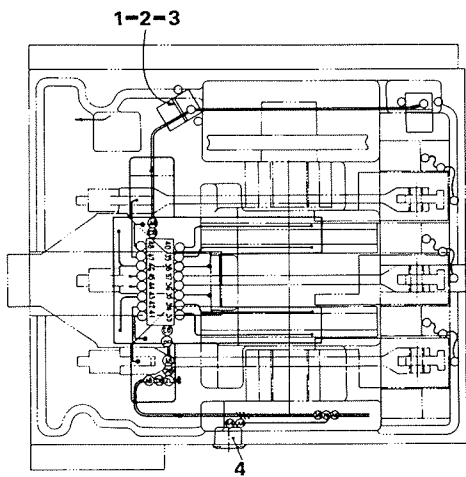
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	125/1116	11/64" dia. Taper Pin 1" long	24	155/0644	3/8" B.S.F. Socket Head Cap Screw 2.3/4" long	48	183/0516	5/16" B.S.F. Square Head Set Screw Taper Point 1" long
2	345X.110	Spring	25	154/06	3/8" dia. Spring Washer	49	203/05	5/16" B.S.F. Self Locking Nut
3	245X.129	Spring Sleeve	26	245/104	Shaft	50	345X.125	Detent
4	245X.108	Spring Sleeve	27	345Y.120A	Lever	51	155/0620	3/8" B.S.F. Socket Head Cap Screw 1.1/4" long
5	345X.106	Lever Boss	28	183/0516	5/16" B.S.F. Square Head Set Screw Taper Point 1" long	52	154/06	3/8" dia. Spring Washer
6	179/203	2 B.A. Socket Set Screw 3/16" long	29	203/05	5/16" B.S.F. Self Locking Nut	53	155/0610	3/8" B.S.F. Socket Head Cap Screw 5/8" long
7	345X.109A	Lever	30	599AX.108	Pusher Connection	54	154/06	3/8" dia. Spring Washer
8	155/0624	3/8" B.S.F. Socket Head Cap Screw 1.1/2" long	31	203/10L	5/8" B.S.F. Self Locking Nut-Thin	55	545X.111	Baulking Strip
9	154/06	3/8" dia. Spring Washer	32	345V.101C	Clutch Lever	56	545X.112	Fulcrum Stud
10	356X.137	Handle	33	121/0828T	Tapped Key 1/4" square x 1.3/4" long	57	155/0624	3/8" B.S.F. Socket Head Cap Screw 1.1/2" long
11	176/9612	3/8" B.S.F. Socket Set Screw 3/4" long	34	183/0516	5/16" B.S.F. Square Head Set Screw Taper Point 1" long	58	154/06	3/8" dia. Spring Washer
12	121/0824T	Tapped Key 1/4" Square x 1.1/2" long	35	203/05	5/16" B.S.F. Self Locking Nut	59	245X.128	Shaft
13	126/1218	3/8" dia. Parallel Pin 1.1/8" long	36	203/10L	5/8" B.S.F. Self Locking Nut-Thin			
14	241/13	Bakelite Knob — Black	37	173/10	5/8" B.S.F. Hexagon Nut			
15	183/0628	3/8" B.S.F. Square Head Set Screw Taper Point 1.3/4" long	38	345V.103	Washer			
16	203/06	3/8" B.S.F. Self Locking Nut	39	345V.102	Clutch Lever Bracket			
17	236/202424	Oil Retaining Bush	40	130/08	1/2" dia. Flat Washer			
18	101/15	1.1/4" dia. External Circlip	41	245X.127	Spring			
19	368X.522	Pivot Shaft	42	130/08	1/2" dia. Flat Washer			
20	141X.121	Cam Roller	43	173/08	1/2" B.S.F. Hexagon Nut			
21	141X.122	Pin for Cam Roller	44	203/08	1/2" B.S.F. Self Locking Nut			
22	236/121414	Oil Retaining Bush	45	245X.122	Spring Rod			
23	345X.105	Clutch Rod Bracket	46	245V.196A	Lever Boss			
			47	177/0508	5/16" B.S.F. Socket Set Screw 1/2" long, cone point			



Indexing Gears and Drum Locking Operation

248Z1

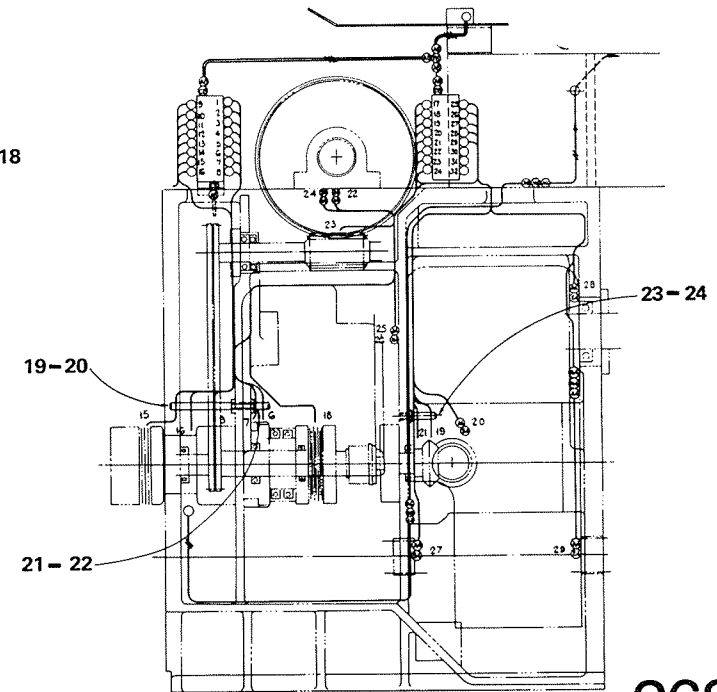
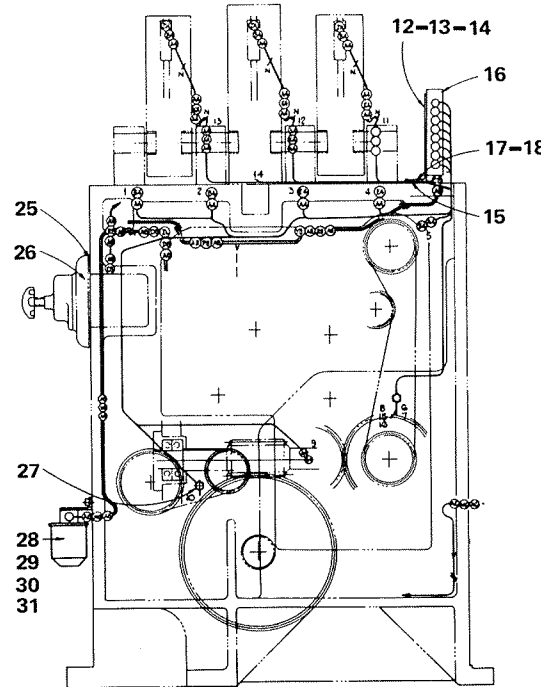
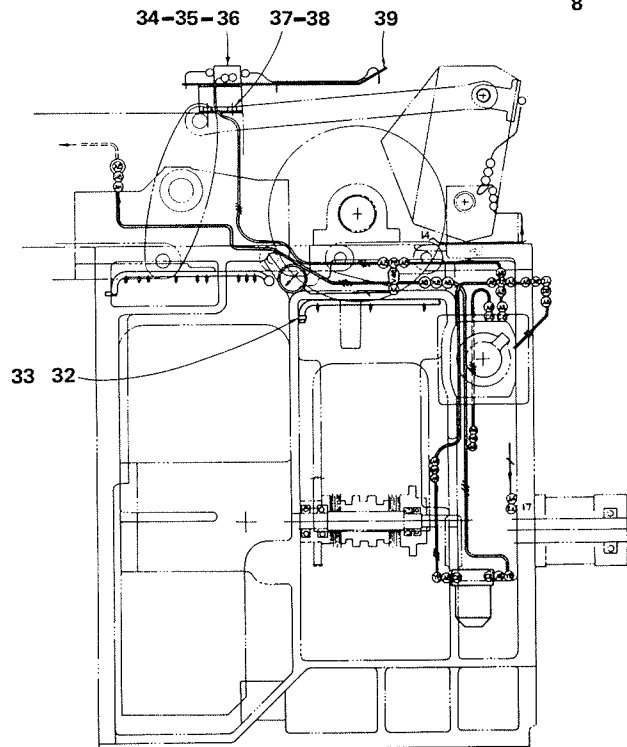
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	261V.126	Drum Locking Shaft	18	183/0520	5/16" B.S.F. Taper Point Set Screw 1.1/4" long	32	203/10L	5/8" B.S.F. Self Locking Nut-Thin
2	154/08	1/2" Spring Washer	19	361V.106B	Lever	33	173/10L	5/8" B.S.F. Hexagon Lock Nut
3	155/0832	1/2" B.S.F. Socket Head Cap Screw 2" long	20	203/05	5/16" B.S.F. Self Locking Nut	34	351X.117	Pivot Pin
4	248Y.102	Geneva Wheel Gear	21	155/0724	7/16" B.S.F. Socket Head Cap Screw 1.1/2" long	35	101/15	1.1/4" dia. External Circlip
5	246Y.101A	Geneva Wheel	22	154/07	7/16" Spring Washer	36	261Y.101A	Drum Locking Lever
6	125/3228	1/2" dia. Taper Pin 1.3/4" long	23	351X.120	Drum Locking Rod	37	246Z.112C	Geneva Arm and Drum Locking Cam
7	154/06	3/8" Spring Washer	24	361X.121	Link End	38	389X.120	Roller
8	155/0616	3/8" B.S.F. Socket Head Cap Screw 1" long	25	203/10L	5/8" B.S.F. Self Locking Nut-Thin	39	389X.121	Roller Pin
9	246X.107	Spigot for Geneva Wheel Support	26	261X.139	Drum Locking Rod	40	523X.134	Roller Pin
10	155/0514	5/16" B.S.F. Socket Head Cap Screw 7/8" long	27	203/12L	3/4" B.S.F. Self Locking Nut-Thin	41	523X.135	Cam Roller
11	154/05	5/16" Spring Washer	28	173/12L	3/4" B.S.F. Hexagon Lock Nut	42	203/06	3/8" B.S.F. Self Locking Nut
12	246V.103	Geneva Wheel Bearing	29	261X.141	Spacer for Drum Locking Rod	43	183/0628	3/8" B.S.F. Taper Point Set Screw 1.3/4" long
13	246V.104	Geneva Wheel Support	30	351X.141	Abutment for Spring	44	183/0628	3/8" B.S.F. Taper Point Set Screw 1.3/4" long
14	155/0724	7/16" B.S.F. Socket Head Cap Screw 1.1/2" long	31	261X.117	Spring	45	203/06	3/8" B.S.F. Self Locking Nut
15	154/07	7/16" Spring Washer						
16	250X.126	Spacer						
17	236/202420	Oil Retaining Bush						



Pipe Reference	
4mm Copper	
6mm Copper	
8mm Copper	
4mm Nylon	

40

	Description	Enots Ref.	Wickman Ref.
A4	4mm Nut & Sleeve	36-0500-02 36-0501-02	14.07.04 14.08.04
A6	6mm Nut & Sleeve	36-0500-04 36-0501-04	14.07.06 14.08.06
A8	8mm Nut & Sleeve	36-0500-05 36-0501-05	14.07.08 14.08.08
B4	1/8 BSP 4mm Straight Male Connector	36-0530-02	14.72.0402
C6	1/4 BSP 6mm Straight Male Connector	36-0530-10	14.72.0604
C8	1/4 BSP 8mm Straight Male Connector	36-0530-11	14.72.0804
D8	3/8 BSP 8mm Straight Male Connector	36-0530-10	14.72.0806
E4	1/8 BSP 4mm Elbow Connector	36-0005-02	
H8	8mm Elbow	36-0511-05	14.04.08
N6	6mm Straight Connector	36-0503-04	14.03.06
K4	4mm Straight Bracket Connector	36-0552-02	14.28.04
K6	6mm Straight Bracket Connector	36-0552-04	14.28.06
N8	8mm Straight Connector	36-0503-05	14.03.08
M6	6mm Bulkhead Connector	36-0508-04	14.14.06
N4	4mm Straight Connector	36-0503-02	14.03.04
M8	8mm Bulkhead Connector	36-0508-05	14.14.08
P8	8mm Tee Connector	36-0514-05	14.05.08
R8	8mm 4-way Connector	36-0516-05	14.06.08
V48	8 - 4mm Connector	36-0517-28	14.11.0408
Y8	8mm Stem Elbow	36-0551-05	14.54.08
X4	1/8 BSP.F - 4mm Elbow Adaptor	36-0555-02	14.76.0402
ZH	1/8 BSP Swivel	Tecalemit 529381101	
ZL	3/8 Relief Valve	Adams LV 10037	

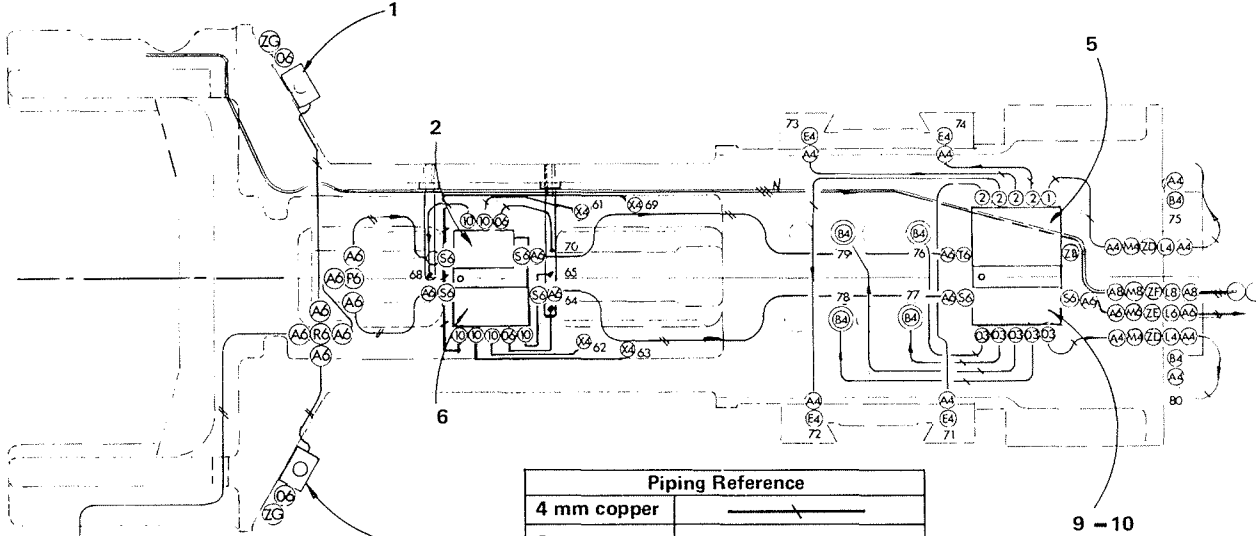
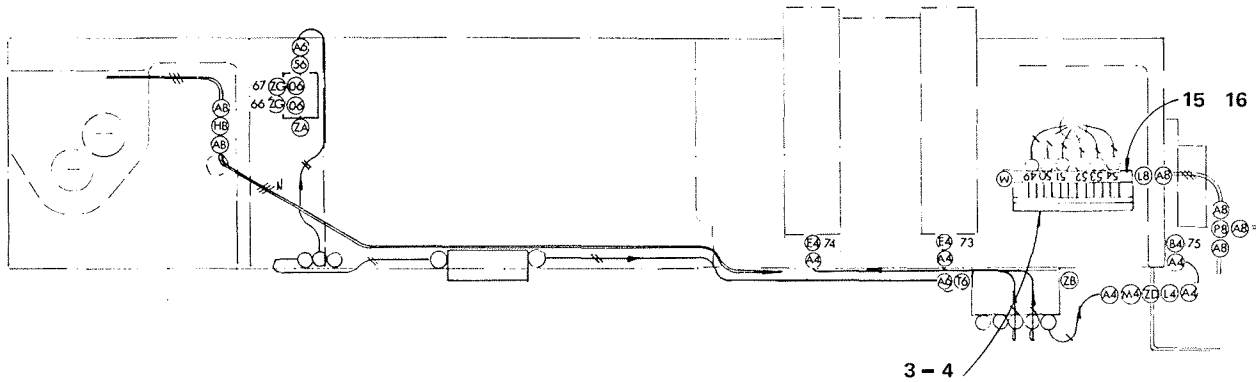


Arrangement of Lubrication Pump Drive Housing

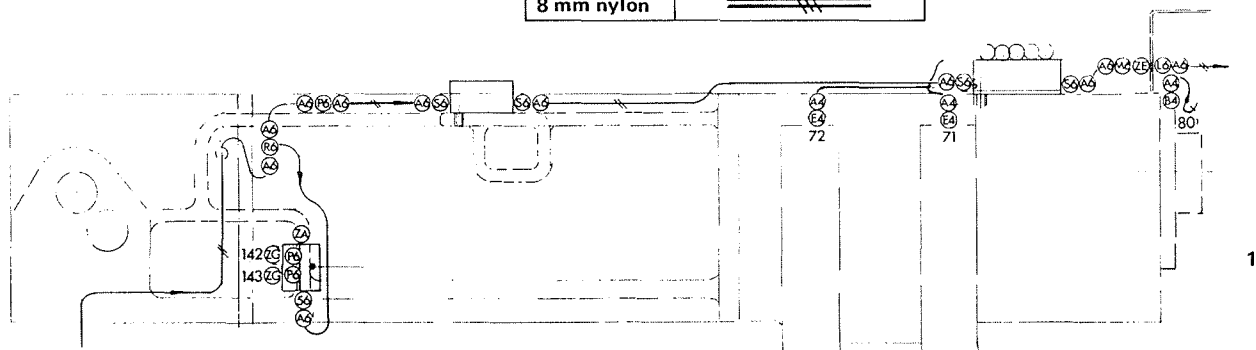
268Z11

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	368 X 150	Header bracket	19	173/06	3/8 BSF Hexagon nut	39	268 Z 189	Both ends of each delivery pipe to be fitted with critchley Size 5 cable markers of correct designation. Bracket connectors to be secured with WSP. 156/214 (2BA x 7/8L. CAP HD) Use pipe clips as required: 4mm clip ref 14.16.11) use WSP. 6mm clip ref 14.16.13) 156/208 to 8mm clip ref 14.16.14) secure clips
2	155/0428	1/4 BSF Socket head cap screw 1.3/4" long	20	368 X 178	Pipe support	40		
3	203/04	1/4 BSF Self locking nut	21	173/06	3/8 BSF Hexagon nut			
4	168 X 178	Tomey oil pressure gauge	22	268 X 174	Pipe support			
5	268 Y 167A	Oil Spray pipe - attachment component	23	173/06	3/8 BSF Hexagon nut			
6	225/5	5/16 dia. tube clip	24	568 X 185A	Pipe support, not required on 1"-8			
7	156/208	2BA Socket head cap screw 1/2" long	25	168 X 145	Purcolator housing gasket			
8	268 V 169	Oil Spray Pipe - main drive	26	168 Y 144B	Purcolator housing			
9	268 V 170	Oil Spray Pipe - feed drive	27	268 X 155	Pipe support			
10	268 V 171	Oil Spray Pipe - speed pick off gears	28	MFF37700	Micronic oil filter			
11	268 X 172	Oil Spray Pipe - feed pick off gears	29	167/0412	1/4 BSF Hexagon head set screw 3/4" long	41	Key	
12	268 X 190	Header bracket	30	MIC15721	Filter support bracket			
13	155/0428	1/4 BSF socket head cap screw 1.3/4" long	31	568 X 164	Spacer			
14	203/04	1/4 BSF Self locking nut	32	156/208	2BA Socket head cap screw 1/2" long			
15	268 X 195	Oil splash deflector	33	225/5	5/16 dia. tube clip			
16	LV10066	Adams 16-way double header	34	203/04	1/4 BSF Self locking nut			
17	198/12	5/16 dia. lock washer	35	155/0428	1/4 BSF Socket head cap screw 1.3/4" long			
18	167/0512	5/16 BSF Hexagon head screw 3/4" long	36	LV10066	Adams 16-way double header			
			37	167/0510	5/16 BSF hexagon head set screw 5/8" long			
			38	130/05	5/16 Flat washer			

When ordering spare parts always quote the Inspection Number of the machine.



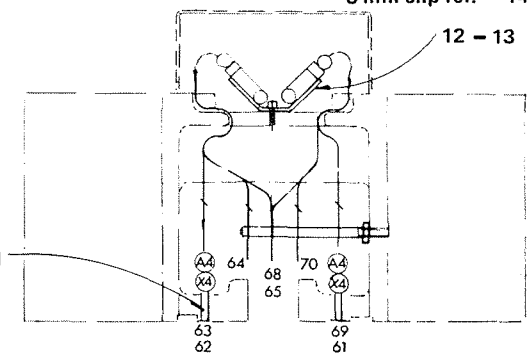
Piping Reference	
4 mm copper	— / —
6 mm copper	— // —
8 mm copper	— /// —
8 mm nylon	— \\\ —



17

Description	Enots Ref	Wickman Ref
A4 4mm Tubing Nut & Sleeve	36-0500-02 36-0501-02	14-07-04 14-08-04
A6 6mm Tubing Nut & Sleeve	36-0500-04 36-0501-04	14.07.06 14.08.06
A8 8mm Tubing Nut & Sleeve	36-0500-05 36-0501-05	14.07.08 14.08.08
E4 1/8 BSP-4mm Elbow conctr.	36-0005-02	
B4 1/8 BSP-4mm Straight male connector	36-0530-02	14.72.0402
H8 8mm elbow	36-0511-05	14.04.08
L4 Locknut	36-0520-01	14.15.12
L6 Locknut	36-0520-03	14.15.15
L8 Locknut	36-0520-05	14.15.18
M4 4mm Bulkhead C'nctr.	36-0508-02	14.14.04
M6 6mm Bulkhead C'nctr.	36-508-04	14.14.06
M8 8mm Bulkhead c'nctr.	36-0508-05	14.14.08
P6 6mm Tee	36-0514-04	14.05.06
X4 1/8 BSP Fem-4mm C'nctr.	36-0505.02	14.18.0402
R6 6mm 4 way	36.0516.04	14.06.06
S6 6mm x M10 adaptor	36-0554-31	14.36.04
T6 6mm x M12 adaptor	36.0554.32	14.36.05
ZB Vogel M12 plug	Vogel 408211	
ZD M12 Dowty seal		11.03.07
ZE M15 Dowty seal		11.03.09
ZF M18 Dowty seal		11.03.11
ZG 4mm Tubing plug	Vogel	
ZA M10 Plug	Vogel 406011	

14 Use pipe clips as required:— 4 mm clip ref. 14.16.11.
6 mm clip ref. 14.16.13.
8 mm clip ref. 14.16.14.



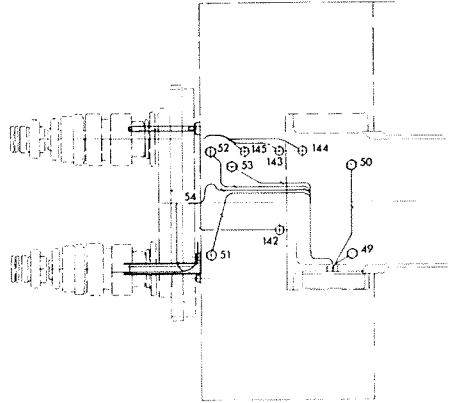
268Y12

Lubrication Pipes Beam

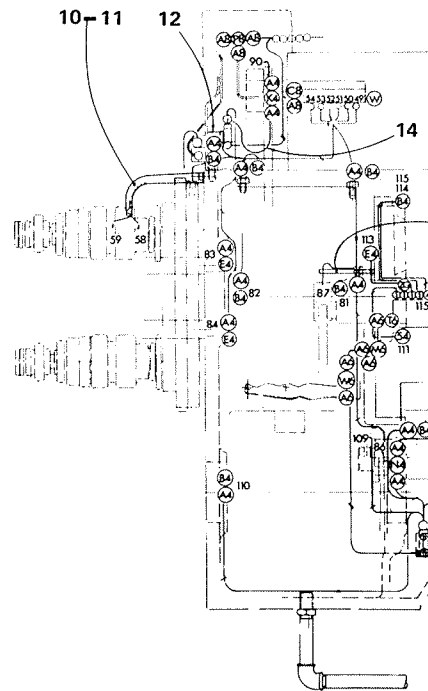
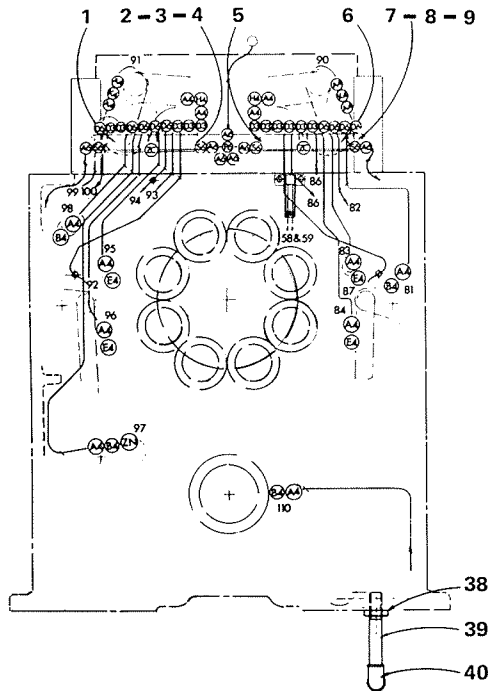
268Y12

Item	Part No.	Description
1	342-22	Vogel distributor
2	343-332	Vogel distributor
3	155/0428	1/4 BSF Socket head cap screw 1.3/4" long
4	LV.10027	Adams 6 point sight feed block
5	355-55553	Vogel distributor
6	345-32333	Vogel distributor
7	342-22	Vogel distributor
8	156/214	2BA Socket head cap screw 7/8" long
9	345-11111	Vogel distributor
10	156/214	2BA Socket head cap screw 7/8" long
11	168 X 584	Oil pipe extension
12	268 X 181	Distributor bracket
13	156/208	2BA Socket head cap screw 1/2" long
14		Use pipe clips as required :— 4mm clip ref 14.16.11) secure with 6mm clip ref 14.16.13) WSP.156/208 8mm clip ref 14.16.14.)
15	372 X 124C	
16	165/406	4BA Round head screw 3/8" long
17	Key	

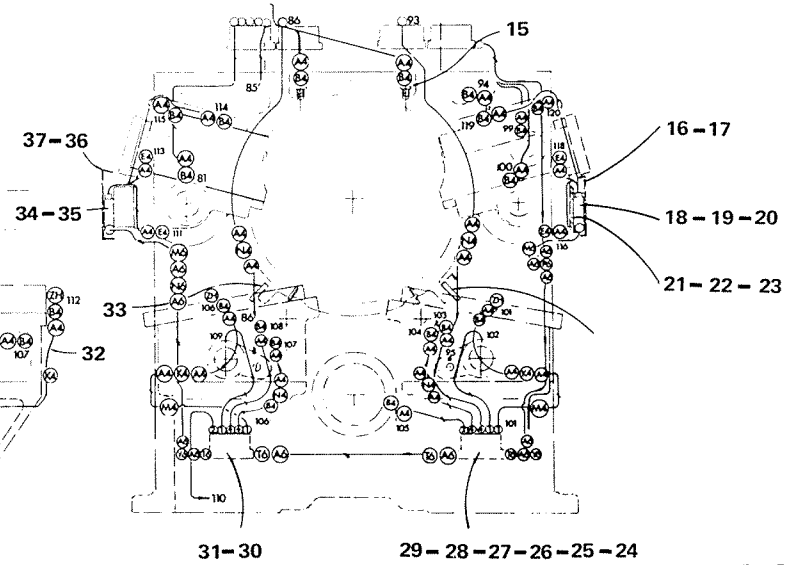
Pipe Reference	
4mm Copper	
6mm Copper	
8mm Copper	



13 Use pipe clips as required:-
 4mm Clip Ref: 14.16.11)
 6mm Clip Ref: 14.16.13) WSP.156/20B
 8mm Clip Ref: 14.16.14)



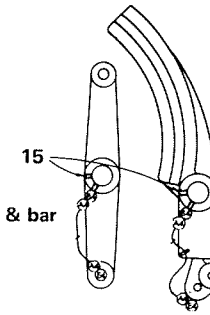
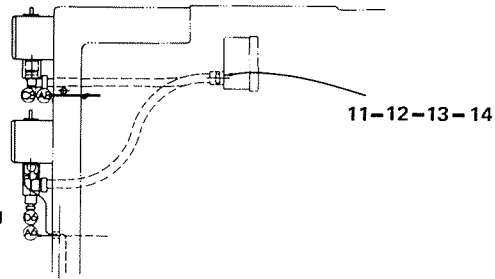
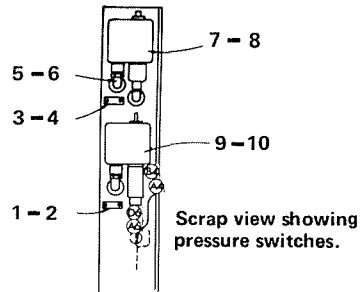
	Description	Enots Ref.	Wickman Ref.
A4	4mm Nuts and Sleeves	36-0500-02 36-0501-02	14.07.04 14.08.04
A6	6mm Nuts and Sleeves	36-0500-04 36-0501-04	14.07.06 14.08.06
A8	8mm Nuts and Sleeves	36-0500-05 36-0501-05	14.07.08 14.08.08
C8	1/4" B.S.P. 8mm Straight Male Connector	36-0530-11	14.72.0804
B4	1/8" B.S.P. 4mm Straight Male Connector	36-0530-02	14.72.0402
E4	1/8" B.S.P. 4mm Elbow Connector	36-0005-02	
K4	4mm Bracket Straight Connector	36-0552-02	14.28.04
N4	4mm Straight Connector	36-0503-02	14.03.04
N6	6mm Straight Connector	36-0503-04	14.03.06
P6	6mm Tee Connector	36-0514-04	14.05.06
S6	M10 X 6mm Adaptor	36-0554-31	14.36.04
T6	M12 X 6mm Adaptor	36-0554-32	14.36.05
W	1/4" B.S.P. Plug	36-0561-02	
ZB	Plus M12	Vogel	
ZC	Nippled Connector	Vogel 406233	
ZN	1/8" B.S.P. x 1/8" B.S.P. Elbow		224/102758
ZG	4mm Tubing Plug	Vogel	
ZH	1/8" B.S.P. Swivel	Tecalmit 52938/101	
H4	4mm Elbow	36-0611-02	14.04.04
M6	6mm Bulkhead Connector	36-0408-04	14.14.06
Y6	6mm Stem Elbow	36-0551-04	14.54.0606
M4	4mm Bulkhead Connector	36-0508-02	14.14.04



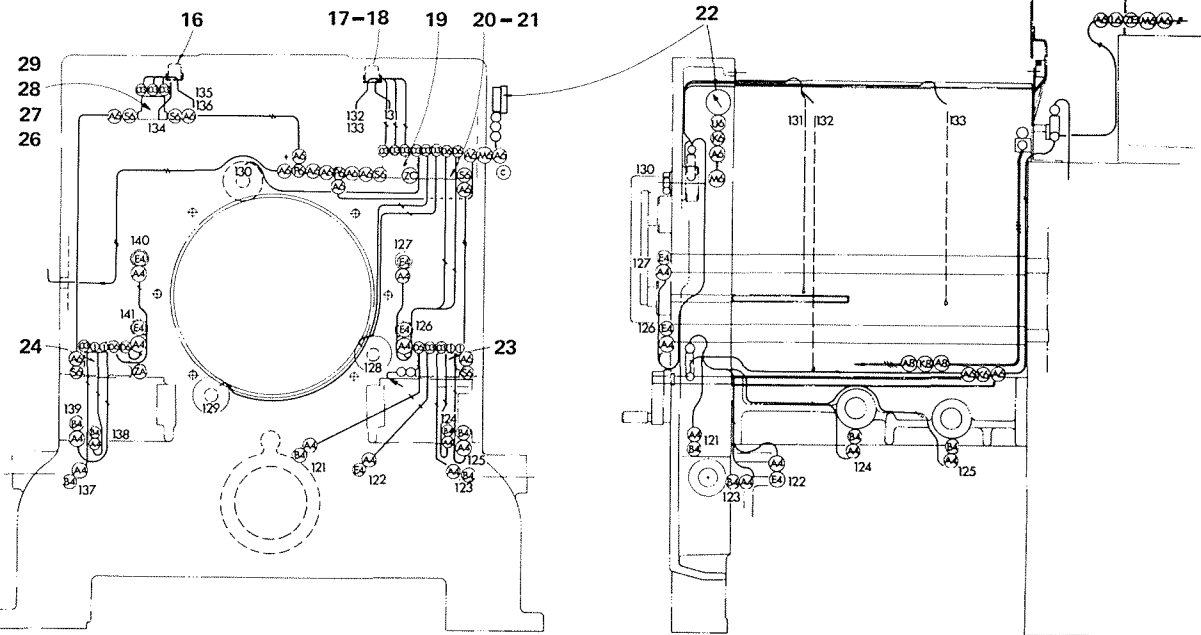
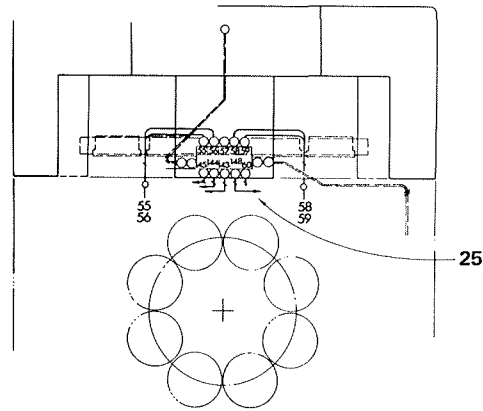
Arrangement of Lubrication Pipes Drum Housing

268Z13

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	345.22112	Vogel Distributor	14	42.0020.	Metal Braided Rubber Hose 300mm	27	355.33665	Vogel Distributor
2	345.11122	Vogel Distributor		0.0300	long	28	155/0416	1/4" B.S.F. Socket Head Cap Screw
3	203/2	2 B.A. Self Locking Nut	15	568X.157B	Adaptor			1" long
4	156/214	2 B.A. Socket Head Cap Screw 7/8" long	16	167/0424	1/4" B.S.F. Hexagon Head Set Screw 1.1/2" long	29	203/04	1/4" B.S.F. Self Locking Nut
5	345.11111	Vogel Distributor	17	268X.184	Distributor Cover	30	355.36635	Vogel Distributor
6	345.22221	Vogel Distributor	18	355.63333	Vogel Distributor	31	368X.149	Header Bracket
7	268X.185	Strap	19	268X.182	Distributor Mounting Plate	32	42.0020.	Metal Braided Rubber Hose 400mm
8	155/0428	1/4" B.S.F. Socket Head Cap Screw 1.3/4" long	20	167/0408	1/4" B.S.F. Hexagon Head Set Screw 1/2" long	33	268V.121	Oil Drip Tray
9	203/04	1/4" B.S.F. Self Locking Nut	21	268V.122	Oil Drip Tray	34	156/214	2 B.A. Socket Head Cap Screw
10	173/06	3/8" B.S.F. Hexagon Nut	22	268X.124	Gasket for Drip Tray	35	355.33336	7/8" long Vogel Distributor
11	368X.155	Pipe Support	23	155/0406	1/4" B.S.F. Socket Head Cap Screw 3/8" long	36	268X.183	Distributor Cover
12	168X.154	Spacer	24	197/11	5/16" Shakeproof Washer	37	167/0424	1/4" B.S.F. Hexagon Head Set Screw 1.1/2" long
13		Use Pipe Clips as required: 4mm Clip Ref. 14.16.11) Secure 6mm Clip Ref. 14.16.13) with WSP 8mm Clip Ref. 14.15.14) 156/208	25	167/0510	5/16" B.S.F. Hexagon Head Set Screw 5/8" long	38		3/4" B.S.P. Hexagon Locknut
			26	368X.149	Header Bracket	39		3/4" B.S.P. Pipe 7.1/8" long
						40		3/4" B.S.P. Elbow



Scrap view on rear face of drum hsg.



Use pipe clips as required:— 4 mm clip ref. 14.16.11. } Secure with WSP 156/208
 6 mm clip ref. 14.16.13.
 8 mm clip ref. 14.16.14

Pipe Reference

4 mm copper	— / —
6 mm copper	— // —
8 mm copper	— /// —

30

	Description	Enots Ref.	Wickman Ref.
A4	4mm Nut and Sleeve	36-0500-02 36-0501-02	14.07.04 14.08.04
A6	6mm Nut and Sleeve	36-0500-04 36-0501-04	14.07.06 14.08.06
A8	8mm Nut and Sleeve	36-0500-05 36-0501-05	14.07.08 14.08.08
B4	1/8" B.S.P. 4mm Straight Male Adaptor	36-0530-02	14.72.0402
D6	3/8" B.S.P. 6mm Straight Male Adaptor	36-0530-18	14.72.06.06
E4	1/8" B.S.P. 4mm Elbow Adaptor	36-0005-02	
C8	1/4" B.S.P. 8mm Straight Adaptor	36-0530-11	14.72.0504
F8	1/4" B.S.P. 8mm Elbow Adaptor	36-0005-11	
J6	6mm Bracket Elbow	36-0548-04	14.30.06
K6	6mm Bracket Straight Connector	36-0552-04	14.28.06
P6	6mm Tee Connector	36-0514-04	14.05.06
S6	M10 x 6mm Adaptor	36-0554-31	14.36.04
U6	1/4" B.S.P. x 6mm Nippled Adaptor	36-0557-10	14.33.0604
Q6	6mm Bracket Tee Connector	36-0549-04	14.31.06
ZA	Distributor Plug	Vogel 406011	
ZC	Nippled Connector	Vogel 406233	

268Z14

Arrangement of Lubrication Pipes End Bracket

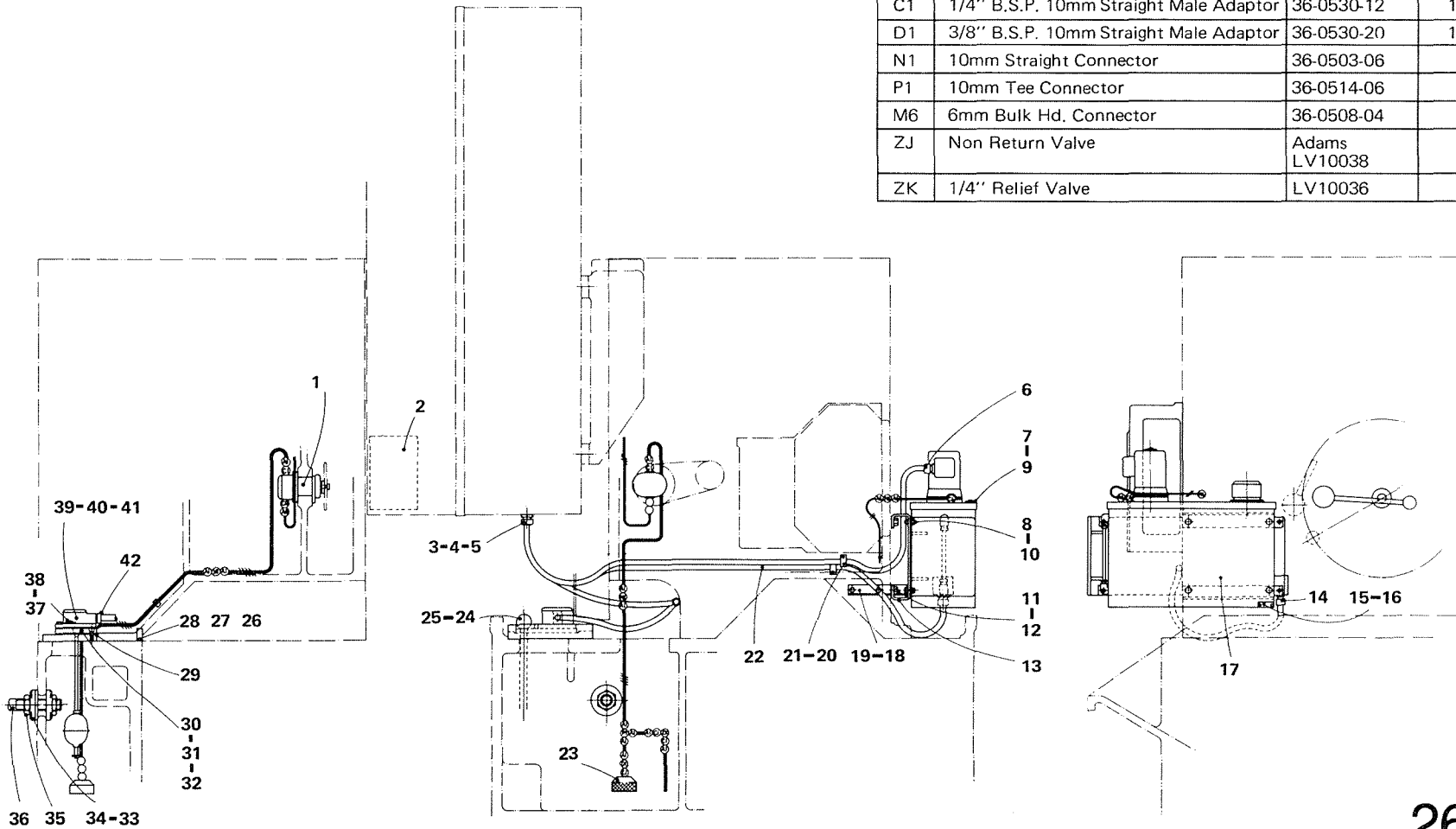
268Z14

Item	Part No.	Description	Item	Part No.	Description
1	165/404	4 B.A. Round Head Screw 1/4" long	17	155/0408	1/4" B.S.F. Socket Head Cap Screw 1/2" long
2	291/32	Legend Plate	18	268X.187A	Pipe Support Bracket
3	165/404	4 B.A. Round Head Screw 1/4" long	19	345-111	Vogel Distributor
4	291/31	Legend Plate	20	345-22111	Vogel Distributor
5	15.04.2091	Elbow	21	156/214	2 B.A. Socket Head Screw 7/8" long
6	11.03.12	20mm Dowty Seal	22	73	Bailey Mackey Pressure Gauge
7	836T-252J	Allen Bradley Pressure Switch	23	345-33112	Vogel Distributor
8	155/0428	1/4" B.S.F. Socket Head Cap Screw 1.3/4" long	24	345-22331	Vogel Distributor
9	836T-300J	Allen Bradley Pressure Switch	25	203/04	1/4" B.S.F. Self Locking Nut
10	155/0428	1/4" B.S.F. Socket Head Cap Screw 1.3/4" long	26	155/0528	1/4" B.S.F. Socket Head Cap Screw 1.1/4" long
11	15.04.1600	Straight Connector	27	LV10063	10 point Adams Distributor
12	11.03.09	16mm Dowty Seal	28	343-111	Vogel Distributor
13	15.02.1216	16mm Locknut	29		Use Pipe Clips as required: 4mm Clip Ref. 14.16.11) Secure 6mm Clip Ref. 14.16.13) with WSP 8mm Clip Ref. 14.16.14) 156/208
14		5/8" Conduit Flexible Anaconda			
15		Plug these Holes with WSP.194/1			
16	268X.187A	Pipe Support Bracket	30	Key	

Pipe Reference	
6mm copper	
8mm copper	
10mm copper	

43

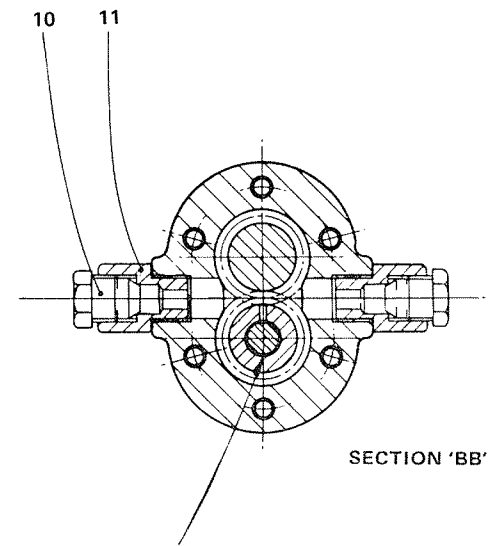
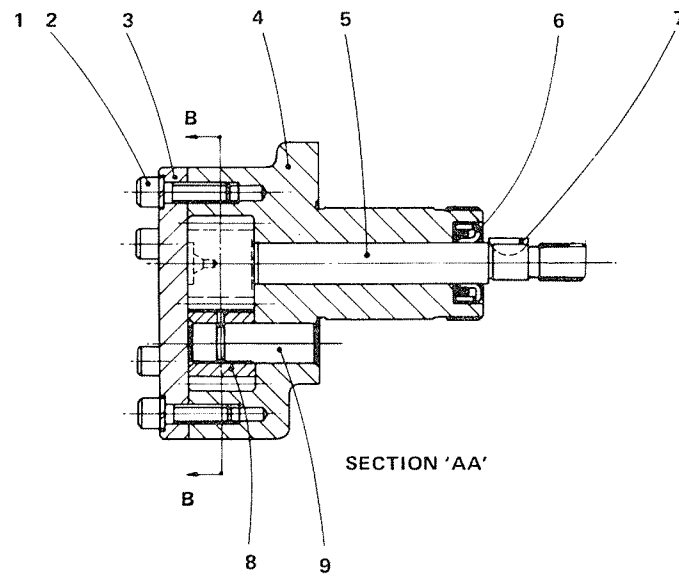
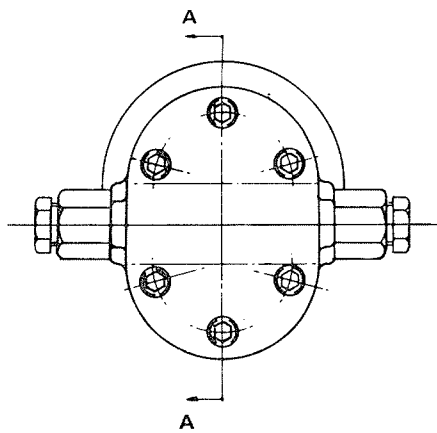
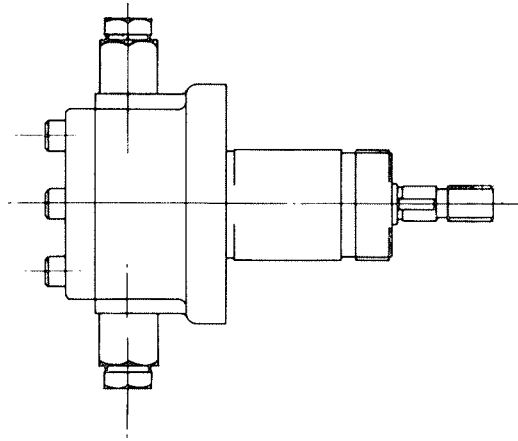
	Description	Enots Ref.	Wickman Ref.
A6	6mm Tubing Nut and Sleeve	36-0500-04 36-0501-04	14.07.06 14.08.06
A8	8mm Tubing Nut and Sleeve	36-0500-05 36-0501-05	14.07.08 14.07.08
A1	10mm Tubing Nut and Sleeve	36-0500-06 36-0501-06	14.07.10 14.08.10
C6	1/4" B.S.P. 6mm Straight Male Adaptor	36-0530-10	14.72.0604
C8	1/4" B.S.P. 8mm Straight Male Adaptor	36-0530-11	14.72.0804
C1	1/4" B.S.P. 10mm Straight Male Adaptor	36-0530-12	14.72.1004
D1	3/8" B.S.P. 10mm Straight Male Adaptor	36-0530-20	14.72.1006
N1	10mm Straight Connector	36-0503-06	14.03.10
P1	10mm Tee Connector	36-0514-06	14.05.10
M6	6mm Bulk Hd. Connector	36-0508-04	14.14.06
ZJ	Non Return Valve	Adams LV10038	
ZK	1/4" Relief Valve	LV10036	



Lubrication Arrangement of Reservoirs and Pumps-Vogel

268Z15

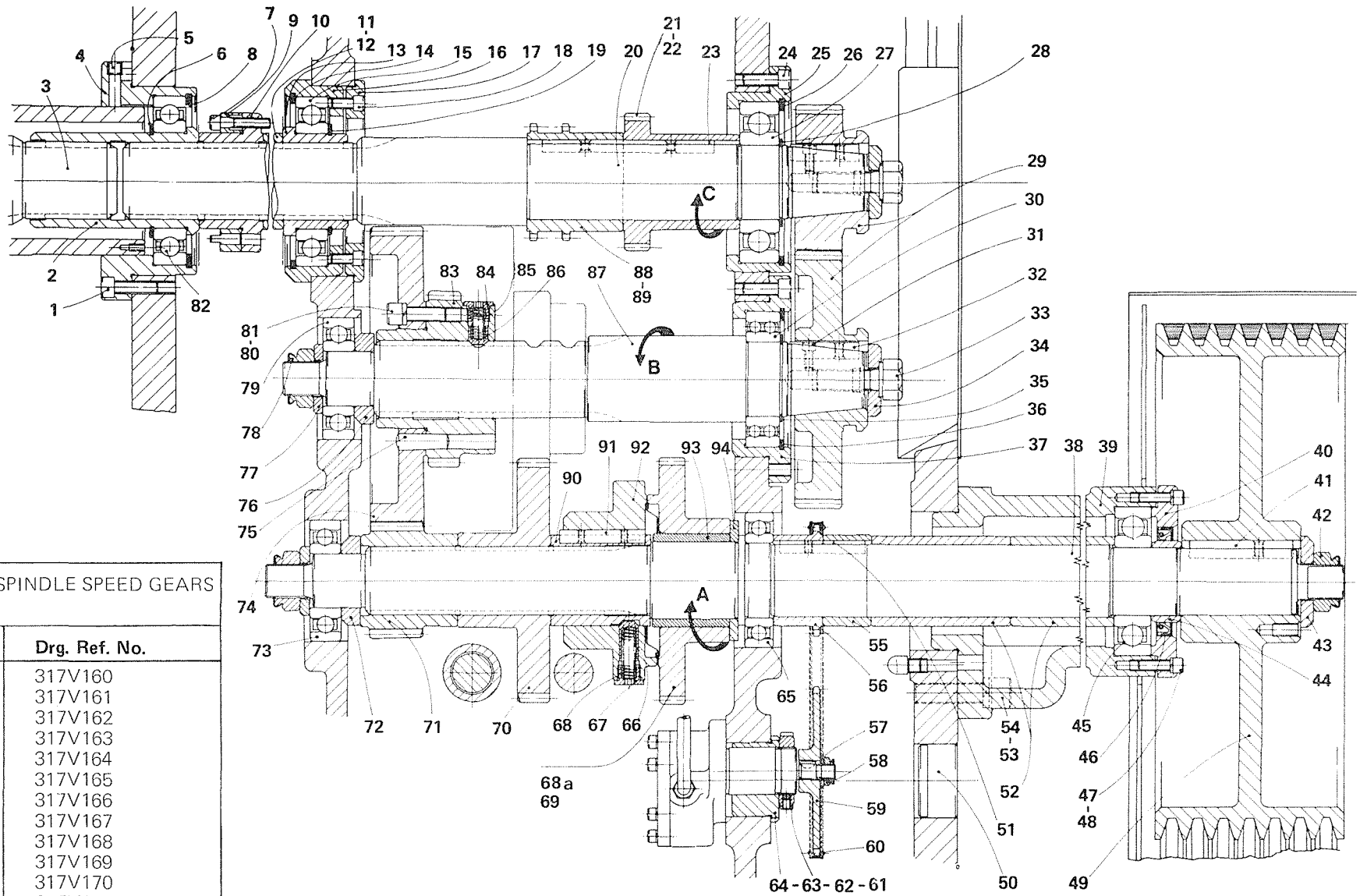
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	168Z.1B	Circulatory Lubrication Pump	17	268V.193/1	Pump and Reservoir Assembly 230/440 volt 50 cy.	28	268V.567	Modification to Oil Tank Cover 222V.152A
2	268V.194A	Timer				29	268V.569	Gasket
3	11.03.10	16mm Seal		268V.193/2	Pump and Reservoir Assembly 500 volt 50 cy.	30	268V.568	Float Switch Mounting Plate
4	15.02.1216	16mm Locknut		268V.193/3	Pump and Reservoir Assembly 600 volt 60 cy.	31	155/0410	1/4" B.S.F. Socket Head Cap Screw 5/8" long
5	15.04.1600	5/8" Conduit Straight Connector 16mm long		268V.193/4	Pump and Reservoir Assembly 240/480 volt 60 cy.	32	154/04	1/4" dia. Spring Washer
6	COPEX 1138 PG11	Connector	18	167/0512	5/16" B.S.F. Hexagon Head Set Screw 3/4" long	33	168X.153	Sealing Washer
7	165/406	4 B.A. Round Head Screw 3/8" long	19	268X.191	Anchor Bracket	34	168X.152	Washer
8	167/0512	5/16" B.S.F. Hexagon Head Set Screw 3/4" long	20	156/288	2 B.A. Socket Head Cap Screw 1/2" long	35		3/4" B.S.P. Locknut
9	291/73	Legend Plate	21	15.05.10	5/8" Pipe Clip	36		3/4" B.S.P. Pipe 36.1/2" long
10	203/05	5/16" Self Locking Nut	22	LV10047	Adams Oil Strainer	37	291/76	Legend Plate
11	167/0614	3/8" B.S.F. Hexagon Head Set Screw 7/8" long	23	322X.155	Handle	38	165/406	4 B.A. Round Head Screw 3/8" long
12	198/13	3/8" dia. Shakeproof Washer	24	241/13	Yellow Knob	39	268X.570	Float Switch
13	268Z.188	Mounting Bracket	25	155/0514	5/16" B.S.F. Socket Head Screw 7/8" long	40	167/0816	1/2" B.S.F. Hexagon Head Set Screw 1" long
14	COPEX 1138 PG11	Connector	26	222V.212	Gasket for Oil Tank Cover	41	130/08	1/2" dia. Flat Washer
15	291/77	Legend Plate				42	15.04.2001	5/8" Conduit Connector 20mm long
16	165/406	4 B.A. Round Head Screw 3/8" long				43	Key	



Lubrication Pump

168Z1B

Item	Part No.	Description
1	154/04	1/4" dia. Spring Lock Washer
2	155/0414	1/4" B.S.F. Socket Head Cap Screw 7/8" long
3	168X.103A	Pump End Plate
4	168Y.101B	Pump Body
5	168X.109A	Pump Gear Shaft
6	10016	Superfect Oil Seal
7	123/30	Woodruff Key 1/2" dia., 1/8" wide
8	168X.111A	Pump Gear
9	168X.138A	Gear Pin
10	209/6	Plug
11	218/19	Male Adaptor



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LIST OF AVAILABLE SPINDLE SPEED GEARS
8 DP, 20° PA

No. of Teeth	Drg. Ref. No.
28	317V160
30	317V161
32	317V162
34	317V163
36	317V164
38	317V165
40	317V166
43	317V167
46	317V168
49	317V169
52	317V170
54	217V160
56	317V171
58	217V161
60	217V162
62	317V173
64	217V163

217Z3

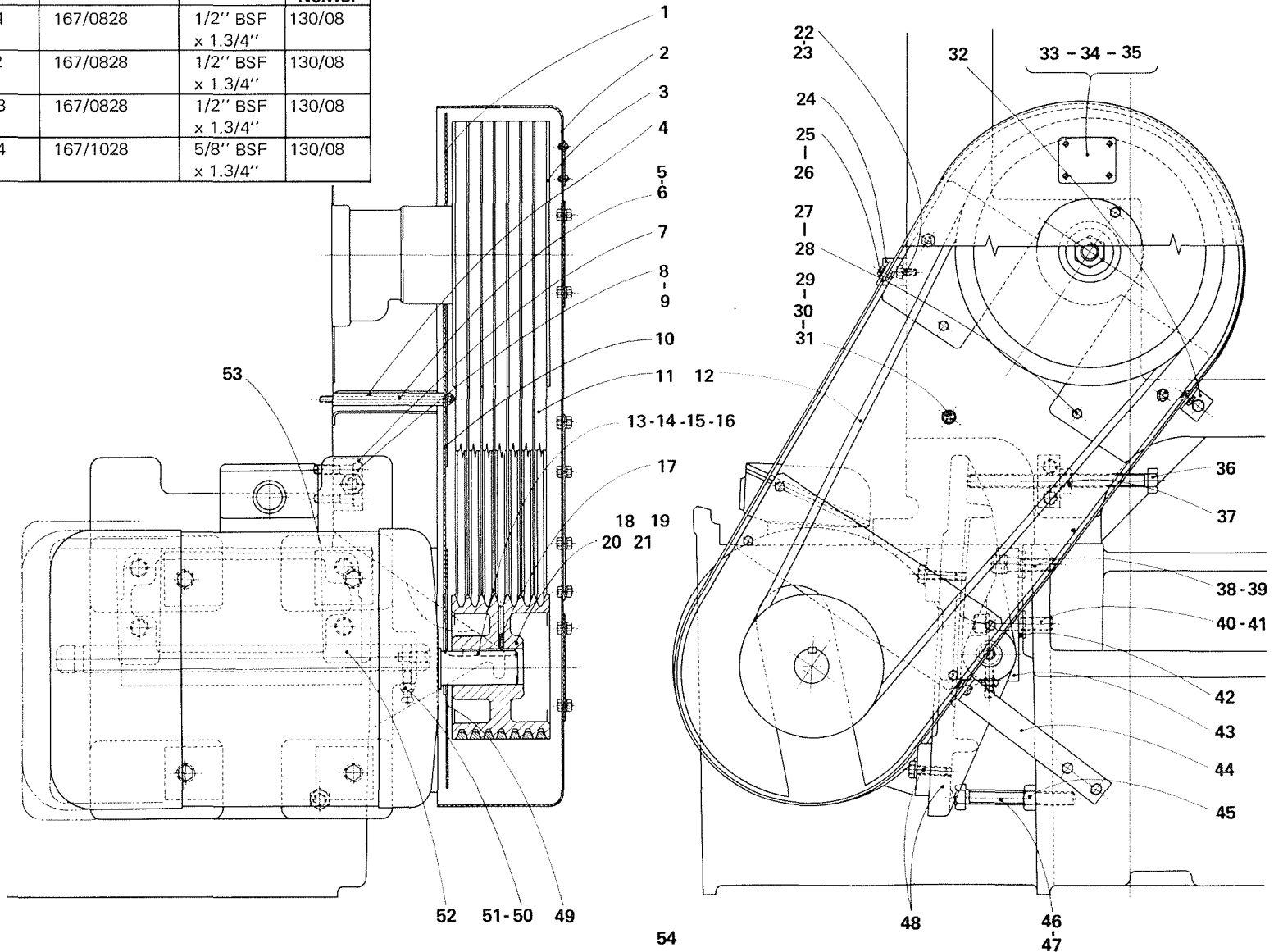
Main Drive Gearing

217Z3

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	155/0620	3/8 B.S.F. Socket Head Cap Screw 1.1/4" long	35	103/30	55mm External circlip	63	168 X 136	Pump locknut
2	217 x 115	Centre shaft coupler	36	104/42	100mm Internal circlip	64	168 X 134A	Eccentric bush
3	217 Y 140A	Centre driving shaft	37	217 X 105	Bearing housing	65	258/55	55mm Light journal
4	217 V 167	Centre guide bearing	38	217 Y 122A	Pulley shaft	66	117 X 152	Plunger
5	194/1	1/8 B.S.F. Socket pipe plug	39	217 V 101A	Pulley bearing housing	67	118 X 141	Spring retaining plug
6	103/35	70mm External circlip	40	217 X 102	End cap	68	317 X 111	Clutch spring
7	281 X 158	Screw	41	121/1648T	1/2" x 1/2" parallel key 3" long, tapped	68A	217 X 135A	Fast motion gear
8	104/47	125mm Internal circlip	42	203/16L	1" BSF Self Locking Locknut	69	217 V 170	Fast motion gear 77 teeth
9	281 X 156	Driving gear spacer	43	317 X 116A	Clamp washer	70	217 X 146	High speed drive gear
10	281 X 155	Driving gear centre	44	217 X 151	Pulley spacer	71	217 X 120	Slow speed drive gear
11	217 X 176	Centre shaft spacer	45	257/50	50mm Medium journal	72	217 X 130	Spacing washer
12	217 X 175	Centre shaft spacer	46	MIN 6080	'Gaco' oil seal	73	257/40	40mm Medium journal
13	217 X 174	Bearing sleeve	47	155/0516	5/16" BSF Socket head cap screw 1" long	74	217 X 148A	Large sliding gear
14	104/47	125mm Internal circlip	48	154/05	5/16 Dia spring washer	75	125/3224	1/2" dia. Taper pin 1.1/2" long
15	258/70	70mm Light journal	49	216 V 102	Driven pulley	76	217 X 130	Spacing washer
16	217 X 143	Bearing housing	50	122 X 131A	Plug	77	317 X 126	Clamp washer
17	217 X 107A	Clamp plate	51	122/1640T	1/2" x 11/32" parallel key 2.1/2" long, tapped	78	203/16L	1" BSF Self locking locknut
18	155/0510	5/16 BSF Socket head cap screw 5/8" long	52	217 X 124A	Spacer	79	257/40	40mm Medium journal
19	103/35	70mm External circlip	53	154/10	5/8" spring washer	80	154/07	7/16 Dia spring washer
20	217Y128A	Centre drive shaft	54	155/1032	5/8" BSF Socket head cap screw 2" long	81	155/0724	7/16 BSF Socket head cap screw 1.1/2" long
21	217 X 190A	Driving pinion 41 teeth	55	217 X 173	Spacer	82	258/70	70mm light journal
22	217 X 168	Driving pinion 38 teeth	56	154/10	5/8" spring washer	83	217 X 147	Small sliding gear
23	122/1680T	1/2" x 11/32" Parallel key 5" long, tapped	57	155/1032	5/8" BSF Socket head cap screw 2" long	84	118 X 141	Spring retaining plug
24	155/0616	3/8 BSF Socket head cap screw 1" long	58	217 X 173 217 X 134	Spacer Oil Pump Sprocket	85	217 X 111	Location spring
25	217 V 106	Bearing housing	56	217 X 134	Oil Pump Sprocket	86	217 X 152	Plunger
26	104/46	120mm Internal circlip	57	130/07	7/16 Flat washer	87	217 V 125	Speed change shaft
27	257/55	55mm Medium journal	58	203/07L	7/16 BSF Self Locking locknut	88	217 X 171	Chasing drive sprocket 77 teeth
28	103/30	55mm External Circlip	59	168 X 133	Pump sprocket	89	217 X 172	Chasing drive sprocket 30 teeth
29		See table	60	110038	Renold chain 64 links	90	217 X 136	Slipping clutch centre
30	265/55	55mm Double Row Journal	61	153/04	1/4" Dia Soft Pad	91	121/1240T	3/8" x 3/8" parallel key, 2.1/2" long, tapped
31	155/0408	1/4 BSF Socket head cap screw 1/2" long	62	176/0405	1/4 BSF Socket Set Screw 5/16 long, cup point	92	217 V 104	Slipping clutch body
32	317 X 185A	Key				93	236/364436	2.1/4" x 2.3/4" Oil retaining bush 2.1/4" long
33	217 X 119	Bolt				94	217 X 131	Thrust washer
34	217 X 116	'C' Washer				95	Key	

Frame Size of motor	Motor platform	Bolt No. W.S.P.	Size of bolt	Washer No.WSP
D.160L, L256T	216Y103E/1	167/0828	1/2" BSF x 1.3/4"	130/08
D.180L, D180M, L84T	216Y103e/2	167/0828	1/2" BSF x 1.3/4"	130/08
Plain drilled	216Y103E/3	167/0828	1/2" BSF x 1.3/4"	130/08
D200L	216Y103E/4	167/1028	5/8" BSF x 1.3/4"	130/08

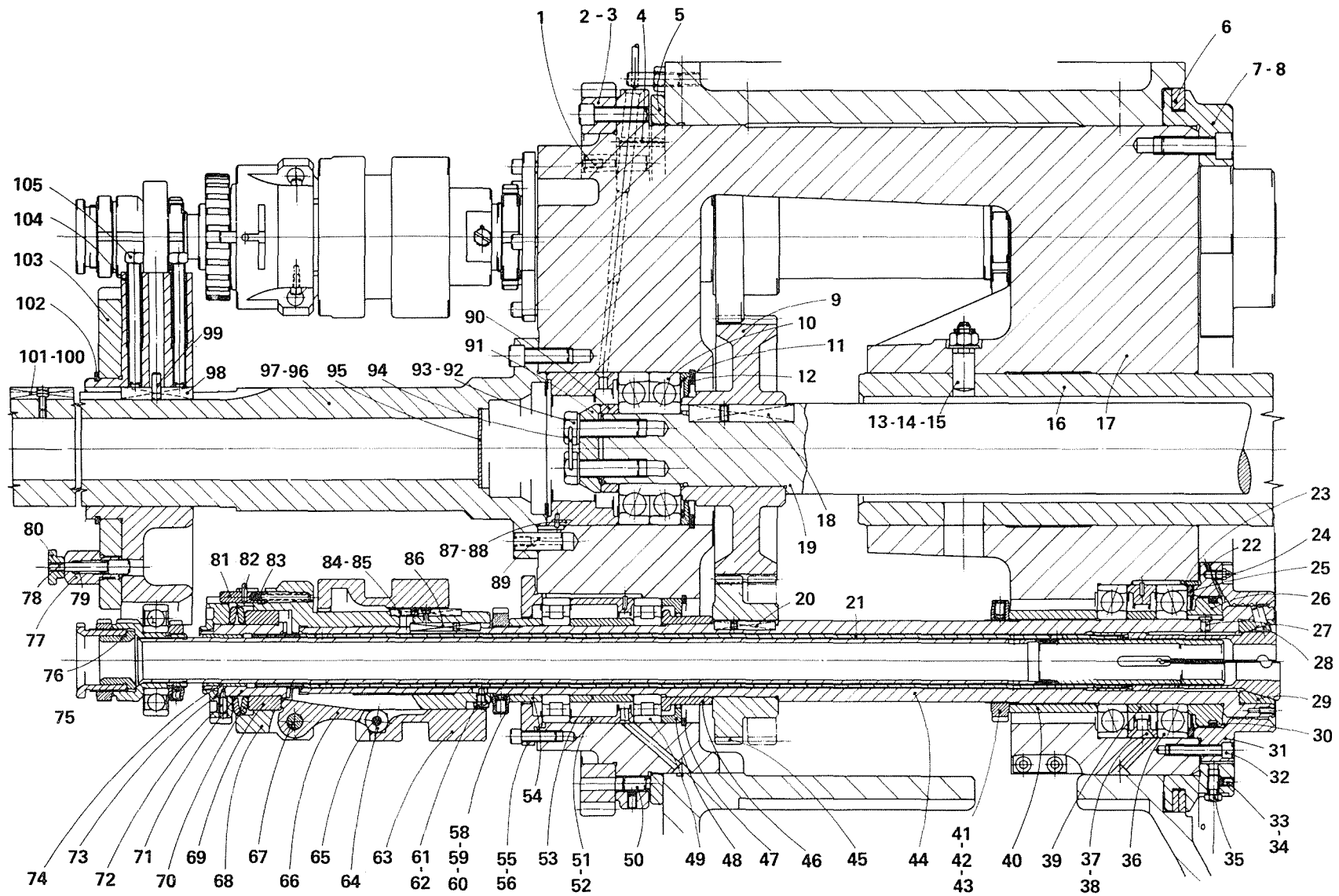
55



Motor Drive

216Z1C

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	222V.124	Belt Guard Back Plate	22	167.0614	Hexagon Head Set Screw, 3/8" B.S.F. x 7/8" long	45	173/12	Locknut, 3/4: B.S.F.
2	222Y.122	Belt Guard	23	197 12	Shakeproof Washer, for 3/8" dia	46	167/1296	Hexagon Head Set Screw, 3/4" B.S.F. x 6" long
3	216V102	Driven Pulley	24	222X.136A	Belt Guard Bracket	47		U.S.A. & Canada only
4	222X.127	Belt Guard Spacer	25	167/0510	Hexagon Head Set Screw, 5/16" B.S.F. x 5/8" long	48	Key	
5	222X.116	Belt Guard Stud	26	197 11	Shakeproof Washer, for 5/16" dia.	49	222V.123A	Belt Guard Back Plate
6	203/06L	Locknut, 3/8" B.S.F.	27	167/0510	Hexagon Head Set Screw, 5/16" B.S.F. x 5/8" long	50	188/0824	Square Head Set Screw, 1/2" B.S.F. x 1.1/2" long
7	316X.106	Adjustment Block	28	197 11	Shakeproof Washer, for 5/16" dia	51	203/08	Selflocking Nut, 1/2" B.S.F.
8	155/0836	Socket Head Cap Screw, 1/2" B.S.F. x 2.1/4" long	29	222X.116	Belt Guard Stud	52	516X.105	Shaft for Motor Platform
9	154/08	Spring Washer for 1/2" B.S.F.	30	203/06L	Selflocking Nut, Thin, 3/8" B.S.F.	53	Brook Motor — totally enclosed, fan cooled	
10	222V.121A	Belt Guard Back Plate	31	130/06	Flat Washer, for 3/8" dia.		Metric range (I.E.C.) frame sizes	
11	B90L	Vee Belt, 21/32" x 7/16" D.180M, D.180L, D.160L	32	222X.135	Belt Guard Bracket		D.160L 20 h.p. 1500 r.p.m.	
12	B85L	Vee Belt, 21/32" x 7/16" L.256T, L.284T (for U.S.A. & Canada only)	33	203/4	Selflocking Nut, 4 B.A.		D.180M 25 h.p. 1500 r.p.m.	
13	116X114	Key, 12 x 8 x 80mm long, D.160L	34	172X.110A	Motor Direction Check Plate		D.180L 20 h.p. 1000 r.p.m.	
14	216X.108	Key, 14 x 9 x 100mm long, D.180L, D.180M	35	165/406	Socket Head Cap Screw, 4 B.A. x 3/8" long		for U.S.A. & Canada only	
15	121/1248	Key, Extractable, 3/8" x 3" long, L.256T. (for U.S.A. & Canada only)	36	167/12160	Hexagon Head Set Screw, 3/4" B.S.F. x 10" long		L.256T 10 h.p. 1800 r.p.m.	
16	127/1664	Key, 1/2" x 1/2" x 4" long, L.284T (for U.S.A. & Canada only)	37	173/12	Locknut, 3/4" B.S.F.	54	See Motor Platform 216Y103E/1.2 for position	
17	176/0612	Socket Set Screw, Cup Point 3/8" B.S.F. x 3/4" long	38	155/1244	Socket Head Cap Screw, 3/4" B.S.F. x 2.3/4" long		Items encircled thus to be used for U.S.A. & Canada only	
18	216X.501B	Motor Pulley, L.256T (for U.S.A. & Canada only)	39	154/12	Spring Washer, for 3/4" dia.	55	Key	
19	216X.502C	Motor Pulley, L.284T (for U.S.A. & Canada only)	40	155/1260	Socket Head Cap Screw, 3/4" B.S.F. x 4.3/4" long			
20	216X.105A	Motor Pulley, D.180M, D.180L	41	154/12	Spring Washer, for 3/4" dia.			
21	216X.107A	Motor Pulley, D.160L	42	316X.107	Spacer			
			43	216X.104	Motor Platform Bracket			
			44	222X.126	Belt Guard Bracket			



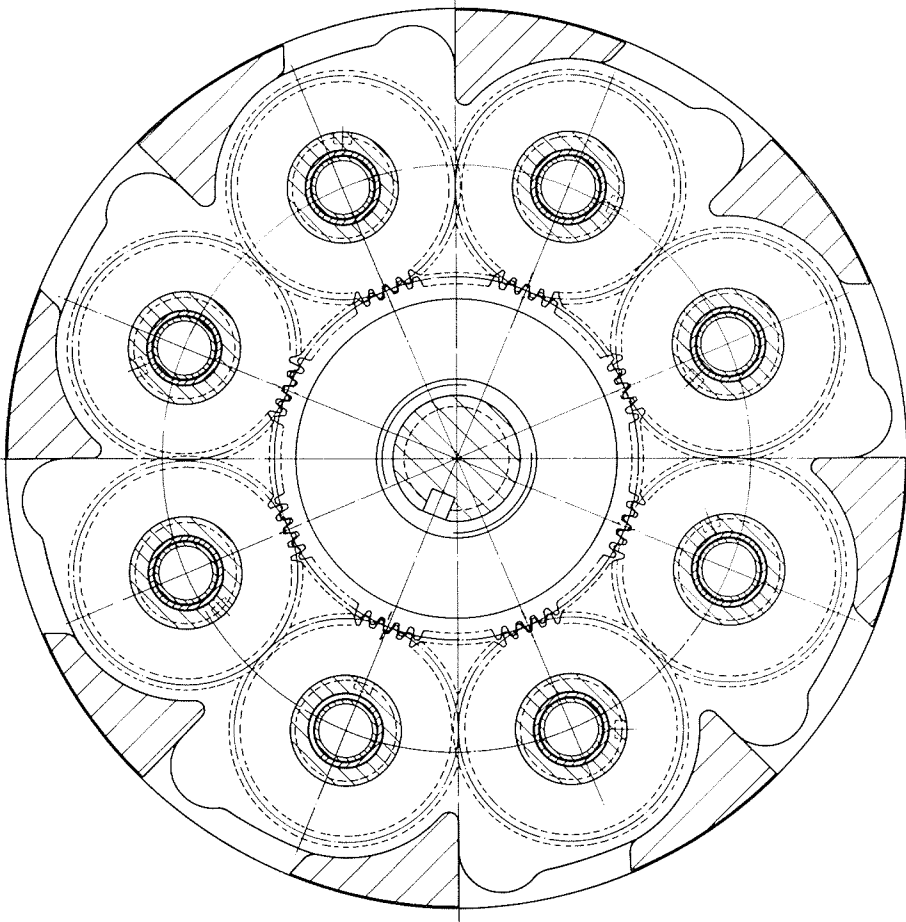
Spindle Assembly

211Z1

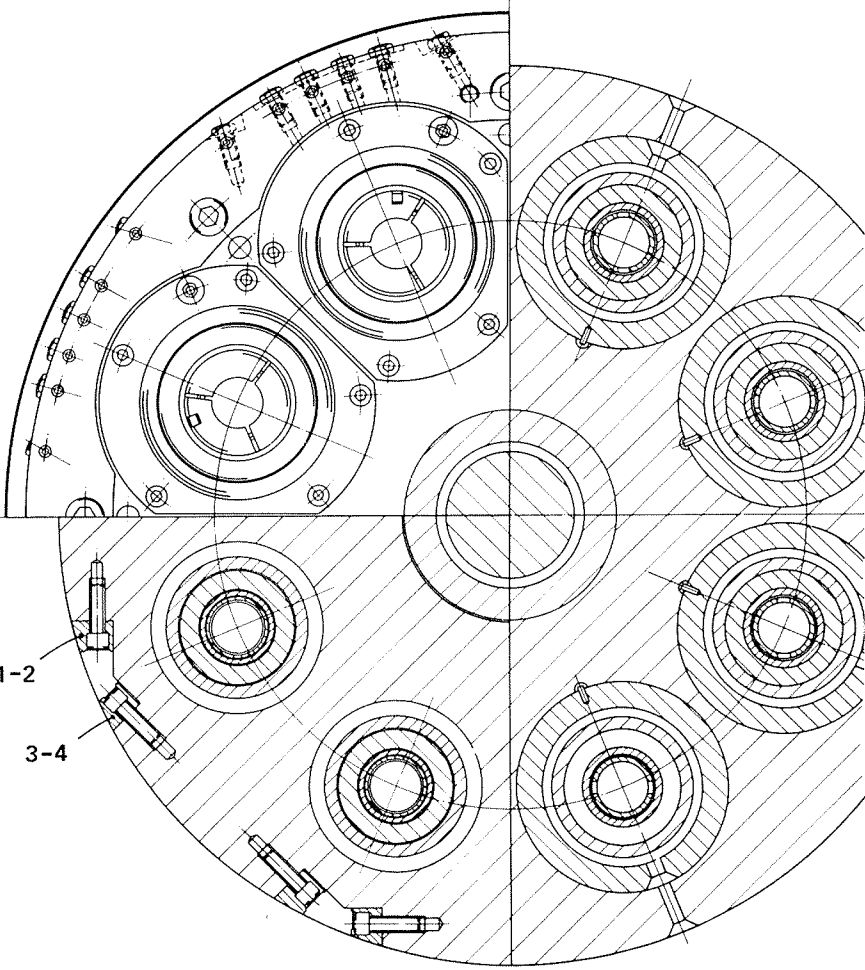
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	141/13	1/2" Dia. Taper Dowel 1.3/4" long	35	101 X 156A	Stop Screw	72	182/0410	1/4 BSF Socket Set Screw 5/8" long, Taper point
2	155/0720	7/16 BSF Socket Head Cap Screw 1.1/4" long	36	SB 118	Front Spindle Bearing	73		Adjusting sleeve
3	211 Y 109	Index Gear	37	211 X 117	Front Bearing Centre Spacer	74	101 V 272A	Support Bush
4	326/0820	1/4" Dia. Tension Pin 1.1/4" long	38	143/0406D	1/8" Dia. Grooved Pin 3/8" long	75	101 X 130B	Feed Tube Assembly
5	211 V 135	Drum Pressure Ring	39	211 X 159	Front Bearing Centre Spacer	76	211 V 158	Supplied by Tooling Department
6	211 V 197	Drum Sealing Ring	40	211 X 119	Front Bearing Spacer	77	577 X 123	Plunger Housing
7	211 Z 134	Drum Thrust and Stop Ring	41	151/60	60mm Slotted Locknut	78	577 X 125	Plunger
8	155/0824	1/2 BSF Socket Head Cap Screw 1.1/2" long	42	153/05	5/16 Dia. Soft Pad	79	588 X 128	Spring
9	211 V 136	Centre Driving Gear	43	176/0506	5/16 BSF Socket set screw 3/8" long, cup point	80	577 X 126	Knob
10	270/50	50mm Double Purpose Ball Journal	44	211 Z 102	Work Spindle	81	101 X 278	Plunger
11	217 X 153	Spacer	45	211 V 112	Spindle Gear	82	125/1008	5/32 Dia. Taper Pin 1/2" long
12	104/44P	110mm Internal Circlip	46	211 X 123	Front Bearing Inner Spacer	83	101 X 275A	Plunger Spring
13	203/07	7/16 BSF Self Locking Nut	47	104/40P	90mm Internal Circlip	84	162/406	4BA Countersunk Head Screw 3/8" long, slotted
14	130/07	7/16 Flat Washer	48	211 X 120	Front Bearing Outer Spacer	85	101 X 176A	Key
15	217 X 142	Threaded Taper Pin	49	SB 121	Roller Bearing	86	122/1032T	5/16" x 7/32" Parallel Key 2" long, Tapped
16	211 Y 108	Centre Guide	50	178/0712	7/16 BSF Socket Set Screw 3/4" long, half-dog point	87	143/0406D	1/8" Dia. grooved pin 3/8" long
17	211 Z 101	Spindle Drum	51	211 X 178	Rear Bearing Centre Spacer	88	217 X 150	Centre shaft spacer
18	121/1648T	1/2 x 1/2 Parallel Key 3" long, Tapped	52	143/0406D	1/8 Dia. grooved pin 3/8" long	89	201 X 173	Parallel Pin
19	217 Y 140A	Centre Drive Shaft	53	211 X 177	Rear Bearing Centre Spacer	90	217 X 166	Centre Shaft Spacer
20	122/1228T	3/8 x 1/4 Parallel Key 1.3/4" long, Tapped	54	211 X 124A	Rear Bearing End Spacer	91	217 X 145	Binding Plate
21	211 X 154	Collet Tube	55	211 X 121	Spindle Rear Bearing Cup	92	317 X 144	Bolt
22	125/0710	7/64 Dia Taper Pin 5/8" long	56	155/0516	5/16 BSF Socket Head Cap Screw 1" long	93	198/16	1/2" Dia. shakeproof washer
23	211 X 144	Plug	58	151/50	50mm slotted locknut	94		Soft Iron Wire
24	212/04S	1/4 BSP Grease Nipple	59	153/05	5/16 Soft Pad	95	129/28	2.1/4" Dia. Welch Plug
25	102 X 153A	Labyrinth ring	60	176/0506	5/16 BSF Socket Set Screw 3/8 long, cup point	96	211 Y 165	Drive Coupling
26	211 X 115	Ring Housing	61	101 X 267A	Retaining Screw	97	155/0720	7/16 BSF Socket head cap screw 1.1/4" long
27	102 X 197C	Brake Housing Key	62	SP 41E	Tab Washer	98	101 X 171	Key
28	108 X 148A	Drive Key	63	211 Y 111	Toggle operating sleeve	99	143/0812B	1/4" Dia. Grooved Pin 3/4" long
29	101 X 147A	Spindle Nose	64	101 X 107	Toggle Roller	100	156/206	2BA Socket Head Cap Screw 3/8" long
30	101 X 281	Piston Ring	65	101 X 106	Pin for Toggle Roller	101	101 X 172	Key
31	211 V 114	Binding Cap	66	101 V 104C	Toggle	102	101/38	4" Dia. External Circlip
32	155/0524	5/16 BSF Socket Head cap screw 1.1/2" long	67	101 X 105	Toggle Pin	103	211 V 169	Stop Plate
33	176/0405	1/4 BSF Socket Set Screw 5/16 long, cup point	68	101 Y 110B	Toggle Carrier	104	211 Y 168	Feed Tube Steady
34	153/04	1/4 Dia. Soft Pad	69	101 X 127B	Thrust Ring	105	188/0656	5/8 BSF Square Head Set Screw 3.1/2" long
			70	101 X 122B	Compensating Washer			
			71	101 X 173B	Collet Tube Sleeve			

When ordering spare parts always quote Inspection Number of the machine.

View on front of Spindles



Front view of Spindle Gears from Collet End



Section through Locator Pads

Section through Front Bearing Lubrication

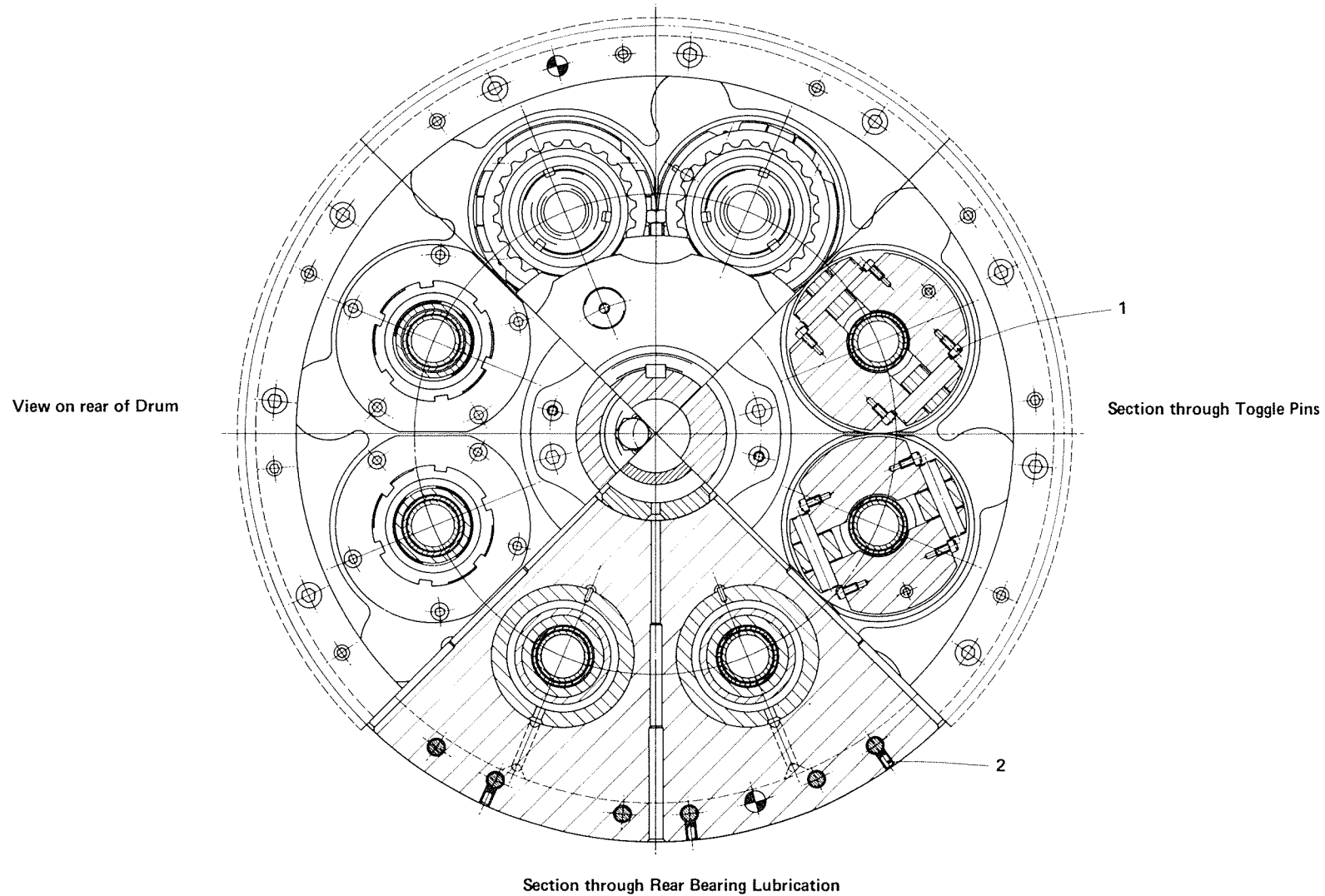


Spindle Assembly End Views

211Z2

Item	Part No.	Description
1	213 X 146	Locator Strip
2	155/0516	5/16 BSF Socket head cap screw
3	211 X 145	Locator Strip
4	155/0516	5/16 BSF Socket head cap screw 1" long

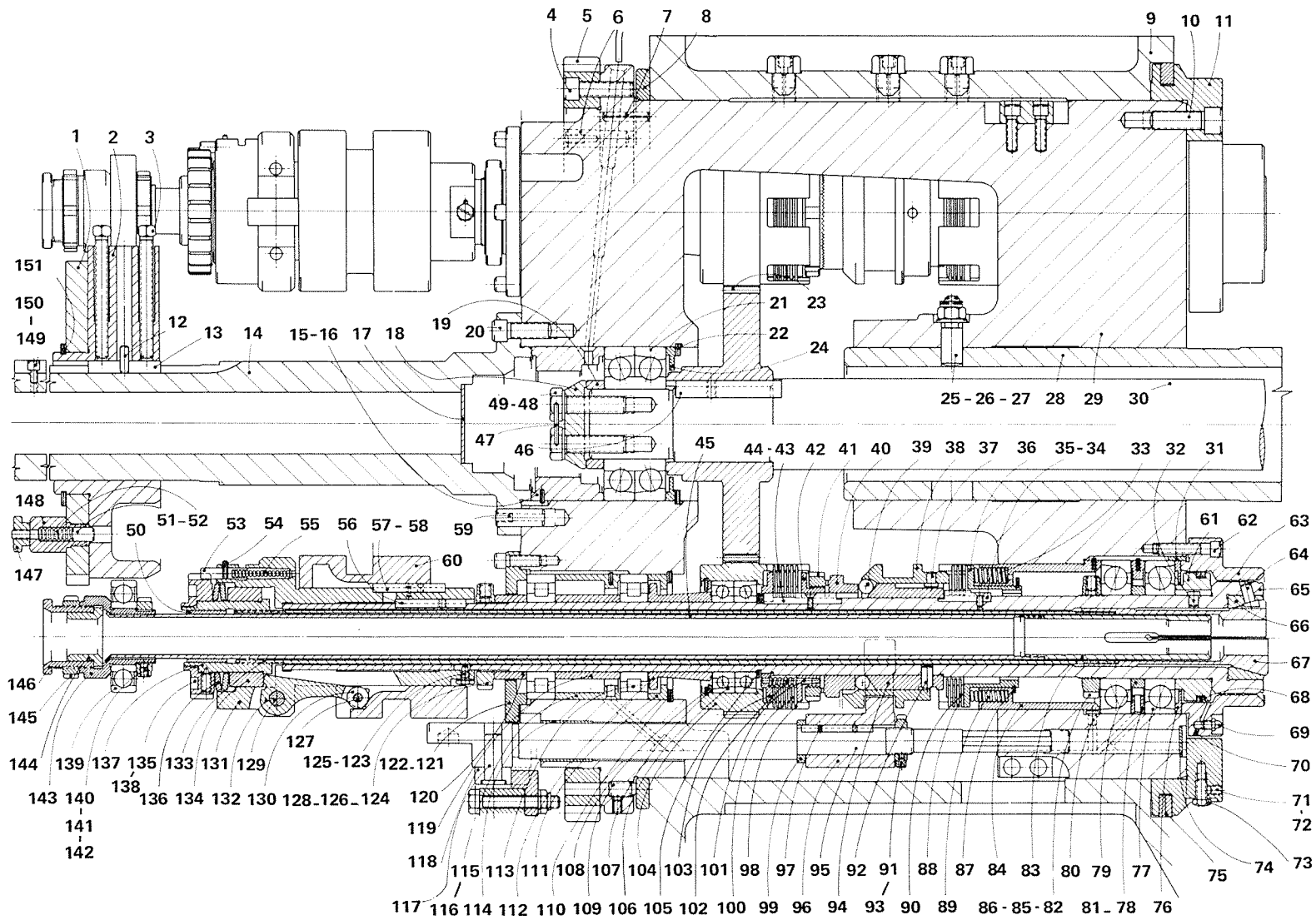
View on Feed Tube Steady



Spindle Assembly End Views

211Z3

Item	Part No.	Description
1	156/206	2BA Socket head cap screw 3/8" long
2	176/0406	1/4 BSF socket set screw 3/8" long cup point
3	153/04	1/4 dia. soft pad

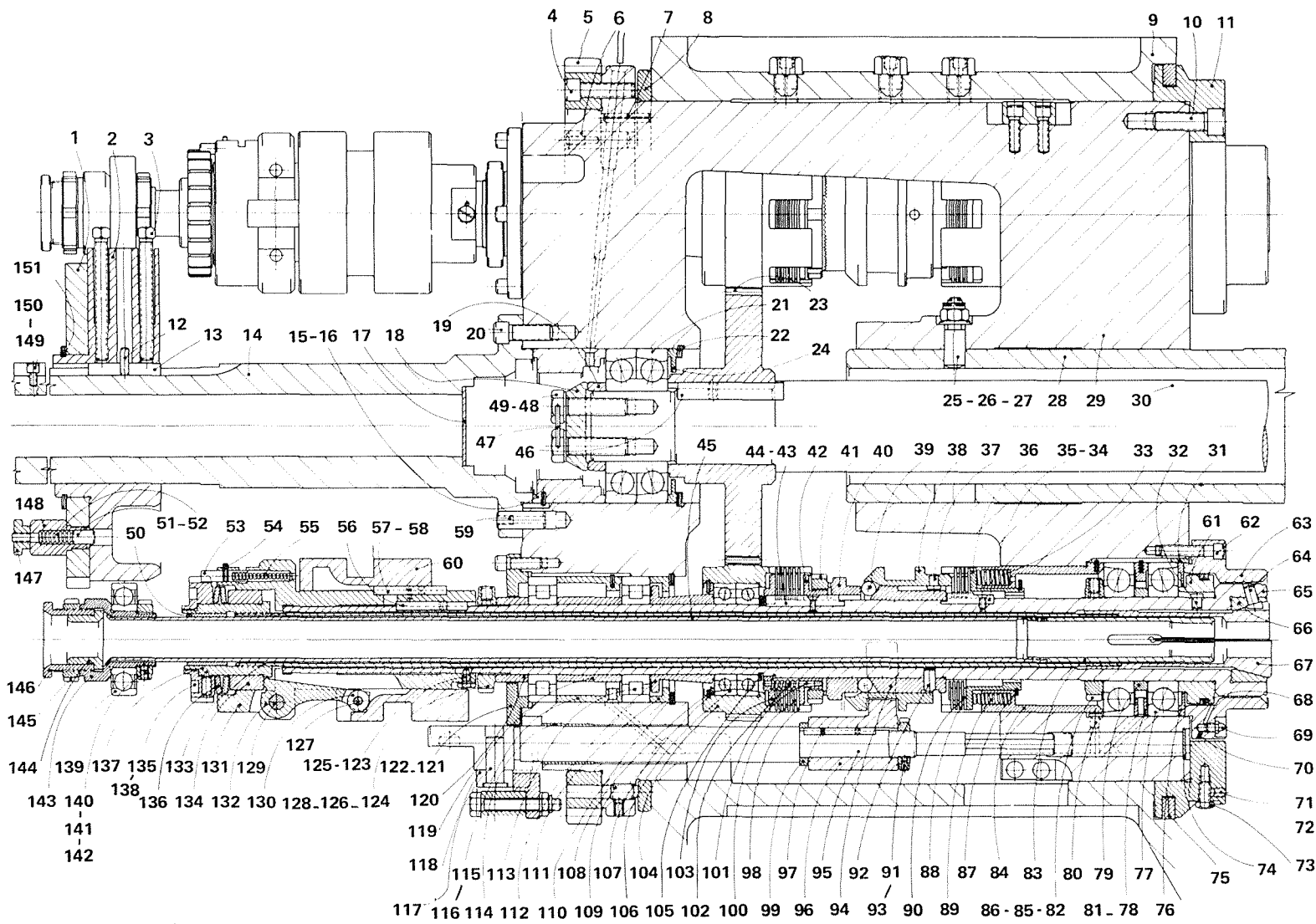


Spindle Stopping Drum

212Z1

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	211 V 169	Stop Plate	34	162/406	4BA Countersunk head screw 5/8"	69	212/04S	1/4 BSF Grease Nipple
2	211 Y 168	Feed Tube Steady	35	102 X 190B	long, slotted	70	125/0710	7/64 Dia. Taper pin 5/8" long
3	188/0656	5/8 BSF Square Head Set Screw	36	102 X 198A	Brake Clutch Key	71	176/0405	1/4 BSF Socket Set Screw 5/16" long, cup point
4	155/0720	7/16 BSF Socket Head Cap Screw	37	102 X 197C	Brake Pressure Sleeve	72	153/04	1/4 Dia. Soft Pad
		1.1/4" long	38	102 X 181A	Brake Housing Key	73	101 X 156A	Stop Screw
5	211 Y 109	Index Gear	39		Clutch Closing Sleeve	74	129/11	7/8" Dia. Welch Plug
6	141/13	1/2" Dia. Extractable Taper Dowel	40	212 X 183A	10mm Steel Balls (20 off)	75	211 V 197	Drum Sealing Ring
		1.3/4" long	41	102 X 184C	Clutch Thrust Sleeve	76	102 X 153A	Labyrinth Ring
7	326/0820	1/4" Dia. Tension Pin 1.1/4" long	42	102 X 193	Clutch Adjusting Nut	77	SB 118	Front Spindle Bearing
8	211 V 135	Drum Pressure Ring	43	102 X 191C	Drive Thrust Plate	78	212 X 117	Front Bearing Outer Spacer
9	212 V 223	Extra Drilling on Drum Housing	44	162/406	Drive Clutch Key	79	212 X 159	Front Bearing Inner Spacer
10	155/0824	1/2 BSF Socket Head Cap Saw			4BA Countersunk Head Screw 3/8" long, slotted	80	102 X 197C	Braking Housing Key
		1.1/2" long	45	211 X 155	Feed Tube	81	143/0406D	1/8 Dia. Grooved Pin 3/8" long
11	211 Z 134	Drum Thrust and Stop Ring	46	121/1648T	1/2" x 1/2" Parallel Key 3" long	82	151/60	60mm Slotted Locknut
12	143/0812B	1/4" Grooved Pin 3/4" long	47		Soft Iron Wire	83		Feed Finger supplied by Tooling
13	101 X 171	Key	48	317 X 144	Bolt	84	212 V 196	Brake Housing
14	211 Y 165	Drive Coupling	49	198/16	1/2" Dia. Shakeproof Washer	85	176/0506	5/16 BSF Socket Set Screw 3/8" long, cup point
15	143/0406D	1/8 Dia. Grooved Pin 3/8" long	50	101 X 130B	Support Bush			5/16 Dia. Soft Pad
16	217 X 150	Centre Shaft Spacer	51	577 X 125	Plunger	86	153/05	2.7/8" External Circlip
17	129/28	2.1/4" Dia. Welch Plug	52	558 X 128	Spring	87	101/29A	Clutch Plate, Outer
18	217 X 145	Binding Plate	53	101 X 278	Plunger	88	102 X 189	Inner Brake Spring
19	217 X 166	Centre Shaft Spacer	54	125/1008	5/32 Dia. Taper Pin 1/2" long	89	102 X 220	Clutch Plate
20	155/0720	7/16 BSF Socket Head Cap Screw	55	101 X 275A	Plunger Spring	90	FX 2466	Locknut
		1.1/4" long	56	122/1032T	5/16" x 7/32" Parallel Key 2" long	91	203 X 227	Bronze Dowel
21	270/50	50mm Double Purpose Ball Journal	57	101 X 176A	Key	92	102 X 146	2BA Socket Set Screw 1/4" long, cup point
22	104/44P	110mm Internal Circlip	58	162/406	4BA Countersunk Head Screw 5/8" long, slotted	93	179/204	Clutch centre sleeve
23	212 V 136	Centre Driving Gear			Parallel Pin	94	102 X 182A	Clutch Operating Shaft
24	217 X 153	Spacer	59	201 X 173	Toggle Operating Sleeve	95	212 X 210A	Clutch Fork
25	217 X 142	Threaded Taper Pin	60	211 Y 111	Ring Housing	96	212 V 207	3/16" x 3/16" Parallel Key 2" long
26	203/07	7/16 BSF Self Locking Nut	61	211 X 115	5/16" BSF Socket Head Cap Screw 1.1/2" long	97	121/0632T	Clutch Plate Outer
27	130/07	7/16 Dia. Flat Washer	62	155/0524	Binding Cap	98	102 X 189	Clutch Glut Spacer
28	211 Y 108	Centre Guide			Drive Key			
29	212 Z 101	Spindle Drum	63	211 V 114	Spindle			
30	217 Y 140A	Centre Drive Shaft	64	101 X 148A	Spindle Nose			
31	211 X 144	Plug	65	212 Z 102	Collet supplied by Tooling			
32	102 X 197C	Brake Housing Key	66	101 X 147A	Piston Ring			
33	(102 X 199A) (102 X 220)	Brake Spring	67					
			68	101 X 281				

When ordering spare parts always quote the Inspection Number of the machine.

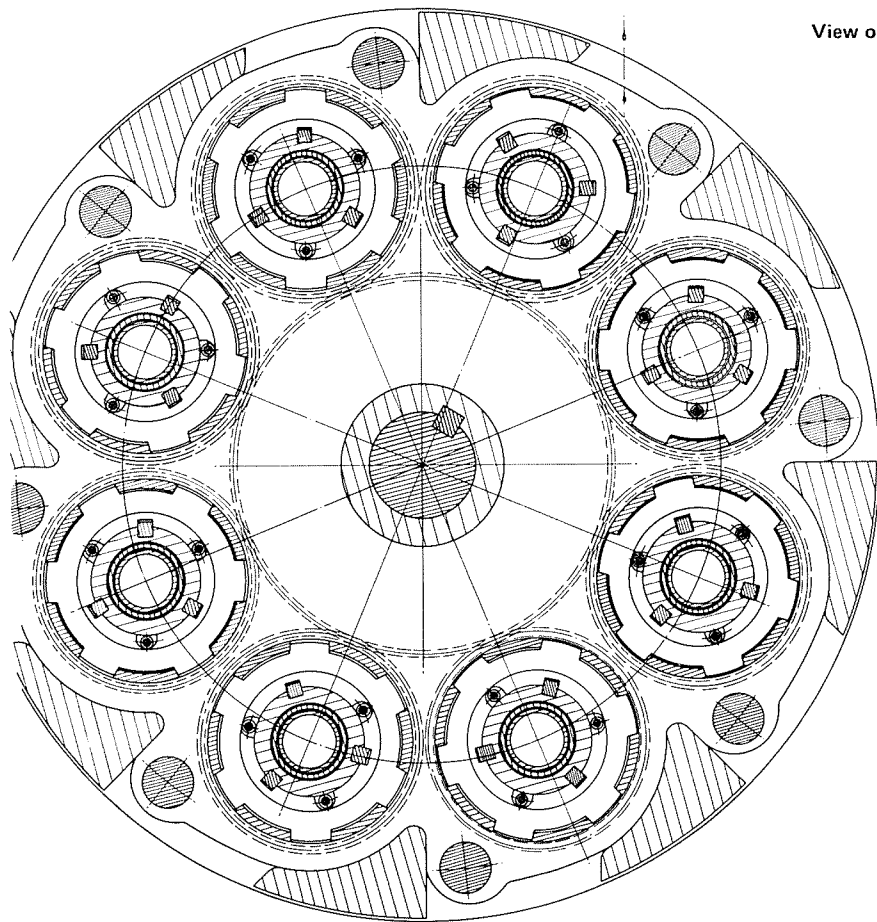


Spindle Stopping Drum (Cont.)

212 Z1

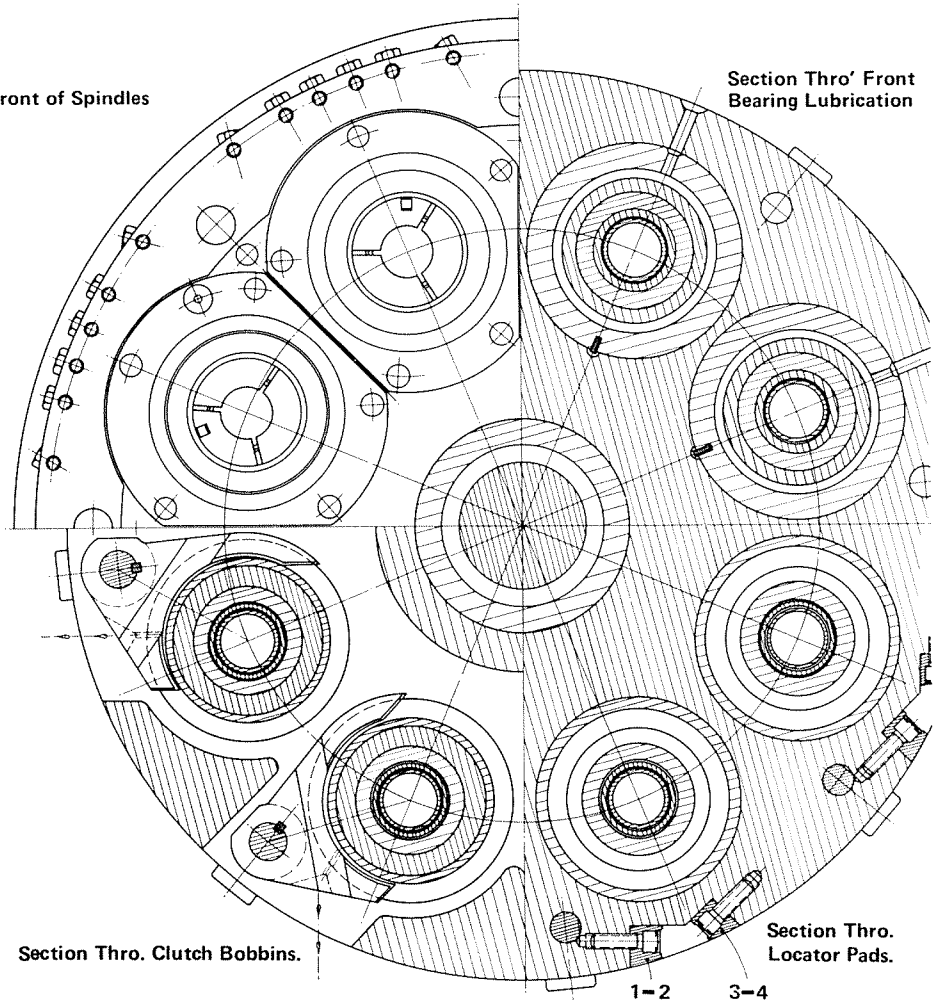
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
100	102 X 188A	Clutch Plate Lever	120	211 X 124A	Rear Bearing End Spacer	138	182/0410	1/4 BSF Socket Set Screw 5/8" long, Taper point
101	508 X 248	Clutch Spring Pin	121	211 V 121	Rear Bearing Spindle Cap	139	258/40SS	40mm Ball Journal
102	102 X 192A	Separating Spring	122	155/0516	5/16 BSF Socket Head Cap Screw 1" long	140	101 X 175	Locknut
103	102 X 134A	Driving Clutch Thrust Plate	123	101 X 267A	Retaining Screw	141	176/0404	1/4 BSF Socket Set Screw 1/4" long, cup point
104	212 V 186	Clutch Cap Gear	124	151/50	50mm Slotted Locknut	142	153/04	1/4" Dia. Soft Pad
105	103/28	50mm External Circlip	125	SP 41E	Tab Washer	143	101 X 132C	Sleeve (211 X 157 Assembly) Supplied by Tooling
106	SB 119	Spindle Driven Gear Bearing	126	176/0506	5/16 BSF Socket Set Screw 3/8" long, cup point	144		
107	212 X 214	Clutch Gear Spacer	127	101 X 106	Toggle Roller Pin	145	101 X 174	Locknut
108	104/38	80mm Internal Circlip	128	153/05	5/16 Dia. Soft Pad	146	101 X 152A	Binding Nut
109	178/0712	7/16" BSF Socket Set Screw 3/4" long, half dog point	129	101 X 105	Toggle Pin	147	577 X 126	Knob
110	104/40	90mm Internal Circlip	130	101 X 107	Toggle Roller	148	577 X 123	Plunger Housing
111	211 X 120	Rear Bearing Outer Spacer	131	101 Y 110	Toggle Carrier	149	156/206	2BA Socket Head Cap Screw 3/8" long
112	212 X 123	Rear Bearing Inner Spacer	132	101 V 104C	Toggle	150	101 X 172	Key
113	SB 121	Roller Bearing	133	211 X 154	Collet Tube	151	101/38	4" External Circlip
114	236/161824	1" x 1.1/8" Oilite Bush 1.1/2" long	134	101 X 127B	Thrust Ring			
115	211 X 178	Rear Bearing Centre Spacer, Outer	135	101 V 272A	Adjusting Sleeve			
116	143/0406D	1/8" Dia. Grooved Pin 3/8" long	136	101 X 122B	Compensating Disc Spring			
117	153 X 143	Roller Pin	137	101 X 273B	Collet Tube Spring			
118	153 X 142	Cam Roller						
119	211 X 177	Rear Bearing Centre Spacer, Inner						

When ordering spare parts always quote the Inspection Number of the machine.



Section Thro. Drive Clutches from Collet End.

View on Front of Spindles



Section Thro' Front Bearing Lubrication

Section Thro. Clutch Bobbins.

Section Thro. Locator Pads.

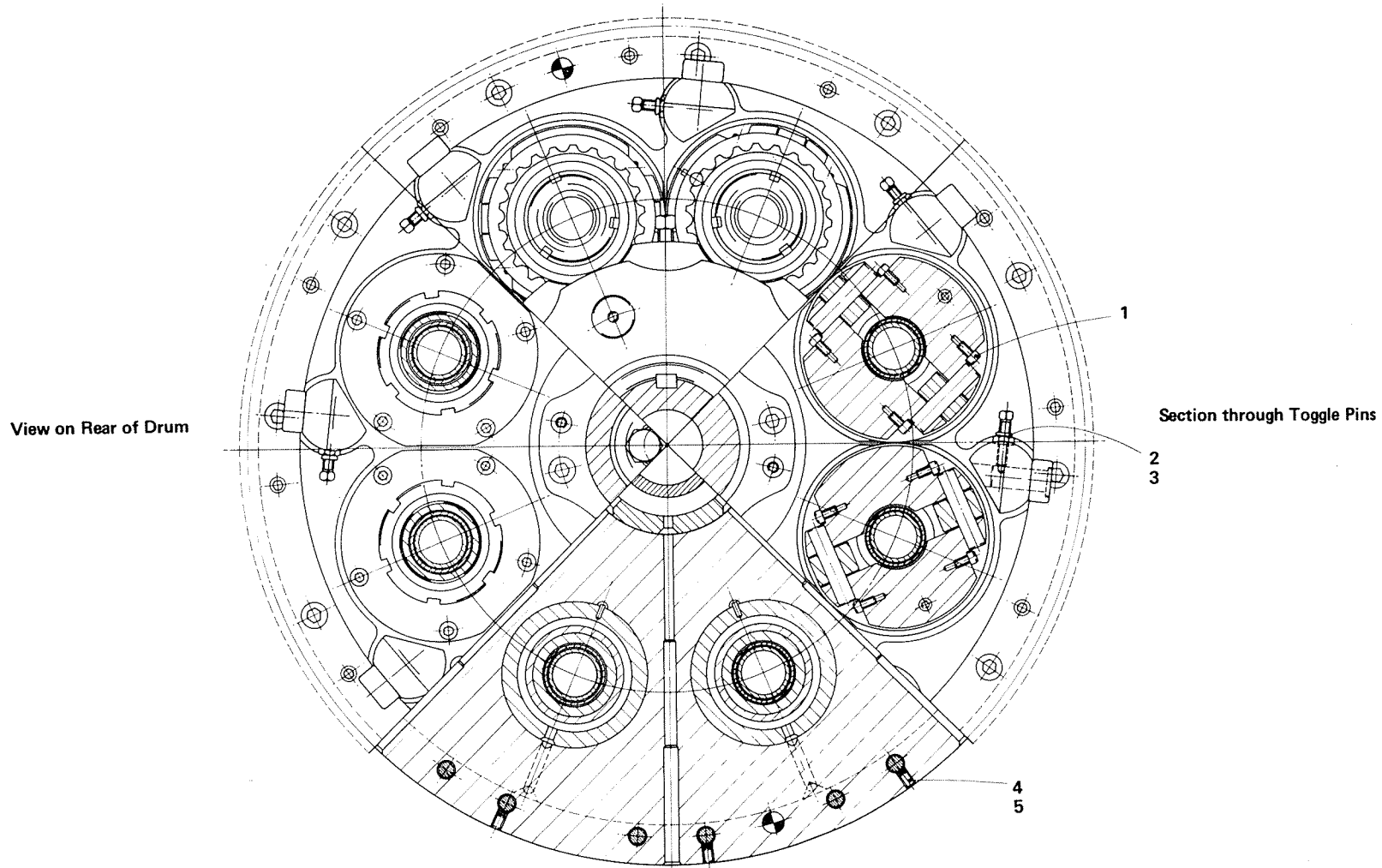
1-2 3-4

Spindle Assembly End Views

212Z2

Item	Part No.	Description
1	211 X 146	Locking Strip
2	155/0516	5/16" BSF Socket Head Cap Screw 1" long
3	211 X 145	Locator Strip
4	155/0516	5/16" BSF Socket Head Cap Screw 1" long

View on Feed Tube Steady



View on Rear of Drum

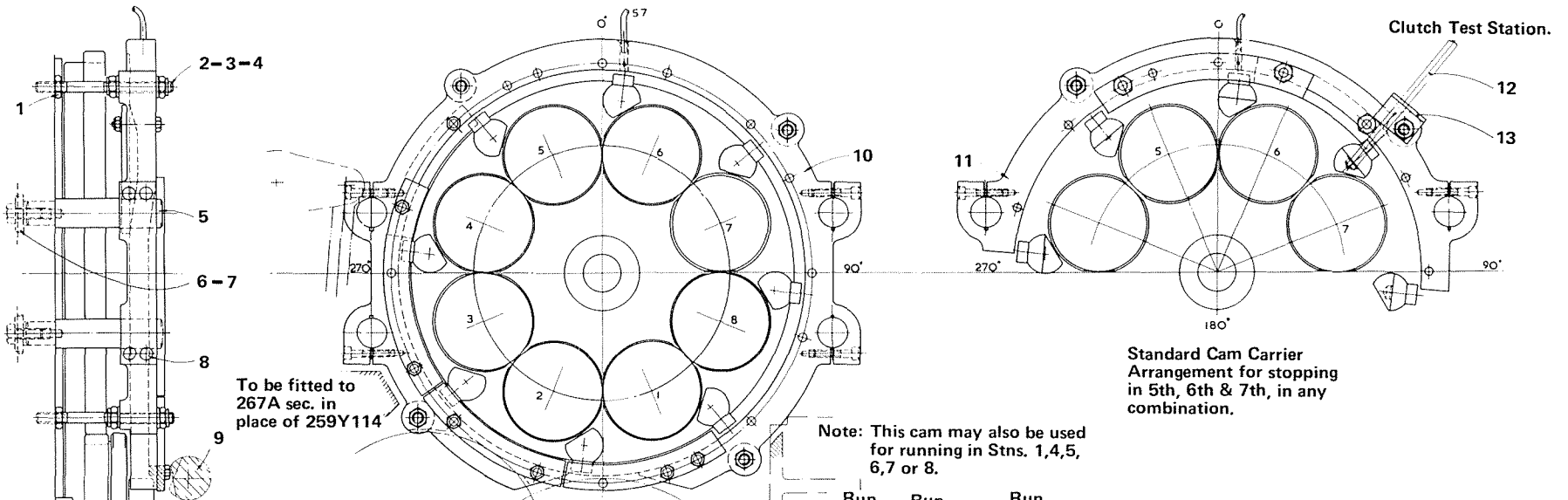
Section through Toggle Pins

Section through Rear Bearing Lubrication

Spindle Assembly End Views

212 Z3

Item	Part No.	Description
1	156/206	2BA Socket head cap screw 3/8" long
2	183/0420	1/4 BSF Square head set screw 1.1/4" long taper point
3	203/04	1/4 BSF self locking nut
	176/0406	1/4 BSF Socket set screw 3/8" long cup point
4		
5	153/04	1/4 dia. soft pad

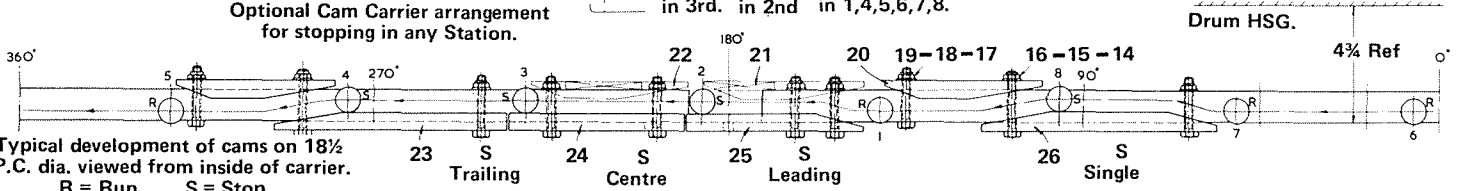


Note: This cam may also be used for running in Stns. 1,4,5, 6,7 or 8.

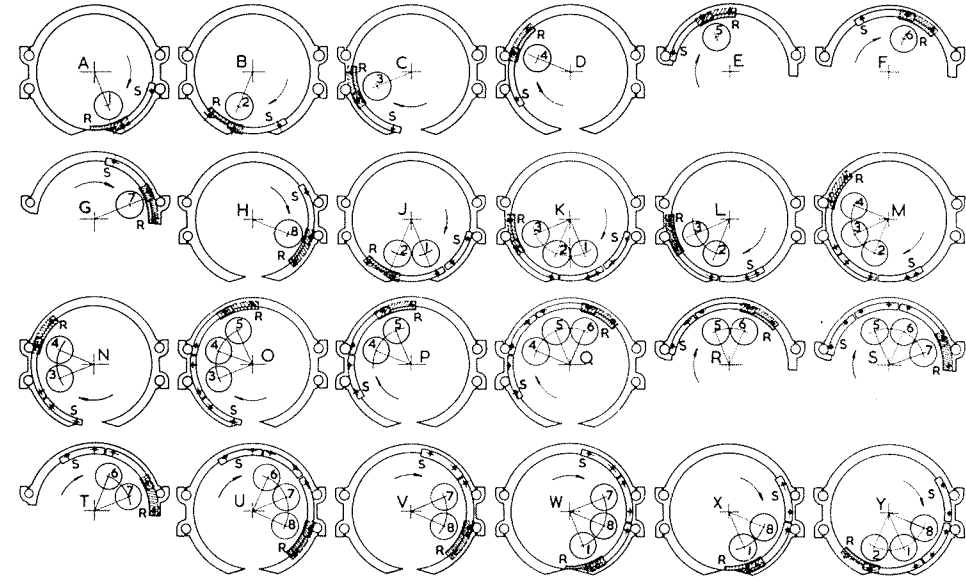
Run in 3rd. Run in 2nd. Run in 1,4,5,6,7,8.

Optional Cam Carrier arrangement for stopping in any Station.

Typical development of cams on 18% P.C. dia. viewed from inside of carrier.



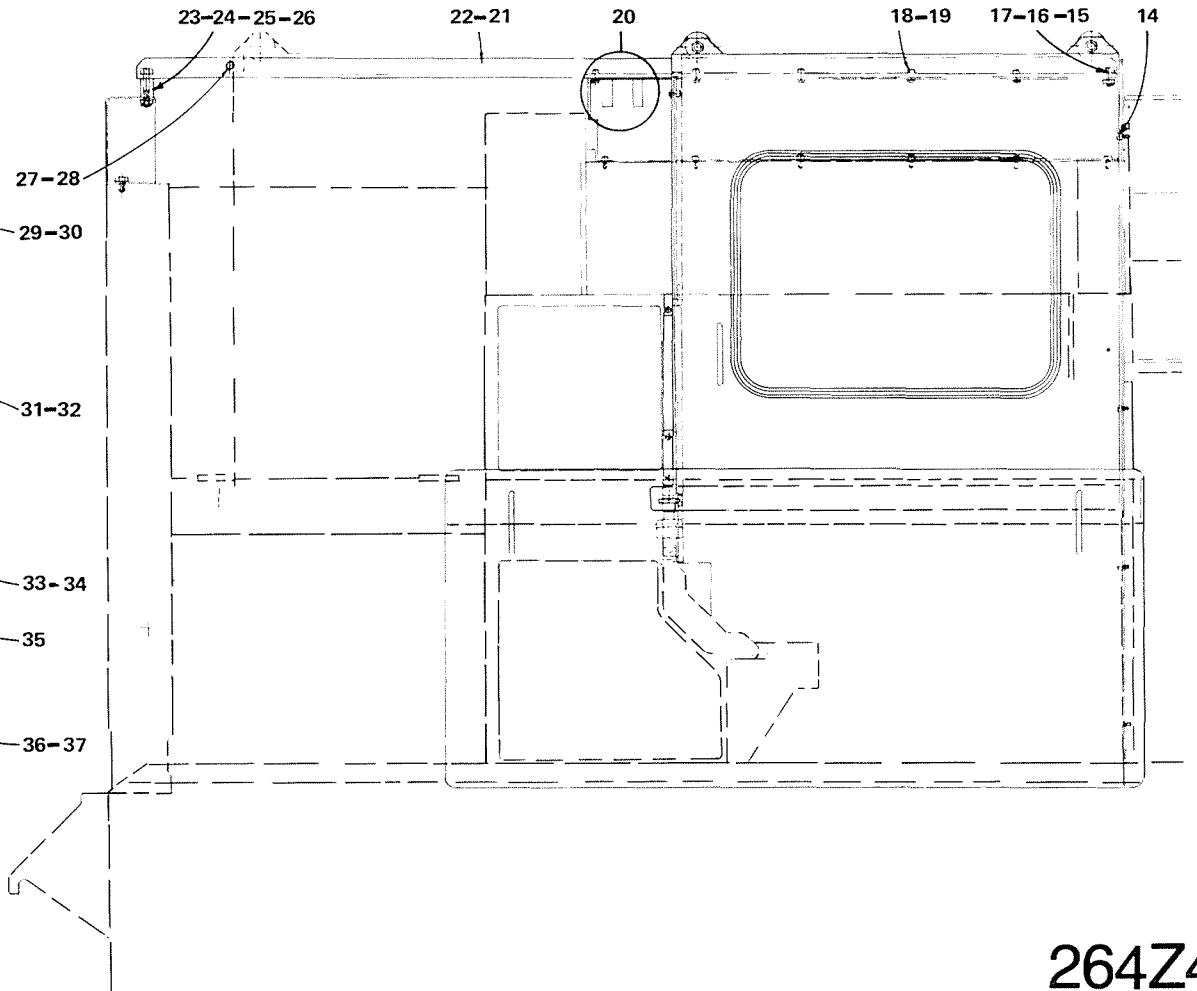
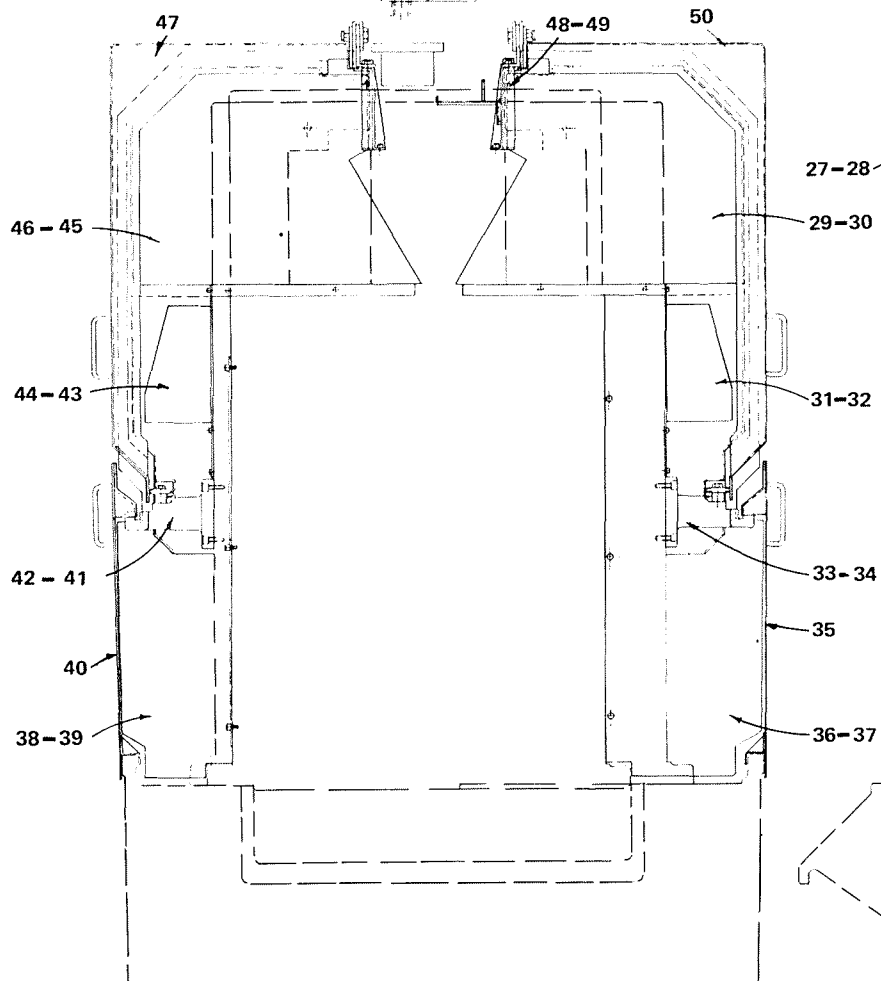
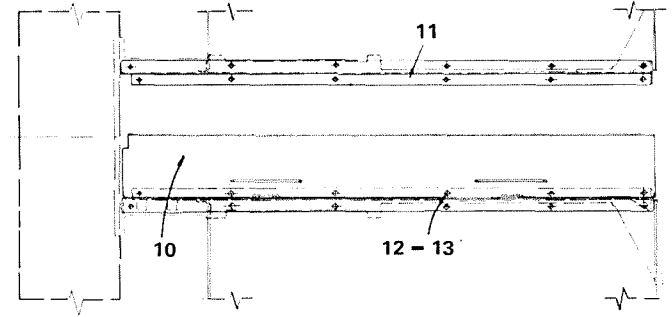
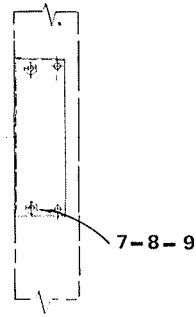
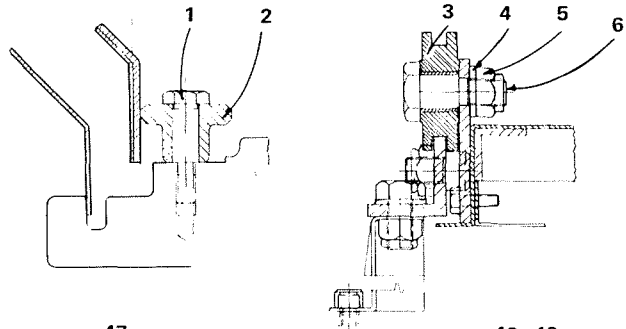
SPINDLE STOPPED	STOPPING CAMS REQUIRED			RUN CAMS REQUIRED		DIAG.	CAM CARRIER REQUIRED
	SINGLE	LEADING	CENTRE	TRAILING	TRAILING		
1	212V226/1					A	212Z 225
2	212V226/1					B	212Z 225
3	212V226/1					C	212Z 225
4	212V226/1					D	212Z 225
5	212V226/1					E	212V224 or Z225
6	212V226/1					F	212V224 or Z225
7	212V226/1					G	212V224 or Z225
8	212V226/1					H	212Z 225
1, 2		212V226/2				J	212Z 225
1, 2, 3		212V226/2	212V226/4			K	212Z 225
2, 3		212V226/2				L	212Z 225
2, 3, 4		212V226/2	212V226/4			M	212Z 225
3, 4		212V226/2				N	212Z 225
3, 4, 5		212V226/2	212V226/4			O	212Z 225
4, 5		212V226/2				P	212Z 225
4, 5, 6		212V226/2	212V226/4			Q	212Z 225
5, 6		212V226/2				R	212V224 or Z225
5, 6, 7		212V226/2	212V226/4			S	212V224 or Z225
6, 7		212V226/2				T	212V224 or Z225
6, 7, 8		212V226/2	212V226/4			U	212Z 225
7, 8		212V226/2				V	212Z 225
7, 8, 1		212V226/2	212V226/4			W	212Z 225
8, 1		212V226/2				X	212Z 225
8, 1, 2		212V226/2	212V226/4			Y	212Z 225



Spindle Stopping Cams

212Z4

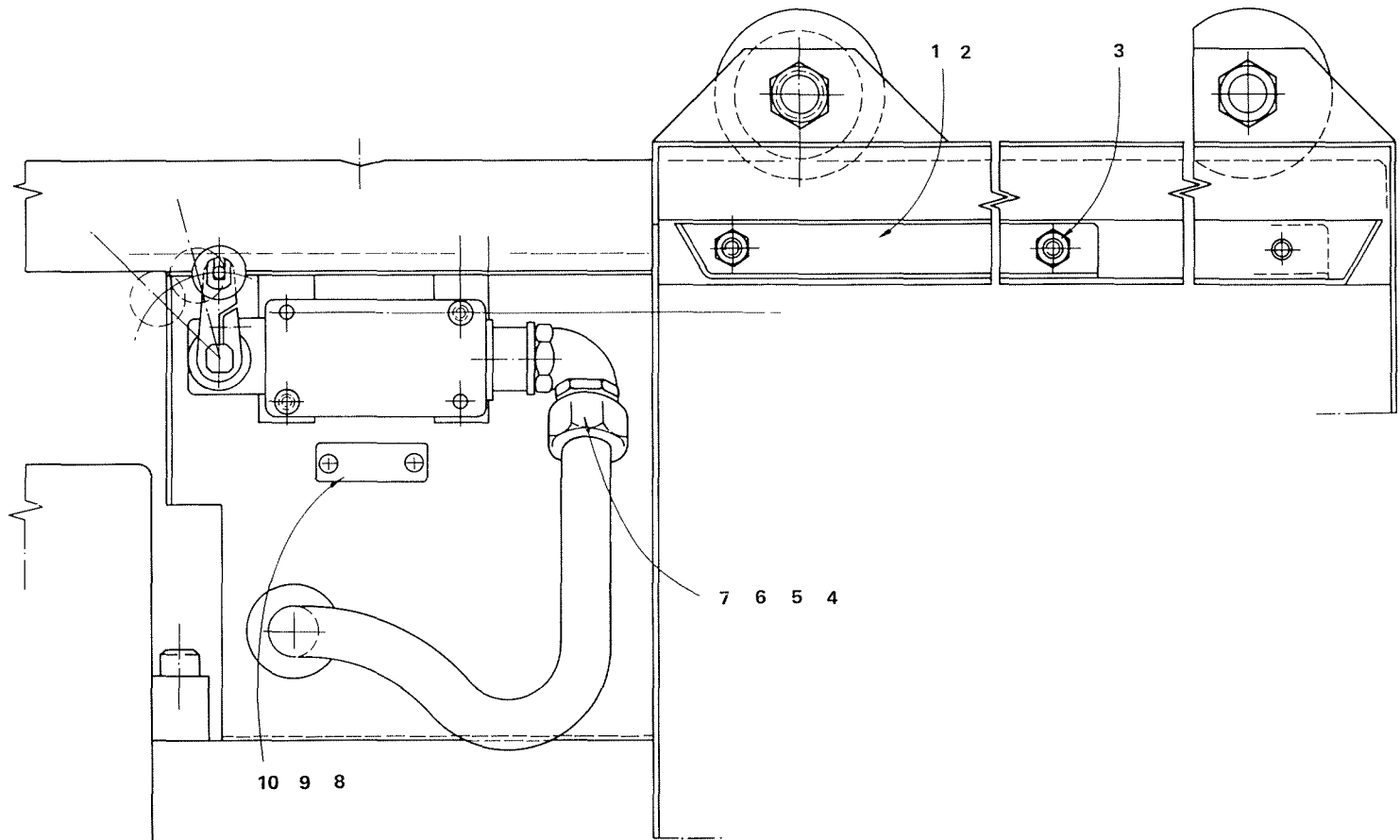
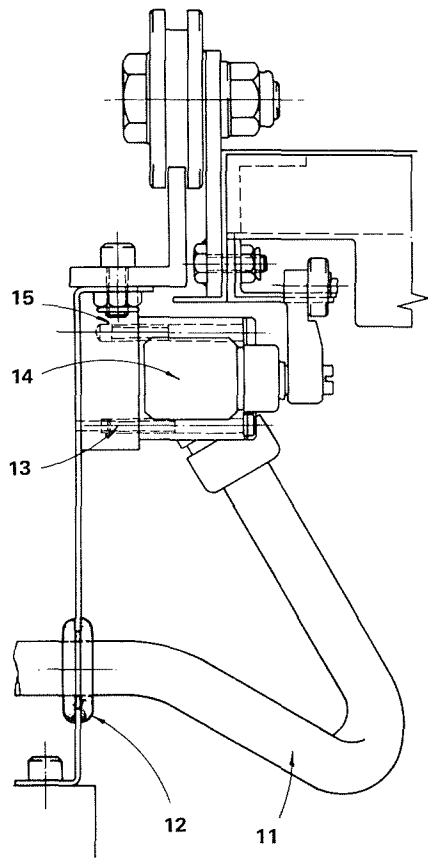
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	173/08L	1/2" B.S.F. Hexagon Locknut	13	212X.236A	Clutch Testing Bracket	20	212V.226/5	Run Cam
2	212X.233	Support Stud	14	203/06L	3/8" B.S.F. Self Locking Locknut	21	212V.226/7	Run Cam
3	130/08	1/2" Dia. Flat Washer	15	130/06	3/8" Dia. Flat Washer	22	212V.226/6	Run Cam
4	203/08L	1/2" B.S.F. Self Locking Locknut	16	167/0640	3/8" B.S.F. Hexagon Head Screw 2.1/2" long	23	212V.226/3	Trailing Stop Cam
5	212X.234	Support Bar	17	203/06L	3/8" B.S.F. Self Locking Locknut	24	212V.226/4	Centre Stop Cam
6	158X.117A	Guide Washer	18	130/06	3/8" Dia. Flat Washer	25	212V.226/2	Leading Stop Cam
7	167/0820	1/2" B.S.F. Hexagon Head Screw 1.1/4" long	19	167/0636	3/8" B.S.F. Hexagon Head Set Screw 2.1/4" long	26	212V.226/1	Stop Cam
8	155/0628	3/8" B.S.F. Socket Head Cap Screw				27	Key	
9	212Y.235	Feed Lever Shaft						
10	212Z.225	Cam Carrier						
11	212V.224	Cam Carrier						
12	212X.238A	Clutch Testing Lever						



Splash Guards

264 Z4

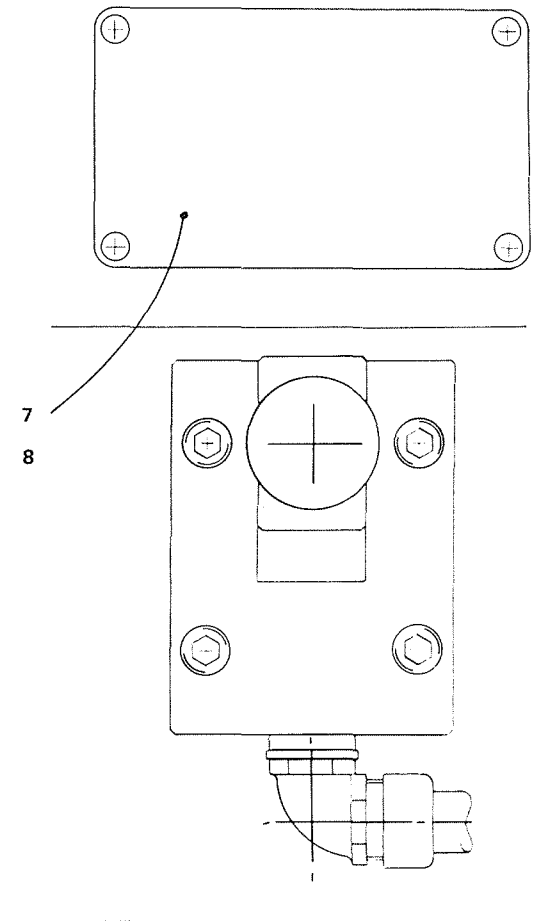
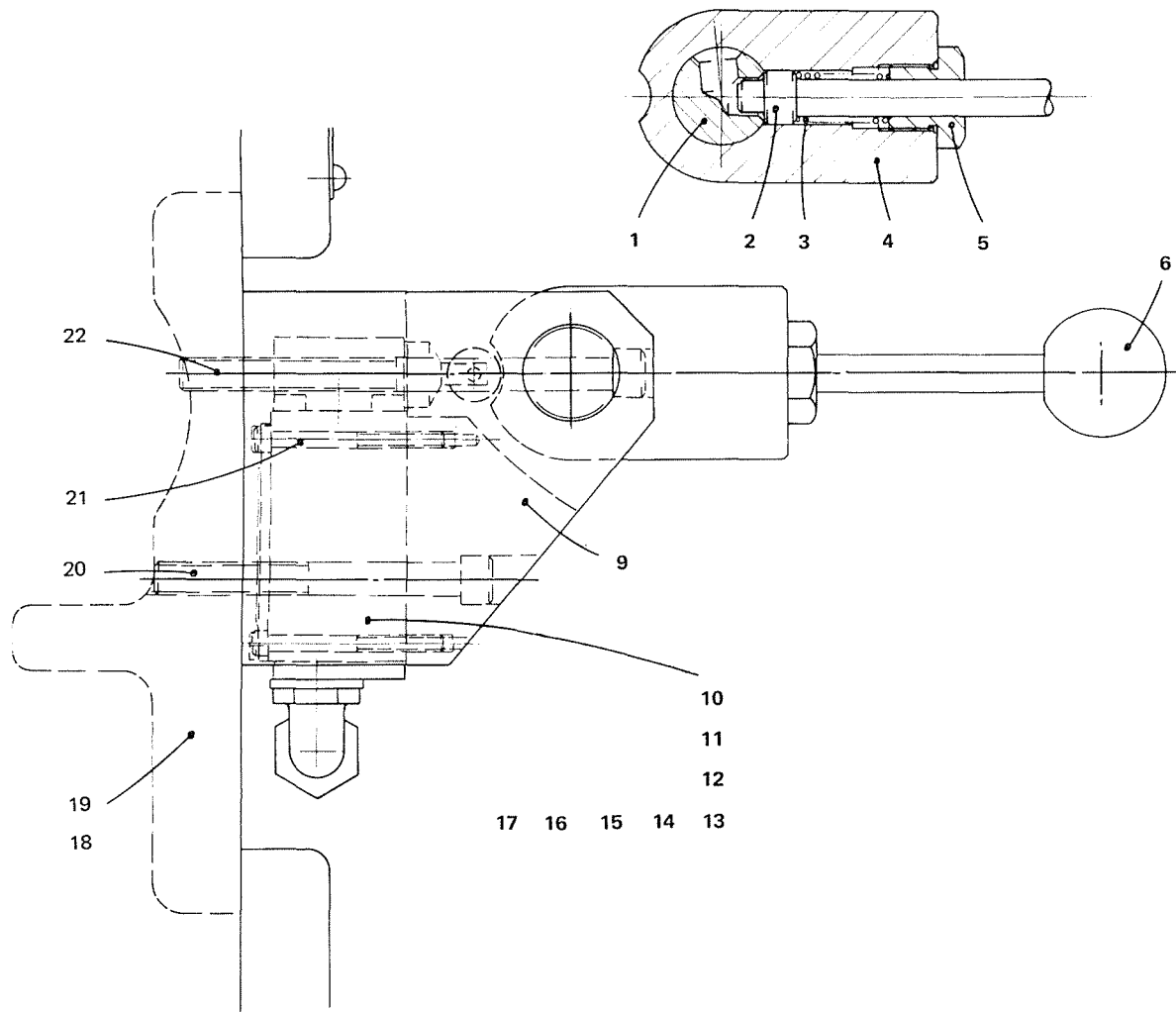
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	564X.138	Roller Pin	21	264X.183A	Rear Splash Guard Rail	40	264Y.179A	Lower Splash Guard
2	564X.136	Roller	22	264X.182A	Front Splash Guard Rail	41	264Y.184	Drum Housing Bracket
3	264X.181	Roller	23	203/08	1/2" B.S.F. Self Locking Nut	42	155/0720	7/16" B.S.F. Socket Head Cap Screw 1.1/4" long
4	130/08	1/2" dia. Flat Washer	24	130/08	1/2" dia. Flat Washer	43	155/0408	1/4" B.S.F. Socket Head Cap Screw 1/2" long
5	203/08	1/2" B.S.F. Self Locking Nut	25	169/0840	1/2" B.S.F. Hexagon Head Set Screw 2.1/2" long	44	264V.166B	Drum Housing Side Cover (rear)
6	564X.139	Roller Pin	26	264X.180	Rail Packer	45	155/0508	5/16" B.S.F. Socket Head Cap Screw 1/2" long
7	264V.176	Rail Support Bracket	27	155/0812	1/2" B.S.F. Socket Head Cap Screw 3/4" long	46	264V.164	Top Splash Guard (rear)
8	130/08	1/2" dia. Flat Washer	28	203/08L	1/2" B.S.F. Self Locking Locknut	47	264Z.162A	Overhead Splash Guard (rear)
9	167/0812	1/2" B.S.F. Hexagon Head Set Screw 3/4" long	29	264V.163	Top Splash Guard (front)	48	155/0508	5/16" B.S.F. Socket Head Cap Screw 1/2" long
10	264V.175	Beam Cover	30	155/0508	5/16" B.S.F. Socket Head Cap Screw 1/2" long	49	203/05L	5/16" B.S.F. Self Locking Nut
11	264V.173A	Rear Beam Guard	31	264V.165B	Drum Housing Side Cover (front)	50	264Z.161A	Overhead Splash Guard (front)
12	264Y.170A	Front Beam Guard	32	155/0408	1/4" B.S.F. Socket Head Cap Screw 1/2" long			
13	155/0508	5/16" B.S.F. Socket Head Cap Screw 1/2" long	33	155/0720	7/16" B.S.F. Socket Head Cap Screw 1.1/4" long			
14	155/0508	5/16" B.S.F. Socket Head Cap Screw 1/2" long	34	264Y.184	Drum Housing Bracket			
15	203/08	1/2" B.S.F. Self Locking Nut	35	264Y.179A	Lower Splash Guard			
16	130/08	1/2" dia. Flat Washer	36	155/0508	5/16" B.S.F. Socket Head Cap Screw 1/2" long			
17	169/0816	1/2" B.S.F. Hexagon Head Set Screw 1" long	37	264Y.177	Side Splash Guard (front)			
18	203/05L	5/16" B.S.F. Self Locking Nut	38	155/0508	5/16" B.S.F. Socket Head Cap Screw 1/2" long			
19	155/0510	5/16" B.S.F. Socket Head Cap Screw 5/8" long	39	264Y.178	Side Splash Guard (rear)			
20		For details of interlock switches see 264 Y 5						



Splash Guard Interlock Switch

264 Y5

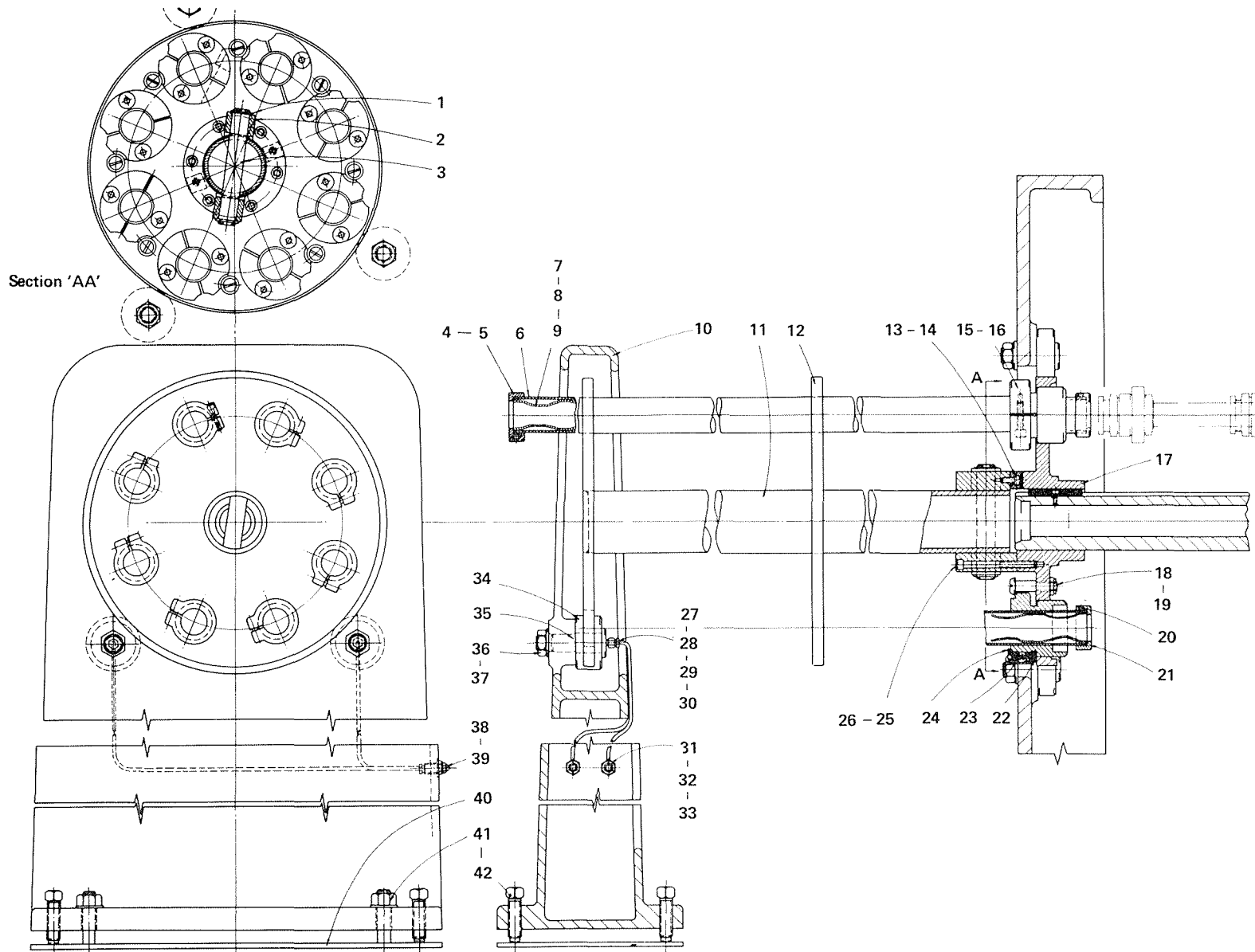
Item	Part No.	Description
1	264 X 167	Trip cam
2	264 X 168	Trip cam
3	203/04L	1/4 BSF Self locking nut
4	11.03.12	20 mm conduit seal
5	15.01.1316	13.5 pg/16 mm conduit adaptor
6	11.03.09	16 mm conduit seal
7	15.04.1690	16 mm conduit elbow
8	165/406	4BA Round head set screw 3/8" long
9	291/13	Legend plate
10	291/12	Legend plate
11	347/1012	16 mm anaconda 12" long
12	SIC.6654	Grommet
13	156/228	2BA Socket head cap screw, 1.3/4" long
14	3SE3 — 120— 1J	Siemens switch
15	08.06.0518	5 mm tension pin 18 mm long



Electrical Interlock for Splash Guards

264Y6

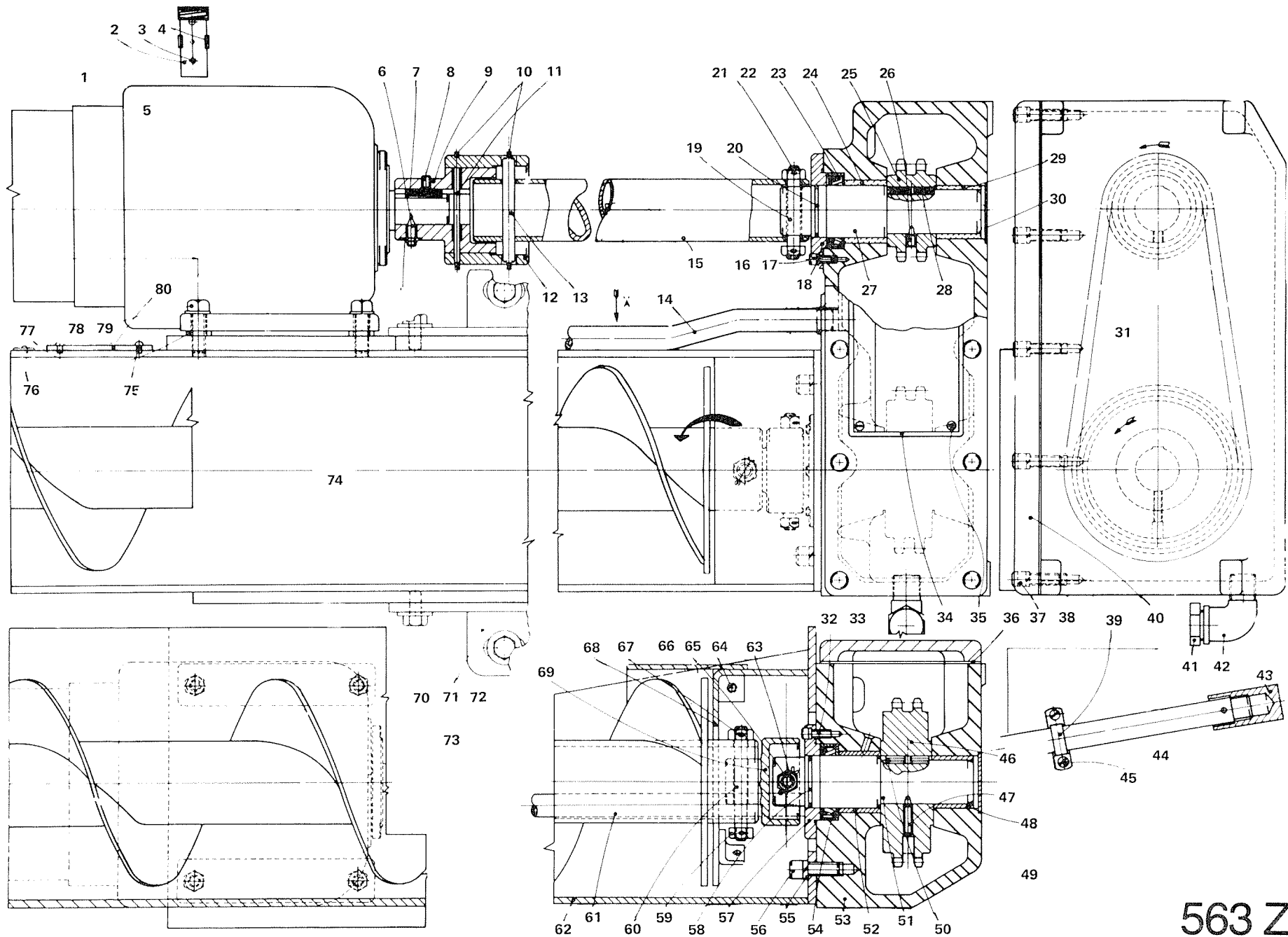
Item	Part No.	Description	Item	Part No.	Description
1	264 X 185	Pivot Pin	14	SIC.6654	Grommet
2	264 X 188	Lever	15	WMS.11.03.	
3	193312	Flexo spring	09		16 mm seal
4	264 X 186	Trip cam	16	WMS.15.04.	
5	264 X 189	Spring retaining plug	1645		45° connector
6	241/13	Red bakerlite knob	17	WMS.15.02.	
7	272 X 512	Instruction plate	1216		16 mm locknut
8	165/206	2BA Round head screw 3/8" long	18	264 X 192	Modification to drum housing (front)
9	264 V 190	Bracket	19	264 X 191	Modification to drum housing (rear)
10	B61F-y156.		20	155/0656	3/8 BSF Socket head cap screw 3.1/2" long
2		Square 'D' limit switch	21	156/232	2BA Socket head cap screw 2" long
11	WMS.11.03.		22	155/0680	3/8 BSF Socket head cap screw 5" long
12	12	20 mm seal			
12	WMS.15.04.				
2091		90° connector			
13	347/1060	5/8 anaconda 60" long			



Stock Carriage

278Z1

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	101/11	1" dia. external Circlip	15	155/0624	3/8" BSF Socket Head Cap Screw 1.1/2" long	29	215/3	3/16" dia. Tubing Nut
2	275 X 109	Drive Bush	16	175 V 103E	Bush	30	221/3	3+16" dia. Tubing Sleeve
3	275 X 130A	Pin	17		Section 267	31	Enots 34-0324-08	1/4" BSP Bulkhead Connector
4	155/0420	1/4" BSF Socket Head Cap Screw 1.1/4" long	18	175 X 130A	Stop Screw	32	215/3	3/16" dia. Tubing Nut.
5	175 X 104	Cap for Stock Tube	19	203/08L	1/2" BSF Self Locking locknut	33	221/3	3/16" dia. Tubing Sleeve
6	175 X 101A	Stock Tube	20	178/0506	5/16" BSF Hollow Set Screw 3/8" long, 1/2" dog point	34	575 X 115	Roller
7	175 X 521	Stock Support Spring. Special order only	21	175 X 126	Spring Tap	35	278 X 116	Roller Pin
8	175 X 135	Stock Support Spring. Special order only.	22	175 X 131	Plunger	36	173/14L	7/8" BSF Hexagon Locknut
9	175 X 119B	Stock Support Spring. Standard m/c only	23	175 X 132	Spring	37	130/14	7/8" dia. Flat Washer
10	278 V 108	Stock Carriage Stand	24	118 X 141	Spring Retaining Plug	38	212/18	1/8" BSP Nipple
11	375 X 102	Centre Tube) Welded Assembly	25	275 V 125A	Adaptor	39	210/2525	Yellow Indicator Washer
12	278 V 106	Support Disc) 278V122	26	155/0664	3/8" BSF Socket Head Cap Screw 4" long	40		Supplied by Customer
13	155/0512	5/16" BSF Socket Head Cap Screw 3/4" long	27	225/3050	3/16" dia. Copper Tube 4ft. long	41		Supplied by Customer
14	375 X 133	Tennon	28	218/2	1/8" BSP Male Adaptor	42	188/1240	3/4"BSF Square Head Set Screw 2.1/2" long



563 Z1D

Conveyor Unit Mark V (Optional Extra)

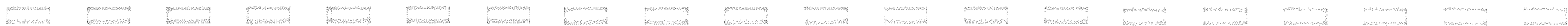
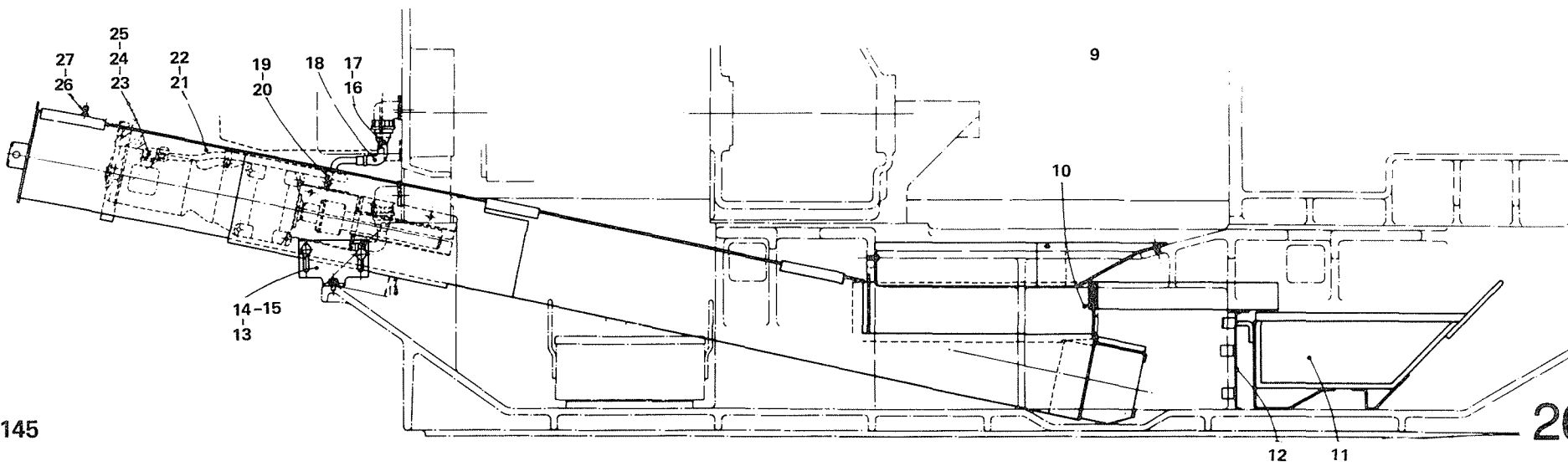
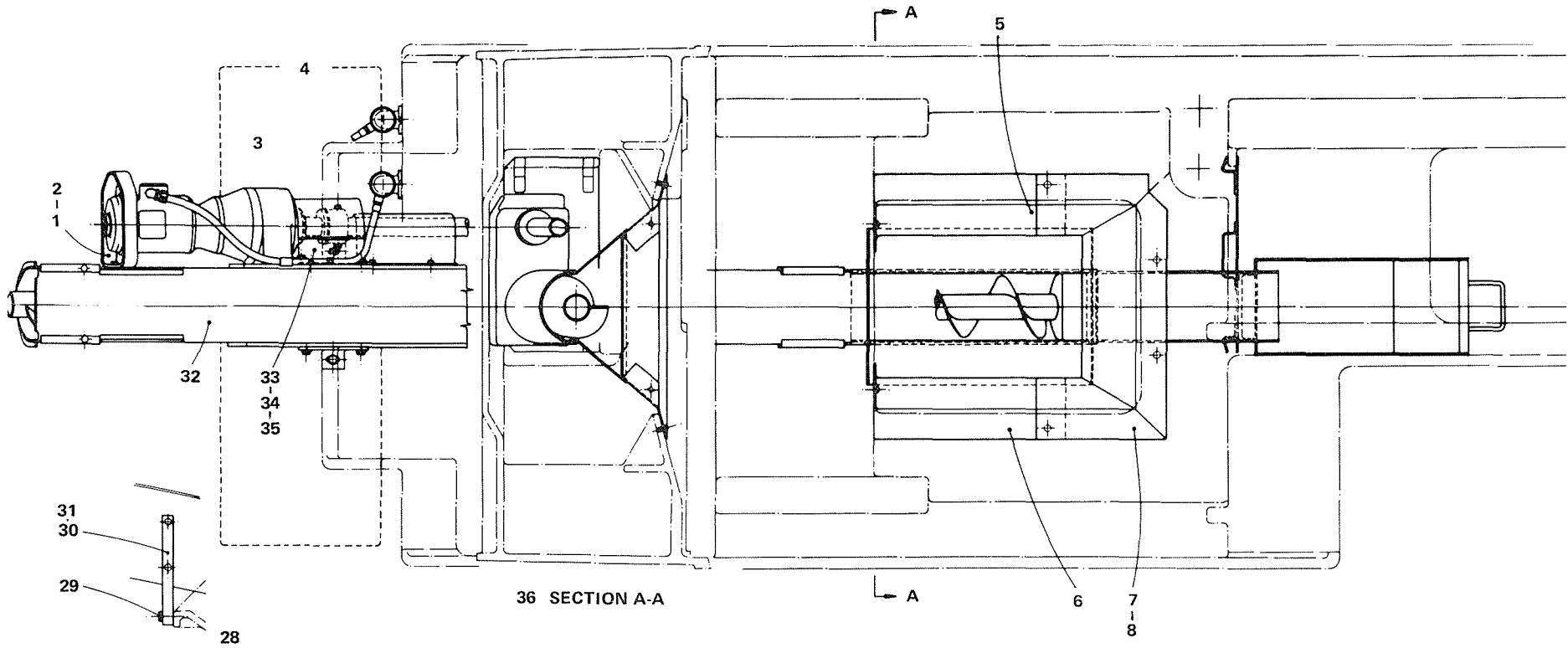
563 Z1D

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	—	For details of trough cover on outer end of trough see FZ301, 563Z2G, 563Z6B, 163Z1A, FZ302, 263Z1B, 363Z1C	30	129/24	Welch Plug, 1.3/4" dia	55	154/06	Spring Washer, for 3/8" dia.
2	FX7790	Container for Shear Pins	31	114046	Renold Duplex Chain, 53 Pitches, 5 Pitch, 0.335 Roller	56	155/0616	Socket Head Cap Screw, 3/8" B.S.F. x 1" long
3	162/404	Countersunk Screw, 4 B.A. x 1/4" long	32	156/208	Socket Head Cap Screw, 2 B.A. x 1/2"	57	563X. 111	End Plate
4	257	Terry Spring Clip, 3/4" dia.	33	154/2	Spring Washer, for 2 B.A.	58	563X. 114	Piston Ringseal
5	—	Strateline Speed Reducer Unit 563V153/- E/Ref.	34	563X. 154	Oiling Plate	59	173/06	Hexagon Nut, 3/8" B.S.F.
6	182/0412	Socket Set Screw, Taper Point	35	165/403	Round Head Screw, 4 B.A. x 3/16" long	60	563X. 118	Drive Pin
7	122/0816	Key, Square Ends, 1/4" x 3/16" x 1" long	36	563Y. 105	Gasket	61	See Table (Index No. 74)	See Table (Index No. 74)
8	179/206	Socket Set Screw, 2 B.A. x 3/8" long	37	155/0516	Socket Head Cap Screw, 5/16" B.S.F.	62	See Table (Index No. 74)	See Table (Index No. 74)
9	563X. 107D	Coupling. Driving	38	154/05	Spring Washer, for 5/16" dia.	63	563X. 120	Drive Pin, Output
10	355/315	Retaining Ring, External, 80mm	39	—	Pipe Clip, for 3/8" Pipe	64	167/0408	Hexagon Head Set Screw, 1/4" B.S.F. x 1/2" long
11	124/0544	Silver Steel Pin, 5/32" dia. x 2.3/4" long	40	563Y. 104	Cover for Housing	65	127/0607	Split Pin, 3/32" x 7/8" long
12	563X. 126B	Drive Sleeve	41	—	Hexagon Pipe Plug	66	173/06	Hexagon Nut, 3/8" B.S.F.
13	563X. 145A	Drive Pin, Coupling	42	—	Elbow, 90°	67	127/0607	Split Pin, 3/32" x 7/8" long
14	563X. 116A	Vent Pipe	43	563X. 117	Male and Female	68	563V. 146B	Cover Plate
15	—	See Table I (Index No. 74)	44	—	Dust Cap	69	563X. 115	Coupling, Driven
16	154/2	Spring Washer, for 1/8" dia.	45	165/206	View in direction of arrow "A" showing continuation of vent pipe	70	167/0612	Hexagon Head Set Screw, 3/8" B.S.F. x 3/4" long
17	156/208	Socket Head Cap Screw, 2 B.A. x 1/2" long	46	563X. 150	Chain Wheel, 29 Teeth	71	163V. 108	Support Plate
18	563X. 111	End Plate	47	182/0416	Socket Set Screw, Taper Point, 1/4" B.S.F. x 1" long	72	—	Large Black Washer, 3/8" Dia.
19	563X. 119	Drive Pin, Input	48	236/202420	Oil Retaining Bush, 1.1/4" x 1.1/2" x 1.1/4" long	73	—	See Cover Group for these details
20	563X. 114	Piston Ringseal	49	—	The following must be secured to the unit in a bag: Vent Plug	74	—	Parts not common to all machines
21	127/0607	Split Pin, 3/32" dia. x 7/8" long			Dip Stick Shear Pins & Container			
22	173/06	Hexagon Nut, 3/8" B.S.F.			General Arrangement Drawing for Covers & Electrics when Conveyor is supplied separately from Machine.			
23	235/24346	Oil Seal, 1.1/2" x 2.1/8" x 1/2"			Key, Tapped, 5/16" x 7/32" x 1.1/4" long			
24	236/242820	Oil Retaining Bush, 1.1/2" x 1.3/4" x 1.1/4"			Sprocket Shaft			
25	563X. 149	Pinion, 16 Teeth	50	122/1020T	Oil Retaining Bush, 1.1/2" x 1.3/4" x 1.1/4" long			
26	182/0408	Socket Set Screw, Taper Point 1/4" B.S.F. x 1/2" long	51	563X. 113	Drive Housing			
27	563X. 113	Sprocket Shaft	52	236/242820	Oil Seal, 1.1/2" x 2.1/8" x 1/2"			
28	122/1020T	Key, Tapped, 5/16" x 7/32" x 1.1/4" long	53	563Z. 101A				
29	236/202420	Oil Retaining Bush, 1.1/4" x 1.1/2" x 1.1/4"	54	235/24346				

Name	1"—6, 1.3/8"—	2.1/4"—	2.5/8"—	6/5 14/5 18/5
Swarf Trough	163Z102J	563Z102H	563Z102H	FZ7835A
Swarf Screw	163Y103B	563Y103C	563Y103C	163Y103B
Driver Tube	163X106A	563X106C	563X106B	163X106A
Dimension "a"	78.5/8"	92.5/8"	92.5/8"	78.5/8"

75	165/403	Round Head Screw, 4 B.A. x 3/16" long
76	291/71	Legend Plate, "MTR 2"
77	563X. 162	Flexible Washer
78	130/05	Plain Washer 5/16" dia.
79	167/0518	Hexagon Head Bolt, 5/16" B.S.F. x 1.1/8" long
80	563X. 144B	Instruction Plate
81	173/04L	Hexagon Locknut 1/4" B.S.F.

When ordering spare parts always quote the Inspection Number of the machine.



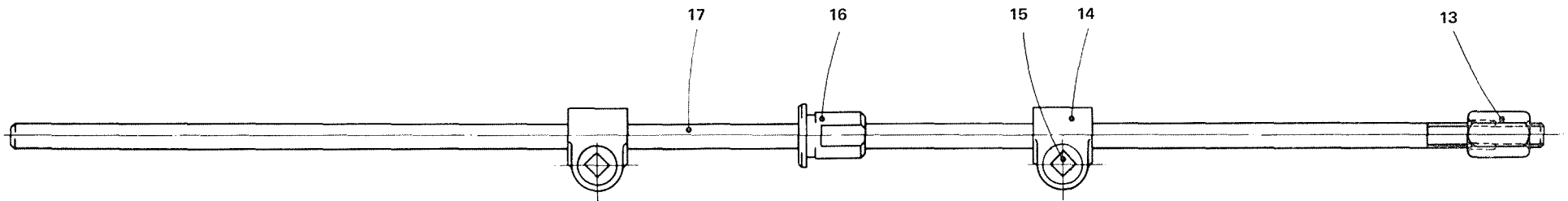
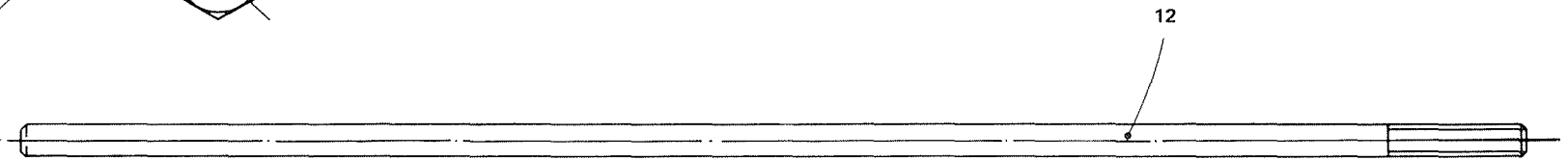
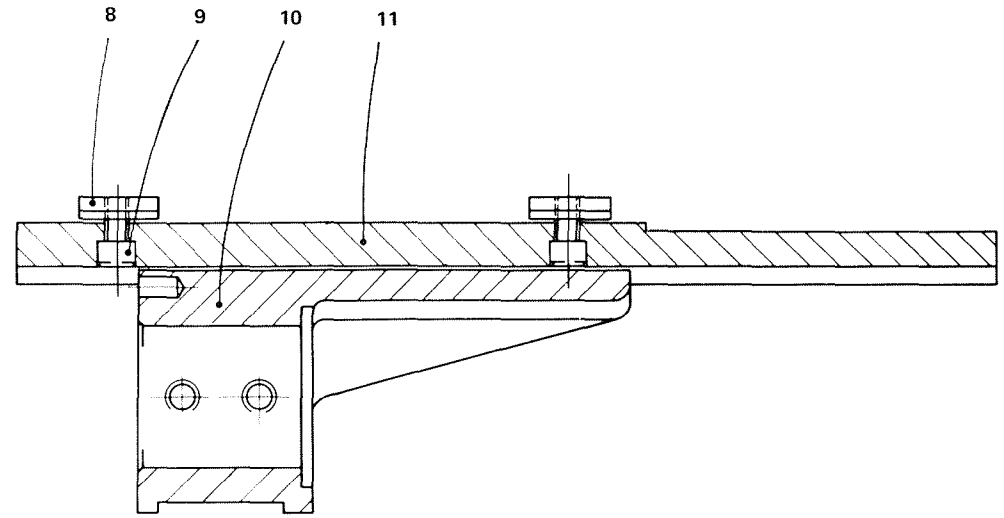
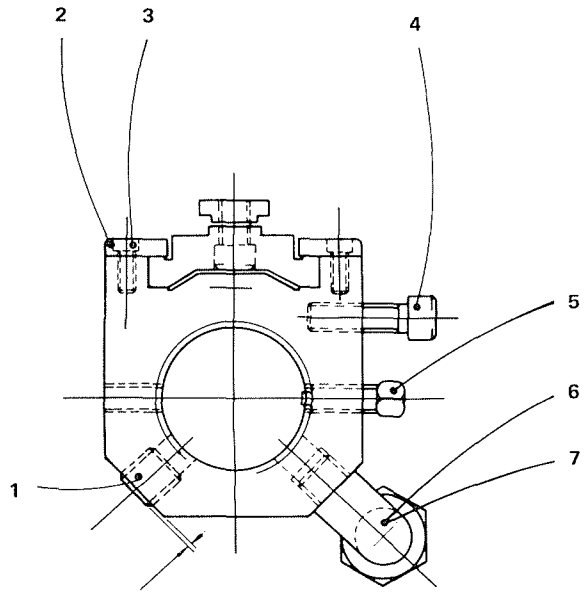
Conveyor Unit & Chutes (Optional Extra)

263 Z1B

Item	Part No.	Description	Item	Part No.	Description
1	563V. 151	Fender	20	185/12	Dunlop Clip, for 3/4" dia.
2	167/0408	Hexagon Head Set Screw, 1/4" B.S.F. x 1/2" long	21	347/1035	Conduit, 5/8" x 35" long
3	—	See also 271Z1 Bar Machines	22	347/1040	Conduit, 5/8" x 40" long
4	—	See also 363V4 Chucker Machines	23	9351	Thomas & Betts 90° Connector, 20mm, 5/8" Conduit
5	263Y. 135A	Swarf Chute, Rear	24	563X. 639	Conduit Adaptor
6	263V. 134A	Swarf Chute, Front	25	357 13	Dowty Seal, for 13/16" dia.
7	263Y. 136A	Swarf Chute, Centre	26	188/0412	Tap Screw, 1/4" B.S.F. x 3/4" long
8	164/0510	Round Head Set Screw, 5/16" B.S.F. x 5/8" long	27	203/04	Selflocking Hexagon Nut, 1/4" B.S.F.
9	—	See 563Z10 for arrangement of Conveyor	28	—	Scrap View when 163X.107A is fitted
10	263Z. 133D	Swarf Chute	29	170/0824	Hexagon Bolt, 1/2" B.S.F. x 1.1/2" long
11	169Z. 134A	Swarf Basket	30	170/0624	Hexagon Bolt, 3/8" B.S.F. x 1.1/2" long
12	263V. 155	Tray Weir	31	163X. 107A	Support Strip
13	—	Large Black Washer, for 3/8" dia.	32	163Y. 136A	Trough Cover
14	163V. 108	Support Plate	33	563Y. 158A	Cover for Drive Tube
15	167/0612	Hexagon Head Set Screw, 3/8" B.S.F. x 3/4" long	34	155/0512	Socket Head Cap Screw, 5/16" B.S.F. x 3/4" long
16	N400B	Niphan Plug, 4 Pole, 20 mm Thread, Female	35	130/05	Flat Washer, for 5 16" dia.
17	357/13	Dowty Seal, for 13/16" dia.	36	—	Section "AA"
18	9351	Thomas & Betts 90° Connector, 20mm, 5/8" Conduit			
19	156/210	Socket Head Cap Screw, 2 B.A. x 5/8" long			

When ordering spare parts always quote the Inspection Number of the machine.

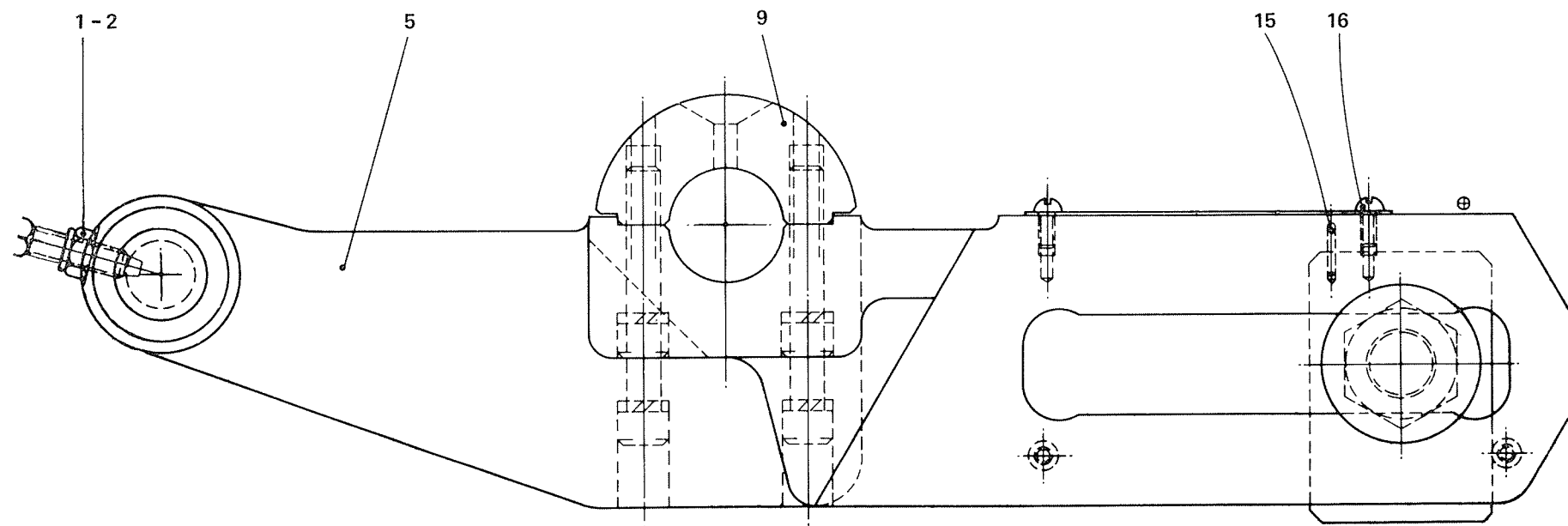
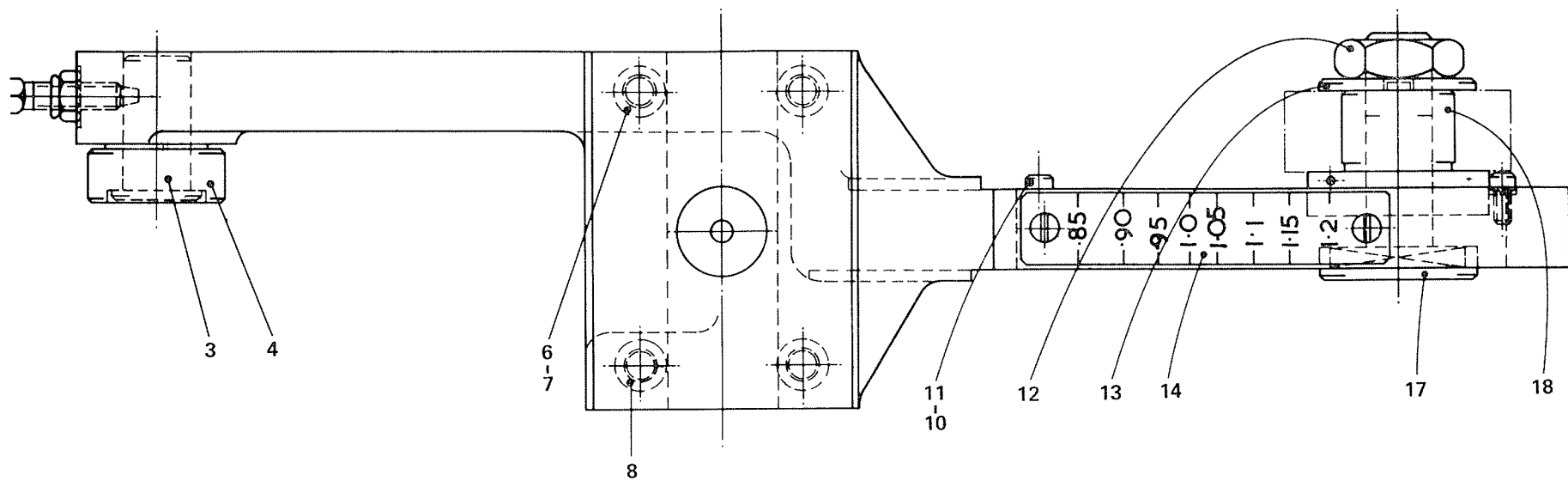
Attachments Section



Attachment Body and Slide Mk II

188Y1C

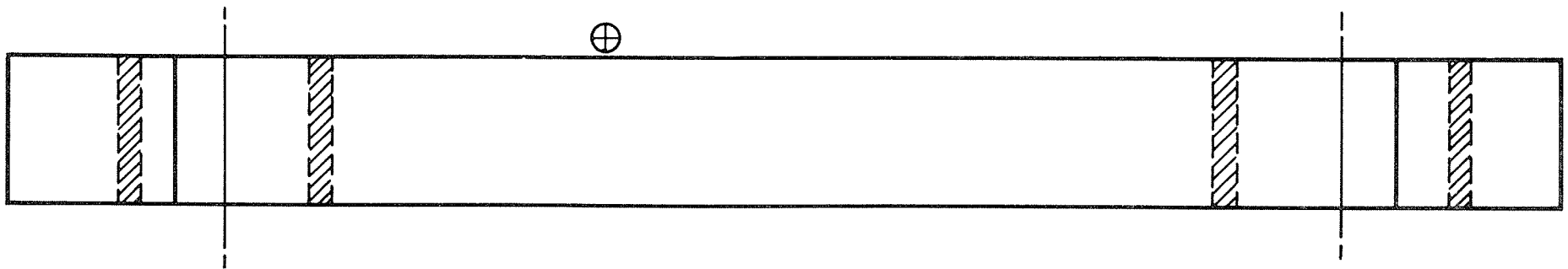
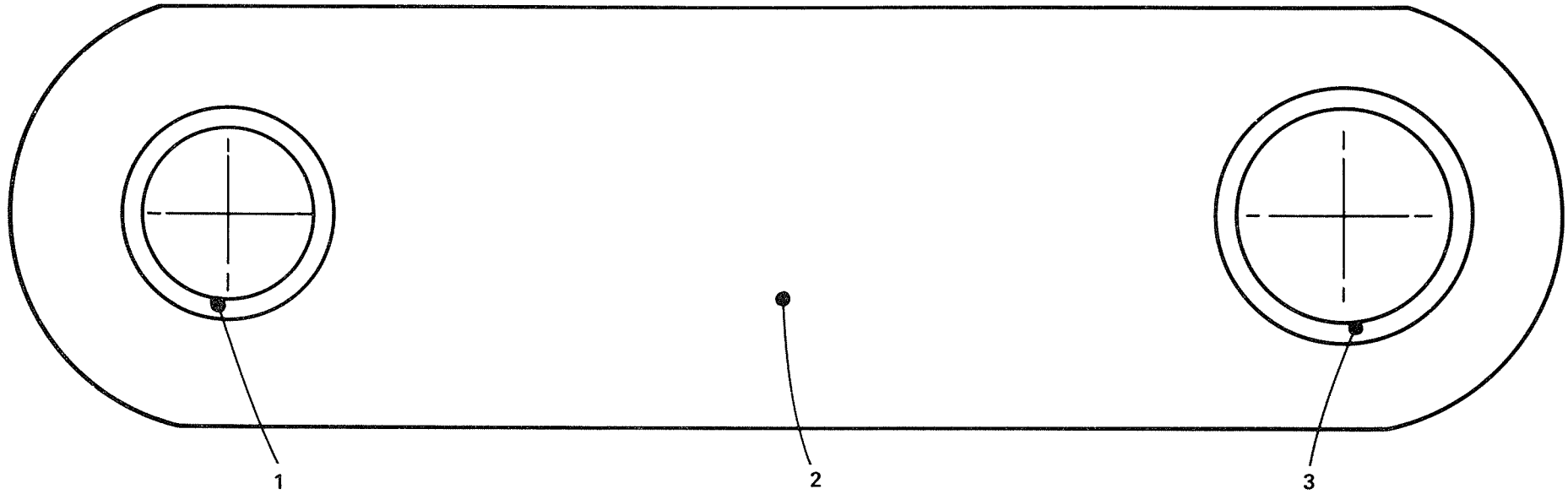
Item	Part No.	Description
1	194/2	1/4" BSP Plug
2	188 X 107	Guide Strip
3	156/208	2 BA Socket Head Cap Screw 1/2" long
4	155/0620	3/8" BSF Socket Head Cap Screw 1.1/4" long
5	188/0616	3/8" BSF Square Head Set Screw 1" long
6		1/4" BSP 90° Elbow Male & Female
7	AD 18	1/2" BSP, 1/4" BSP Reducing Nipple
8	188 X 111	T-Nut
9	155/0508	5/16" BSF Socket Head Cap Screw 1/2" long
10	188 Y 101C	Attachment Body
11	188 V 103C	Slide
12	188 X 110	Trip Rod (Short)
13	188 X 109	Nut
14	188 X 108	Trip Clamp
15	195/0512H	5/16" BSF Square Head Screw (Naylor) 3/4" long
16	188 X 106	Trip Rod Bush
17	288 X 110	Trip Rod (Long)



Auxiliary Cross Slide Motion Section 293 Mk I

293V1

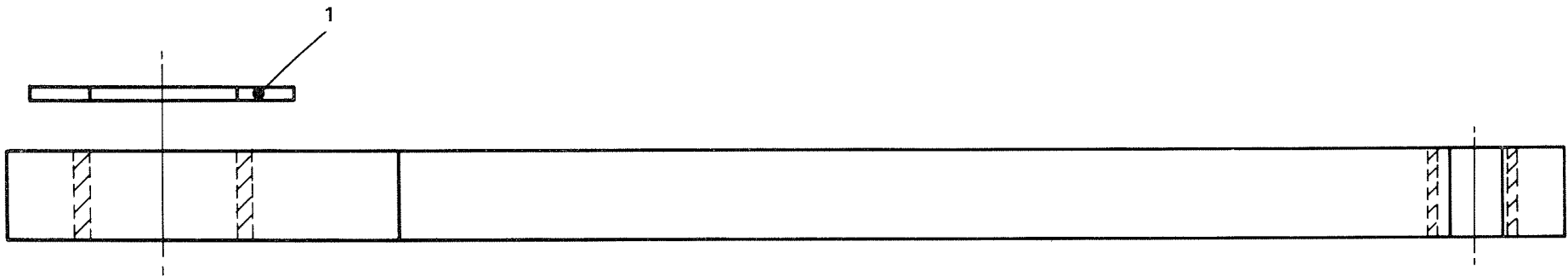
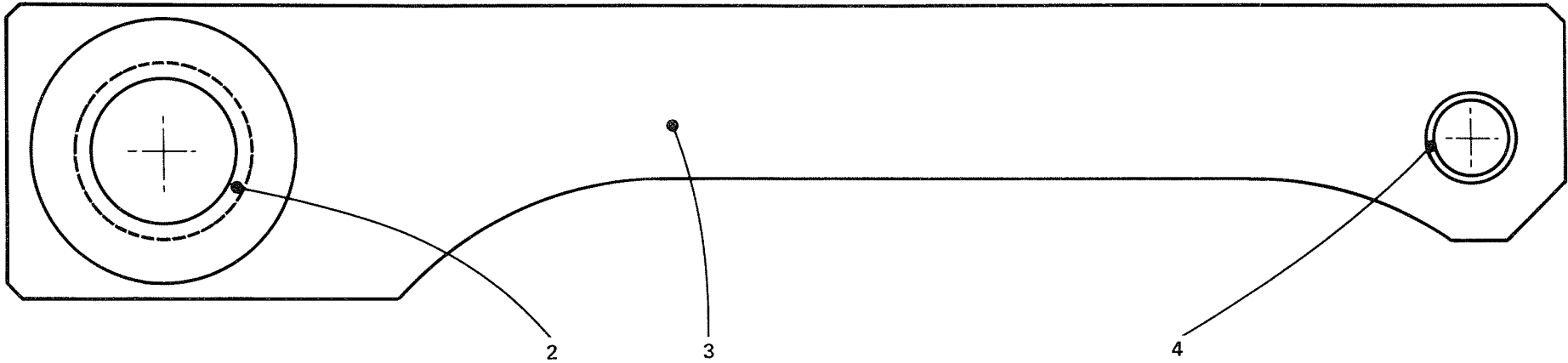
Item	Part No.	Description
1	203/05	5/16" BSF Self Lock Locknut
2	183/0520	5/16" BSF Taper Point Set Screw 1.1/4" long
3	124X.116	Roller Pin
4	141X.121	Cam Roller
5	293Y.101	Cam Lever
6	155/0644	3/8" BSF Socket Head Cap Screw 2.3/4" long
7	154/06	Spring Washer
8	155/0628	3/8" BSF Socket Head Cap Screw 1.3/4" long
9	293X.103	Lever Cap
10	154/03	Spring Washer
11	156/206	2 B.A. Socket Head Cap Screw 3/8" long
12	173/12HL	3/4" BSF Hexagon Locknut
13	241X.116	Slotted Washer
14	293X.107	Scale
15	393X.118	Indicating Pin
16	165/206	2 B.A. Round Head Screw 3/8" long
17	293X.106	Tee Bolt
18	241X.141	Sliding Sleeve



Auxiliary Cross Slide Motion Section 293A Mk I

293X2

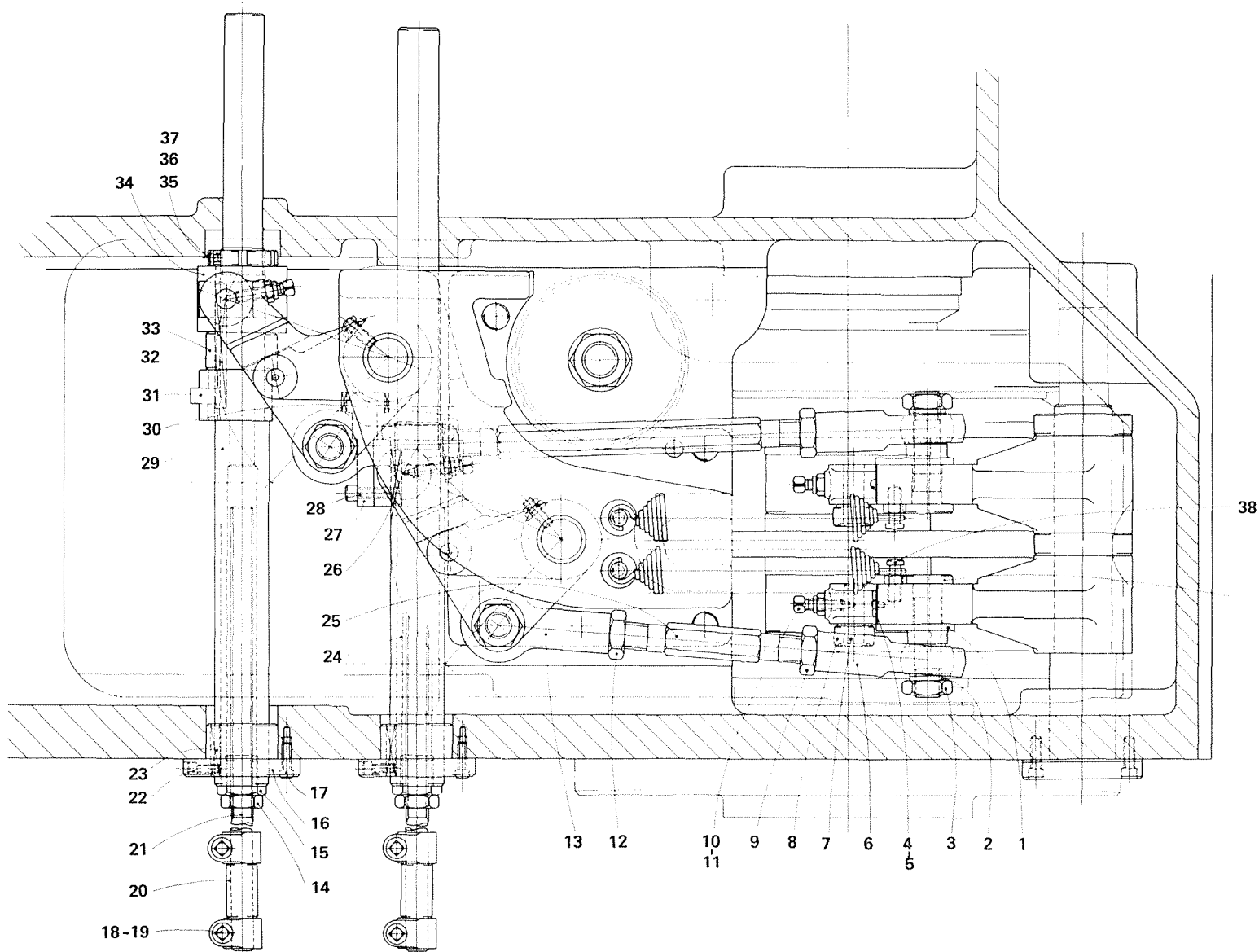
Item	Part No.	Description
1	236/162014	Oil Retaining Bush
2	293 X 120	Connecting Link
3	236/202414	Oil Retaining Bush



Auxiliary Cross Slide Motion Mk I Link, Stations 3 & 4 together or 7 & 8 together

293V6

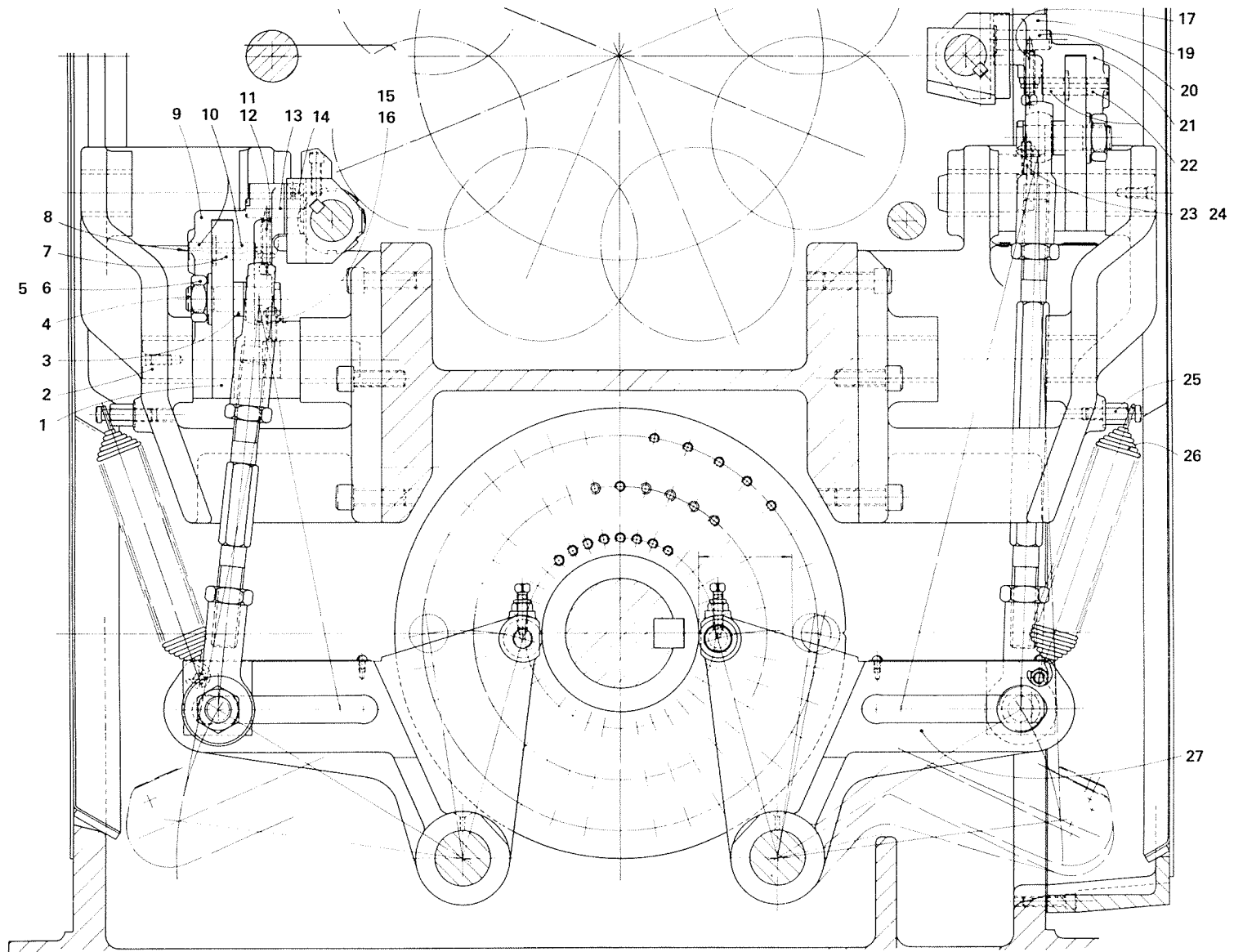
Item	Part No.	Description
1	293 X 141	Washer
2	236/202412	1.1/4" x 1.1/2" x 3/4" oil retaining bush
3	293 V 140	Link for intermediate slide
4	266/101212	5/8" x 3/4" x 3/4" oil retaining bush



Auxiliary Longitudinal Motion, Stations 7 & 8

289Z3

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	289 X 158	Sliding Sleeve	14	173/10HL	5/8" BSF Hexagon Locknut (Hard)	27	289 X 166A	Glut Reset Finger
2	289 X 174	Washer	15	189 AX 113	Push Rod Adaptor	28	155/0516	5/16" BSF Socket Head Cap Screw 1" long
3	173/12HL	3/4" BSF Hexagon Locknut Hard	16	289 X 156	Push Rod Guide	29	289 Y 167	Upper Pusher Shaft
4	289 X 151	Scale	17	155/0412	1/4" BSF Socket Head Cap Screw 3/4" long	30	289 X 169	Tie Rod (Long)
5	165/204	2 BA Round Head Screw 1/4" long	18	195/0516H	5/16" BSF Square Head Collar Screw (Hard) 1" long	31	289 X 173	Reset Block
6	RBJ 23G	3/4" BSF Left Hand Spherical Bearing Rod End	19	189 AX 115	Push Rod Clamp	32	121/1056T	5/16" Square Tapped Key 3.1/2" long
7	289 X 160	Roller Pin	20	189 AX 131	Push Rod Bush	33	289 X 172	Spacer
8	289X 159	Cam Roller	21	289 X 114	Push Rod Extension	34	289 X 165	Glut
9	289 X 176	3/4" BSF Left Hand Hexagon Locknut	22	155/0408	1/4" BSF Socket Head Cap Screw 1/2" long	35	289 X 164	Glut Nut
10	183/0520	5/16" BSF Square Head Taper Point Screw 1.1/4" long	23	189 AX 112	Push Rod Key	36	176/0404	1/4" BSF Socket Set Screw, Cup point 1/4" long
11	203/05	5/16" BSF Self Locking Nut	24	289 Y 168	Lower Pusher Shaft	37	154/04	Soft Pad for 1/4" BSF Screw
12	173/12L	3/4" BSF Hexagon Locknut (Hard)	25	289 X 170	Tie Rod (Short)	38	289 X 175	Spring Anchor
13	RBJ 22G	3/4" BSF Right Hand Spherical Bearing Rod End	26	121/1024T	5/16" Square Tapped Key	39	289 X 157	Tee Bolt

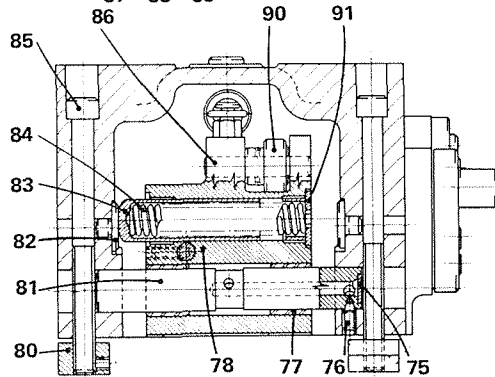
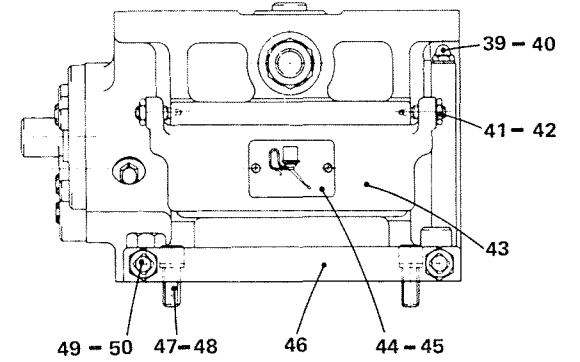
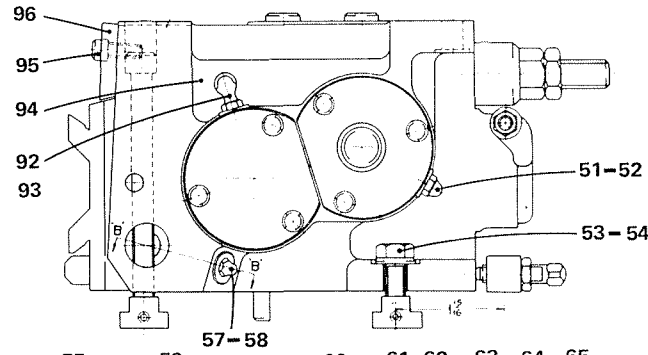
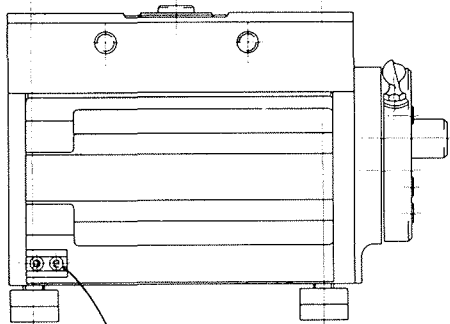
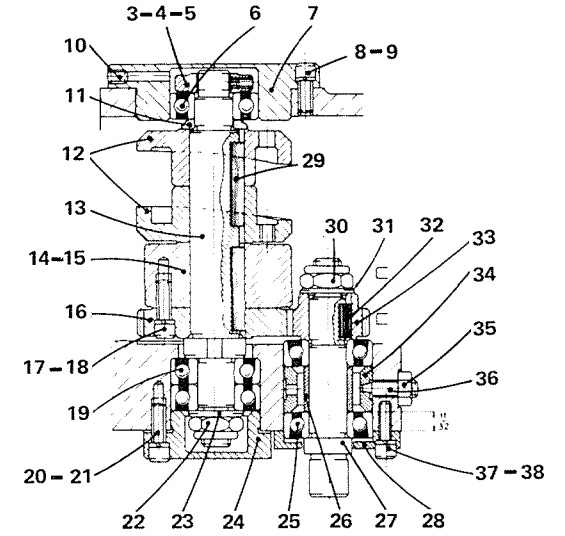
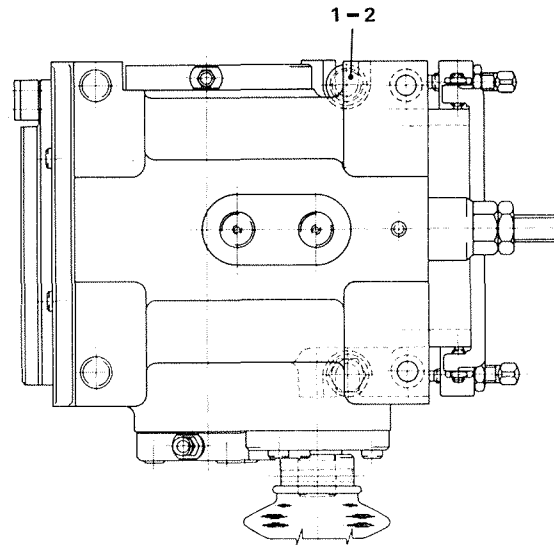
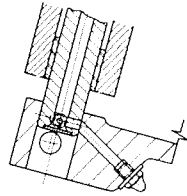


Auxiliary Longitudinal Motion Stations 3, 4, 7 & 8

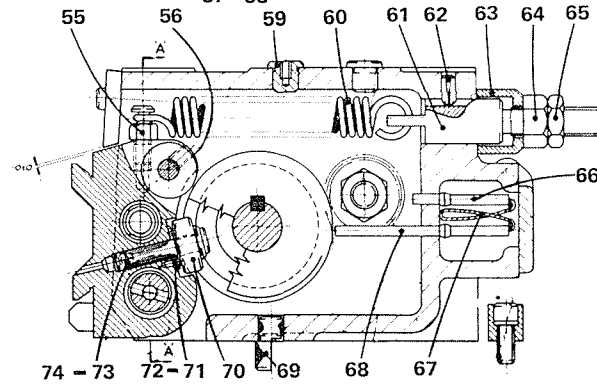
289Z5

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	289 V 155	Operating Plate	13	289 X 160	Roller Pin	24	203/05	5/16" BSF Self Locking Nut
2	289 X 154A	Operating Lever Shaft	14	289 X 163	Slipper	25	198 AX 130	Spring Anchor
3	289 X 162	Spacer	15	203/05	5/16" BSF Self Locking Nut	26	289 X 124B	Spring
4	289 X 161	Pivot Bolt	16	176/0516	5/16" BSF Socket Set Screw	27	289 Z 150	Quadrant Lever
5	130/12	3/4" Diameter Flat Washer			Cup Point 1" long			
6	173/12L	3/4" BSF Hexagon Locknut	17	183/0524	5/16" BSF Square Head Taper			
7	289 X 171	Shear Pin Bush			Point Set Screw 1.1/2" long			
8	124/0528	5/32" Diameter Parallel Pin	18	203/05	5/16" BSF Self Locking Nut			
		1.3/4" long	19	289 X 163	Slipper			
9	289 Y 153	Rear Operating Lever	20	289 X 160	Roller Pin			
10	389 X 118	Shear Pin Bush	21	289 Y 152	Front Operating Lever			
11	203/05	5/16" BSF Self Locking Nut	22	389 X 118	Shear Pin Bush			
12	183/0524	5/16" BSF Square Head Taper	23	176/0516	5/16" BSF Socket Set Screw			
		Point Set Screw 1.1/2" long			Cup Point 1" long			

97
Section on 'BB'
Showing Oiling
Connection to Shaft



79
Section on 'AA'



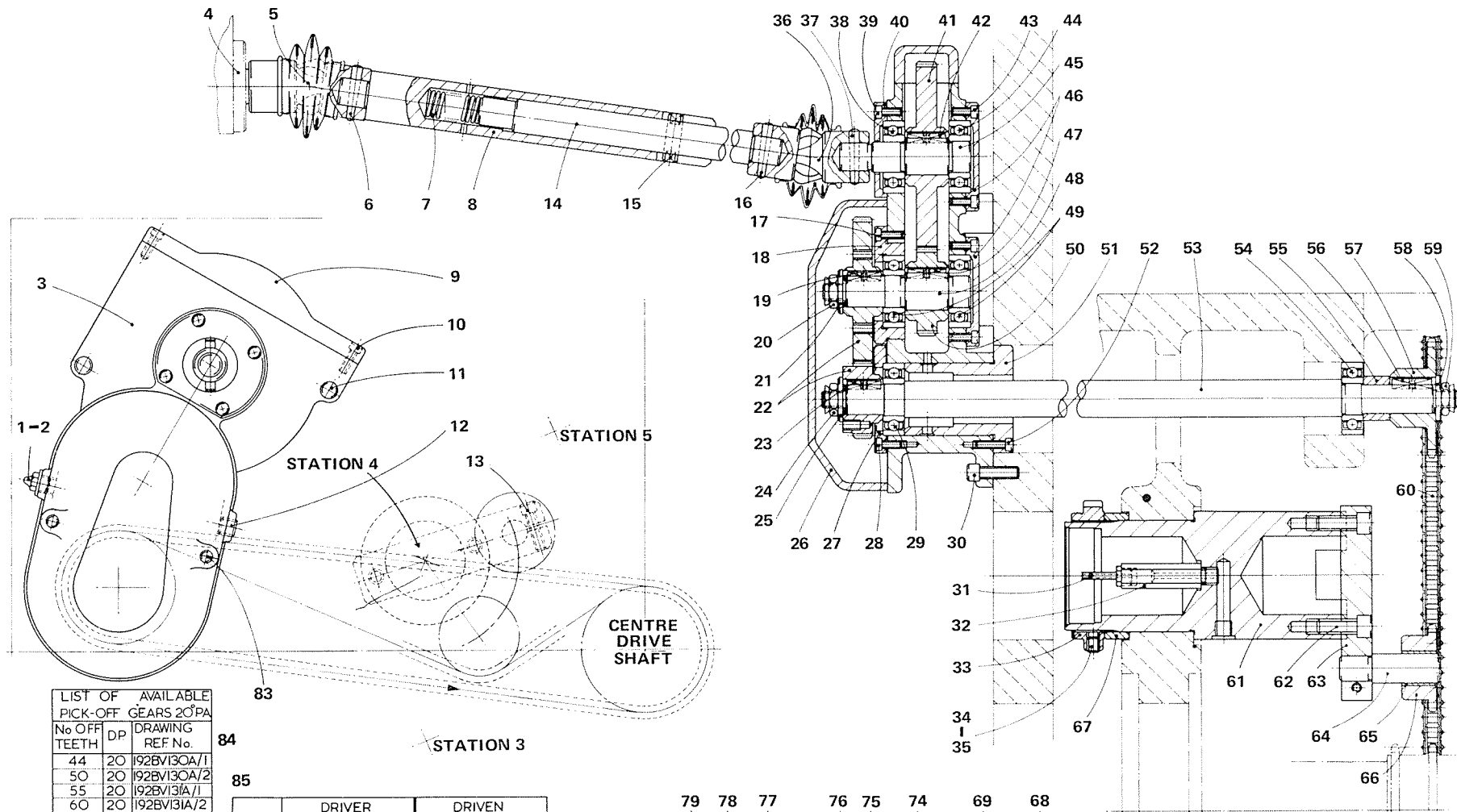
192Z1B

Chasing Attachment Mk III

192 Z1B

Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	155/0620	Socket Head Cap Screw 3/8" BSF x 1.1/4" long	34	192X.129	Outer Spacer	67	192X.143	Thrust Washer
2	130/06	Flat Washer, for 3/8" dia.	35	173/05	Hexagon Nut 5/16" BSF	68	192X.160	Oil Pipe
3	153/42	Brass Pad for 2 B.A.	36	182/0516	Hexagon Socket Set Screw, Taper Point 5/16" BSF. x 1" long	69	192X.118A	Locator
4	179/204	Hexagon Socket Set Screw, Cup Point 2 B.A. x 1/4" long	37	155/0412	Socket Head Cap Screw 1/4" BSF x 3/4" long	70	192X.112	Lead Roller
5	150/10	Slotted Locknut 5/8" dia. 22 T.P.I.	38	154/04	Spring Washer for 1/4" dia.	71	124/0205	Parallel Dowel 1/16" dia. x 5/16" long
6	258/17	Light Ball Joint 17mm bore	39	212/04	"Autolub" Nipple 1/4" BSF	72	192X.143	Thrust Washer
7	192X.102	End Cap	40	210/1725	Yellow indicator Washer	73	192X.113	Lead Roller Pin
8	155/0410	Socket Head Cap Screw 1/4" BSF x 5/8" long	41	173/04L	Locknut 1/4" BSF	74	182/0408	Hexagon Socket Set Screw, Taper Point 1/4" BSF x 1/2" long
9	154/04	Spring Washer for 1/4" dia.	42	182/0412	Hexagon Socket Set Screw, Taper Point 1/4" BSF x 3/4" long	75	192X.147	Plug
10	176/0405	Hexagon Socket Set Screw, Cup Point, 1/4" BSF x 5/16" long	43	192X.105A	Oil Cover	76	182/0408	Hexagon Socket Set Screw, Taper Point 1/4" BSF x 1/2" long
11	192X.125	Spacer	44	192X.146	Lubrication Plate	77	192X.108	Slide Bush
12	192BY.151	Standard Lead Cams	45	165/404	Round Head Set Screw 4 B.A. x 1/4" long	78	192Y.107	Slide
13	192X.126	Camshaft	46	192X.119	Adjustment Strip	79	—	Section on "AA"
14	192B.103	Special Cam for Worm Threads, 250 Cycles per minute maximum	47	155/0512	Socket Head Cap Screw 5/16" BSF x 3/4" long	80	192X.132	Tee Nut
15	195V.150A	Relief Cam	48	154/05	Spring Washer for 5/16" dia	81	192X.109	Slide Shaft
16	192X.130	Driven Gear	49	188/0520	Square Head Set Screw 5/16" BSF x 1.1/4" long	82	192X.123	Thrust Pad
17	154/04	Spring Washer for 1/4" dia.	50	173/05L	Locknut 5/16" BSF	83	192X.120	Spring Plunger
18	155/0412	Socket Head Cap Screw, 1/4" BSF x 3/4" long	51	210/1725	Yellow Indicator Washer	84	192X.122	Lead Spring
19	SB58	Light Ball Angular Contact, 17mm bore	52	212/04	"Autolub" Nipple 1/4" BSF	85	155/0672	Socket Head Cap Screw 3/8" BSF x 4.1/2" long
20	155/0412	Socket Head Cap Screw, 1/4" BSF x 3/4" long	53	130/06	Flat Washer for 3/8" dia	86	192X.110	Relief Roller Pin
21	154/04	Spring Washer for 1/4" dia.	54	167/0620H	Hexagon Head Set Screw, Hardened, 3/8" BSF x 1.1/4" long	87	192X.161	Stop
22	203/08	Selflocking Nut 1/2" BSF.	55	192X.114	Spring Anchor	88	156/408	Socket Head Cap Screw 2 B.A. x 1/2" long
23	130/08	Flat Washer for 1/2" dia.	56	182/0408	Hexagon Socket Set Screw, Taper Point 1/4" BSF x 1/2" long	89	154/4	Spring Washer for 1/4" dia.
24	192X.103	Thrust Cap	57	210/1725	Yellow Indicator Washer	90	192X.111	Relief Roller
25	SB58	Light Ball Angular Contact, 17mm bore	58	212/04	"Autolub" Nipple 1/4" BSF	91	192X.121	Spring Cap
26	192X.128	Inner Spacer	59	192X.159	Plug	92	212/04	"Autolub" Nipple 1/4" BSF
27	192X.127	Drive Shaft	60	192X.115	Tension Spring	93	210/1725	Yellow Indicator Washer 9/16" dia.
28	192X.104	End Cap	61	192X.116	Spring Adjuster	94	192Z.101B	Main Body
29	121/0824	Key, 1/2" square x 1.1/2" long	62	143/0808A	Mills Pin, 1/4" dia. x 1/2" long	95	155/0410	Socket Head Cap Screw 1/4" BSF x 5/8" long
30	203/08	Selflocking Nut, 1/2" BSF	63	192X.117	Collar	96	192X.106A	Cover Plate
31	130/08	Flat Washer for 1/2" dia.	64	173/08	Hexagon Nut 1/2" BSF	97	—	Section on "BB" showing oiling connection to shaft
32	121/0610	Key, 3/16" square x 5/8" long	65	173/08L	Locknut 1/2" BSF			
33	192X.131	Driving Gear	66	192X.142A	Oil Pipe			

When ordering spare parts always quote the Inspection Number of the attachment.



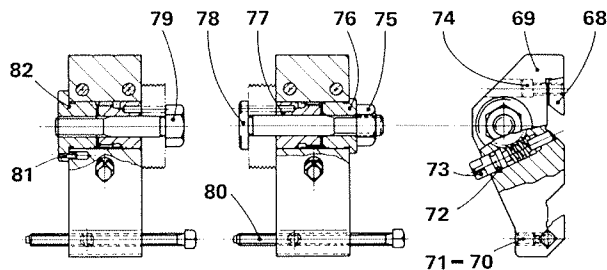
LIST OF AVAILABLE PICK-OFF GEARS 20° PA

No OFF TEETH	DP	DRAWING REF No.
44	20	I92BV130A/1
50	20	I92BV130A/2
55	20	I92BV131A/1
60	20	I92BV131A/2
66	20	I92BV131A/3
33	18	I92BV130A/3
66	18	I92BV131A/4
33	16	I92BV130A/4
55	16	I92BV131A/5
33	14	I92BV130A/5
36	14	I92BV131A/6
42	14	I92BV131A/8
44	14	I92BV131A/7
24	12	I92BV130A/6
44	12	I92BV131A/9

84

85

RATIO	DRIVER				DRIVEN			
	No OF TEETH	DP	DRG. REF No.	No OF TEETH	DP	DRG. REF No.		
4:1	66	20	I92BV131A/3	44	20	I92BV130A/1		
5:1	60	20	I92BV131A/2	50	20	I92BV130A/2		
6:1	55	20	I92BV131A/1	55	20	I92BV131A/1		
7:1	36	14	I92BV131A/6	42	14	I92BV131A/8		
8:1	33	14	I92BV130A/5	44	14	I92BV131A/7		
9:1	44	20	I92BV130A/1	66	20	I92BV131A/3		
10:1	33	16	I92BV130A/4	55	16	I92BV131A/5		
11:1	24	12	I92BV130A/6	44	12	I92BV131A/9		
12:1	33	18	I92BV130A/3	66	18	I92BV131A/4		

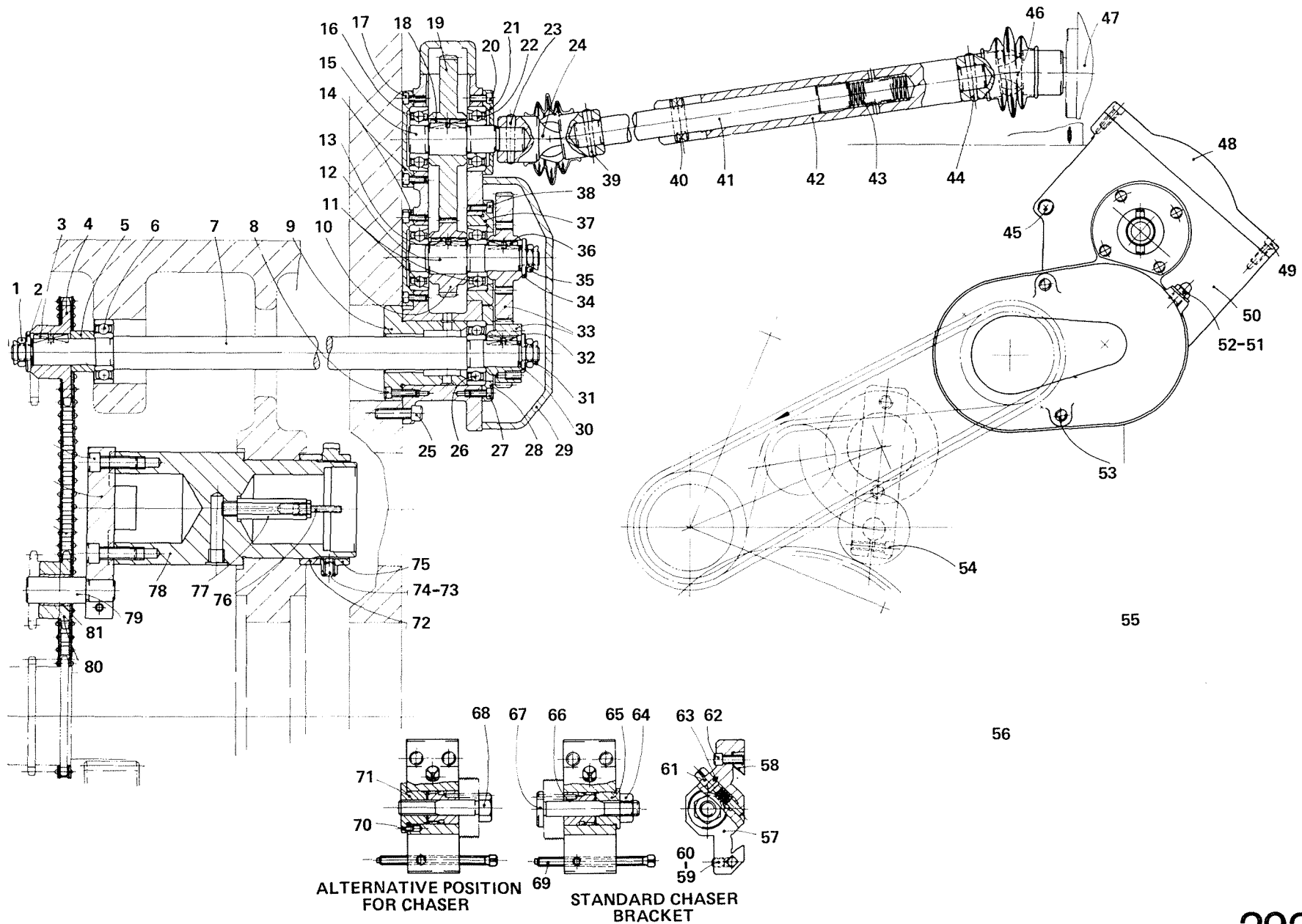


ALTERNATIVE POSITION STANDARD CHASER BRACKET FOR CHASER

Chasing Attachment Drive Station 5

292Z7

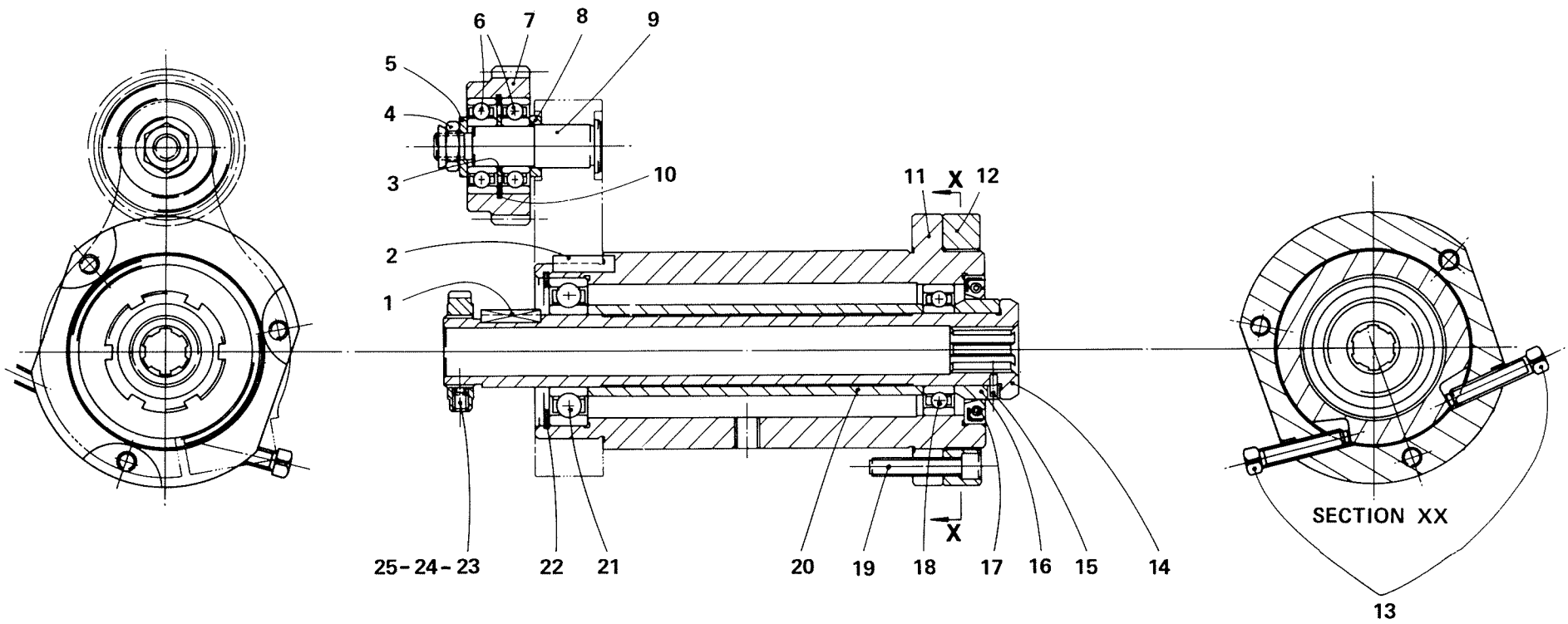
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	212/18	1/8 BSP grease nipple	29	258/20	20 x 47 x 14mm light type ball journal	57	292 X 204	Driven sprocket
2	210/2525	Yellow indicator washer				58	192AX114	Washer
3	392 Y 155A	Drive box	30	155/0516	5/16 BSF Socket head cap screw 1" long	59	20307L	7/16 BSF Self locking locknut
4		See section 192				60	BS.No. 3	Chain 100 pitches long
5		Mollart universal ball joint with cover No. 3	31	181AX126	Oil nipple	61	292 V 205	Jockey carrier
6	125/1622	1/4 dia. taper pin 1.3/8" long	32	235/140A	Tube adaptor	62	155/0616	3/8 BSF Socket head cap screw 1" long
7	192AX132	Coupling shaft spring	33	292X209	Locking nut	63	292 X 206	Jockey arm
8	192AX133	Drive sleeve	34	153/05	5/16 dia. soft pad	64	292 X 207	Jockey pin
9	192AX102	Top cover	35	176/0506	5/16 BSF Socket set screw 3/8" long cup point	65	236/121414	3/4 x 7/8 oil retaining bush 7/8" long
10	156/210	2BA Socket head cap screw 5/8" long	36		Mollart universal ball joint with cover No. 3	66	212009	Renold sprocket 17 teeth
11	155/0548	5/16 BSF Socket head cap screw 3" long	37	125/1622	1/4 dia. taper pin 1.3/8" long	67	292 X 208	Spacer
12	194/1	1/8 BSP pipe plug	38	263/20	25 x 25 x 15mm light type ball journal	68	192 X 218	Clamp
13	155/0416	1/4 BSF Socket head cap screw 1" long	39	156/208	2BA Socket head cap screw 1/2" long	69	192 X 213A	Chaser bracket
14	292 X 210	Drive shaft	40	192AX105	End cover	70	176/0406	1/4 BSF hollow set screw 3/8" long cup point
15	192AX120	Drive pin	41	192BX102	Driven gear	71	153/04	1/4 dia. soft pad
16	125/1622	1/4 dia. taper pin 1.3/8" long	42	121/0816T	1/4 x 1/4 parallel key 1" long tapped	72	124/0414	1/8 dia. parallel pin 7/8 long
17	156/208	2BA Socket head cap screw 1/2" long	43	156/208	2BA Socket head cap screw 1/2" long	73	102 X 136A	Adjusting worm
18	192AX108	Bearing housing	44	263/20	25 x 52 x 15mm light type ball journal	74	155/0410	1/4 BSF socket head cap screw 5/8" long
19	121/0814T	1/4 x 1/4 parallel key 7/8" long tapped	45	192AX111	Final shaft	75	173/07H	7/16 BSF hexagon nut hard
20	203/07L	7/16 BSF self-locking locknut	46	192AX103	End cover	76	192 X 138A	Clamp bush
21	192AX114	Washer	47	121/0816T	1/4 x 1/4 parallel key 1" long tapped	77	192 X 135A	Adjusting gear
22		See table	48	192AX112	Intermediate shafts	78	192X 134	Clamp bolt
23	121/0814T	1/4 x 1/4 parallel key 7/8" long tapped	49	263/20	20 x 47 x 14m light type ball journal	79	192 X 140	Clamp bolt
24	203/07L	7/16 BSF Self-locking locknut	50	192BX 101	Driving gear	80	188/0452	1/4 BSF square head set screw 3.1/4" long
25	102AX114	Washer	51	292X167	Location bush	81	326/0306	3/32" dia. tension pin 3/8" long
26	392 V 168	Gear cover	52	156/212	2BA Socket head cap screw 3/4" long	82	192 X 139A	Clamp nut
27	102AX107	Clamp ring	53	292X202	Rear drive shaft	83	156/228	2BA Socket head cap screw 1.3/4" long
28	156/208	2BA Socket head cap screw 1/2" long	54	258/20	20 x 47 x 14m light type ball journal	84		List of Available Pick-Off Gears 20° PA.
			55	292X203	Spacer			
			56	121/0816T	1/4 x 1/4 parallel key 1" long tapped			



Chasing Attachment Drive Station 6

292Z8

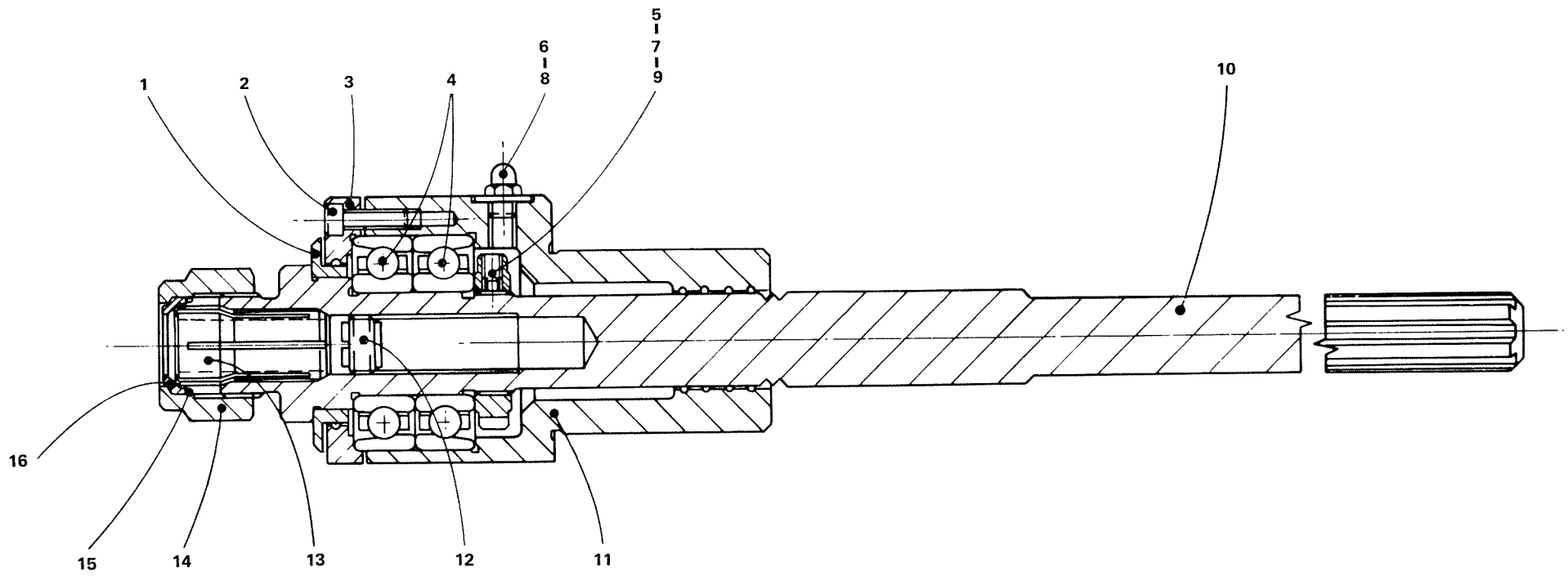
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	203/07L	7/16" BSF Self Locking Locknut	26	258/20	20 x 47 x 14m Light Type Ball	54	155/0416	1/4" BSF Head Cap Screw 1" long
2	192 AX 114	Washer	27	156/208	2 BA Socket Head Cap Screw 1" long	55	Key	
3	121/0816	1/4" x 1/4" Parallel Key 1" long tapped	28	192 AX 107	Clamp Ring	56	Key	
4	292 X 204	Jockey Arm	29	129 AV 106A	Gear Cover	57	192 X 133A	Chaser bracket
5	292 X 203	Spacer	30	192 AX 114	Washer	58	192 X 137	Clamp
6	258/20	20 x 47 x 14m light type Ball Journal	31	203/07L	7/16" BSF Locking Locknut	59	155/04	1/4 dia. soft pad
7	292 X 201	Front Drive Shafts	32	121/0814T	1/4" x 1/4" Parallel Key 7/8" long	60	176/0406	1/4 BSF hollow set screw 3/8" long cup point
8	156/212	2 BA Socket Head Cap Screw 3/4" long	33		See Table	61	192 X 136A	Adjusting worm
9	192 AX 104	Location Bush	34	192 AX 194	Washer	62	155/0410	1/4 BSF Socket head cap screw 5/8" long
10	192 BX 101	Driving Gear	35	203/07L	7/16" BSF Self Locking Locknut	63	124/0414	1/8 dowel 7/8" long
11	263/50	20 x 47 x 14m light type Ball Journal	36	121/0814T	1/4" x 1/4" Parallel Key 7/8" long tapped	64	173/07H	7/16 BSF Hexagon nut hard
12	192 AX 112	Intermediate Shaft	37	192 AX 108	Bearing Housing	65	192 X 138A	Clamp bush
13	121/0816T	1/4" x 1/4" Parallel Key 1" long tapped	38	156/208	2 BA Socket Head Cap Screw 1/2" long	66	192 X 135A	Adjusting gear
14	192 AX 103	End Cover	39	125/1622	1/4" dia. Taper Pin 1.3/8" long	67	192 X 134	Clamp bolt
15	192 AX 111	Final Shaft	40	192 AX 120	Drive Pin	68	192 X 140	Clamp bolt
16	263/20	20 x 47 x 14m light type Ball Journal	41	292 X 210	Drive Shaft	69	188/0452	1/4 BSF Square head set screw 3.1/4" long
17	156/208	2 BA Socket Head Cap Screw 1/2" long	42	192 AX 133	Drive Sleeve	70	326/0306	3/32" tension pin 3/8" long
18	121/0816T	1/4" x 1/4" Parallel Key 1" long tapped	43	192 AX 132	Coupling Shaft Spring	71	192 X 139A	Clamp nut
19	192 BX 102	Driven Gear	44	125/1622	1/4" dia. Taper Pin 1.3/8" long	72	292 X 208	Spacer
20	156/208	2 BA Socket Head Cap Screw 1/2" long	45	155/0540	5/16" BSF Socket Head Cap Screw 2.1/2" long	73	153/05	5/16 dia. soft pad
21	192 AX 105	End Cover	46		Mollart Universal Ball Joint with Cover No. 3.	74	176/0506	5/16 BSF hollow set screw 3/8" long cup point
22	163/20	20 x 47 x 14m light Type Ball Journal	47		See Section 192	75	292 X 209	Locking nut
23	125/1622	1/4" dia. Taper Pin. 1.3/8" long	48	192 AX 102	Top Cover	76	181 AX 126	Oil nipple
24		Mollart Universal Ball Joint with Cover No. 3	49	156/210	2 BA Socket Head Cap Screw 5/8" long	77	235 X 140A	Tube adaptor
25	155/0516	5/16" BSF Socket Head Cap Screw	50	192 AY 101	Drive Box	78	292 V 205	Jockey carrier
			51	210/2525	Yellow Indicator Washer	79	292 X 207	Jockey pin
			52	212/18	1/8" BSP Grease Nipple	80	212009	Renold sprocket 17 teeth
			53	156/228	2 BA Socket Head Cap Screw 1.3/4" long	81	236/121414	3/4 x 7/8 oil retaining bush 7/8 long
						82	BSNO.3	Chain 85 pitches long
						83	292 X 206	Jockey arm
						84	155/0616	3/8 BSF socket head cap screw 1" long



High Speed Drilling Drive Section 290B Mk I

290Y2

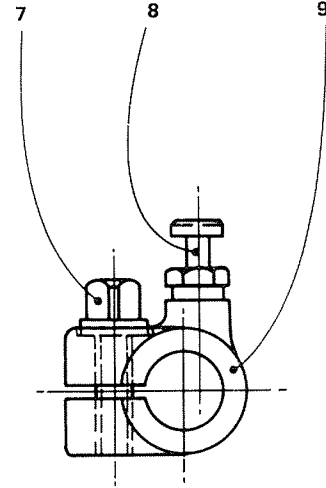
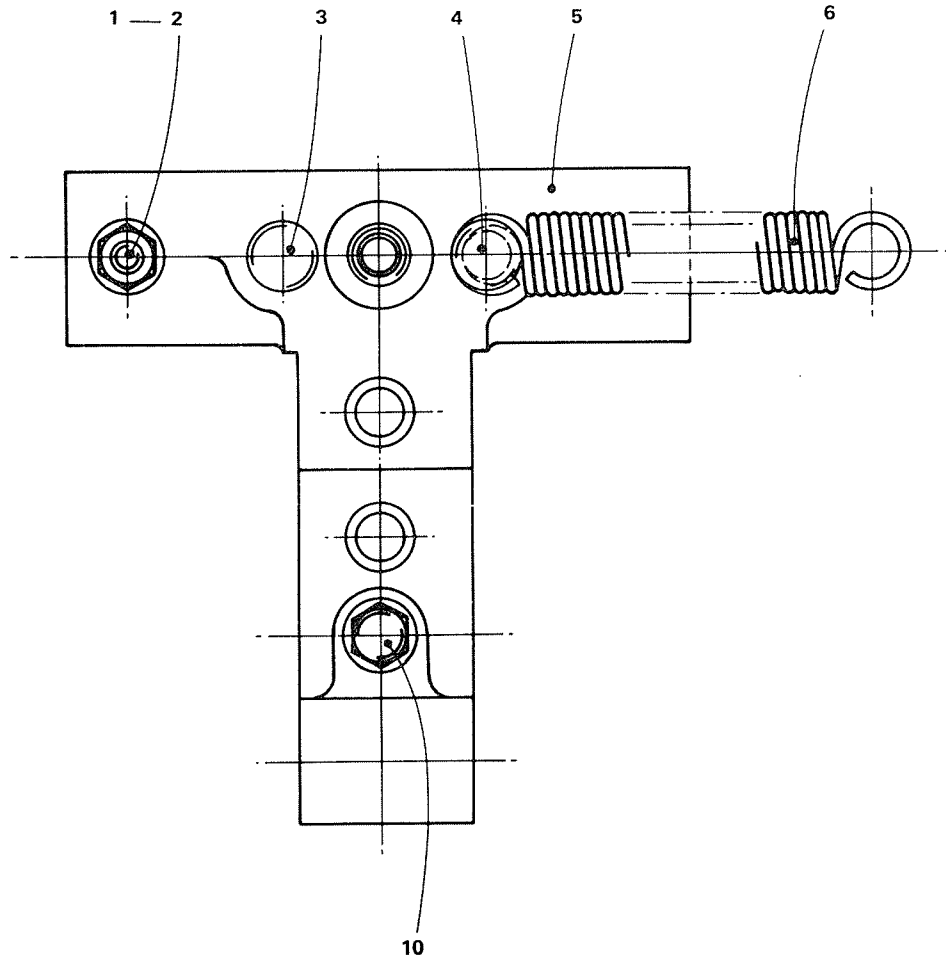
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	122/1016	5/16" x 7/32" Key 1" long	13	188/0524	5/16" BSF Square Head Set Screw 1.1/2" long	22	104/33	62mm Internal Circlip
2	122/1216	3/8" x 1/4" Key 1" long	14	290V.152	Drive Sleeve	23	151/30	30mm Slotted Locknut
3	290X.157	Idler Spacer	15	124/0406	1/8" diameter Silver Steel Pin 3/8" long	24	153/04	Soft Pad for 1/4" Screw
4	203/07L	7/16" BSF Self Locking Nut	16	290X.153	Seal Ring	25	176/0405	1/4" BSF Socket Set Screw 5/16" long
5	190X.124	Washer	17	DPSM 42628	42 x 62 x 8mm Gaco Oil Seal			
6	258/17	17 x 40 x 12mm Light Ball Journal	18	268/30	30 x 55 x 13mm Extra Light Ball Journal			
7	290X.155	Idler Gear	19	155/0524	5/16" BSF Socket Head Cap Screw 1.1/2" long			
8	190X.116	Idler Spacer	20	290X.154	Spacer			
9	290X.156	Idler Gear Pin	21	258/30	30 x 62 x 16mm Light Ball Journal			
10	104/23	40mm Internal Circlip						
11	290V.150	Body						
12	290X.151	Adjusting Plate						



High Speed Drilling Spindle Section 290D

290V3

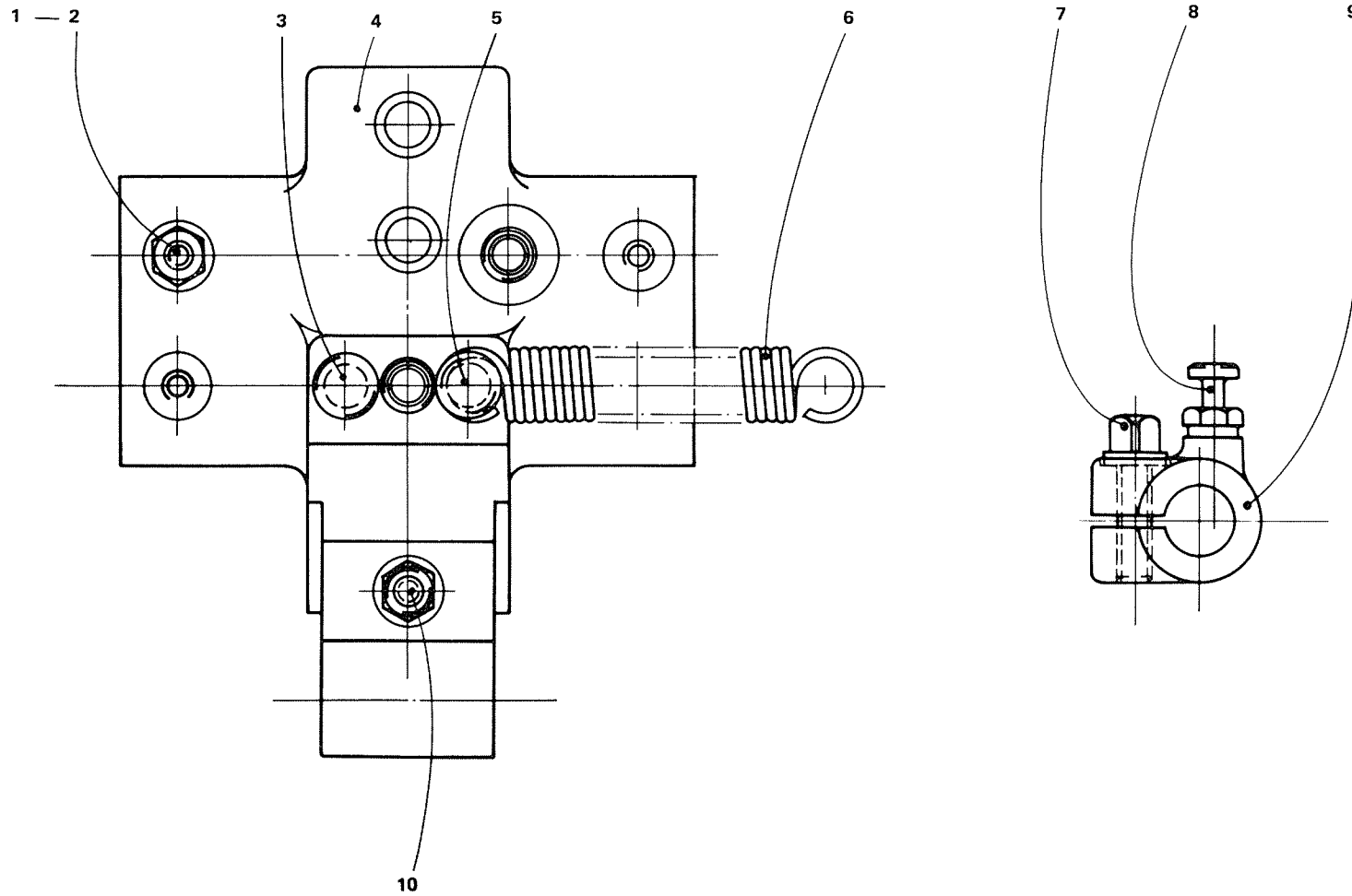
Item	Part No.	Description
1	190 X 119	Thrower Ring
2	156/210	2 BA Socket Head Cap Screw 5/8" long
3	190 X 118	Binding Cap
4	SB 21	25mm x 52mm x 15mm Light Metric Angular Contact
5	153/42	Copper Pad for 2 BA Set Screw
6	210/1725	Plastic Washer (Yellow) for 1/4" diameter
7	179/204	2 BA Socket Set Screw 1/4" long
8	212/04S	1/4" BSP Autolub Oil Nipple
9	151/25	Slotted Locknut for 25mm
10	290 Y 170	High Speed Drilling Spindle
11	190 V 117A	Housing
12	30021 Item 7	9/16" UNF Left Hand Stop Screw 18 TPI
13	Bristol 100	Erickson Collet
14	13-000-109-1	Standard Locknut
15	13-020-109-1	Nose Ring Clip
16	13-010-109-1	Nose Ring



Threading Attachments Extra Parts Sections 286K Mk I Positions 3 & 8

286V8

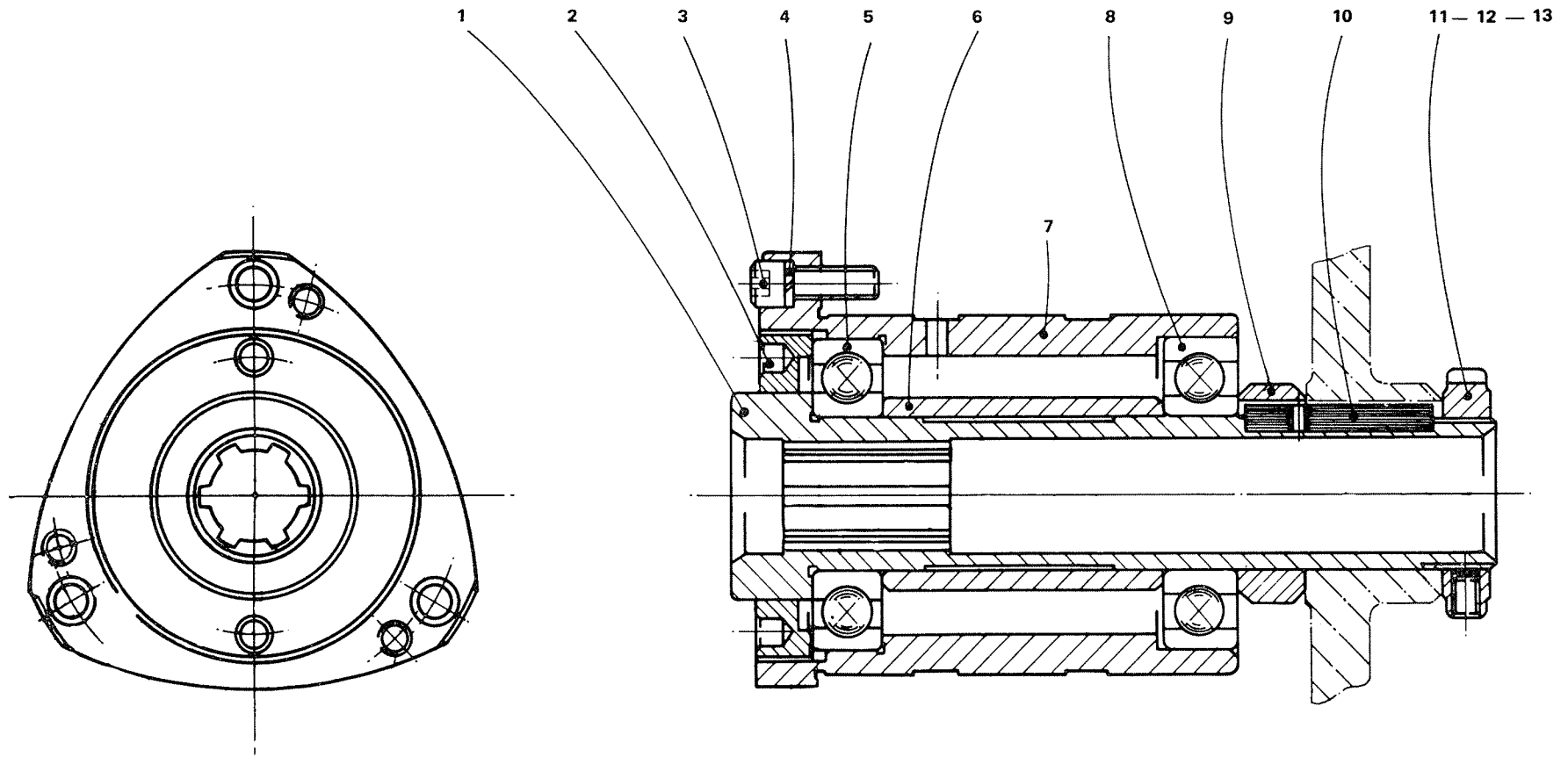
Item	Part No.	Description
1	203/04	1/4" BSF Self Locking Nut
2	176/0412	1/4" BSF Socket Set Screw, Cup Point 3/4" long
3	155/0620	3/8" BSF Socket Head Cap Screw 1.1/4" long
4	155/0648	3/8" BSF Socket Head Cap Screw 3" long
5	286V.174	Attachment Bracket
6	386X.145	Return Spring
7	196/0516H	5/16" BSF Naylor Collar Head Screw 1" long
8	386X.148	Spring Anchor
9	186X.137A	Spring Anchor Clamp
10	386X.148	Spring Anchor



Threading Attachments Extra Parts Section 286L Mk I Positions 3, 4, 7 & 8

286V7

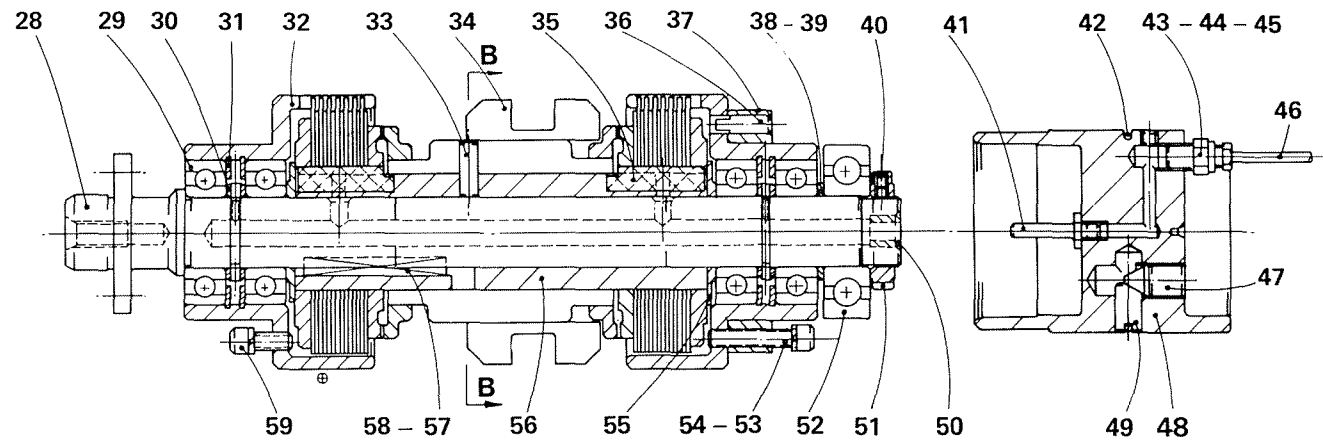
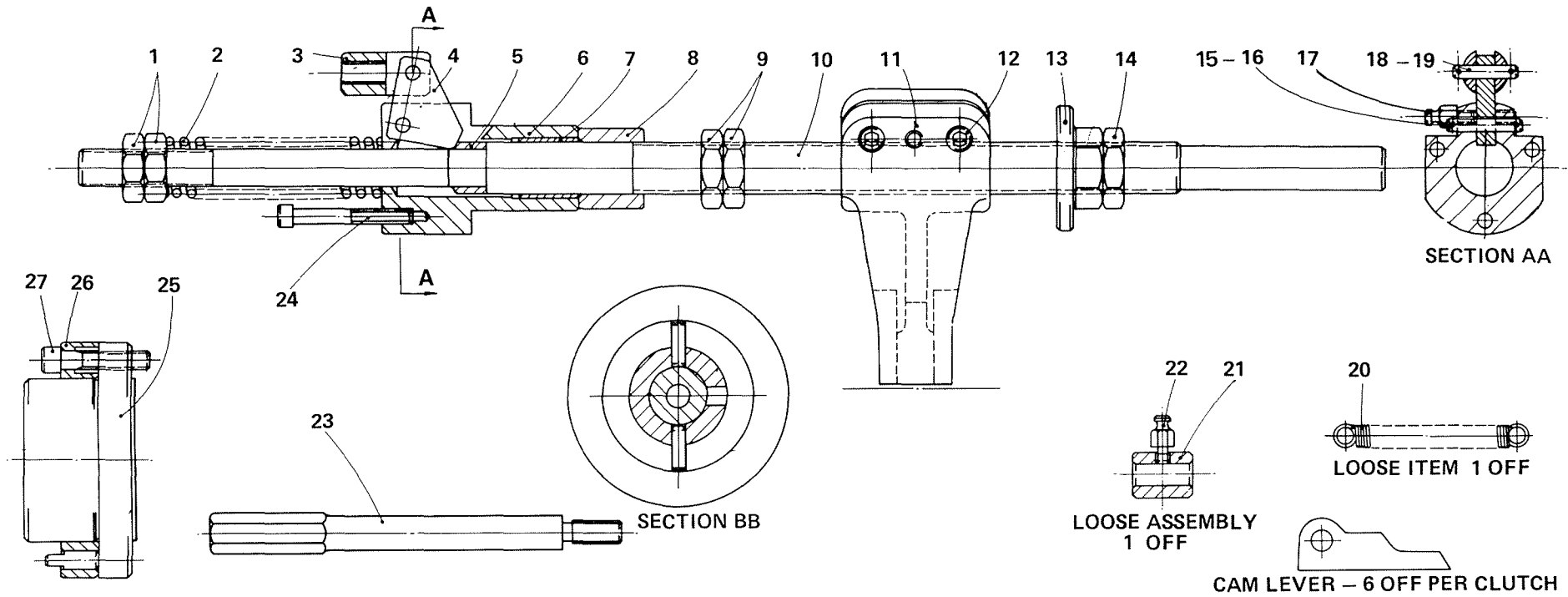
Item	Part No.	Description
1	203/04	1/4" BSF Self Locking Nut
2	176/0412	1/4" BSF Socket Set Screw, Cup Point 3/4" long
3	155/0620	3/8" BSF Socket Head Cap Screw 1.1/4" long
4	286Y.173	Attachment Bracket
5	155/0612	3/8" BSF Socket Head Cap Screw 3/4" long
6	386X.145	Return Spring
7	195/0516H	5/16" BSF Naylor Collar Head Screw 1" long
8	386X.148	Spring Anchor
9	186X.137A	Spring Anchor Clamp
10	386X.148	Spring Anchor



Synchronous Drive Section 190J

190V5

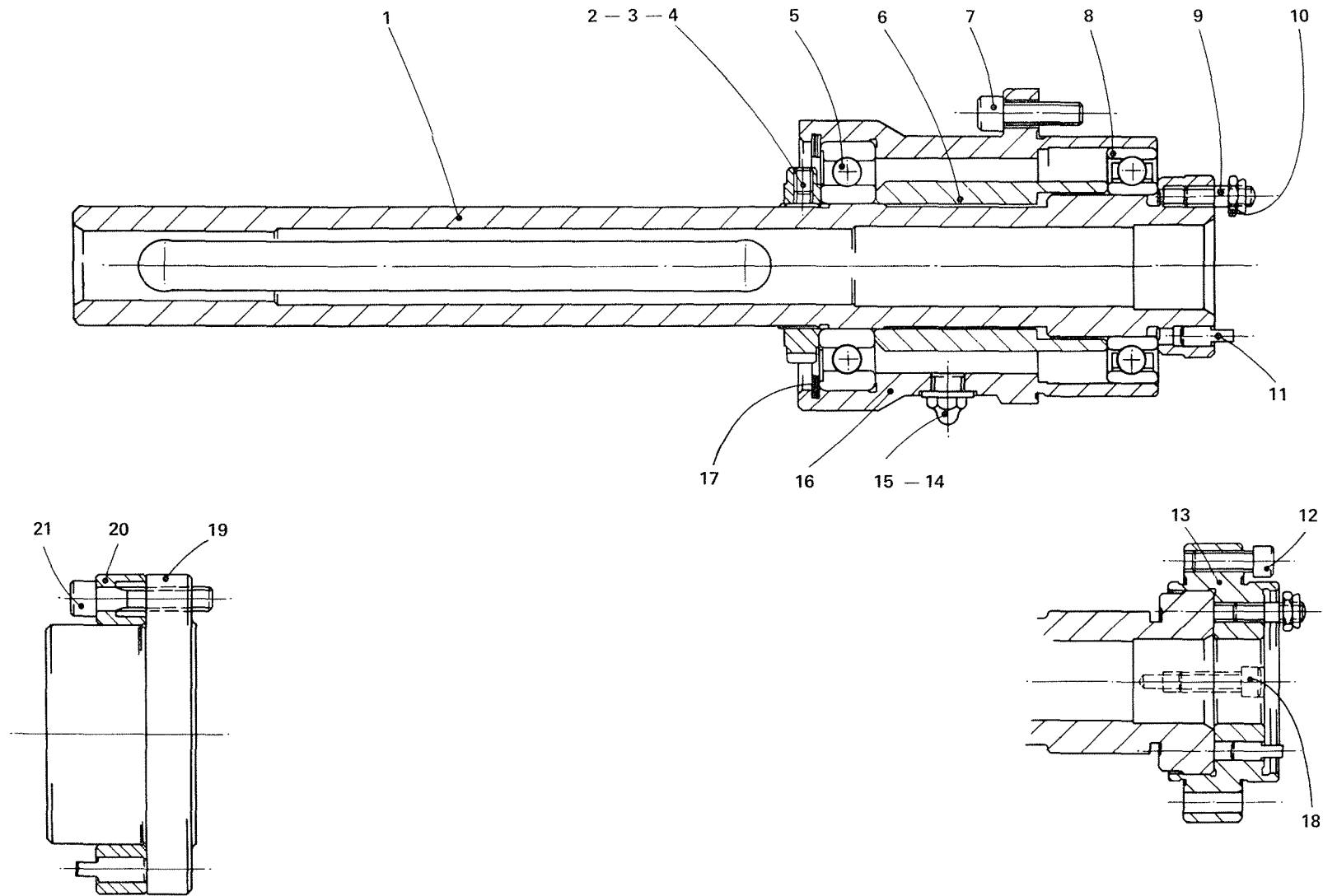
Item	Part No.	Description
1	190 X 142	Drive Sleeve
2	190 X 144	Bearing Nut
3	155/0514	5/16" BSF Cap Screw x 7/8"
4	154/05	5/16" Spring Washer
5	258/35	Ball Bearing 35 mm x 72 mm x 17 mm wide
6	190 X 143	Bearing Spacer
7	190V 141	Housing
8	258/35	Ball Bearing 35 mm x 72 mm x 17 mm wide
9	190 X 145	Gear Spacer
10	122/1228T	Key 3/8" x 1/4" x 1.3/4" L.
11	150/22	Locknut 1.3/8" x 22 T.P.I.
12	153/04	Copper Pad
13	176/0405	1/4" BSF Set Screw x 5/16" long



Threading Clutch Drive – Section 281 A Mk I (Stations 3, 4, 5, 6, 7 or 8)

281 Y2

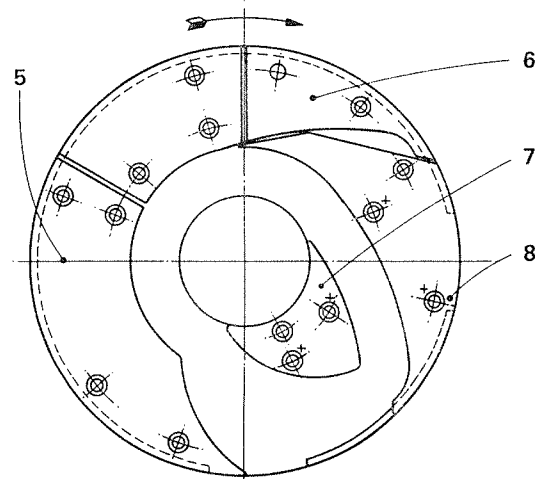
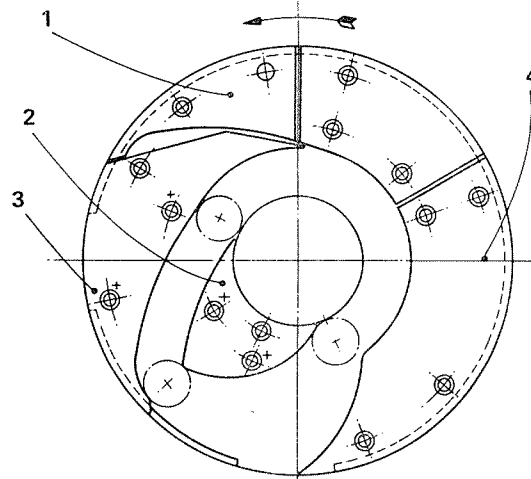
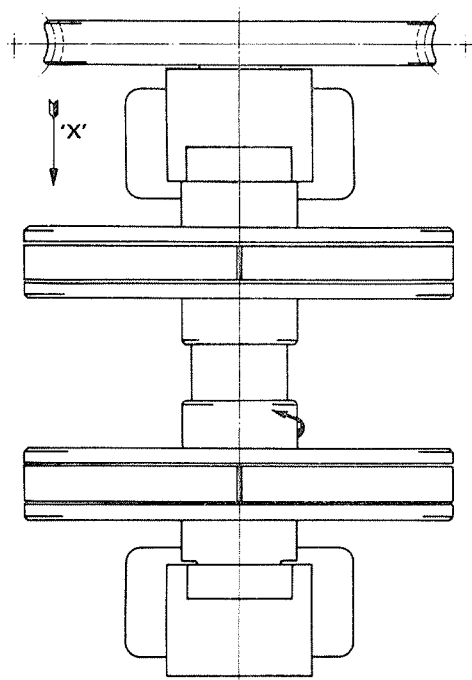
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	173/19HL	5/8" BSF Hexagon locknut	24	155/0432	1/4" BSF Socket cap head screw 2" long	46	14.02.406	4mm Diameter Copper Tube 30" long
2	181AX.118A	Operating Spring	25	281X.155	Driving Gear Centre	47	381X.112A	Locking Screw
3	181AX.108	Latch Link Fork	26	281X.156	Driving Gear Spacer	48	381X.110A	End Bearing Housing
4	181AX.104B	Latch	27	281X.158	Screw	49	381X.111	Locking Pin
5	181AX.105	Latch Bush	28	281Y.101A	Clutch Shaft	50	168.X.160	Oil Bush
6	281X.150	Trip Sleeve	29	258/25Z	25 x 25 x 15mm Ball Journal (Light)	51	151/25	25mm Locknut
7	236/141616	7/8" x 1" Oil Retaining Bush 1" long	30	183X.112	Bearing Spacer	52	257/25	25 x 62 x 17mm Ball Journal (Med)
8	181AX.113A	Buffer Bush	31	104/29	52mm Internal Circlip	53	165/0420	1/4" BSF Round head screw 1.1/4" long
9	181AX.121	Locknut for Glut Shaft	32	183X.114	Clutch Cup	54	154/04	1/4" Diameter Spring Washer
10	181AV.101B	Glut Shaft	33	126/0812	1/4" Diameter Dowel Pin 3/4" long	55	281X.109A	Clutch Thrust Plate
11	281V.151	Glut	34	Herbert No.4	Double Clutch	56	183Y.106	Clutch Sleeve
12	155/0516	5/16" BSF Socket cap head screw 1" long	35	183X.111	Clutch Key	57	121/0832T	1/4" Square Key (Tapped) 2" long
13	281X.115	Reset Nut	36	181DX.110	Pin	58	154/04	1/4" Diameter Spring Washer
14	181AX.121	Locknut for Glut Shaft	37	281X.157	Clutch Gear Spacer	59	155/0410	1/4" BSF Socket cap head screw 5/8" long
15	127/0405	1/16" diameter Split Pin 5/8" long	38	281X.119	End Bearing Spacer			
16	181AX.106	Latch Pivot Pin	39	153/42	Pad			
17	181AX.128	Spring Anchor	40	179/204	2 B.A. Socket Head Set Screw 1/4" long, cup point			
18	127/0405	1/16" Diameter Split Pin 5/8" long	41	568X.162	Oil Nipple			
19	181AX.107	Latch Link Pin	42	381X.113	Spring Ring			
20	MSE 318	Morris Extension Spring	43	14.72.0402	Straight Male Connector			
21	181AX.115	Spring Anchor Sleeve	44	14.07.04	4mm Tubing Nut			
22	181AX.128	Spring Anchor	45	14.08.04	4mm Tubing Sleeve			
23	281X.159	Trip Rod Extension						



Threading Attachment Drive, Sleeve Arrangement Section 282B Mk I

282V3

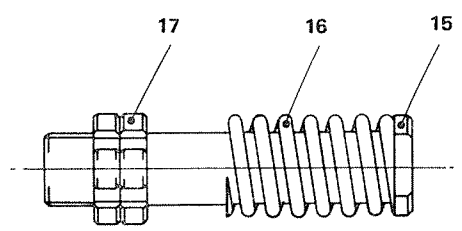
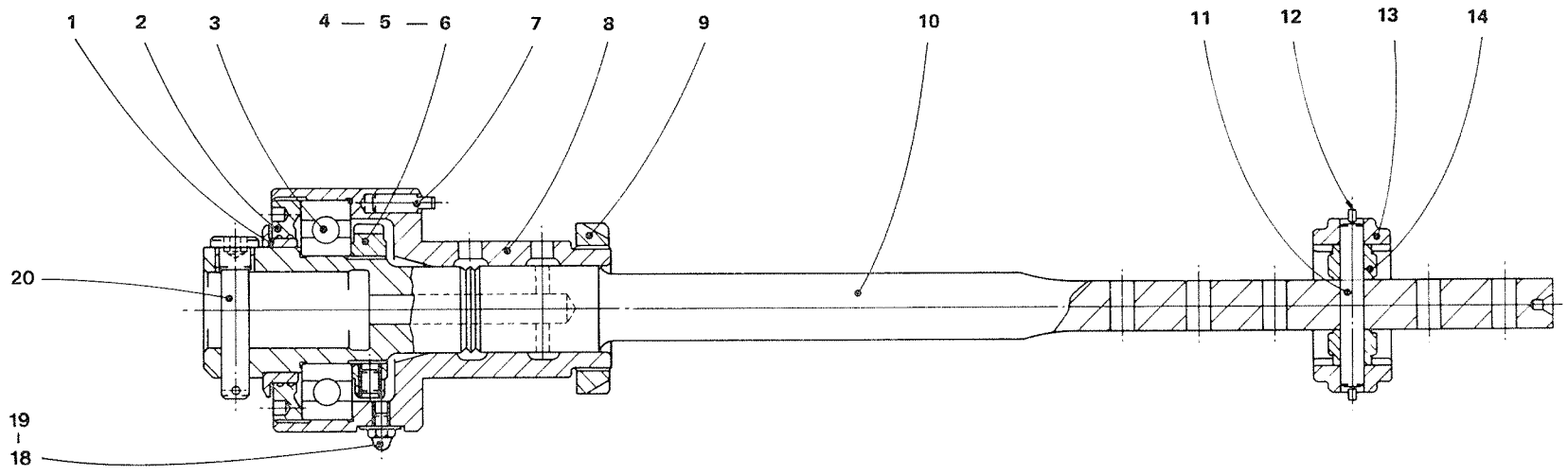
Item	Part No.	Description
1	282 Y 123	Drive sleeve
2	153/04	1/4 dia. soft pad
3	176/0405	1/4 BSF Hollow set screw 5/16" long cup point
4	151/40	40mm slotted locknut
5	258/40ZS	40 x 80 x 18mm light type ball journal
6	282 X 124	Bearing spacer
7	155/0516	5/16 BSF Socket head cap screw 1" long
8	268/45Z	45 x 75 x 16mm extra light ball journal
9	182 X 108	Coupling stud
10	203/04L	1/4 BSF Self-locking locknut
11	182 X 109	Coupling pin
12	155/0416	1/4 BSF Socket head cap screw 1" long
13	282 X 122	Adaptor plate
14	210/2525	Yellow indicator washer
15	212/ 1/8	1/8 BSP grease nipple
16	282 X 121	Drive housing
17	104/38	80mm internal circlip
18	155/0412	1/4 BSF Socket head cap screw 3/4" long
19	281 X 155	Driving gear centre
20	281 X 156	Driving gear spacer
21	281 X 158	Screw



Threading Cams Mk II 5th and 6th Stations

286Y4C

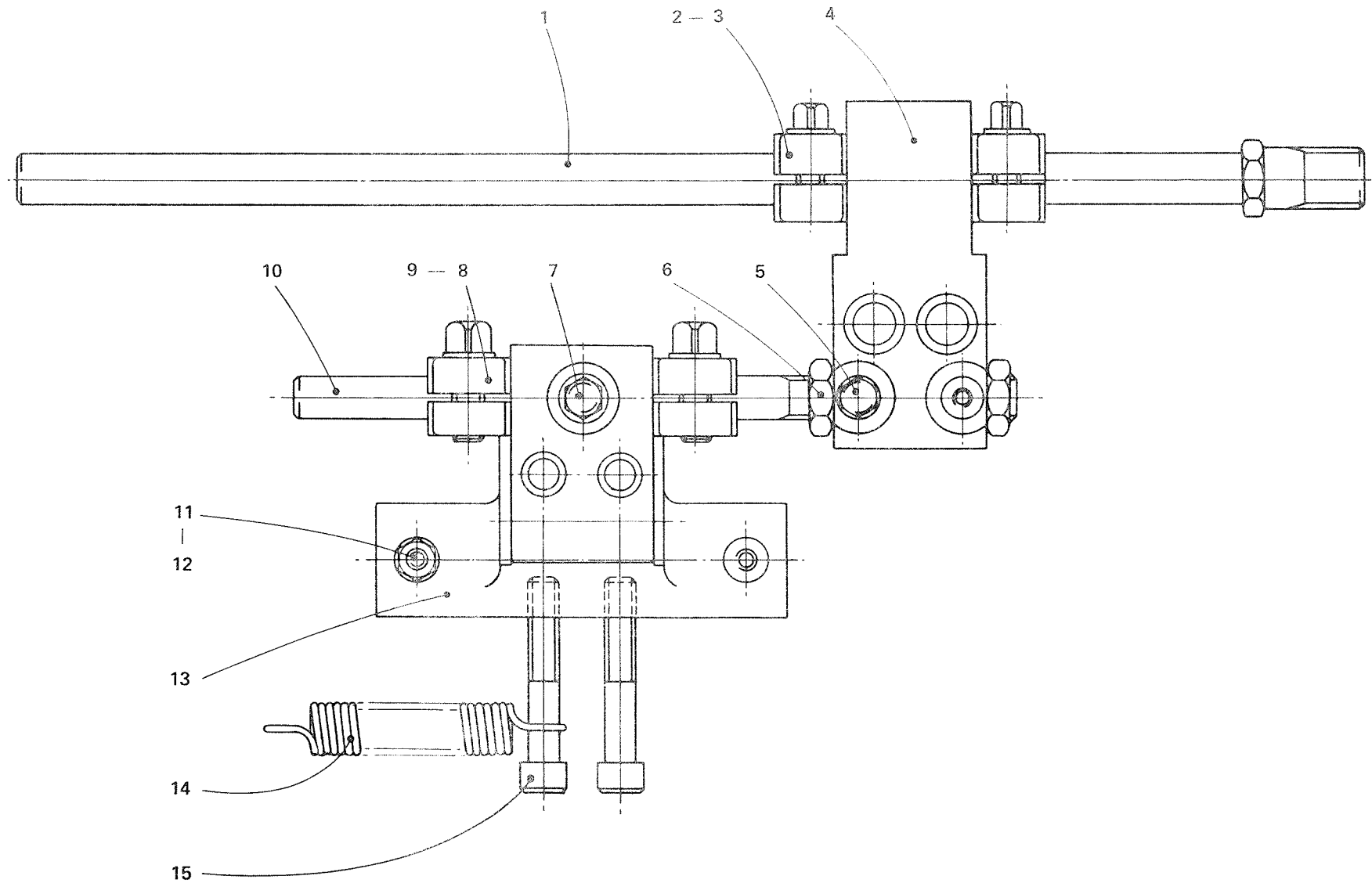
Item	Part No.	Description
1	224 V 123	Return Cam
2	286 V 141B	Threading Cam
3	286 V 145A	Return Cam
4	224 V 124	Guard Cam
5	225 V 106	Guard Cam
6	225 V 105	Return Cam
7	286 V 143B	Threading Cam
8	286 V 146A	Return Cam



Parts Common to Threading Attachment Section 286H Mk I (Stations 3, 4, 5, 6, 7 & 8)

286Y5

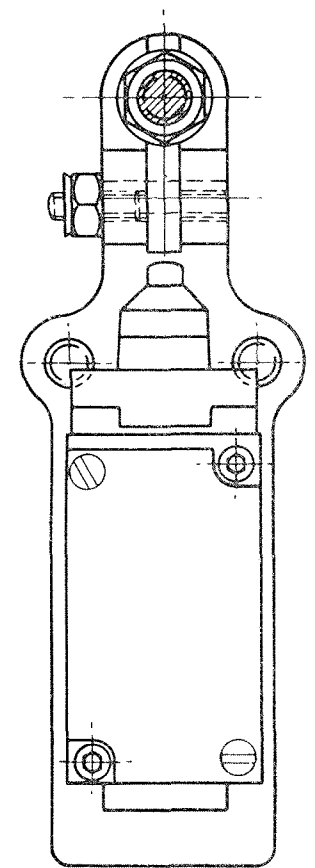
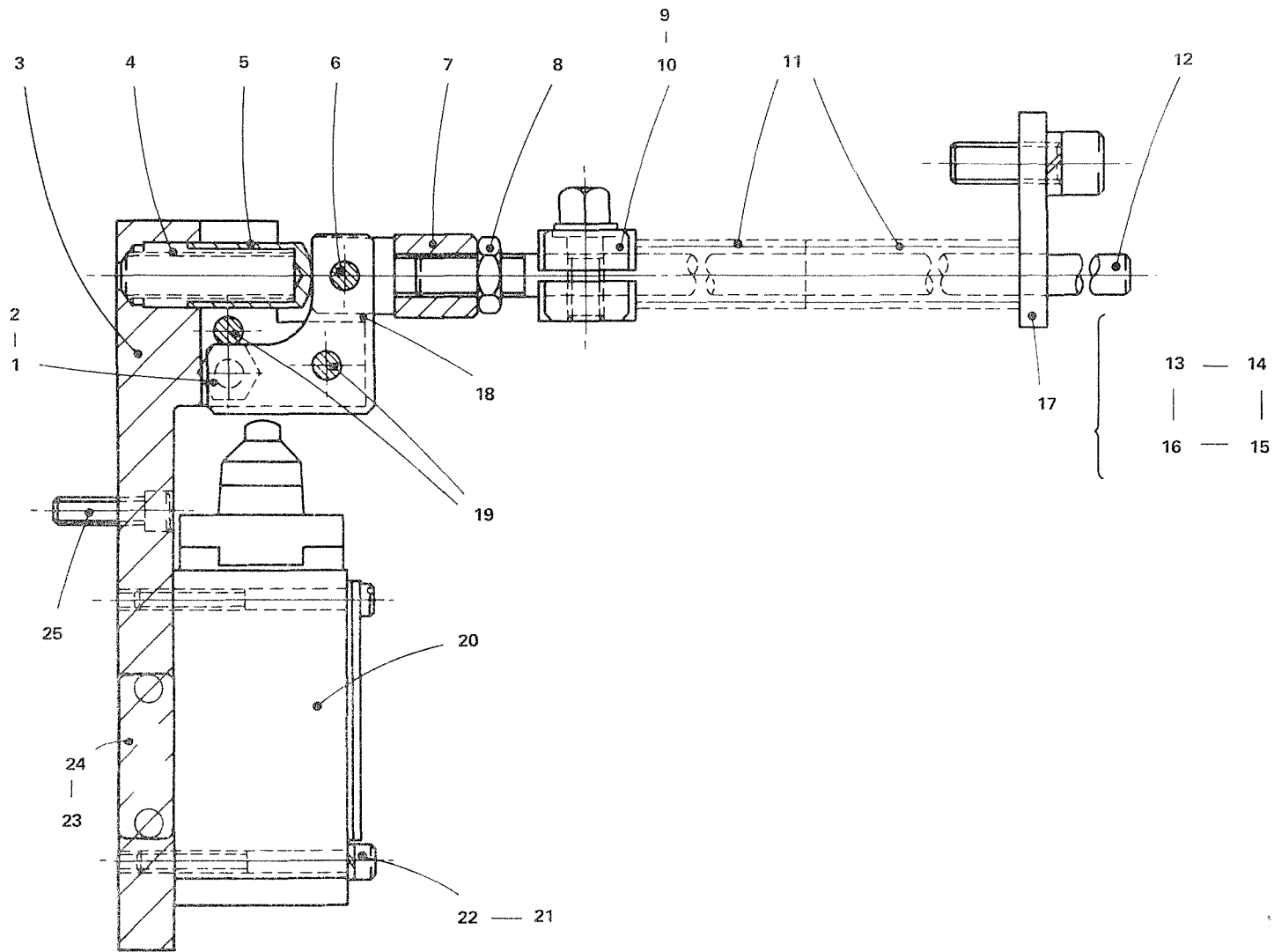
Item	Part No.	Description
1	186X.112	Thrower Ring
2	186X.111	Locking Ring
3	258/35	35mm Light Type Ball Journal
4	153/04	Soft Pad for 1/4" Screw
5	176/0405	1/4" BSF Socket Set Screw 5/16" long
6	150/22	1.3/8" x 22 T.P.I. Slotted Locknut
7	181DX.110	Threading Gear Pin
8	186X.109A	Threading Spindle Housing
9	186X.136	Locknut
10	286Y.168	Threading Spindle
11	286X.170	Roller Pin
12	355/225	2.1/4" Diameter Retaining Ring External
13	286X.171	Retaining Collar
14	286X.169	Roller
15	186X.135	Pusher Spring Sleeve
16	FX.6460	Feed Spring
17	186X.124	Pusher Sleeve Locknut
18	212/04S	1/4" BSP Oil Nipple
19	210/1725	1/4" Diameter Yellow Indicator Washer
20	186X.115A	Drive Pin



Threading Attachments Extra Parts Section 286J Mk I (Stations 5 & 6)

286V6

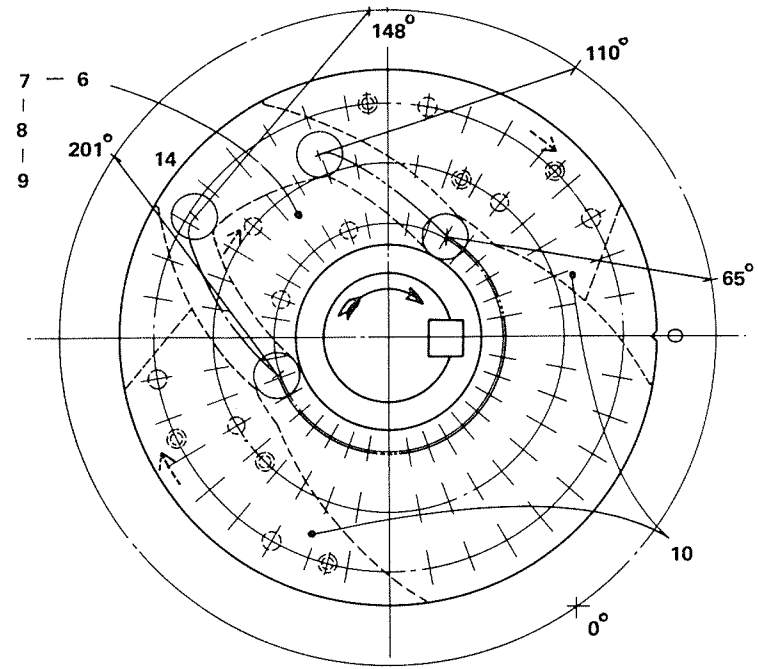
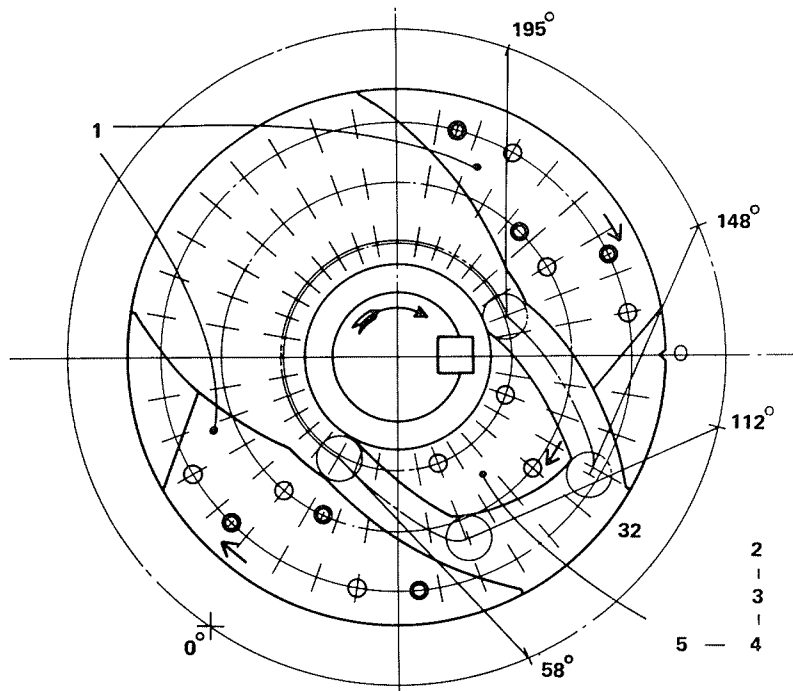
Item	Part No.	Description
1	286X.127A	Push Rod
2	195/0516H	5/16" BSF Naylor Collar Head Screw 1" long
3	189AX.115	Push Rod Clamp
4	286X.126A	Slide Bracket
5	386X.148	Spring Anchor
6	173/08L	1/2" BSF Hexagon Locknut
7	386X.148	Spring Anchor
8	388X.105	Trip Clamp
9	195/0616H	3/8" BSF Naylor Collar Head Screw 1" long
10	386X.128	Pull Rod
11	203/04	1/4" BSF Hexagon Nut 'Pinnacle Type'
12	176/0414	1/4" BSF Hexagon Socket Set Screw, Cup Point 7/8" long
13	286V.172	5th & 6th Position Threading Bracket
14	386X.145	Return Spring
15	155/0636	3/8" BSF Hexagon Socket Head Cap Screw 2.1/4" long



Limit Switch for Checking Threading Attachment Return

186V20A

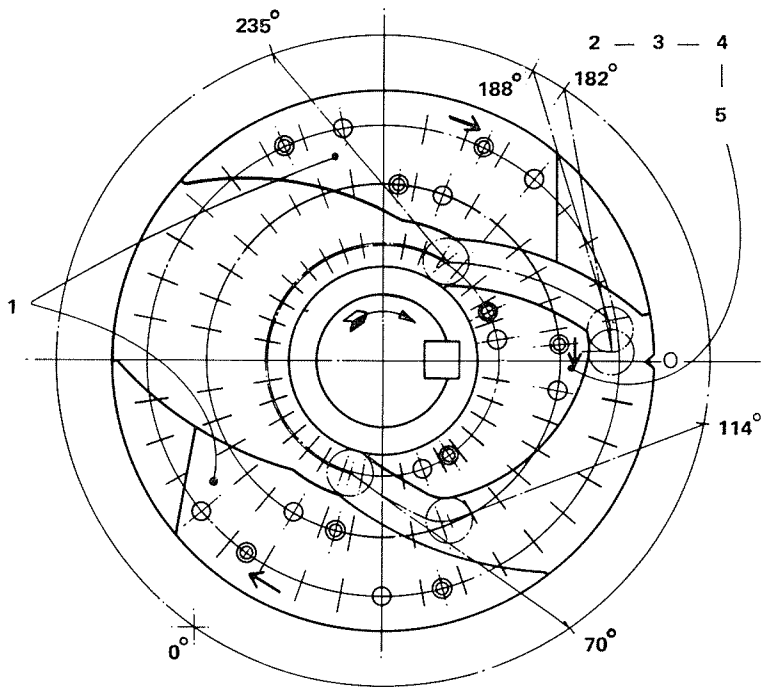
Item	Part No.	Description	Item	Part No.	Description	Item	Part No.	Description
1	203/04	1/4" BSF Self Locking Nut	13	167/0636	3/8" BSF Hexagon Head Set Screw 2.1/4" long	22	156/232	2 B.A. Socket Head Cap Screw 2" long
2	178/0412	1/4" BSF Socket Set Screw 3/4" long - half dog point	14	203/06	3/8" BSF Self Locking Nut	23	165/404	4 B.A. Round Head Screw 1/4" long
3	186X.150A	Switch Base	15	154/06	Spring Lock Washer for 3/8" diameter	24	291/11	Legent Plate
4	M.S.C.140	7/16" diameter Morris Spring 2" long	16	155/0616	3/8" BSF Socket Head Cap Screw 1" long	25	155/0414	1/4" BSF Socket Head Cap Screw 7/8" long
5	158X.124A	Plunger	17	186X.153	Stop Plate			
6	143/0812B	1/4" diameter Mills Grooved Pin 3/4" long	18	186X.151	Lever			
7	181AX.108	Link Fork	19	143/0816B	1/4" diameter Mills grooved pin 1" long			
8	173/06L	3/8" BSF Hexagon Locknut	20	Type B53E	Square 'D' Limit Switch			
9	195/0512	5/16" BSF Collar Head Screw 3/4" long	21	154/03	Spring Lock Washer for 3/16" diameter			
10	188X.108	Trip Clamp						
11	145/176	5/8" diameter Compression Spring 3.1/2" long						
12	186X.152	Operating Rod						



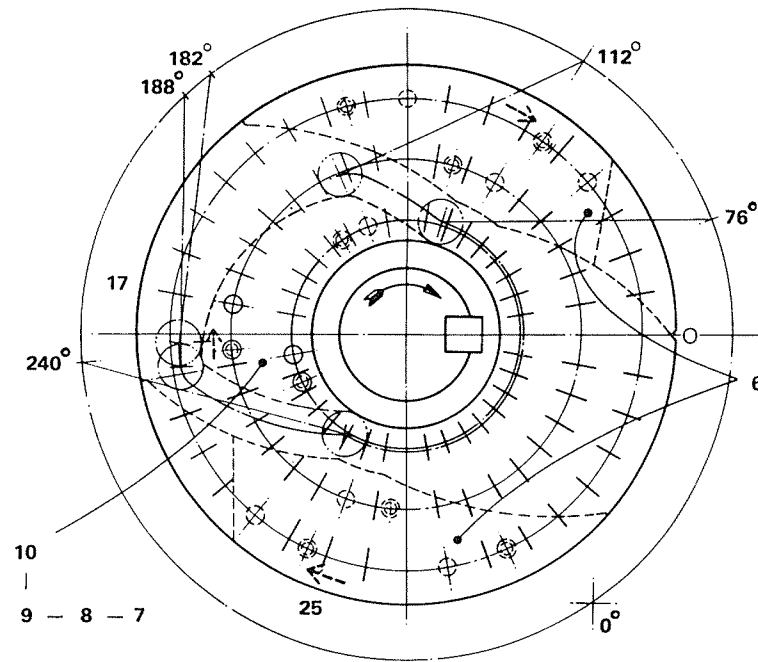
Threading Cams Stations 3, 4, 7 & 8

287Y3

Item	Part No.	Description
1	287Y.150	Guard Cam
2	287Y.154	Threading Cam
3	287Y.153	Threading Cam
4	287Y.152	Threading Cam
5	287Y.151	Threading Cam
6	287Y.151	Threading Cam
7	287Y.152	Threading Cam
8	287Y.153	Threading Cam
9	287Y.154	Threading Cam
10	287Y.150	Guard Cam



CAMS FOR REAR AUXILIARY LONGITUDINAL MOTIONS
(VIEW FROM ATTACHMENT FACE)



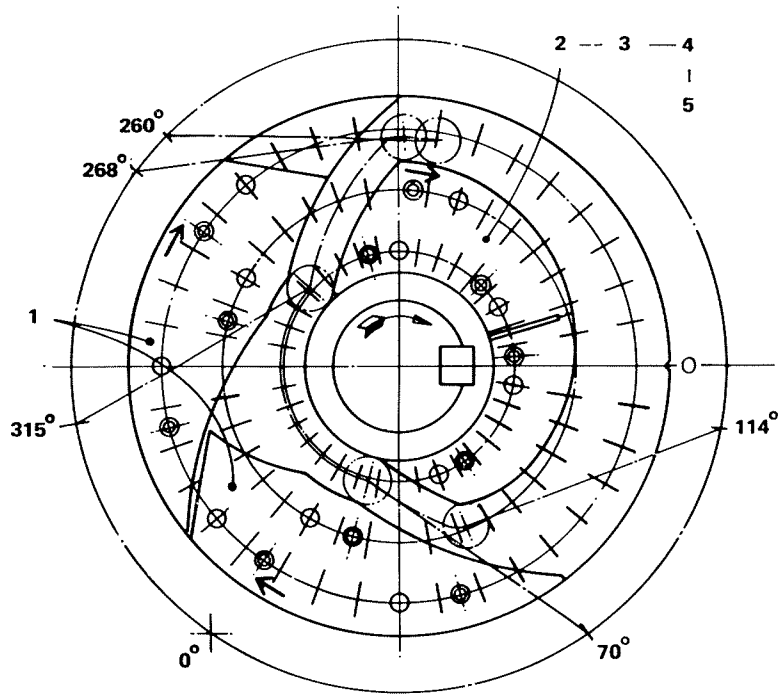
CAMS FOR FRONT AUXILIARY LONGITUDINAL MOTIONS
(VIEW FROM ATTACHMENT FACE)



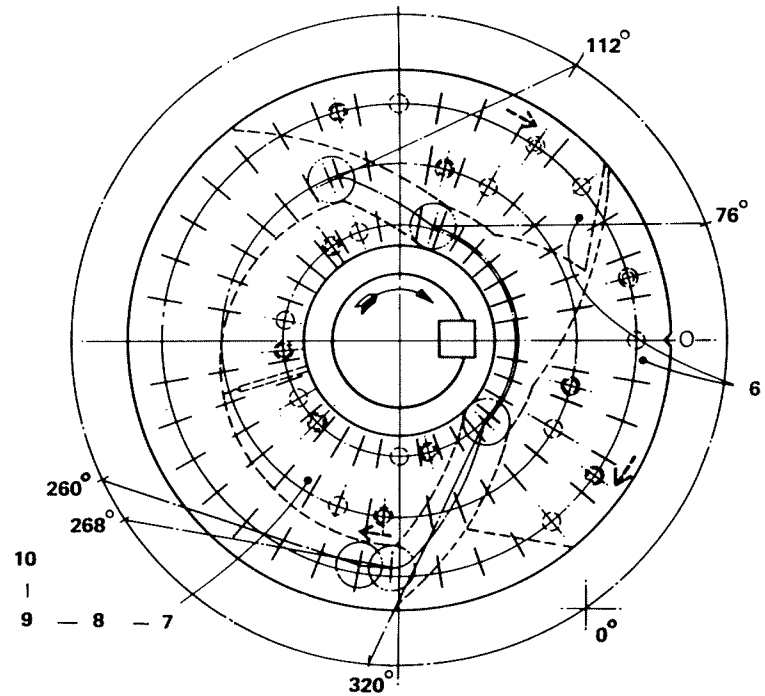
Accelerated Reaming Cams Stations 3, 4, 7 & 8

287Y4

Item	Part No.	Description
1	287Y.150	Guard Cam
2	287Y.155	Accelerated Reaming Cam
3	287Y.156	Accelerated Reaming Cam
4	287Y.157	Accelerated Reaming Cam
5	287Y.158	Accelerated Reaming Cam
6	287Y.150	Guard Cam
7	287Y.155	Accelerated Reaming Cam
8	287Y.156	Accelerated Reaming Cam
9	287Y.157	Accelerated Reaming Cam
10	287Y.158	Accelerated Reaming Cam



**CAMS FOR REAR AUXILIARY LONGITUDINAL MOTIONS
(VIEW FROM ATTACHMENT FACE)**



**CAMS FOR FRONT AUXILIARY LONGITUDINAL MOTIONS
(VIEW FROM ATTACHMENT FACE)**



Standard Reaming Cams Stations 3, 4, 7 & 8

287Y5

Item	Part No.	Description
1	287Y.150	Guard Cam
2	287Y.159	Standard Reaming Cam
3	287Y.160	Standard Reaming Cam
4	287Y.161	Standard Reaming Cam
5	287Y.162	Standard Reaming Cam
6	287Y.150	Guard Cam
7	287Y.162	Standard Reaming Cam
8	287Y.161	Standard Reaming Cam
9	287Y.160	Standard Reaming Cam
10	287Y.159	Standard Reaming Cam