

*Barudan*

**BENT-ZN**

**BENT-ZQ**

**PARTS BOOK**

**FOR MODELS MANUFACTURED IN THE USA**



Copyright 3/01  
Barudan America, Inc.  
29500 Fountain Parkway  
Solon, Ohio 44139 USA

Part Numbers are subject to change due to continuing improvements.



**BENT-ZN-101U**  
**BENT-ZQ-201U**  
**For models manufactured in the U.S.A.**  
**HIGH SPEED AUTOMATIC EMBROIDERY**  
**MACHINE**

**Contents**

Page 1

Machine Layout

- 00 Table Frame
- 01 Head-Bed A
- 01B Head-Bed B
- 02A Thread Cut A
- 02B Thread Cut B
- 02C Thread Cut C
- 02D Thread Cut D
- 03-1 Take Up Lever (ZN)
- 03-2 Take Up Lever (ZQ)
- 04A-1 Needle Bar A (ZN)
- 04A-2 Needle Bar B (ZQ)
- 04B Needle Bar C
- 04C Needle Bar D
- 05 Jump
- 06A-1 Thread Guide A (without UTSM) (ZN)
- 06A-2 Thread Guide A (without UTSM) (ZQ)



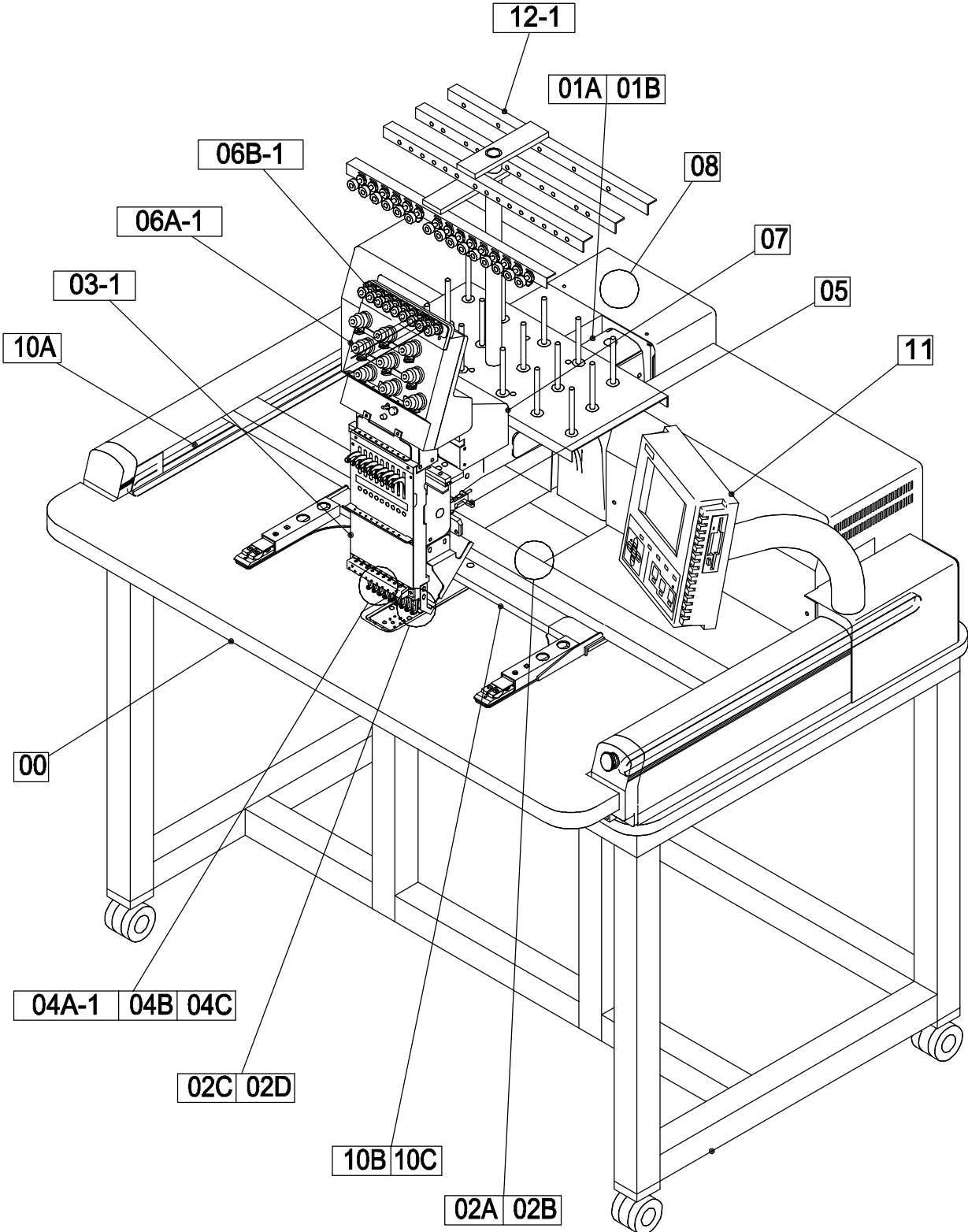
## **C o n t e n t s**

- 06B-1 Thread Guide B (UTSM) (ZN)
- 06B-2 Thread Guide B (UTSM) (ZQ)
  - 07 Color Change
  - 08 Drive
- 10A H-Direction Pantograph Drive
- 10B V-Direction Pantograph Drive
- 10C V-Hoop Arm Assembly
  - 11 Control
- 12-1 Accessories (ZN)
- 12-2 Accessories (ZQ)



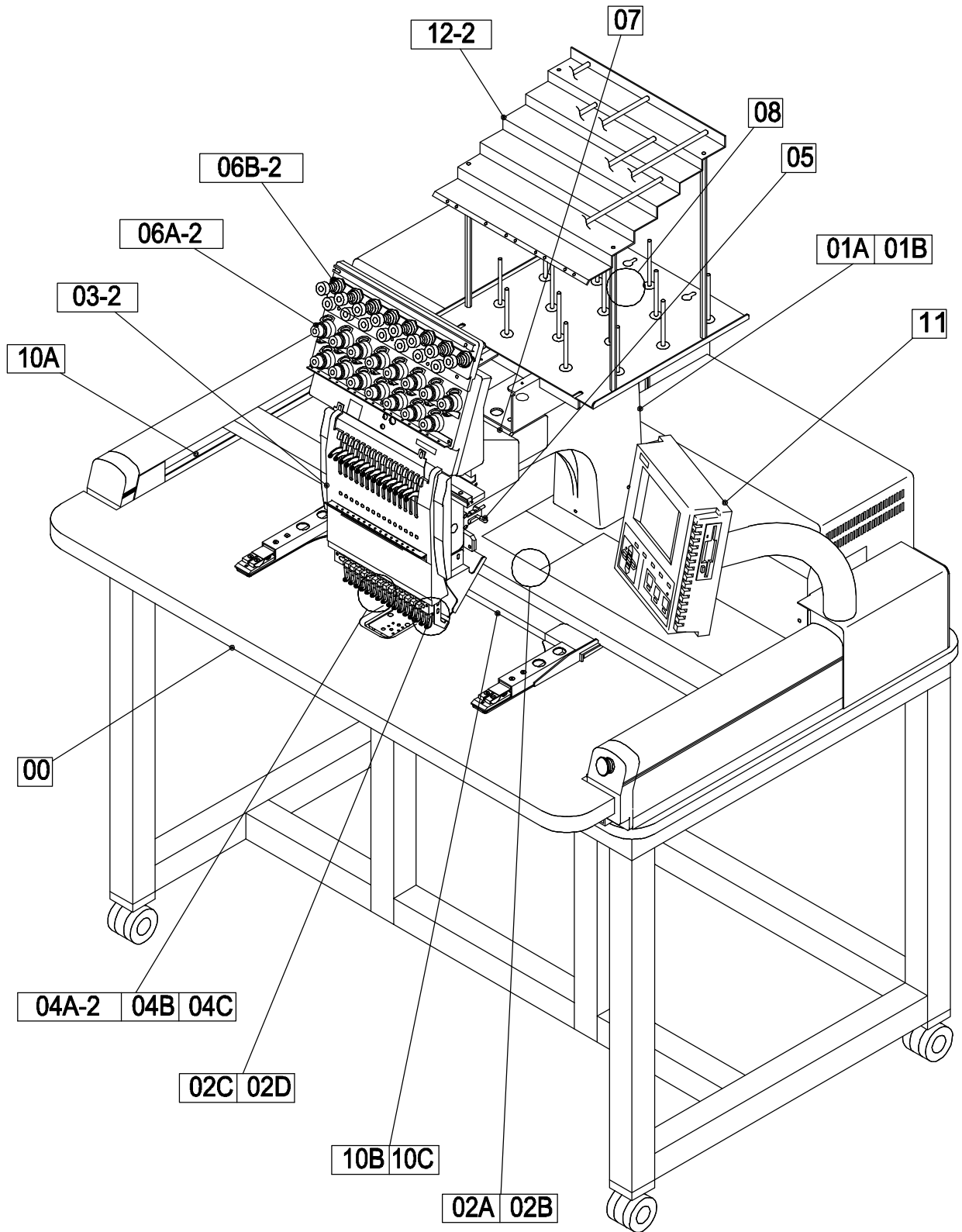


MACHINE LAYOUT (BENT-ZN)

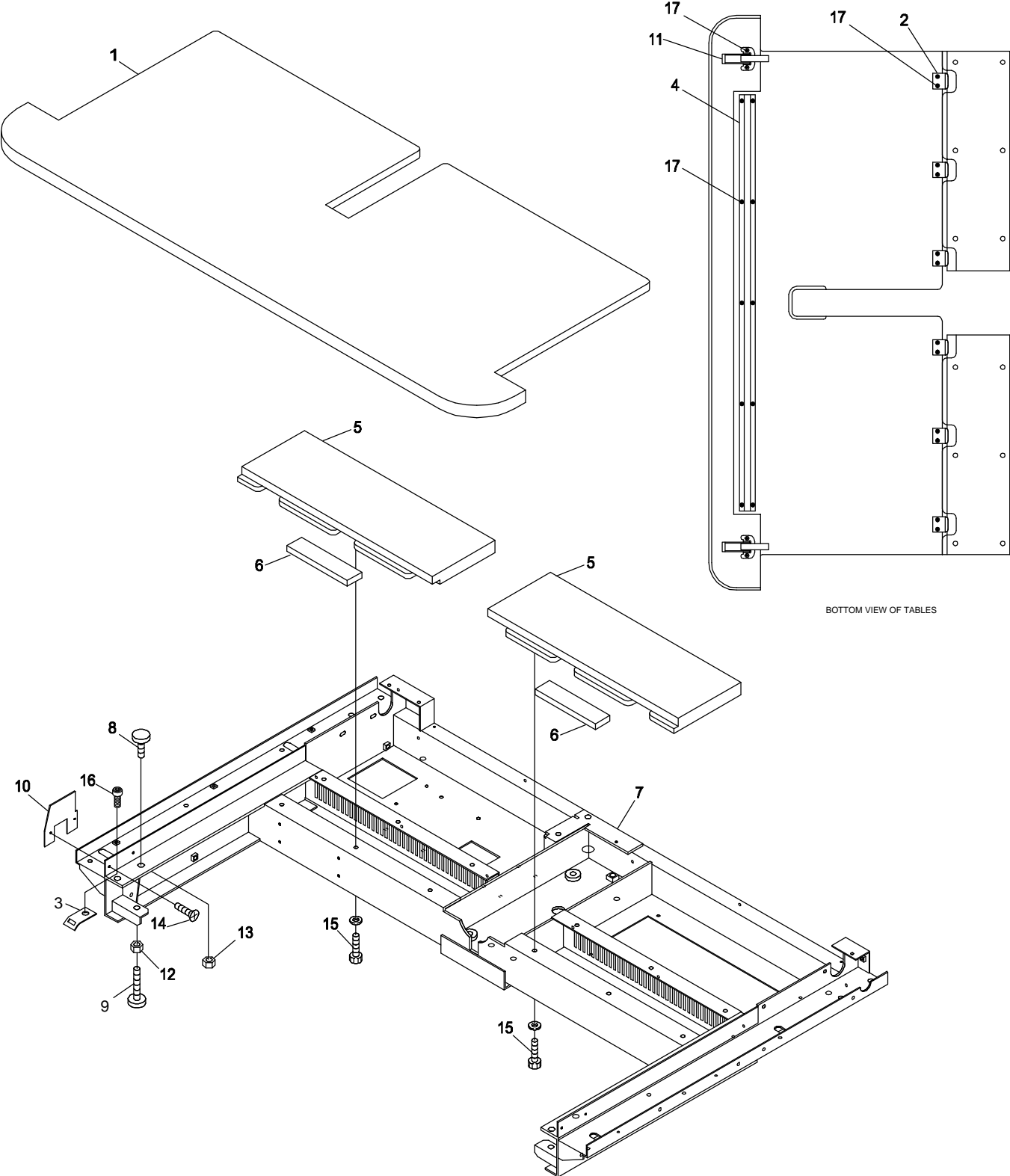




# MACHINE LAYOUT (BENT-ZQ)



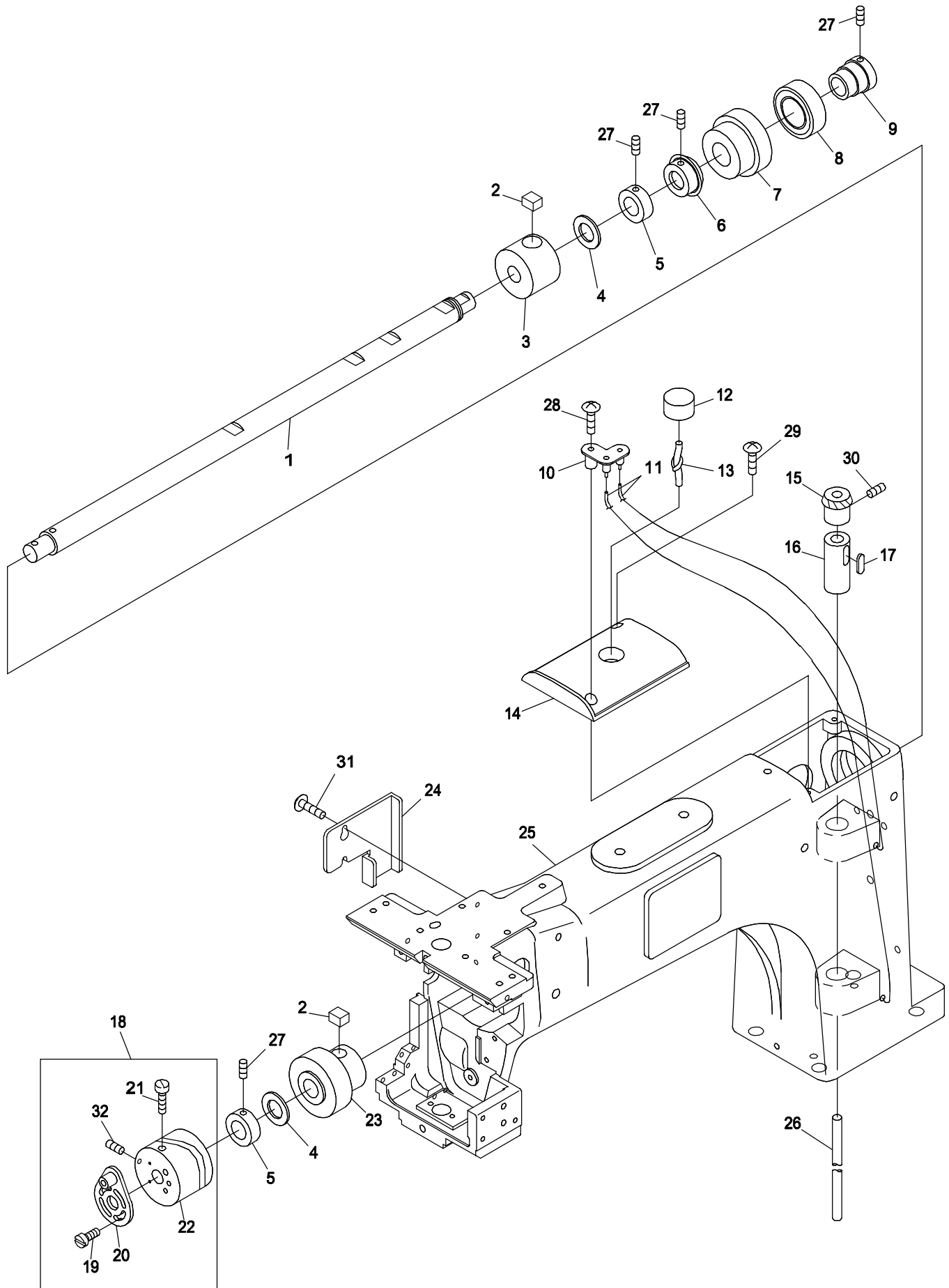
00 TABLE FRAME



BOTTOM VIEW OF TABLES



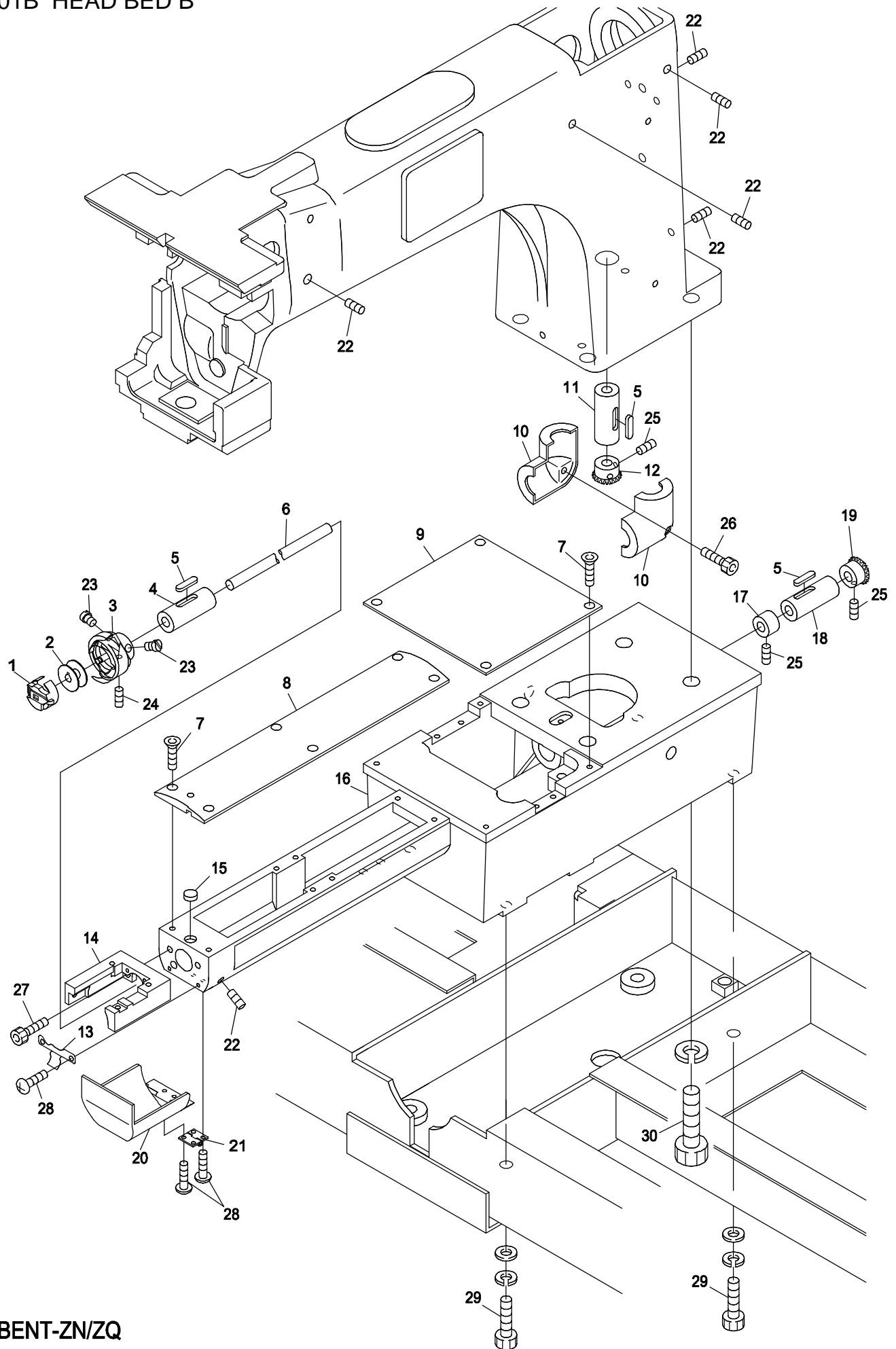
# 01A HEAD BED A



BENT-ZN/ZQ



# 01B HEAD BED B

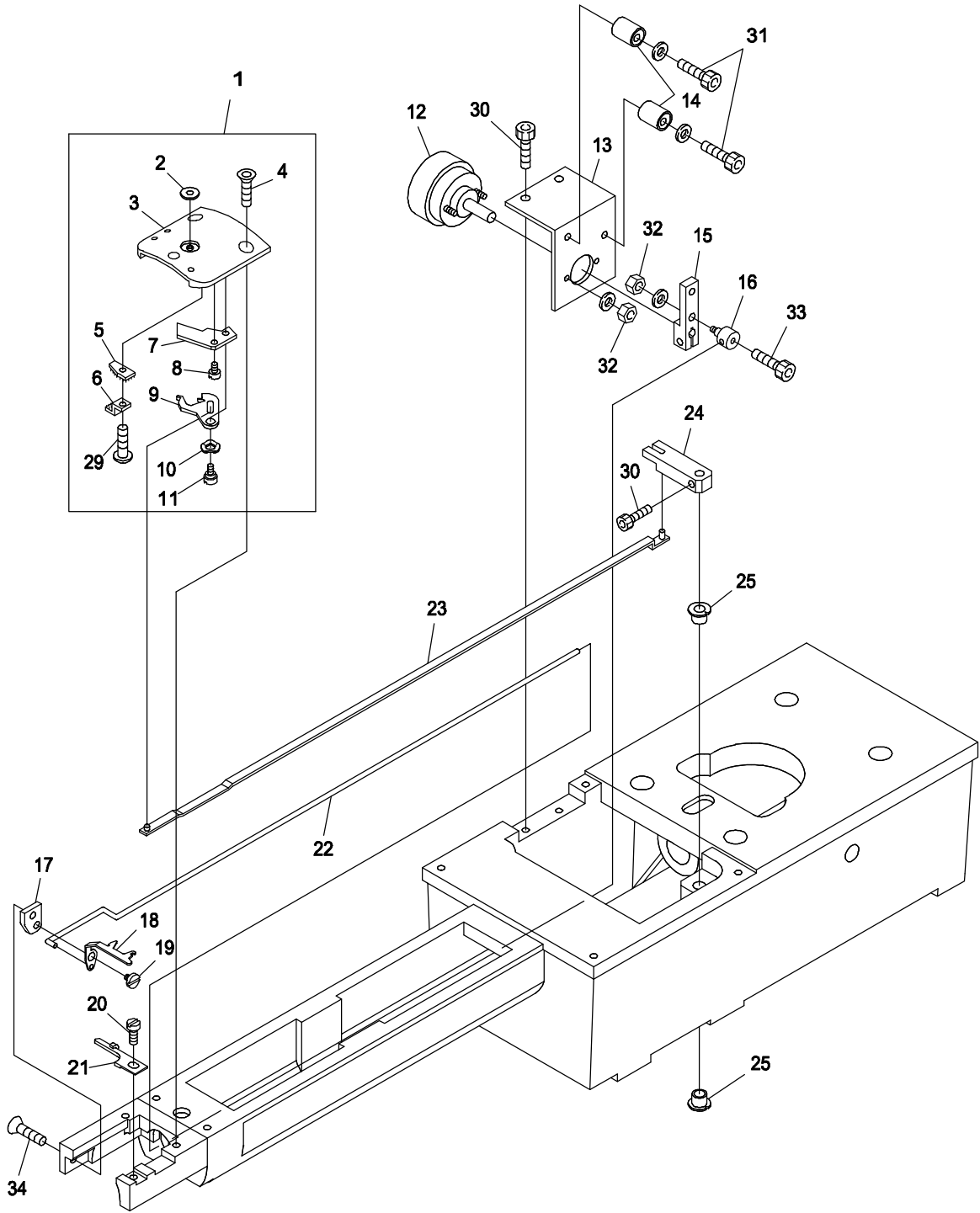


BENT-ZN/ZQ



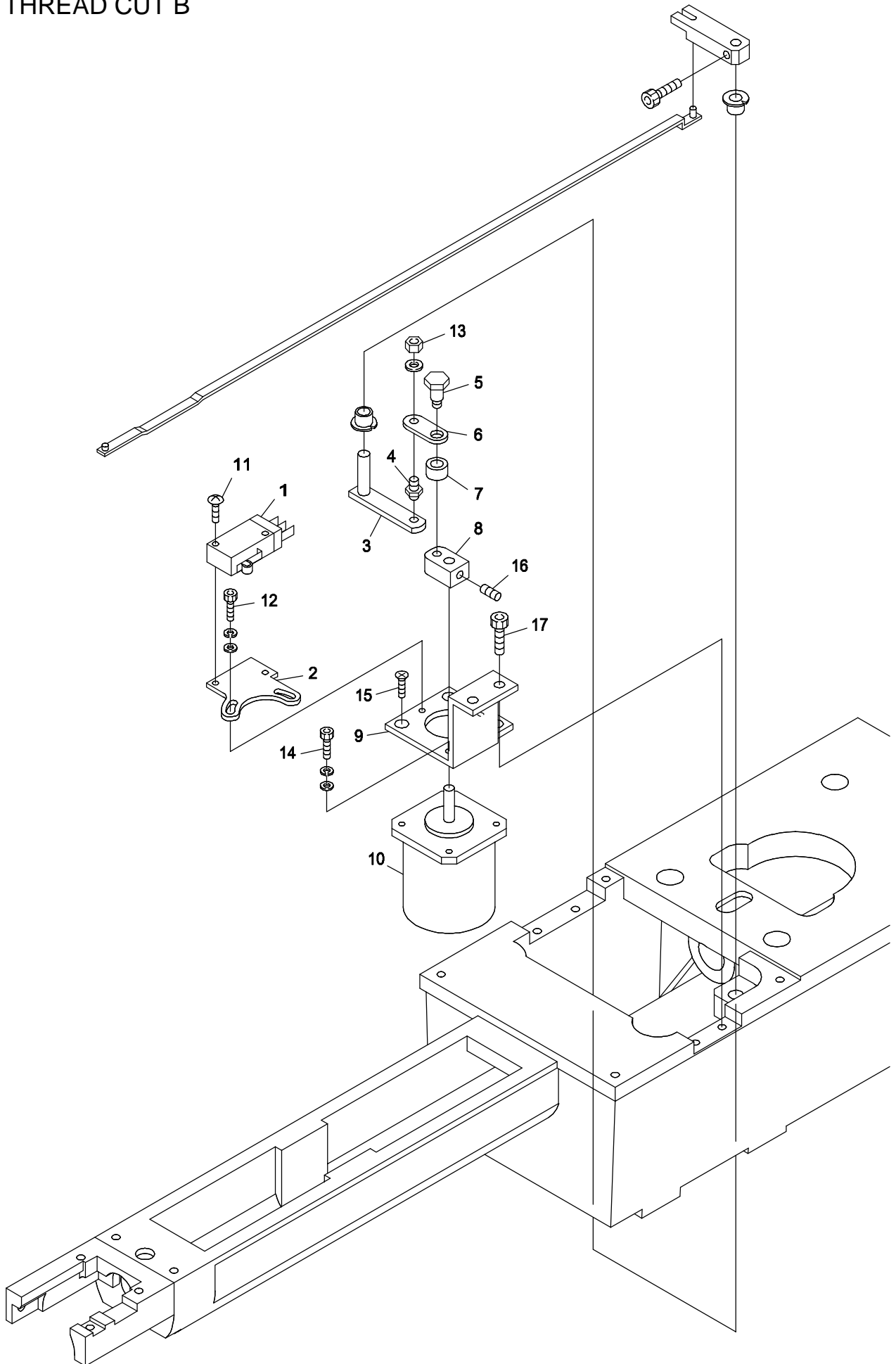


# 02A THREAD CUT A





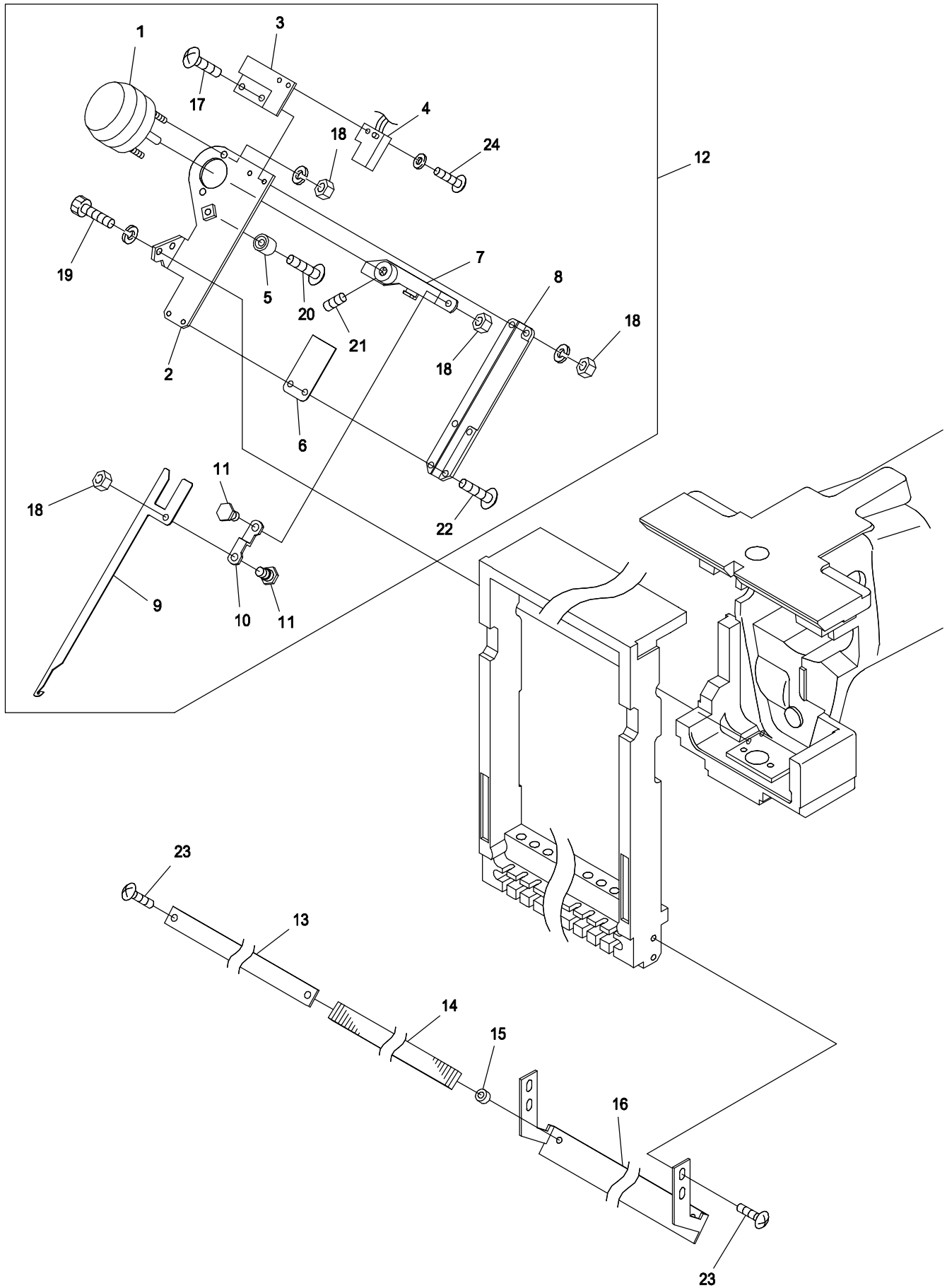
02B THREAD CUT B



BENT-ZN/ZQ

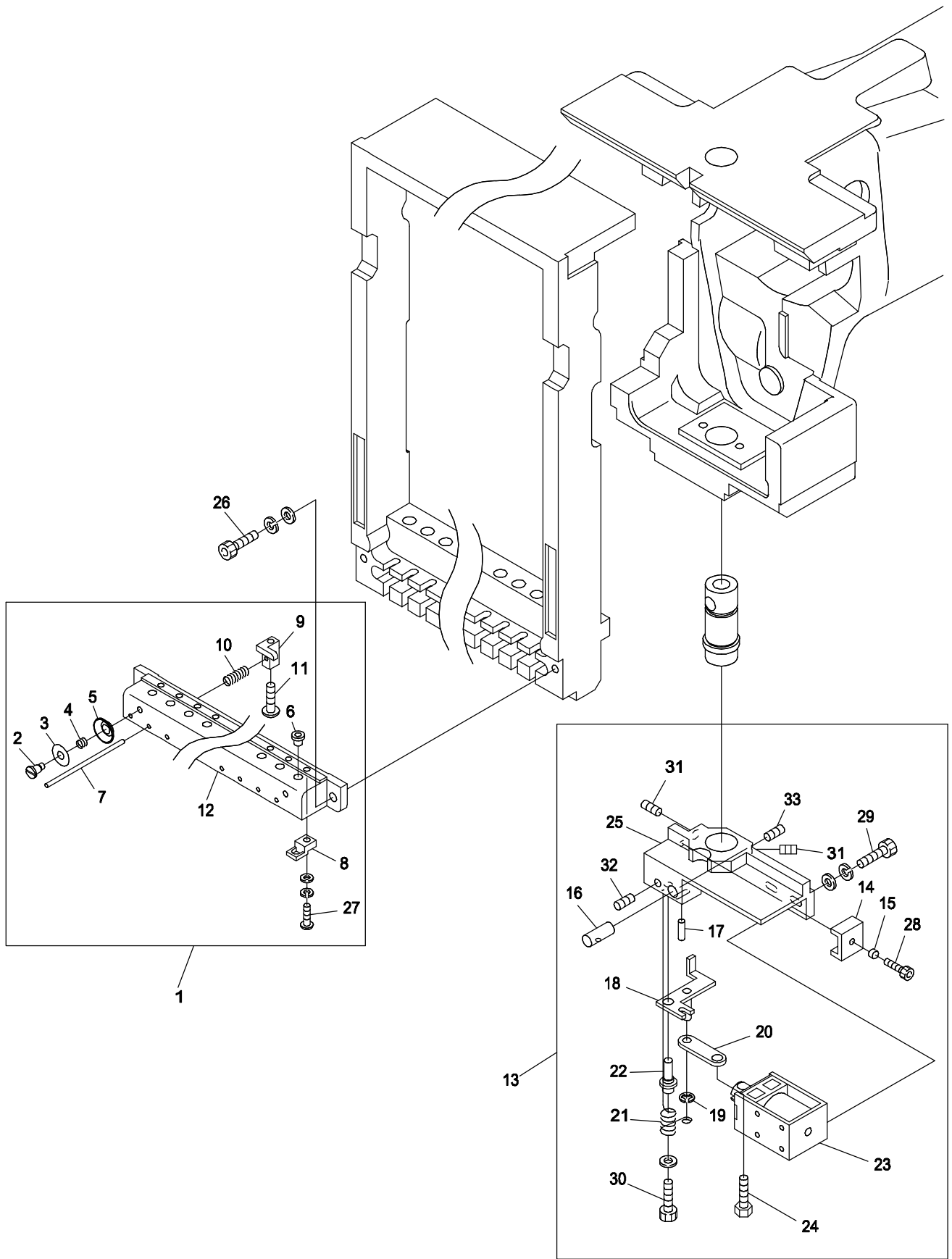


02C THREAD CUT C





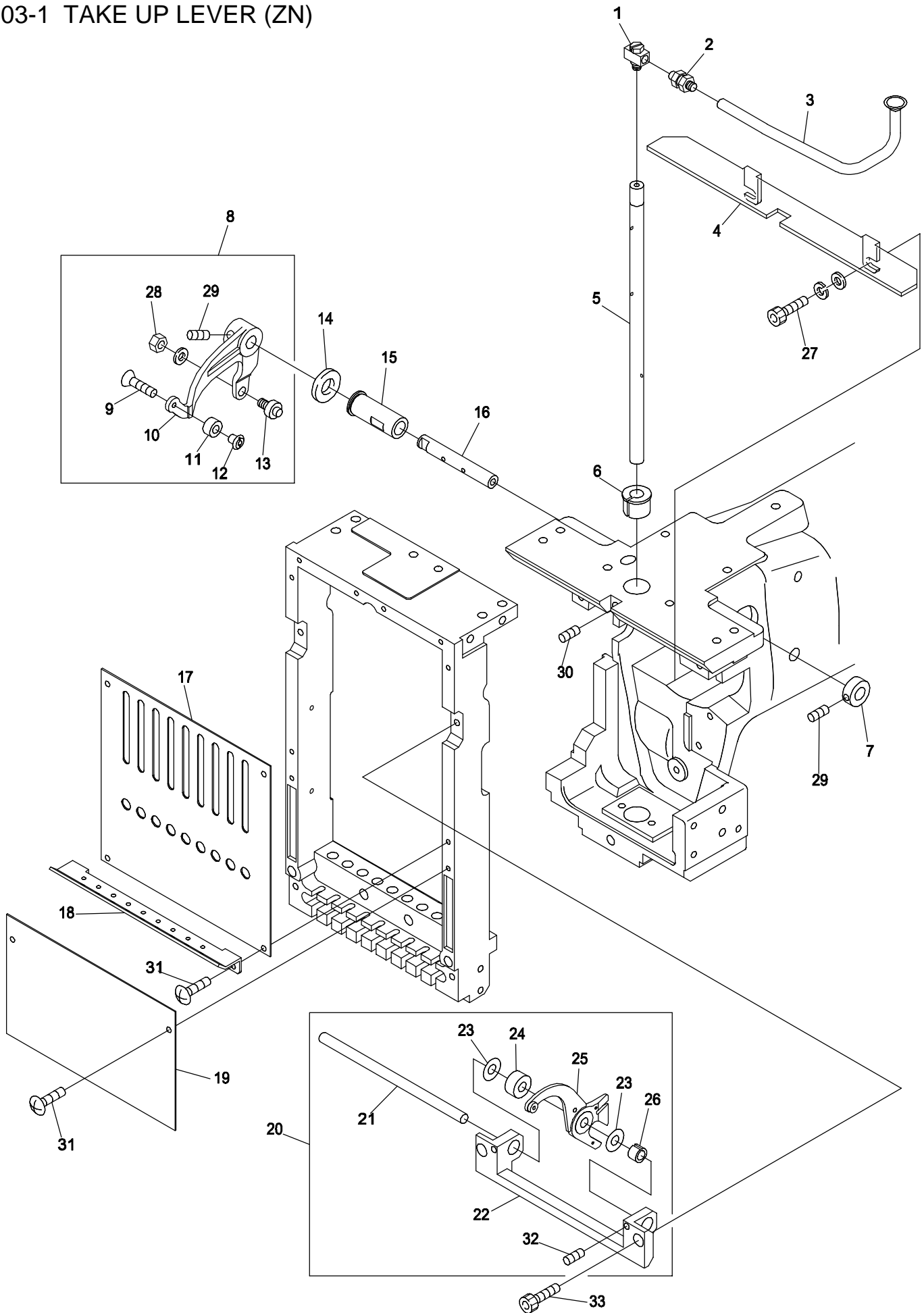
02D THREAD CUT D







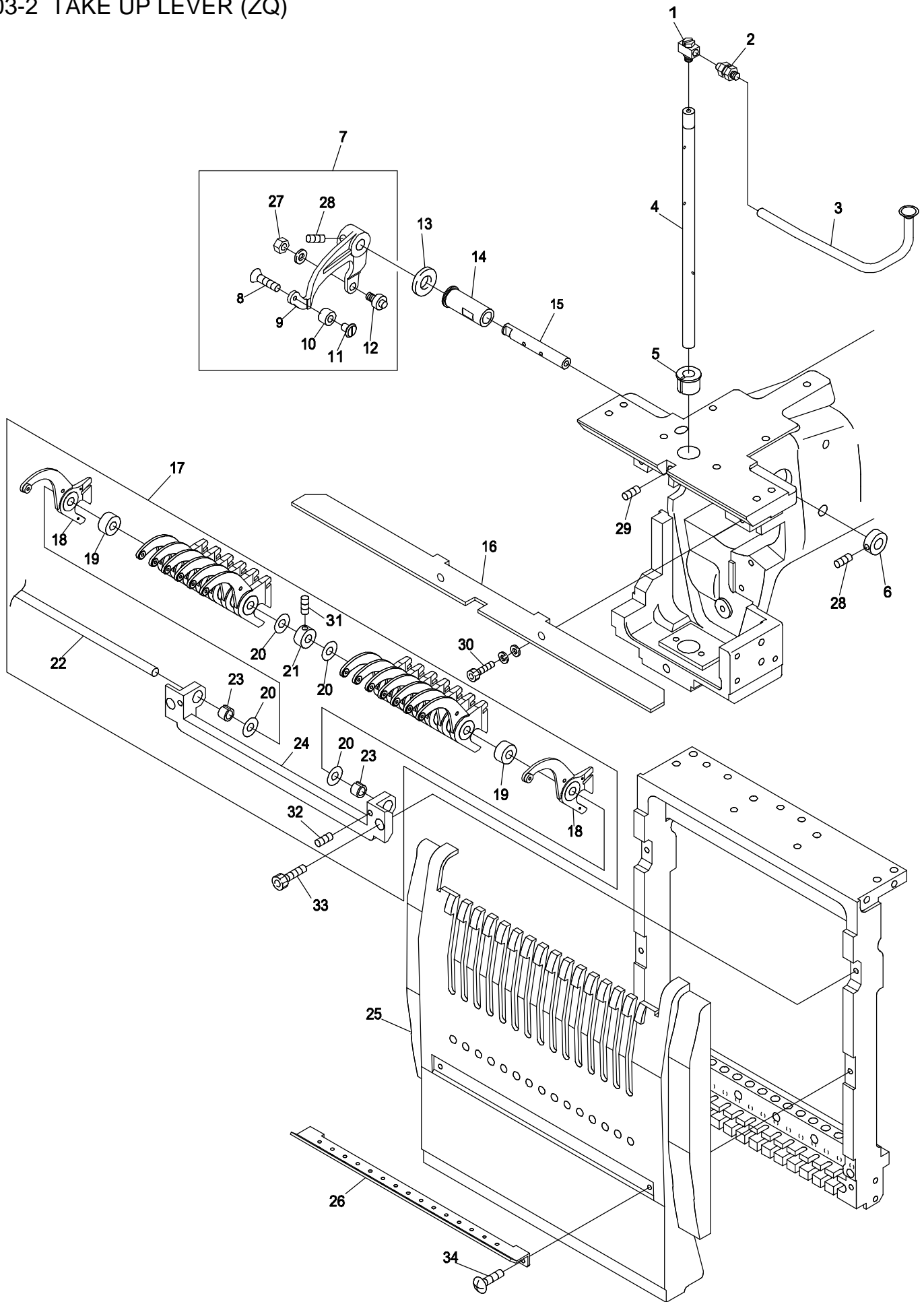
# 03-1 TAKE UP LEVER (ZN)



BENT-ZN

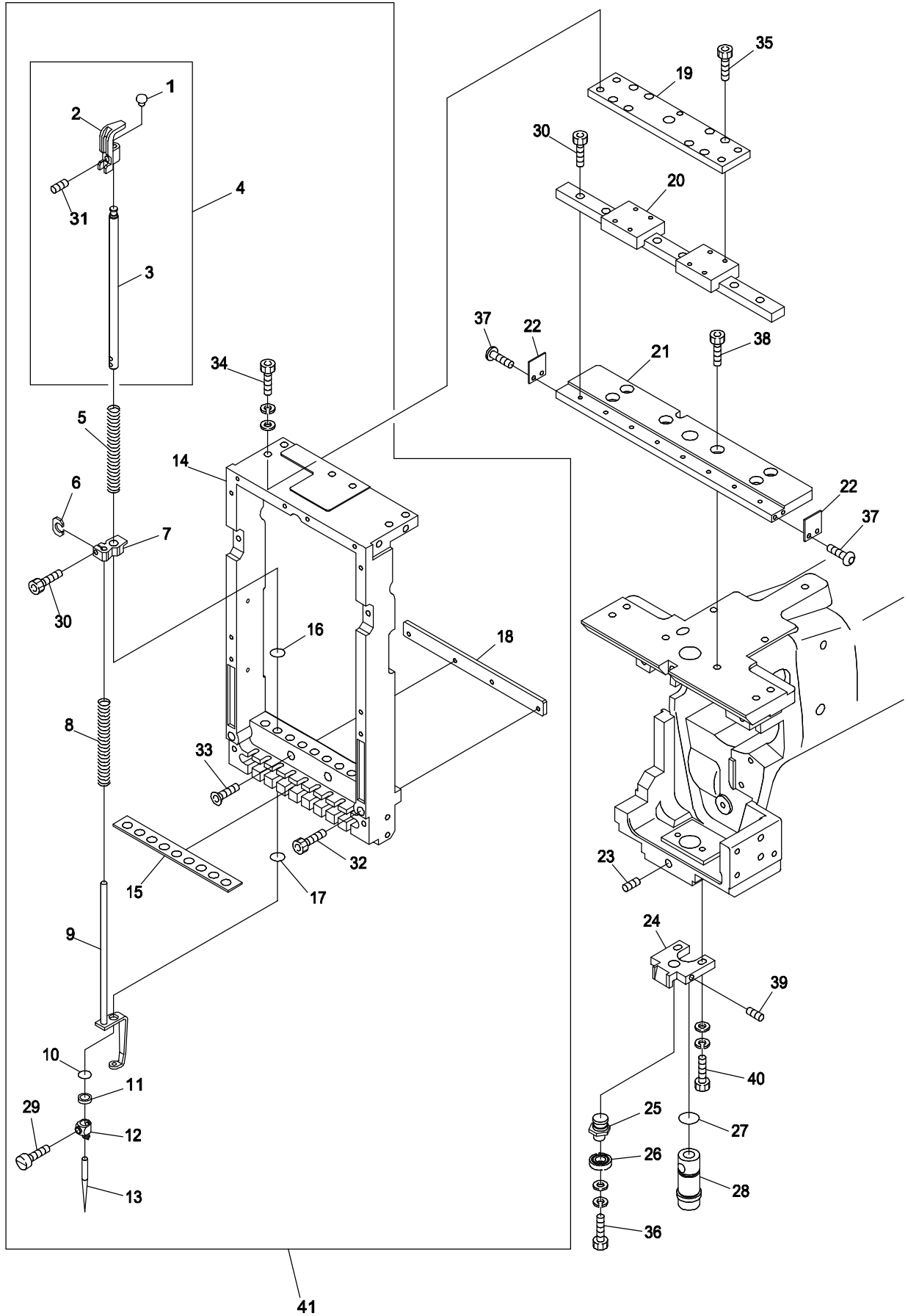


# 03-2 TAKE UP LEVER (ZQ)





# 04A-1 NEEDLE BAR A (ZN)

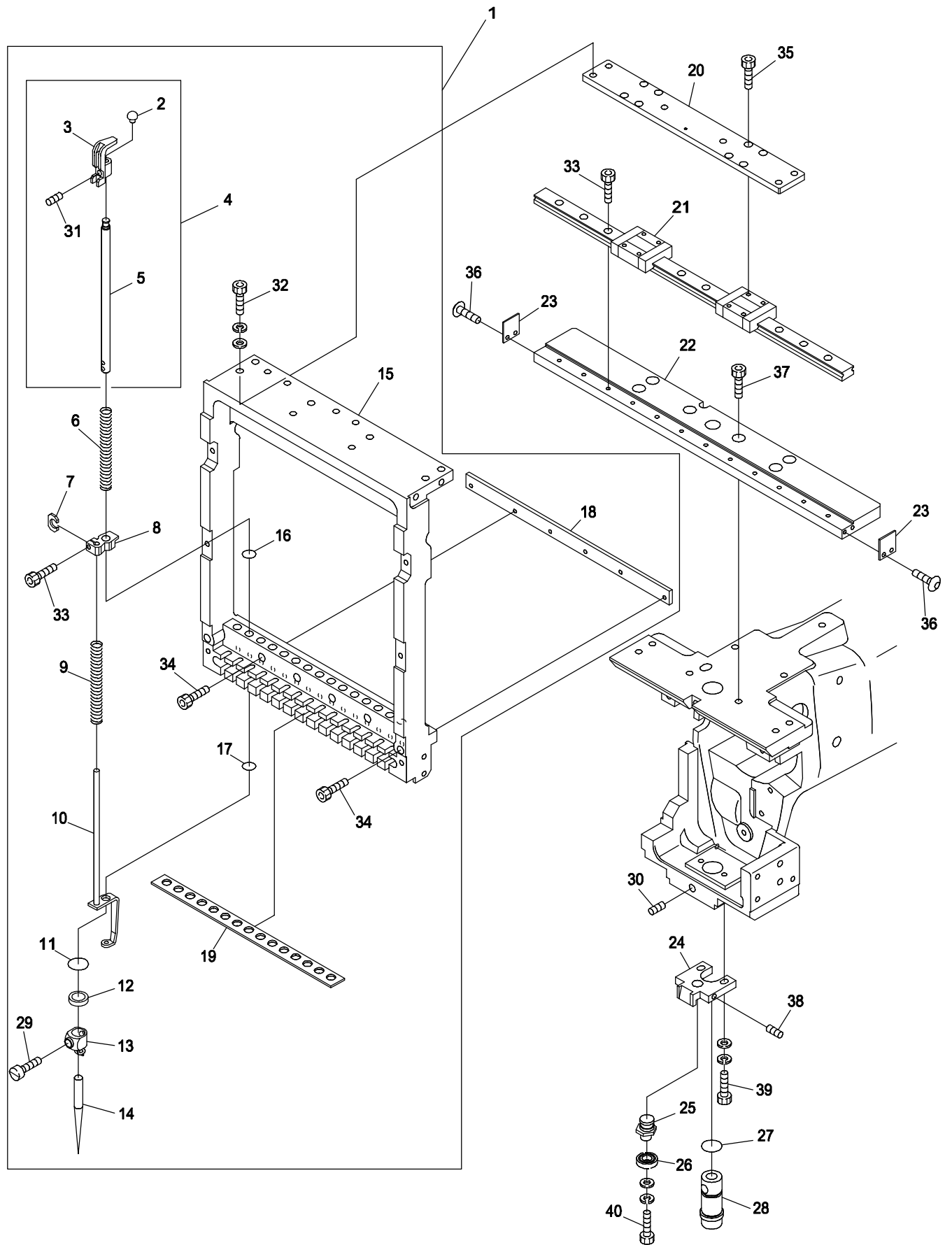


BENT-ZN

**04A-1 Needle Bar A (ZN)**

ITEM	LIST NO.	DESCRIPTION	QTY	NOTE
1.	HT230130	Needle Bar Cap	9	
2.	HT230151	Needle Bar Guide	9	
3.	HT230041	Needle Bar	9	
4.	HT230810	Needle Bar Assembly	9	
5.	HT230251	Needle Bar Spring	9	
6.	HT230263	Set Clamp Washer	9	
7.	HT230330	Presser Foot Set Clamp	9	
8.	KX230251	Needle Bar Spring (Lower)	9	
9.	HT230143	Presser Foot (YN/ZN)	9	
10.	KF230910	O-Ring (S)	9	
11.	MF230000	Needle Clamp Spacer (ZN/ZQ)	9	
12.	HT230670	Needle Clamp (With Hook)	9	
13.	FN070011SNY	Needle (DBXK5-NY11S)	9	
14.	KX230283	Slide Block (ZNA)	1	
15.	KX230180	Needle Bar Felt	1	
16.	A9014055	O-Ring (L)(1AS-7)	9	
17.	KF230920	O-Ring (L)	9	
18.	KX230040	Bearing Plate	1	
19.	KX230010	LM Base	1	
20.	KX230060	LM Guide	1	
21.	KX230023	Base Plate	1	
22.	KX230191	LM Stopper	2	
23.	A9012053	Hex. Socket Set Screw M6x0.75x8	2	
24.	LA230140	Bearing Guide	1	
25.	KX230050	Bearing Pin	1	
26.	A9010065	Ball Bearing (686ZZ)	1	
27.	A9019037	O-Ring (Lower Bushing, S12.5)	1	
28.	LA230080	Slide Shaft Bushing (Lower)	1	
29.	KF230240	Needle Clamp Screw (SM9/64 40)	9	
30.		Hex. Socket Bolt M3x8		
31.		Hex. Socket Set Screw M4x4		
32.		Hex. Socket Bolt M3x25		
33.		Hex. Socket Flush Screw M3x25		
34.		Hex. Socket Bolt M5x16 (With Washers)		
35.		Hex. Socket Bolt M3x6		
36.		Hex. Socket Bolt M4x6 (With Washers)		
37.		Hex. Socket Button Bolt M3x6		
38.		Hex. Socket Bolt M5x12		
39.		Hex. Socket Set Screw M4x12		
40.		Hex. Socket Bolt M4x15 (With Washers)		
41.	LA230321	Slide Block Assembly (ZN)	1	

# 04A-2 NEEDLE BAR A (ZQ)

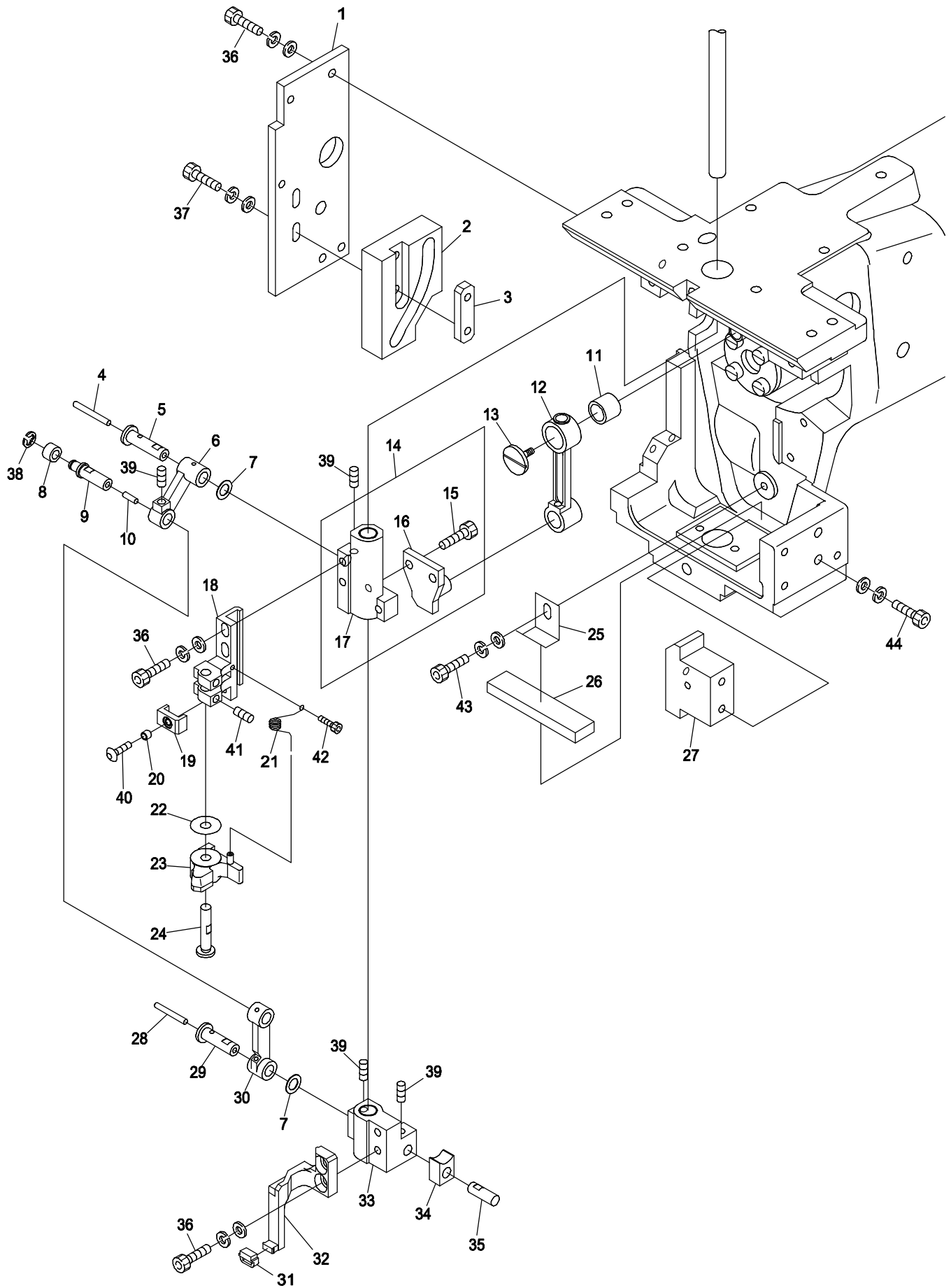




**04A-2 Needle Bar A (ZQ)**

ITEM	LIST NO.	DESCRIPTION	QTY	NOTE
1.	LA230300	Slide Block Assembly (ZQ)	1	
2.	HT230130	Needle Bar Cap	15	
3.	HT230151	Needle Bar Guide	15	
4.	HT230190	Needle Bar Assembly	15	
5.	HT230041	Needle Bar	15	
6.	HT230251	Needle Bar Spring (Upper)	15	
7.	HT230261	Set Clamp Washer	15	
8.	HT230330	Presser Foot Set Clamp	15	
9.	KX230250	Needle Bar Spring (Lower)	15	
10.	HT230143	Presser Foot (YN/ZN)	15	
11.	KF230910	O-Ring (S)	15	
12.	MF230000	Needle Clamp Spacer (ZN/ZQ)	15	
13.	HT230670	Needle Clamp (With Hook)	15	
14.	FN070011SNY	Needle (DBXK5-NY11S)	15	
15.	LA230230	Slide Block (ZQ)	1	
16.	A9014055	O-Ring (1AS-7)	15	
17.	KF230920	O-Ring (L)	15	
18.	RD230060	Bearing Plate	1	
19.	RD230070	Needle Bar Felt	1	
20.	LA230240	LM Base	1	
21.	RD230020	LM Guide	1	
22.	LA230220	Base Plate	1	
23.	KX230190	LM Stopper	2	
24.	LA230140	Bearing Guide	1	
25.	KX230050	Bearing Pin	1	
26.	A9010065	Ball Bearing (686ZZ)	1	
27.	A9019037	O-Ring (Lower Bushing, S12.5)	1	
28.	LA230080	Slide Shaft Bushing (Lower)	1	
29.	KF230240	Needle Clamp Screw (SM 9/64-40)	15	
30.	A9012053	Hex. Socket Set Screw M6x0.75x8	2	
31.		Hex. Socket Set Screw M4x4		
32.		Hex. Socket Bolt M5x16 (With Washers)		
33.		Hex. Socket Bolt M3x8		
34.		Hex. Socket Bolt M3x25		
35.		Hex. Socket Bolt M3x6		
36.		Hex. Socket Button Bolt M3x6		
37.		Hex. Socket Bolt M5x12		
38.		Hex. Socket Set Screw M4x12		
39.		Hex. Socket Bolt M4x15 (With Washers)		
40.		Hex. Socket Bolt M4x6 (With Washers)		

# 04B NEEDLE BAR B

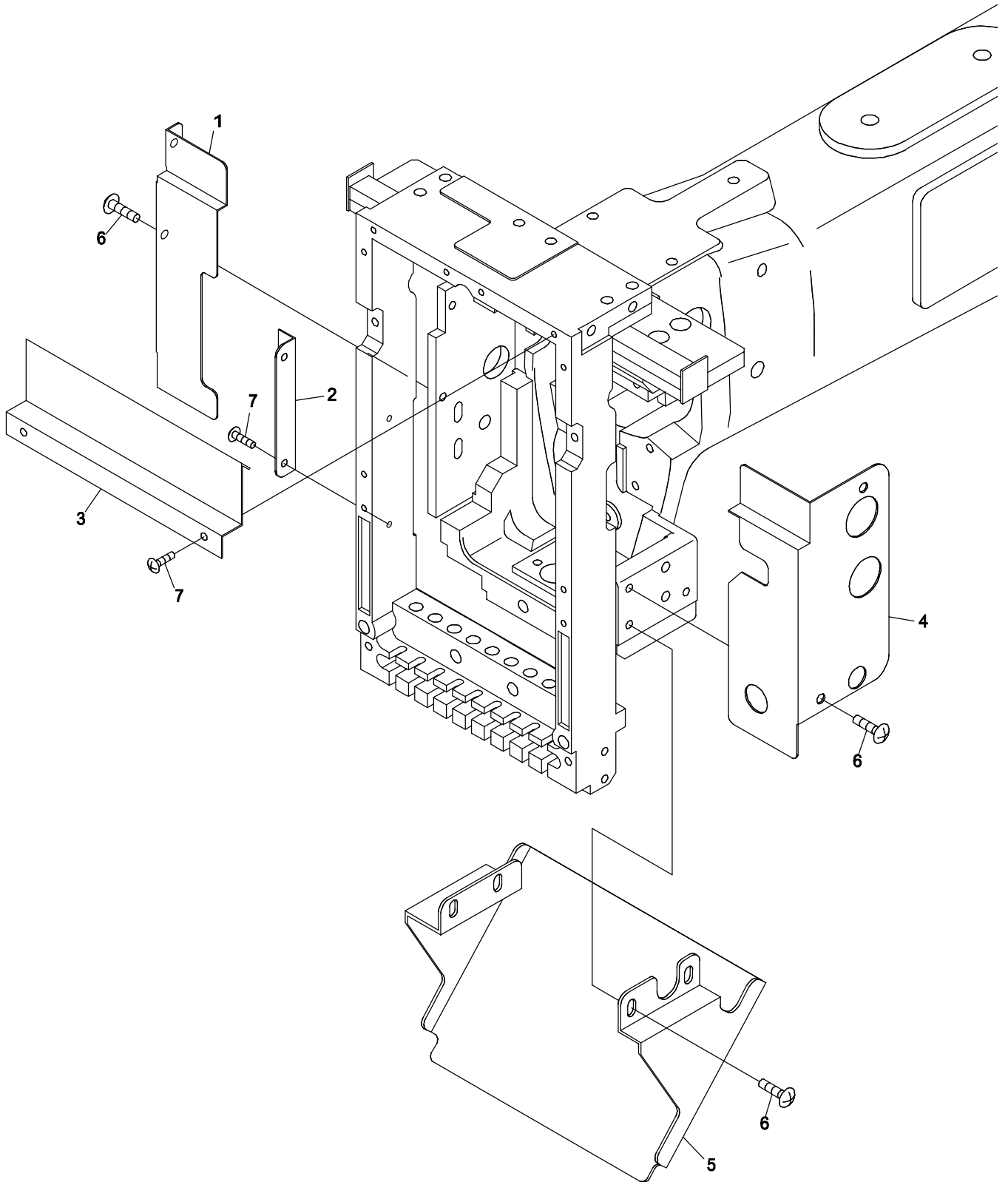


BENT-ZN/ZQ

**04B Needle Bar B**

ITEM	LIST NO.	DESCRIPTION	QTY	NOTE
1.	LA230100	Presser Foot Cam Plate	1	
2.	LA230150	Presser Foot Cam	1	
3.	HT230380	Cam Tap Plate	1	
4.	LA230290	Oil Core (23mm)	1	
5.	LA230110	Link Pin (Upper)	1	
6.	LA230040	Link (Upper)	1	
7.	HT230730	Shim Ring (Ø10 T=0.3)	2	
8.	KF230530	Roller (Joint Pin)	1	
9.	LA230130	Link Roller Joint Pin	1	
10.	HT230760	Oil Core (8mm)	1	
11.	A9011115	Needle Bearing (K9x12x10T2)	1	
12.	LA230060	Crank Rod	1	
13.	KB230070	90° Crank (Counter Clockwise Screw)	1	
14.	LA230030	Driver Slide Assembly	1	
15.	A9019036	Hex. Socket Bolt M4x10	2	
16.	LA230020	Driver Slide Pin	1	
17.	LA230010	Driver Slide	1	
18.	LB230070	Needle Bar Driver Fixing Base (ZN/ZQA)	1	
19.	HT230520	Needle Bar Driver Stopper	1	
20.	A9012368	Spacer (Roll Bushing)	1	
21.	HT230560	Needle Bar Driver Return Spring	1	
22.	A9012367	Shim Ring (Ø15 T=0.15)	1	
23.	HT230531	Needle Bar Driver	1	
24.	HT230280	Needle Bar Driver Pin	1	
25.	LA230200	Felt Plate	1	
26.	LA230210	Felt (Head Oil)	1	
27.	LA230160	Guide Box	1	
28.	HT230770	Oil Core (20mm)	1	
29.	LA230120	Link Pin (Lower)	1	
30.	LA230050	Link (Lower)	1	
31.	HT230340	Presser Foot Support Rubber	1	
32.	HT230370	Presser Foot Support	1	
33.	LA230070	Presser Foot Slide	1	
34.	HP231370	Square Ball	1	
35.	LA230090	Square Ball Pin	1	
36.		Hex. Socket Bolt M4x12		
37.		Hex. Socket Bolt M4x20		
38.		E-Ring (Ø3)		
39.		Hex. Socket Set Screw M4x6 (With Nylon)		
40.		Hex. Socket Button Bolt M3x6		
41.		Hex. Socket Set Screw M4x4 (With Nylon)		
42.		Hex. Socket Bolt M2.5x6		
43.		Hex. Socket Bolt M4x8		
44.		Hex. Socket Bolt M4x16		

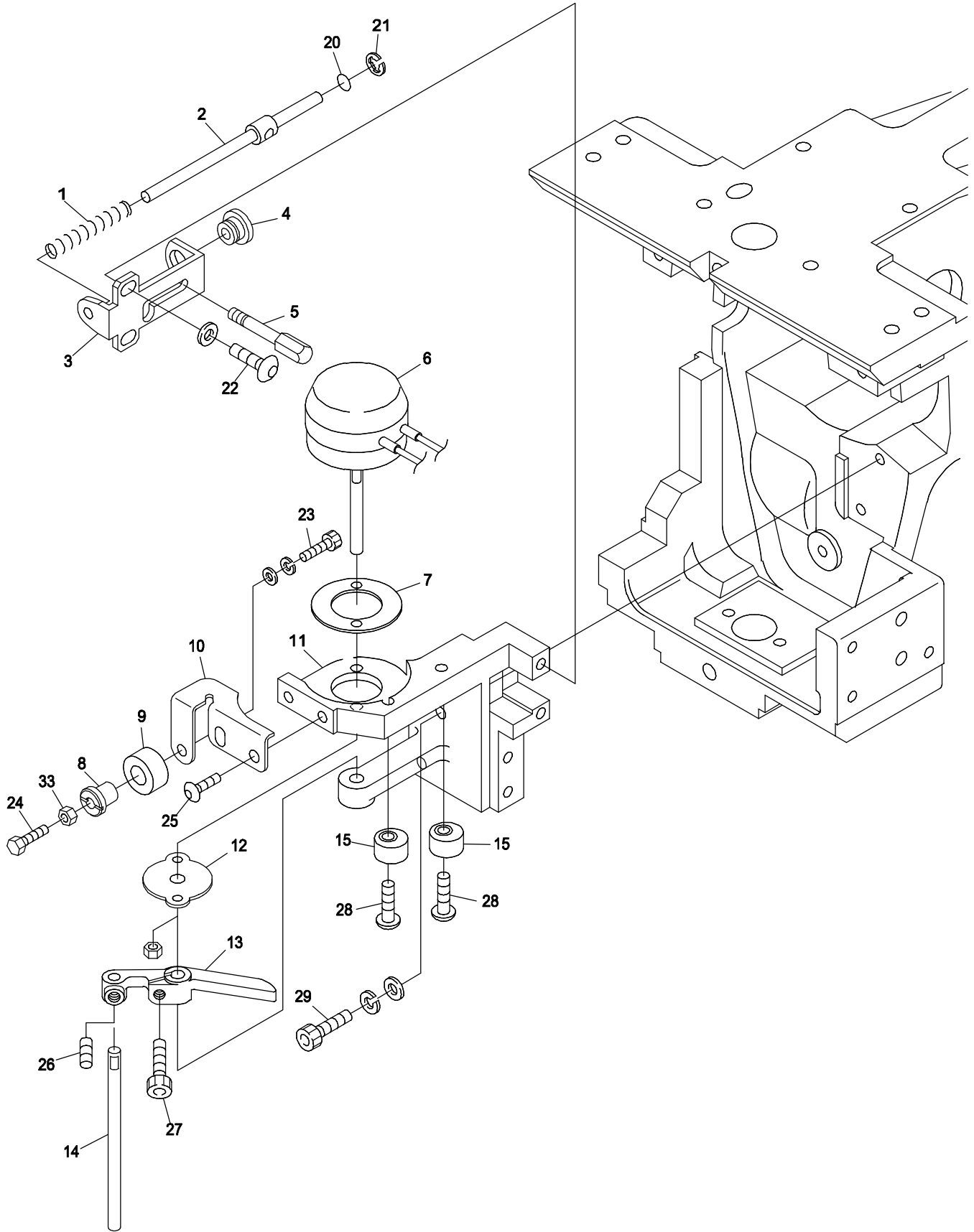
# 04C NEEDLE BAR C



BENT-ZN/ZQ



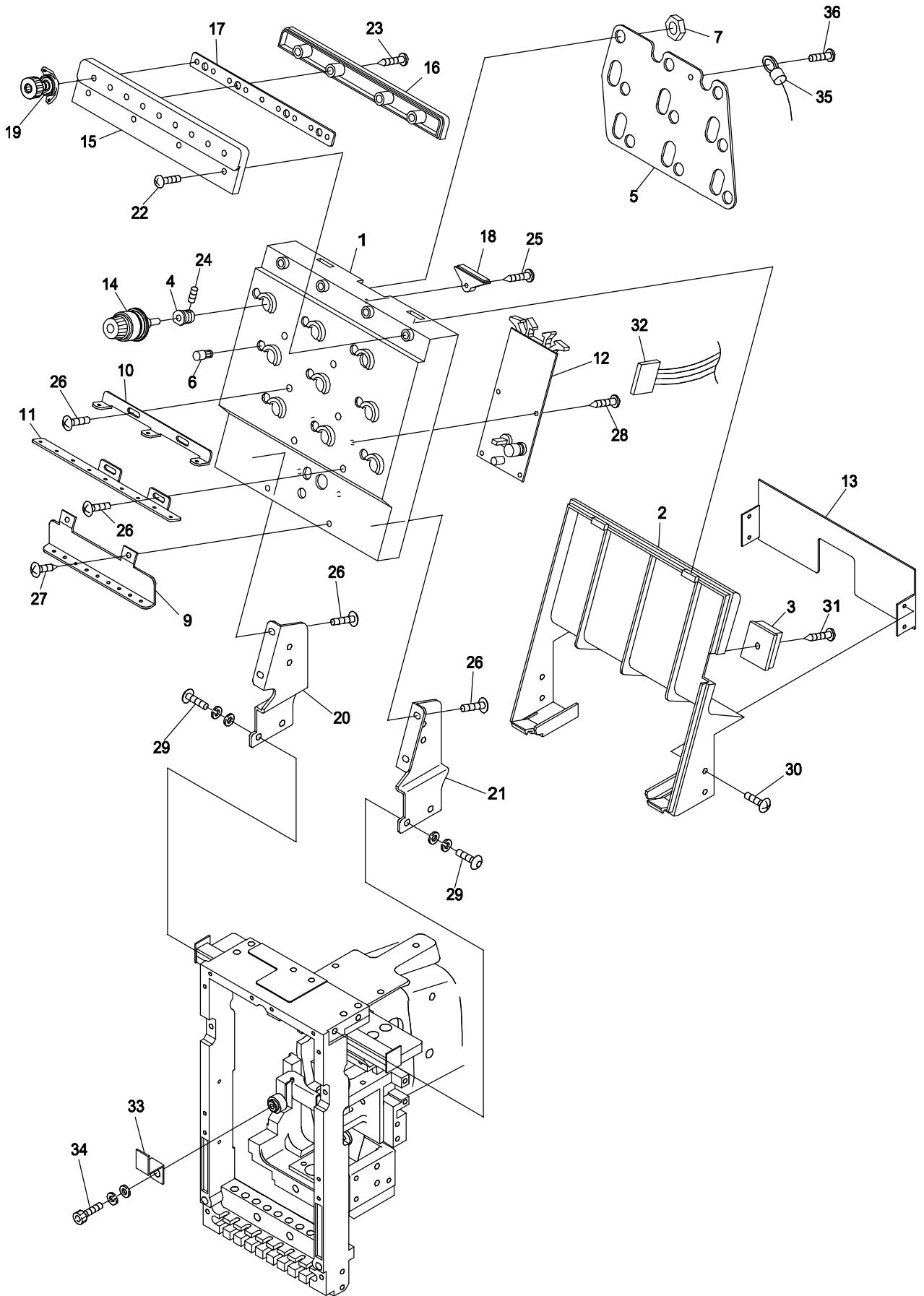
05 JUMP



BENT-ZN/ZQ



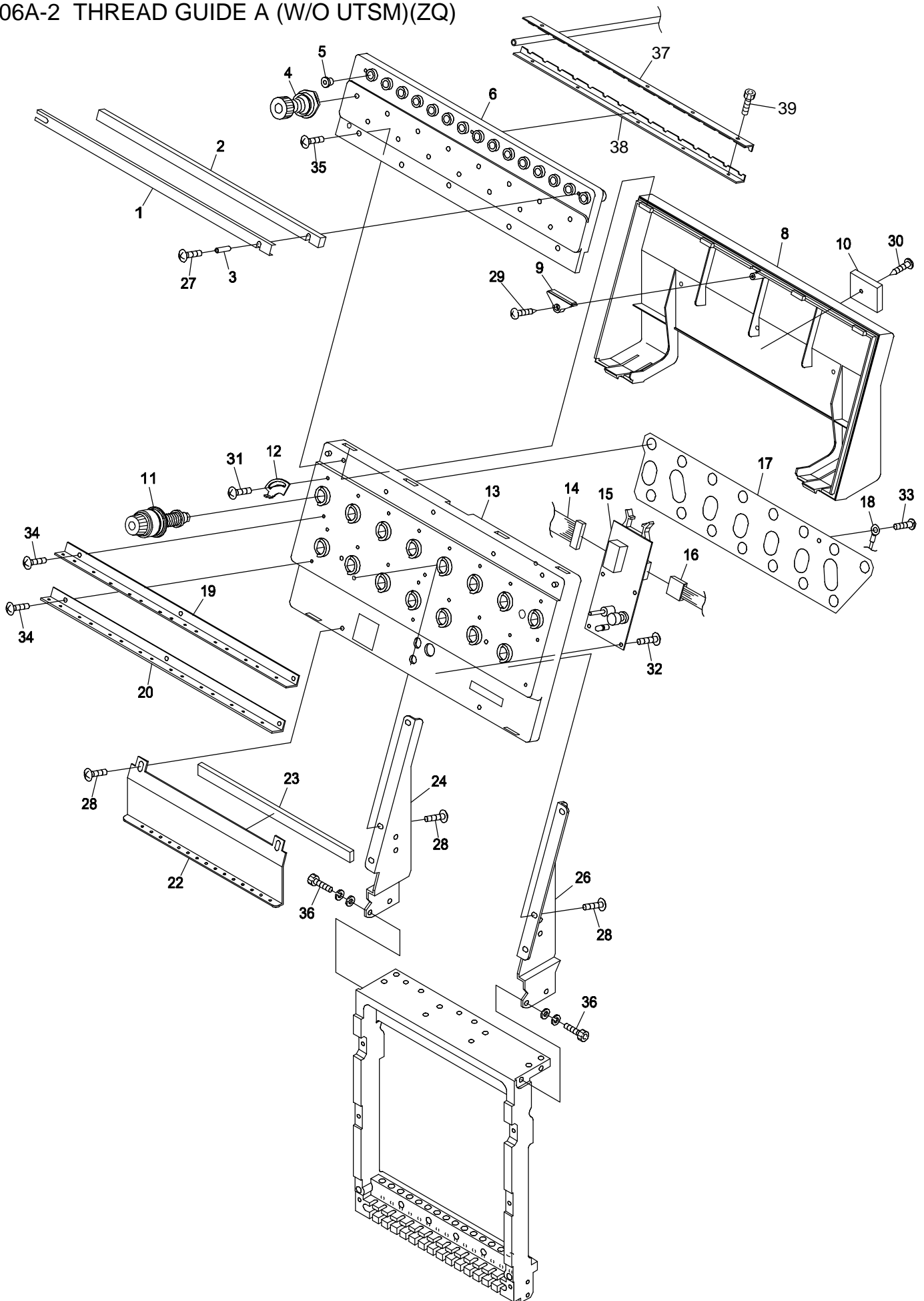
# 06A-1 THREAD GUIDE A (W/O UTSM)(ZN)







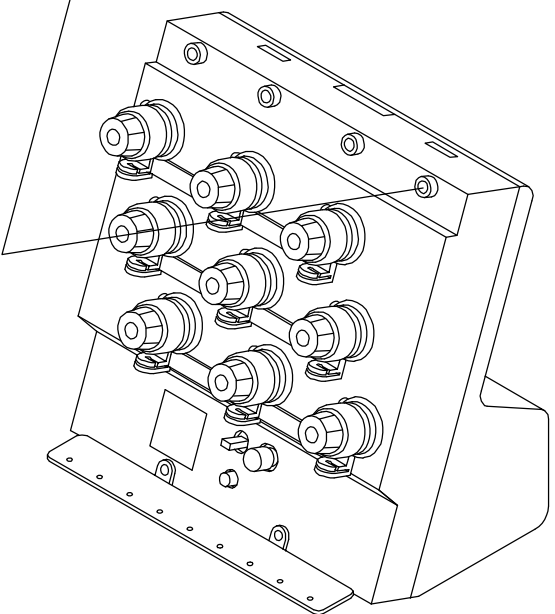
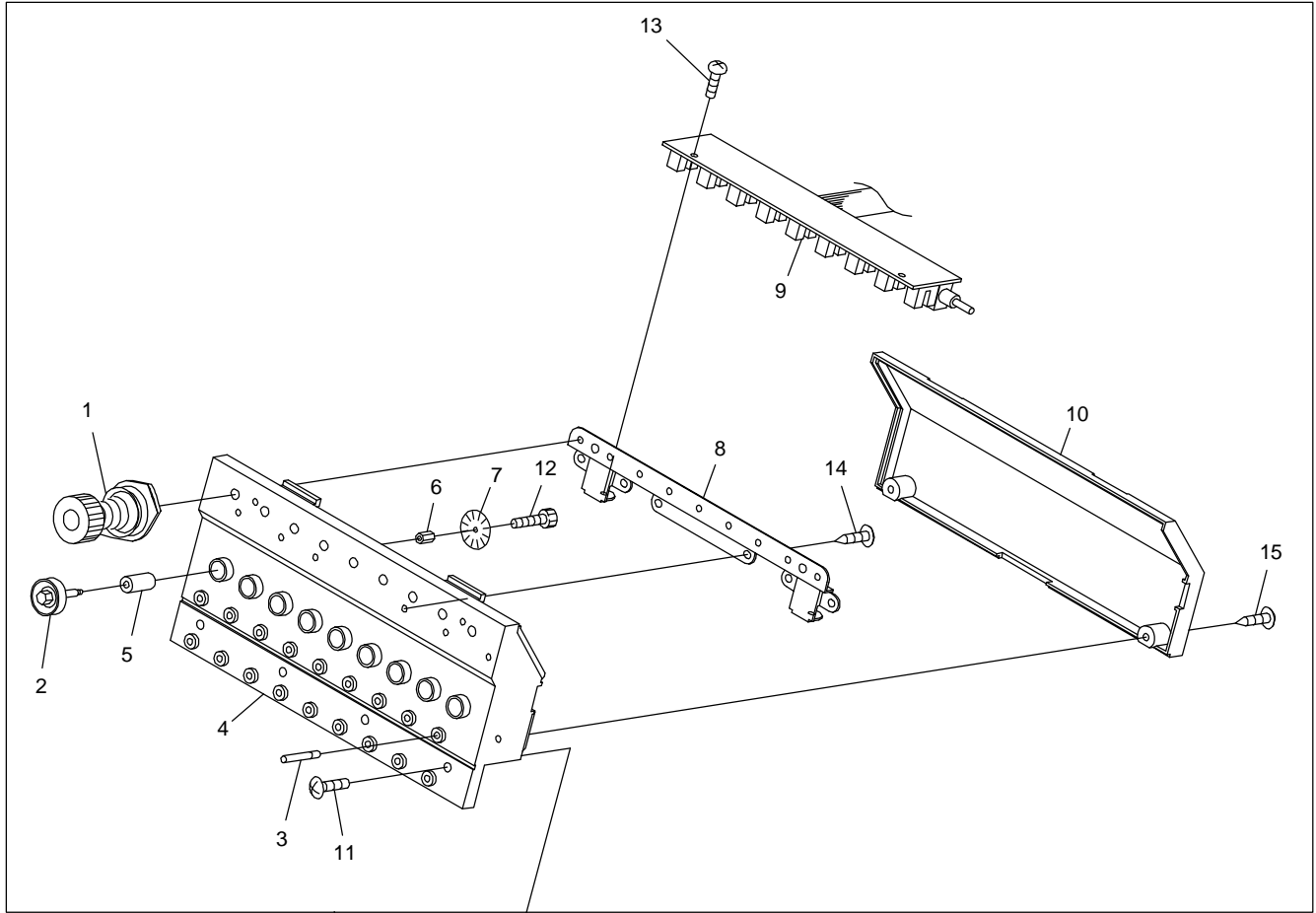
# 06A-2 THREAD GUIDE A (W/O UTSM)(ZQ)



BENT-ZQ

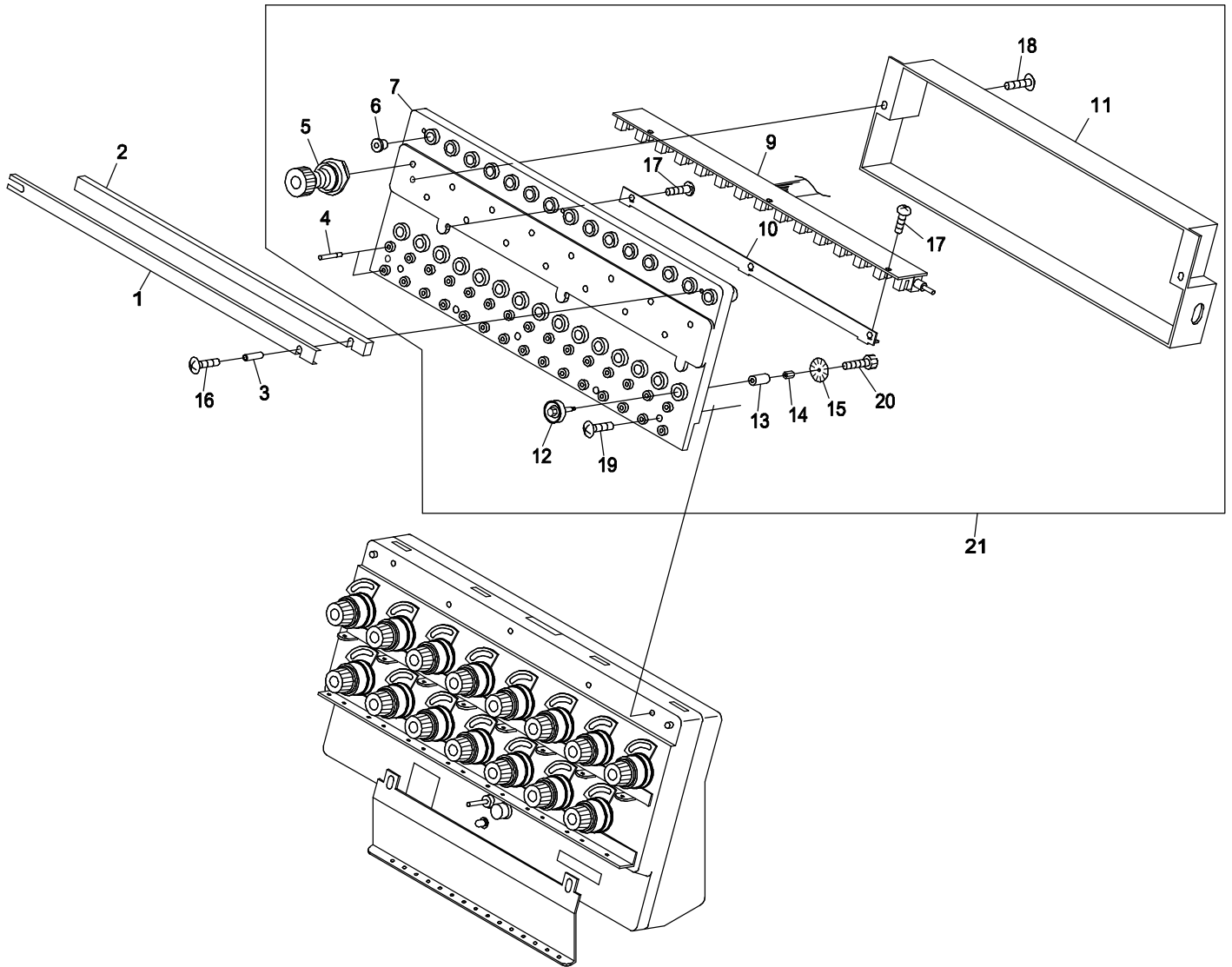


06B-1 THREAD GUIDE B (UTSM)(ZN)



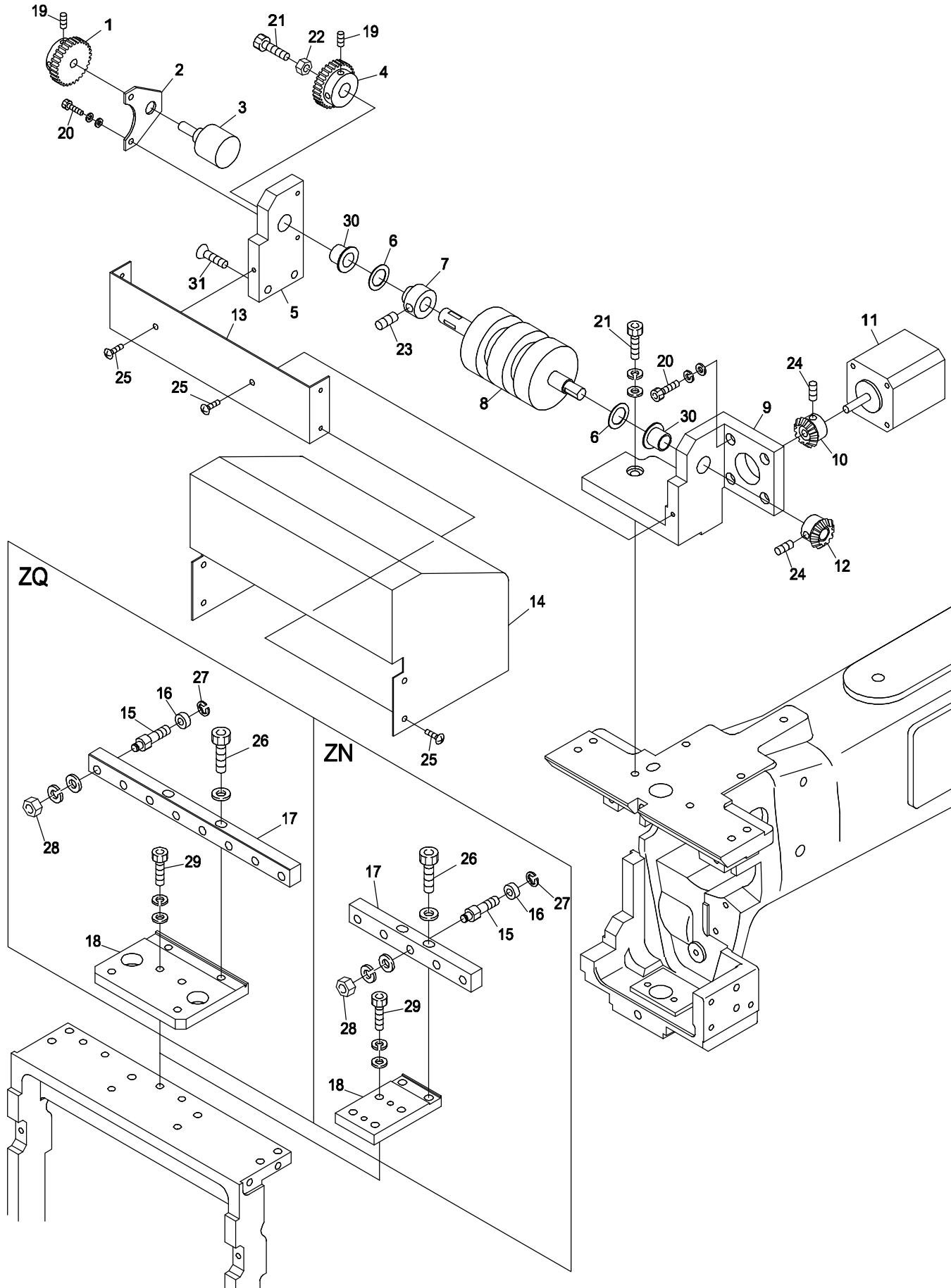


# 06B-2 THREAD GUIDE B (UTSM)(ZQ)





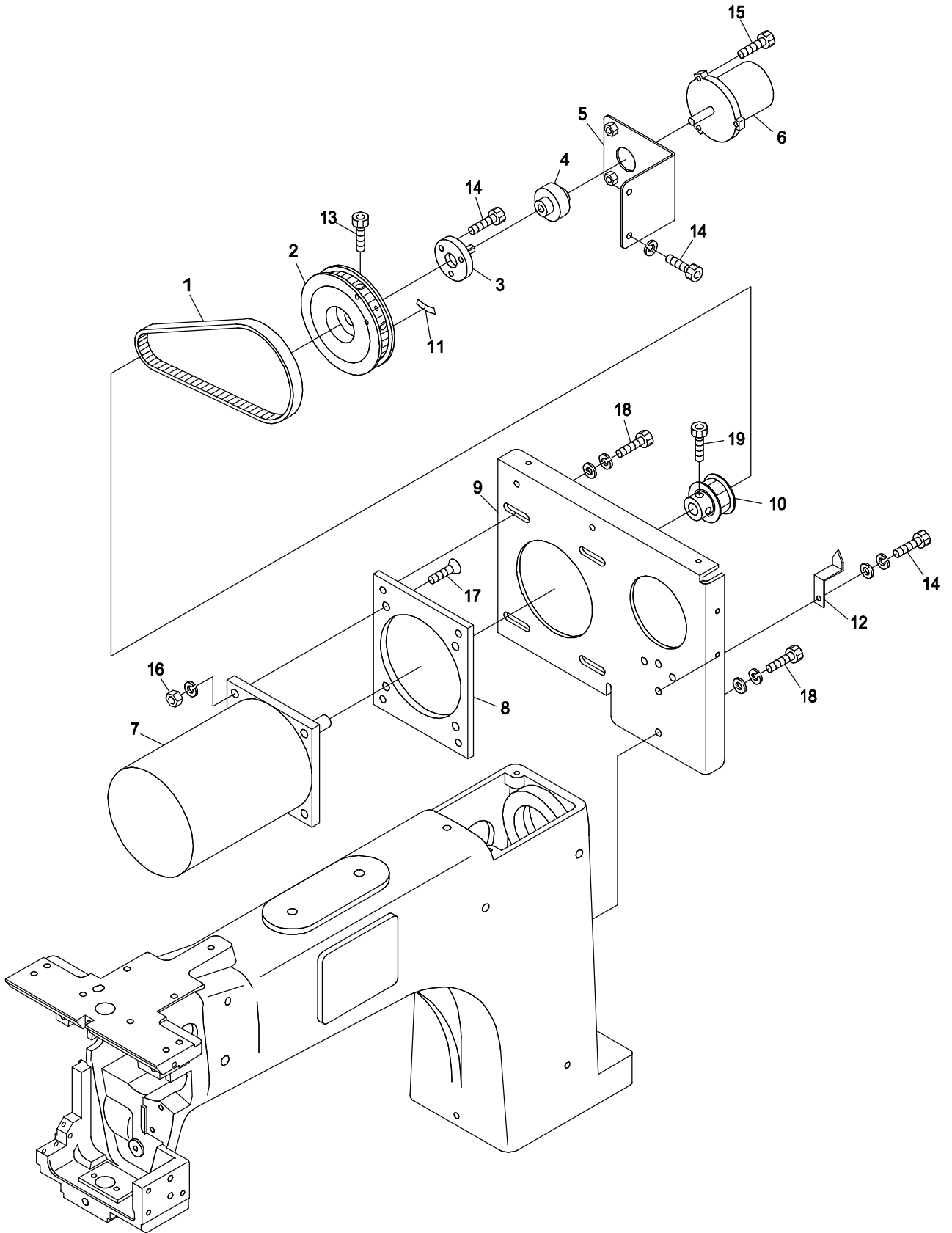
# 07 COLOR CHANGE





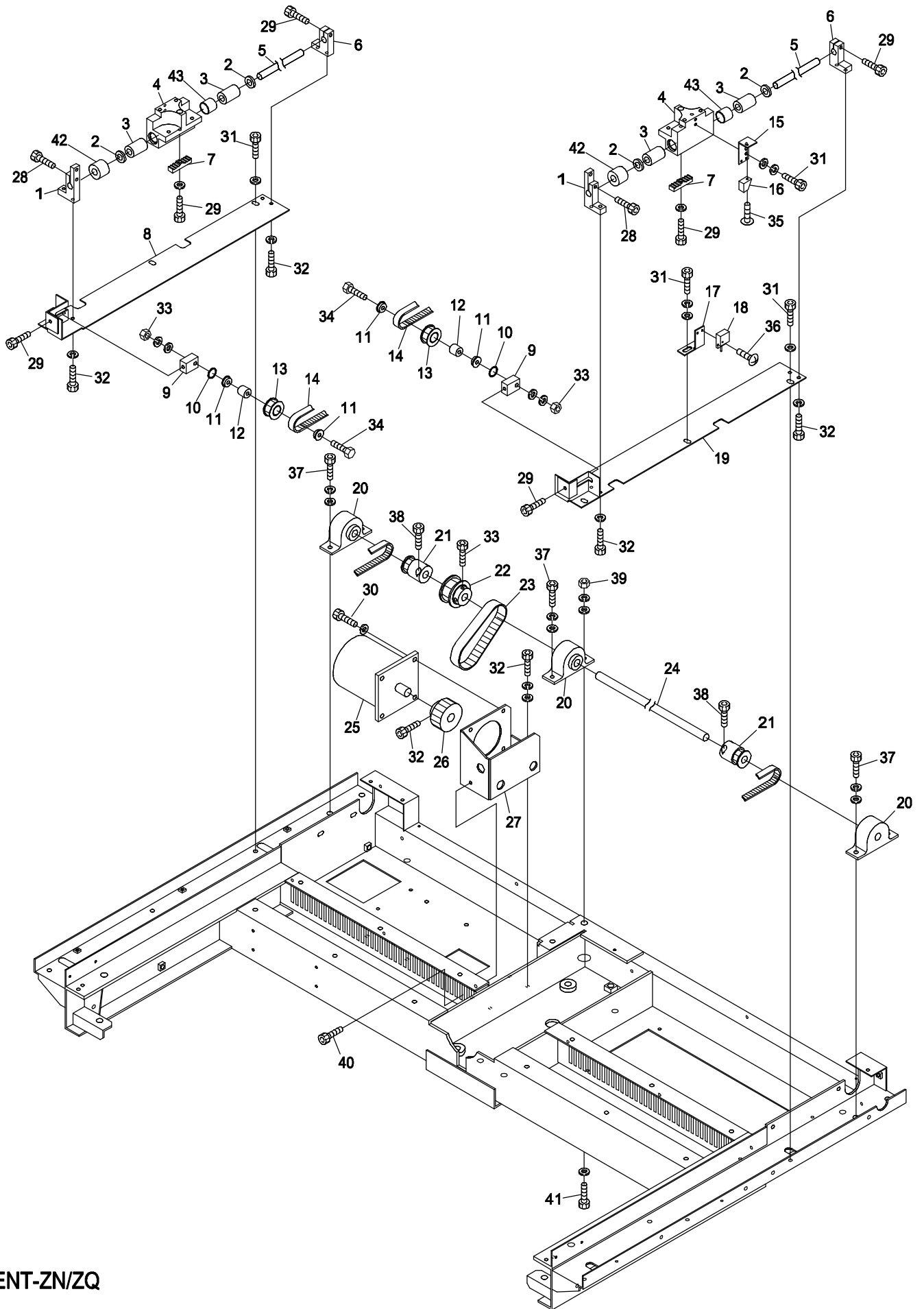


# 08 DRIVE





# 10A H-DIRECTION PANTOGRAPH DRIVE

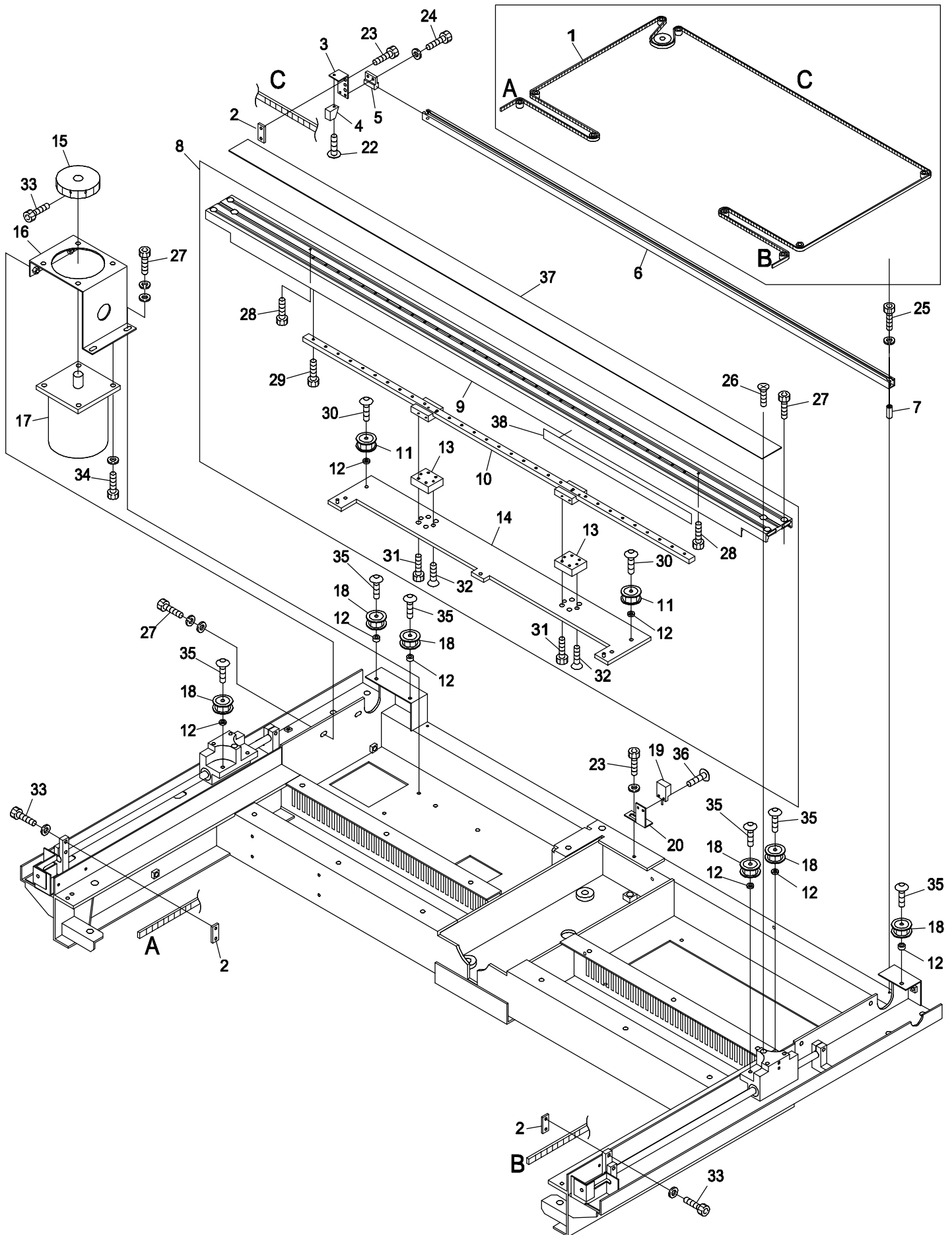


BENT-ZN/ZQ

## 10A H-Direction Pantograph Drive

ITEM	LIST NO.	DESCRIPTION	QTY	NOTE
1.	MF480150	Holder, Shaft (Front)	2	
2.	P730415	Retaining Ring, Bearing (TI-75)	4	
3.	P730468	Bushing, Linear Ceramic (10mm)	4	
4.	P710530	Carrier, H-Pantograph	2	
5.	P730620	Shaft, Precision Y- Panto (Metric)	2	
6.	P730101	Bracket, Rear Shaft Support	2	
7.	P730240	Clamp, Timing Belt Y-Panto (Metric)	2	
8.	P700105	Bracket, Left Side Mounting Angle	1	
9.	P730635	Block, Pulley Adjusting Y-Panto (Metric)	2	
10.	P849556	1/4" Shim Washer	2	
11.	P730462	Bearing, Flange Metric (F696ZZ A3C)	4	
12.	P820704	1/4" I.D. X 0.250 Spacer	2	
13.	P730413	Pulley, Idler Metric	2	
14.	P732030	Belt, Timing Y-Panto (With Steel)	2	
15.	MF480340	Bracket, Magnet	1	
16.	A9052030	Magnet (M-102A-02)	1	
17.	MF480330	Bracket, Origin Sensor	1	
18.	A9052031	Magnetic Limit Switch	1	
19.	P700106	Bracket, Right Side Mounting Angle	1	
20.	P730460	Bearing, Pillow Block (12mm)	3	
21.	P730405	Pulley, Timing Y-Panto (Metric)	2	
22.	MF480130	Pulley, H-Shaft	1	
23.	A9020187	Timing Belt(150S5M375)	1	
24.	P730621	Shaft, Drive Y-Panto (12mm)	1	
25.	MF480401	Panto Drive Motor (14mm Shaft O.D.)	1	
26.	MF480141	Pulley, H-Shaft Driving (14mm I.D.)	1	
27.	MG480040	Bracket, Y-Stepper Motor	1	
28.		Hex. Socket Bolt M4x25		
29.		Hex. Socket Bolt M5x20		
30.		Hex. Socket Bolt M5x16		
31.		Hex. Socket Bolt M6x15		
32.		Hex. Socket Bolt M5x12		
33.		Hex. Nut M6		
34.		Hex. Bolt M6x45		
35.		Truss Screw M3x6		
36.		Truss Screw M3x8		
37.		Hex. Socket Bolt M8x18		
38.		Hex. Socket Bolt M4x10		
39.		Hex. Nut M8		
40.		Hex. Socket Bolt M5x22		
41.		Hex. Socket Bolt M8x80		
42.	MF480490	Safety Stopper (BENT)	2	
43.	P730440	Spacer Carrier Bushing	2	

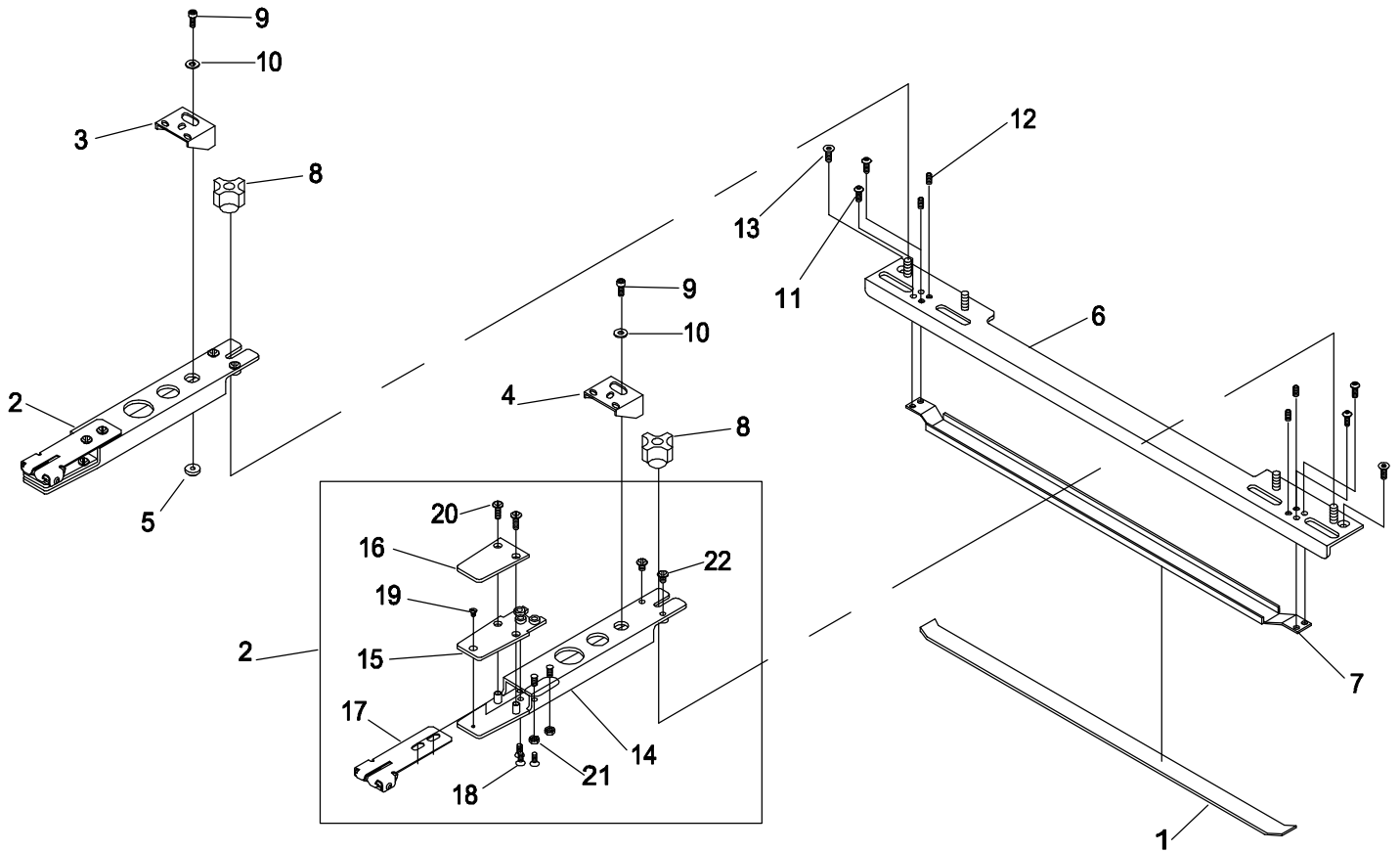
# 10B V-DIRECTION PANTOGRAPH DRIVE



BENT-ZN/ZQ



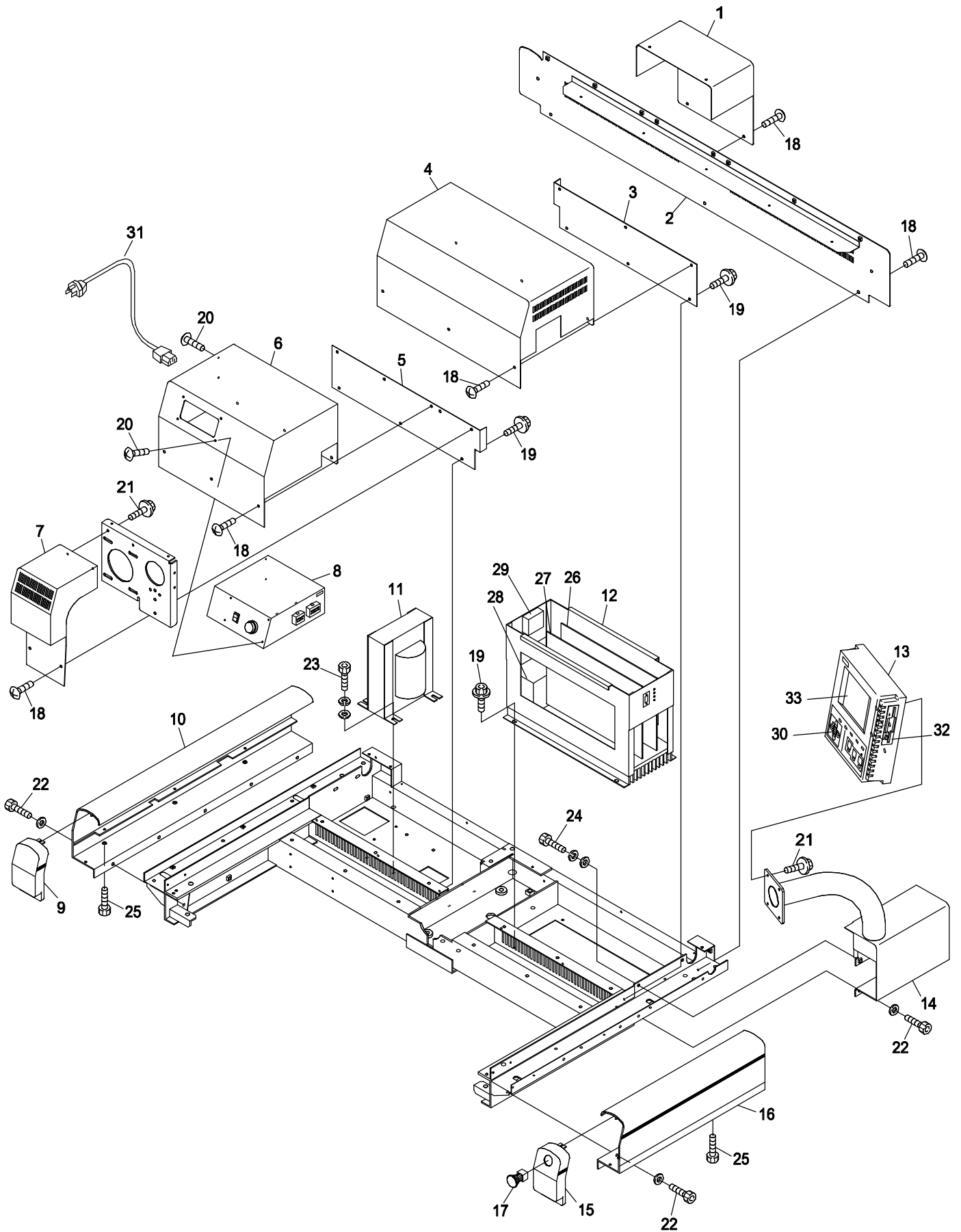
# 10C V-HOOP ARM ATTACHMENT ASSEMBLY







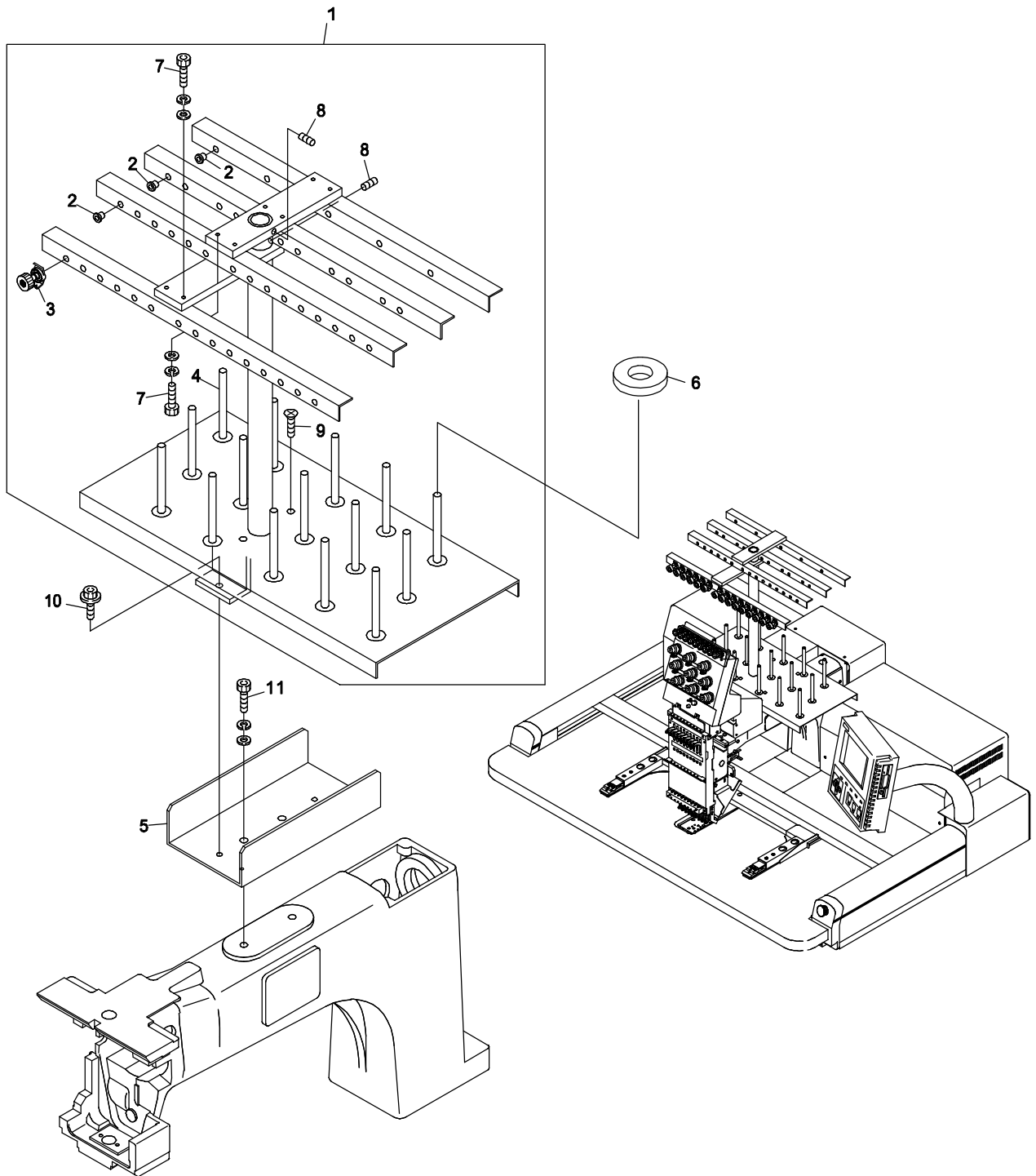
# 11 CONTROL



BENT-ZN/ZQ

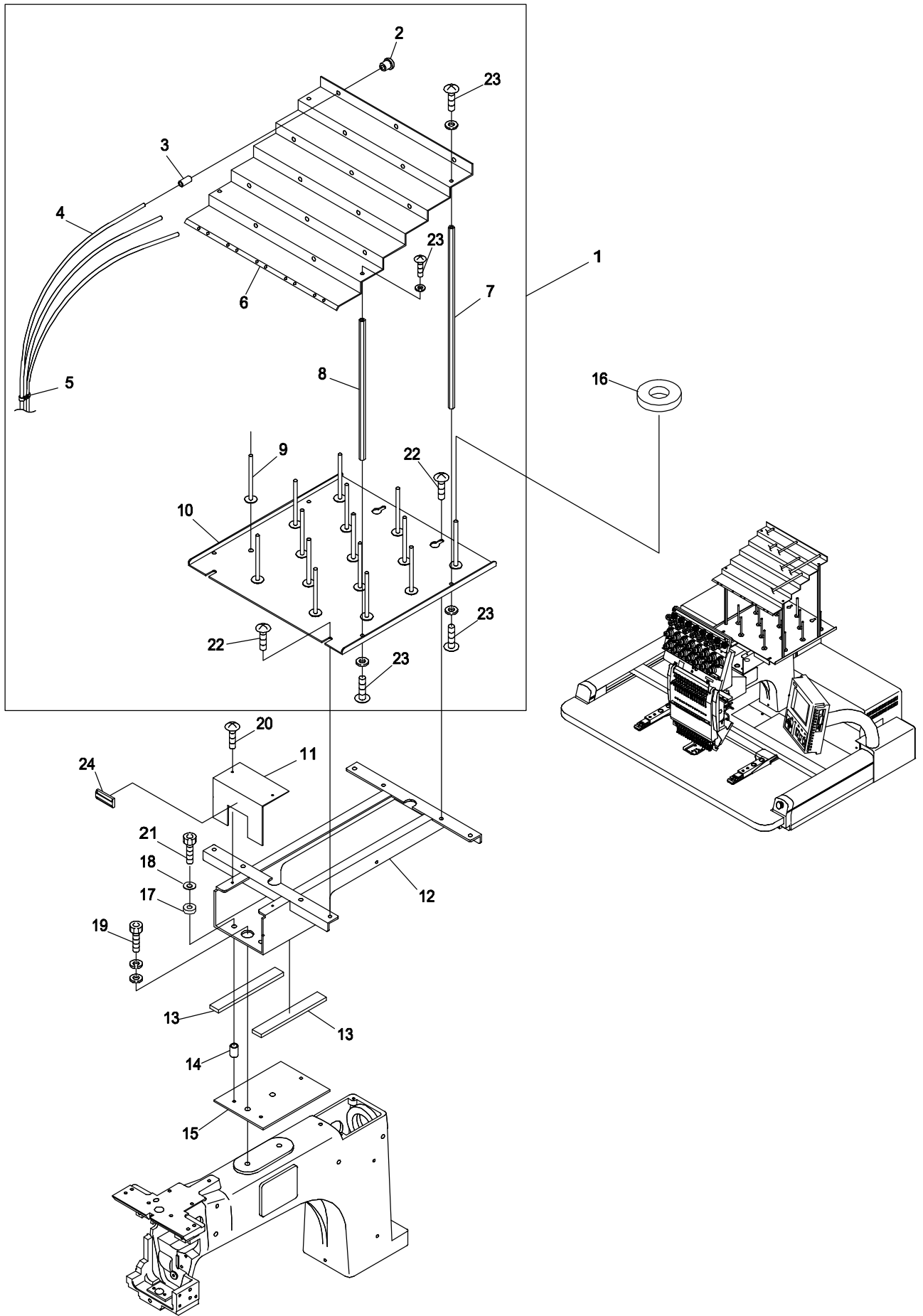


# 12-1 ACCESSORIES (ZN)





# 12-2 ACCESSORIES (ZQ)



BENT-ZQ

