

M) COMPLETE KNOCK-DOWN DRAWING & PARTS LISTS

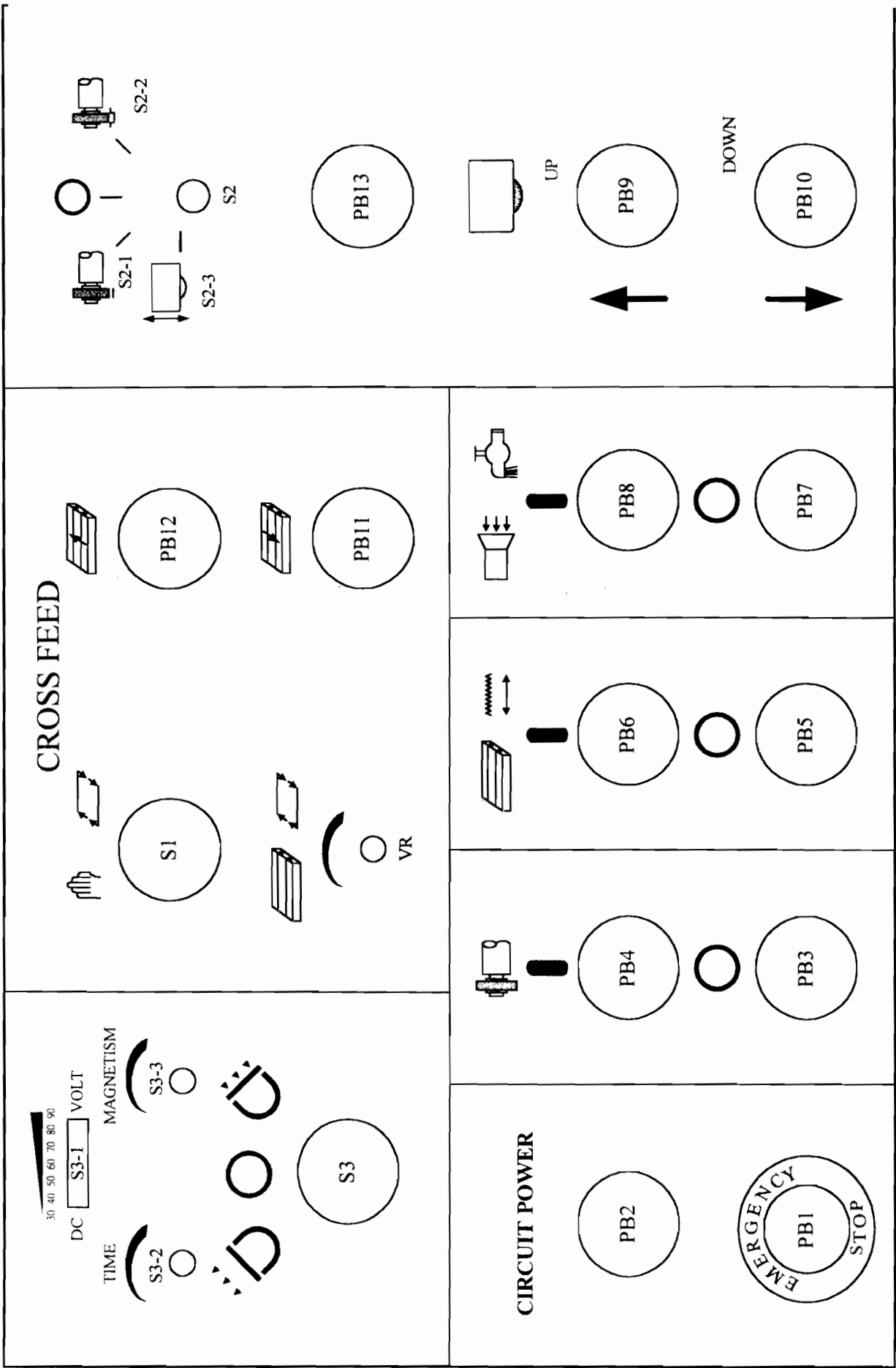
When ordering parts, please mention:

- 1. Machine model, Serial number.**
- 2. Index number.**
- 3. Parts No., and Parts name.**
- 4. Quantity.**

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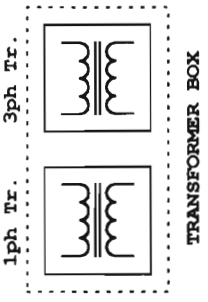
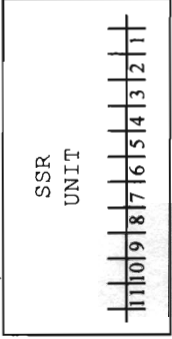
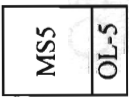
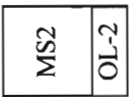
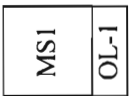
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(8) CONTROL PANEL OF 1020/1224/1632AHD



LAYOUT OF MAIN ELECTRICAL BOX

TB1	30	31	33	34	51	54	55	35	58	60	61	R5	101	102	104	105	R3	T3	R4	T4	G
TB2	1	2	3	4	5	6	7	8	11	12	13	16	17	18	19	103	104	23	24	G	



TB3

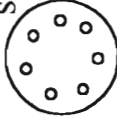
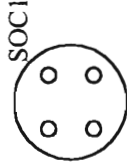
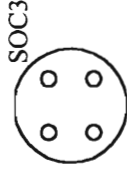
TB4

TB5

35	36	26A	27A	9	32	10	45	43	54	13	14	12	15	RO	SO	TO	R1	S1	T1	G				
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R	S	T	G	U2	V2	W2
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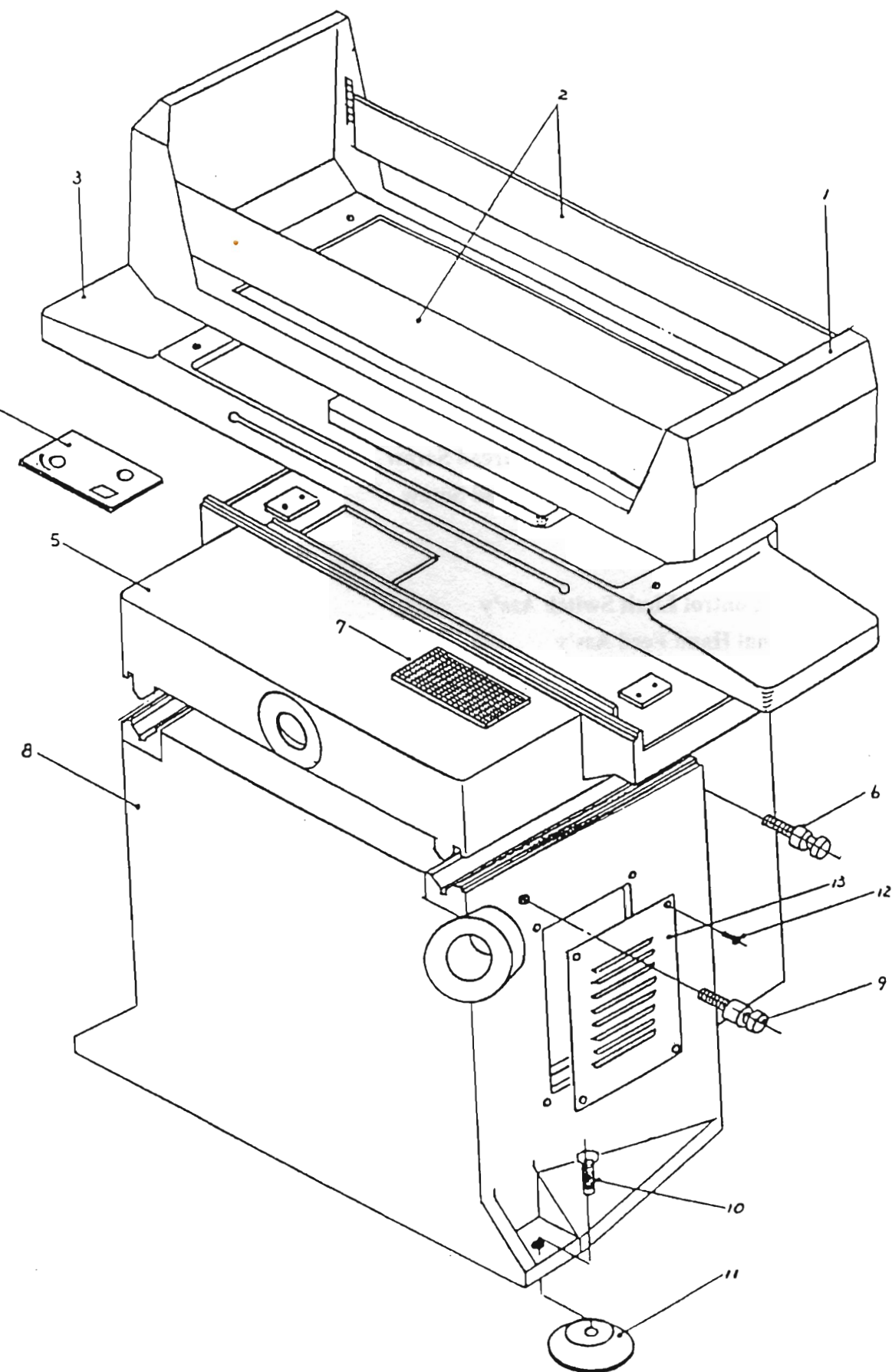
65A	66A	U3	V3	W3	G	U4	V4	W4	U5	V5	W5	G	104	106	107	U1	V1	W1	G	103	104
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PB1 : Push button to turn the power source "OFF"
 PB2 : Push button (With lamp) to turn the power source and PL2"ON"
 PB3 : Push button Spindle stop switch
 PB4 : Push button Spindle open switch
 PB5 : Push button oil tank stop switch
 PB6 : Push button oil tank open switch
 PB7 : Push button Coolduster stop switch
 PB8 : Push button Coolduster open switch
 PB9 : Push button Spindle rapid up feed switch
 PB10 : Push button Spindle rapid down feed switch
 PB11 : Push button Table rapid backward switch
 PB12 : Push button Table rapid forward switch
 PB13 : Push button Automatic feed switch
 S1 : Select switch Switch of auto/manual cross feed
 S2 : Select switch Switch of flat/slot grinding
 VR : Variable resistance Control crossfeed capacity
 S3 : Select switch For electro-magnetic chuck
 S3-1 : Indicator Shown on the magnetic capacity
 S3-2 : Turn switch Time of demagnetizer
 S3-3 : Turn switch Magnetic capacity
 MSO : Magnetic switch Control power source
 MS1 : Magnetic switch For Hydraulic pump
 MS2 : Magnetic switch For spindle motor
 MS3,MS4 : Magnetic switch For saddle forward and backward.
 MS5 : Magnetic switch For coolduster motor
 CR1---CR6 : Relay Auxillary relay of electric control system
 NFB1 : No fuse breaker No fuse breaker of power source
 NFB1,2 : No fuse breaker No fuse breaker of electric control system
 F1,F2 : Fuse for protect electric circuit
 T1 : Timer Auto down feed cycle controller
 SOC1 : Socket For coolant or dust suction
 SOC2 : Socket For work light
 SOC3 : Socket For hydraulic motor
 SOC4 : Socket For solenoid valve
 1 PH TR. : Transformer For electric control system
 3 PH TR. : Transformer For power source
 TB1,2,3,5 : Terminal board For wire connect
 OL1,2,3,4,5,6 : Over load relay Motor over load protect replay
 S.S.R. UNIT : Crossfeed controller For controlling auto/manual connect
 SM-5BO5A : Demagnetizer For electro-magnetic chuck.

TABLE, SADDLE & BASE ASS'Y

(1020AHD)



TABLE,SADDLE&BASE ASS'Y

1020AHD

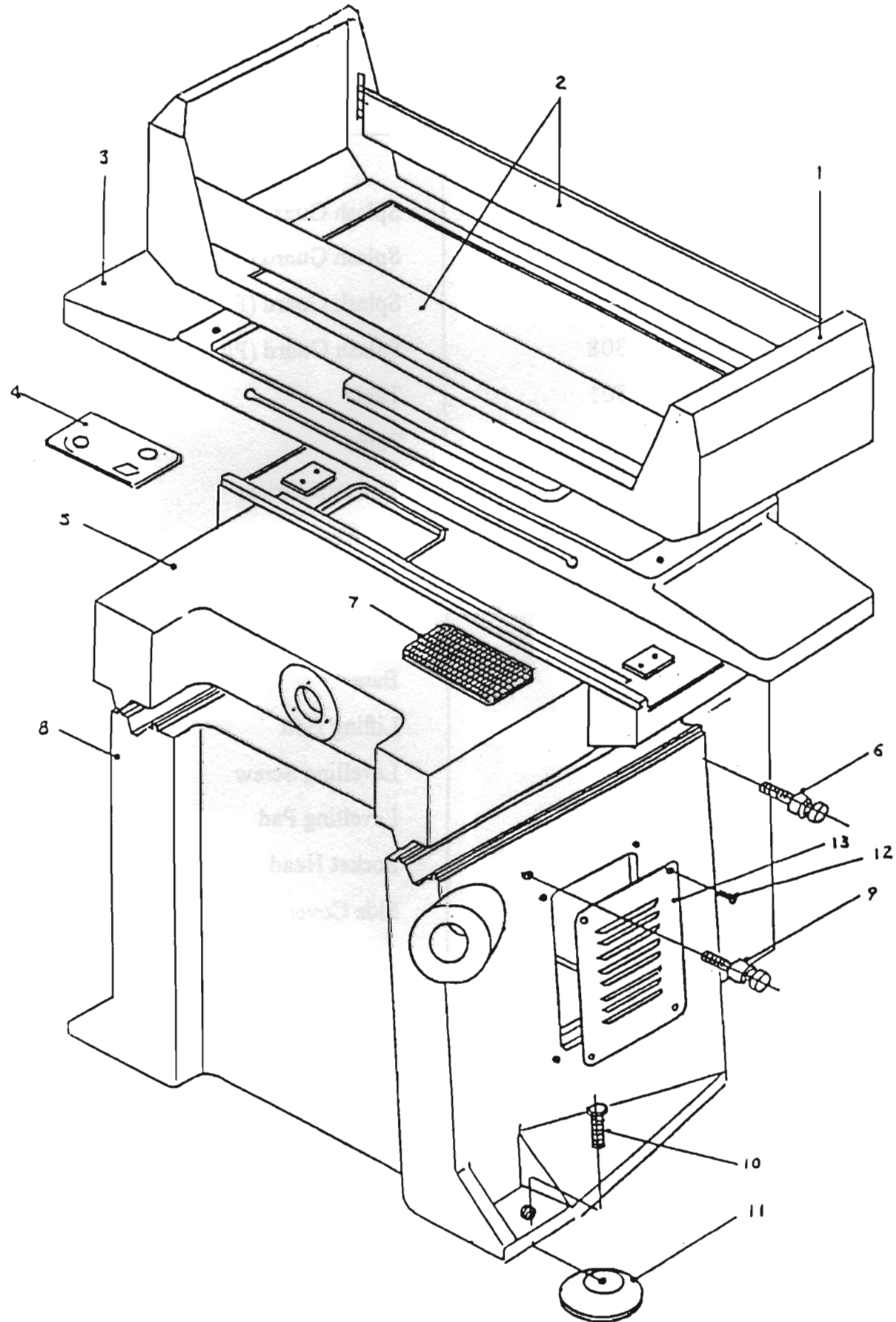
Index No.	Parts No.	Parts Name	Q'ty
1.	1020-308	Splash Guard (Frame)	1
2.	1020-308	Splash Guard (Plate)	4
3.	1020-301	Table	1
4.	1020-725	Indication Plate	1
5.	1020-401	Saddle	1
6.	1020-703	Lifting Bolt	1
7.	1020-711	Rubber Plate	1
8.	1020-501	Base	1
9.	1020-704	Lifting Bolt	1
10.	1020-717	Levelling Screw	3
11.	1020-716	Levelling Pad	3
12.	W1/4"*1/4"	Socket Head Cap Screw	8
13.	1020-710	Side Cover	2

TABLE,SADDLE&BASE ASS'Y

(N1224 SERIES)

Index No.	Parts No.	Parts Name	Qty
1.	1224-308	Splash Guard (Frame)	1
2.	1224-308	Splash Guard (Plate)	4
3.	N1224-301	Table	1
4.	1020-725	Indication Plate	1
5.	N1224-401	Saddle	1
6.	1020-703	Lifting Bolt	1
7.	1020-711	Rubber Plate	1
8.	N1224-501	Base	1
9.	1020-704	Lifting Bolt	1
10.	1020-717	Levelling Screw	3
11.	1020-716	Levelling Pad	3
12.	W1/4"*1/4"	Socket Head Cap Screw	8
13.	1020-710	Side Cover	2

TABLE, SADDLE & BASE ASS'Y (1224, 1230, 1632 SERIES)



TABLE,SADDLE&BASE ASS'Y

(1224AHD)

Index No.	Parts No.	Parts Name	Q'ty
1.	1224-308	Splash Guard (Frame)	1
	1230-308	Splash Guard ((Frame)	4
2.	1224-308	Splash Guard (Plate)	4
	1230-308	Splash Guard (Plate)	4
3.	1224-301	Table	1
	1230-301	Table	1
4.	1020-725	Indication Plate	1
5.	1224-401	Saddle	1
6.	1020-703	Lifting Bolt	1
7.	1020-711	Rubber Plate	1
8.	1224-501	Base	1
9.	1020-704	Lifting Bolt	1
10.	1020-717	Levelling Screw	5
11.	1020-716	Levelling Pad	5
12.	W1/4"*1/4"	Socket Head Cap Screw	8
13.	1020-710	Side Cover	2

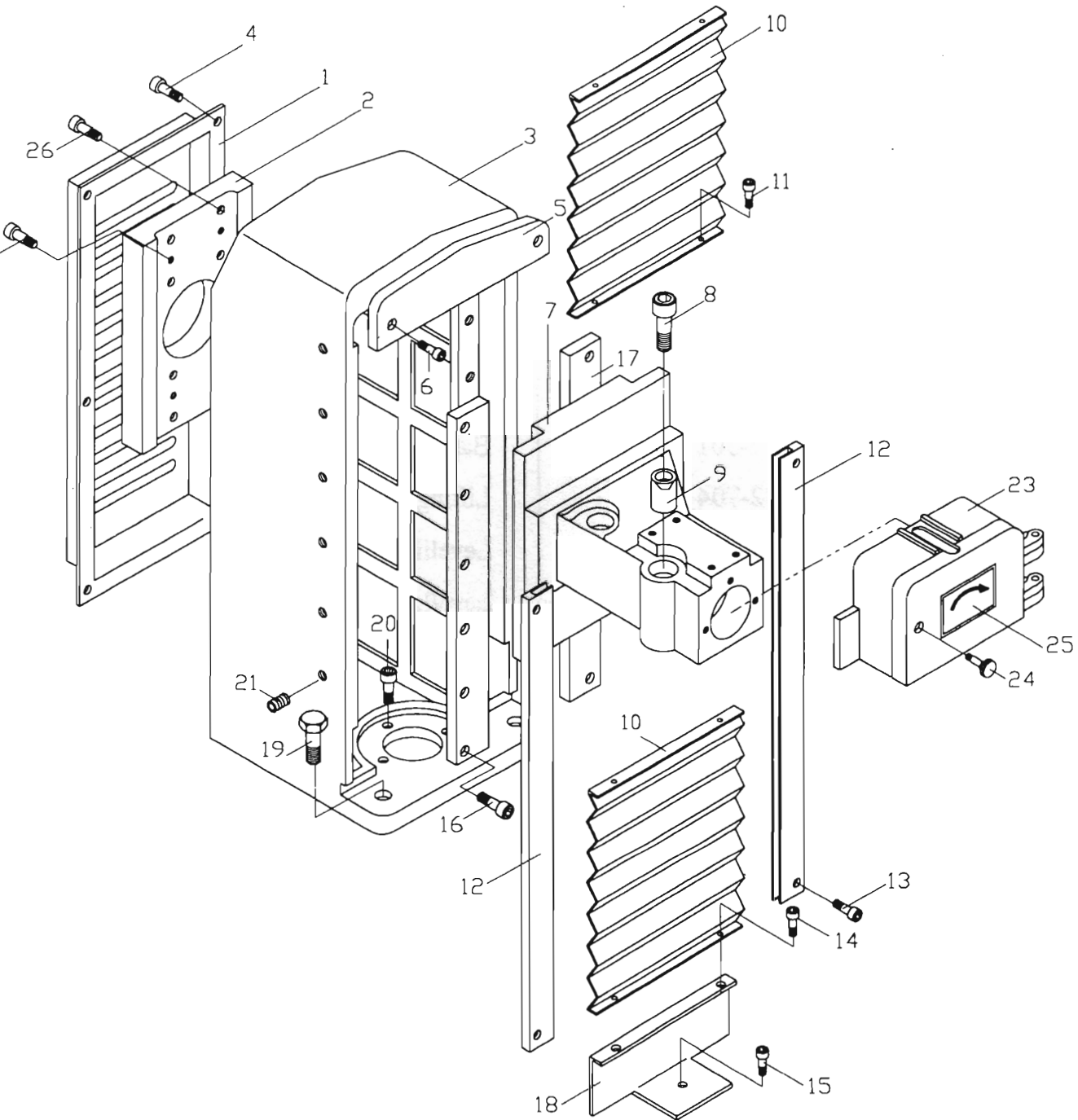
TABLE,SADDLE&BASE ASS'Y

(1632 SERIES)

Index No.	Parts No.	Parts Name	Q'ty
1.	1632-308	Splash Guard (Frame)	1
2.	1632-308	Splash Guard (Plate)	4
3.	1632-301	Table	1
4.	1020-725	Indication Plate	1
5.	1632-401	Saddle	1
6.	1632-703	Lifting Bolt	2
7.	1020-711	Rubber Plate	1
8.	1632-501	Base	1
9.	1632-704	Lifting Bolt	2
10.	1020-717	Levelling Screw	5
11.	1020-716	Levelling Pad	5
12.	W1/4"*1/4"	Socket Head Cap Screw	8
13.	1632-710	Side Cover	2

Column Ass'y

FOR AGS 1020AHD

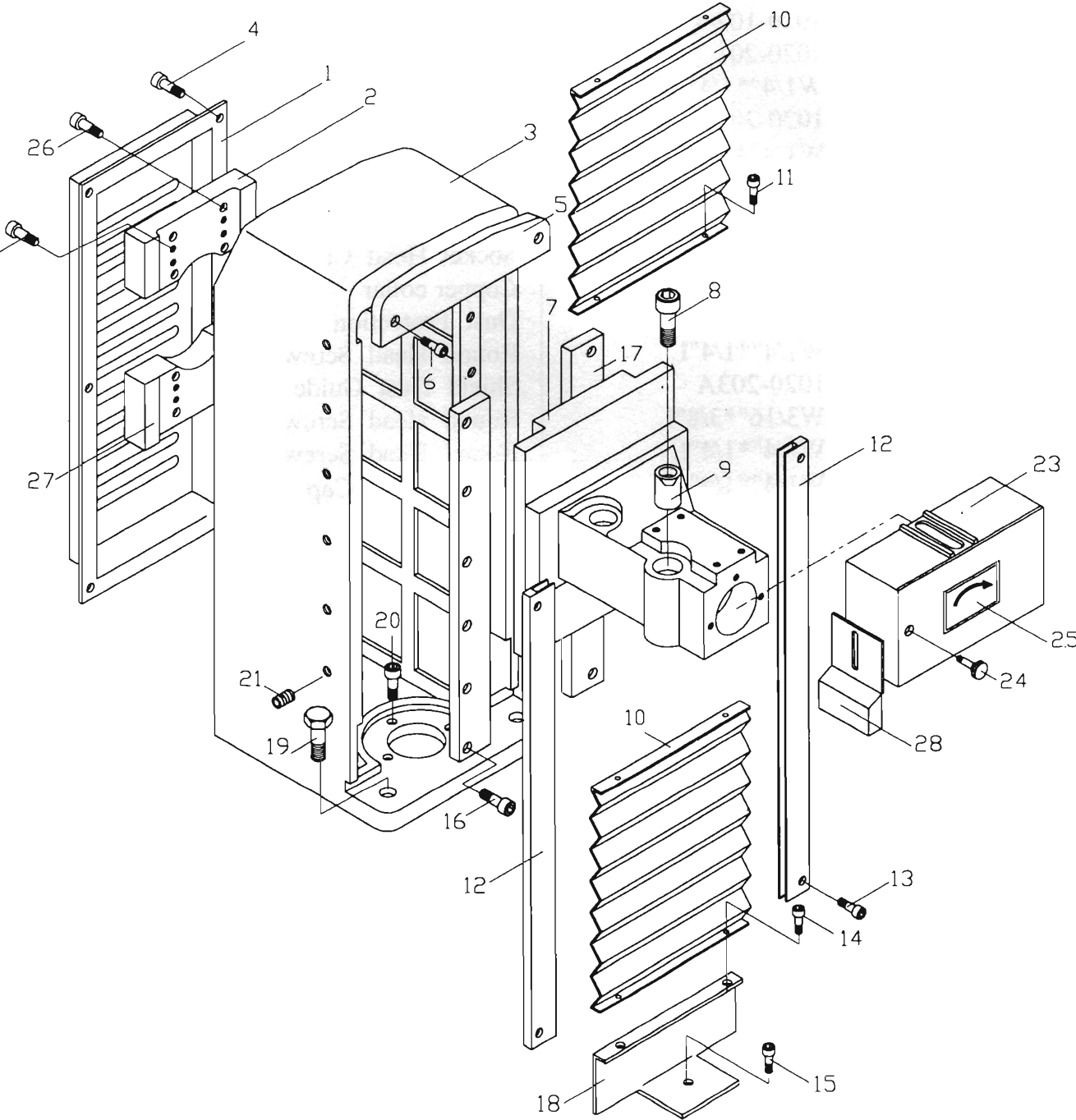


**COLUMN ASSEMBLY
FOR 1020AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-205	Column Rear Cover	1
2.	1020-102-1	Head B	1
3.	1020-201	Column	1
4.	W1/4"*1/4"L	Round Head Screw	6
5.	1020-204A	Upper Cover Of Column	1
6.	W1/4"*3/4"L	Socket Head Cap Screw	2
7.	1020-101	Head A	1
	N1020-101	Head A	1
8.	W5/8"*3"L	Socket Head Cap Screw	2
9.	1020-112	Copper collar	2
10.	1020-224	Dust Protection Fold Fabric	2
11.	W1/4"*1/4"L	Round Head Screw	4
12.	1020-203A	Shield Dust Guide Rail	2
13.	W3/16"*3/8"L	Round Head Screw	4
14.	W1/4"*1/4"L	Round Head Screw	4
15.	W1/4"*1/4"L	Socket Head Cap Screw	1
16.	W3/8"*1"L	Socket Head Cap Screw	12
17.	1020-202	Vertical Guide Rail	2
18.	1020-207A	Shield Dust	1
19.	W3/4"*2"L	Hexagonal Head Screw	4
20.	W1/2"*2 1/2"L	Socket Head Cap Screw	3
21.	W3/8"*1"L	Set Screw	12
22.	W1/2"*1 1/2"L	Socket Head Cap Screw	4
23.	1020-114A	Wheel Guard Cover	1 Set
24.	1020-116	Wheel Guard Cover Set Screw	1
25.	INP1	Indicate Name Plate	1
26.	W1/2"*2 1/2"L	Socket Head Cap Screw	8

Column Ass'y

FOR AGS 1224AHD

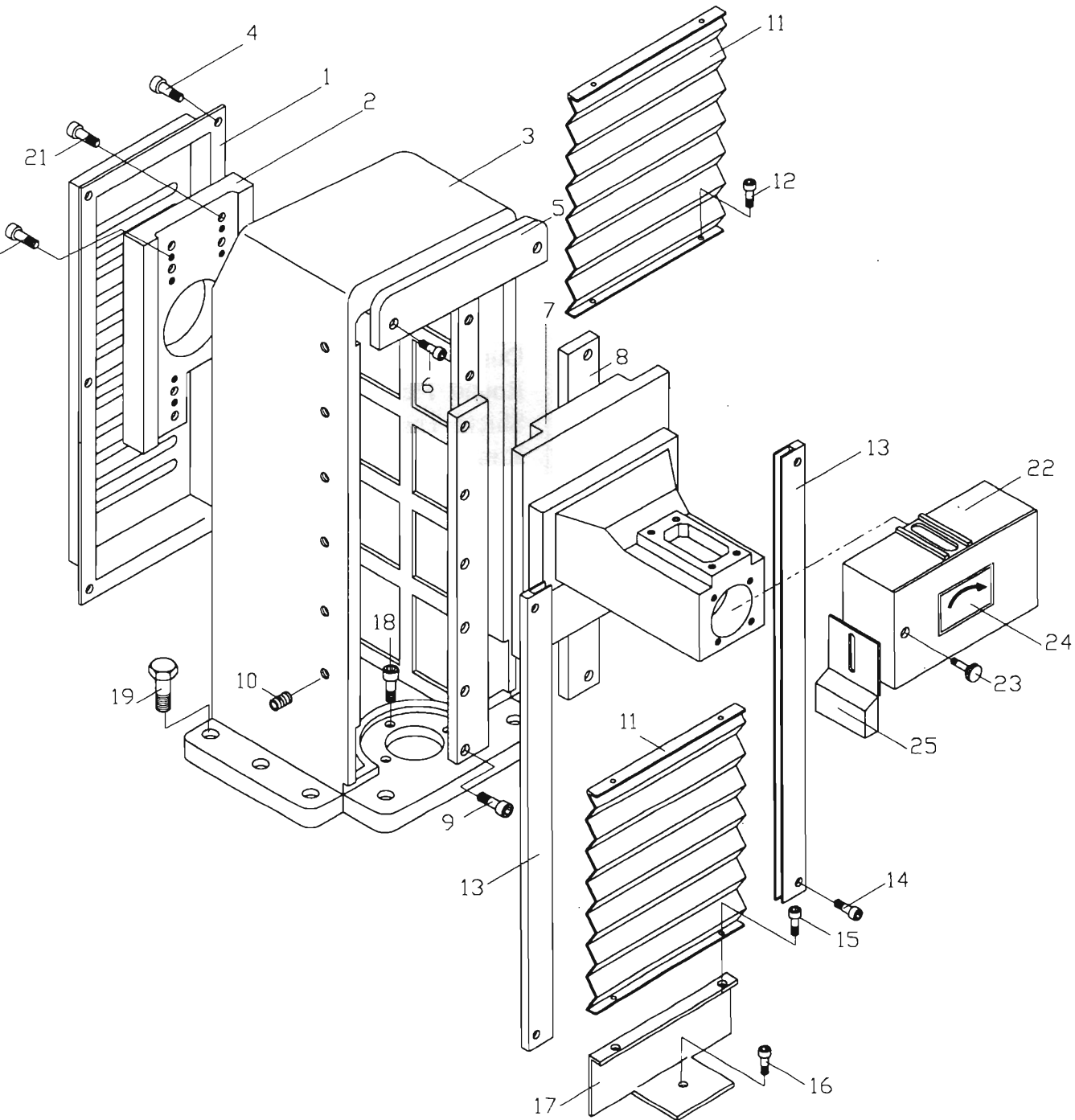


**COLUMN ASSEMBLY
FOR 1224AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1224-205	Column Rear Cover	1
2.	1224-102-1	Head B(Upper)	1
3.	1224-201	Column	1
4.	W1/4"*1/4"L	Round Head Screw	6
5.	1224-204A	Upper Cover Of Column	1
6.	W1/4"*3/4"L	Socket Head Cap Screw	2
7.	1224-101	Head A	1
8.	W5/8"*3"L	Socket Head Cap Screw	2
9.	1224-112	Copper collar	2
10.	1224-224	Dust Protection Fold Fabric	2
11.	W1/4"*1/4"L	Round Head Screw	4
12.	1224-203	Shield Dust Guide Rail	2
13.	W3/16"*3/8"L	Round Head Screw	4
14.	W1/4"*1/4"L	Round Head Screw	4
15.	W1/4"*1/4"L	Socket Head Cap Screw	1
16.	W3/8"*1"L	Socket Head Cap Screw	12
17.	1224-202A	Vertical Guide Rail	2
18.	1224-207A	Shield Dust	1
19.	W3/4"*2"L	Hexagonal Head Screw	4
20.	W1/2"*2 1/2"L	Socket Head Cap Screw	3
21.	W3/8"*1"L	Set Screw	12
22.	W1/2"*1 3/4"L	Socket Head Cap Screw	8
23.	1224-114	Wheel Guard Cover	1 Set
24.	1020-116	Wheel Guard Cover Set Screw	1
25.	INP1	Indicate Name Plate	1
26.	W1/2"*1 3/4"L	Socket Head Cap Screw	8
27.	1224-102	Head B(Lower)	1
28.	1512-115	Splash Guard	1

Column Ass'y

FOR AGS 1632AHD

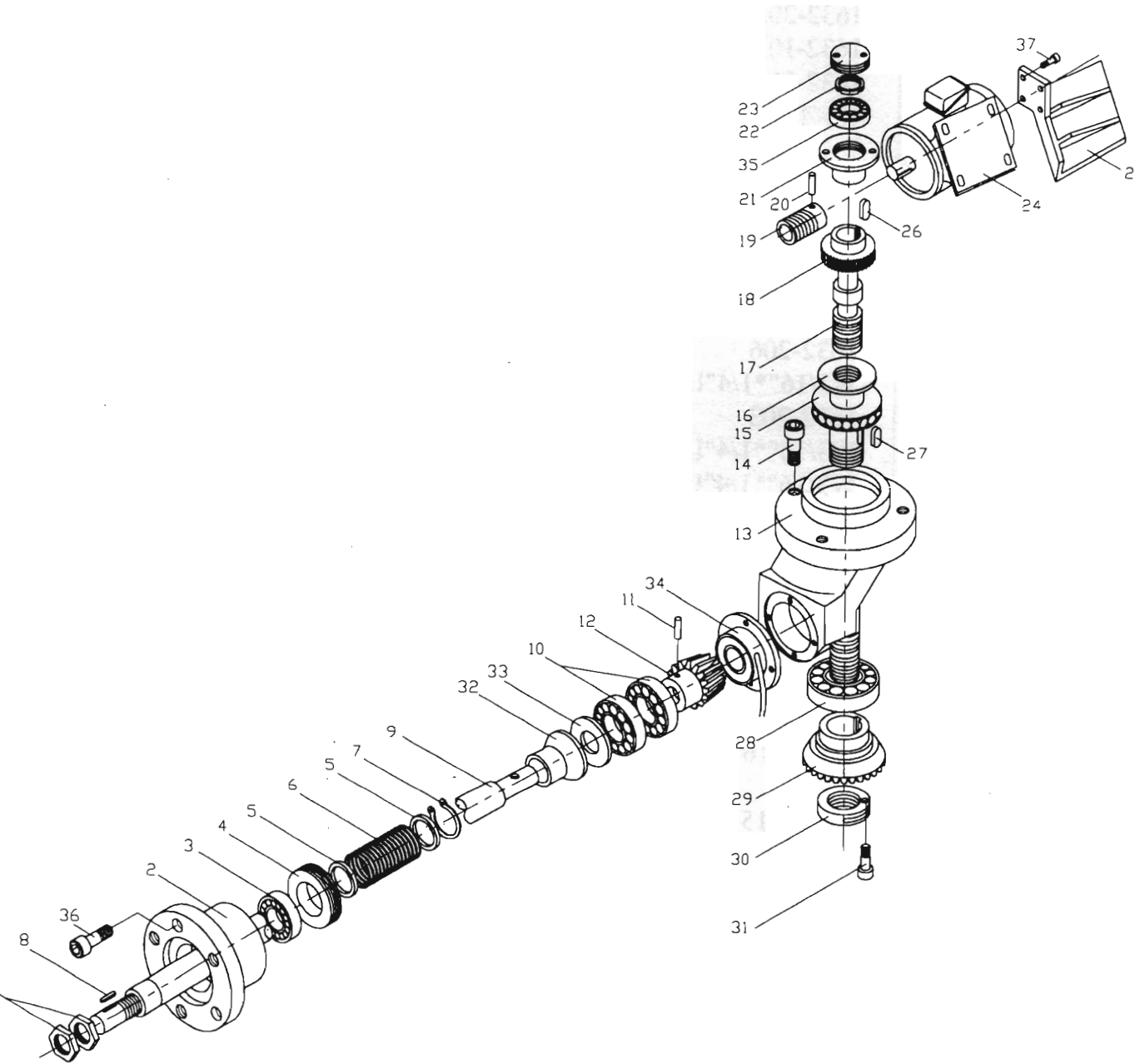


**COLUMN ASSEMBLY
FOR 1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1632-205A	Column Rear Cover	1
2.	1632-102A	Head B	1
3.	1632-201	Column	1
4.	W1/4"*1/4"L	Round Head Screw	6
5.	1632-204	Upper Cover Of Column	1
6.	W1/4"*1"L	Socket Head Cap Screw	2
7.	1632-101	Head A	1
8.	1632-202	Vertical Guide Rail	2
9.	W1/2"* 1 1/2"L	Socket Head Cap Screw	16
10.	W1/2"* 1 "L	Socket Head Cap Screw	16
11.	1632-206	Dust Protection Fold Fabric	2
12.	W3/16"*1/4"L	Round Head Screw	4
13.	1632-203	Shield Dust Guide Rail	2
14.	W3/16"*1/4"L	Round Head Screw	4
15.	W3/16"*1/4"L	Round Head Screw	4
16.	W3/16"*1/4"L	Round Head Screw	2
17.	1632-207	Shield Dust Socket	1
18.	W1/2"*2 1/2"L	Socket Head Cap Screw	3
19.	W3/4"*2"L	Hexagonal Head Screw	8
20.	W5/8"*1 3/4"L	Socket Head Cap Screw	8
21.	W5/8"*1 1/2"L	Socket Head Cap Screw	8
22.	1632-114C	Wheel Guard Cover	1 Set
23.	1020-116	Wheel Guard Cover Set Screw	1
24.	INP1	Indicate Name Plate	1
25.	1512-115	Splash Guard	1

Upper & Lower Transmission Ass'y

FOR AGS 1020/1224AHD



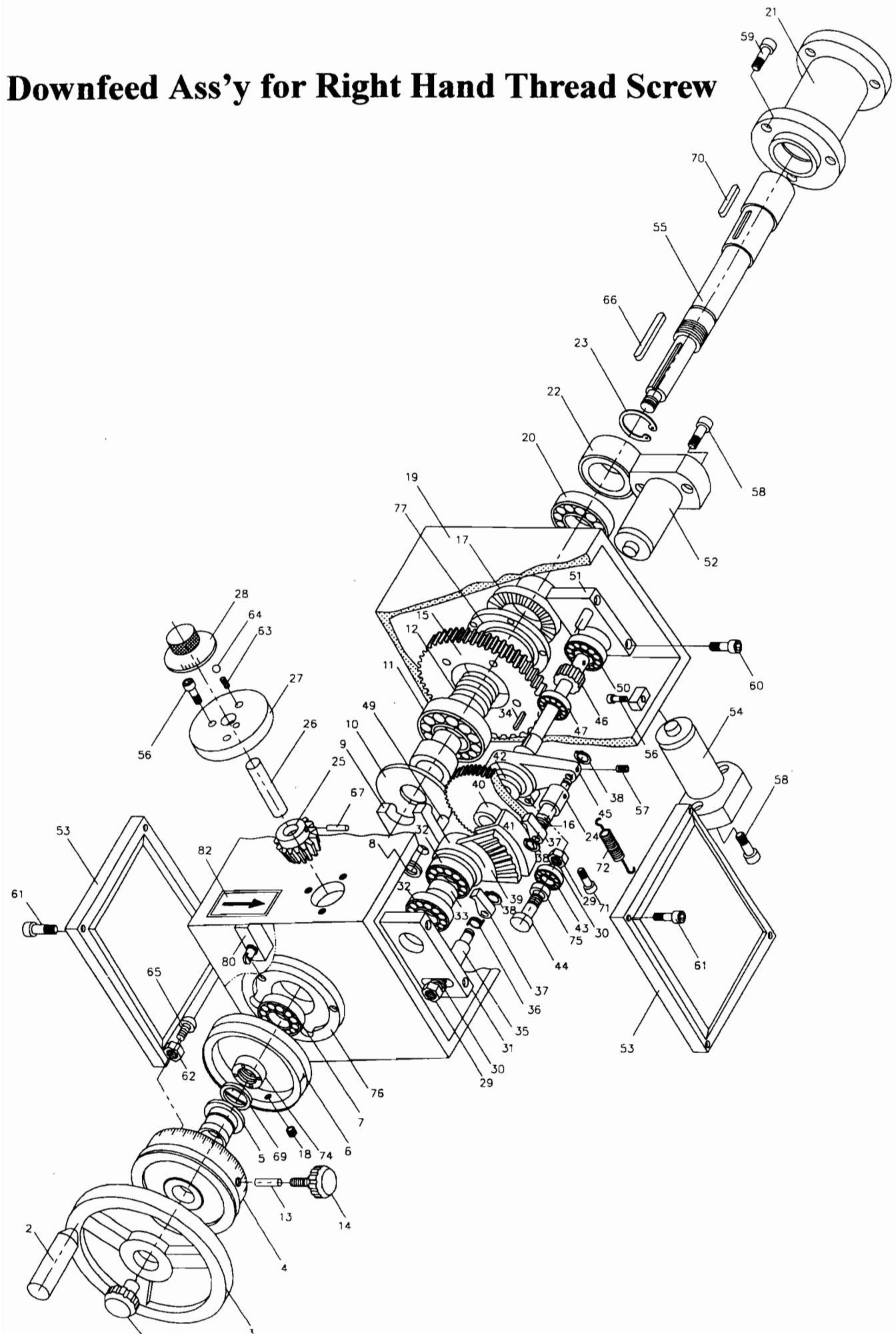
**UPPER & LOWER TRANSMISSION ASSEMBLY
FOR 1020/1224AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-410	Hexagonal Nut	2
2.	1224-804	Connect Flange	1
3.	# 6005	Ball Bearing	1
4.	1224-871	Nut Of Flange	1
5.	1020-506	Washer	2
6.	1020-507	Spring	1
7.	S 25	Snap Ring	1
8.	5*5*20L	Key	1
9.	1020-805	Transmission shaft	1
	N1224-805	Transmission shaft	1
	1224-805 (1224,1230)	Transmission shaft	1.
10.	# 6204	Ball Bearing	2
11.	φ 3*30L	Spring Pin	1
12.	1020-217	Bevel Pinion	1
13.	1020-214	Gear Seat	1
14.	W1/2"*2"L	Socket Head Cap Screw	3
15.	# 51108	Thrust Bearing	1
16.	1020-213 (1020,N1224)	Upper&lower Lead Screw Socket	1
	1224-213 (1224,1230)	Upper&lower Lead Screw Socket	1
17.	1020-212 (1020,N1224)	Upper&lower Lead Screw	1
	1224-212 (1224,1230)	Upper&lower Lead Screw	1
18.	1632-225	Worm Gear	1
19.	1632-229	Worm Screw	1
20.	φ 3*30L	Spring Pin	1
21.	1632-226	Connect Bracket	1
22.	M20*P1	Nut	1
23.	1632-227	Connect Bracket Cover	1
24.	1/5HP*6P	Rapid Up&Down Motor	1
25.	1020-226	Motor base	1
	1224-226	Motor base	1
26.	5*5**30L	Key	1
27.	7*7**25L	Key	1
28.	B6011Z	Ball Bearing	1
29.	1020-216	Bevel Gear	1
30.	1020-215	Lock Nut	1
31.	W1/4"*1/2"L	Socket Head Cap Screw	1
32.	1224-515	Clutch Base	1
33.	0.75kg-M	Clutch A	1
34.	0.75kg-M	Clutch B	1
35.	B1204	Bearing	1
36.	W1/4"*3/4"L	Socket Head Cap Screw	3
37.	W5/16"*1"L	Socket Head Cap Screw	4

**UPPER & LOWER TRANSMISSION ASSEMBLY
FOR 1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-410	Hexagonal Nut	2
2.	1224-804	Connect Flange	1
3.	# 6005	Ball Bearing	1
4.	1224-871	Nut Of Flange	1
5.	1020-506	Washer	2
6.	1020-507	Spring	1
7.	S 25	Snap Ring	1
8.	5*5*20L	Key	1
9.	1632-805	Transmission shaft	1
10.	# 6204	Ball Bearing	1
11.	φ 6*30L	Spring Pin	1
12.	1632-221	Bevel Pinion	2
13.	1632-223	Gear Seat	1
14.	W1/2"*2"L	Socket Head Cap Screw	3
15.	# 51110	Thrust Bearing	1
16.	1632-213	Upper&lower Lead Screw Socket	1
17.	1632-212	Upper&lower Lead Screw	1
18.	1632-225	Worm Gear	1
19.	1632-229	Worm Screw	1
20.	φ 3*30L	Spring Pin	1
21.	1632-226	Connect Bracket	1
22.	M20*P1	Nut	1
23.	1632-227	Connect Bracket Cover	1
24.	1/5HP*6P	Rapid Up&Down Motor	1
25.	1632-228	Motor base	1
26.	5*5**30L	Key	1
27.	7*7**25L	Key	1
28.	B6213Z	Ball Bearing	1
29.	1632-222	Bevel Gear	1
30.	1632-215	Lock Nut	1
31.	W1/4"*1/2"L	Socket Head Cap Screw	1
32.	1224-515	Clutch Base	1
33.	0.75kg-M	Clutch A	1
34.	0.75kg-M	Clutch B	1
35.	B1204	Bearing	1
36.	W1/4"*3/4"L	Socket Head Cap Screw	3
37.	W5/16"*1"L	Socket Head Cap Screw	4

Downfeed Ass'y for Right Hand Thread Screw



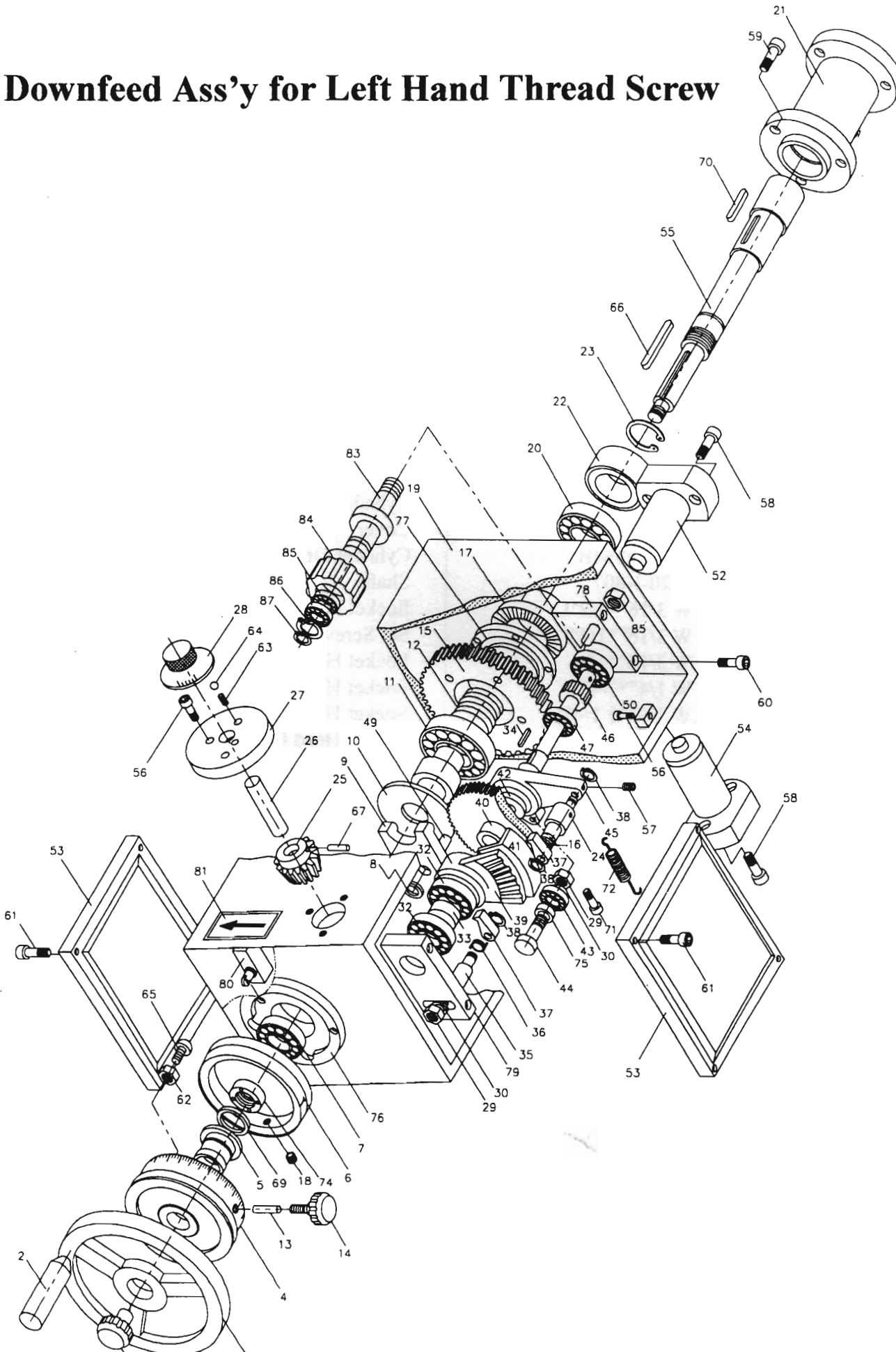
**DOWN FEED ASS'Y FOR RIGHT HAND THREAD SCREW
FOR 1020/1224/1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-729	Cap Nut	1
2.	1020-728	Hand Grip	1
3.	1020-714	Hand Wheel	1
4.	1020-N801	Graduation Dial	1
	1632-N801(1632 SERIES)	Graduation Dial	1
5.	1020-N804	Collar	1
6.	1020-N803A	Graduation Dial Holder	1
7.	B6204Z	Bearing	1
8.	1020-N842	Spacer	1
9.	1020-N810	Holder	1
10.	1020-N811	Holder	1
11.	B6006Z	Bearing	1
12.	1020-N813-1	Spring	1
13.	φ 6*30L	Pin	1
14.	φ 5/16	Cap Screw	1
15.	1020-N812	Gear	1
	1632-N812(1632 SERIES)	Gear	1
16.	1020-N828	Spring	1
17.	1020-N814	Clutch	1
18.	W 1/4"*3/8"L	Set Screw	1
19.	1020-N802A	Gear Box	1
20.	B6005Z	Bearing	1
21.	1020-N845	Connect Bracket	1
22.	1020-N843	Spacer	1
23.	R-47	Snap Ring	1
24.	1020-N826	Shaft	1
25.	1020-N830	Bevel Gear	1
26.	1020-N831	Pin	1
27.	1020-N832	Plate	1
28.	1020-N833	Pre-Set Dial	1
29.	W 1/4"	Hexagonal Nut	2
30.	W 1/4"	Spring Washer	2
31.	1020-N815	Bracket	1
32.	B6300Z	Bearing	3
33.	1020-N817	Spacer	1
34.	5*5*15L	Key	1
35.	1020-N815-1	Pin	1
36.	1020-N827	Spring	1
37.	1020-N825	Transmission Claw	1
38.	E7	Snap Ring	3
39.	1020-N818	Bevel Gear (Half)	1
40.	1020-N820	Ratcher Gear	1
41.	1020-N819	Slipper	1

**DOWN FEED ASS'Y FOR RIGHT HAND THREAD SCREW
FOR 1020/1224/1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
42.	1020-N821	Spacer	1
43.	B608ZZ	Bearing	1
44.	1020-N823	Pin	1
45.	1020-N822	Transmission Arm	1
46.	1020-N816	Gear Shaft	1
	1632-N816(1632 SERIES)	Gear Shaft	1
47.	B6202	Bearing	
48.		Gear	1
49.	W 1/4"*3"L	Socket Head Cap Screw	1
50.	B6201	Bearing	1
51.	1020-N829	Bracket	1
52.	1020-N834A	Cylinder Of Clutch	1
53.	1020-N809	Cover	2
54.	1020-N834B	Cylinder Of Feed	1
55.	1020-N807	Shaft	1
56.	W 3/16"*1/2"L	Socket Head Cap Screw	4
57.	W 3/16"*1/4"L	Set Screw	1
58.	W 3/16"*1"L	Socket Head Cap Screw	4
59.	W 1/4"*3/4"L	Socket Head Cap Screw	3
60.	W 1/4"*1 1/4"L	Socket Head Cap Screw	4
61.	W 1/4"*3/8"L	Socket Head Cap Screw	8
62.	W 1/4"	Hexagonal Nut	1
63.	1020-N833-2	Spring	1
64.	φ 4	Steel Ball	1
65.	W 1/4"*5/8"L	Round Head Screw	1
66.	5*5*40L	Key	1
67.	φ 3*30L	Pin	1
68.			1
69.	1020-N805	Spacer	1
70.	7*7*15L	Key	1
71.	W 3/16"*3/8"L	Socket Head Cap Screw	1
72.	1020-N822-1	Spring	1
73.			
74.	1020-N806	Nut	1
75.	1020-N824	Spacer	1
76.	1020-N808-1	Spacer	1
77.	1020-N813	Clutch	1
78.			
79.			
80.	LS7 (Z-15GQ22-B)	Limit Switch	1
81.			
82.	R	Rotate Indicate Name Plate	1

Downfeed Ass'y for Left Hand Thread Screw



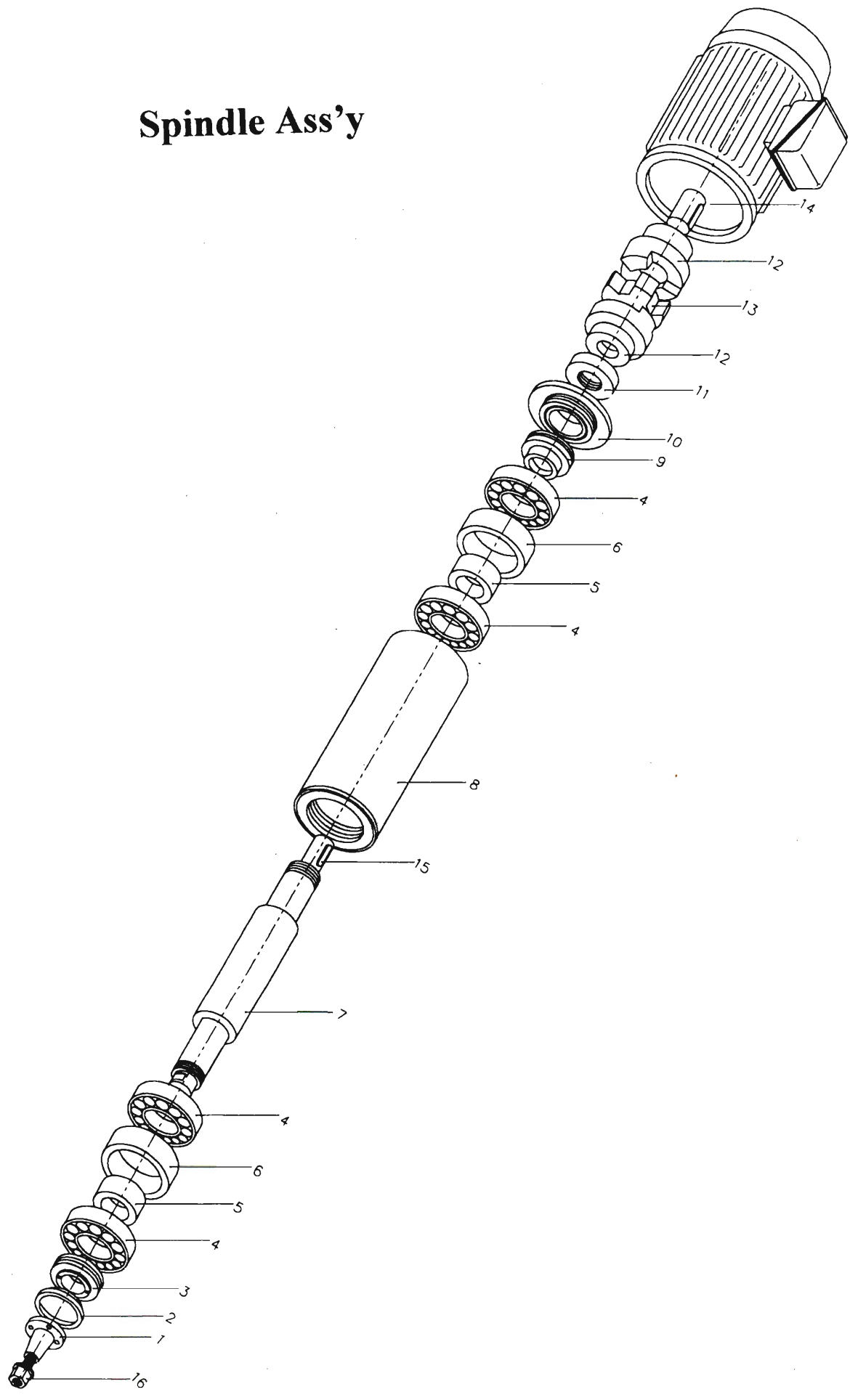
**DOWN FEED ASS'Y FOR LEFT HAND THREAD SCREW
FOR 1020/1224/1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-729	Cap Nut	1
2.	1020-728	Hand Grip	1
3.	1020-714	Hand Wheel	1
4.	1020-N801	Graduation Dial	1
	1632-N801(1632 SERIES)	Graduation Dial	1
5.	1020-N804	Collar	1
6.	1020-N803A	Graduation Dial Holder	1
7.	B6204Z	Bearing	1
8.	1020-N842	Spacer	1
9.	1020-N810	Holder	1
10.	1020-N811	Holder	1
11.	B6006Z	Bearing	1
12.	1020-N813-1	Spring	1
13.	φ 6*30L	Pin	1
14.	φ 5/16	Cap Screw	1
15.	1020-N812	Gear	1
	1632-N812(1632 SERIES)	Gear	1
16.	1020-N828	Spring	1
17.	1020-N814	Clutch	1
18.	W 1/4"*3/8"L	Set Screw	1
19.	1020-N802A	Gear Box	1
20.	B6005Z	Bearing	1
21.	1020-N845	Connect Bracket	1
22.	1020-N843	Spacer	1
23.	R-47	Snap Ring	1
24.	1020-N826	Shaft	1
25.	1020-N830	Bevel Gear	1
26.	1020-N831	Pin	1
27.	1020-N832	Plate	1
28.	1020-N833	Pre-Set Dial	1
29.	W 1/4"	Hexagonal Nut	2
30.	W 1/4"	Spring Washer	2
31.	1020-N815	Bracket	1
32.	B6300Z	Bearing	3
33.	1020-N817	Spacer	1
34.	5*5*15L	Key	1
35.	1020-N815-1	Pin	1
36.	1020-N827	Spring	1
37.	1020-N825	Transmission Claw	1
38.	E7	Snap Ring	3
39.	1020-N818	Bevel Gear (Half)	1
40.	1020-N820	Ratchet Gear	1
41.	1020-N819	Slipper	1
42.	1020-N821	Spacer	1
43.	B608ZZ	Bearing	1

**DOWN FEED ASS'Y FOR LEFT HAND THREAD SCREW
FOR 1020/1224/1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
44.	1020-N823	Pin	1
45.	1020-N822	Transmission Arm	1
46.	1020-N816	Pinion	1
	1632-N816(1632 SERIES)	Pinion	1
47.	B6202	Bearing	1
48.			
49.	W 1/4"*3"L	Socket Head Cap Screw	1
50.	B6201	Bearing	1
51.	1020-N829	Bracket	1
52.	1020-N834A	Cylinder Of Clutch	1
53.	1020-N809	Cover	2
54.	1020-N834B	Cylinder Of Feed	1
55.	1020-N807	Shaft	1
56.	W 3/16"*1/2"L	Socket Head Cap Screw	4
57.	W 3/16"*1/4"L	Set Screw	1
58.	W 3/16"*1"L	Socket Head Cap Screw	4
59.	W 1/4"*3/4"L	Socket Head Cap Screw	3
60.	W 1/4"*1 1/4"L	Socket Head Cap Screw	4
61.	W 1/4"*3/8"L	Socket Head Cap Screw	8
62.	W 1/4"	Hexagonal Nut	1
63.	1020-N833-2	Spring	1
64.	φ 4	Steel Ball	1
65.	W 1/4"*5/8"L	Round Head Screw	1
66.	5*5*40L	Key	1
67.	φ 3*30L	Pin	1
68.			1
69.	1020-N805	Spacer	1
70.	7*7*15L	Key	1
71.	W 3/16"*3/8"L	Socket Head Cap Screw	1
72.	1020-N822-1	Spring	1
73.			
74.	1020-N806	Nut	1
75.	1020-N824	Spacer	1
76.	1020-N808-1	Spacer	1
77.	1020-N813	Clutch	1
78.	1020-N829-L	Shaft Base	1
79.	1020-N815-L	Shaft Base	1
80.	LS7 (Z-15GQ22-B)	Limit Switch	1
81.	L	Rotate Indicate Name Plate	1
82.			
83.	1020-N862-L	Shaft	1
84.	1020-N861-L	Idle Wheel	1
85.	B6901	Bearing	2
86.	R24	Snap	1
87.	S-12	Snap	1

Spindle Ass'y



**SPINDLE ASSEMBLY
FOR 618/1020AH/1020AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-106	Spindle Nut	1
2.	1020-105	Spindle Cover	1
3.	1020-107	Spindle Cover Bush	1
4.	B7206 CP4	Angular Contact Bearing	4
5.	1020-108	Spacer	2
6.	1020-109	Spacer	2
7.	1020-144	Spindle Shaft	1
	N1224-144	Spindle Shaft	1
8.	1020-103	Spindle Housing	1
	N1224-103	Spindle Housing	1
9.	1020-110	Spindle Cover Bush	1
10.	1020-128	Spindle Cover	1
11.	1020-127	Spindle Nut	1
12.	1020-111	Coupling	2
13.	1020-113	Rubber Coupling	1
14.	2HP*2P	Spindle Motor	1
15.	7*7*25	Key	1
16.	1020-149	Fix Nut	1

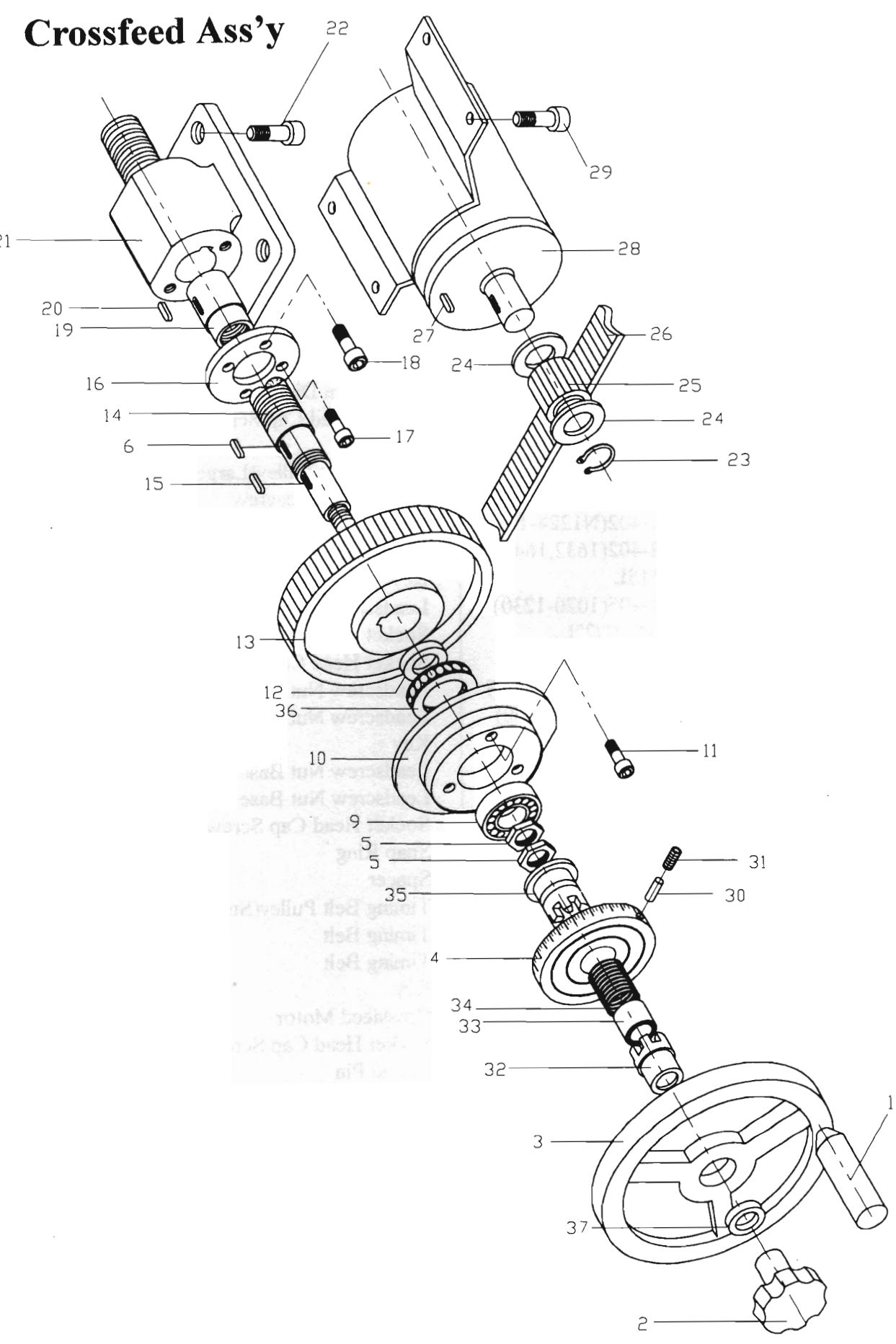
**SPINDLE ASSEMBLY
FOR 1224AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1224-106	Spindle Nut	1
2.	1224-105	Spindle Cover	1
3.	1224-107	Spindle Cover Bush	1
4.	B7208 CP4	Angular Contact Bearing	4
5.	1224-108	Spacer	2
6.	1224-109	Spacer	2
7.	1224-104	Spindle Shaft	1
8.	1224-103	Spindle Housing	1
9.	1224-110	Spindle Cover Bush	1
10.	1224-128	Spindle Cover	1
11.	1224-127	Spindle Nut	1
12.	1224-111	Coupling	2
13.	1224-113	Rubber Coupling	1
14.	5HP*4P	Spindle Motor	1
15.	8*8*35	Key	1
16.	1224-120A	Fix Nut	1

**SPINDLE ASSEMBLY
FOR 1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1632-112	Spindle Nut	1
2.	1632-105	Spindle Cover	1
3.	1632-106	Spindle Cover Bush	1
4.	B7209 CP4	Angular Contact Bearing	4
5.	1632-109	Spacer	2
6.	1632-110	Spacer	2
7.	1632-104A	Spindle Shaft	1
8.	1632-103	Spindle Housing	1
9.	1632-107	Spindle Cover Bush	1
10.	1632-108	Spindle Cover	1
11.	1632-115	Spindle Nut	1
12.	1632-111	Coupling	1
13.	1632-113	Rubber Coupling	1
14.	7 1/2HP*4P	Spindle Motor	2
15.	10*10*35	Key	1
16.	1632-120	Fix Nut	1
			1
			1

Crossfeed Ass'y

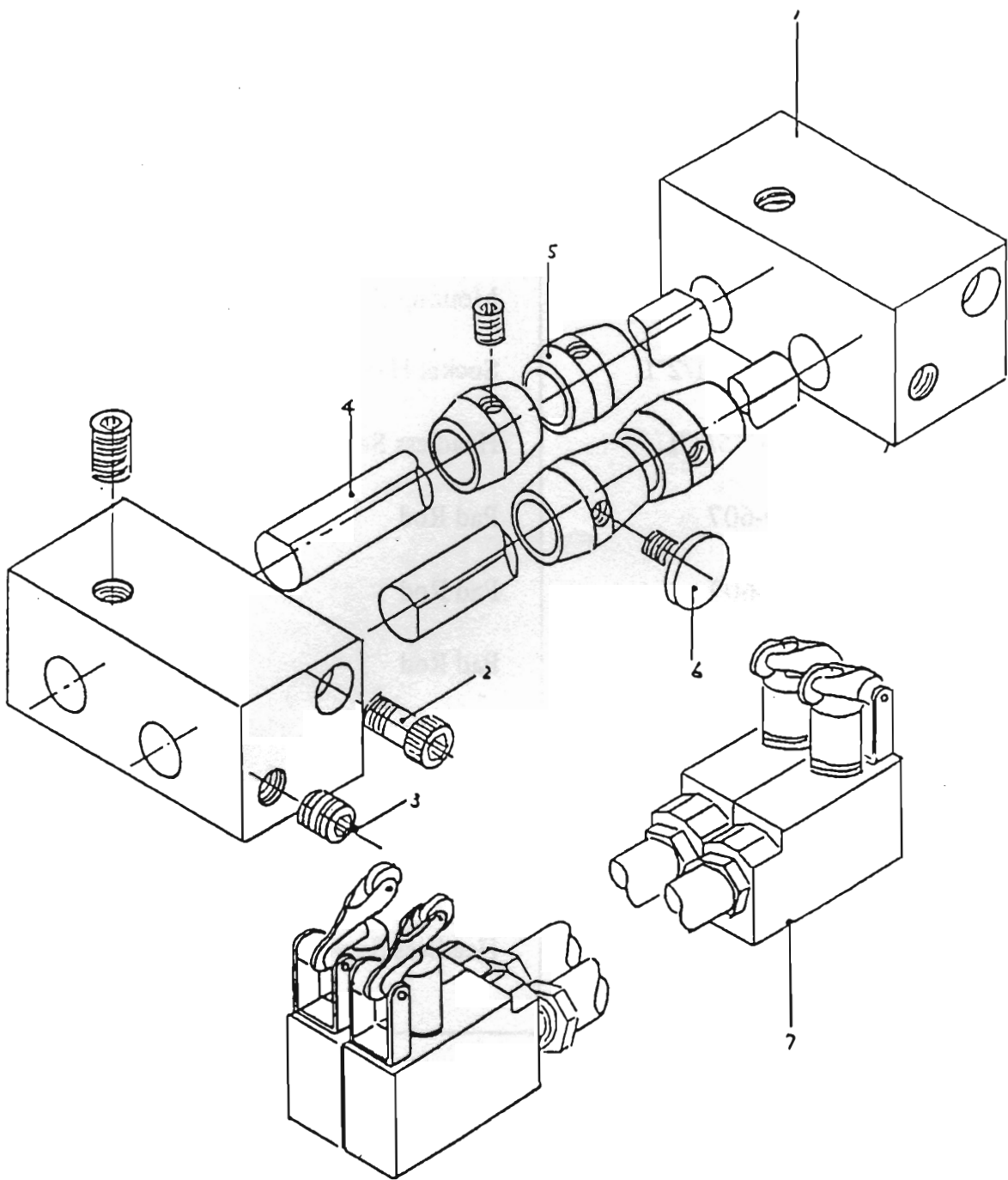


**CROSSFEED ASSEMBLY
FOR 1020/1224/1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-728	Grip	1
2.	1020-729	Cap Nut	1
3.	1020-714	Handwheel	1
4.	1020-406B	Graduation Dial	1
5.	1020-410	Hexagonal Nut	2
6.	5*5*15L	Key	1
7.			
8.			
9.	B5204ZZ	Bearing	1
10.	1020-407	Graduation Dial Holder	1
11.	W1/4"*1"L	Socket Head Cap Screw	3
12.	1020-638	Spacer	1
13.	1020-601	Timing Belt Pulley(Large)	1
14.	1020-402	Crossfeed Leadscrew	1
	1224-402(N1224-1230)	Crossfeed Leadscrew	1
	1632-402(1632,1640)	Crossfeed Leadscrew	1
15.	5*5*15L	Key	1
16.	1020-405(1020-1230)	Leadscrew Backlash Adjuster	1
17.	W5/16"*1/2"L	Socket Head Cap Screw	2
18.	W5/16"*1/2"L	Socket Head Cap Screw	2
19.	1020-404 (1020-1230)	Leadscrew Nut	1
	1632-404(1632,1640)	Leadscrew Nut	1
20.	5*5*20L	Key	1
21.	1020-403(1020-1230)	Leadscrew Nut Base	4
	1632-403(1632,1640)	Leadscrew Nut Base	1
22.	W3/8"*2"L	Socket Head Cap Screw	2
23.	S-11	Snap Ring	1
24.	1020-604	Spacer	1
25.	1020-602	Timing Belt Pulley(Small)	1
26.	187L075(1020-1230)	Timing Belt	1
	225L075(1632,1640)	Timing Belt	1
27.	4*4*20L	Key	1
28.	1/5HP*6P	Crossfeed Motor	1
29.	W1/4"*3/4"L	Socket Head Cap Screw	4
30.	φ 5*10L	Round Pin	1
31.	W1/4"*3/4"L	Ajusting screw	1
32.	1224-422	Clutch B	1
33.	TA1715	Needle Bearing	1
34.	1224-425	Spring	1
35.	1224-424	Clutch A	1
36.	B51104	Bearing	1
37.	1020-425	Washer	1

CROSSFEED CONTROL LIMIT SWITCH ASS'Y

(102CAHD, 1224AHD, 1632AHD)



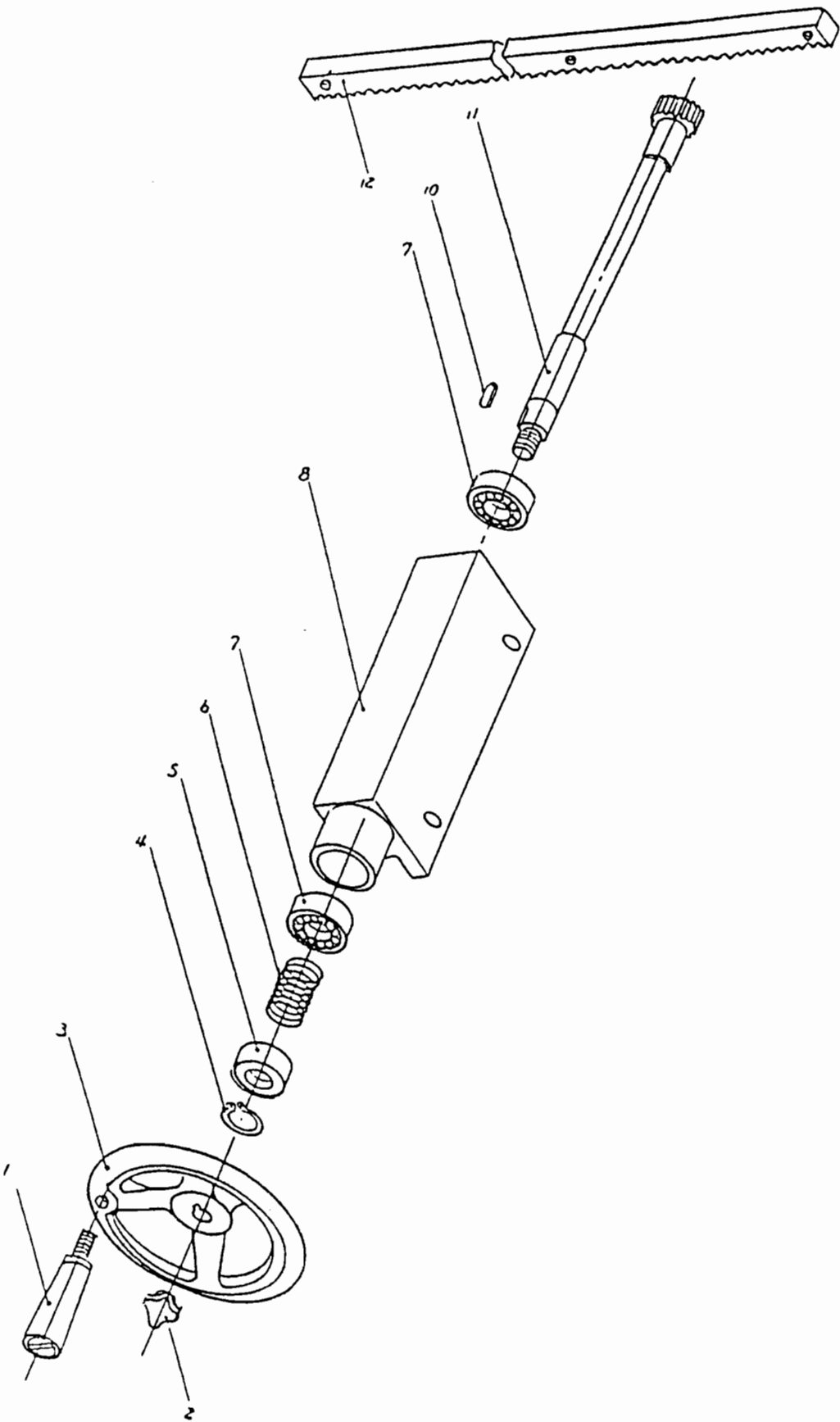
CROSSFEED CONTROL LIMIT SWITCH ASS'Y

(1020AHD, 1224AHD, 1632AHD)

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-609-1	Mouting Block	2
2.	W1/4"*2 1/2"L	Socket Head Cap Screw	2
3.	W1/4"*5/8"L	Headless Socket Screw	4
4.	1020-607	Pad Rod	2
	1224-607	Pad Rod	2
	1632-607	Pad Rod	2
5.	1020-608	Dog	4
6.	1020-N808	Set Screw	2
7.	ZE-NA2-2	Limit Switch	4
8.	W1/4"*1/4"L	Headless Socket Screw	2

LONGITUDINAL HAND FEED ASS'Y

(1020AHD, 1224AHD, 1632AHD)



LONGITUDINAL HAND FEED ASS'Y

(1020AHD)

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-728	Grip	1
2.	1020-729	Cap Nut	1
3.	1020-714	Handwheel	1
4.	S-17	Snap Ring	1
5.	1020-623	Bush	1
6.	1020-626	Spring	1
7.	# 6003ZZ	Ball Bearing	2
8.	1020-621	Frame	1
9.	R-35	Snap Ring	1
10.	5*5*15L	Key	1
11.	1020-622	Pinion Shaft	1
12.	1020-310	Gear Rack	1

LONGITUDINAL HAND FEED ASS'Y

(1224AHD)

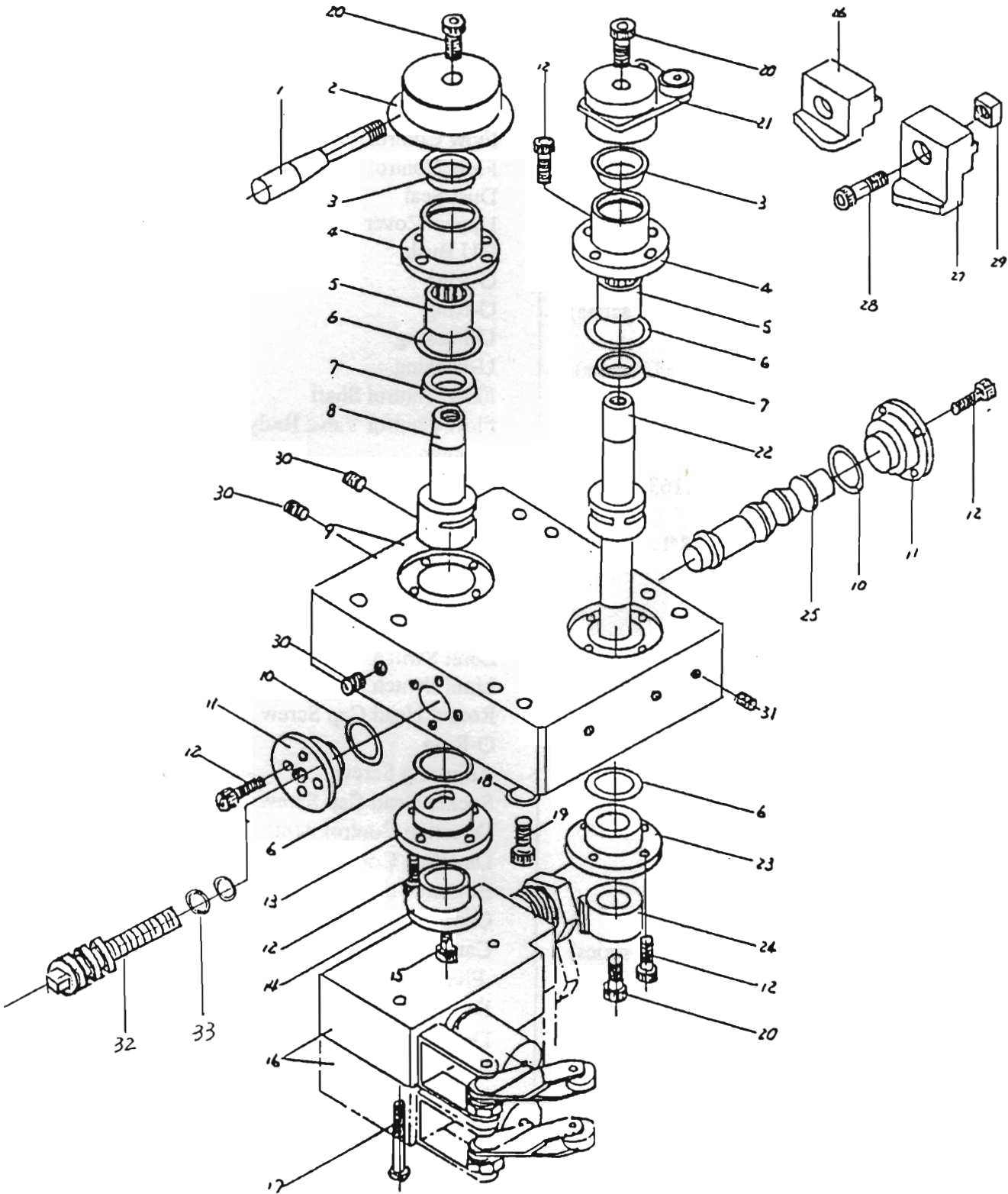
Index No.	Parts No.	Parts Name	Q'ty
1.	1020-728	Grip	1
2.	1020-729	Cap Nut	1
3.	1020-714	Handwheel	1
4.	S-17	Snap Ring	1
5.	1020-623	Bush	1
6.	1020-626	Spring	1
7.	# 6003ZZ	Ball Bearing	2
8.	1224-621	Frame	1
9.	R-35	Snap Ring	1
10.	5*5*15L	Key	1
11.	1224-622	Pinion Shaft	1
12.	1224-310	Gear Rack	1
	1230-310	Gear Rack	1

**LONGITUDIANL HAND FEED ASSEMBLY
FOR 1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-728	Grip	1
2.	1020-729	Cap Nut	1
3.	1020-714	Handwheel	1
4.	S-17	Snap Ring	1
5.	1020-623	Bush	1
6.	1020-626	Spring	1
7.	# 6003ZZ	Ball Bearing	2
8.	1632-621	Frame	1
9.	R-35	Snap Ring	1
10.	5*5*15L	Key	1
11.	1632-622	Pinion Shaft	1
12.	1632-310	Gear Rack	1

VALVE ASS'Y

(1020AHD, 1224AHD, 1632AHD)



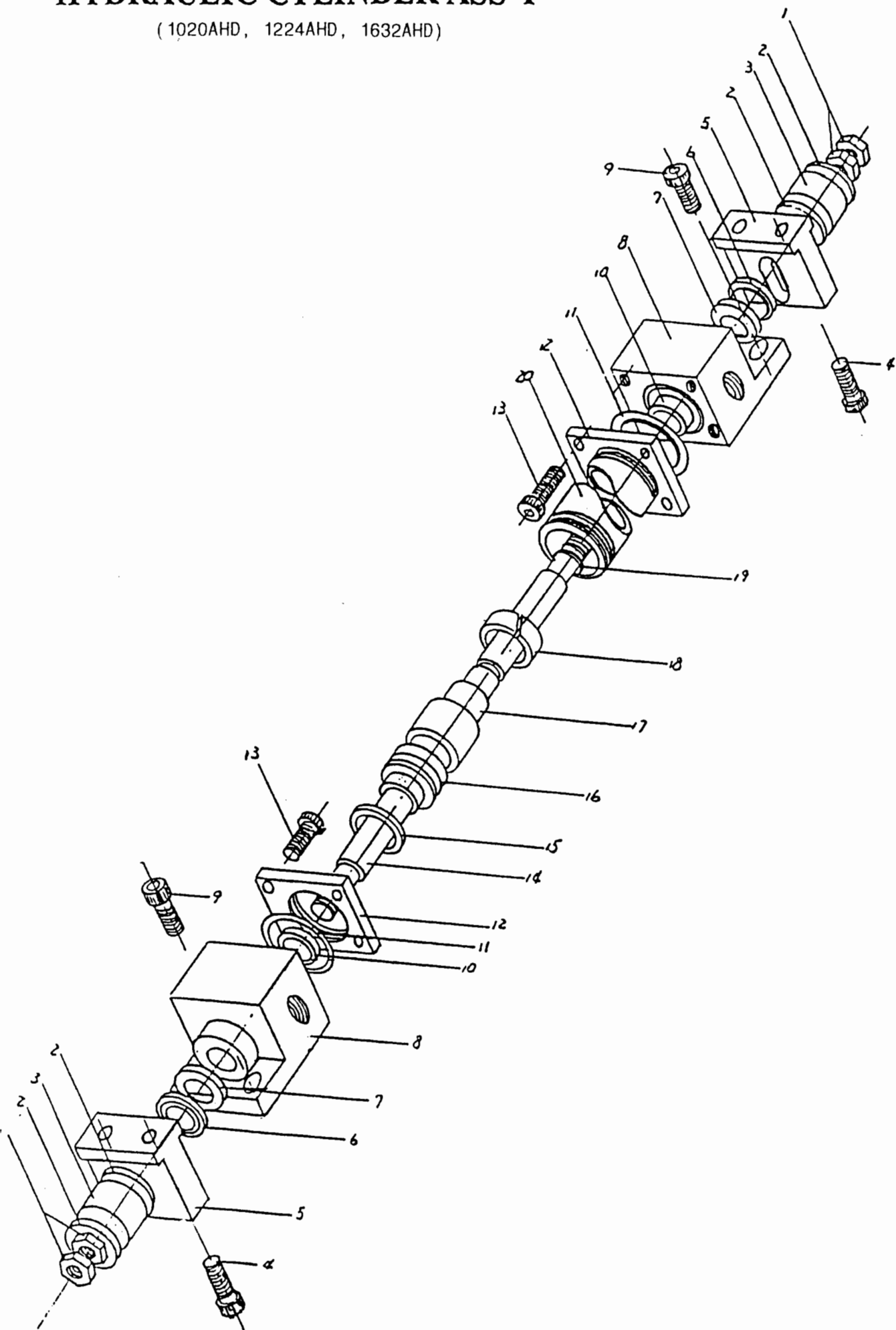
VALVE ASS'Y

(1020AHD, 1224AHD, 1632AHD)

Index No.	Parts No.	Parts Name	Qty
1.	S2334	Flow Control Lever	1
2.	S2333	Flow Control Knob	1
3.	DH14*24*6	Dust Seal	2
4.	S2615	Upper Cover	2
5.	CB1512	DU Bush	2
6.	28.25*2.62	O-Ring	4
	26.7*2.62 (1632 series)	O-Ring	4
7.	UN15	U-Packing	3
	VP15238 (1632 series)	U-Packing	3
8.	S2612	Flow Control Shaft	1
9.	S2611	Flow Control Valve Body	1
10.	P21	O-Ring	2
	P25(1224&1632 series)	O-Ring	2
11.	S2619	Side Cover	1
12.	W3/16"*5/8"L	Socket Head Cap Screw	24
13.	S2614	Bottom Cover	1
14.	S2332	Limit Switch Fixed Seat	1
15.	W5/16"*1"L	Socket Head Cap Screw	2
16.	ZE-NA2-2	Limit Switch	1
16.	Z-15GW2277B	Limit Switch	1
17.	M4*2 1/2"L	Round Head Cap Screw	2
18.	P8	O-Ring	4
19.	S2618	Adjusting Screw	1
20.	W1/4"*3/4"L	Socket Head Cap Screw	3
21.	S2335	Direction Control Arm	1
22.	S2616	Direction Control Shaft	1
23.	S2617	Bottom Cover	1
24.	1020-605	Cam	1
	1632-605 (1632 series)	Cam	1
25.	S2620	Pivot Piston	1
26.	1020-617	Dog	1
27.	1020-618	Dog	1
28.	W5/16"*1/4"L	Socket Head Cap Screw	2
29.	1020-312	Nut	4
30.	W1/8PT	Set Screw	4
31.	W1/4"*5/16"L	Set Screw	5
32.	W3/8"*30L*P24T	Square head Adjusting Screw	2
33.	P8	O-Ring	2&2

HYDRAULIC CYLINDER ASS'Y

(1020AHD, 1224AHD, 1632AHD)



HYDRAULIC CYLINDER ASS'Y

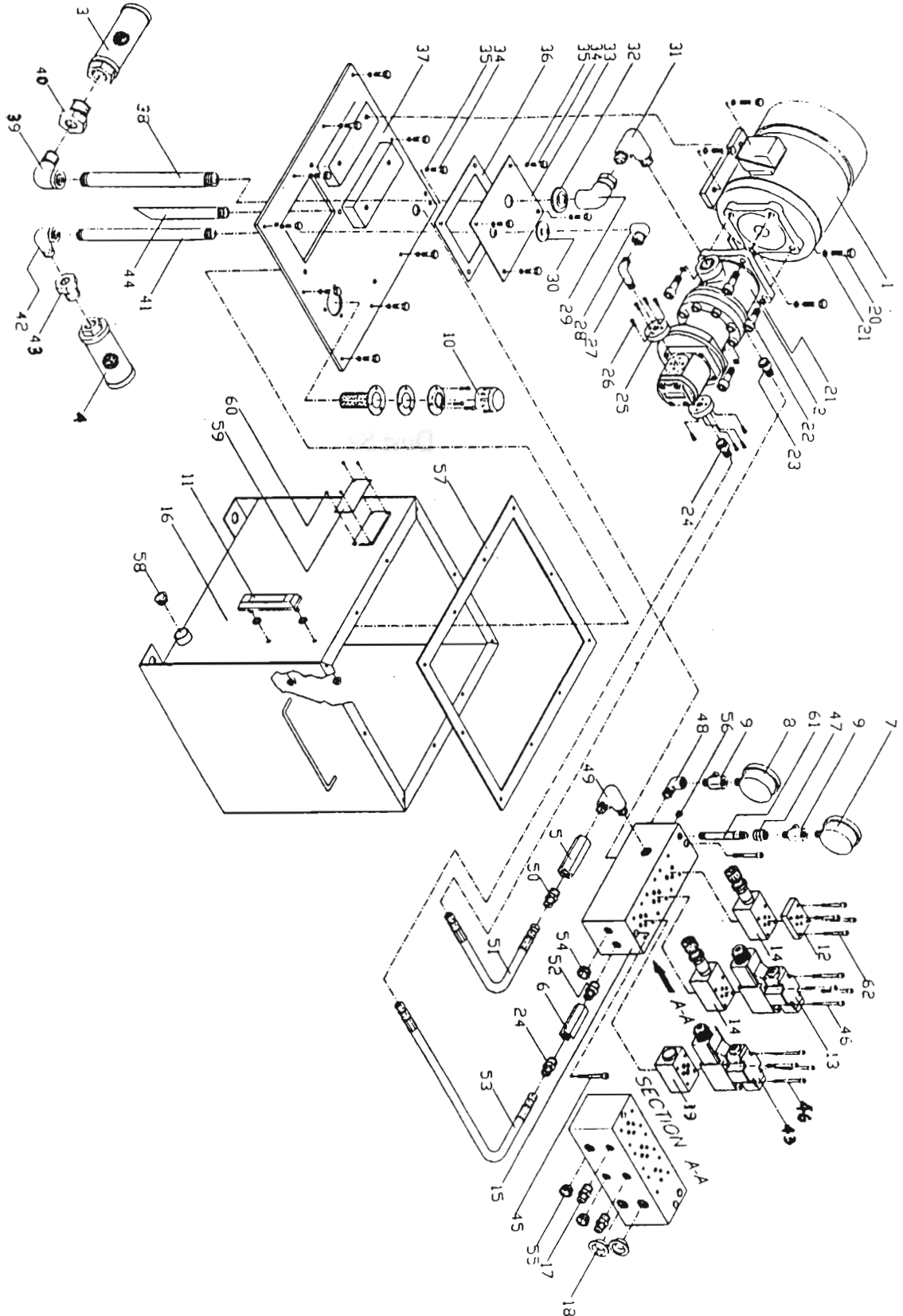
(1020AHD, 1224AHD)

Index No.	Parts No.	Parts Name	Q'ty
1.	M10*P1.25	Hexagonal Nut	4
2.	1020-629	Washer	4
3.	1020-628	Rubber pad	2
4.	W3/8"*1 3/4"L	Socket Head Cap Screw	4
5.	1020-619	Drawing Seat	2
6.	LBH 20*28*4.5*6	Dust Seal	2
7.	USH 20*28*5	U-Packing	2
8.	1020-A4-06	End Cover	2
9.	W5/16"*3/4"L	Socket Head Cap Screw	4
10.	MB 2012	Du Bush	2
11.	G 30	O-Ring	2
12.	1020-A4-08	Fixed Plate	2
13.	W1/4"*1"L	Socket Head Cap Screw	4
14.	1020-A3-01	Piston Rod	1
15.	P24	O-Ring	1
16.	1020-A4-09	Piston A	1
17.	1020-A4-09-1	Piston B	1
18.	$\varphi 25 * \varphi 30 * 9.7W$	Slide Ring	1
19.	P16	O-Ring	1
20.	1020-A3-02	Cylinder	1

**HYDRAULIC CYLINDER ASSEMBLY
FOR 1632AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	M12*P1.25	Hexagonal Nut	4
2.	1632-629	Washer	4
3.	1632-628	Rubber pad	2
4.	W3/8"*1 3/4"L	Socket Head Cap Screw	4
5.	1632-619	Drawing Seat	2
6.	LBH 25*33*4.5*6	Dust Seal	2
7.	USH 25*33*5	U-Packing	2
8.	1632-A4-06	End Cover	2
9.	W5/16"*3/4"L	Socket Head Cap Screw	4
10.	1632-A3-03	Du Bush	2
11.	G 35	O-Ring	2
12.	1632-A4-08	Fixed Plate	2
13.	W1/4"*1"L	Socket Head Cap Screw	4
14.	1632-A3-01	Piston Rod	1
15.	P34	O-Ring	1
16.	1632-A4-09	Piston A	1
17.	1632-A4-09-1	Piston B	1
18.	φ 35* φ 40*9.7W	Slide Ring	1
19.	P21	O-Ring	1
20.	1632-A3-02	Cylinder	1

HYDRAULIC PUMP UNIT ASS'Y (1020AHD,1224AHD)



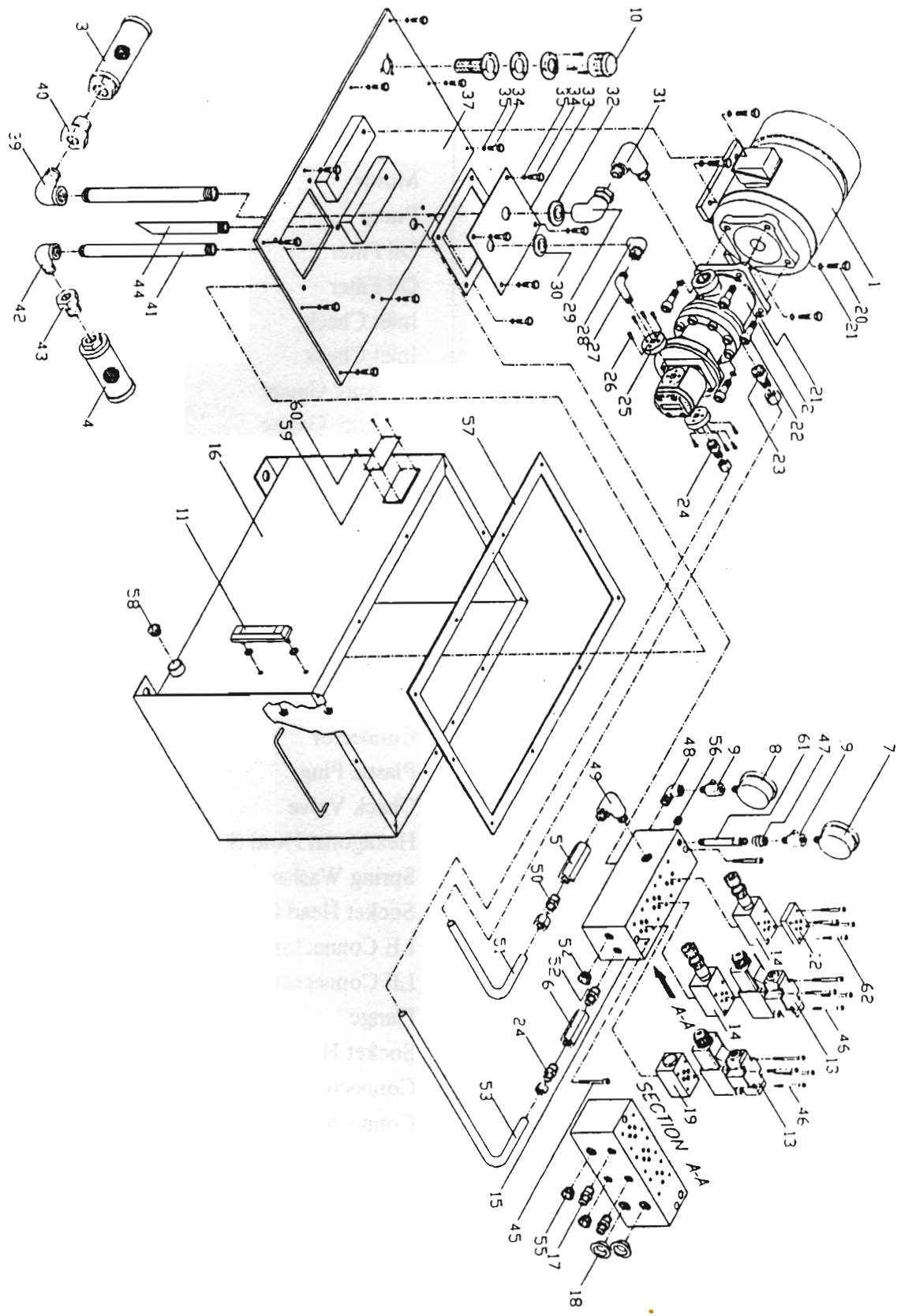
**HYDRAULIC PUMP UNIT ASSEMBLY
FOR 1020/1224AHD**

Index No.	Parts No.	Parts Name	Q'ty
1.	2HP*6P	Motor	1
2.	VPNCG-F12/4,3-30	Pump	1
	VPNCG-F17/4,3-30	Pump(1224,1230 Series)	1
3.	SS-1-100	Oil Filter	1
4.	PS-06	Oil Filter	1
5.	CI-T04-05	Check Valve	1
6.	CI-T03-05	Check Valve	1
7.	2 1/2"*70KG	Pressure Gauge	1
8.	2 1/2"*35KG	Pressure Gauge	1
9.	1/4"PT	Gauge Cock	2
10.	AB-1163	Cover Of Hydraulic Oil Filler	1
11.	KS-5	Oil Level Indicator	1
12.	M02-P-A	Cover	1
13.	SWH-G02-C6B-A110-10	Solenoid Valve	2
14.	MRF-02P-0-K	Modular Relief Valve	2
15.	EM-165A	Combination border	1
16.	70T(560*500*460)	Hydraulic Tank	1
17.	1/4"PT*1/4PS	Connector	3
18.	3/8"	Plastic Plug	2
19.	MPC-02A-30	Check Valve	1
20.	M10*30L	Hexagonal Head Screw	4
21.	SWM10	Spring Washer	8
22.	M10*30L	Socket Head Cap Screw	4
23.	3/4"PT*3/8"PS	Connector	1
24.	3/8"PT*1/4"PS	Connector	2
25.	TFP4.3	Flange	2
26.	M5*20L	Socket Head Cap Screw	8
27.	3/8"PT*1/2"PS	Connector (90° Elbow)	1
28.	1/2"PT*1/2"PS(Female)	Connector (90° Elbow)	1
29.	3/4"PT*1/2"PS(Female)	Connector (90° Elbow)	1
30.	ST-04	Dust Rubber	1
31.	1"PT*3/4"PS	Connector (90° Elbow)	1

**HYDRAULIC PUMP UNIT ASSEMBLY
FOR 1020/1224AHD**

Index No.	Parts No.	Parts Name	Q'ty
32.	ST-06	Dust Rubber	1
33.	CP-01	Cover	1
34.	M8*20L	Hexagonal Head Screw	14
35.	SWM8	Spring Washer	14
36.	SS-B01	Asbestos Seal	1
37.	CT-B01	Cover Of Tank	1
38.	3/4"PT*420L	Zinc-Plate Pipe	1
39.	3/4"PT(F)*3/4"PT(M)	Connector (90° Elbow)	2
40.	3/4"PT(F)*1"PT	Bushing	1
41.	1/2"PT*420L	Zinc-Plate Pipe	1
42.	1/2"PT(F)*3/4"PT(M)	Connector (90° Elbow)	2
43.	1/2"PT(F)*3/4"PT(M)	Bushing	1
44.	1/2"PT*210L	Zinc-Plate Pipe	1
45.	M6*65L	Socket Head Cap Screw	2
46.	M5*85L	Socket Head Cap Screw	8
47.	1/4"PT*1/4"PT	Socket	1
48.	1/4"PT(F)*1/4PT(M)	Connector (90° Elbow)	1
49.	1/2"PT*1/2"PT	Connector (90° Elbow)	1
50.	1/2"PT*3/8"PS	Connector	1
51.	3/8"PS*3/8"PS*290L	High Pressure Tube	1
52.	3/8"PT*3/8"PT	Connector	1
53.	1/4"PS*1/4"PS*400L	High Pressure Tube	1
54.	3/8"PT	PT Plug	1
55.	1/4"PT	PT Plug	2
56.	1/16"PT	PT Plug	2
57.	SS-B02	Asbestos Seal	1
58.	1/2"PT	PT Plug	1
59.	NP-B01	Name Plate	1
60.	φ 2*6L	Rivet	4
61.	1/4"PT*1/4"PT	Connector Of Pressure Gauge	1
62.	M5*60L	Socket Head Cap Screw	4

HYDRAULIC PUMP UNIT ASS'Y (1632AHD)



HYDRAULIC PUMP UNIT ASS'Y (1632AHD)

P. 10F2

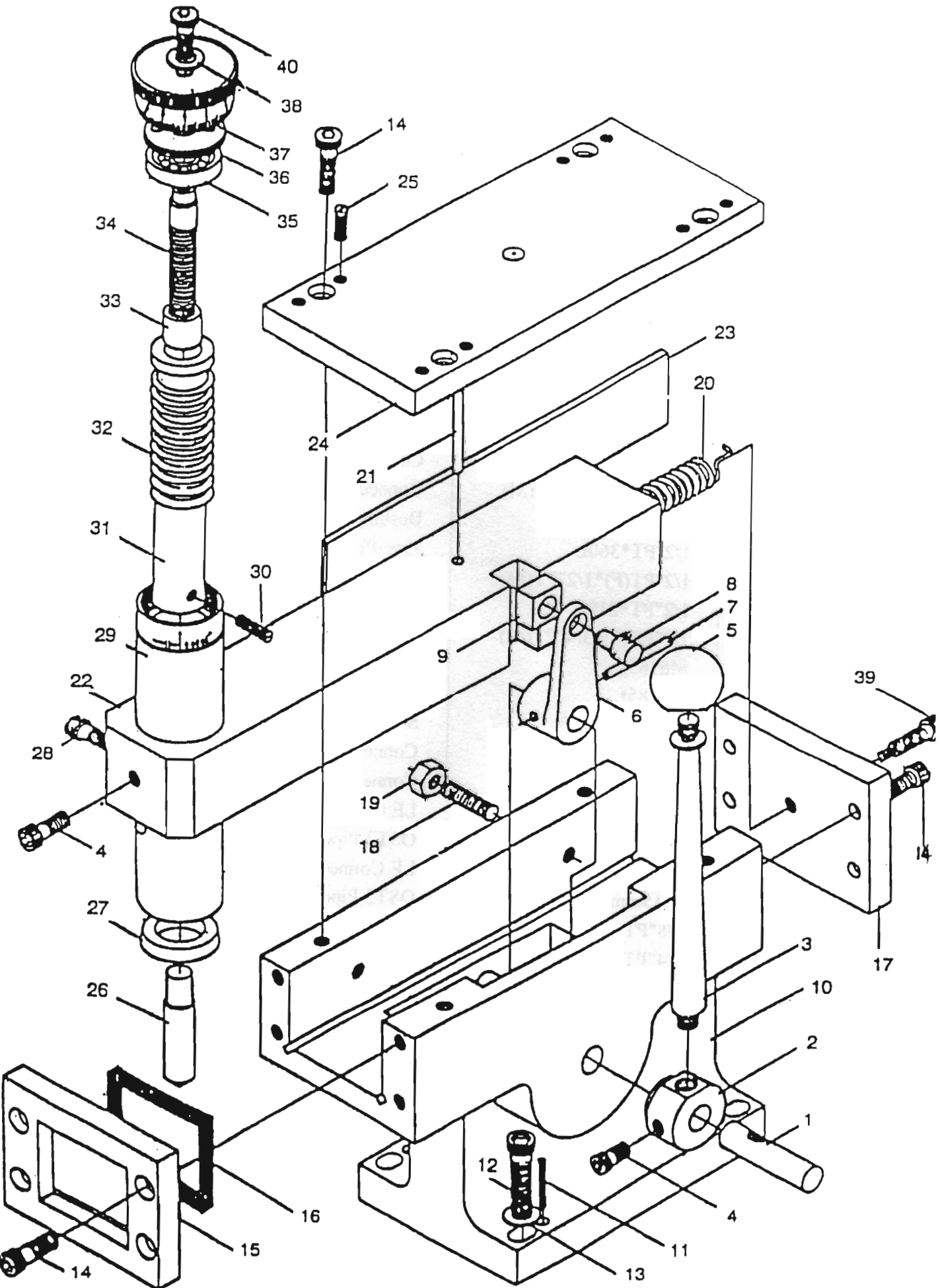
Index No.	Parts No.	Parts Name	Q'ty
1.	2HP*6P(50T)	Motor	1
2.	VPNCG-F23/4.3-30	Pump	1
3.	SS-1-100	Oil Filter	1
4.	PS-06	Oil Filter	1
5.	CI-T04-05	Inlet Check	1
6.	CI-T03-05	Inlet Check	1
7.	2 1/2"*70KG	Pressure Gauge	1
8.	2 1/2"*35KG	Pressure Gauge	1
9.	1/4"PT	Gauge Cock	2
10.	AB-1163	Cover Of Hydraulic Oil Filler	1
11.	KS-5	Oil Level Indicator	1
12.	M02 P-A	Cover	1
13.	SWH-G02-B2S-A110-10	Solenoid Valve	2
14.	MRF-02P-0-K	Modular Relief Valve	2
15.	EM-165A	Combination border	1
16.	(800*550*340)	Hydraulic Tank	1
17.	1/4"PT*1/4PS	Connector	3
18.	3/8"	Plastic Plug	2
19.	MPC-02A-30	Check Valve	1
20.	M10*30L	Hexagonal Head Screw	4
21.	SWM10	Spring Washer	8
22.	M10*30L	Socket Head Cap Screw	4
23.	3/4"PT* φ 15mm	LE Connector	1
24.	3/8"PT* φ 12mm	LE Connector	2
25.	TFP4.3	Flange	2
26.	M5*20L	Socket Head Cap Screw	8
27.	3/8"PT*1/2"PS	Connector (90° Elbow)	1
28.	1/2"PT(F)*1/2"PS(F)	Connector (90° Elbow)	1
29.	3/4"PT(F)*1/2"PS(F)	Connector (90° Elbow)	1
30.	ST-04	Dust Rubber	1
31.	1"PT*3/4"PS	Connector (90° Elbow)	1

HYDRAULIC PUMP UNIT ASS'Y (1632AHD)

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Index No.	Parts No.	Parts Name	Q'ty
32.	ST-06	Dust Rubber	1
33.	CP-D01	Cover	1
34.	M8*20L	Hexagonal Head Screw	14
35.	SWM8	Spring Washer	14
36.	SS-D01	Asbestos Seal	1
37.	CT-D01	Cover Of Tank	1
38.	3/4"PT*360L	Connector	1
39.	3/4"PT(F)*3/4"PT(M)	Connector (90° Elbow)	2
40.	3/4"PT(F)*1"PT	Bushing	1
41.	1/2"PT*360L	Zinc-Plate Pipe	1
42.	1/2"PT(F)*1/2"PT(M)	Connector (90° Elbow)	2
43.	1/2"PT*210L	Bushing	1
44.	1/2"PT(F)*3/4"PT(M)	Zinc-Plate Pipe	1
45.	M6*65L	Socket Head Cap Screw	2
46.	M5*85L	Socket Head Cap Screw	12
47.	1/4"PT*1/4"PT	Socket	1
48.	1/4"PT(F)*1/4PT(M)	Connector (90° Elbow)	1
49.	1/2"PT*1/2"PT	Connector (90° Elbow)	1
50.	1/2"PT* φ 15mm	LE Connector	1
51.	φ 15mm*2.0t	OST2 Pipe	1
52.	3/8"PT* φ 15mm	LE Connector	1
53.	φ 15mm*1.5t	OST2 Pipe	1
54.	3/8"PT	PT Plug	2
55.	1/4"PT	PT Plug	1
56.	1/16"PT	PT Plug	1
57.	SS-D02	Asbestos Seal	1
58.	1/2"PT	PT Plug	1
59.	NP-D01	Name Plate	1
60.	φ 2*6L	Rivet	4
61.	1/4"PT*1/4"PT	Connector Of Pressure Gauge	1
62.	M5*60L	Socket Head Cap Screw	4

PARALLEL DRESSER
(Optional Accessory)



PARALLEL DRESSER (Optional Accessory)

Index No.	Parts No.	Parts Name	Q'ty
1.	1020-07-037	Lever Shaft	1
2.	1020-07-038	Shaft Bushing	1
3.	1020-07-039	Lever	1
4.	W1/4"× 1/2"L	Socket Head Cap Screw	2
5.	1020-07-040	Knob	1
6.	1020-07-041	Arm	1
7.	φ 4× 20L	Pin	1
8.	1020-07-042	Pin Shaft	1
9.	1020-07-043	Slid Block	1
10.	1020-07-030	Parallel Dresser Base	1
11.	W1/4"× 3/8"L	Set Screw	2
12.	W1/4"× 1 1/2"L	Socket Head Cap Screw	4
13.	W1/4"	Washer	4
14.	W3/8"× 1/2"L	Socket Head Cap Screw	12
15.	1020-07-33	Front Cover	1
16.	1020-07-035	Oil-Immersed Pad	1
17.	1020-07-034	Rear Cover	1
18.	W1/4"× 1/2"L	Set Screw	3
19.	W1/4"	Nut	3
20.	1020-07-044	Spring	1
21.	φ 5× 24L	Pin	1
22.	1020-07-031	Slider	1
23.	1020-07-036	Gib.	1
24.	1020-07-032	Upper Cover	1
25.	W1/4"× 3/8"L	Socket Head Cap Screw	8
26.	1020-07-045	Diamond Tip	1
27.	RZ-20	U-Packing	1
28.	W3/8"× 1"L	Socket Head Cap Screw	1
29.	1020-07-046	Adapter	1
30.	1020-07-047	Set Screw	1
31.	1020-07-048	Diamond Tip Holder	1
32.	1020-07-049	Spring	1
33.	1020-07-050	Copper bush	1
34.	1020-07-051	Leadscrew	1
35.	# 6200ZZ	Bearing	1
36.	1020-07-052	Cover	1
37.	1020-07-53	Graduation dial	1
38.	1020-07-054	Washer	1
39.	1020-07-055	Spring Fix Screw	1
40.	W3/8"× 1/2"L	Socket Head Cap Screw	1