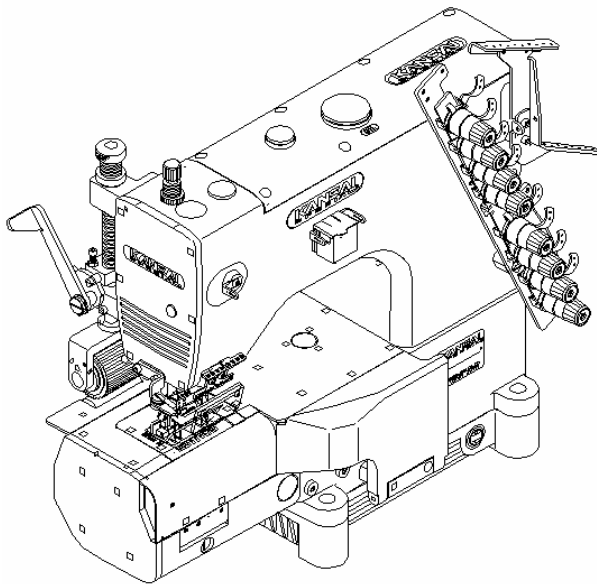


PARTS LIST&INSTRUCTION

FBX SERIES

Industrial Sewing Machines



FBX1102~1106
FBX1102P~1106P
FBX1104PR
FBX1102YS

FBX1104P
FBX1104
FBX1106P
FBX1106

2009年9月第4.2版発行

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No. 090132

KANSAI
SPECIAL®

パーツブック御利用に際して

- このパーツブックは、2009年9月製造中のFBXシリーズのデータに基づいて作成されたものです。
- 各機構別に収録され、左側のページに分解イラスト図、右側のページに部品番号、名称、及び数量が記載されています。
- この本の最後に部品番号インデックスを記載しています。部品番号からの図解、名称の検索に御利用下さい。
- 部品は、予告なく変更される場合がありますので、あらかじめ御了承下さい。

INTRODUCTION

- This parts book is based on data current September 2009.
- Each mechanism is arranged on facing pages. You will find listed for parts number, names, and quantities.
- A parts number index is attached to the back of this book for convenience.
- Parts are subject to change without notice.

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FBXシリーズ 表示方法

FBX SERIES INFORMATION

■FBXは針送り2重環縫いです。
FBX is double chain stitch with needle feed.

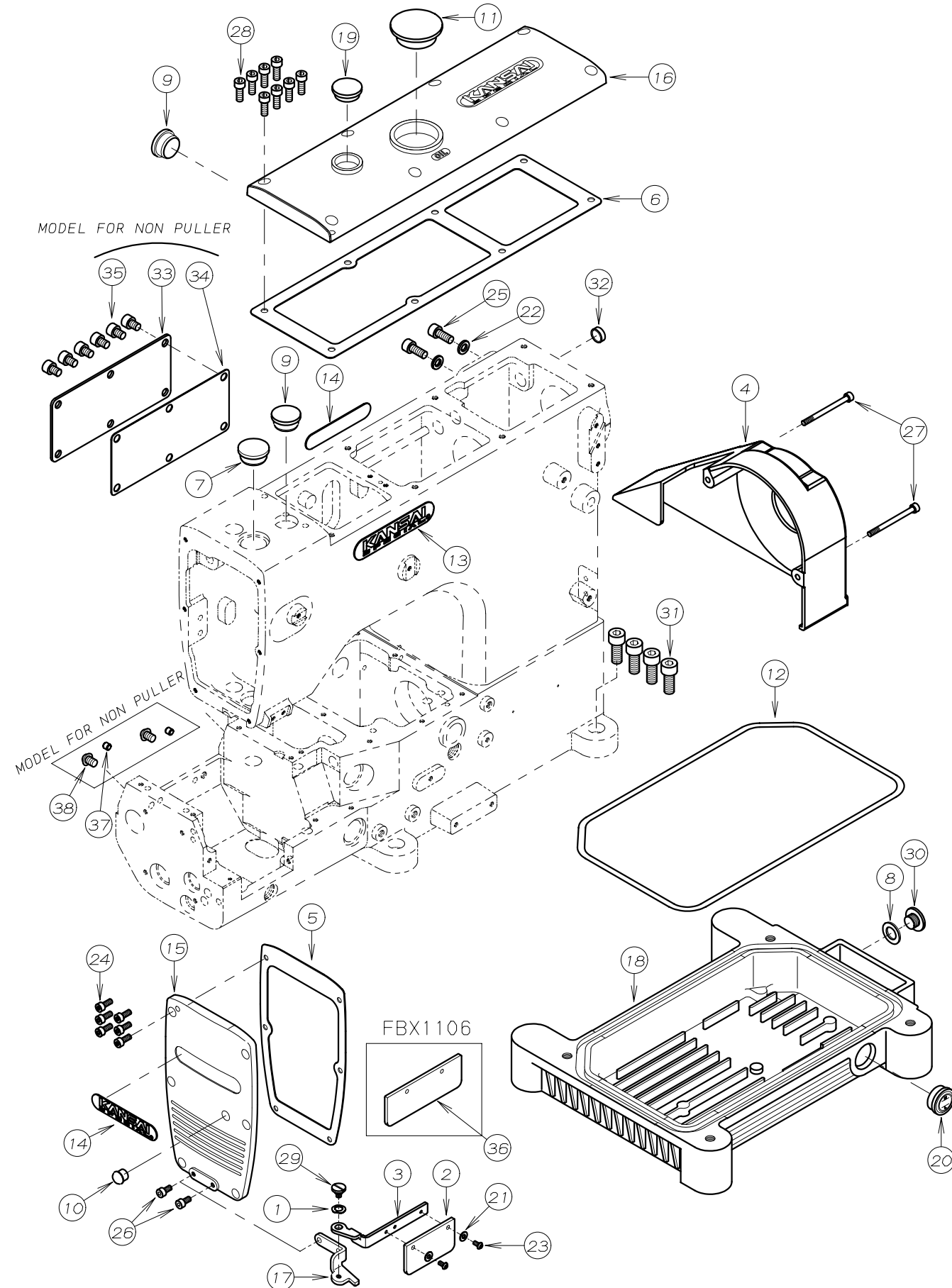
■針幅です。(インチ)
Needle width (inch)

F B X 1 1 0 4 P - 1 / 4 - 1 - 1 / 4

■4は4本針です。
4 is 4 Needie machine.

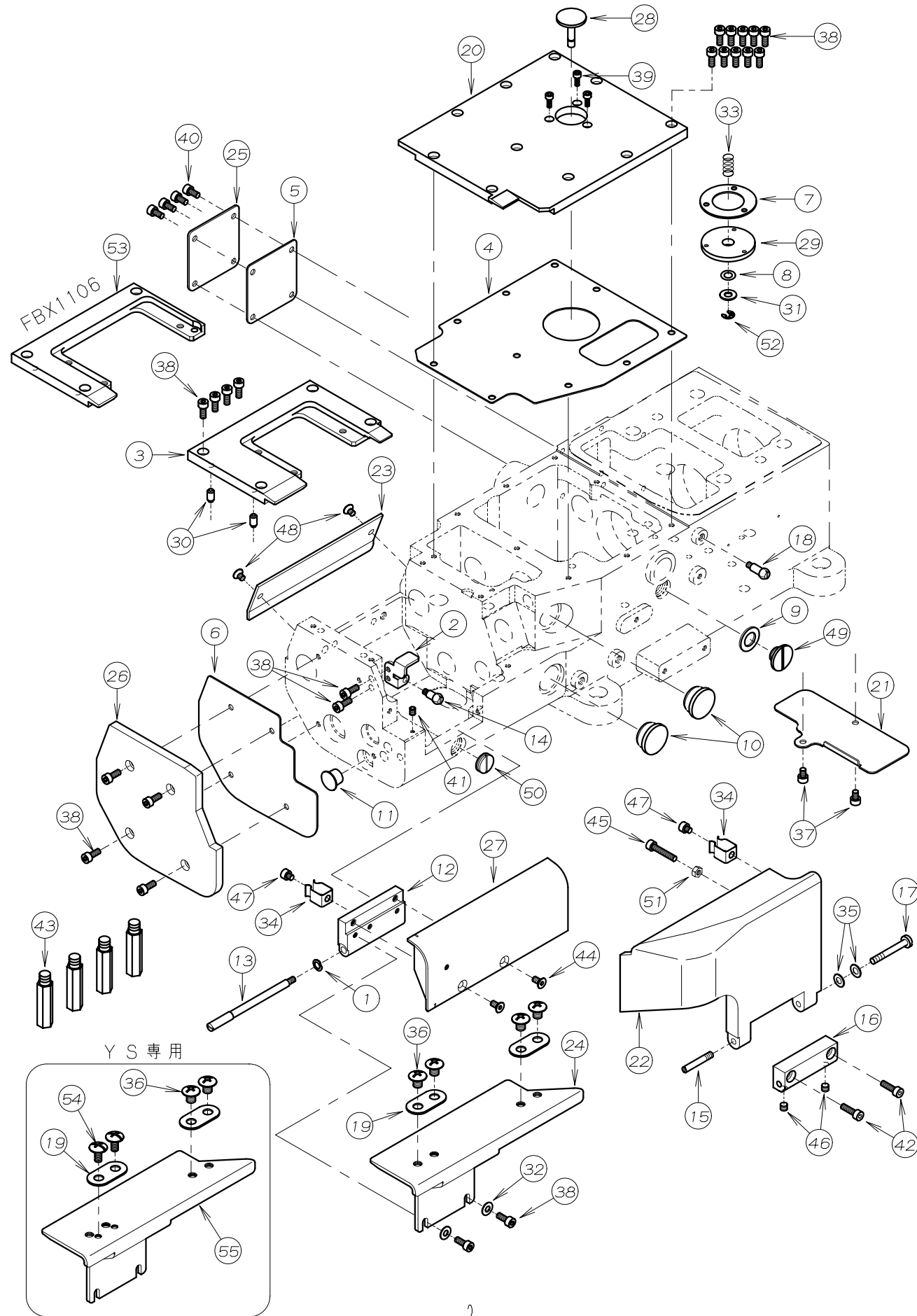
■Pは後プーラー装置付です。
P is with rear puller.
PRは腰裏用のカーブ縫いです。
PR for stitching curved waist bands.
YSはヨークシーム用です。
YS for yoke seaming.

1. フレーム関係 (1) FRAME ASSEMBLY (1)



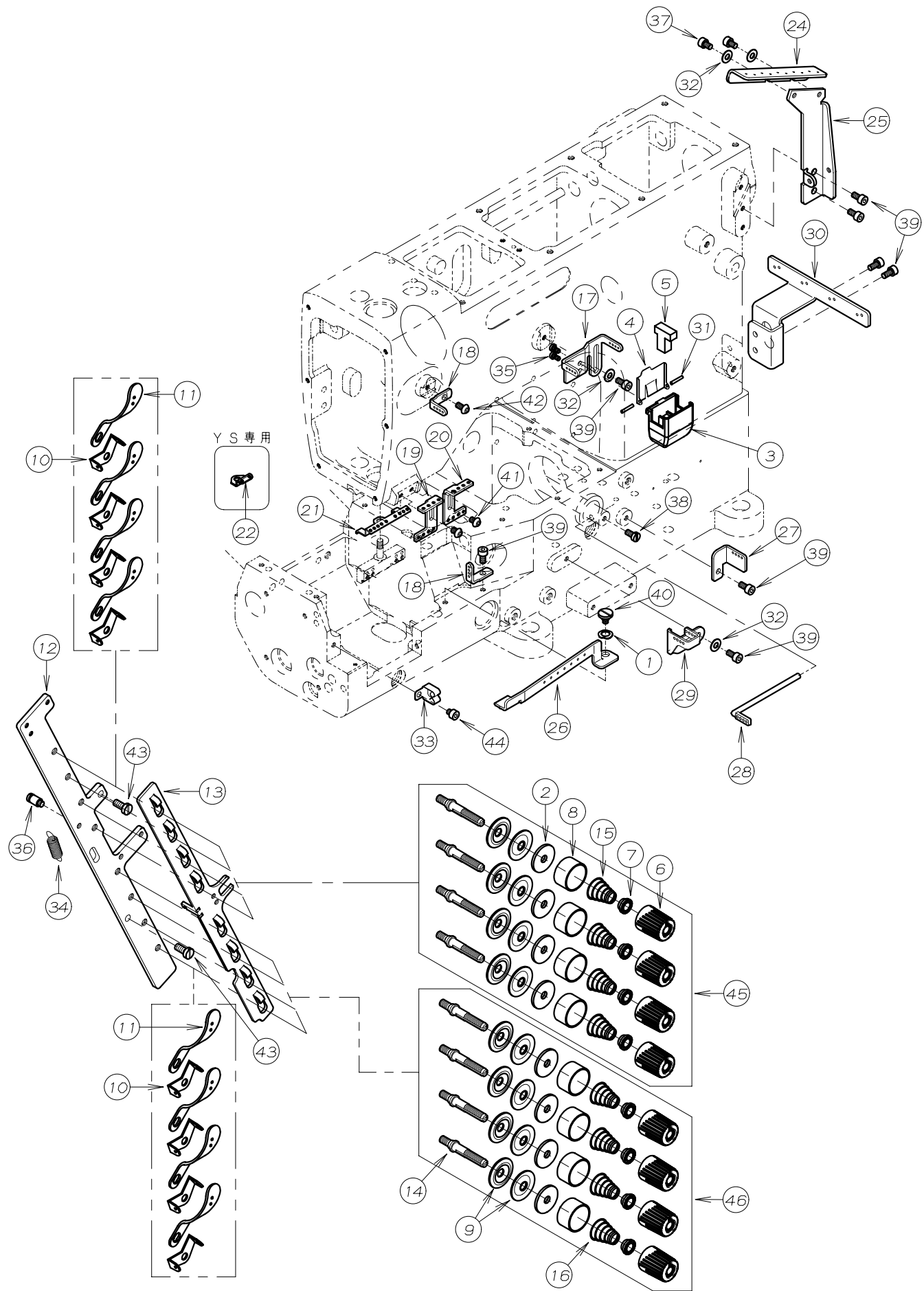
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
01-01	02-119	波座金	WASHER	1
01-02	21-273	保護カバー	EYE GUARD	1
01-03	21-275	保護カバー取り付け板	BRACKET	1
01-04	27-136	プーリーカバー	PULLEY COVER	1
01-05	23-015	面板パッキン	GASKET	1
01-06	23-016	アームカバーパッキン	GASKET	1
01-07	23-017	ゴム栓	PLUG	1
01-08	23-304	シール	SEAL	1
01-09	23-427	ゴム栓	PLUG	2
01-10	23-501	ゴム栓	PLUG	1
01-11	23-504	ゴム栓	PLUG	1
01-12	23-508	Oリング	O-RING	1
01-13	24-051	銘板	BRAND NAME PLATE	1
01-14	24-052	銘板	BRAND NAME PLATE	2
01-15	27-405	面板	HEAD COVER	1
01-16	27-406	アームカバー	TOP COVER	1
01-17	27-410	保護カバーブラケット	BRACKET	1
01-18	31-515	オイルタンク	OIL TANK	1
01-19	39-502	オイルホット窓	OIL SIGHT WINDOW	1
01-20	39-504	オイルゲージ	OIL SIGHT GAUGE	1
01-21	75-224	ワッシャ	WASHER	2
01-22	75-552	ワッシャ	WASHER	2
01-23	87-099	ネジ	SCREW	2
01-24	87-113	六角穴付きボルト	BOLT	6
01-25	87-171	六角穴付きボルト	BOLT	2
01-26	87-177	六角穴付きボルト	BOLT	2
01-27	87-206	六角穴付きボルト	BOLT	2
01-28	87-224	六角穴付きボルト	BOLT	8
01-29	87-264	段ネジ	SCREW	1
01-30	87-311	フタネジ	SCREW	1
01-31	87-663	六角穴付きボルト	BOLT	4
01-32	94-505	メクラプラグ	PLUG	1
01-33	21-717	後カバー	REAR COVER	1
01-34	23-538	パッキン	GASKET	1
01-35	87-255	六角穴付きボルト	BOLT	6
01-36	21-274	保護カバー	EYE GUARD	1
01-37	25-521	プラグ	PLUG	2
01-38	87-400	六角穴付きボタンボルト	BOLT	2

2. フレーム関係 (2) FRAME ASSEMBLY (2)



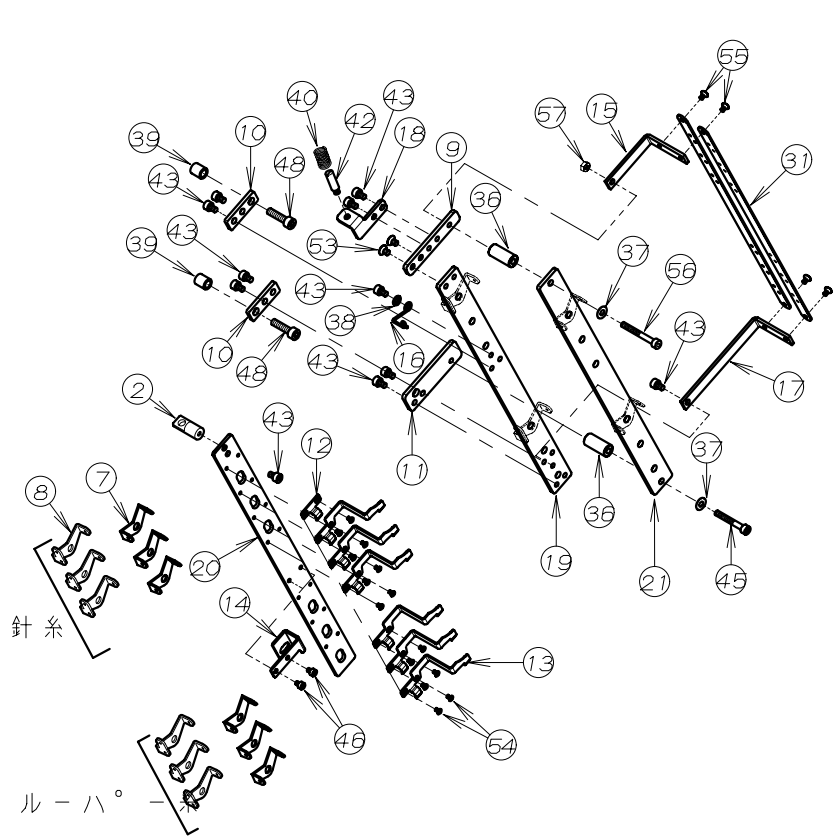
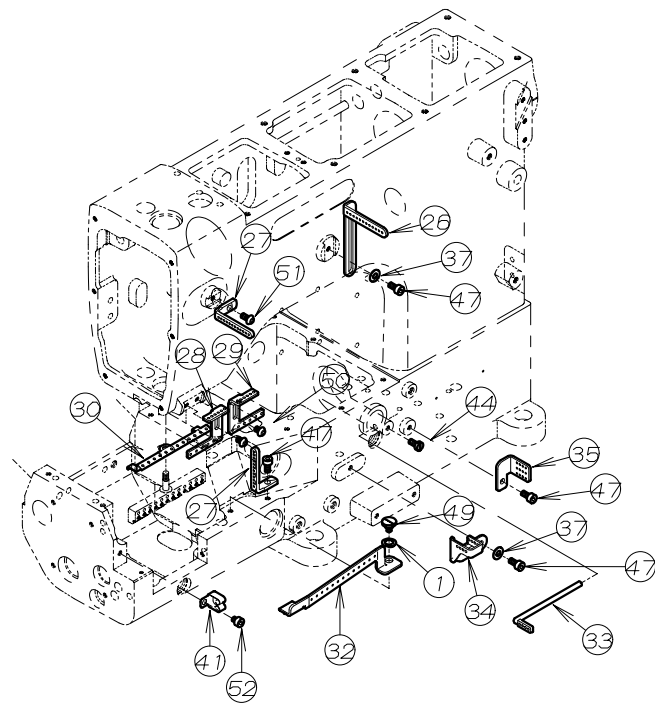
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
02-01	02-118	波ワッシャ	WASHER	1
02-02	04-451	スフ° レッタ° -カ° イト°	GUIDE PLATE	1
02-03	14-118	針板土台 (4本針)	NEEDLE SUPPORT BRACKET	1
02-04	23-010	上ハ° -スカハ° -ハ° ッキン	GASKET	1
02-05	23-026	パッキン	GASKET	1
02-06	23-027	パッキン	GASKET	1
02-07	23-028	押しホ° タン用ハ° ッキン	GASKET	1
02-08	23-183	O-リング°	O-RING	1
02-09	23-304	シール	SEAL	1
02-10	23-427	ゴ° ム栓	PLUG	2
02-11	23-529	ゴ° ム栓	PLUG	1
02-12	25-410	シリンダ° -カハ° -ヒンジ°	HINGE	1
02-13	25-411	カハ° -ヒンジ° ネジ°	HINGE SCREW	1
02-14	25-412	カバーストップねじ	SCREW	1
02-15	25-527	カハ° -ヒンジ° ネジ°	SCREW	1
02-16	25-516	定規台ヒンジ°	HINGE	1
02-17	25-517	ヒンジ° ネジ°	SCREW	1
02-18	25-522	カハ° -ストップ° ネジ°	SCREW	1
02-19	26-822	ラッパ取付金具	PLATE	4
02-20	27-400	上ハ° -スカハ° -	COVER	1
02-21	27-404	防塵フ° レート	PLATE	1
02-22	27-407	前カハ° -	FRONT COVER	1
02-23	27-408	シリンダ° -後カハ° -	REAR COVER	1
02-24	27-411	補助カハ° -	COVER	1
02-25	27-414	後カハ° -	COVER	1
02-26	27-415	横カバー	SIDE COVER	1
02-27	27-416	シリンダ° -カハ° -	CYLINDER COVER	1
02-28	69-454	送り前後調節押しホ° タン	PUSH BUTTON	1
02-29	69-455	押しホ° タンハウジ° ング°	HOUSING	1
02-30	71-579	ロックピ° ン	PIN	2
02-31	75-453	ワッシャ	WASHER	1
02-32	75-455	ワッシャ	WASHER	2
02-33	79-413	フ° ッッシュホ° タンハ° ネ	SPRING	1
02-34	79-912	ハ° ネ	SPRING	2
02-35	79-922	皿ハ° ネ	SPRING	2
02-36	85-181	ネジ°	SCREW	6
02-37	87-092	六角穴付きボルト	BOLT	2
02-38	87-113	六角穴付きボルト	BOLT	22
02-39	87-124	ネジ°	SCREW	3
02-40	87-177	六角穴付きボルト	BOLT	4
02-41	87-181	ネジ°	SCREW	1
02-42	87-214	六角穴付きボルト	BOLT	2
02-43	87-258	スタント° ピ° ン	PIN	4
02-44	87-269	ネジ°	SCREW	2
02-45	87-283	六角穴付きボルト	BOLT	1
02-46	87-274	ネジ°	SCREW	2
02-47	87-287	六角穴付きボルト	BOLT	2
02-48	87-293	ネジ°	SCREW	2
02-49	87-311	フタネジ°	SCREW	1
02-50	87-670	フ° ラク° ネジ°	PLUG SCREW	1
02-51	88-146	ナット	NUT	1
02-52	93-205	E-リング°	E-RING	1
02-53	14-119	針板土台 (12本針)	NEEDLE SUPPORT BRACKET	1
02-54	87-436	ネジ°	SCREW	2
02-55	27-429	補助カハ° -	COVER	1

3. 糸調子機構 (FBX1102~1104) THREAD TENSION MECHANISM

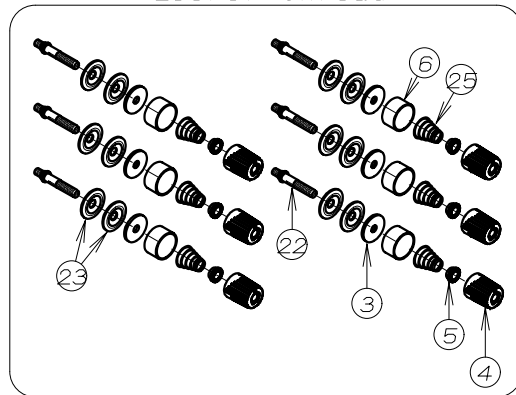


REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
03-01	02-119	波座金	WASHER	1
03-02	23-324	フェルト	FELT	8
03-03	27-039	シリコンタンク	SILICONE OIL RESERVOIR	1
03-04	27-533	シリコンタンクフタ	COVER	1
03-05	27-534	フェルト	FELT	1
03-06	41-101	チャンポン皿小ケース	THREAD TENSION NUT	8
03-07	41-105	チャンポン皿ラチェット	SPRING POST	8
03-08	41-107	大ケース	SPRING CUP	8
03-09	41-509	チャンポン皿	TENSION DISC	16
03-10	41-115	糸道(上)	THREAD GUIDE	8
03-11	41-117	糸道(下)	THREAD GUIDE	8
03-12	41-448	ブラケット	BRACKET	1
03-13	41-449	糸緩めプレート	THREAD RELEASER	1
03-14	41-510	調子棒	SCREW STUD	8
03-15	41-701	チャンポン調子パネ(強)	SPRING (HEAVY)	4
03-16	41-702	チャンポン調子パネ(弱)	SPRING (LIGHT)	4
03-17	45-445	シリコンタンク糸道	THREAD EYELET	1
03-18	45-446	上糸糸道(4本)	THREAD EYELET	2
03-19	45-447	針糸道(左)	THREAD EYELET	1
03-20	45-448	針糸道(右)	THREAD EYELET	1
03-21	45-449	針棒糸道	THREAD EYELET	1
03-22	45-268	針棒糸道	THREAD EYELET	1
03-23				
03-24	45-546	糸ガイド	THREAD GUIDE	1
03-25	45-547	糸ガイドブラケット	BRACKET	1
03-26	47-414	ルーバ糸道左	THREAD EYELET	1
03-27	47-416	下糸糸道	THREAD EYELET	1
03-28	47-417	ルーバ糸道操り	THREAD EYELET	1
03-29	47-418	ルーバ糸道(右)	THREAD EYELET	1
03-30	47-420	糸ガイド	THREAD EYELET	1
03-31	71-202	シリコンタンク用ピン	SILICONE PIN	2
03-32	75-455	ワッシャ	WASHER	4
03-33	79-415	板バネ	SPRING	1
03-34	79-514	引張りバネ	SPRING	1
03-35	84-014	ネジ	SCREW	2
03-36	84-501	ネジ	SCREW	1
03-37	87-092	六角穴付きボルト	BOLT	2
03-38	87-096	ネジ	SCREW	1
03-39	87-177	六角穴付きボルト	BOLT	8
03-40	87-264	段ネジ	SCREW	1
03-41	87-271	ネジ	SCREW	2
03-42	87-272	ネジ	SCREW	1
03-43	87-278	ネジ	SCREW	2
03-44	87-287	六角穴付きボルト	BOLT	1
03-45	40-7370	チャンポン強セット	TENSION ASS'Y (HEAVY)	4
03-46	40-7380	チャンポン弱セット	TENSION ASS'Y (LIGHT)	4

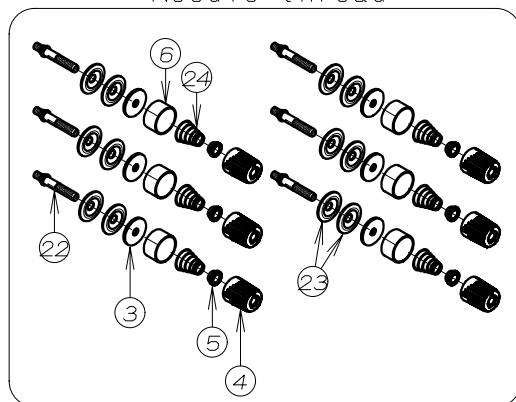
4. 糸調子機構 (FBX1106) THREAD TENSION MECHANISM



ルーパース糸
Looper thread

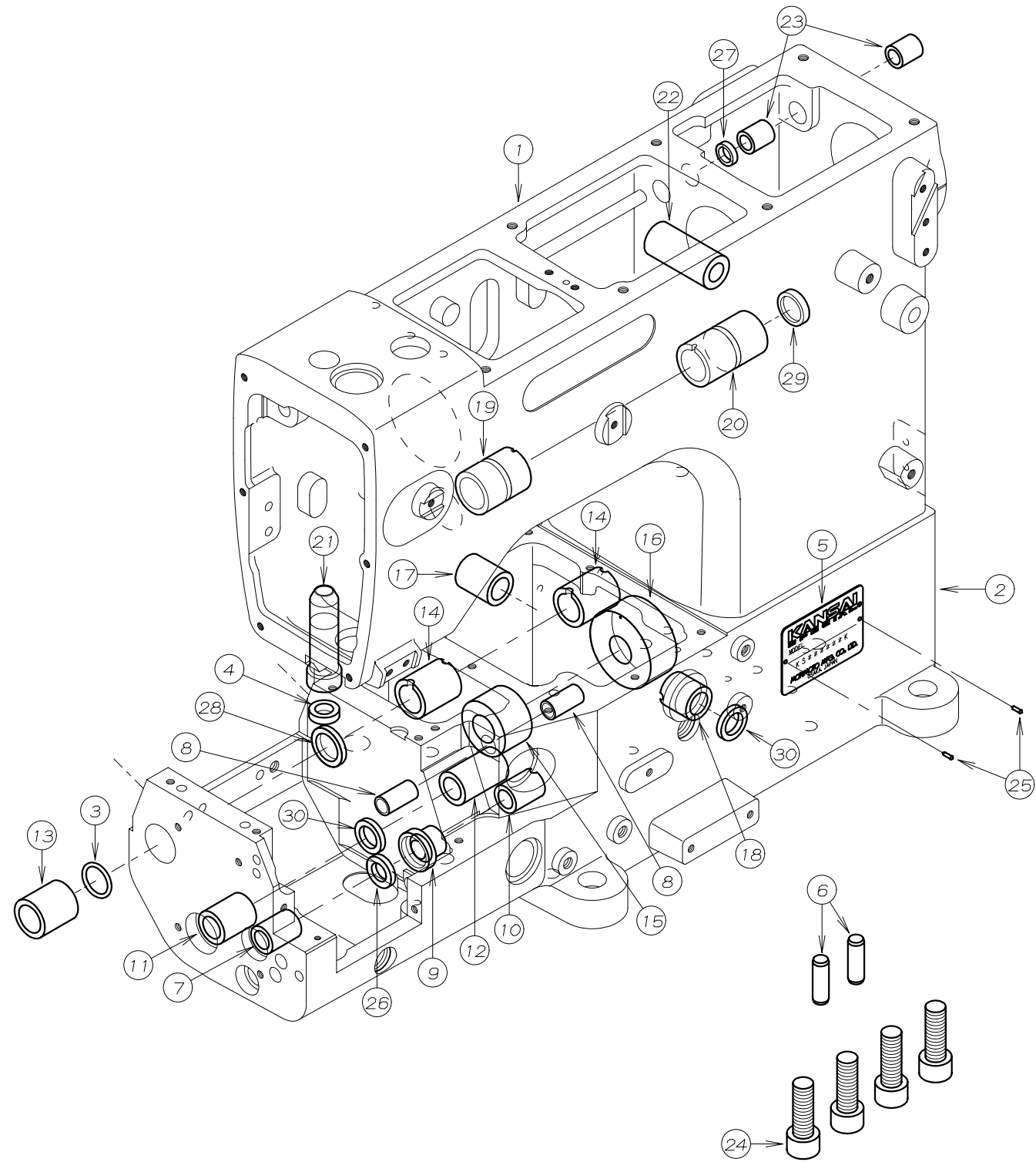


針糸
Needle thread



REF.NO.	PART NO.	品名	DESCRIPTION	Q'TY
04-01	02-119	波座金	WASHER	1
04-02	05-531	エアシリンタ TM - 連結金具	BRACKET	1
04-03	23-324	フェルト	FELT	12
04-04	41-101	チャンポン皿小ケース	THREAD TENSION NUT	12
04-05	41-105	チャンポン皿ラチェット	SPRING POST	12
04-06	41-107	大ケース	SPRING CUP	12
04-07	41-115	糸道 (上)	THREAD GUIDE	6
04-08	41-466	チャンポン皿糸道	THREAD EYELET	6
04-09	41-472	取付金具A	BRACKET A	1
04-10	41-473	取付金具B	BRACKET B	2
04-11	41-474	取付金具C	BRACKET C	1
04-12	41-476	糸緩め爪 (小)	NAIL (S)	1
04-13	41-477	糸緩め爪 (大)	NAIL (L)	6
04-14	41-478	糸緩め金具	PLATE	1
04-15	41-480	糸ガイド取付金具	BRACKET	1
04-16	41-481	糸道	THREAD EYELET	1
04-17	41-482	糸ガイド取付金具	BRACKET	1
04-18	41-483	防振用取付金具	BRACKET	1
04-19	41-484	チャンポン台 (下)	BRACKET	1
04-20	41-485	糸緩めプレート	THREAD RELEASE PLATE	1
04-21	41-486	チャンポン台 (上)	BRACKET	1
04-22	41-508	調子棒 (中)	SCREW STUD	12
04-23	41-509	チャンポン皿	TENSION DISC	24
04-24	41-701	チャンポン調子バネ (強)	SPRING (HEAVY)	6
04-25	41-702	チャンポン調子バネ (弱)	SPRING (LIGHT)	6
04-26	45-107	糸道	THREAD EYELET	1
04-27	45-450	糸道 (12本)	THREAD EYELET	2
04-28	45-451	針糸道 (左) 12本	THREAD EYELET	1
04-29	45-452	針糸道 (右) 12本	THREAD EYELET	1
04-30	45-453	針糸道 (12本針)	THREAD EYELET	1
04-31	45-472	糸ガイド	THREAD EYELET	2
04-32	47-415	ルーパース糸道左	THREAD EYELET	1
04-33	47-417	ルーパース糸操り	THREAD EYELET	1
04-34	47-418	ルーパース糸道 (右)	THREAD EYELET	1
04-35	47-419	下糸糸道 (12本)	THREAD EYELET	1
04-36	75-427	スペースカラー	COLLAR	2
04-37	75-455	ワッシャ	WASHER	4
04-38	75-468	ワッシャ	WASHER	1
04-39	75-943	カラー	COLLAR	2
04-40	79-163	ハネ	SPRING	1
04-41	79-415	板バネ	SPRING	1
04-42	84-537	段ネジ	SCREW	1
04-43	87-092	六角穴付きボルト	BOLT	11
04-44	87-096	ネジ	SCREW	1
04-45	87-120	六角穴付きボルト	BOLT	1
04-46	87-142	ネジ	SCREW	2
04-47	87-177	六角穴付きボルト	BOLT	4
04-48	87-246	六角穴付きボルト	BOLT	2
04-49	87-264	段ネジ	SCREW	1
04-50	87-271	ネジ	SCREW	2
04-51	87-272	ネジ	SCREW	1
04-52	87-287	六角穴付きボルト	BOLT	1
04-53	87-293	ネジ	SCREW	2
04-54	87-338	十字穴付皿小ネジM2.5	SCREW	14
04-55	87-339	十字穴付皿小ネジM3	SCREW	4
04-56	87-903	六角穴付きボルト	BOLT	1
04-57	88-146	ナット	NUT	1

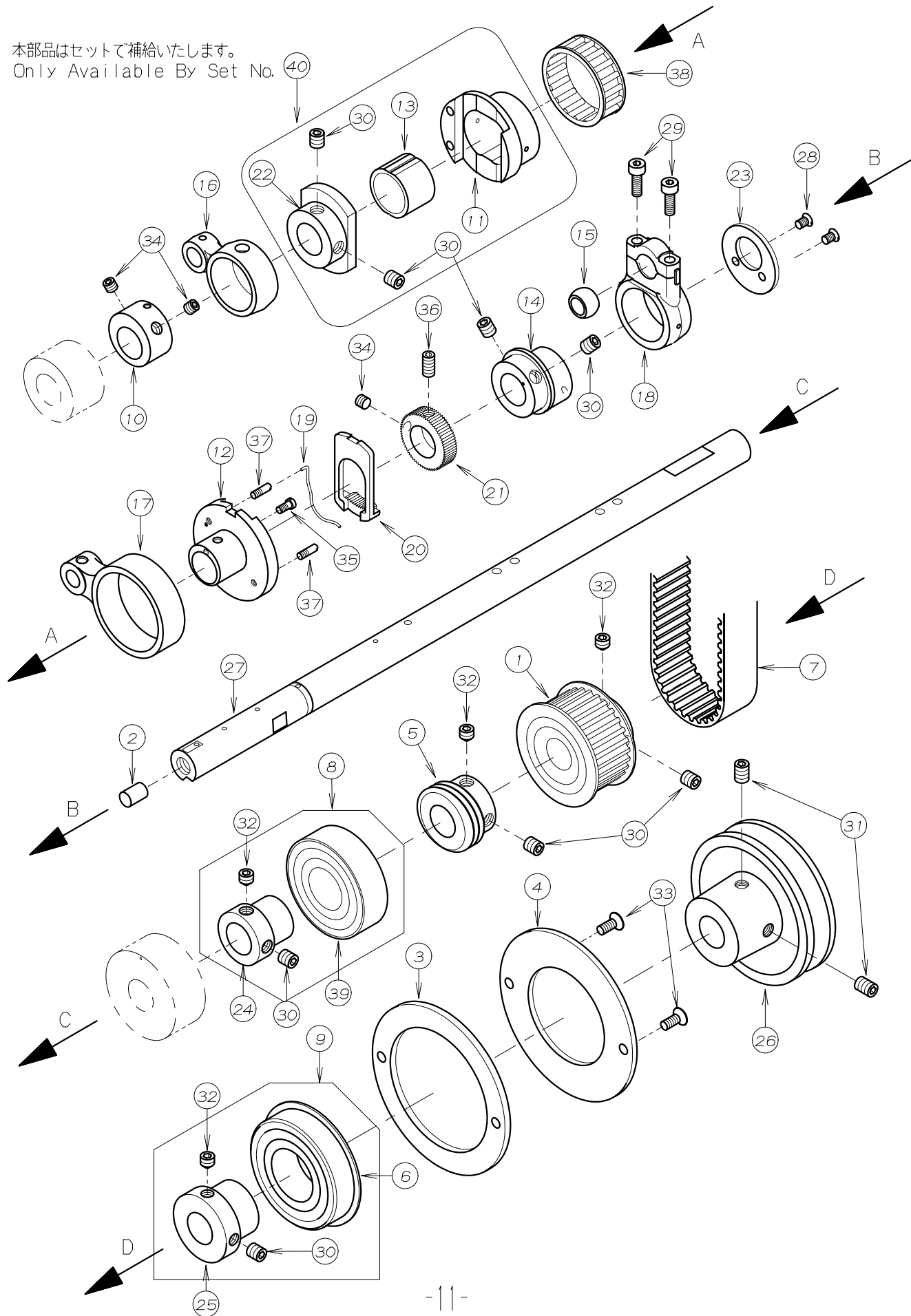
5. フッシユ機構 BUSHING



REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
05-01	22-420	アーム	ARM	1
05-02	22-422	シリンダ [○] -加工 [○]	CYLINDER	1
05-03	23-195	O-リング [○]	O-RING	1
05-04	94-503	オイルシール	OIL SEAL	1
05-05	24-053	モデルステッカー	TYPE PLATE	1
05-06	71-580	ノックピン	PIN	2
05-07	81-430	ブッシュ	BUSHING	1
05-08	81-452	スフレッタ [○] -フッシユ	BUSHING	2
05-09	81-453	ルーハ [○] -軸フッシユ中	BUSHING	1
05-10	81-454	ルーハ [○] -軸フッシユ右	BUSHING	1
05-11	81-455	送り上下軸フッシユ左	BUSHING	1
05-12	81-456	送り上下軸フッシユ右	BUSHING	1
05-13	81-457	送り前後軸フッシユ左	BUSHING	1
05-14	81-458	送り前後軸フッシユ中右	BUSHING	2
05-15	81-459	下軸フッシユ左	BUSHING	1
05-16	81-460	下軸フッシユ右	BUSHING	1
05-17	81-461	スフレッタ [○] -軸フッシユ後	BUSHING	1
05-18	81-462	スフレッタ [○] -軸フッシユ前	BUSHING	1
05-19	81-464	ブッシュ	BUSHING	1
05-20	81-465	ブッシュ	BUSHING	1
05-21	81-466	押え棒ブッシュ	BUSHING	1
05-22	81-505	ブッシュ	BUSHING	1
05-23	81-531	フッシユ	BUSHING	2
05-24	87-228	六角穴付きボルト	BOLT	4
05-25	93-701	ピン	PIN	2
05-26	94-222	オイルシール	OIL SEAL	1
05-27	94-231	オイルシール	OIL SEAL	1
05-28	94-402	オイルシール	OIL SEAL	1
05-29	94-403	盲オイルシール	OIL SEAL	1
05-30	94-502	オイルシール	OIL SEAL	2

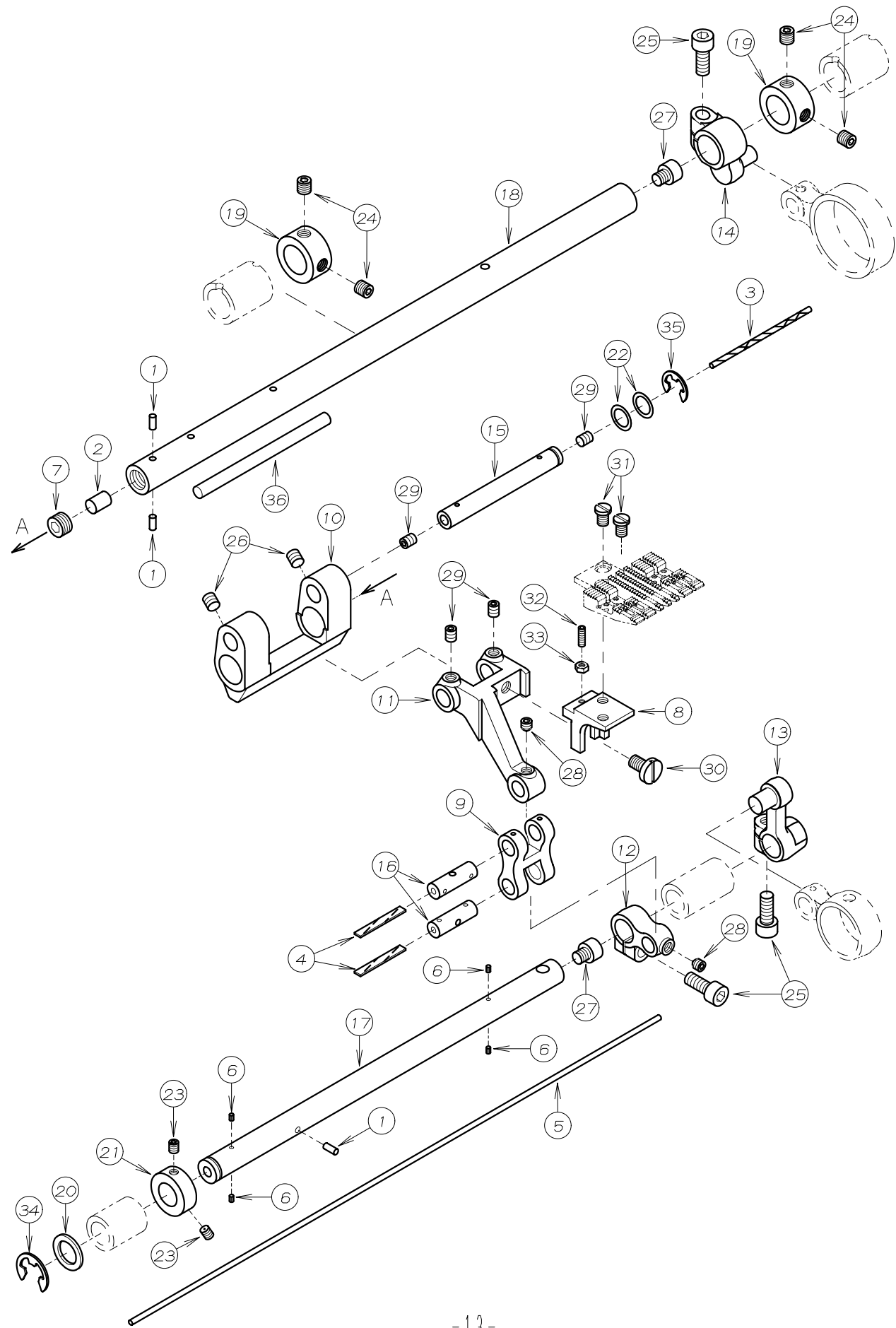
6. 下軸機構 CRANKSHAFT MECHANISM

本部品はセットで補給いたします。
Only Available By Set No.



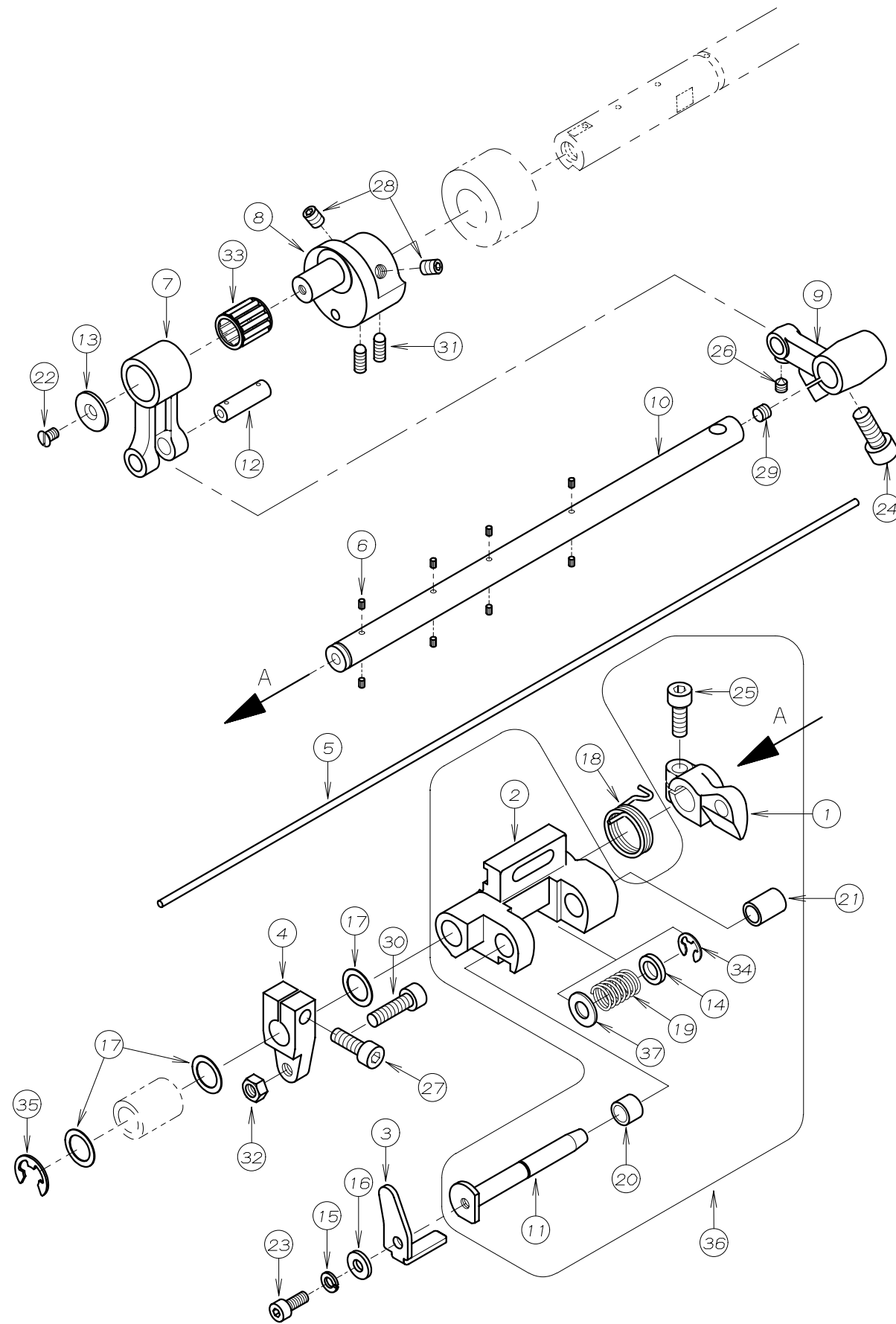
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
06-01	06-121	タイミングプーリー(下)	TIMING PULLEY	1
06-02	23-012	フェルト	FELT	1
06-03	25-519	ベアリング止め板(A)	SET PLATE (A)	1
06-04	25-520	ベアリング止め板(B)	SET PLATE (B)	1
06-05	31-701	ホーンポンプ駆動キヤ	PUMP DRIVING WARM	1
06-06	34-826	ホーンベアリング	BEARING	1
06-07	58-501	タイミングベルト	TIMING BELT	1
06-08	60-9930	ベアリングセット	BEARING ASS'Y	1
06-09	60-9950	ベアリングセット	BEARING ASS'Y	1
06-10	61-419	送り上下エキセン	ECCENTRIC	1
06-11	61-420	送り前後エキセン	FEED ECCENTRIC	1
06-12	61-421	送り調節エキセン	FEED ECCENTRIC	1
06-13	61-422	前後エキセンカラー	ECCENTRIC LINK	1
06-14	61-423	スフレッタ駆動エキセン	ECCENTRIC	1
06-15	61-424	スフレッタ球面軸受け	BALL JOINT	1
06-16	63-411	送り上下ロッド	CONNECTING ROD	1
06-17	63-412	送り連結ロッド	CONNECTING ROD	1
06-18	63-413	スフレッタ駆動ロッド	CONNECTING ROD	1
06-19	69-432	送り調節エキセンハネ	SPRING	1
06-20	69-448	送り調節キヤプレート	REGULATING PLATE	1
06-21	69-449	送り調節キヤ	REGULATING GEAR	1
06-22	69-450	送リトライブプレート	MOUNT COLLAR	1
06-23	69-451	エンドプレート	PLATE	1
06-24	69-518	ベアリングスリーブ	BEARING SLEEVE	1
06-25	69-529	ベアリングスリーブ	BEARING SLEEVE	1
06-26	69-537	Vプーリー	V-PULLEY	1
06-27	71-367	下軸	MAIN SHAFT	1
06-28	84-463	ネジ	SCREW	2
06-29	87-129	六角穴付きボルト	BOLT	2
06-30	87-172	ネジ	SCREW	8
06-31	87-242	ネジ	SCREW	2
06-32	87-259	ネジ	SCREW	4
06-33	87-270	ネジ	SCREW	2
06-34	87-274	ネジ	SCREW	3
06-35	87-317	ネジ	SCREW	1
06-36	87-407	六角穴付き止メネジ	SCREW	1
06-37	87-408	ネジ	SCREW	2
06-38	91-417	ニードルベアリング	NEEDLE BEARING	1
06-39	91-994	ホーンベアリング	BEARING	1
06-40	60-4150	送りエキセンセット	FEED ECCENTRIC ASS'Y	1

7. 送り機構 FEED MECHANISM



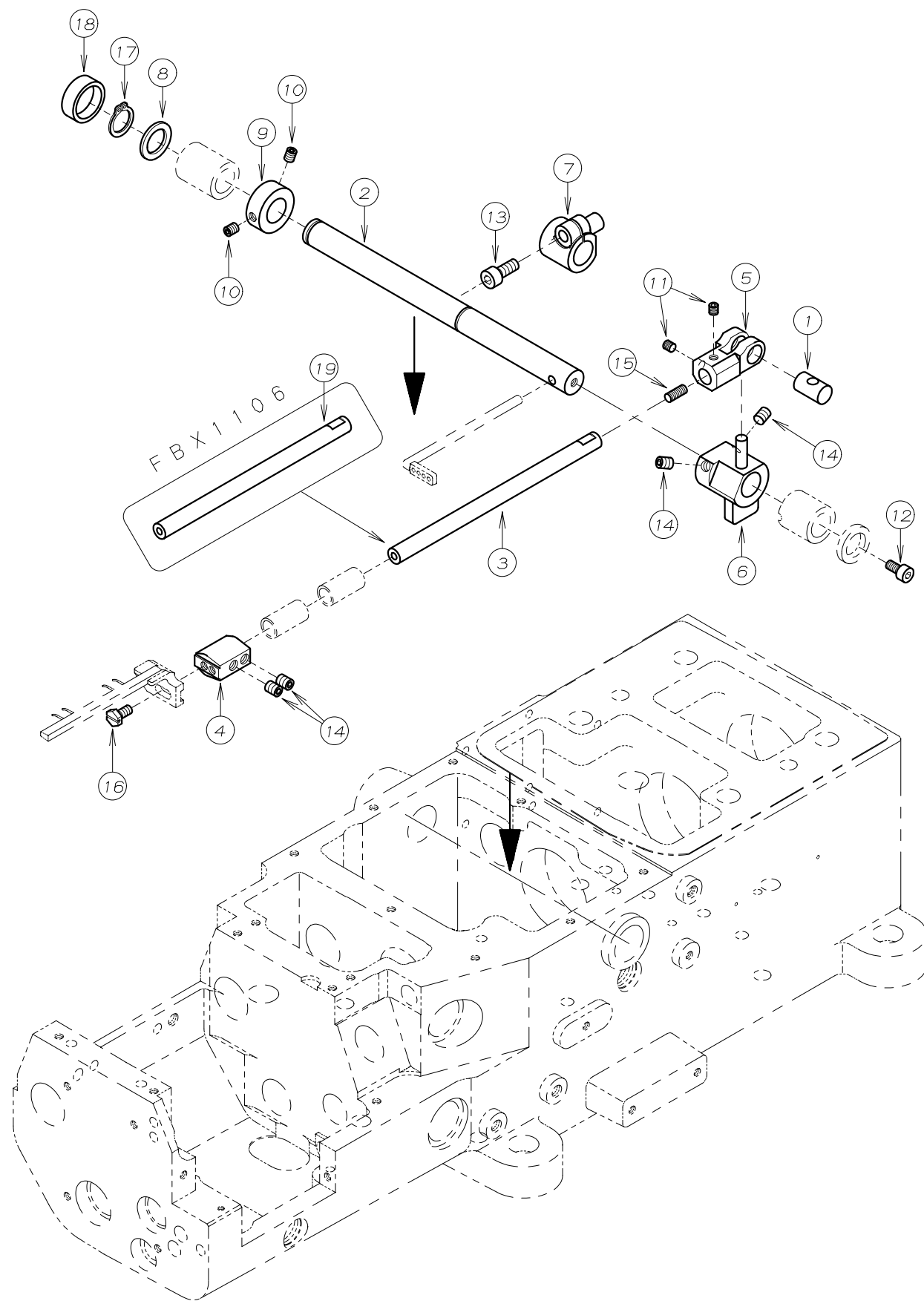
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
07-01	23-011	フェルト	FELT	3
07-02	23-012	フェルト	FELT	1
07-03	23-014	フェルト	FELT	1
07-04	23-341	フェルト	FELT	2
07-05	23-535	フェルト	FELT	1
07-06	23-554	フェルト	FELT	4
07-07	31-663	六角穴付止めねじ	SCREW	1
07-08	55-407	送り歯取付台	FEED DOG HOLDER	1
07-09	55-408	送り上下リンク	LINK	1
07-10	55-409	送り元台	FEED ROCKER	1
07-11	55-410	送り土台	FEED ROCKER	1
07-12	67-439	送り上下レバ	LEVER	1
07-13	67-440	送り上下ト"ライフ"レバ	LEVER	1
07-14	67-441	送り前後レバ	FEED DRIVE LEVER	1
07-15	71-358	送り元台ピ	SHAFT	1
07-16	71-363	送り上下リンクピ	LINK PIN	2
07-17	71-365	送り上下シャフト	FEED LIFT SHAFT	1
07-18	71-366	送り前後シャフト	FEED DRIVE SHAFT	1
07-19	75-106	カラー	COLLAR	2
07-20	75-187	ワッシャ	WASHER	1
07-21	75-189	カラー	COLLAR	1
07-22	75-494	スラストワッシャ	WASHER	2
07-23	84-521	ネジ	SCREW	2
07-24	85-113	ネジ	SCREW	4
07-25	87-171	六角穴付きボルト	BOLT	3
07-26	87-172	ネジ	SCREW	2
07-27	87-210	六角穴付ボ	SCREW	2
07-28	87-253	ネジ	SCREW	2
07-29	87-254	ネジ	SCREW	4
07-30	87-425	平ネジ	SCREW	1
07-31	87-426	平小ネジ	SCREW	2
07-32	87-427	六角穴付止めねじ	SCREW	1
07-33	88-137	ナット	NUT	1
07-34	93-202	E-リング	E-RING	1
07-35	93-222	Eリング	E-RING	1
07-36	23-400	フェルト	FELT	1

8. ルーパ° - 機構 LOOPER MECHANISM



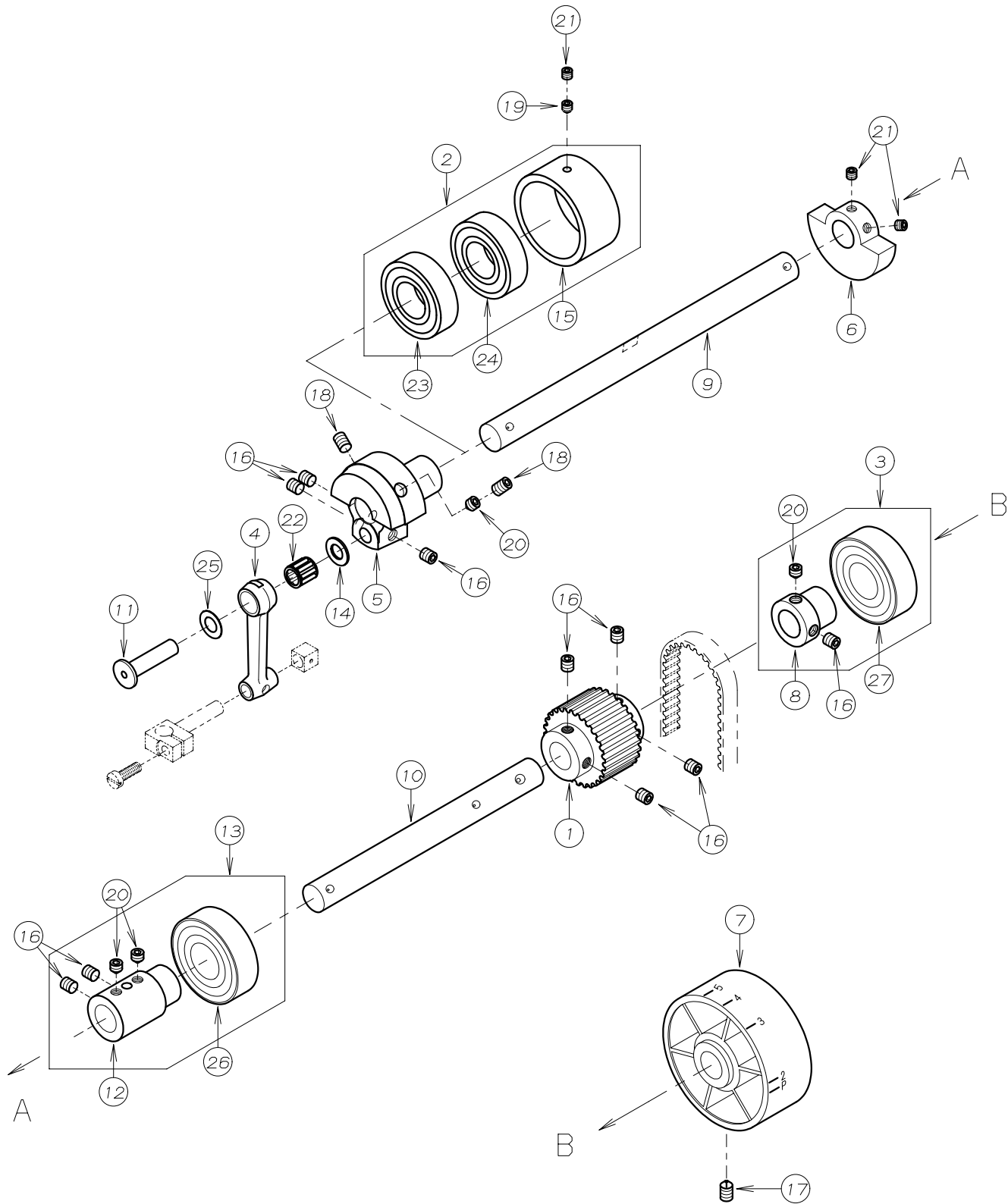
REF. NO.	PART NO.	品 名	DESCRIPTION	Q' TY
08-01	04-444	ルーパ°台ストップ台	LOOPER ROCKER STOPPER	1
08-02	04-449	ルーパ° -元台	LOOPER ROCKER	1
08-03	04-455	ルーパ° -台倒しレハ° -	LOOPER THROW-OUT LEVER	1
08-04	04-456	ルーパ° -台ストップハ° -	LOOPER ROCKER STOPPER	1
08-05	23-535	フェルト	FELT	1
08-06	23-554	フェルト	FELT	8
08-07	63-414	ルーパ° -ト° ライフ° ロット	LOOPER DRIVE ROD	1
08-08	66-513	ルーパ° -クランク	LOOPER CRANK	1
08-09	67-443	ルーパ° -ト° ライフ° レハ° -	LOOPER DRIVE LEVER	1
08-10	71-364	ルーパ° -シャフト	LOOPER SHAFT	1
08-11	71-379	ルーパ° -台引出しレハ° -	SHAFT	1
08-12	71-434	シャフト	SHAFT	1
08-13	75-004	針棒リンクエント° フ° レート	WASHER	1
08-14	75-381	ワッシャ	WASHER	1
08-15	75-410	スフ° リング° ワッシャ	SPRING WASHER	1
08-16	75-522	ワッシャ	WASHER	1
08-17	75-672	ワッシャ	WASHER	3
08-18	79-161	ハ° ネ	SPRING	1
08-19	79-163	ハ° ネ	SPRING	1
08-20	81-142	ブッシュ	BUSHING	1
08-21	81-143	ブッシュ	BUSHING	1
08-22	84-463	ネジ°	SCREW	1
08-23	87-113	六角穴付きボルト	BOLT	1
08-24	87-333	六角穴付きボルト	BOLT	1
08-25	87-224	六角穴付きボルト	BOLT	1
08-26	87-233	ネジ°	SCREW	1
08-27	87-245	六角穴付きボルト	BOLT	1
08-28	87-254	ネジ°	SCREW	2
08-29	87-274	ネジ°	SCREW	1
08-30	87-291	六角穴付きボルト	BOLT	1
08-31	87-428	六角穴付き止メネジ°	SCREW	2
08-32	88-157	ナット	NUT	1
08-33	91-263	ニード° ルケ° -シ°	NEEDLE BEARING	1
08-34	93-211	E-リング°	E-RING	1
08-35	93-222	Eリング	E-RING	1
08-36	10-9050	FBXルーパ° -元台セット	LOOPER ROCKER ASS' Y	1
08-37	75-452	ワッシャ	WASHER	1

9. 糸寄せ機構 RETAINER MECHANISM



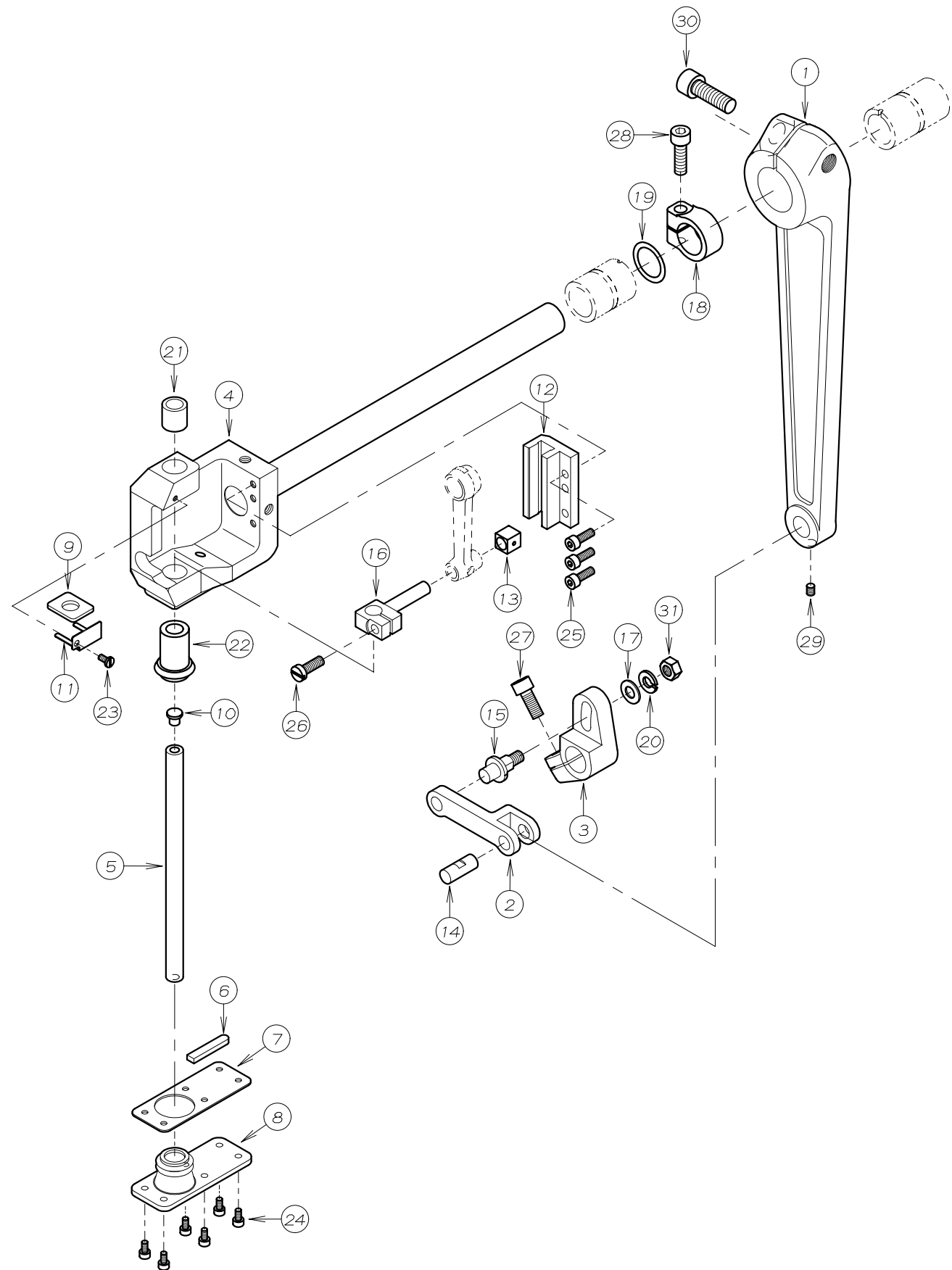
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
09-01	71-359	スプ° レッタ° -左右ピン	PIN	1
09-02	71-360	スプ° レッタ° -ドライブ° シャフト	SPREADER DRIVE SHAFT	1
09-03	71-377	スプ° レッタ° -軸 (4本針)	SHAFT	1
09-04	73-405	スプ° レッタ° -ホルダ° -	SPREADER HOLDER	1
09-05	73-406	スプ° レッタ° -左右ハ° -	LINK	1
09-06	73-407	スプ° レッタ° -左右レハ° -	LEVER	1
09-07	73-408	スプ° レッタ° -駆動レハ° -	LEVER	1
09-08	75-187	ワッシャ	WASHER	1
09-09	75-189	カラー	COLLAR	1
09-10	84-521	ネジ°	SCREW	2
09-11	87-106	ネジ°	SCREW	2
09-12	87-177	六角穴付きボルト	BOLT	1
09-13	87-252	六角穴付きボルト	BOLT	1
09-14	87-254	ネジ°	SCREW	4
09-15	87-401	ネジ°	SCREW	1
09-16	87-430	六角ボ° ルト	SCREW	1
09-17	93-260	軸用C形止め輪 12	C-RING	1
09-18	94-506	オイルシール	OIL SEAL	1
09-19	71-378	スプ° レッタ° -軸 (12本針)	SHAFT	1

10. 上軸機構 UPPER SHAFT MECHANISM



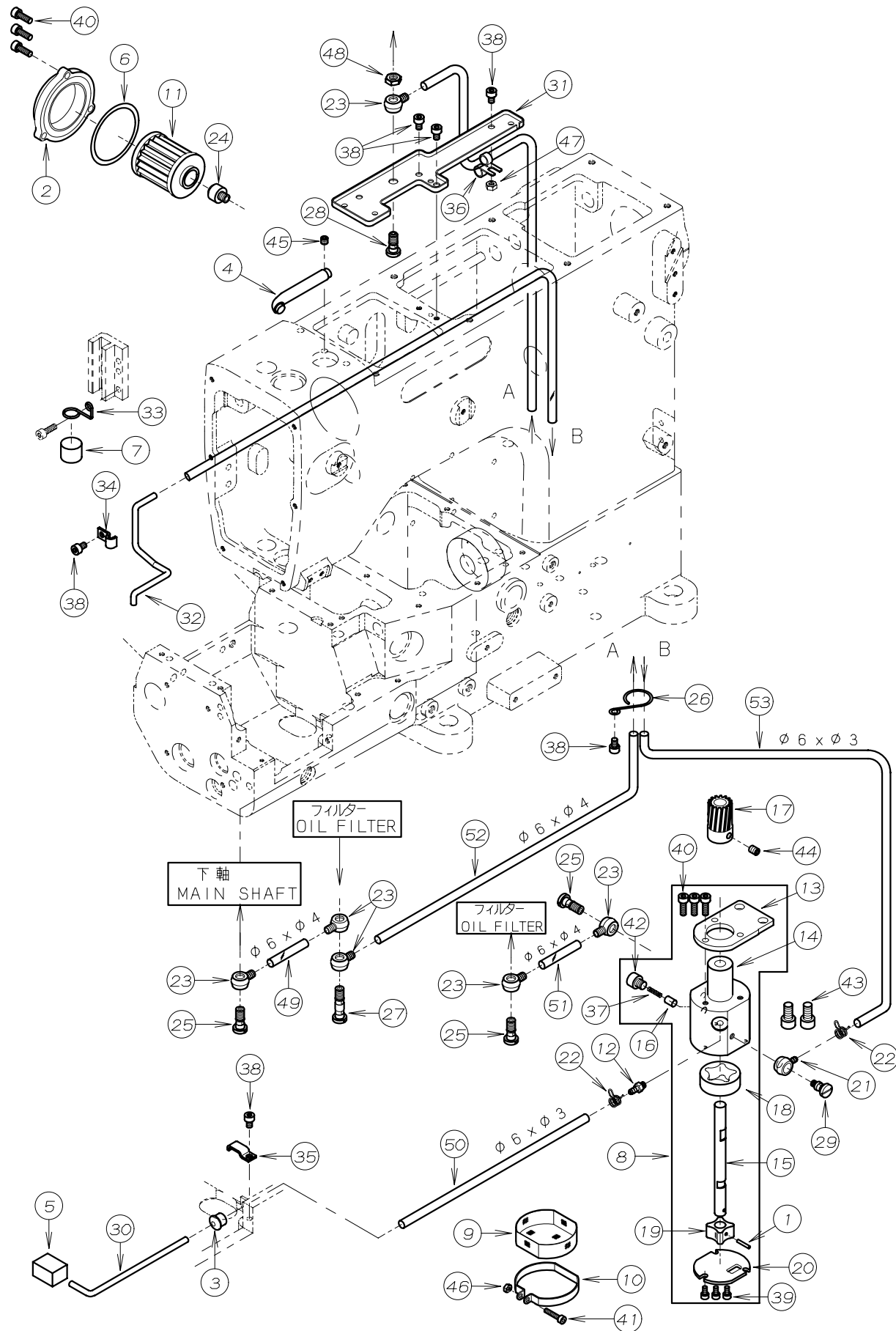
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
10-01	06-120	タイミングプーリー(上)	TIMING PULLEY	1
10-02	60-9890	ハアリングセット	BEARING ASS'Y	1
10-03	60-9940	ハアリングセット	BEARING ASS'Y	1
10-04	63-418	針棒リンク	LINK	1
10-05	66-512	針棒クランク	NEEDLE BAR CRANK	1
10-06	69-142	クランクモーション	BALANCE WEIGHT	1
10-07	69-452	ハンドプーリー	HAND WHEEL	1
10-08	69-518	ハアリングスリーブ	BEARING SLEEVE	1
10-09	71-372	上軸(左)	UPPER SHAFT	1
10-10	71-373	上軸(右)	UPPER SHAFT	1
10-11	71-674	針棒リンクピン	LINK PIN	1
10-12	75-270	上軸ジョイント	JOINT COLLAR	1
10-13	75-2700-1	ハアリングセット	BEARING ASS'Y	1
10-14	75-542	ワッシャ	WASHER	1
10-15	81-502	ブッシュ	BUSHING	1
10-16	87-172	ネジ	SCREW	10
10-17	87-241	ネジ	SCREW	1
10-18	87-242	ネジ	SCREW	2
10-19	87-253	ネジ	SCREW	1
10-20	87-259	ネジ	SCREW	4
10-21	87-274	ネジ	SCREW	3
10-22	91-264	ニードルハアリング	BEARING	1
10-23	91-882	ハアリング	BEARING	1
10-24	91-888	ハアリング	BEARING	1
10-25	75-671	スラストワッシャ	WASHER	1
10-26	91-994	ハアリング	BEARING	1
10-27	91-894	ボールハアリング	BEARING	1

11. 針棒機構 NEEDLE BAR MECHANISM



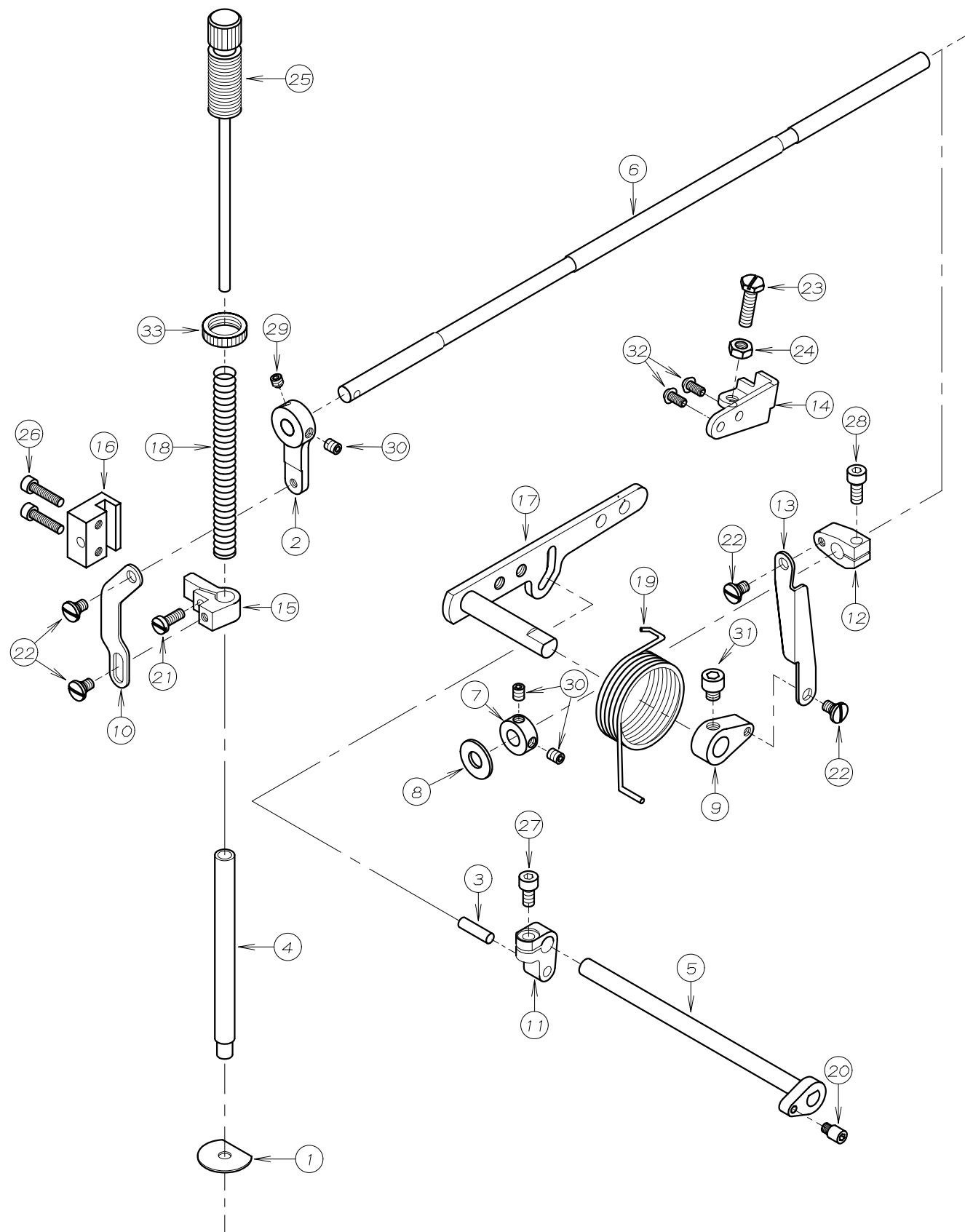
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
11-01	03-400	針振り軸腕	NEEDLE FEED LEVER	1
11-02	03-401	針振リンク	NEEDLE FEED LINK	1
11-03	03-402	針振りレバー	LEVER	1
11-04	03-403	針振り台セット	NEEDLE FEEDER	1
11-05	11-408	針棒	NEEDLE BAR	1
11-06	23-022	フェルト	FELT	1
11-07	23-023	オイルシールパッキン	GASKET	1
11-08	23-024	オイルシール	OIL SEAL	1
11-09	23-025	フェルト	FELT	1
11-10	23-425	クッションゴム	RUBBER	1
11-11	27-413	フェルト押さえ	FELT CLAMP	1
11-12	69-453	針棒ガイド	NEEDLE BAR GUIDE	1
11-13	69-532	角ゴム	BLOCK	1
11-14	71-374	リンクピン	LINK PIN	1
11-15	71-375	針振りレバーピン	PIN	1
11-16	73-409	針棒抱き	NEEDLE BAR CLAMP	1
11-17	75-452	ワッシャ	WASHER	1
11-18	75-495	カラー	COLLAR	1
11-19	75-496	スラストワッシャ	WASHER	1
11-20	75-527	スプリングワッシャ	SPRING WASHER	1
11-21	81-467	針棒ブッシュ(上)	BUSHING	1
11-22	81-468	針棒ブッシュ(下)	BUSHING	1
11-23	87-090	ネジ	SCREW	1
11-24	87-123	六角穴付きボルト	BOLT	6
11-25	87-129	六角穴付きボルト	BOLT	3
11-26	87-163	ネジ	SCREW	1
11-27	87-171	六角穴付きボルト	BOLT	1
11-28	87-173	六角穴付きボルト	BOLT	1
11-29	87-181	ネジ	SCREW	1
11-30	87-661	六角穴付きボルト	BOLT	1
11-31	88-166	ナット	NUT	1

12. 給油機構 LUBRICATION MECHANISM



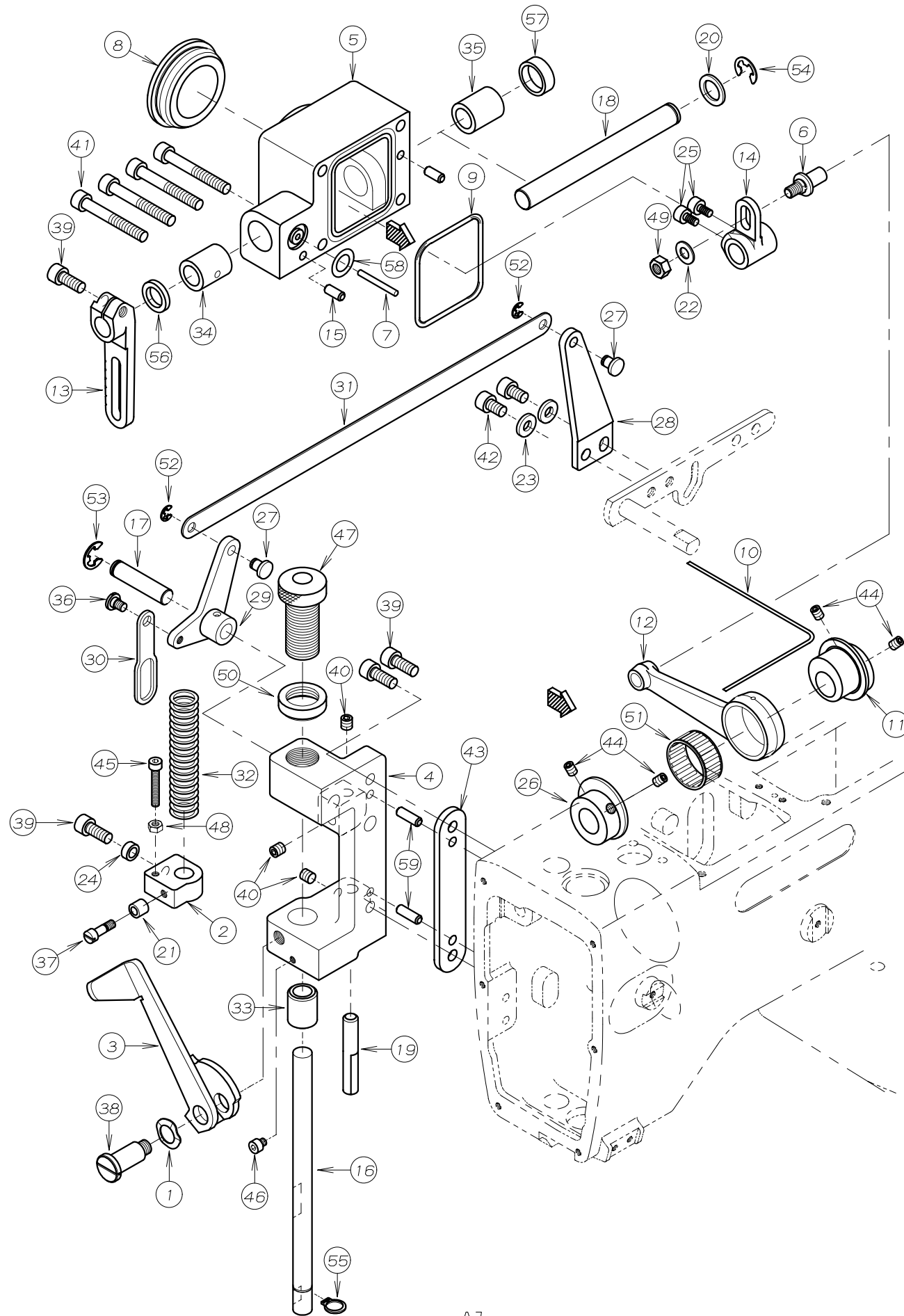
REF.NO.	PART NO.	品名	DESCRIPTION	Q'TY
12-01	17-8010-G	ピン	PIN	1
12-02	21-632	オイルフィルターキャップ	OIL FILTER CAP	1
12-03	23-013	パイプブッシュ	PIPE BUSHING	1
12-04	23-019	針棒給油パイプ	PIPE	1
12-05	23-363	フェルト	FELT	1
12-06	23-506	O-リング	O-RING	1
12-07	23-562	スポンジ	SPONGE	1
12-08	30-0012	ポンプセット	PUMP ASS'Y	1
12-09	31-156	ポンプメッシュ	PUMP MESH	1
12-10	31-157	ポンプメッシュ止め金具	CLAMP	1
12-11	31-222	フィルター	OIL FILTER	1
12-12	31-314	継手	JOINT	1
12-13	31-516	ポンプ取付板	PLATE	1
12-14	31-551	トロコイトポンプハウジング	PUMP HOUSING	1
12-15	31-552	ポンプ軸	PUMP SHAFT	1
12-16	31-553	ピン	PIN	1
12-17	31-702	ポンプギア	PUMP GEAR	1
12-18	31-705	アウターローター	OUTER ROTER	1
12-19	31-707	インナーローター	INNER ROTER	1
12-20	31-708	ポンプ裏板	PLATE	1
12-21	35-361	片口管継手(小)	JOINT	1
12-22	35-413	止め金具	CLAMP	2
12-23	35-505	片口継手	JOINT	6
12-24	35-509	継手	JOINT	1
12-25	35-528	管継手ホルト	JOINT SCREW	3
12-26	35-530	チューブバンド	CLAMP	1
12-27	35-529	管継手ホルト	JOINT SCREW	1
12-28	35-539	管継手ホルト	JOINT SCREW	1
12-29	35-542	管継手ホルト	JOINT SCREW	1
12-30	35-543	リターンパイプ	RETURN PIPE	1
12-31	35-544	油受け	OIL RELEASER	1
12-32	35-545	リターンパイプ	RETURN PIPE	1
12-33	35-546	給油サポート	PIPE SUPPORT	1
12-34	39-133	パイプサポート C	PIPE SUPPORT C	1
12-35	39-139	パイプサポート	PIPE SUPPORT	1
12-36	39-501	配管止め	CLAMP	1
12-37	79-554	ポンプヒンパネ	SPRING	1
12-38	87-092	六角穴付きボルト	BOLT	6
12-39	87-123	六角穴付きボルト	BOLT	3
12-40	87-129	六角穴付きボルト	BOLT	6
12-41	87-140	六角穴付きボルト	BOLT	1
12-42	87-210	六角穴付きボルト	SCREW	1
12-43	87-225	六角穴付きボルト	BOLT	2
12-44	87-254	ネジ	SCREW	1
12-45	87-274	ネジ	SCREW	1
12-46	88-137	ナット	NUT	1
12-47	88-146	ナット	NUT	1
12-48	88-165	六角ナット	NUT	1
12-49	35-005	ヒニールチューブ	TUBE (φ6×φ4, 80L)	1
12-50	35-346	ヒニールチューブ	TUBE (φ6×φ3, 170L)	1
12-51	35-420	ヒニールチューブ	TUBE (φ6×φ4, 135L)	1
12-52	35-517	ヒニールチューブ	TUBE (φ6×φ4, 540L)	1
12-53	35-521	ヒニールチューブ	TUBE (φ6×φ3, 560L)	1

13. 押え揚げ機構 PRESSER FOOT MECHANISM



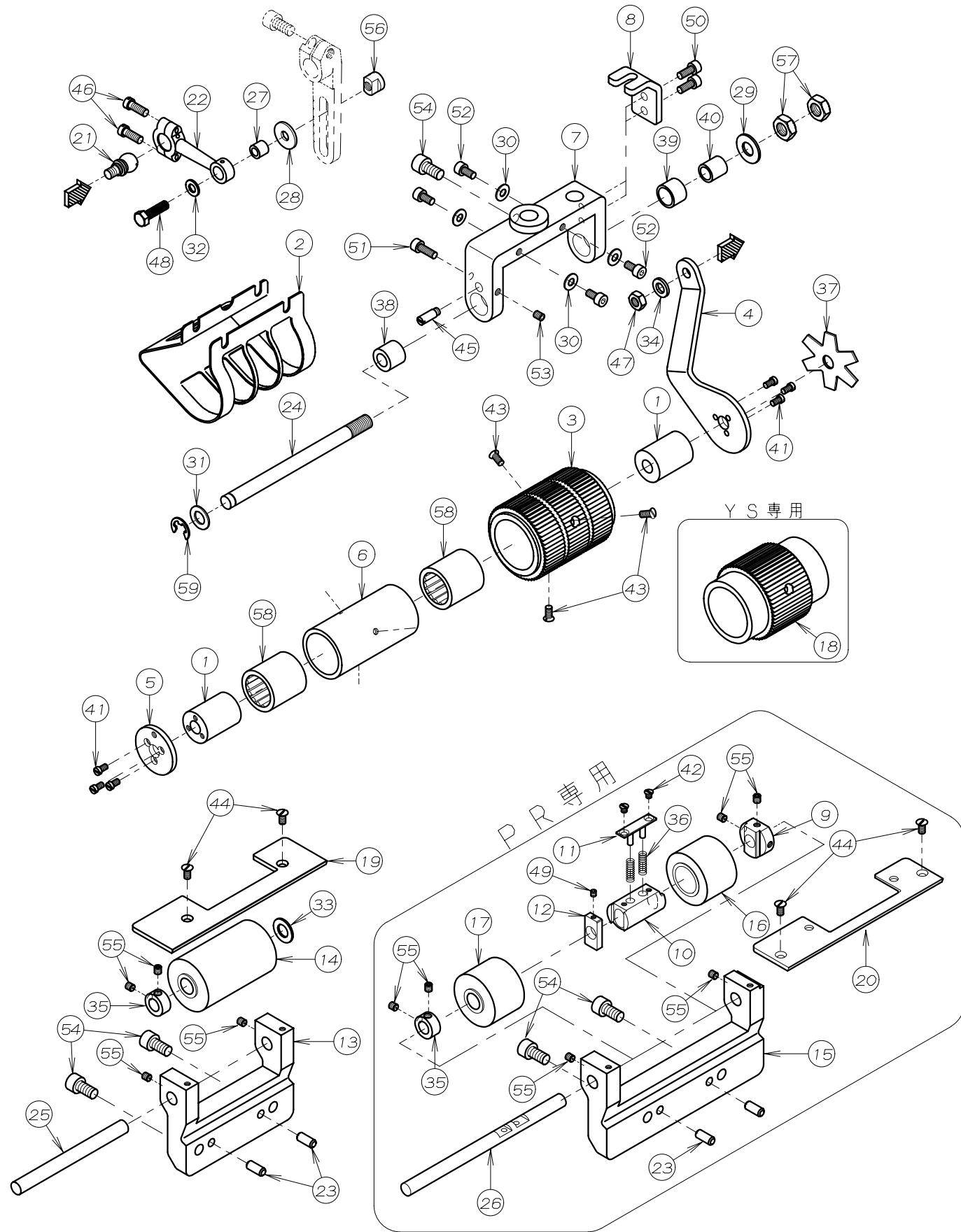
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
13-01	23-018	押え棒油止シール	SEAL	1
13-02	67-503	レバー	LEVER	1
13-03	71-203	平行ピン	PIN	1
13-04	71-368	押え棒	PRESSER FOOT BAR	1
13-05	71-507	系緩め軸	SHAFT	1
13-06	71-517	シャフト	SHAFT	1
13-07	75-001	カラー	COLLAR	1
13-08	75-501	ワッシャ	WASHER	1
13-09	77-043	クランク (下)	CRANK	1
13-10	77-437	連結プレート	PLATE	1
13-11	77-504	押え揚クランク	CRANK	1
13-12	77-507	クランク (上)	CRANK	1
13-13	77-508	リンク	LINK	1
13-14	77-509	ブラケット	BRACKET	1
13-15	77-510	押え棒抱き	CLAMP	1
13-16	77-511	押え棒ガイド	GUIDE	1
13-17	77-526	レバー	LEVER	1
13-18	79-414	押え棒バネ	SPRING	1
13-19	79-538	巻バネ	SPRING	1
13-20	84-561	ネジ	SCREW	1
13-21	84-566	ネジ	SCREW	1
13-22	84-581	段ネジ	SCREW	4
13-23	84-813	ネジ	SCREW	1
13-24	86-411	ナット	NUT	1
13-25	87-001	押え棒筒ネジ	SCREW	1
13-26	87-112	六角穴付きボルト	BOLT	2
13-27	87-213	六角穴付きボルト	BOLT	1
13-28	87-252	六角穴付きボルト	BOLT	1
13-29	87-253	ネジ	SCREW	1
13-30	87-254	ネジ	SCREW	3
13-31	87-210	六角穴付きボルト	BOLT	1
13-32	87-272	ネジ	SCREW	2
13-33	88-003	筒ネジ ナット	NUT	1

14. 後フ°-ラー機構 (1) REAR PULLER MECHANISM (1)



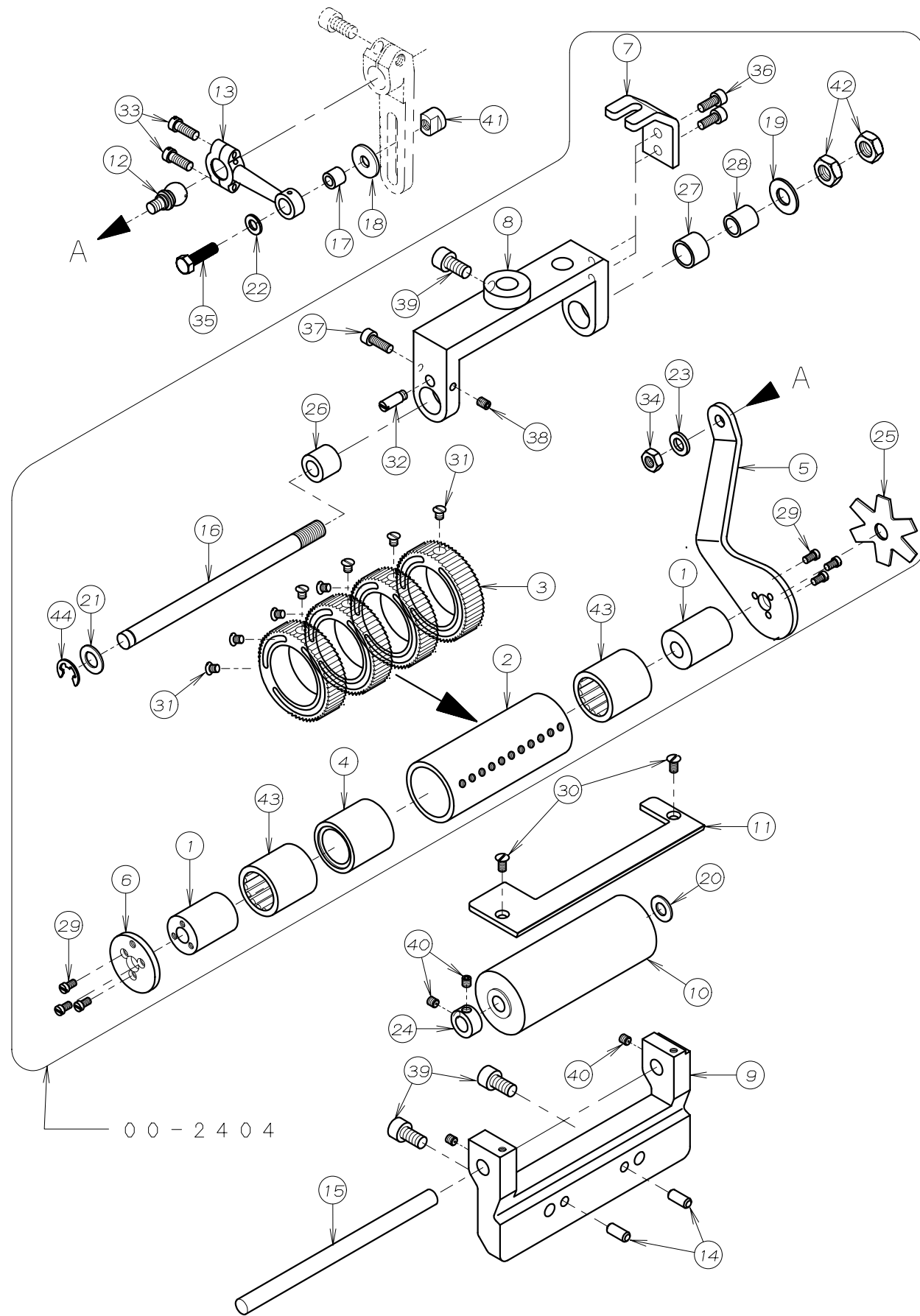
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
14-01	02-112	波ワッシャー	WASHER	1
14-02	02-204	後プ°ラー立シャフト抱き	BRACKET	1
14-03	02-216	手揚げ用金具	PULLER LIFTING LEVER	1
14-04	02-562	後フ°ラーフ°ラケット	BRACKET	1
14-05	02-565	上フ°ラー軸ケース	BRACKET	1
14-06	04-502	調節レハ°ピン	PIN	1
14-07	23-021	フェルト	FELT	1
14-08	23-541	ゴ°ム栓	PLUG	1
14-09	23-542	O-リング°	O-RING	1
14-10	23-556	フェルト	FELT	1
14-11	61-551	フ°ラーエキセン	ECCENTRIC	1
14-12	63-535	フ°ラークランクロット	CONNECTING ROD	1
14-13	67-442	上プ°ラー駆動レバ°	PULLER DRIVE LEVER	1
14-14	67-528	上フ°ラー振りレハ°	LEVER	1
14-15	71-208	ノックピン°	PIN	2
14-16	71-438	後プ°ラー立シャフト	SHAFT	1
14-17	71-726	シャフト	SHAFT	1
14-18	71-727	上フ°ラー駆動軸	SHAFT	1
14-19	71-729	プ°ラー回り止ピン	GUIDE PIN	1
14-20	75-187	ワッシャー	WASHER	1
14-21	75-211	カラー	COLLAR	1
14-22	75-452	ワッシャー	WASHER	1
14-23	75-458	ワッシャー	WASHER	2
14-24	75-493	カラー	COLLAR	1
14-25	87-024	六角穴付きボルト	BOLT	2
14-26	75-545	エンド°カラー	COLLAR	1
14-27	77-419	押え揚げ連結ピン	PIN	2
14-28	77-421	押え揚げ連結板	LEVER	1
14-29	77-438	後フ°ラー揚げレハ°	PULLER LIFTING LEVER	1
14-30	77-439	後フ°ラー抱き連結フ°レート	PLATE	1
14-31	77-440	押え揚げ連結板	LINK PLATE	1
14-32	79-640	フ°ラーハ°ネ	PULLER SPRING	1
14-33	81-133	ブッシュ	BUSHING	1
14-34	81-463	上フ°ラーフ°ッシュ	BUSHING	1
14-35	81-559	ブッシュ	BUSHING	1
14-36	84-581	段ネジ°	SCREW	1
14-37	84-582	段ネジ°	SCREW	1
14-38	85-671	段ネジ°	SCREW	1
14-39	87-171	六角穴付きボルト	BOLT	4
14-40	87-172	ネジ°	SCREW	3
14-41	87-186	六角穴付きボルト	BOLT	4
14-42	87-203	六角穴付きボルト	BOLT	2
14-43	02-576	スハ°サー	SPACER	1
14-44	87-254	ネジ°	SCREW	4
14-45	87-285	六角穴付きボルト	BOLT	1
14-46	87-287	六角穴付きボルト	BOLT	1
14-47	87-751	フ°ラー筒ネジ°	SCREW	1
14-48	88-146	ナット	NUT	1
14-49	88-166	ナット	NUT	1
14-50	88-751	ナット	NUT	1
14-51	91-413	ニードルゲ°ジ	NEEDLE BEARING	1
14-52	93-205	E-リング°	E-RING	2
14-53	93-222	Eリング	E-RING	1
14-54	93-223	E型止メ輪	E-RING	1
14-55	93-261	Cリング	C-RING	1
14-56	94-502	オイルシール	OIL SEAL	1
14-57	94-506	オイルシール	OIL SEAL	1
14-58	23-527	O-リング	O-RING	1
14-59	71-219	ノックピン°	PIN	2

15. 後プーラー機構(2) (FBX1102P~1104P) REAR PULLER MECHANISM (2)



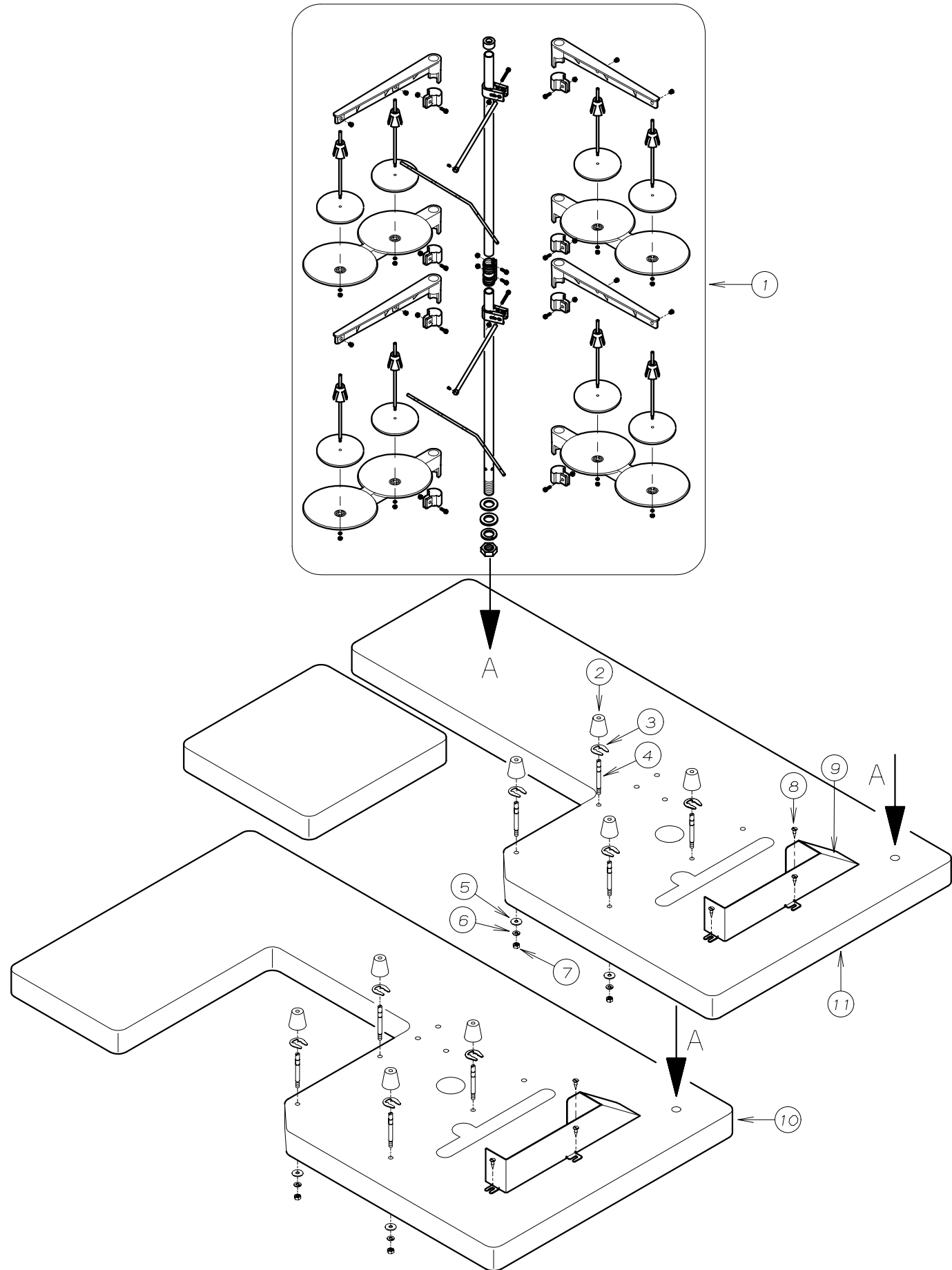
REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
15-01	01-115	スリーブ	SLEEVE	2
15-02	02-010	巻き込み防止金具	PULLER COVER	1
15-03	02-011	後プーラー上ギア大(59山)	REAR PULLER GEAR	1
15-04	02-017	後プーラー連結板	CONNECTING PLATE	1
15-05	02-117	後プーラーハーフフタ	PLATE	1
15-06	02-123	ワンウェイクラッチ用ハウジング(中)	CLUTCH HOUSING	1
15-07	02-153	後プーラー台	REAR PULLER HOLDER	1
15-08	02-250	回り止ブラケット	BRACKET	1
15-09	02-568	下ローラー回り止(A)	SLIDE HOLDER	1
15-10	02-569	下ローラーガイド金具(A)	SLIDER	1
15-11	02-570	ハネガイド	SPRING GUIDE PLATE	1
15-12	02-571	下ローラー回り止(B)	HOLDER	1
15-13	02-572	後プーラー台	BRACKET	1
15-14	02-573	下ローラー(4本針スムーズ)	REAR PULLER (SMOOTH)	1
15-15	02-574	後プーラー台	BRACKET	1
15-16	02-578	下ローラーゴム	LOWER PULLER	1
15-17	02-580	下ローラーゴム	LOWER PULLER	1
15-18	02-581	後プーラー上ギア	REAR PULLER GEAR	1
15-19	27-417	下ローラーガイド(4本針)	PLATE	1
15-20	27-428	下ローラーガイド	PLATE	1
15-21	61-810	プーラー連結ロッド玉	CONNECTING ROD BALL	1
15-22	63-809	プーラー連結ロッド	BALL JOINT	1
15-23	71-208	ノックピン	PIN	4
15-24	71-444	後プーラー台シャフト(中)	SHAFT	1
15-25	71-728	後プーラー下シャフト	LOWER REAR PULLER SHAFT	1
15-26	71-998	下プーラーシャフト	LOWER REAR PULLER SHAFT	1
15-27	75-247	連結メカネローラー	ROLLER	1
15-28	75-407	ワッシャ	WASHER	1
15-29	75-451	ワッシャ	WASHER	1
15-30	75-455	ワッシャ	WASHER	4
15-31	75-519	ワッシャ	WASHER	1
15-32	75-520	ワッシャ	WASHER	1
15-33	75-542	ワッシャ	WASHER	1
15-34	75-552	ワッシャ	WASHER	1
15-35	75-561	カラー	COLLAR	2
15-36	79-456	ハネ	SPRING	2
15-37	79-551	プーラー板ハネ	PULLER PLATE SPRING	1
15-38	81-321	ブッシュ	BUSHING	1
15-39	81-322	ブッシュ	BUSHING	1
15-40	81-323	ブッシュ	BUSHING	1
15-41	84-162	ネジ	SCREW	6
15-42	84-193	ネジ	SCREW	2
15-43	84-462	ネジ	SCREW	3
15-44	84-464	ネジ	SCREW	4
15-45	84-573	段ネジ	SCREW	1
15-46	84-635	ネジ	SCREW	2
15-47	86-411	ナット	NUT	1
15-48	87-015	ネジ	SCREW	1
15-49	87-104	ネジ	SCREW	1
15-50	87-113	六角穴付きボルト	BOLT	2
15-51	87-129	六角穴付きボルト	BOLT	1
15-52	87-177	六角穴付きボルト	BOLT	4
15-53	87-181	ネジ	SCREW	1
15-54	87-225	六角穴付きボルト	BOLT	5
15-55	87-286	ネジ	SCREW	10
15-56	88-005	ナット	NUT	1
15-57	88-179	ナット	NUT	2
15-58	91-407	ワンウェイクラッチ	BEARING	2
15-59	93-221	ストップリンク	E-RING	1

16. 後プーラー機構 (3) (FBX1106P) REAR PULLER MECHANISM (3)



REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
16-01	01-115	スリーブ	SLEEVE	2
16-02	02-013	ワンウェイクラッチ用ハウ	CLUTCH HOUSING	1
16-03	02-014	ギアプーラー小59山	REAR PULLER GEAR SMALL	4
16-04	02-015	スペーサー	SPACER	1
16-05	02-018	後プーラー連結板	CONNECTING PLATE	1
16-06	02-117	後プーラーハーフフタ	PLATE	1
16-07	02-246	回り止ブラケット	BRACKET	1
16-08	02-458	後プーラー台	BRACKET	1
16-09	02-574	後プーラー台	BRACKET	1
16-10	02-575	下ローラー(12本針スムーズ)	REAR PULLER (SMOOTH)	1
16-11	27-418	下ローラーガイド(12本針)	PLATE	1
16-12	61-810	プーラー連結ロッド玉	CONNECTING ROD BALL	1
16-13	63-809	プーラー連結ロッド	BALL JOINT	1
16-14	71-208	ロックピン	PIN	2
16-15	71-369	下プーラーシャフト	LOWER PULLER SHAFT	1
16-16	71-445	後プーラー台シャフト(大)	SHAFT	1
16-17	75-247	連結メガネローラー	ROLLER	1
16-18	75-407	ワッシャ	WASHER	1
16-19	75-451	ワッシャ	WASHER	1
16-20	75-452	ワッシャ	WASHER	1
16-21	75-519	ワッシャ	WASHER	1
16-22	75-520	ワッシャ	WASHER	1
16-23	75-552	ワッシャ	WASHER	1
16-24	75-561	カラー	COLLAR	1
16-25	79-551	プーラー板ハネ	PULLER PLATE SPRING	1
16-26	81-321	ブッシュ	BUSHING	1
16-27	81-322	ブッシュ	BUSHING	1
16-28	81-323	ブッシュ	BUSHING	1
16-29	84-162	ネジ	SCREW	6
16-30	84-464	ネジ	SCREW	2
16-31	84-465	ネジ	SCREW	8
16-32	84-573	段ネジ	SCREW	1
16-33	84-635	ネジ	SCREW	2
16-34	86-411	ナット	NUT	1
16-35	87-015	ネジ	SCREW	1
16-36	87-113	六角穴付きボルト	BOLT	2
16-37	87-129	六角穴付きボルト	BOLT	1
16-38	87-181	ネジ	SCREW	1
16-39	87-225	六角穴付きボルト	BOLT	3
16-40	87-286	ネジ	SCREW	4
16-41	88-005	ナット	NUT	1
16-42	88-179	ナット	NUT	2
16-43	91-407	ワンウェイクラッチ	BEARING	2
16-44	93-221	ストップリンク	E-RING	1

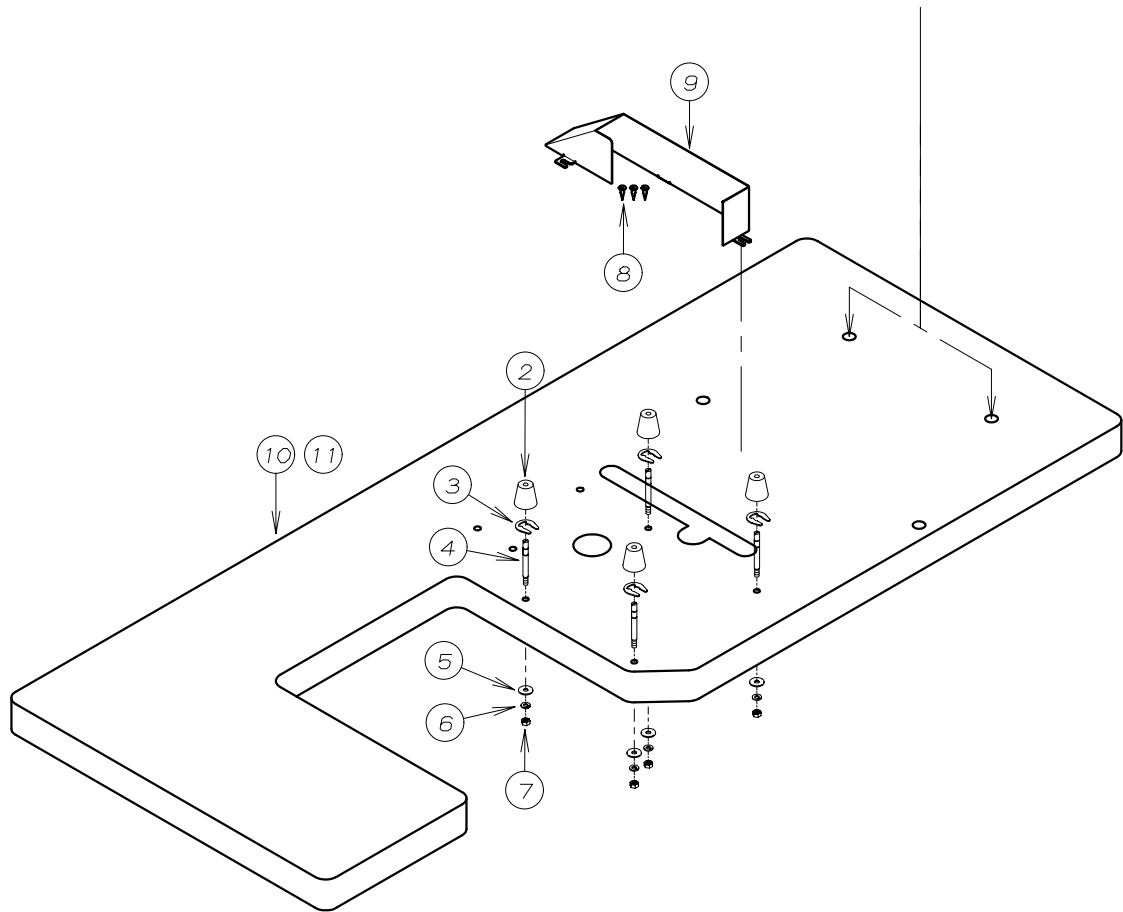
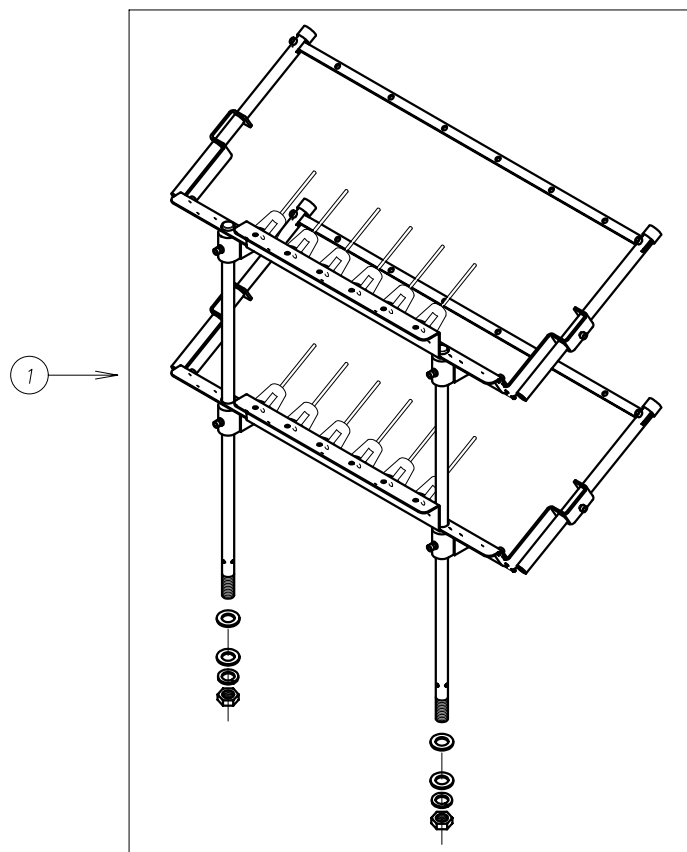
17. 糸立て及びテーブル (FBX1102~1104) THREAD STAND AND TABLE



REF. NO.	PART NO.	品名	DESCRIPTION	Qty
17-01	42-718	8本糸立て	THREAD STAND ASSEMBLY 8	1
17-02	23-509	クッションゴム	CUSHION RUBBER	4
17-03	93-501	U型止め輪	U-RING	4
17-04	42-501	クッションゴム取付ネジ	SCREW	4
17-05	75-536	平ワッシャ	WASHER	4
17-06	75-527	M6用バネ座金	WASHER	4
17-07	88-166	固定ナット	NUT	4
17-08	87-901	ネジ	SCREW	3
17-09	21-629	補助カバー	COVER	1
17-10	21-032	シリンダーフラットテーブル	FLAT TABLE	1
17-11	21-025	補助板付テーブル	WITH ASSISTANCE TABLE	1

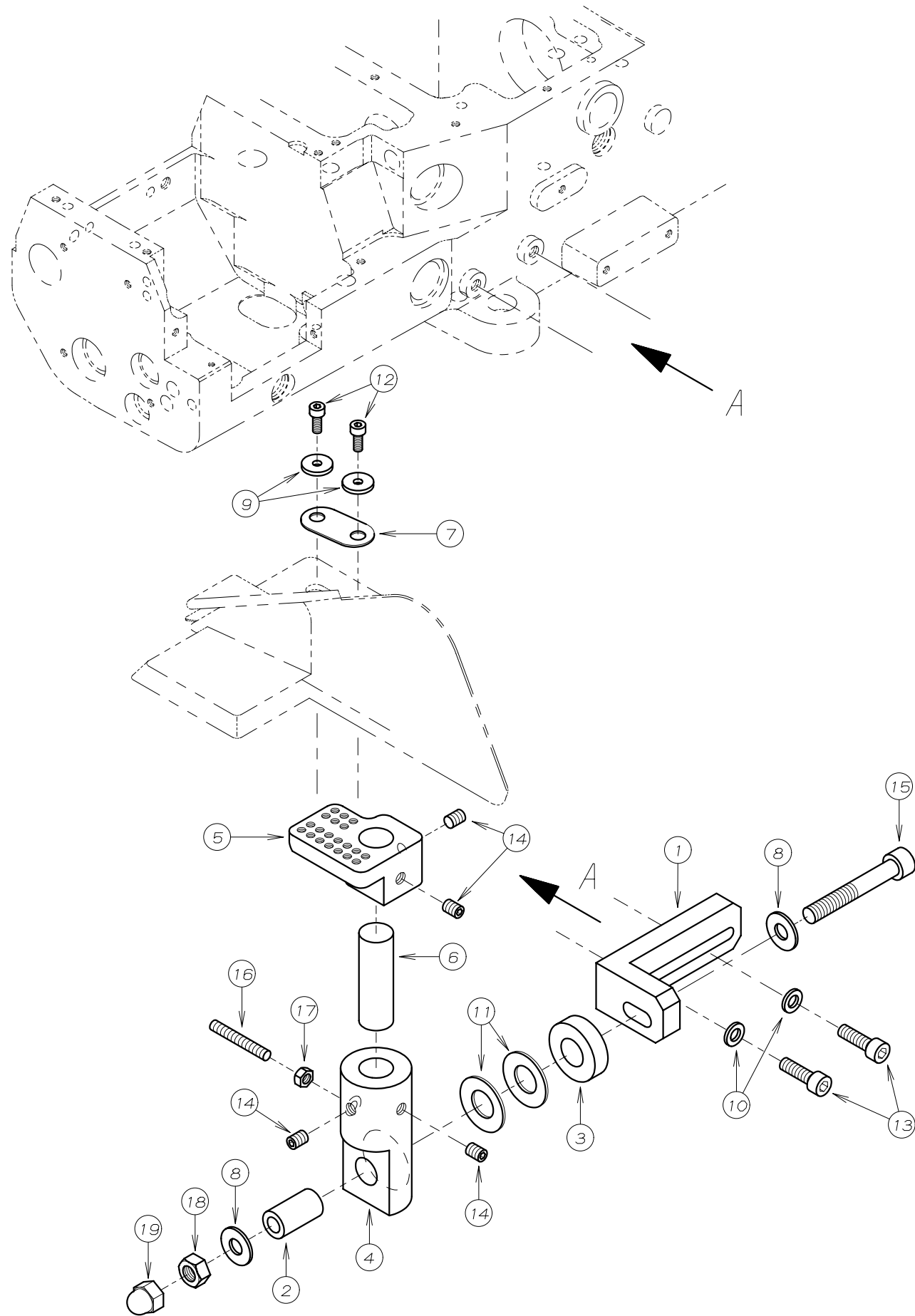
18. 糸立て及びテーブル (FBX1106) THREAD STAND AND TABLE

FBX1106



REF. NO.	PART NO.	品名	DESCRIPTION	Qty
18-01	40-6507	12本糸立て	THREAD STAND ASSEMBLY 12	1
18-02	23-509	クッションゴム	CUSHION RUBBER	4
18-03	93-501	U型止め輪	U-RING	4
18-04	42-501	クッションゴム取付ネジ	SCREW	4
18-05	75-536	平ワッシャー	WASHER	4
18-06	75-527	M6用バネ座金	WASHER	4
18-07	88-166	固定ナット	NUT	4
18-08	87-901	ネジ	SCREW	3
18-09	21-629	補助カバー	COVER	1
18-10	21-085	シリンダーフラットテーブル	FLAT TABLE	1
18-11	21-084	補助板付きテーブル	WITH ASSISTANCE TABLE	1

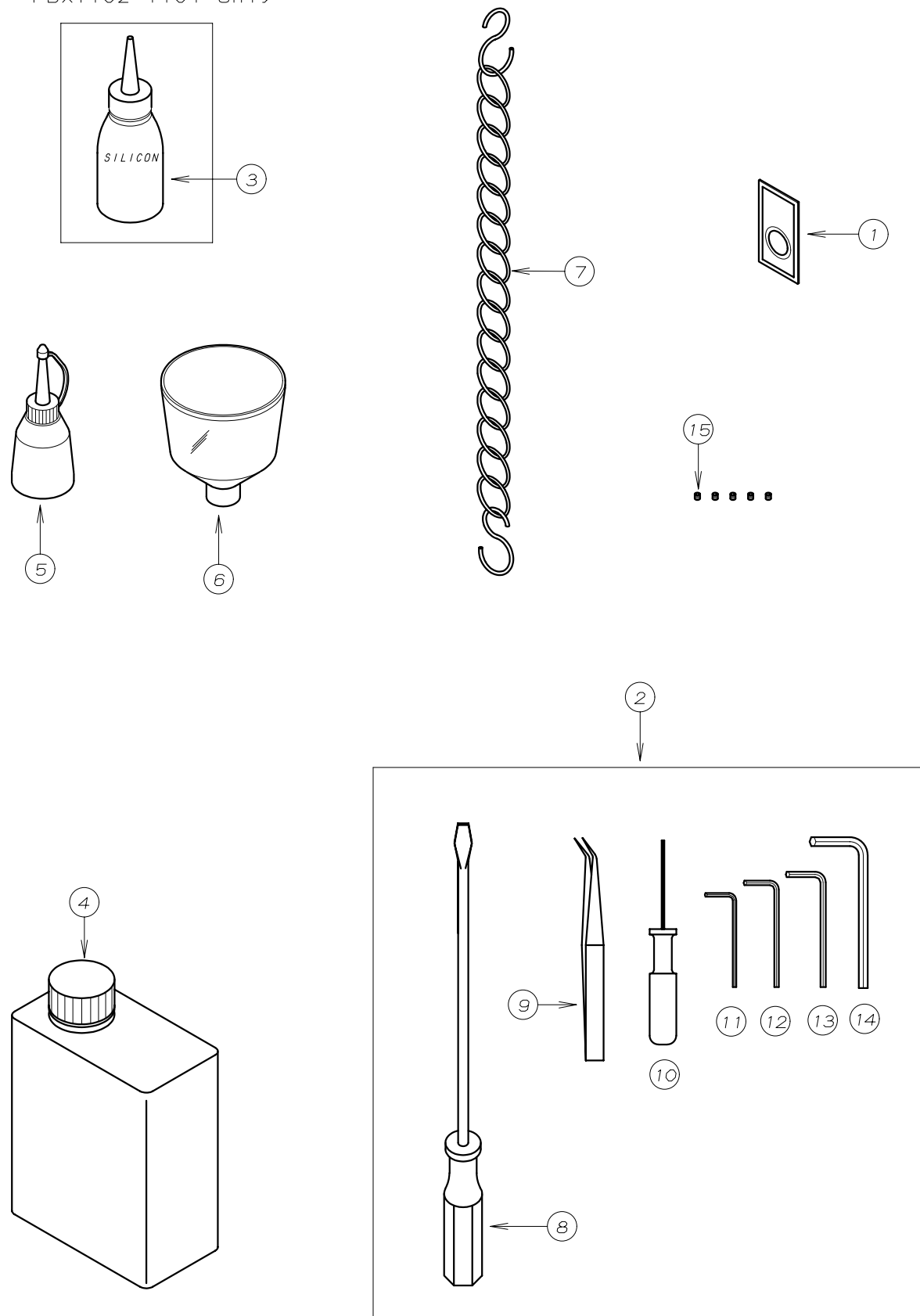
19. ホルダーブラケット装置 TURN DOWN HOLDER MECHANISM



REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
19-01	26-460	ホルダー台(1)	BRACKET	1
19-02	26-461	シャフト	SHAFT	1
19-03	26-462	スペーサー	SPACE BUSHING	1
19-04	26-463	ホルダー台(2)	BRACKET	1
19-05	26-464	ホルダー取付台	BRACKET	1
19-06	26-465	ホルダーピン	HOLDER PIN	1
19-07	26-712	取付金具	WASHER	1
19-08	75-501	ワッシャ	WASHER	2
19-09	75-508	ワッシャ	WASHER	2
19-10	75-552	ワッシャ	WASHER	2
19-11	79-427	皿バネ	SPRING	2
19-12	87-113	六角穴付きボルト	BOLT	2
19-13	87-173	六角穴付きボルト	BOLT	2
19-14	87-242	ネジ	SCREW	4
19-15	87-281	六角穴付きボルト	BOLT	1
19-16	87-434	六角穴付止めネジ	SCREW	1
19-17	88-157	ナット	NUT	1
19-18	88-176	ナット	NUT	1
19-19	88-183	袋ナット	NUT	1

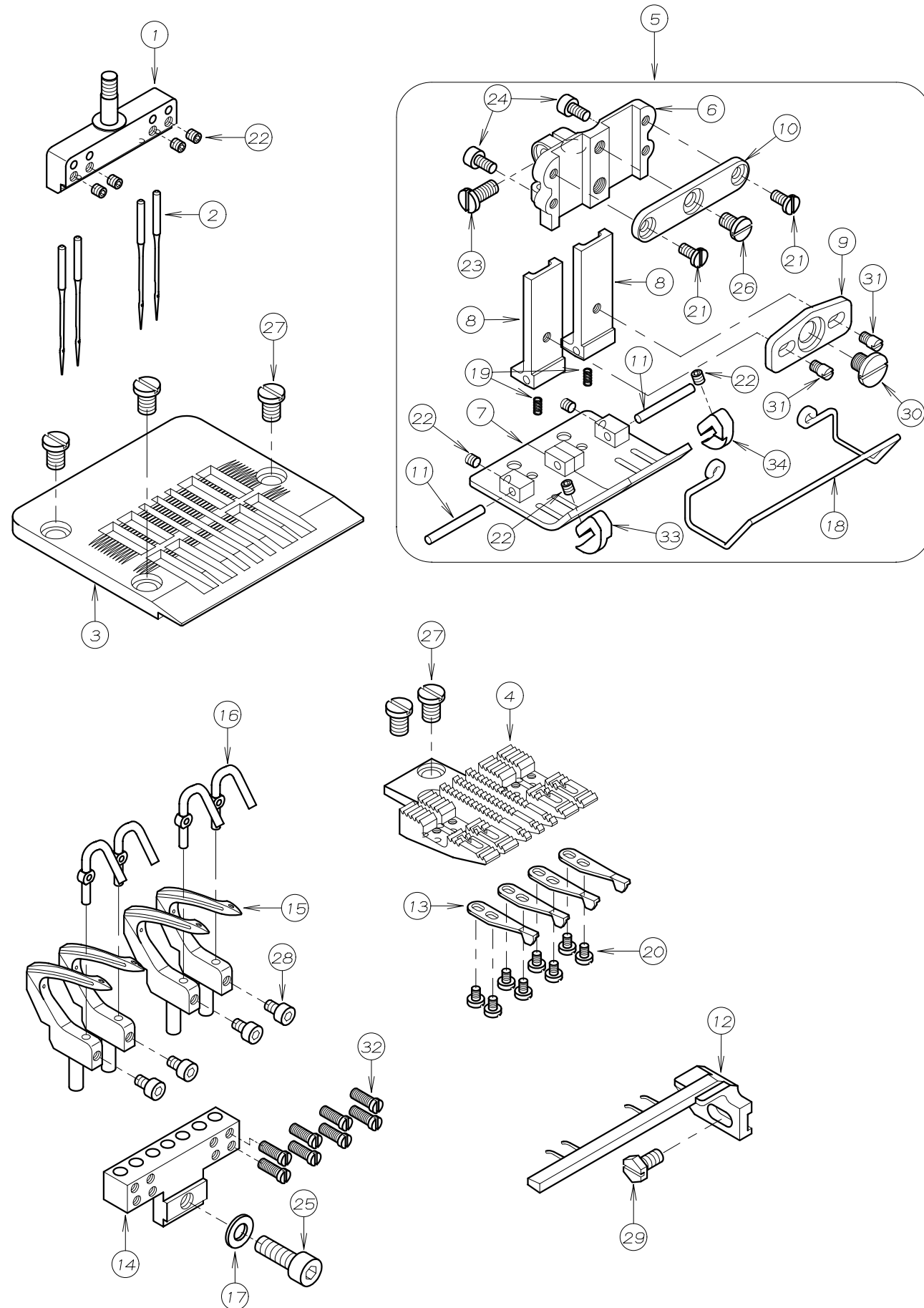
20. アクセサリー - ACCESSORIES

FBX1102~1104 Only



REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
20-01	13-0610-5	針 (DVX57 #21)	NEEDLE	1
20-02	20-0010	付属部品ケース	ACCESSORIES	1
20-03	28-612	シリコンオイル	SILICON OIL	1
20-04	28-618	オイル	OIL	1
20-05	28-614	油差し	OILER	1
20-06	28-615	シ" ヨウコ"	OIL FUNNEL	1
20-07	28-920	チェーン	CHAIN	1
20-08	28-452	ドライバ - (大)	DRIVER (L)	1
20-09	28-011	ピンセット	TWEZERS	1
20-10	28-317	グリップ付六角レンチ1.5mm	ALLEN KEY (1.5mm)	1
20-11	28-311	六角レンチ 2mm	ALLEN KEY (2mm)	1
20-12	28-312	六角レンチ 2.5mm	ALLEN KEY (2.5mm)	1
20-13	28-313	六角レンチ 3mm	ALLEN KEY (3mm)	1
20-14	28-314	六角レンチ 5mm	ALLEN KEY (5mm)	1
20-15	87-104	ネジ	SCREW	5

21. ケージパーツ GAUGE PARTS

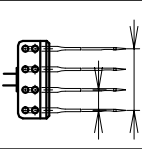
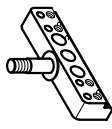
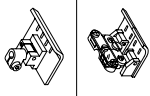

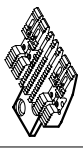
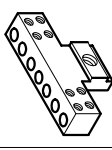

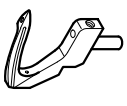
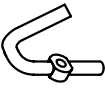



REF. NO.	PART NO.	品名	DESCRIPTION	Q'TY
21-01	*	針株	NEEDLE HOLDER	1
21-02	13-0610-5	針 (DVX57 #21)	NEEDLE	*
21-03	*	針板	NEEDLE PLATE	1
21-04	*	送り歯	FEED DOG	1
21-05	*	押えセット	PRESSER FOOT ASS'Y	1
21-06	17-2970-A	押えボス	BRACKET	1
21-07	*	押え足	BOTTOM	1
21-08	17-2970-C	取り付け金具	BRACKET	2
21-09	17-2970-D	段押えリンクプレート	LINK PLATE	1
21-10	17-2970-E	段押えスライドプレート	SLIDE PLATE	1
21-11	17-2970-F	押え足取り付けピン	PIN	2
21-12	*	スプレッター	SPREADER	1
21-13	18-302	糸受け	THREAD GUIDE	*
21-14	*	ルーパ台	LOOPER HOLDER	1
21-15	19-287	ルーパ	LOOPER	*
21-16	19-288	針受け後	NEEDLE GUARD	*
21-17	75-520	ワッシャ	WASHER	*
21-18	*	ニードル保護ハネ	FINGER GUARD	1
21-19	79-417	ばね	SPRING	2
21-20	85-618	ネジ	SCREW	*
21-21	87-090	ネジ	SCREW	2
21-22	87-104	ネジ	SCREW	*
21-23	87-332	平小ネジ	SCREW	1
21-24	87-123	六角穴付きボルト	BOLT	2
21-25	87-245	六角穴付きボルト	BOLT	*
21-26	87-415	ネジ	SCREW	1
21-27	87-426	平小ネジ	SCREW	5
21-28	87-429	六角穴付きボルト	SCREW	*
21-29	87-430	六角ボルト	SCREW	1
21-30	87-431	リンクねじ	LINK SCREW	1
21-31	87-432	段ねじ	SCREW	2
21-32	87-669	ネジ	SCREW	*
21-33	26-480	生地ガイド (左)	GUIDE (L)	1
21-34	26-481	生地ガイド (右)	GUIDE (R)	1

* 各ゲージ部品の品番は、43ページのゲージパーツ表を参照して下さい。

* Please refer to Page 43 GAUGE PARTS LIST

2.2. ゲージ部品一覧表 GAUGE PARTS TABLE

モデル MODEL	ゲージサイズ GAUGE SIZE (インチ) 	針株 NEEDLE HOLDER 	押え組 PRESSER FOOT ASSEMBLY 	針板 NEEDLE PLATE 	送歯 FEED DOG 	ルーパー台 LOOPER HOLDER 	スプレッター SPREADER 	ルーパー LOOPER 	針受 NEEDLE GUARD 	糸受け THREAD GUIDE 
1102P 1102	1-1/4	12-2880-1	17-2880-1	14-288	15-288	19-268	18-288			
	1-3/8	12-2890-1	17-2890-1	14-289	15-289	19-269	18-289			
	1-1/2	12-2900-1	17-2900-1	14-290	15-290	19-270	18-290			
1104P 1104	1/4-1-1/4	12-2970-1	17-2970-1	14-297	15-297	19-277	18-297			
	1	12-2920-1	17-2920-1	14-292	15-292	19-272	18-292			
	1/4-7/8-1/4	12-2670-1	17-2670-1	14-267	15-267	19-267	18-267	19-287	19-288	18-302
1106P 1106	1/4	12-2980-1	17-2980-1	14-298	15-298	19-278	18-298			
1104PR	1/4-1-1/4	12-2970-1	17-2970-1	14-297	15-297	19-277	18-297			
	1/4-7/8-1/4	12-2670	17-2670-1	14-267	15-267	19-267	18-267			
	1/4	12-2680-1	17-3060-1	14-270	15-307	19-280	18-307			
1102YS	9/32	12-2690-1	17-3080-1	14-270	15-308	19-281	18-308			
	3/8	12-2700-1	17-3090-1	14-271	15-309	19-282	18-309			

INDEX 1

REF. NO.	PART NO. 品番	REF. NO.	PART NO. 品番	REF. NO.	PART NO. 品番	REF. NO.	PART NO. 品番	REF. NO.	PART NO. 品番	REF. NO.	PART NO. 品番
15-01	01-115	21-08	17-2970-C	18-02	23-509	20-13	28-313	03-10	41-115	06-40	60-4150
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INSTRUCTION

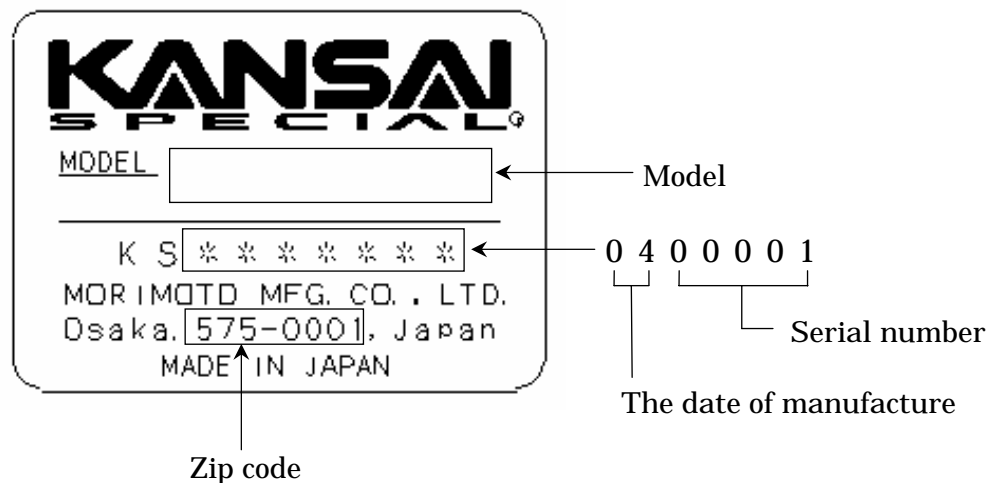
INTRODUCTION

Thank you for your purchasing Kansai Special's FBX Series.

Read and study this instruction manual carefully before beginning any of the procedures and save it for later use.

1. This instruction manual describes adjustments and maintenance procedures on this machine.
2. Before starting the machine, check to make sure the pulley cover, safety cover, etc. are secured.
3. Before adjusting, cleaning, threading the machine or replacing the needle, be sure to turn off the power.
4. Never start the machine with no oil in the reservoir.
5. Refer to the parts list as well as this instruction manual before performing preventive maintenance.
6. The contents described in this instruction manual are subject to change without notice.

Indication of serial number



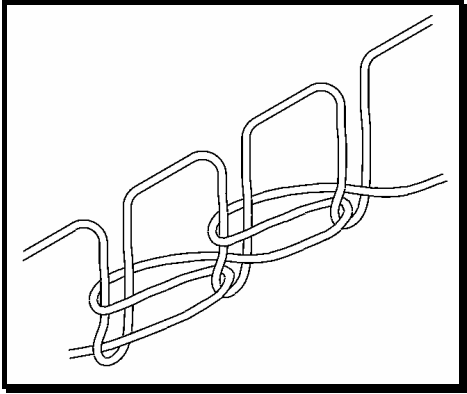
FBXseries

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【1】 SPECIFICATIONS

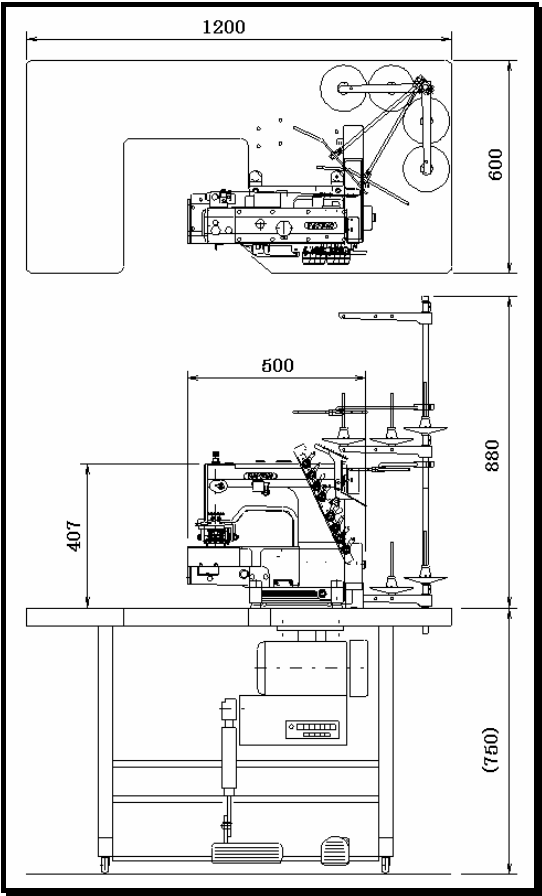
1-1 Stitch type
 JIS401 double chain stitch machines



1-2 Model

Model	FBX1104P	FBX1106P
No. of needles	2~4	2~12
No. of threads	4 needle threads	6 needle threads
	4 looper threads	6 looper threads
Type of tension set	Mounted type	
Puller width	55mm	78mm
Minimum gauge width	6.4mm	6.4mm
Maximum gauge width	38.1mm	70mm

1-3 Diagrammatic sketch of the Series



【2】 NEEDLES & THREADING THE MACHINE

2-1 Needles

DV × 57 of Schmetz or Organ

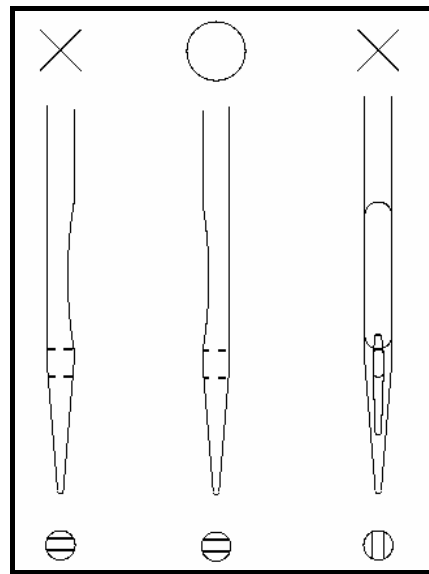
Select the proper needle for the fabric and thread.
(Standard #21)

< Needles and needle size >

Schmetz DV × 57	Nm90~Nm200
Organ DV × 57	#14~#25

2-2 Replacing the needle

When replacing the needle, check the needle carefully to see that the scarf is turned to the left of the machine (see the illustration).



< Note >

When replacing the needle, be sure to turn off the machine. A clutch motor continues running for a while after the machine is turned off. Therefore keep on pressing the pedal until the machine stops.

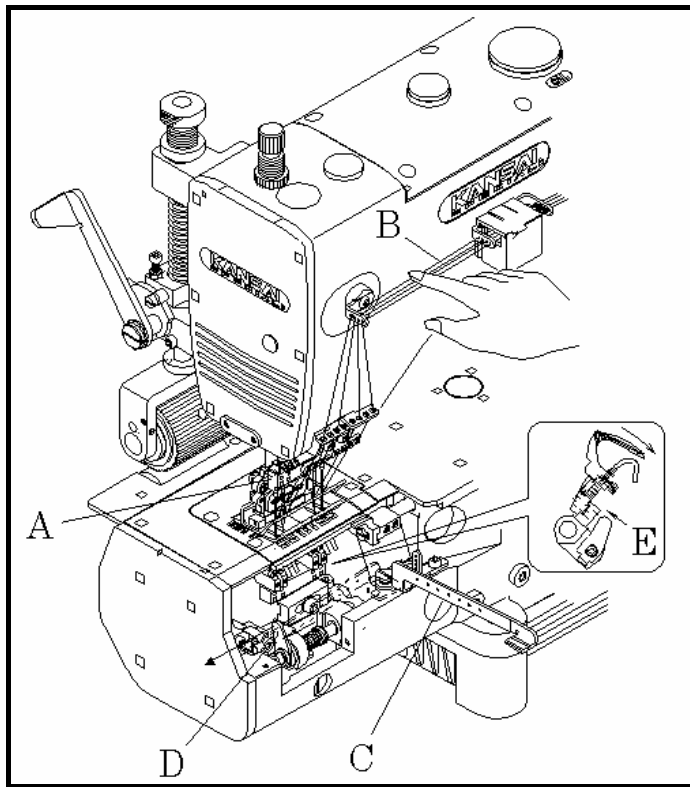
2-3 To thread the machine

Thread the machine correctly by referring to pages 3 to 4.

Incorrect threading may cause skip stitching, thread breakage and/or uneven stitch formation. When threading the looper, tilt the looper holder toward the front of the machine using the looper drawing bar.

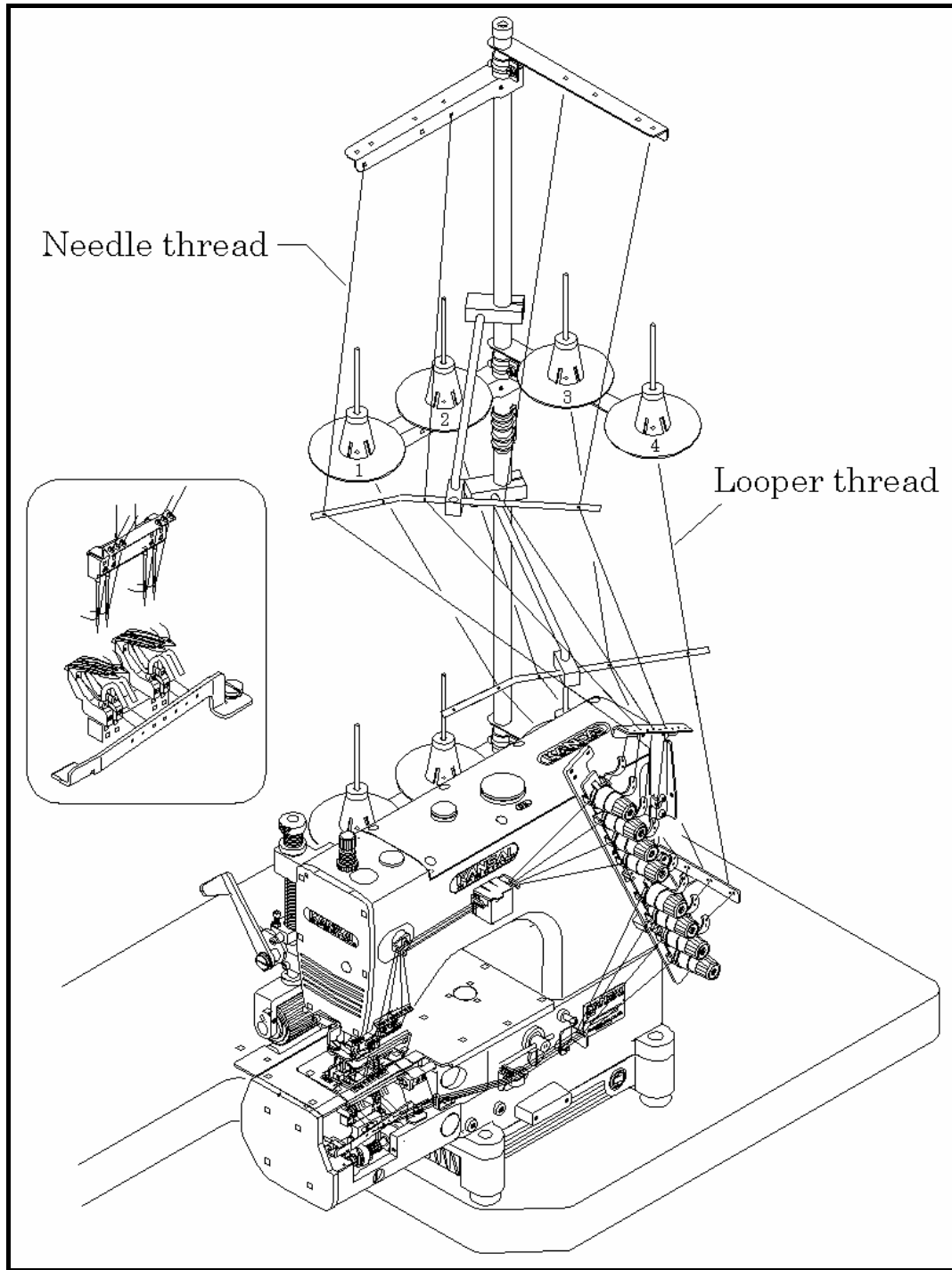
To tilt the looper toward the front

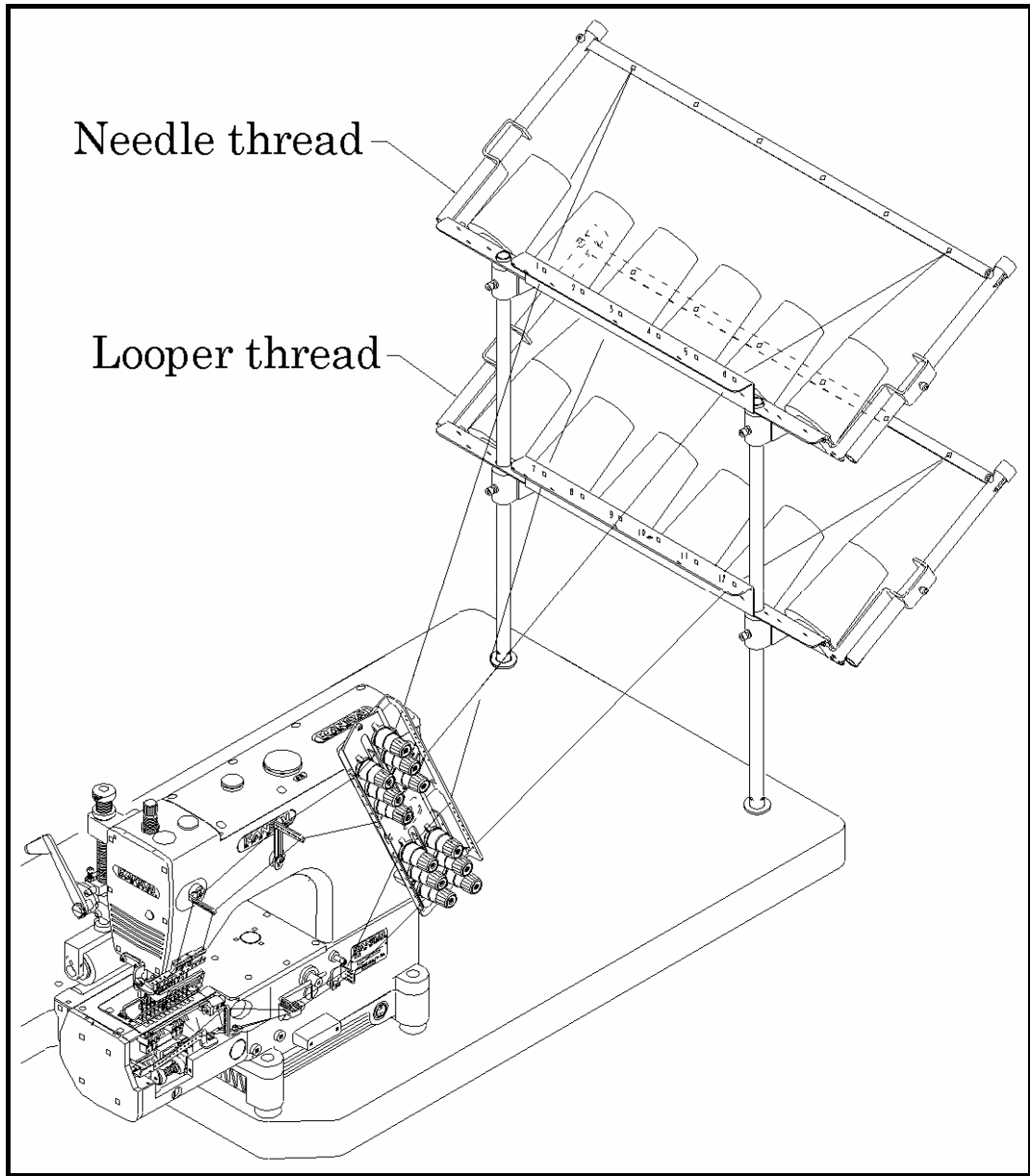
1. Bring needle bar A to the top of its stroke.
2. Pay out the needle thread from the spool by pressing a finger down on needle threads B.
3. Open looper eyelet.
4. Pull drawing lever D out to the arrow mark as shown in the illustration so that the looper holder is tilted toward the front of machine.
5. After the machine is threaded, replace the looper by pressing looper holder E into the machine until it clicks.



< Note >

The looper pops out of the machine as soon as lever D is pulled, so do not bring your fingers close to the looper.

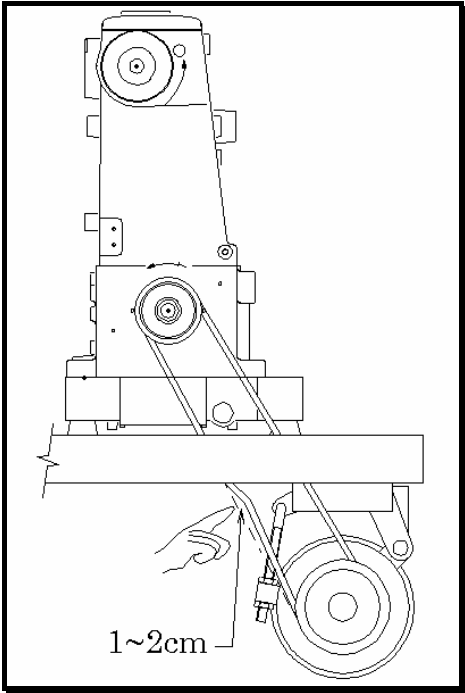




【3】 MACHINE SPEED

3-1 Machine speed & direction in which the machine pulley runs

Refer to the table below for maximum and standard speeds of the Series. To extend machine life, run the machine approximately 15~20% below the maximum speed for the first 200 hours of operation (approx. 1 month).
 Then run the machine at the standard speed.
 The machine pulley turns counterclockwise as seen from the end of the machine pulley.



3-2 Motor & belt

Motor : 3-phase, 2-pole, 400W clutch motor
 Belt : M type V belt

Select the proper motor pulley according to the machine speed (refer to the motor pulley outer diameter on the table below).
 Adjust the position of the motor by pressing the finger onto the middle of the belt so that 1~2cm deflection can be achieved (see the illustration on the right).

< Machine speed >

Model	Maximum speed	Standard speed
FBX1104P	4,000rpm	3,500rpm
FBX1104	4,500rpm	4,000rpm
FBX1106P	3000rpm	2500rpm
FBX1106	3500rpm	3000rpm

< Motor pulley selection table >

Motor pulley outer diameter (mm)	Machine speed (SPM)	
	50Hz	60Hz
60	3150	2950
70	2300	3450
80	3300	3900
90	3700	4400
100	4100	(4900)
110	(4500)	(5400)

【4】 LUBRICATION

4-1 Oil

Use Kansai Special's genuine oil.
(Part No. 28-611)

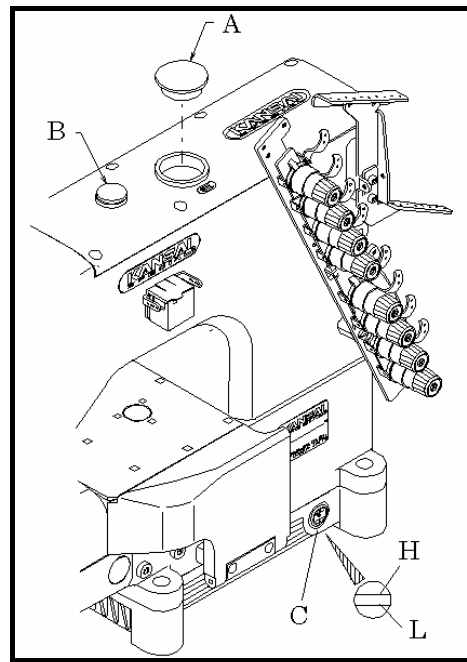
4-2 To fill the machine with oil

Remove rubber plug A from the oil hole.

Fill the machine with oil until the oil level is at the top line (see H in the illustration) on oil gauge C.

After the first lubrication, add oil so that the oil level will be between H and L.

After filling the machine with oil, run the machine to check the oil is splashing onto oil pot A.

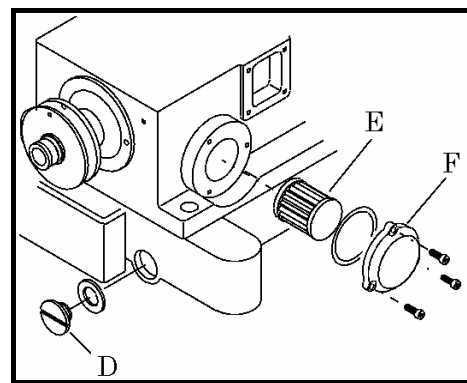


4-3 Replacing the oil and the oil element

To extend machine life, be sure to replace the oil after the first 250 hours of operation.

To replace the oil, follow the procedures below.

1. Remove the V belt from the motor pulley and then remove the machine from the table.
2. Remove screw D and then drain the oil.
Be careful not to stain V belt with the oil.
3. After draining the oil, be sure to tighten screw D.
4. Fill the machine with oil by referring to 4-2 shown above.



If element E is contaminated, proper oiling may not be performed.

Clean the filter element every six months. If just a little or no oil flows out from the nozzle with the proper amount of oil in the machine, check the element.

To do so, remove oil filter cap F. Replace the element if necessary.

< Note >

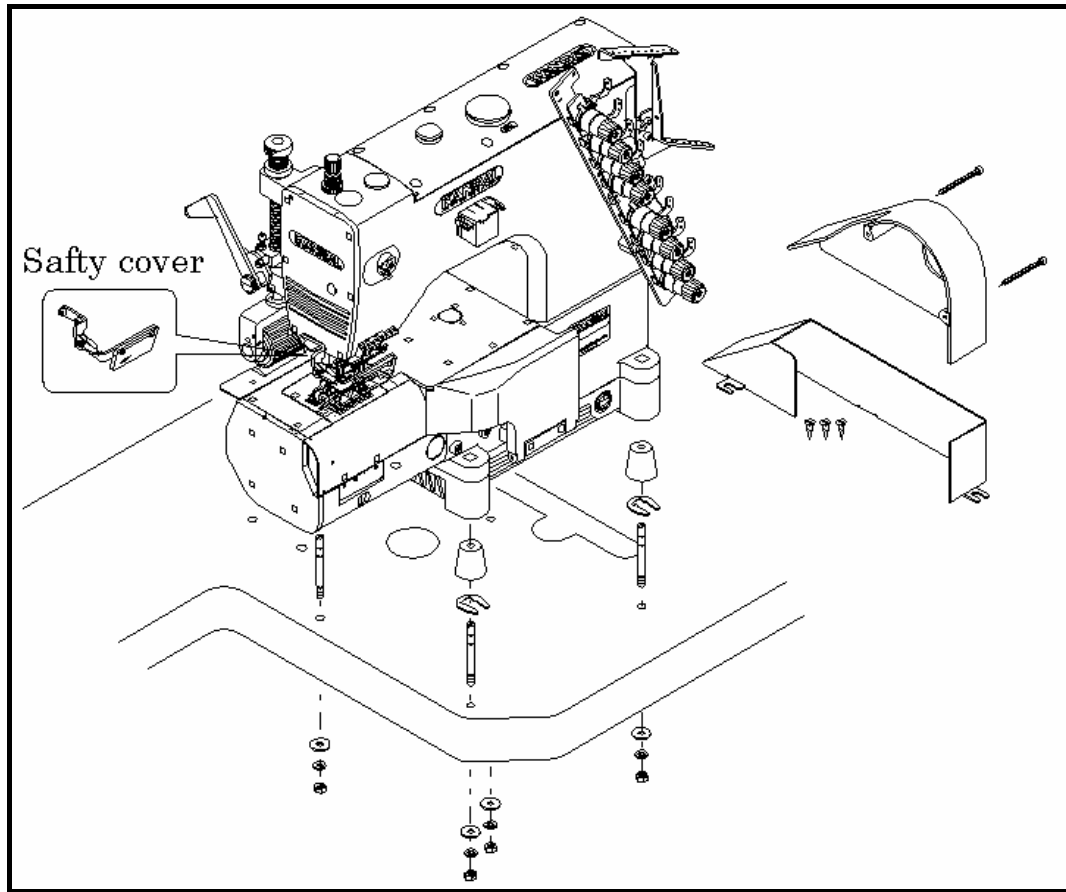
When the oil filter cap is removed, the oil collected on the element drips. Be careful.

5-2 How to install the machine

1. Install properly as shown in the illustration.
2. Hung a V-belt on the hand pulley. (Refer to [3] machine speed in page no.4)
3. Install the eye guard and the pulley cover.

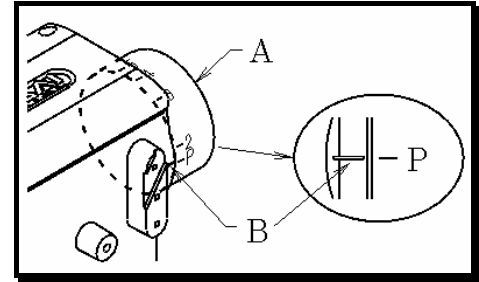
< Note >

Until all procedures will be done, do not switch on the motor.

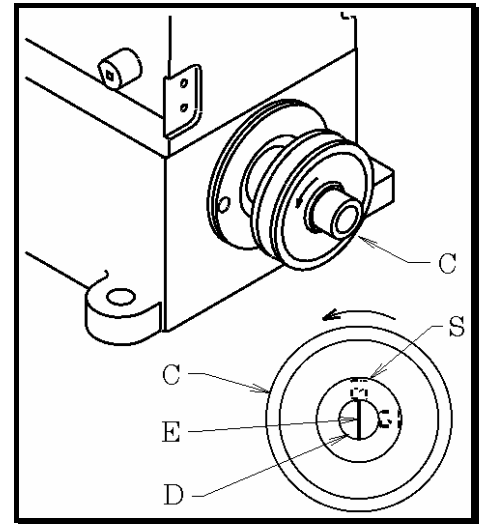


【6】 TO ADJUST THE TIMING BETWEEN THE UPPER AND THE LOWER SHAFT

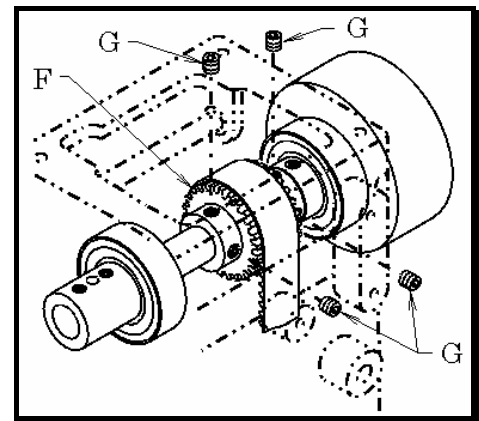
Turn the hand pulley and align mark B on the hand wheel mark P. The needle bar position would be at the top of its stroke.



In this case, the line E marked on the lower shaft D should be vertical. And make sure if the first screw S of the turning direction is above the V-belt pulley C or not.



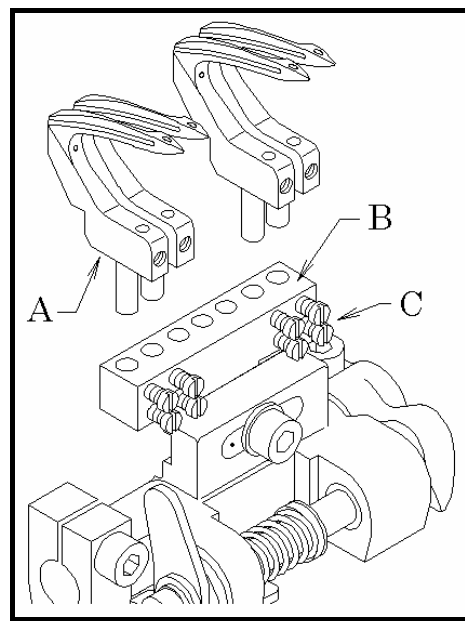
If not, loosen screw G (4pcs) on the timing pulley F of the upper shaft to be adjusted to the above-mentioned position. Make sure of tightening screw G (4pcs) again after adjustment.



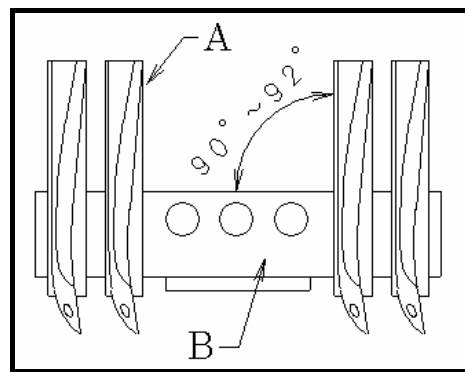
【7】 TIMING OF THE LOOPER TO THE NEEDLE

7-1 Angle for installing the looper and position of the looper holder bracket

Insert the looper into the looper holder until the bottom A of the looper touches to the looper rocker B. Then tighten screw C.



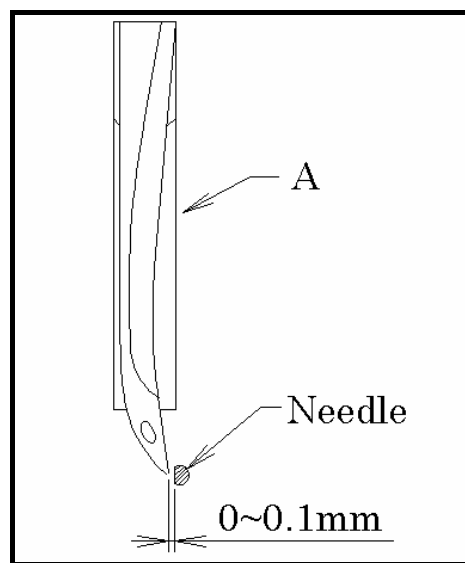
As shown in the illustration, the angle between the looper rocker B and the looper A is 90~92 degrees.



The clearance between the looper and the needle when the point of looper passes the scarf of the needle should be 0~0.1mm. (Adjust by the screw C)

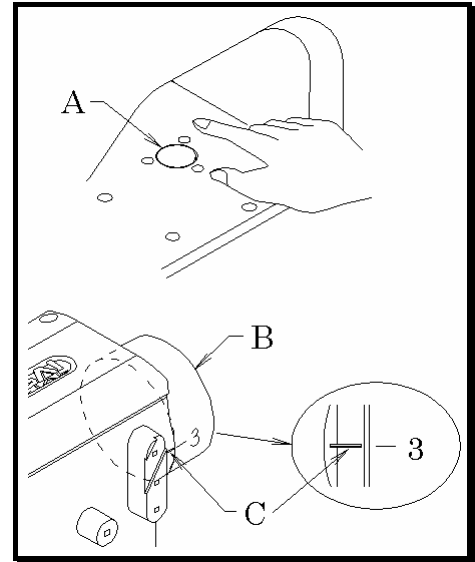
< Note >

Before adjusting machine, be sure to turn off the motor.

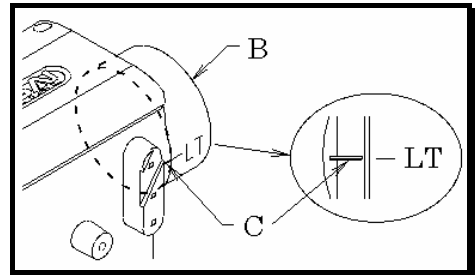


7-2 Timing of the looper to the needle

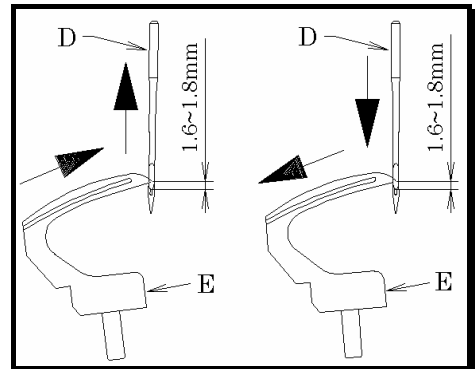
Turn the hand pulley B pressing push button A lightly until the push button touches an inside parts and clicks. And align mark C with the scale no.3 on the hand pulley B. (Refer to 11-4 stitch length adjustment on page no.16.)



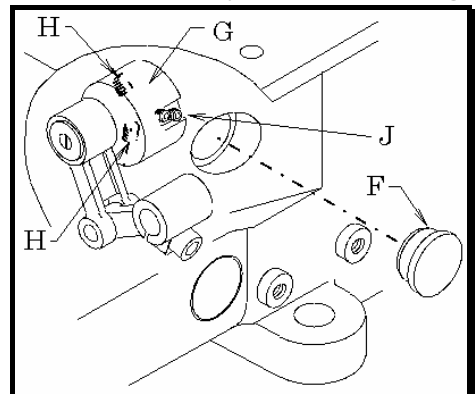
Detach your hand from the push button A. Then turn the hand pulley B and align mark C with the scale LT on the hand pulley B.



In this case, turn the hand pulley and check that the point of looper is 1.6~1.8mm above the needle eye when the point of looper, moving both to the right and to the left, reach to the center of the needle.



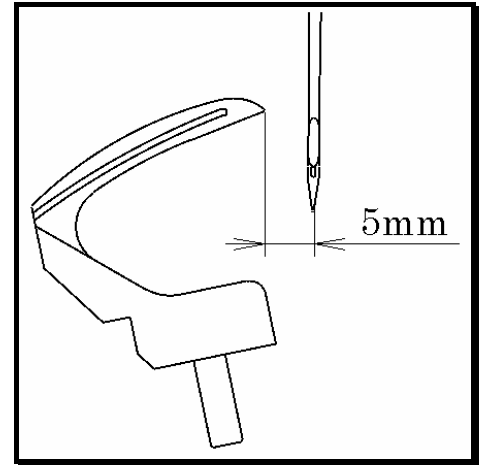
In the beginning, the stitch length would be adjusted to scale no.3. If you need to change it, procedures are as follows. Remove the rubber plug F and loosen screw H (2pcs) in the looper eccentric G to adjust appropriate timing. Make sure tighten screws H again one by one.



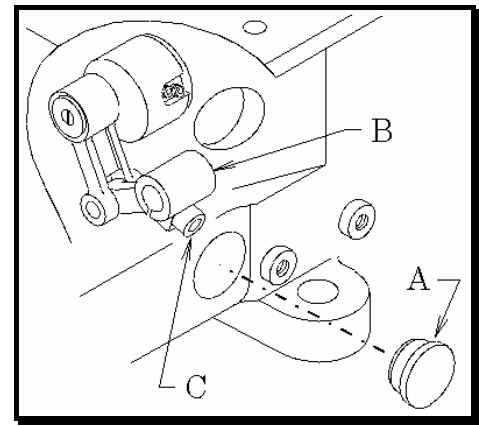
*< Note >
Before adjusting machine, be sure to turn off the motor.*

7-3 Looper setting distance

When the needle bar is at the bottom of its stroke, there should be a distance of approximately 5mm from the point of the looper to the center of the needle.

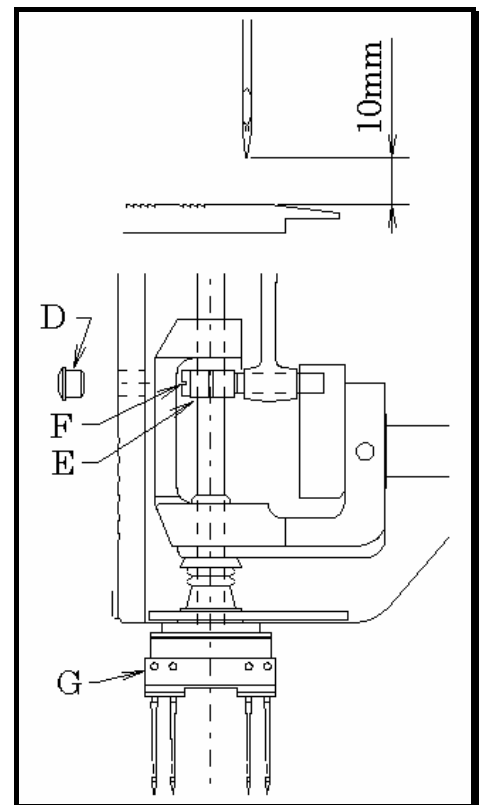


The adjustment for the looper setting distance is made by removing plug A and loosening screw C for the lever B. After adjusting, tighten screw C.



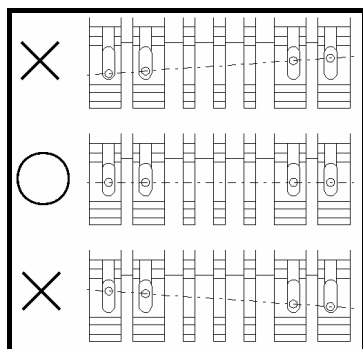
7-4 Needle height

When the needle bar is at the top of its stroke, there should be a distance of approximately 10mm from the top surface of the needle plate to point of the needle. Adjustment is made by loosening screw F of the needle bar bracket E after removing plug D. After the adjustment is made, check to make sure each needle drops correctly into the center of each needle drop hole.



< Note >

Before adjusting machine, be sure to turn off the motor.



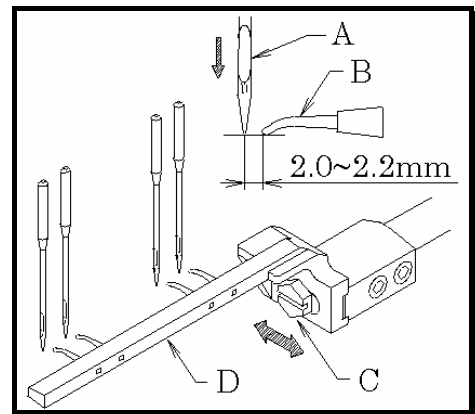
【8】 TIMING OF THE RETAINER LOOPER

8-1 Front to back position of the retainer looper

When the needle bar descend from the top to the bottom of its stroke and the point of the needle A is same height as the point of the looper retainer B, there should be a clearance of 2.0~2.2mm between the point of needle and the point of looper retainer.

(In the beginning, the stitch length is aligned with scale no.3 on the hand pulley.) when adjusting, loosen the screw C of the looper retainer bar D and adjust the front to back position.

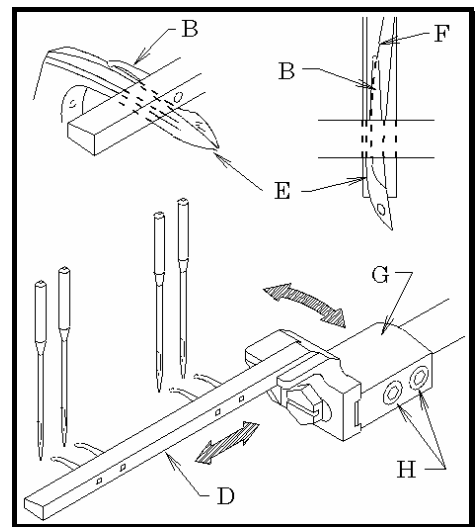
- * When the stitch length is changed much, necessary to the adjust again because the clearance would be changed.



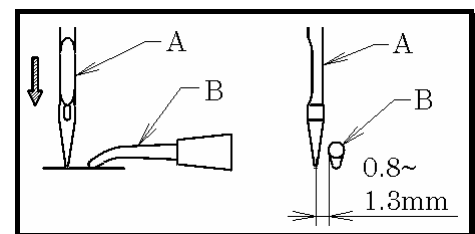
8-2 Left to right position of the retainer looper

When the looper E at the extreme front end of its travel, the point of the looper retainer should be on the line F of the looper E.

When adjusting, loosen the screw H of the retainer looper holder G and adjust the left to right position.

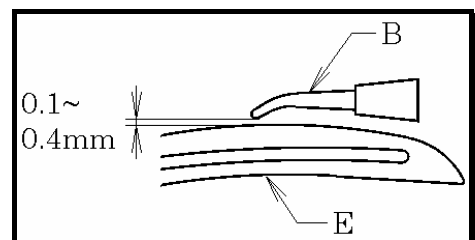


- * When the needle bar descend from the top to the bottom of its stroke and the point of the needle A is same height as the point of the looper retainer B, there should be a clearance of 0.8~1.3mm between the point of the needle A and the left side of the retainer looper B.



8-3 Adjusting the height of the retainer looper

The retainer looper is the nearest position to the top of the looper E, there should be a clearance of 0.1~0.4mm between the point of the retainer looper B and the top of looper E. When adjusting, loosen the screw H of the retainer looper holder G.



< Note >

Before adjusting machine, be sure to turn off the motor.

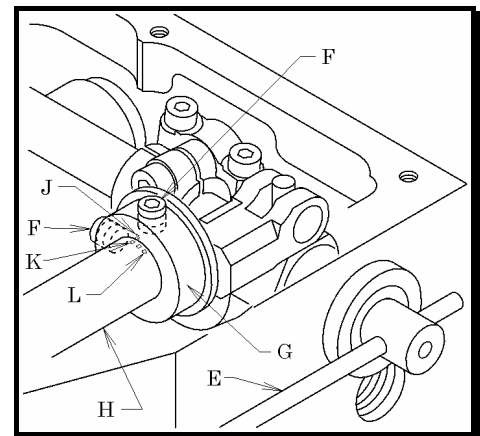
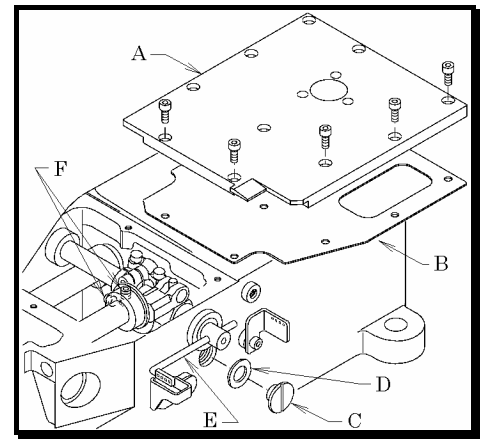
8-4 Timing of the retainer looper to the needle

Remove the upper cover A and gasket B.

Remove the screw C and packing D of the bed.

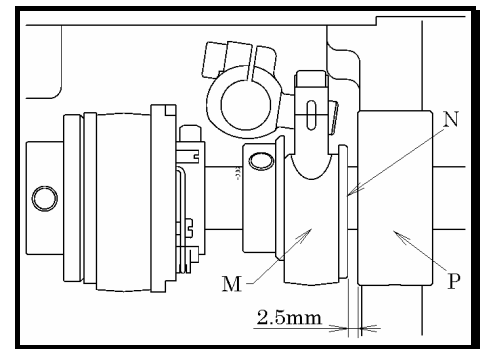
Loosen the screw F (2 pieces) of the retainer looper eccentric G. Adjust by turning of the retainer looper eccentric. It is a standard setting to align the mark J on the retainer looper eccentric G to the mark K on the lower shaft H.

When aligning the mark J to the mark L which is a front of the rotating direction, the moving speed of the retainer looper and the looper thread take-up lever E against the needle and the looper should be faster. When aligning the mark J to the mark K which is a back of the rotating direction, its moving speed should be slower.



After adjusting, fasten the screw F of the retainer looper eccentric G. At the same time, confirm the clearance of approx. 2.5mm between lower shaft bush P and the end plate N of the retainer looper eccentric rod M.

* After this adjusting, confirm to the position of front/back, the position of left/right and the height of the retainer looper. (Refer to the previous page)

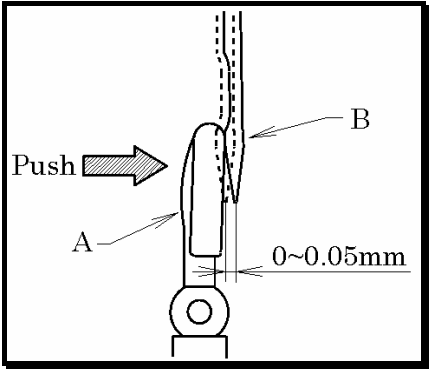


< Note >

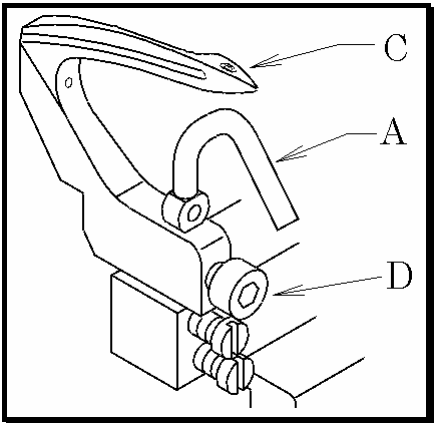
Before adjusting machine, be sure to turn off the motor.

【9】 ADJUSTING CLEARANCE BETWEEN NEEDLE AND NEEDLE GUARD

Adjustment should be made by pushing of the needle guard A to the needle B at 0~0.05mm.

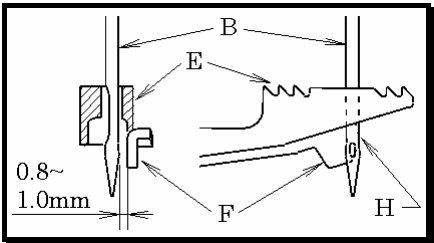


Adjusting by turning of the needle guard A after loosening of the screw D.

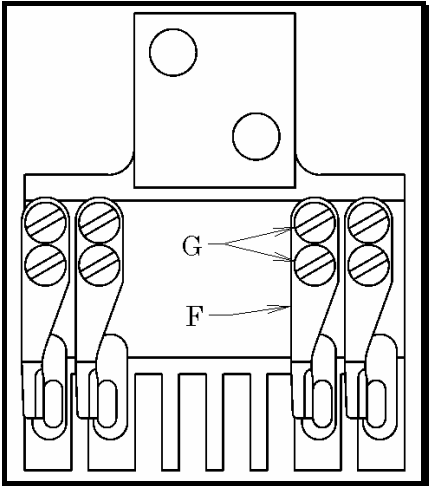


【10】 ADJUSTING OF THREAD RECEIVER

The clearance of left-right direction between the needle B and the thread receiver F of the feed dog E is 0.8~1.0mm. At front-back direction, when the needle B is positioned into the feed dog as fig. by turning of hand pulley, the top edge of the thread receiver F should be aligned to the right side line H of the needle.



Adjusting by loosening of the screw G for the thread receiver F.



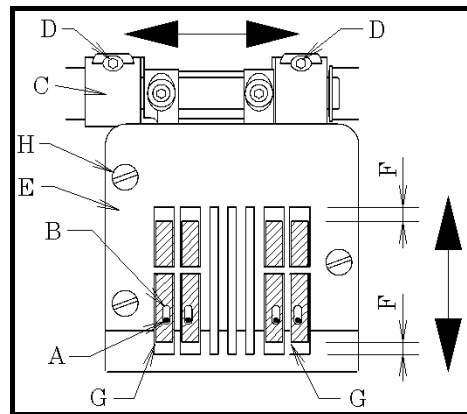
【11】 ADJUSTING THE FEED DOG & STITCH LENGTH

11-1 Adjusting of left-right position for the feed dog

Make sure each needles A drops into the center of the needle drop hole B of the feed dog J.

Adjusting at left and right by loosening of the screw D (2 pieces) of the feed rocker C.

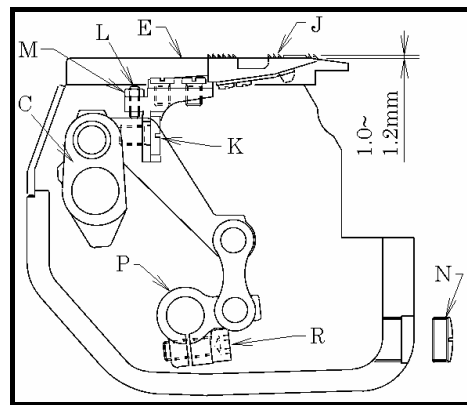
At the same time, adjusting by loosening of the screw H (3 pieces) of the needle plate E, in order to be equal between each clearance G and also to be parallel between the feed dog and the feed grooves of the needle plate E.



11-2 Adjusting of front-back position for the feed dog

When the feed dog is positioned at both the front dead point and the back dead point by turning of hand pulley, each clearance F at the front and the back between the feed dog and the feed grooves of the Needle plate E is to be equal.

Adjusting at front and back by loosening of the screw D (2 pieces) of the feed rocker C.

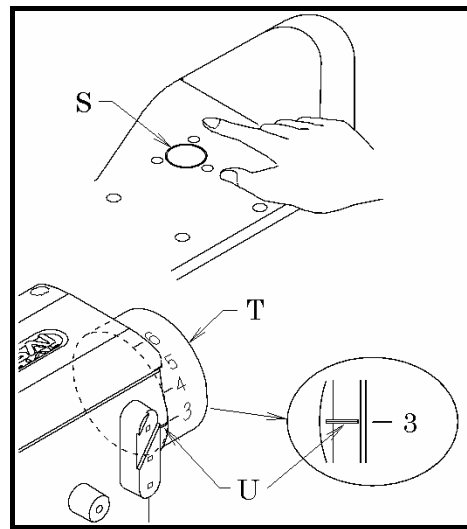


11-3 Adjusting of height for the feed dog

When the feed dog is at the upper dead point, the feed dog J is to be parallel with the top surface of the needle plate E. Its height is 1.0~1.2mm.

Adjusting by loosening of nut M and adjusting screw L of the feed dog J and also the screw K.

After adjusting by up and down of the feed dog J, fasten the screw K. Then, fix the adjusting screw L up by the nut M after slight-touching it to the feed rocker. Tilt adjustment is to be done by loosening of the screw R of the feed up-down lever P after removing of the screw N.



11-4 Adjusting of stitch length

The stitch length can be adjusted from 2.1 up to 6.4mm without step.

The following table shows the stitch length with the number of stitches within 1" (25.4mm) and 30mm.

Pulley position	stitch length (mm)	No. of stitches	
		within 1"	within 30mm
2	2.1	12	14
3	3.0	8.5	10
4	4.0	6.2	7.5
5	5.0	5.0	6.0
6	6.0	4.2	5.0
L	6.4	4.0	4.5

How to change the stitch length (Fig. : Refer to previous page.)

1. Press push button S lightly with the left hand until the end of push button S touches an inside part.
2. With pressing push button S lightly, turn the hand pulley T by the right hand, until the push button S goes further into the depth.
3. Press the push button S strongly again. With keeping of this press, turn the hand pulley T in order to meet the number of pulley position to the mark U which can be selected as required.
4. After selecting of the desired stitch length, release the left hand.
5. The machine is adjusted the number 3 of pulley position.

In case of happening the defect after big-changing of the stitch length, adjust again for [7] timing of the looper to the needle, [8] timing of the retainer looper and the looper.

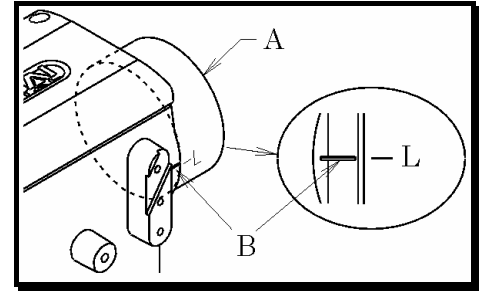
< Note >

Before adjusting machine, be sure to turn off the motor.

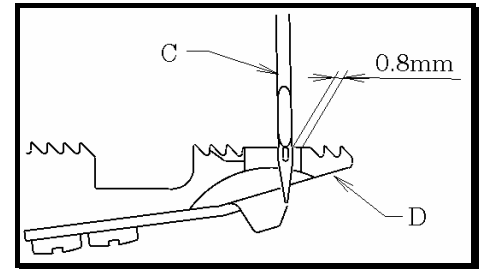
【12】 ADJUSTING OF THE NEEDLE FEED

12-1 Adjusting of front-back position of the needle

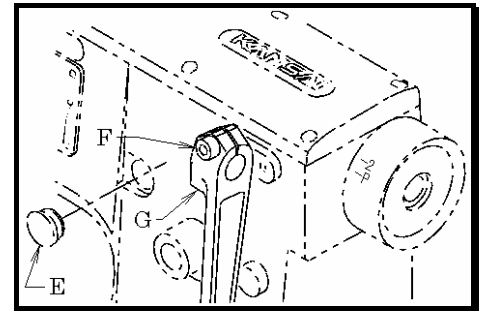
With reference to 11-4. Adjusting of stitch length, align the number L of pulley position to the mark B. Then, the stitch length is maximum.



When the needle C is going down from the top dead point by turning of hand pulley A, align the top end of needle hole of the needle C to the top surface of the feed dog D. The clearance between the needle and the needle drop hole of the feed dog D should be approx. 0.8mm as fig.



Remove the rubber plug E of the machine. Adjust the needle clamp with the moving to front and back after loosening of the screw F of the needle swing lever arm G.



12-2 Adjusting of front-back movement amount of the needle

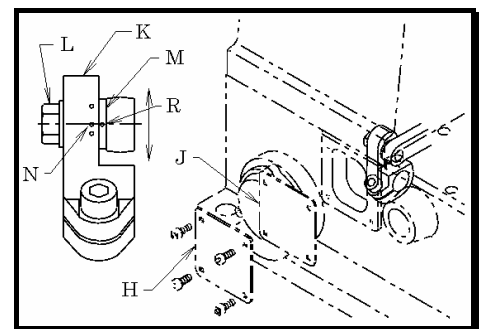
The center mark N of the needle swing lever K should be aligned to the mark R of the needle swing lever pin M as fig. It is a standard setting.

With this setting, the movement amount of the needle is synchronized with the movement amount of the feed. When adjusting of the movement amount of the needle, remove the cover H and the gasket J at the back side of the bed.

Adjust by moving up and down of the needle swing lever pin M after loosening of the nut L.

The needle feeding amount is increased when moving up.

The needle feeding amount is decreased when moving down.



< Note >

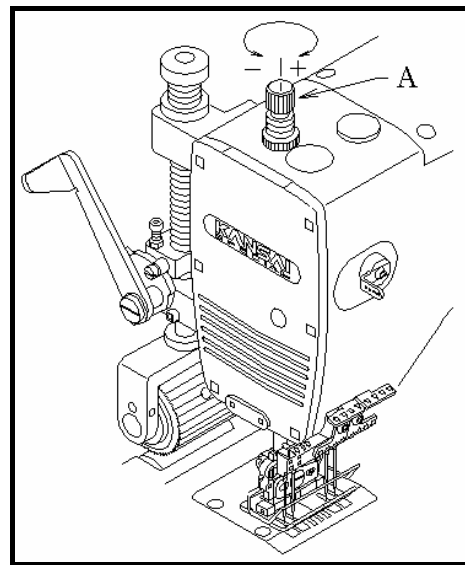
Before adjusting machine, be sure to turn off the motor.

【13】 ADJUSTING THE PRESSER FOOT

13-1 Presser foot pressure

The presser foot pressure should be as light as possible, yet be sufficient to feed the fabric and produce uniform stitches.

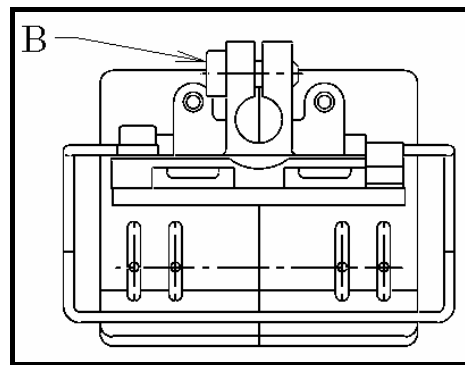
To increase the presser foot pressure, turn the adjusting knob clockwise.



13-2 Position of the presser foot

Fit the presser foot onto the presser bar so that the needle can drop correctly to the center of the needle drop hole on the presser foot.

Adjustment is made by loosening screw B.

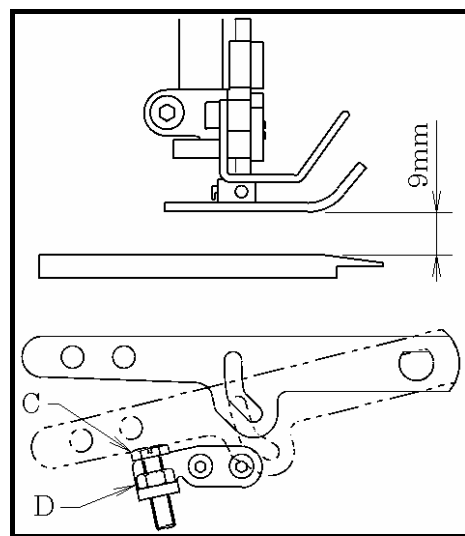


13-3 Foot lift

Position stopper C with the presser foot approximately 9mm above the top surface of the needle plate and then tighten nut D.

< Note >

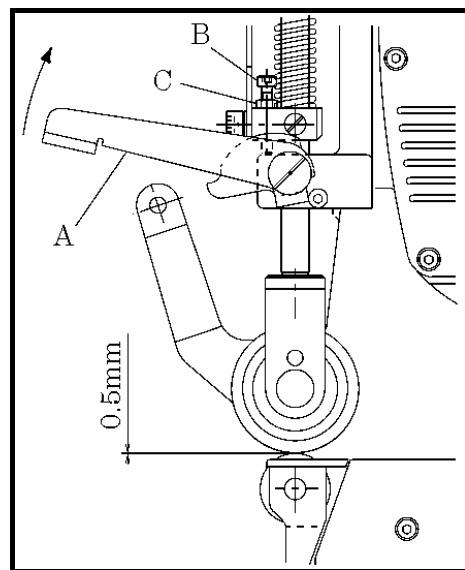
Before adjusting machine, be sure to turn off the motor.



【14】 ADJUSTING THE REAR PULLER DEVICE

14-1 Manual lever and position of the stopper

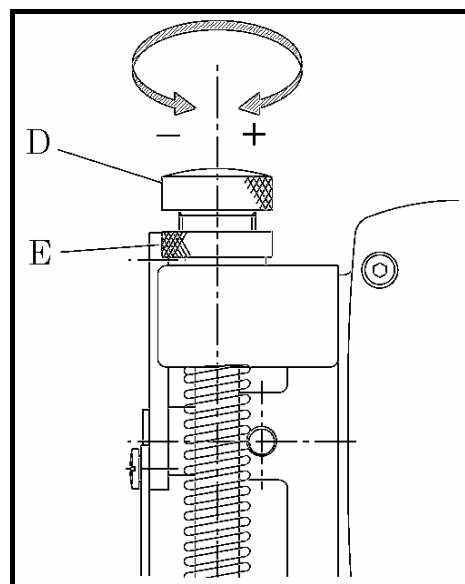
To position or remove the fabric, raise manual lever A. With the manual lever lowered, hold stopper B so that the clearance between the upper and lower pullers is 0.5mm. Then tighten nut C.



14-2 To adjust the puller pressure

The puller pressure should be as light as possible, yet be sufficient to feed the fabric smoothly.

To increase the pressure, turn adjusting knob D clockwise. To decrease the pressure, turn adjusting knob D counterclockwise. Fasten the lock nut E after adjusting.



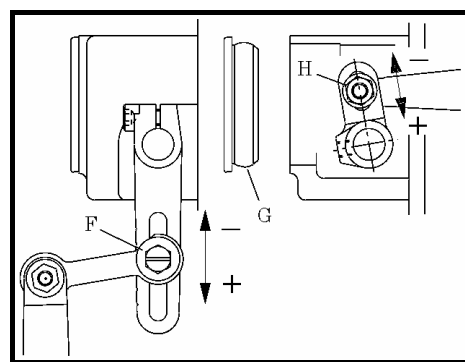
14-3 Adjusting the feeding amount of the rear puller

The feeding amount of the puller should be adjusted by changing of the movement amount of the upper roller in order to meet the sewing fabric and the sewing conditions. To decrease the amount, loosen nut F and move it up. To increase the amount, loosen nut F and move it down.

If the feeding amount is too large or small, remove the rubber plug G and loosen the nut H.

To decrease the amount, move it up.

To increase the amount, move it down.



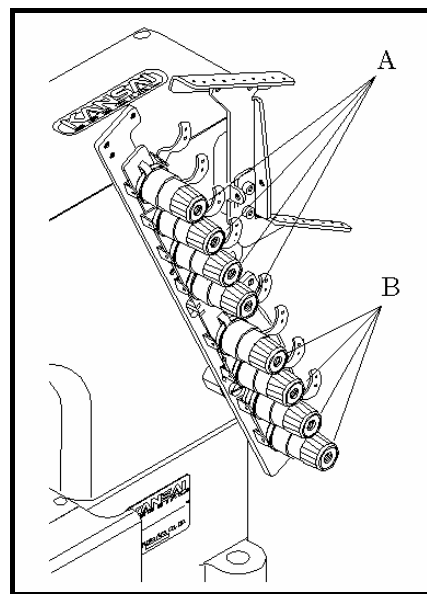
【15】 ADJUSTING THE STITCH FORMATION

15-1 Thread tension adjustment

Thread tension varies according to sewing conditions such as the fabric, thread and stitch length to be used. Tension on the needle thread can be adjusted with nuts A. Tension on the looper thread can be adjusted with nuts B. To increase the tension, turn the nuts clockwise.

< Note >

The tension should be as light as possible, yet be sufficient to produce uniform stitches.

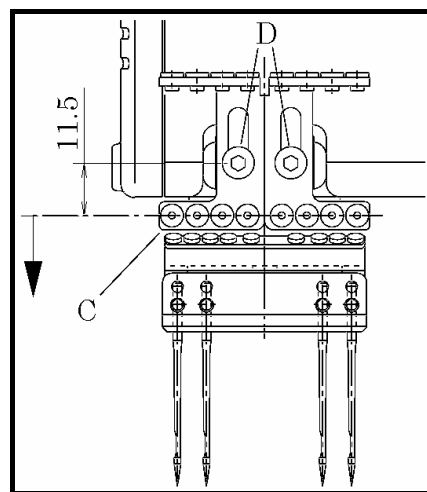


15-2 Position of the needle thread eyelet

The position of the needle thread eyelet C should be adjusted about approx. 11.5mm from the center of the screw D.

< Note >

To loose the needle thread, adjust the needle thread eyelet C to UP. To tight the needle thread, adjust the needle thread eyelet C to DOWN. Depending upon the kind of THREAD or FABRIC.

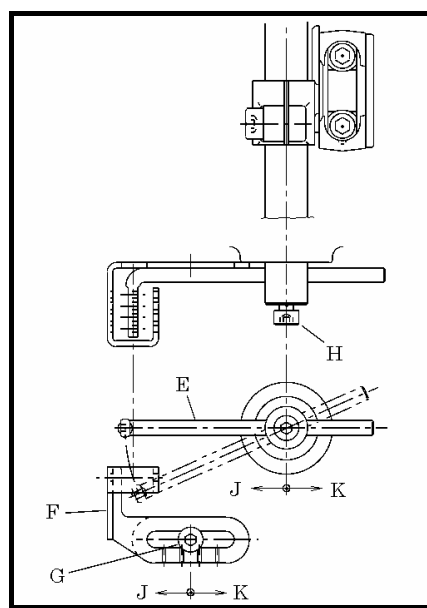


15-3 Position of the looper thread take-up eyelet

1. The looper thread eyelet F is to be fastened by the screw G at the center of its long-hole.
2. The looper take-up bar E is to be fastened by the screw H at the center passing position of the looper thread eyelet F.

< Note >

To loose the looper thread, move to the direction J for both of the looper thread eyelet F and the looper take-up bar E. To tight the looper thread, move to the direction K for both of the looper thread eyelet F and the looper take-up bar E.

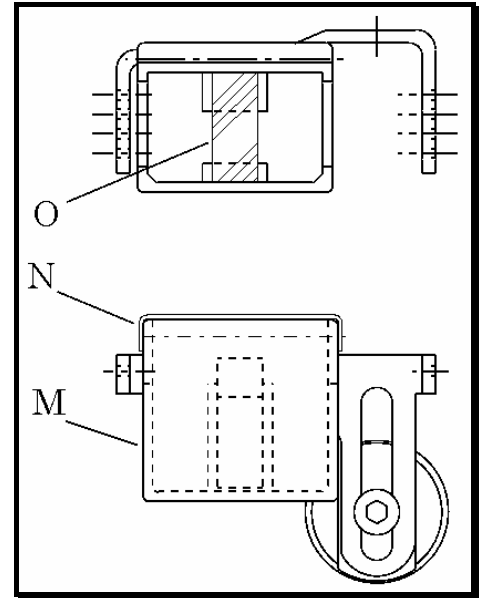


15-4 Silicon Tank

The silicon oil prevents the thread-breakage, the skip stitching and the heating of the needle top when using the synthetic and fiber material for the thread and the fabric. Use the silicon oil.

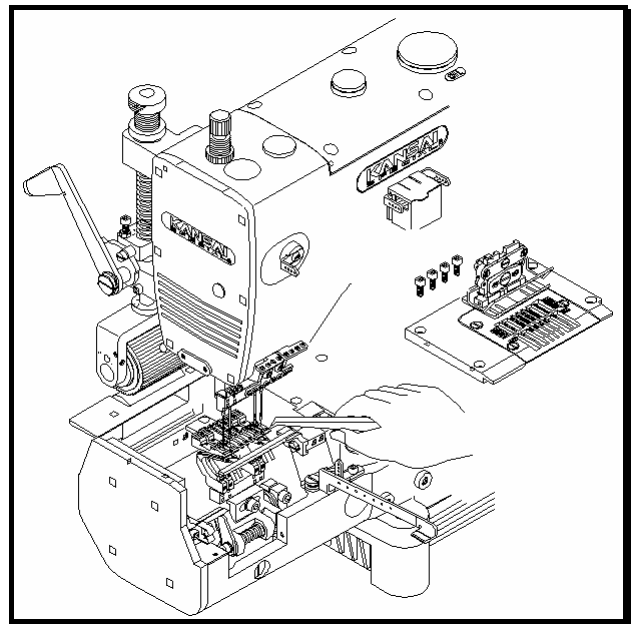
< Note >

Remove the felt O when no-using of the silicon tank M. Check the volume of the silicon oil regularly after opening of the cap N. If shortage, supply the silicon oil properly.



【16】CLEANING THE MACHINE

At the end of each day, remove the presser foot and the needle plate and then clean the slots of the needle plate and the area around the feed dogs.



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