

PARTS LIST & INSTRUCTION

FBX SERIES

Industrial Sewing Machines

FBX1102~1106
FB1102P~1106P
FBX1104PR~1106PR
FBX1102YS

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No. 190090

KANSAI
SPECIAL®

パーツブック御利用に際して

- このパーツブックは、2019年11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 November 2019.
- 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.

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 Needle 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.

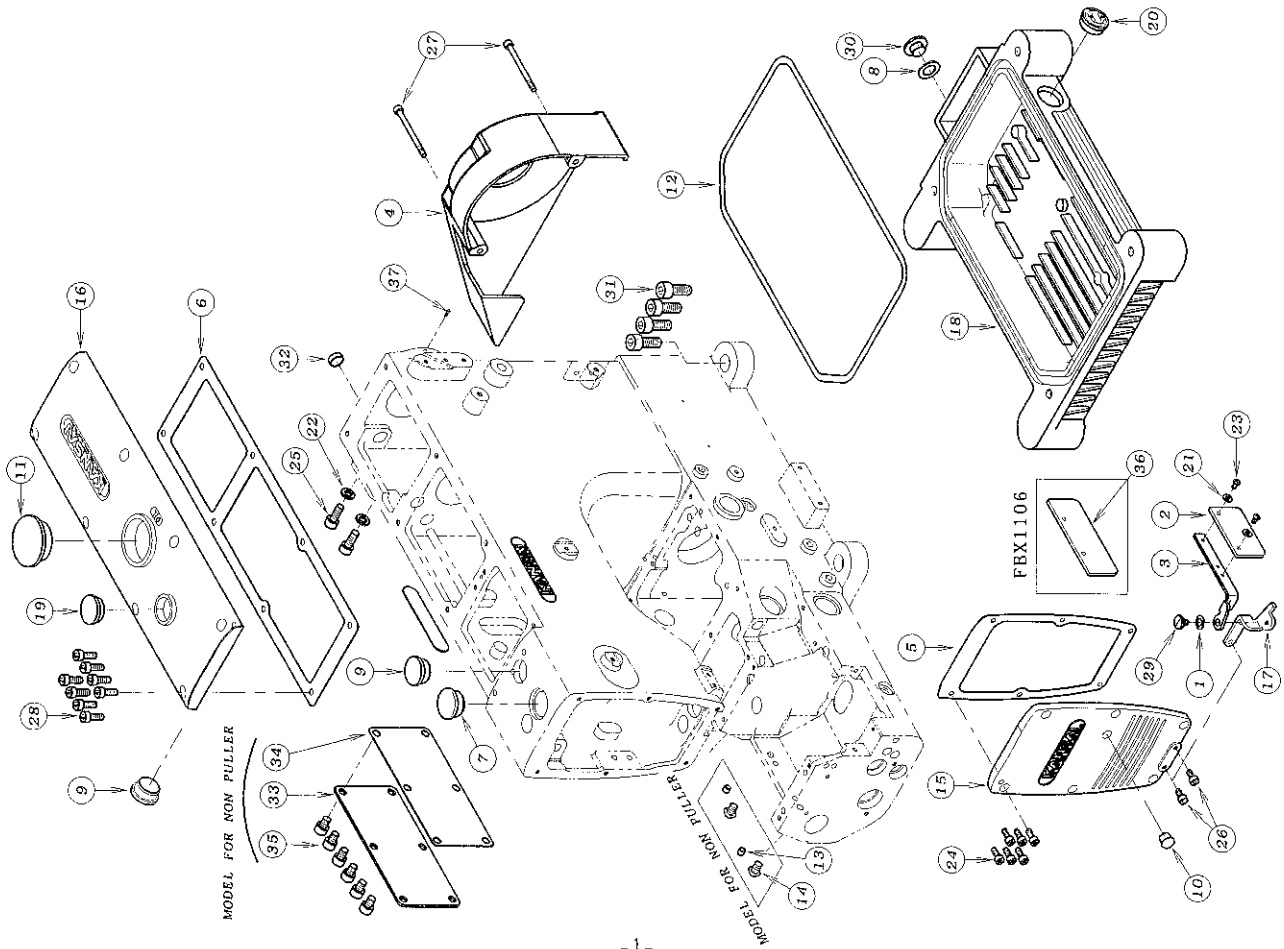
YSはヨークシーム用です。

YS for yoke seaming.

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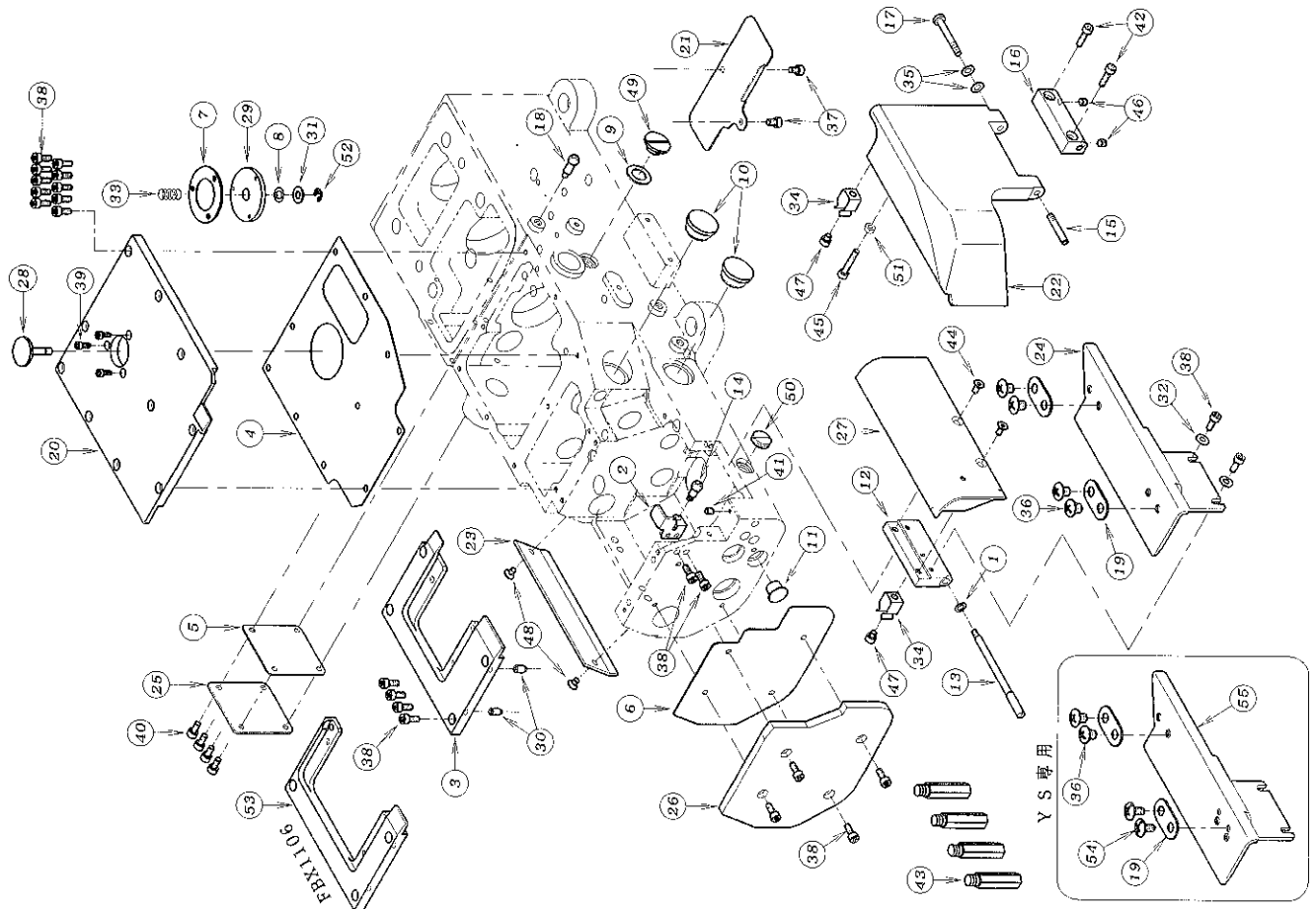
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1. フレーム関係 (1) FRAME ASSEMBLY (1)



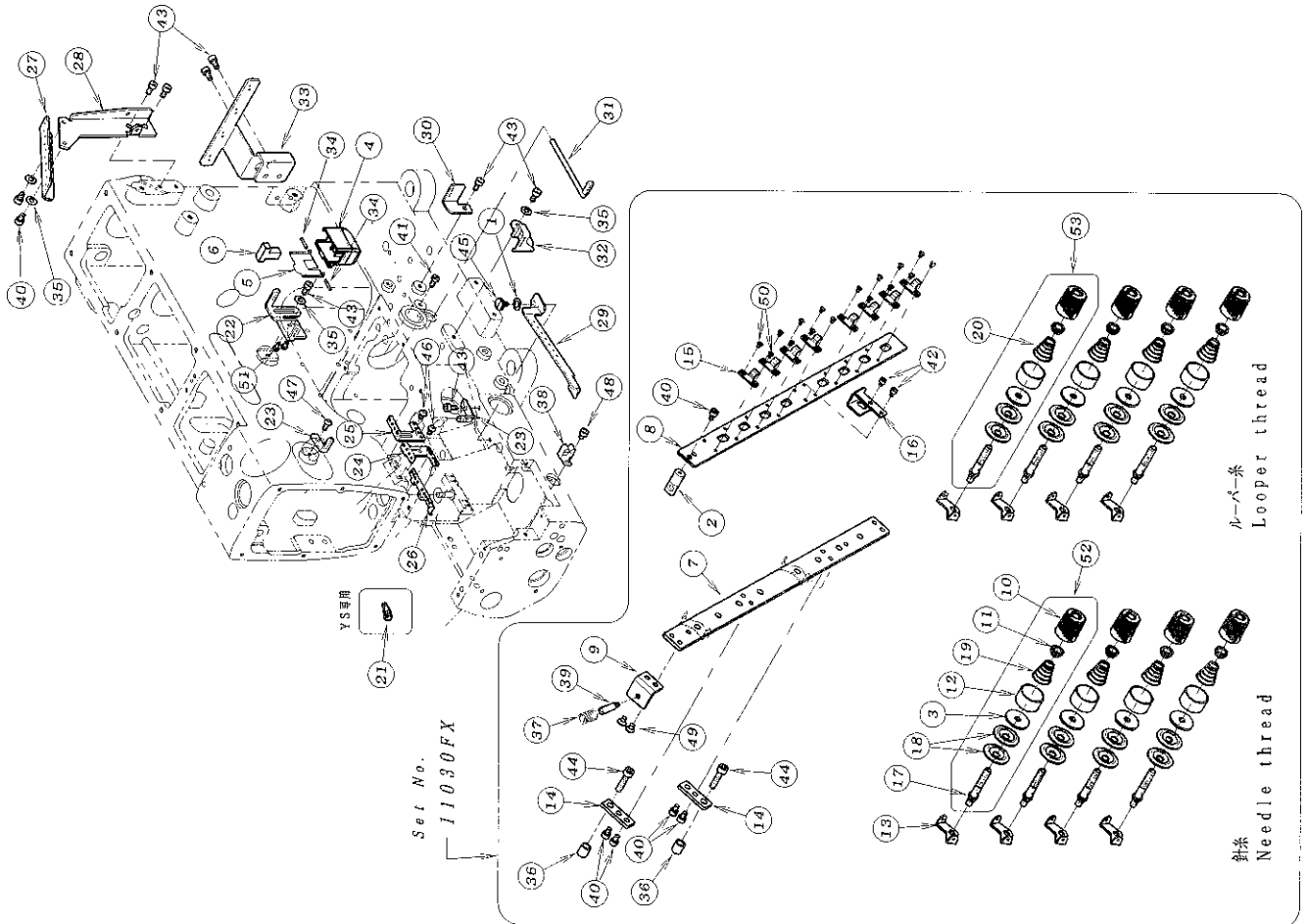
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
01-01	02-119	板金	WASHER	1
01-02	21-273	保護カバー	EYE GUARD	1
01-03	21-275	保護カバー 取り付板	BRACKET	1
01-04	27-136	プーリーカバー	PULLEY COVER	1
01-05	23-015	面板パッキン	GASKET	1
01-06	23-016	フレームカバーパッキン	GASKET	1
01-07	23-017	コ・ム栓	PLUG	1
01-08	23-304	シール	SEAL	1
01-09	23-427	コ・ム栓	PLUG	2
01-10	23-501	コ・ム栓	PLUG	1
01-11	23-504	コ・ム栓	PLUG	1
01-12	23-508	O-リング	O-RING	1
01-13	25-521	プラグ	PLUG	2
01-14	87-400	六角穴付きボルト	BOLT	2
01-15	27-405	面板	HEAD COVER	1
01-16	27-406	フレームカバー	TOP COVER	1
01-17	27-410	保護カバー プラケット	BRACKET	1
01-18	31-515	オイルタンク	OIL TANK	1
01-19	39-502	オイルボット蓋	OIL SIGHT WINDOW	1
01-20	39-504	オイルゲージ	OIL SIGHT GAUGE	1
01-21	75-224	ワッシャー	WASHER	2
01-22	75-552	ワッシャー	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	2
01-29	87-264	ワッシャー	WASHER	8
01-30	87-311	ワッシャー	SCREW	1
01-31	87-663	六角穴付きボルト	SCREW	1
01-32	94-505	メクラフタ	BOLT	4
01-33	21-717	後カバー	PLUG	1
01-34	23-538	パッキン	REAR COVER	1
01-35	87-255	六角穴付きボルト	GASKET	1
01-36	21-274	保護カバー	BOLT	6
01-37	93-701	ピン	EYE GUARD	1
			PIN	1

2. フレーム関係 (2) FRAME ASSEMBLY (2)



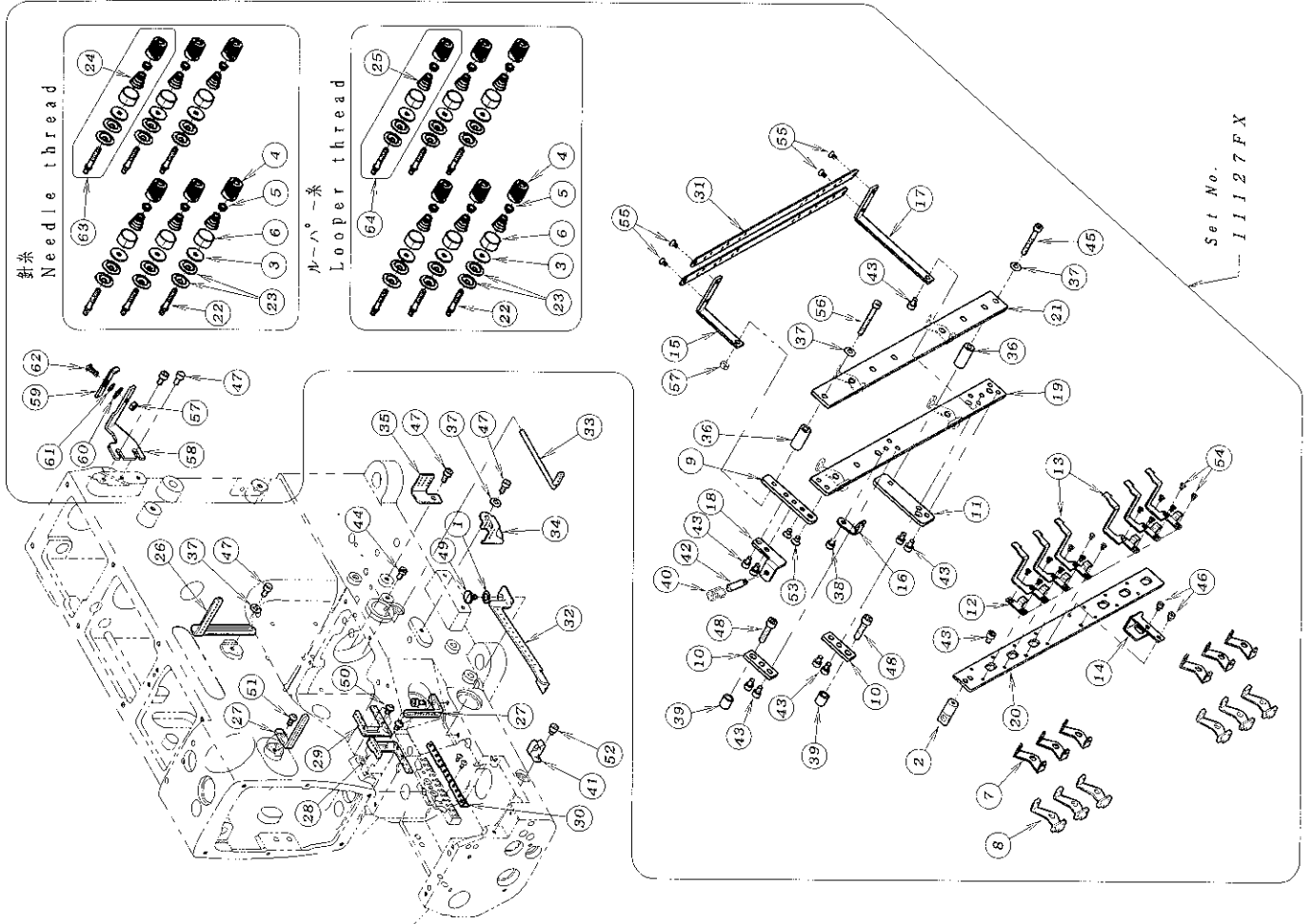
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
02-01	02-118	蓋ワッシャ	WASHER	1
02-02	04-451	スプ・レック' - ガ' イト'	GUIDE PLATE	1
02-03	14-118	針座土台 (4本針)	NEEDLE SUPPORT BRACKET	1
02-04	23-010	上ハ' - スカハ' - ハ' ッキン	GASKET	1
02-05	23-026	パッキン	GASKET	1
02-06	23-027	パッキン	GASKET	1
02-07	23-028	押しボ' タン用ハ' ッキン	GASKET	1
02-08	23-183	O-リング	O-RING	1
02-09	23-304	シール	SEAL	1
02-10	23-427	コ' A 栓	PLUG	2
02-11	23-529	コ' A 栓	PLUG	1
02-12	25-410	シムシム' - ガハ' - ヒンジ'	HINGE	1
02-13	25-411	ガハ' - ヒンジ' ネジ'	HINGE SCREW	1
02-14	25-412	カハ' - ストップねじ	SCREW	1
02-15	25-527	ガハ' - ヒンジ' ネジ'	SCREW	1
02-16	25-516	座席台ヒンジ'	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	フッパ取付金具	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	シムシム' - 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	機カハ' -	SIDE COVER	1
02-27	27-416	シムシム' - ガハ' -	CYLINDER COVER	1
02-28	169-454	送り前後調節リボ' タン	PUSH BUTTON	1
02-29	169-455	押しボ' タンハウジング'	HOUSING	1
02-30	171-579	ノックピン	PIN	2
02-31	175-453	ワッシャ	WASHER	1
02-32	175-455	ワッシャ	WASHER	2
02-33	179-413	フ' ッシユボ' タンハ' ネ	SPRING	1
02-34	179-912	ハ' ネ	SPRING	2
02-35	179-922	皿ハ' ネ	SPRING	2
02-36	185-181	ネジ'	SCREW	6
02-37	187-092	六角穴付きボルト	BOLT	2
02-38	187-113	六角穴付きボルト	BOLT	22
02-39	187-124	六角穴付きボルト	BOLT	3
02-40	187-177	六角穴付きボルト	BOLT	4
02-41	187-181	ネジ'	SCREW	1
02-42	187-214	六角穴付きボルト	BOLT	2
02-43	187-258	スタンプ' ヒ' ン	PIN	4
02-44	187-269	ネジ'	SCREW	2
02-45	187-283	六角穴付きボルト	BOLT	1
02-46	187-274	ネジ'	SCREW	2
02-47	187-287	六角穴付きボルト	BOLT	2
02-48	187-293	ネジ'	SCREW	2
02-49	187-311	フタネジ'	SCREW	1
02-50	187-670	フ' ラク' ネジ'	PLUG SCREW	1
02-51	188-146	ナット	NUT	1
02-52	193-205	E-リング	E-RING	1
02-53	14-119	針座土台 (12本針)	NEEDLE SUPPORT BRACKET	1
02-54	187-436	ネジ'	SCREW	2
02-55	127-429	補助カハ' -	COVER	1

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



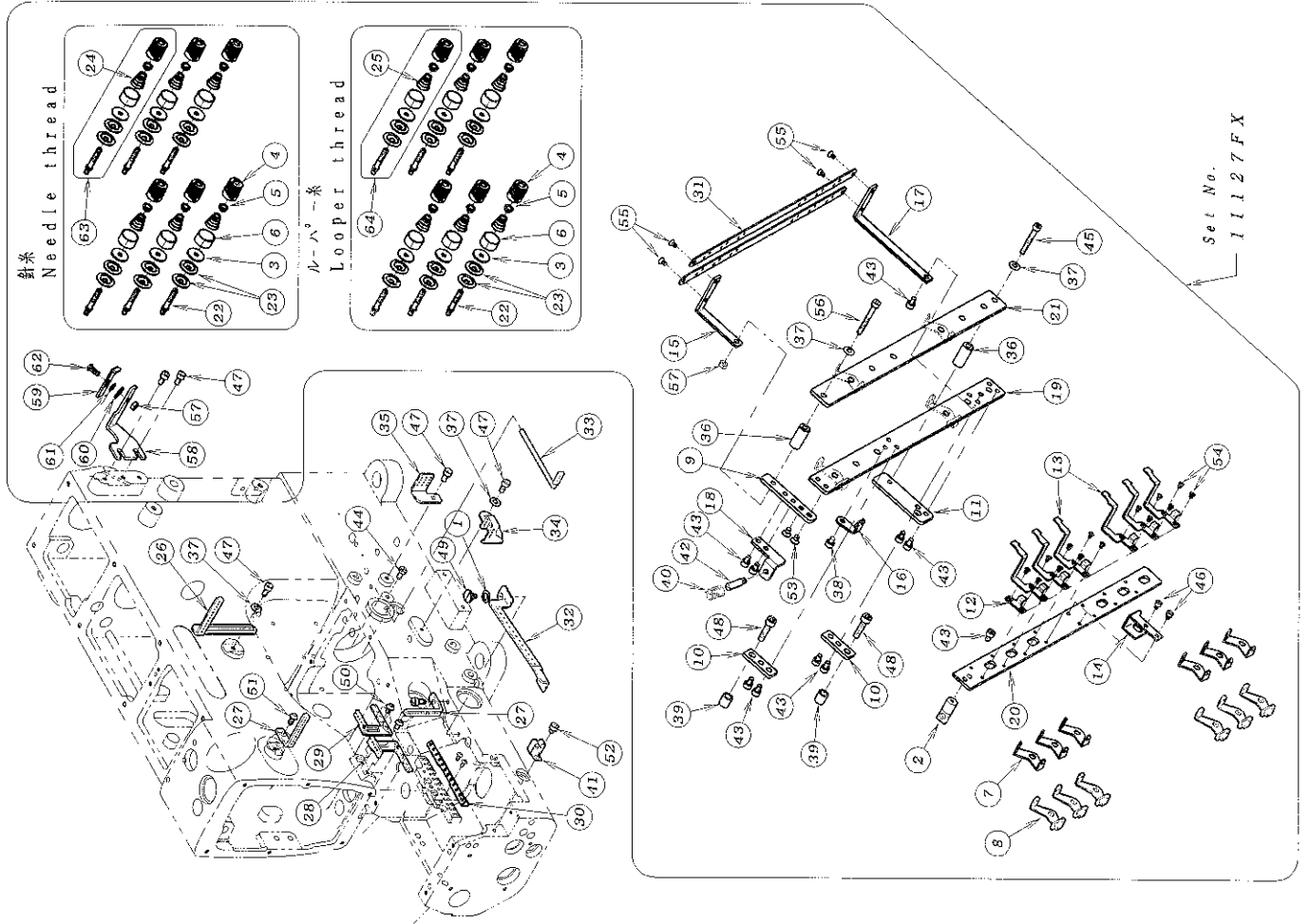
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
03-01	02-119	波理金	WASHER	1
03-02	05-531	エア-シンダ'-連結金具	BRACKET	1
03-03	23-324	フェルト	FELT	8
03-04	27-302	シリコタンク	SILICONE OIL RESERVOIR	1
03-05	27-533	シリコタンクアタ	COVER	1
03-06	27-534	フェルト	FELT	1
03-07	41-029	チャンボ'ン台	PLATE	1
03-08	41-030	糸繰めプ'レート	PLATE	1
03-09	41-031	防振用取付金具	BRACKET	1
03-10	41-104	チャンボ'ン皿小ケース	THREAD TENSION NUT	1
03-11	41-105	チャンボ'ン皿フチェット	SPRING POST	8
03-12	41-106	チャンボ'ン皿大ケース	SPRING CUP	8
03-13	41-115	糸道(上)	THREAD GUIDE	8
03-14	41-473	取付金具B	BRACKET B	2
03-15	41-476	糸繰め爪(小)	NAIL (S)	8
03-16	41-478	糸繰め金具	SCREW STUD	8
03-17	41-508	調子押(中)	SCREW STUD	8
03-18	41-509	チャンボ'ン皿	TENSION DISC	16
03-19	41-701	チャンボ'ン調子バネ(強)	SPRING (HEAVY)	4
03-20	41-702	チャンボ'ン調子バネ(弱)	SPRING (LIGHT)	4
03-21	45-268	針棒糸道	THREAD EYELET	4
03-22	45-445	シリコタンク糸道	THREAD EYELET	1
03-23	45-446	上糸道(4本)	THREAD EYELET	2
03-24	45-447	針糸道(左)	THREAD EYELET	1
03-25	45-448	針糸道(右)	THREAD EYELET	1
03-26	45-449	針棒糸道	THREAD EYELET	1
03-27	45-546	糸カ'イト'	THREAD GUIDE	1
03-28	45-547	糸カ'イト'プ'ラケット	BRACKET	1
03-29	47-414	ル-ハ'-糸道左	THREAD EYELET	1
03-30	47-416	下糸道	THREAD EYELET	1
03-31	47-417	ル-ハ'-糸道右	THREAD EYELET	1
03-32	47-418	ル-ハ'-糸道(右)	THREAD EYELET	1
03-33	47-420	糸カ'イト'	THREAD EYELET	1
03-34	71-202	シリコタンク用ヒ'ン	SILICONE PIN	2
03-35	75-455	ワッシャ	WASHER	4
03-36	75-943	カラ-	COLLAR	2
03-37	79-163	ハ'ネ	SPRING	1
03-38	79-415	板バネ	SPRING	1
03-39	84-537	取ネジ'	SCREW	1
03-40	87-092	六角穴付きボルト	BOLT	7
03-41	87-096	ネジ'	SCREW	1
03-42	87-142	ネジ	SCREW	1
03-43	87-177	六角穴付きボルト	BOLT	2
03-44	87-246	六角穴付きボ'ルト	BOLT	8
03-45	87-264	取ネジ'	SCREW	2
03-46	87-271	ネジ'	SCREW	1
03-47	87-272	ネジ'	SCREW	2
03-48	87-287	六角穴付きボルト	BOLT	1
03-49	87-293	ネジ'	SCREW	1
03-50	87-338	十字穴付皿小ネジM2.5	SCREW	2
03-51	87-372	タッピングネジ	SCREW	16
03-52	40-7010	チャンボ'ンセット(強)	THREAD TENSION SET (HEAVE)	2
03-53	40-7020	チャンボ'ンセット(弱)	THREAD TENSION SET (LIGHT)	4

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



REF. NO.	PART NO.	品名	DESCRIPTION	QTY
04-01102-119	板産金	板産金	WASHER	1
04-02105-531	エアースプリング	エアースプリング	BRACKET	1
04-03233-324	フェルト	フェルト	FELT	12
04-04411-104	チャンポン皿小ケース	チャンポン皿小ケース	THREAD TENSION NUT	12
04-05411-105	チャンポン皿子チャット	チャンポン皿子チャット	SPRING POST	12
04-06411-106	大ケース	大ケース	SPRING CUP	12
04-07411-115	糸道 (上)	糸道 (上)	THREAD GUIDE	6
04-08411-466	チャンボ'ン皿糸道	チャンボ'ン皿糸道	THREAD EYELET	6
04-09411-472	取付金具A	取付金具A	BRACKET A	1
04-10411-473	取付金具B	取付金具B	BRACKET B	2
04-11411-474	取付金具C	取付金具C	BRACKET C	1
04-12411-476	糸締め爪 (小)	糸締め爪 (小)	NAIL (S)	1
04-13411-477	糸締め爪 (大)	糸締め爪 (大)	NAIL (L)	6
04-14411-478	糸締め金具	糸締め金具	PLATE	1
04-15411-480	糸ガイド取付金具	糸ガイド取付金具	BRACKET	1
04-16411-487	糸道	糸道	THREAD EYELET	1
04-17411-482	糸ガイド取付金具	糸ガイド取付金具	BRACKET	1
04-18411-483	防塵用取付金具	防塵用取付金具	BRACKET	1
04-19411-484	チャンボ'ン台 (下)	チャンボ'ン台 (下)	BRACKET	1
04-20411-485	糸締めプレート	糸締めプレート	THREAD RELEASE PLATE	1
04-21411-486	チャンボ'ン台 (上)	チャンボ'ン台 (上)	BRACKET	1
04-22411-508	調子棒 (中)	調子棒 (中)	SCREW STUD	12
04-23411-509	チャンボ'ン皿	チャンボ'ン皿	TENSION DISC	24
04-24411-701	チャンボ'ン調子棒 (強)	チャンボ'ン調子棒 (強)	SPRING (HEAVY)	6
04-25411-702	チャンボ'ン調子棒 (弱)	チャンボ'ン調子棒 (弱)	SPRING (LIGHT)	6
04-26445-107	糸道	糸道	THREAD EYELET	1
04-27445-450	糸道 (1.2本)	糸道 (1.2本)	THREAD EYELET	2
04-28445-451	針糸道 (左) 1.2本	針糸道 (左) 1.2本	THREAD EYELET	1
04-29445-452	針糸道 (右) 1.2本	針糸道 (右) 1.2本	THREAD EYELET	1
04-30445-468	針状糸道 (1.2本針)	針状糸道 (1.2本針)	THREAD EYELET	1
04-31445-472	糸ガイド	糸ガイド	THREAD EYELET	2
04-32447-415	ループ糸道 (左)	ループ糸道 (左)	THREAD EYELET	1
04-33447-417	ループ糸道 (右)	ループ糸道 (右)	THREAD EYELET	1
04-34447-418	ループ糸道 (左)	ループ糸道 (左)	THREAD EYELET	1
04-35447-419	下糸道 (1.2本)	下糸道 (1.2本)	THREAD EYELET	1
04-36475-427	スベースカラ	スベースカラ	COLLAR	2
04-37475-455	ワッシャ	ワッシャ	WASHER	4
04-38475-067C	六角穴付きボルト	六角穴付きボルト	BOLT	1
04-39475-943	カラ	カラ	COLLAR	2
04-40479-163	ハネ	ハネ	SPRING	1
04-41479-415	取付金具	取付金具	SPRING	1
04-42484-537	取付金具	取付金具	SCREW	1
04-43487-092C	六角穴付きボルト	六角穴付きボルト	BOLT	10
04-44487-096	ネジ	ネジ	SCREW	1
04-45487-120C	六角穴付きボルト	六角穴付きボルト	BOLT	1
04-46487-142C	ネジ	ネジ	SCREW	2
04-47487-177	六角穴付きボルト	六角穴付きボルト	BOLT	6
04-48487-246C	六角穴付きボルト	六角穴付きボルト	BOLT	2
04-49487-264	取付金具	取付金具	SCREW	1
04-50487-271	ネジ	ネジ	SCREW	2
04-51487-272	ネジ	ネジ	SCREW	1
04-52487-287	六角穴付きボルト	六角穴付きボルト	BOLT	1
04-53487-293	ネジ	ネジ	SCREW	1
04-54487-338	十字穴付皿小ネジM2.5	十字穴付皿小ネジM2.5	SCREW	2
04-55487-339	十字穴付皿小ネジM3	十字穴付皿小ネジM3	SCREW	14
04-56487-903C	六角穴付きボルト	六角穴付きボルト	BOLT	4
			BOLT	1

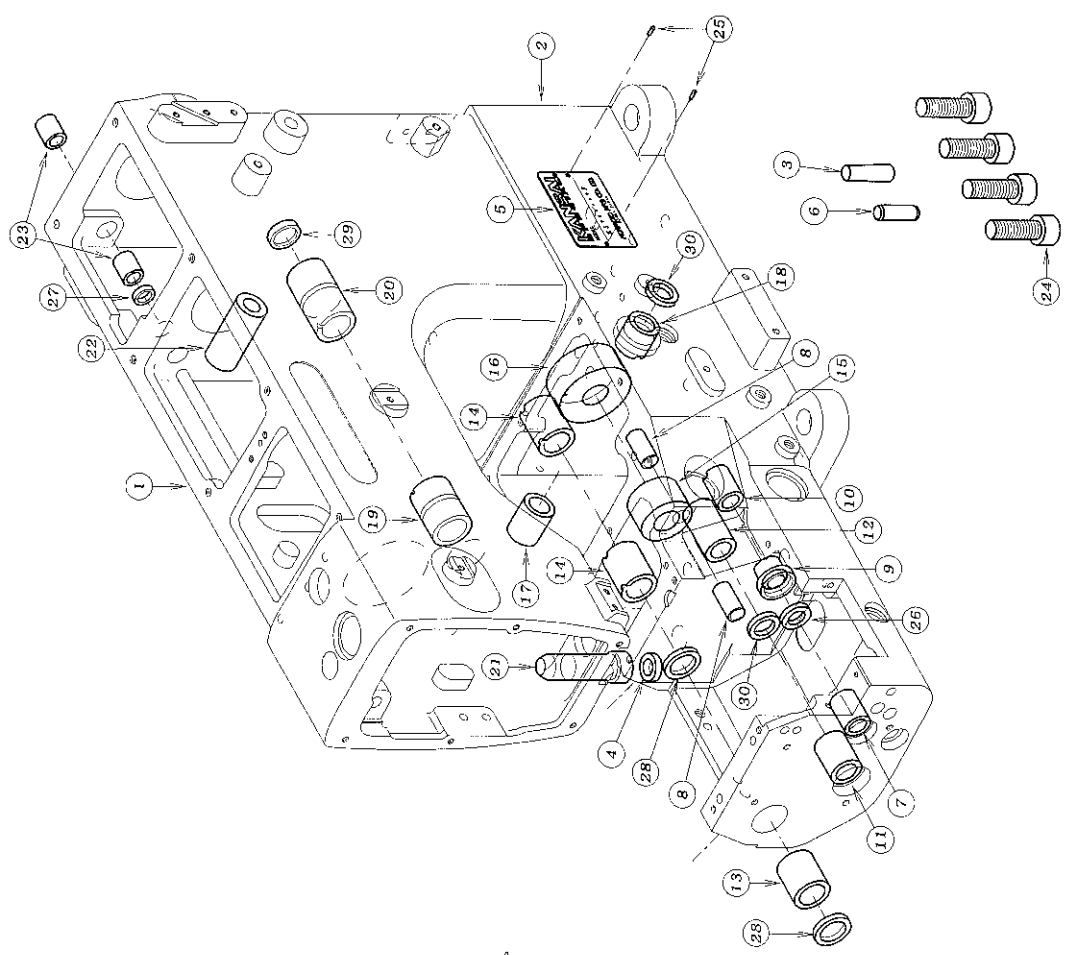
4. 糸調子機構 (FBX1106) THREAD TENSION MECHANISM



REF. NO.	PART NO.	品名	DESCRIPTION	QTY
04-57	188-146C	ナット	NUT	1
04-58	41-488	サホ-トフ'ラケット	BRACKET	1
04-59	41-489	サホ-トフ'プレート	PLATE	1
04-60	75-467	ワッシャー	WASHER	1
04-61	79-567	皿ハネ	SPRING	1
04-62	87-273	ネジ	SCREW	1
04-63	40-7010	チャンポンセット (黄)	THREAD TENSION SET (HEAVE)	4
04-64	40-7020	チャンポンセット (青)	THREAD TENSION SET (LIGHT)	4

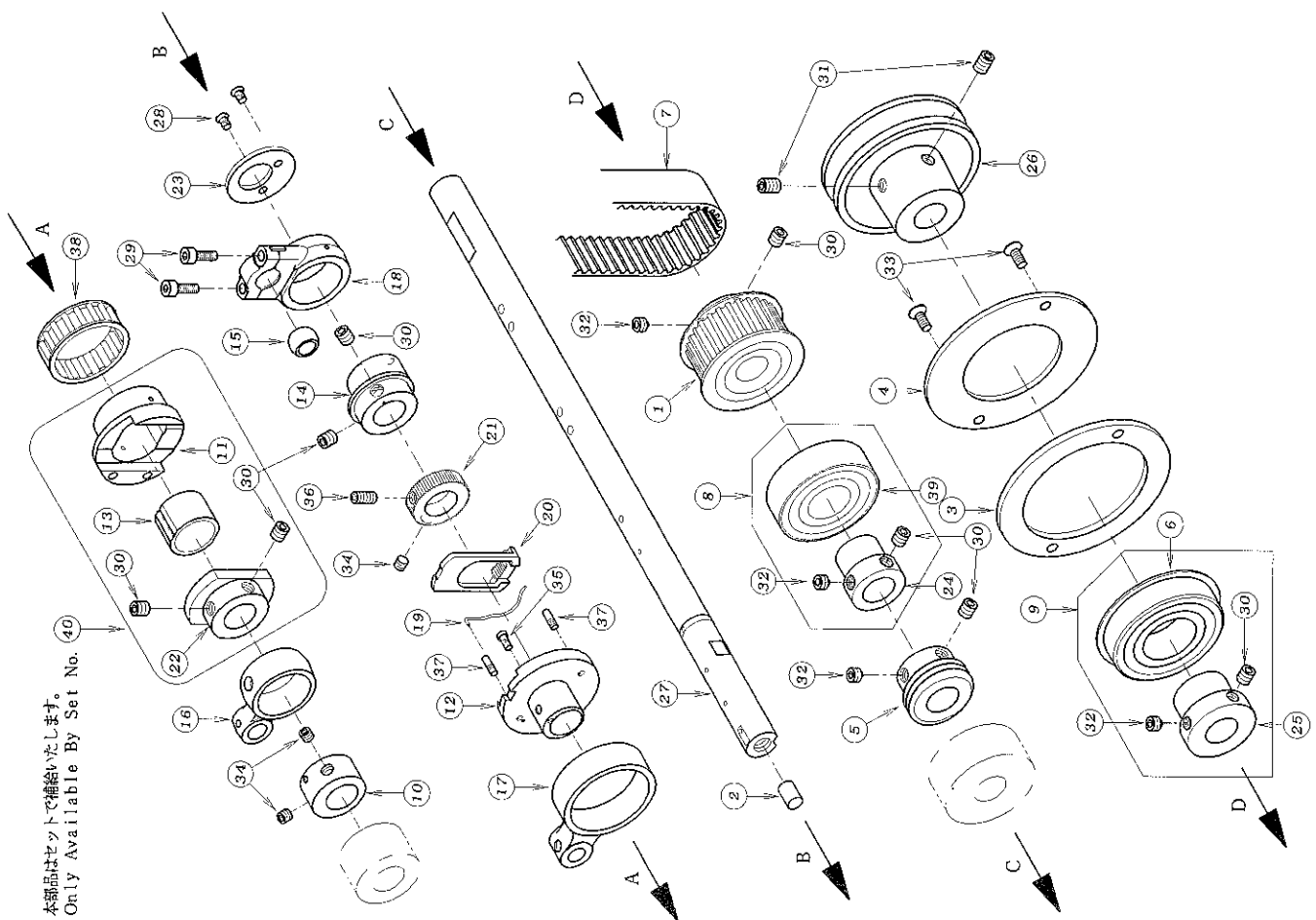
5. フッシュ機構 BUSHING

REF. NO.	PART NO.	品名	DESCRIPTION	QTY
05-01	22-420	アーム	ARM	1
05-02	22-422	シリンダ' -加工図	CYLINDER	1
05-03	71-268	チーパ' -ピン	PIN	1
05-04	94-503	オイルシール	OIL SEAL	1
05-05	24-053	モテ' ルステッカ-	TYPE PLATE	1
05-06	71-580	ノックピン	PIN	1
05-07	81-430	ブッシュ	BUSHING	1
05-08	81-452	スプ' レッタ' -フ' ツシュ	BUSHING	1
05-09	81-453	ル' パ' -軸フ' ツシュ中	BUSHING	2
05-10	81-454	ル' パ' -軸フ' ツシュ右	BUSHING	1
05-11	81-455	送り上軸フ' ツシュ左	BUSHING	1
05-12	81-456	送り上軸フ' ツシュ右	BUSHING	1
05-13	81-457	送り前駆軸フ' ツシュ左	BUSHING	1
05-14	81-458	送り前駆軸フ' ツシュ中右	BUSHING	1
05-15	81-459	下軸フ' ツシュ左	BUSHING	2
05-16	81-460	下軸フ' ツシュ右	BUSHING	1
05-17	81-461	スプ' レッタ' -軸フ' ツシュ後	BUSHING	1
05-18	81-462	スプ' レッタ' -軸フ' ツシュ前	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	押え棘ブッシュ	BUSHING	1
05-22	81-505	ブッシュ	BUSHING	1
05-23	81-531	フ' ツシュ	BUSHING	2
05-24	187-228	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	2
05-29	94-403	オイルシール	OIL SEAL	1
05-30	94-502	オイルシール	OIL SEAL	2



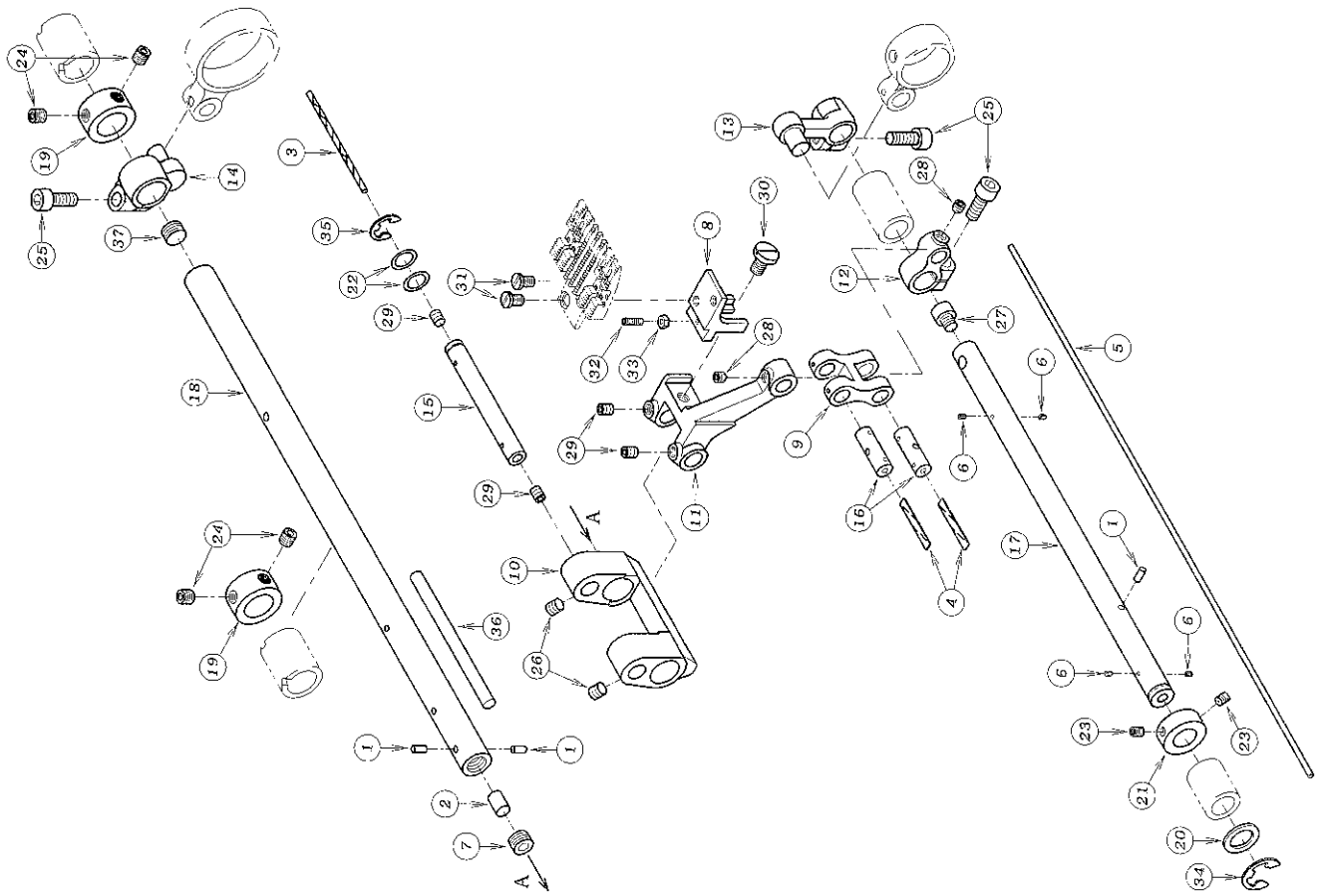
6. 下軸機構 CRANKSHAFT MECHANISM

本部品はセットで供給いたします。
Only Available By Set No. 40



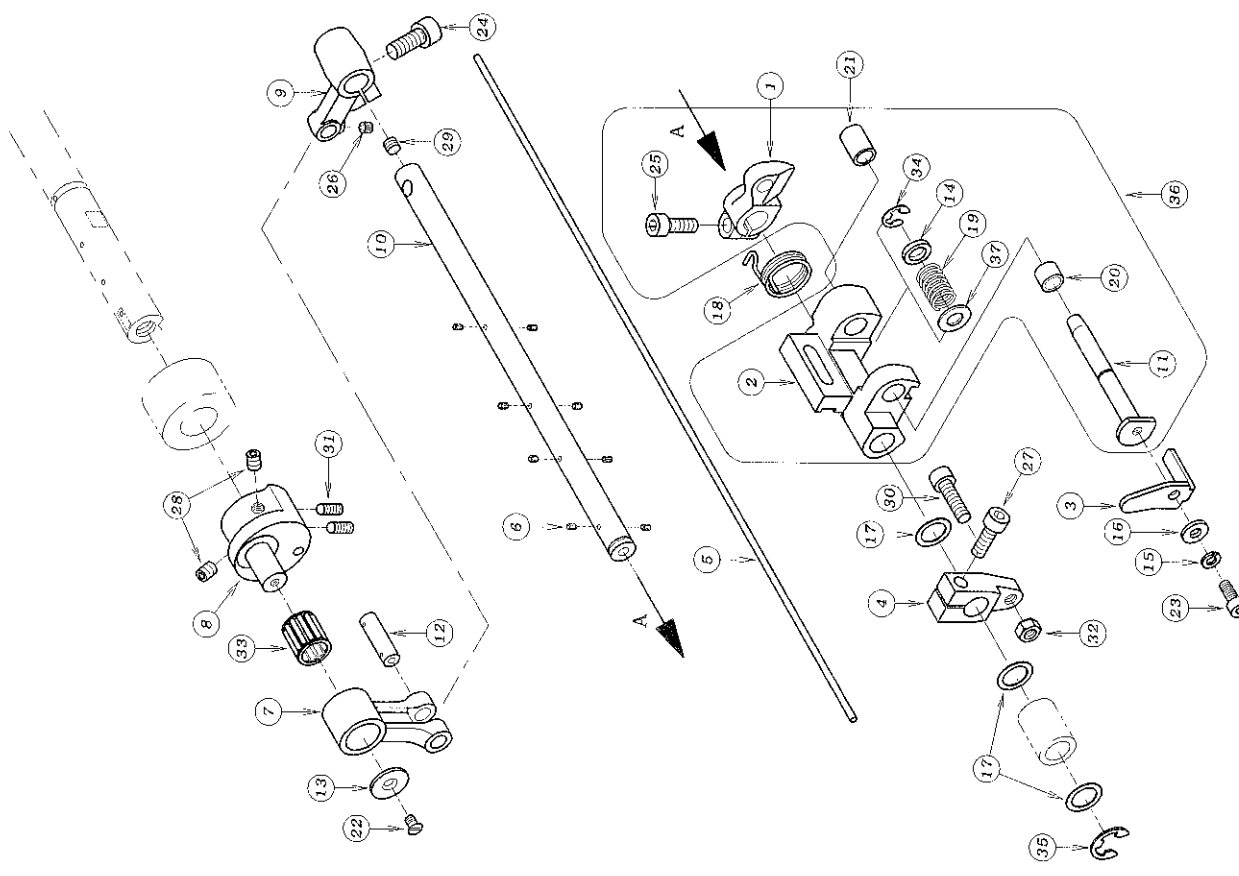
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
06-01	06-121	タイミンクプーリー (下)	TIMING PULLEY	1
06-02	02-012	フェルト	FELT	1
06-03	25-519	ベアリング止め板 (A)	SET PLATE (A)	1
06-04	25-520	ベアリング止め板 (B)	SET PLATE (B)	1
06-05	31-540	ポンプ駆動ギヤ	PUMP DRIVING WARM	1
06-06	34-826	ホーメルベアリング	BEARING	1
06-07	58-501	タイミンクベルト	TIMING BELT	1
06-08	60-8510	ベアリングセット	BEARING ASS'Y	1
06-09	60-8540	ベアリングセット	BEARING ASS'Y	1
06-10	61-419	送り前後エキセン	ECCENTRIC	1
06-11	61-420	送り前後エキセン	ECCENTRIC	1
06-12	61-421	送り前後エキセン	ECCENTRIC	1
06-13	61-422	前後エキセンカラー	ECCENTRIC LINK	1
06-14	61-423	スプリング	ECCENTRIC	1
06-15	61-424	スプリング	BALL JOINT	1
06-16	63-411	送り下ロッド	CONNECTING ROD	1
06-17	63-412	送り連結ロッド	CONNECTING ROD	1
06-18	63-413	スプリング	CONNECTING ROD	1
06-19	69-432	送り調節エキセンバネ	SPRING	1
06-20	69-448	送り調節ギヤ	REGULATING PLATE	1
06-21	69-449	送り調節ギヤ	REGULATING GEAR	1
06-22	69-450	送りライフプレート	MOUNT COLLAR	1
06-23	69-451	送りライフプレート	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	69-552	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	六角穴付き止めネジ	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	ホーメルベアリング	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



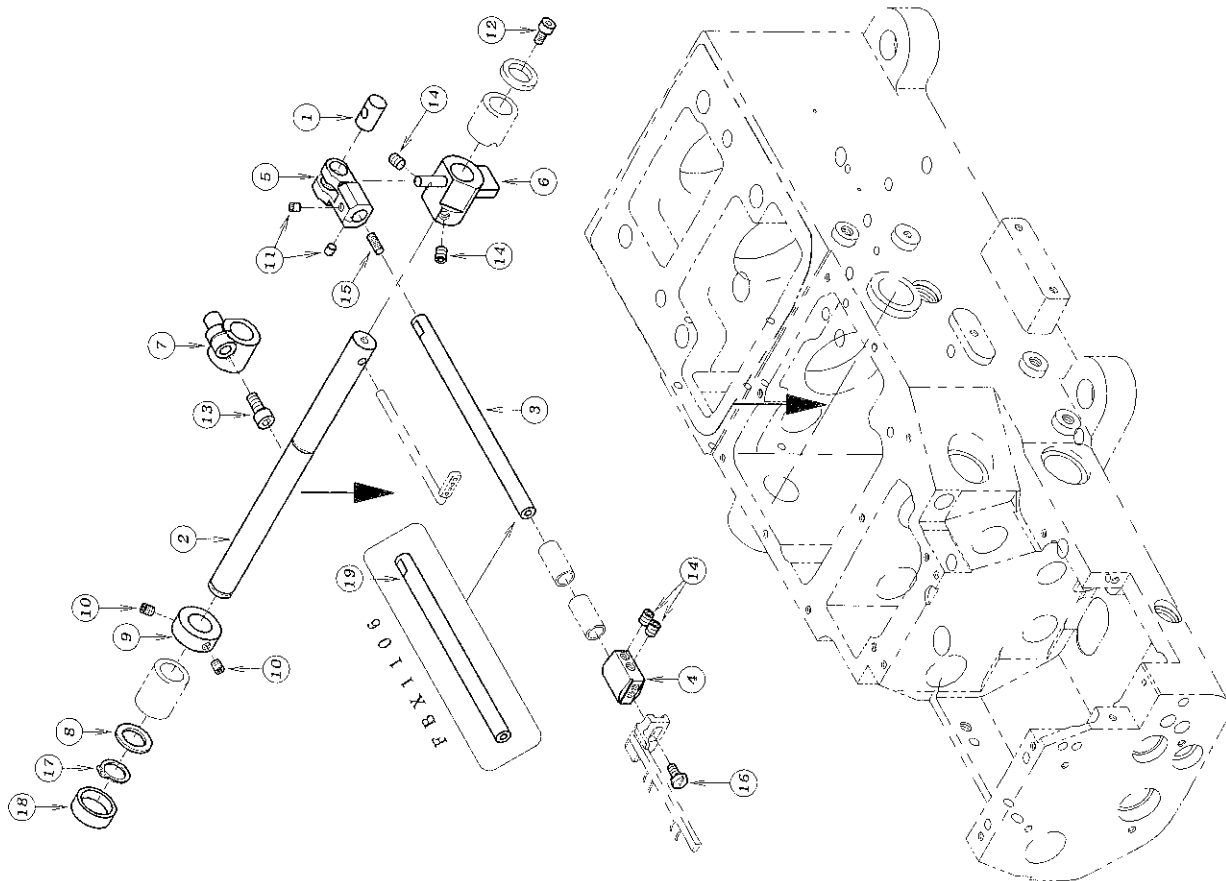
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
07-01123-011		フェルト	FELT	3
07-02123-012		フェルト	FELT	1
07-03123-014		フェルト	FELT	1
07-04123-341		フェルト	FELT	2
07-05123-535		フェルト	FELT	1
07-06123-554		フェルト	FELT	4
07-07131-663		六角穴付止めねじ	SCREW	1
07-08155-407		送り置換付台	FEED DOG HOLDER	1
07-09155-408		送り上下リンク	LINK	1
07-10155-409		送り元台	FEED ROCKER	1
07-11155-410		送り土台	FEED ROCKER	1
07-12167-439		送り上レバ	LEVER	1
07-13167-440		送り上下ドライブレバ	LEVER	1
07-14167-441		送り前後レバ	FEED DRIVE LEVER	1
07-15171-358		送り元台ピン	SHAFT	1
07-16171-363		送りトドリンクピン	LINK PIN	1
07-17171-365		送り上下シャフト	FEED LIFT SHAFT	2
07-18171-366		送り前後シャフト	FEED DRIVE SHAFT	1
07-19175-106		カラー	COLLAR	2
07-20175-187		ワッシャー	WASHER	1
07-21175-189		カラー	COLLAR	1
07-22175-494		スラストワッシャー	WASHER	2
07-23184-521		ネジ	SCREW	2
07-24185-113		ネジ	SCREW	4
07-25187-171		六角穴付きボルト	BOLT	3
07-26187-172		ネジ	SCREW	2
07-27187-210		六角穴付ボルト	SCREW	1
07-28187-253		ネジ	SCREW	1
07-29187-254		ネジ	SCREW	4
07-30187-425		平ネジ	SCREW	1
07-31187-426		平小ネジ	SCREW	2
07-32187-427		六角穴付止めねじ	SCREW	1
07-33188-137		ナット	NUT	1
07-34193-202		Eリング	E-RING	1
07-35193-222		Eリング	E-RING	1
07-36123-400		フェルト	FELT	1
07-37131-663		六角穴付止めねじ	SCREW	1

8. ルーパ° - 機構 LOOPER MECHANISM



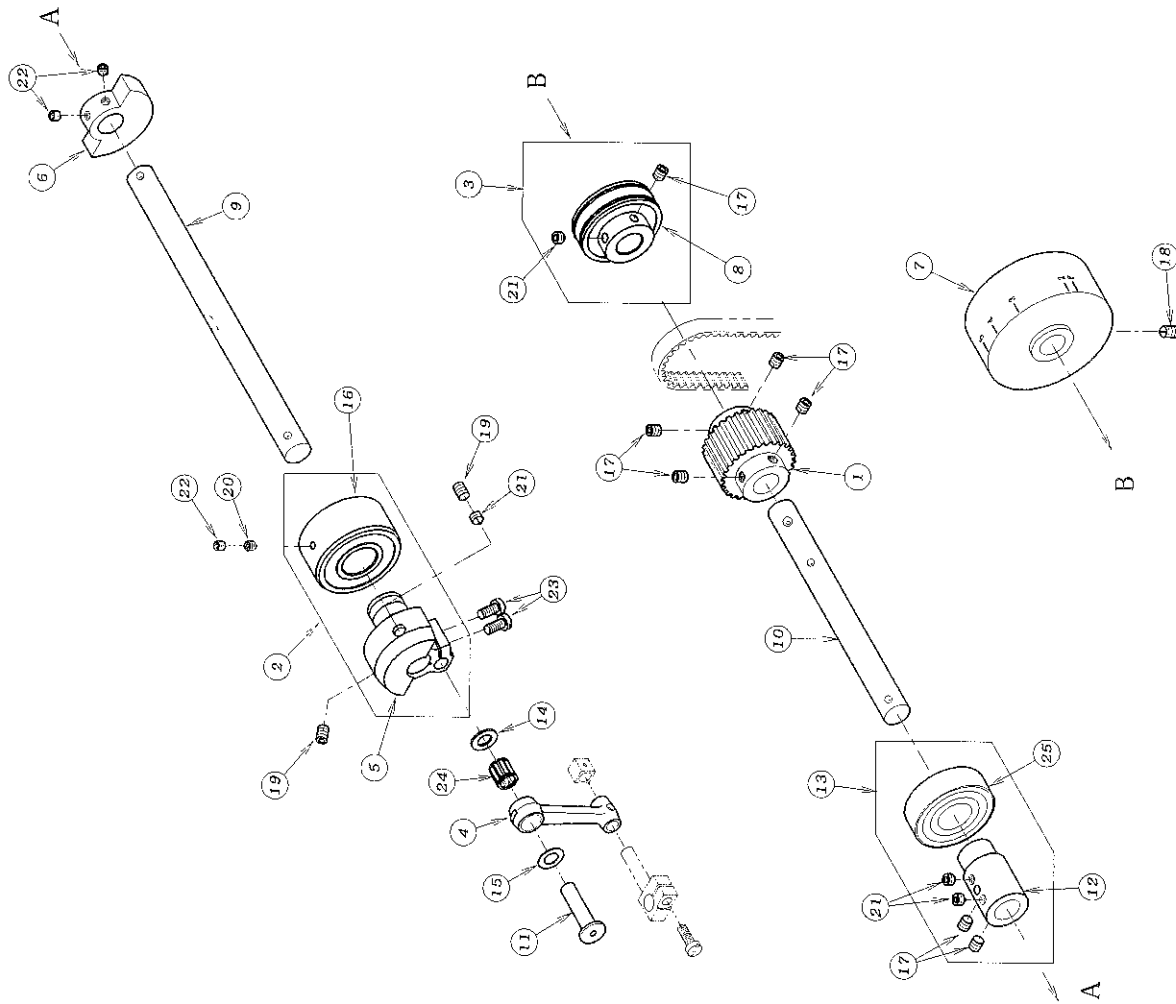
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
08-01	104-444	ルーパ°台ストップ台	LOOPER ROCKER STOPPER	1
08-02	104-449	ルーパ°五台	LOOPER ROCKER	1
08-03	104-455	ルーパ°台側レバ°	LOOPER THROW-OUT LEVER	1
08-04	104-456	ルーパ°台ストップ°	LOOPER ROCKER STOPPER	1
08-05	123-535	フェルト	FELT	1
08-06	123-554	フェルト	FELT	8
08-07	163-414	ルーパ°ト°ライフ°ロッド	LOOPER DRIVE ROD	1
08-08	166-513	ルーパ°クランク	LOOPER CRANK	1
08-09	167-443	ルーパ°ト°ライフ°レバ°	LOOPER DRIVE LEVER	1
08-10	171-364	ルーパ°シャフト	LOOPER SHAFT	1
08-11	171-379	ルーパ°台引出レ°ン	SHAFT	1
08-12	171-434	シャフト	SHAFT	1
08-13	175-004	針線リンクエント°プレート	WASHER	1
08-14	175-381	ワッシャ	WASHER	1
08-15	175-410	スプリング°ワッシャ	SPRING WASHER	1
08-16	175-522	ワッシャ	WASHER	1
08-17	175-672	ワッシャ	WASHER	3
08-18	179-161	ハ°ネ	SPRING	1
08-19	179-163	ハ°ネ	SPRING	1
08-20	181-142	ブッシュ	BUSHING	1
08-21	181-143	ブッシュ	BUSHING	1
08-22	184-463	ネジ°	SCREW	1
08-23	187-113	六角穴付きボルト	BOLT	1
08-24	187-333	六角穴付きボルト	BOLT	1
08-25	187-224	六角穴付きボルト	BOLT	1
08-26	187-233	ネジ°	SCREW	1
08-27	187-245	六角穴付きボルト	BOLT	1
08-28	187-254	ネジ°	SCREW	2
08-29	187-274	ネジ°	SCREW	1
08-30	187-291	六角穴付きボルト	BOLT	1
08-31	187-428	六角穴付き止メネジ°	SCREW	1
08-32	188-157	ナット	NUT	2
08-33	191-263	ニードル°ルネ°シ°	NEEDLE BEARING	1
08-34	193-211	E°リング°	E-RING	1
08-35	193-222	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	15-452	ワッシャ	WASHER	1

9. 糸寄せ機構 RETAINER MECHANISM



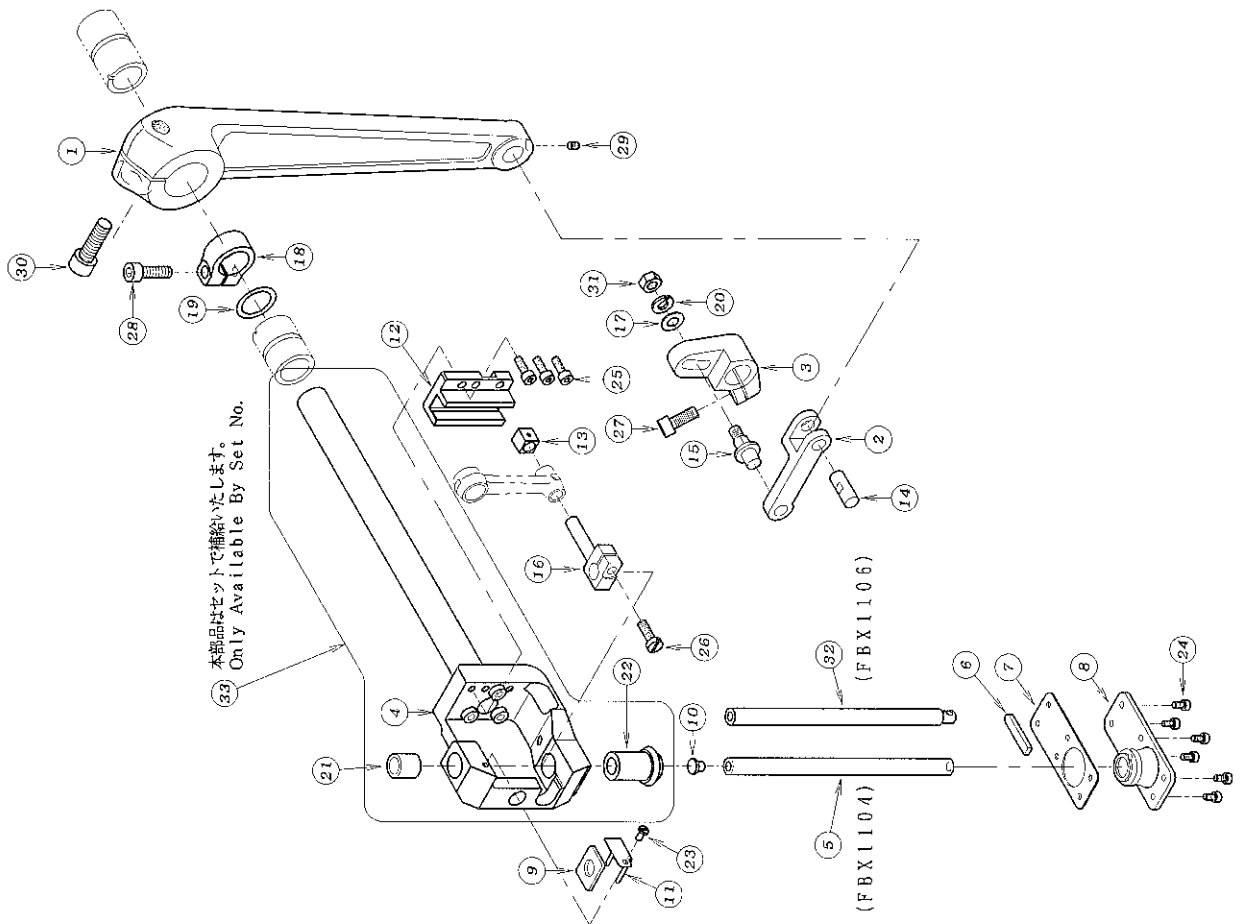
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
09-01	71-359	スプレッタ' - 左右ピン	PIN	1
09-02	71-360	スプレッタ' - トライア' シャフト	SPREADER DRIVE SHAFT	1
09-03	71-377	スプレッタ' - 軸 (4本針)	SHAFT	1
09-04	73-405	スプレッタ' - ホルダー	SPREADER HOLDER	1
09-05	73-406	スプレッタ' - 左右ハ' -	LINK	1
09-06	73-407	スプレッタ' - 左右レバ' -	LEVER	1
09-07	73-408	スプレッタ' - 駆動レバ' -	LEVER	1
09-08	75-187	ワッシャ	WASHER	1
09-09	75-189	カチ	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



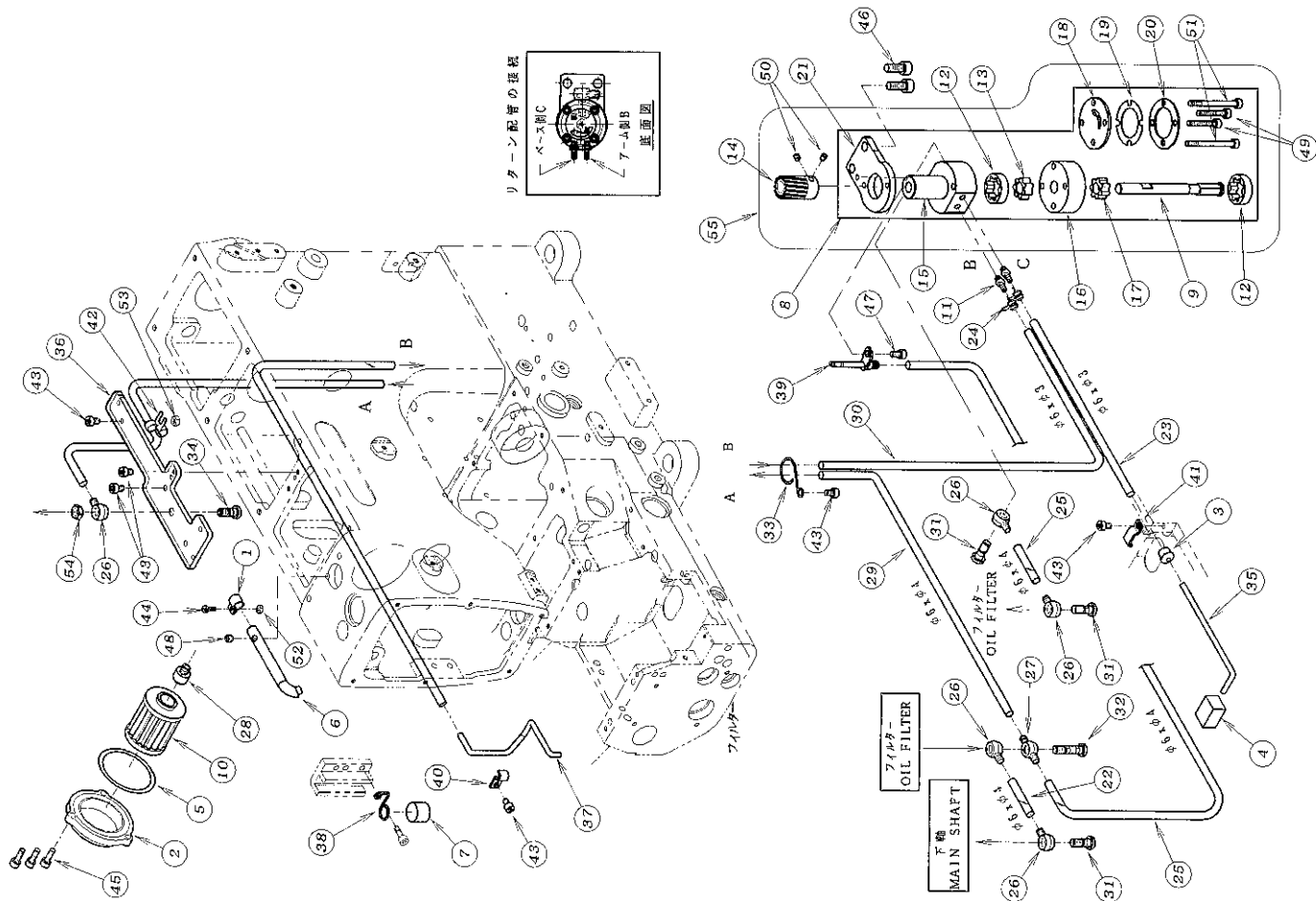
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
10-01	06-120	タイミングプーリー (上)	TIMING PULLEY	1
10-02	60-9893	ベアリングセット	BEARING ASS'Y	1
10-03	60-8500-K	ベアリングセット	BEARING ASS'Y	1
10-04	63-418	針機構リンク	LINK	1
10-05	66-514	針機構クランク (32)	NEEDLE CRANK (32)	1
10-06	69-142	クランクモーション	BALANCE WEIGHT	1
10-07	69-452	ハンドプーリー	HAND WHEEL	1
10-08	91-914	ホムルベアリング	BEARING	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	針機構リンクピンの	LINK PIN	1
10-12	75-270	上軸ジョイント	JOINT COLLAR	1
10-13	75-2700-1	ベアリングセット	BEARING ASS'Y	1
10-14	75-542	ワッシャー	WASHER	1
10-15	75-671	スラストワッシャー	WASHER	1
10-16	91-913	ホムルベアリング	BEARING	1
10-17	87-172	ネジ	SCREW	7
10-18	87-241	ネジ	SCREW	1
10-19	87-242	ネジ	SCREW	2
10-20	87-253	ネジ	SCREW	1
10-21	87-259	ネジ	SCREW	4
10-22	87-274	ネジ	SCREW	3
10-23	87-278	ネジ	SCREW	2
10-24	91-264	ニードルベアリング	BEARING	1
10-25	91-994	ベアリング	BEARING	1

11. 針棒機構 NEEDLE BAR MECHANISM



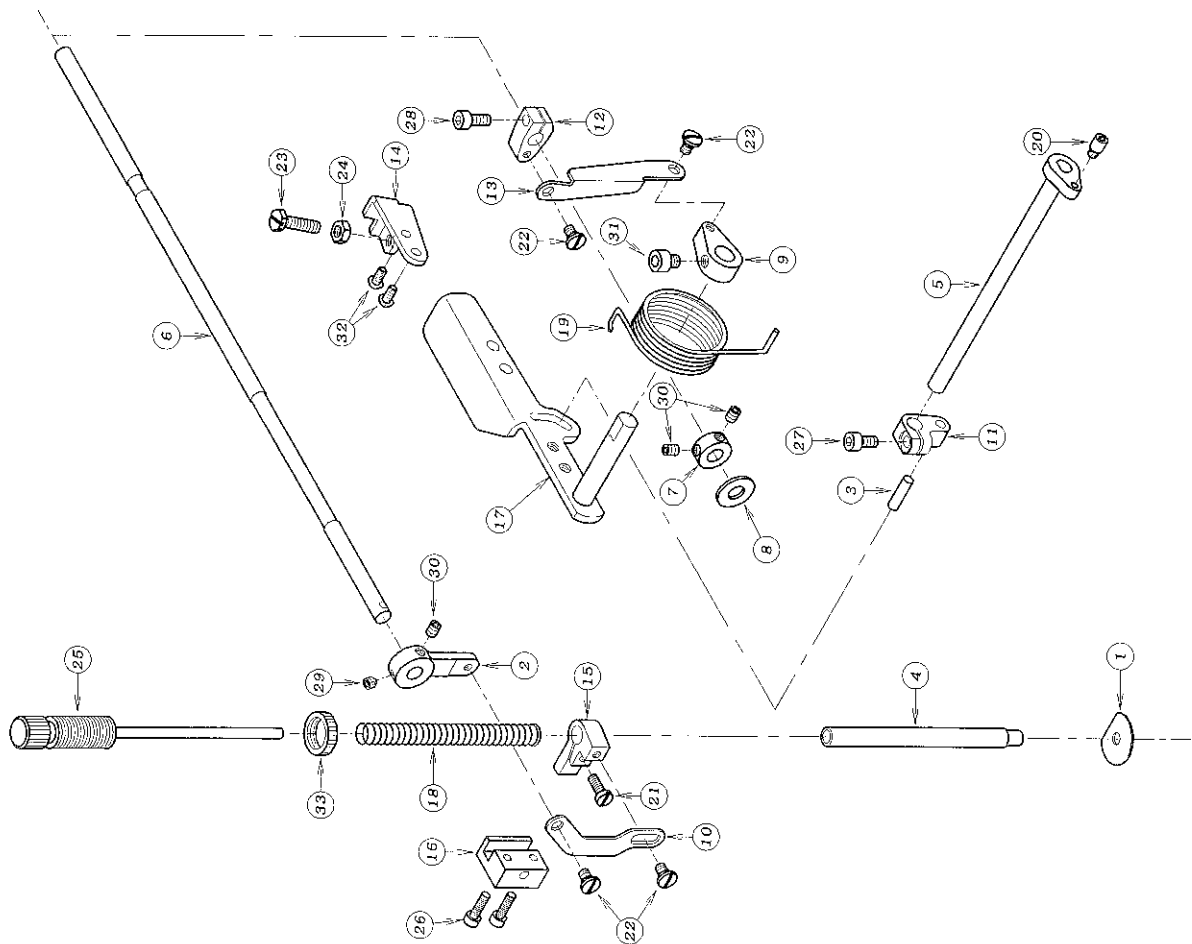
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
11-01	103-400	針振り軸端	NEEDLE FEED LEVER	1
11-02	103-401	針振リンク	NEEDLE FEED LINK	1
11-03	103-402	針振リレバ	LEVER	1
11-04	103-405	針振リ台セット	NEEDL FEEDER	1
11-05	11-408	針棒	NEEDLE BAR	1
11-06	23-022	フェルト	FELT	1
11-07	23-023	オイルシールパッキン	GASKET	1
11-08	23-024	オイルシール	OIL SEAL	1
11-09	23-025	フェルト	FELT	1
11-10	23-425	クッションゴム	RUBBER	1
11-11	127-413	フェルト押さえ	FELT CLAMP	1
11-12	169-466	針棒ガイド	NEEDLE BAR GUIDE	1
11-13	169-532	挿コキ	BLOCK	1
11-14	171-374	リンクピン	LINK PIN	1
11-15	171-375	針振リレバピン	PIN	1
11-16	173-409	針棒軸	NEEDLE BAR CLAMP	1
11-17	175-452	ワッシャー	WASHER	1
11-18	175-495	カラー	COLLAR	1
11-19	175-496	スラストワッシャー	WASHER	1
11-20	175-527	スプリングワッシャー	SPRING WASHER	1
11-21	181-467	針棒ブッシュ(上)	BUSHING	1
11-22	181-468	針棒ブッシュ(下)	BUSHING	1
11-23	187-090	ネジ	SCREW	1
11-24	187-123	六角穴付きボルト	BOLT	6
11-25	187-129	六角穴付きボルト	BOLT	3
11-26	187-163	ネジ	SCREW	1
11-27	187-171	六角穴付きボルト	BOLT	1
11-28	187-173	六角穴付きボルト	BOLT	1
11-29	187-181	ネジ	SCREW	1
11-30	187-661	六角穴付きボルト	BOLT	1
11-31	188-166	ナット	NUT	1
11-32	11-410	針棒	NEEDLE BAR	1
11-33	103-4050-2	針振リ台セット(組)	NEEDL FEEDER ASS'Y	1

12. 給油機構 LUBRICATION MECHANISM



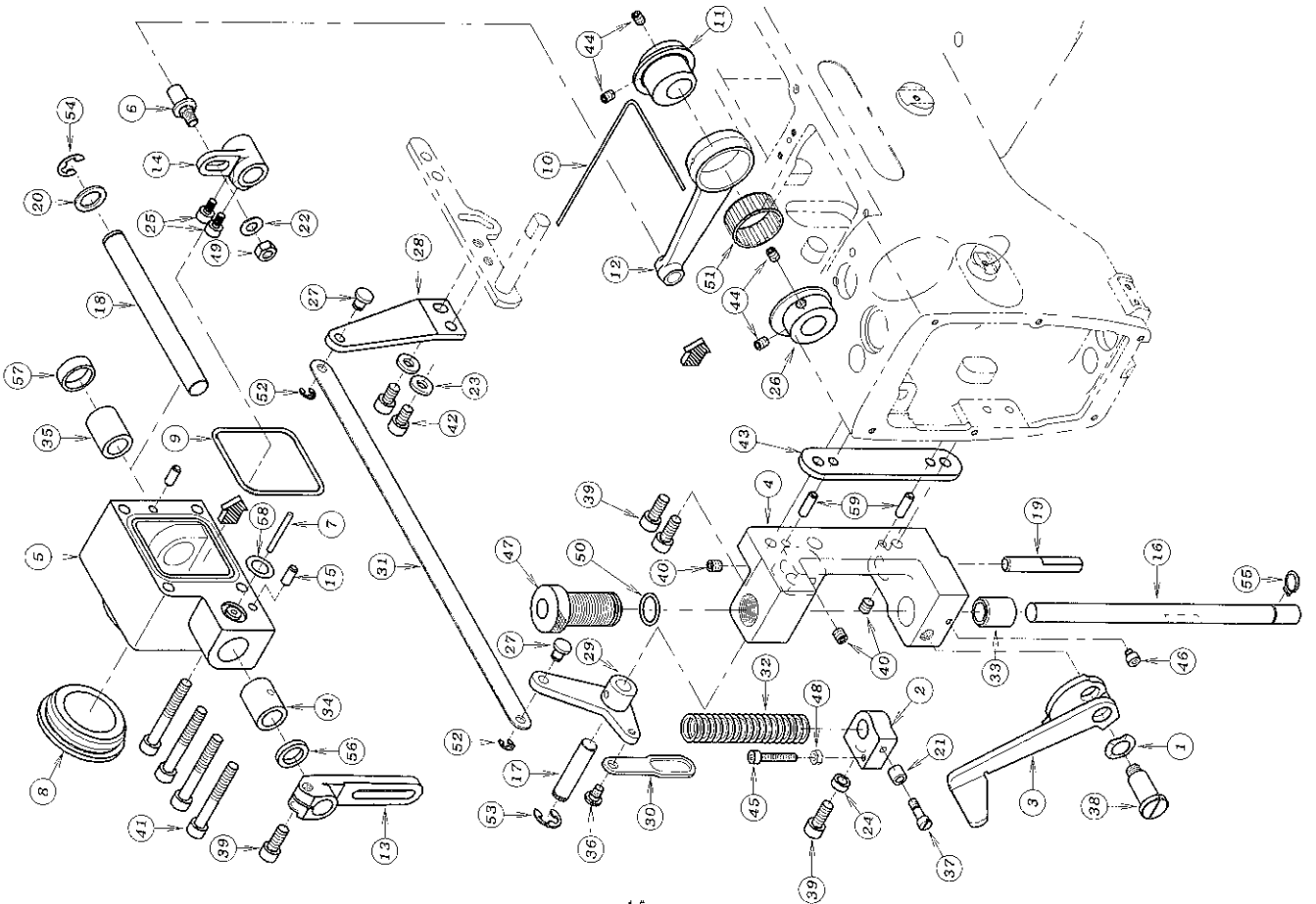
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
12-01	07-008	調整バンド	BAND	1
12-02	21-632	オイルフィルターキャップ	OIL FILTER CAP	1
12-03	23-013	パイプブッシング	PIPE BUSHING	1
12-04	23-363	フェルト	FELT	1
12-05	23-506	Oリング	O-RING	1
12-06	23-560	給油パイプ	PIPE	1
12-07	23-562	スポンジ	SPONGE	1
12-08	30-0024	ポンプセット	PUMP ASS'Y	1
12-09	31-542	ポンプ軸	PUMP SHAFT	1
12-10	31-222	フィルター	OIL FILTER	1
12-11	31-314	継手	JOINT	2
12-12	31-530	アウターローター	OUTER ROTER	2
12-13	31-531	インナーローター	INNER ROTER	1
12-14	31-539	ポンプギア	PUMP GEAR	1
12-15	31-543	ポンプハウジング(上)	PUMP HOUSING	1
12-16	31-544	ポンプハウジング(下)	PUMP HOUSING	1
12-17	31-545	インナーローター	INNER ROTER	1
12-18	31-546	ポンプ裏板	PLATE	1
12-19	31-547	ポンプメッシュ	PUMP MESH	1
12-20	31-548	ポンプメッシュ止め板	PLATE	1
12-21	31-550	ポンプ取付板	PLATE	1
12-22	35-005	ヒールチューブ 80L	TUBE	1
12-23	35-346	ヒールチューブ 170L	TUBE	1
12-24	35-413	止め金具	CLAMP	2
12-25	35-420	ヒールチューブ	TUBE	2
12-26	35-505	片口継手	JOINT	2
12-27	35-506	両口管継手	JOINT	1
12-28	35-509	継手	JOINT	1
12-29	35-517	ヒールチューブ 540L	TUBE	1
12-30	35-521	ヒールチューブ	TUBE	1
12-31	35-528	管継手ボルト	JOINT SCREW	3
12-32	35-529	管継手ボルト	JOINT SCREW	1
12-33	35-530	チューブバンド	CLAMP	1
12-34	35-539	管継手ボルト	JOINT SCREW	1
12-35	35-543	リターンパイプ	RETURN PIPE	1
12-36	35-544	油受け	OIL RELEASER	1
12-37	35-545	リターンパイプ	RETURN PIPE	1
12-38	35-546	給油パイプ	PIPE SUPPORT	1
12-39	35-563	ポンプキヤネジ配管	PIPE	1
12-40	39-133	パイプサポートC	PIPE SUPPORT C	1
12-41	39-139	パイプサポート	PIPE SUPPORT	1
12-42	39-501	配管止め	CLAMP	1
12-43	87-092	六角穴付きボルト	BOLT	6
12-44	87-128	ネジ	SCREW	1
12-45	87-129	六角穴付きボルト	BOLT	3
12-46	87-171	六角穴付きボルト	BOLT	2
12-47	87-177	六角穴付きボルト	BOLT	1
12-48	87-274	ネジ	SCREW	1
12-49	87-285	六角穴付きボルト	BOLT	2
12-50	87-286	ネジ	SCREW	2
12-51	87-391	六角穴付きボルト	BOLT	2
12-52	88-136	ナット	NUT	1
12-53	88-146	ナット	NUT	1
12-54	88-165	六角ナット	NUT	1
12-55	30-0025	ポンプセット(組)	PUMP ASS'Y	1

13. 押え揚げ機構 PRESSER FOOT MECHANISM



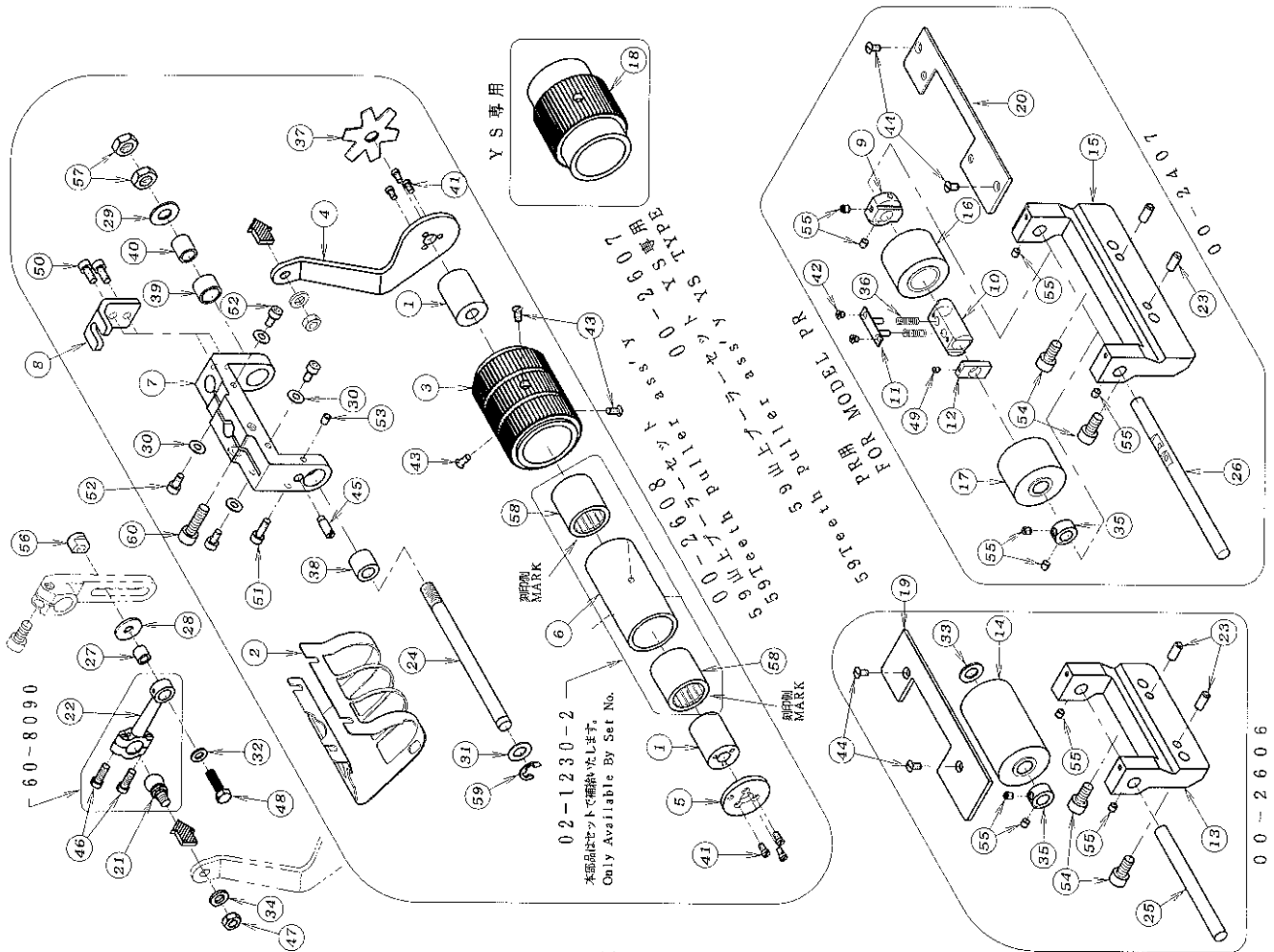
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
13-01	23-018	押え棒油止シール	SEAL	1
13-02	67-503	レバー	LEVER	1
13-03	71-203	平行ピン	PIN	1
13-04	71-368	押え棒	PRESSER FOOT BAR	1
13-05	71-507	糸綴め軸	SHAFT	1
13-06	71-517	シャフト	SHAFT	1
13-07	75-001	カラー	COLLAR	1
13-08	75-501	ワッシャ	WASHER	1
13-09	77-043	クランク (下)	CRANK	1
13-10	77-437	運転プレート	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	押え棒靴き	CLAMP	1
13-16	77-511	押え棒ガイド	GUIDE	1
13-17	77-518	レバー	LEVER	1
13-18	79-414	押え棒ハネ	SPRING	1
13-19	79-538	巻ハネ	SPRING	1
13-20	84-561	ネジ	SCREW	1
13-21	84-566	ネジ	SCREW	1
13-22	84-581	破ネジ	SCREW	1
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	87-214	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	1
13-31	87-210	六角穴付きボルト	BOLT	3
13-32	87-272	ネジ	SCREW	1
13-33	88-003	筒ネジナット	SCREW NUT	2
				1

14. 後プーラー機構 (1) REAR PULLER MECHANISM (1)



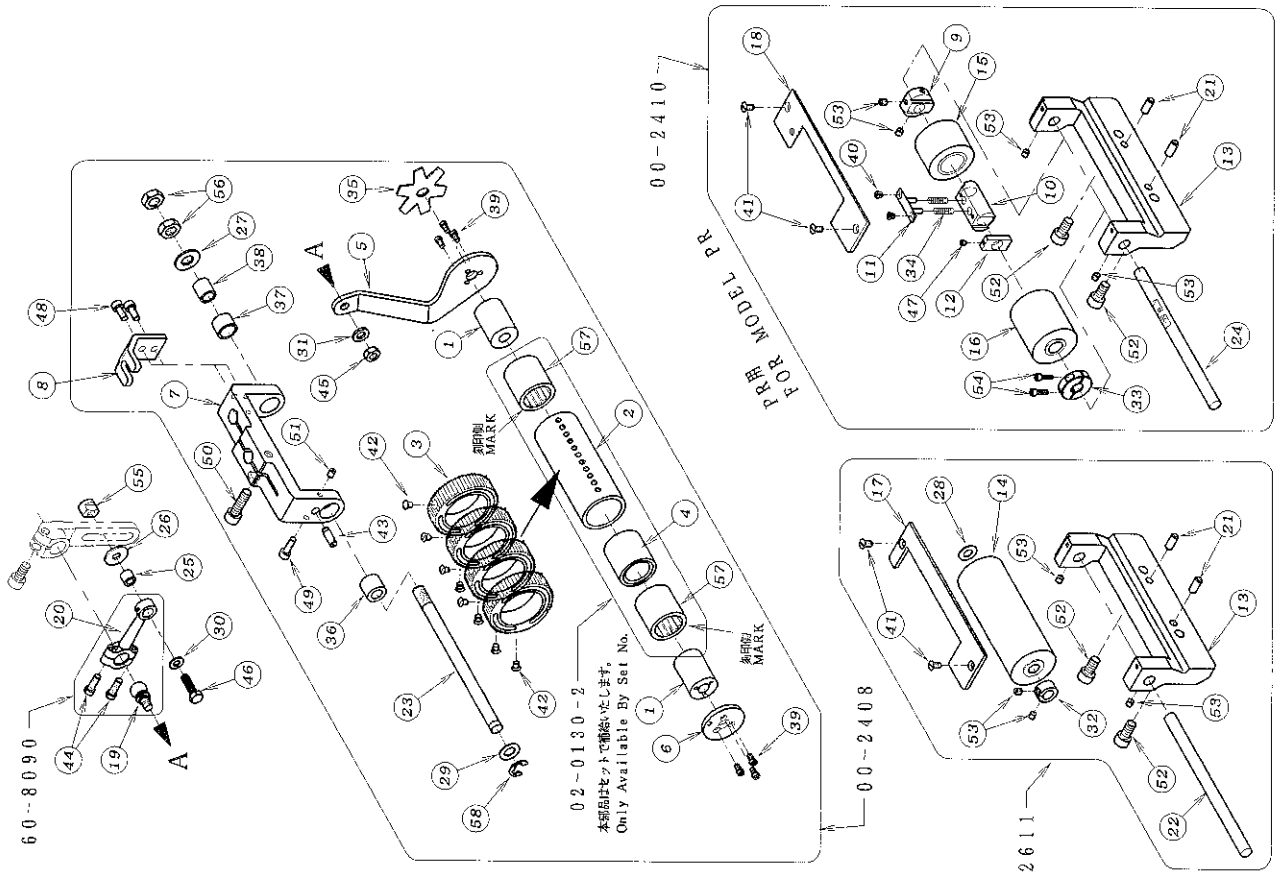
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
14-01	02-112	破リッシャー	WASHER	1
14-02	02-204	後プーラー立シヤフト抱き	BRACKET	1
14-03	02-216	手摺げ用金具	PULLER LIFTING LEVER	1
14-04	02-562	後プーラーラケット	BRACKET	1
14-05	02-565	上プーラー軸ケース	BRACKET	1
14-06	04-502	調節レバースピーン	PIN	1
14-07	23-021	フェルト	FELT	1
14-08	23-541	コアム栓	PLUG	1
14-09	23-542	O-リング	O-RING	1
14-10	23-556	フェルト	FELT	1
14-11	161-551	プーラーエキセン	ECCENTRIC	1
14-12	63-535	プーラークランクロケット	CONNECTING ROD	1
14-13	67-442	上プーラー駆動レバー	PULLER DRIVE LEVER	1
14-14	67-528	上プーラー振りレバー	LEVER	1
14-15	71-208	ノックピン	PIN	2
14-16	71-464	後プーラー立シヤフト	SHAFT	1
14-17	71-726	シヤフト	SHAFT	1
14-18	71-727	上プーラー駆動軸	SHAFT	1
14-19	71-729	プーラー回り止ピン	GUIDE PIN	1
14-20	75-187	ワッシャ	WASHER	1
14-21	75-211	カラー	COLLAR	1
14-22	75-452	ワッシャ	WASHER	1
14-23	75-458	ワッシャ	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	押え摺げ連結ピン	PIN	2
14-28	77-421	後プーラー摺げレバー	LEVER	1
14-29	77-438	後プーラー抱き連結プレート	PULLER LIFTING LEVER	1
14-30	77-439	後プーラー抱き連結プレート	PLATE	1
14-31	77-440	押え摺げ連結板	LINK PLATE	1
14-32	79-640	プーラーハネ	PULLER SPRING	1
14-33	81-133	ブッシュ	BUSHING	1
14-34	81-463	上プーラーブッシュ	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	スペーサー	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	87-759	プーラー腕ネジ	SCREW	1
14-48	88-146	ナット	NUT	1
14-49	88-166	ナット	NUT	1
14-50	23-289	Oリング	O-RING	1
14-51	91-413	ニードルベアリング	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-リング	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)



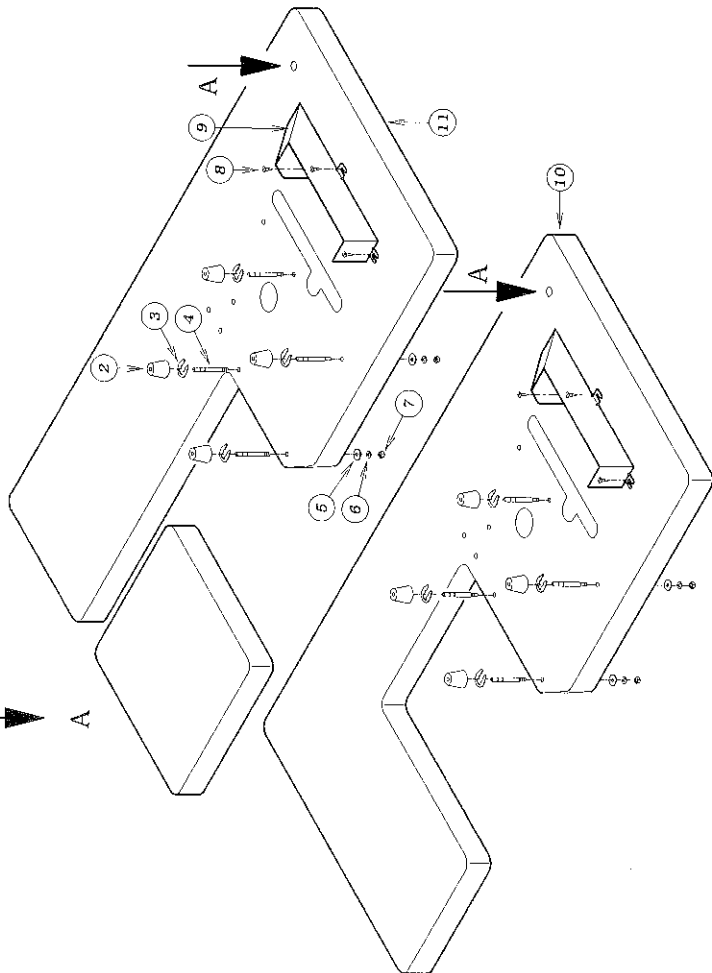
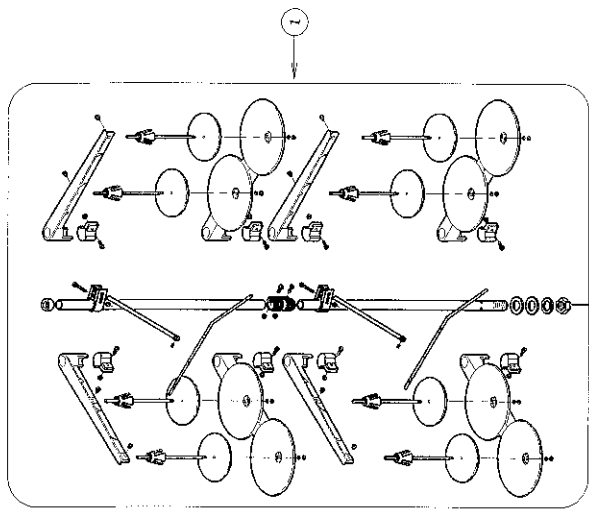
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
15-01	01-115	スリーブ	SLEEVE	2
15-02	02-288	巻き込み防止器具	PULLER COVER	1
15-03	02-009	後プーラー上字大 (59山)	REAR PULLER GEAR	1
15-04	02-017	後プーラー-連結板	CONNECTING PLATE	1
15-05	02-117	後プーラー-ハ・イプ・ワダ	PLATE	1
15-06	02-123	ワンウェイクラッチ胴ハブツグ (中)	CLUTCH HOUSING	1
15-07	02-158	後プーラー台	REAR PULLER HOLDER	1
15-08	02-250	後プーラー-ラケット	BRACKET	1
15-09	02-568	ドロワー-回り止 (A)	SLIDE HOLDER	1
15-10	02-569	ドロワー-スライド器具 (A)	SLIDER	1
15-11	02-570	ハ・ネガ・イト	SPRING GUIDE PLATE	1
15-12	02-571	ドロワー-回り止 (B)	HOLDER	1
15-13	02-572	後プーラー台	BRACKET	1
15-14	02-573	ドロワー- (4本針スプース)	REAR PULLER (SMOOTH)	1
15-15	02-574	後プーラー台	BRACKET	1
15-16	02-578	ドロワー-ゴム	LOWER PULLER	1
15-17	02-580	ドロワー-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	ドロワー-ガイド (4本針)	PLATE	1
15-20	27-428	ドロワー-ガイド	PLATE	1
15-21	61-810	プーラー-連結ロッド 王	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	連絡メカ・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	1
15-36	79-456	ハ・ネ	SPRING	2
15-37	79-551	プーラー-板ハ・ネ	PULLER PLATE SPRING	2
15-38	1-321	ブッシュ	BUSHING	1
15-39	1-322	ブッシュ	BUSHING	1
15-40	1-323	ブッシュ	BUSHING	1
15-41	184-162	ネジ	SCREW	6
15-42	184-193	ネジ	SCREW	2
15-43	184-462	ネジ	SCREW	3
15-44	184-464	ネジ	SCREW	4
15-45	184-573	板ネジ	SCREW	1
15-46	184-635	ネジ	SCREW	2
15-47	186-411	ナット	NUT	1
15-48	187-015	ネジ	SCREW	1
15-49	187-104	ネジ	SCREW	1
15-50	187-113	六角穴付きボルト	BOLT	2
15-51	187-129	六角穴付きボルト	BOLT	1
15-52	187-177	六角穴付きボルト	BOLT	1
15-53	187-181	ネジ	SCREW	4
15-54	187-225	六角穴付きボルト	BOLT	4
15-55	187-286	ネジ	SCREW	10
15-56	188-005	ナット	NUT	1
15-57	188-179	ナット	NUT	2
15-58	191-407	ワンウェイクラッチ	BEARING	2
15-59	193-221	ストップリンク	E-RING	1
15-60	187-173	六角穴付きボルト	BOLT	1

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



REF. NO.	PART NO.	品名	DESCRIPTION	QTY
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	後プーラーハブ	PLATE	1
16-07	02-159	上プーラー土台	REAR PULLER HOLDER	1
16-08	02-246	回り止ラケット	BRACKET	1
16-09	02-568	下プーラー回り止(A)	SLIDE HOLDER	1
16-10	02-569	下プーラースライド金具(A)	SLIDER	1
16-11	02-570	ハブ	SPRING GUIDE PLATE	1
16-12	02-571	下プーラー回り止(B)	HOLDER	1
16-13	02-574	後プーラー台	BRACKET	2
16-14	02-575	下プーラー(12本針ススム)	REAR PULLER (SMOOTH)	1
16-15	02-578	下プーラーゴマ	LOWER PULLER	1
16-16	02-583	下プーラーゴマ	LOWER PULLER	1
16-17	27-418	下プーラーガイド(12本針)	PLATE	1
16-18	27-448	下プーラーガイド(PR-SA)	PLATE	1
16-19	61-810	プーラー連結ロッド玉	CONNECTING ROD BALL	1
16-20	63-809	プーラー連結ロッド	CONNECTING ROD BALL	1
16-21	71-208	ノックピン	BALL JOINT PIN	4
16-22	71-369	下プーラーシャフト	LOWER PULLER SHAFT	1
16-23	71-445	後プーラーシャフト(大)	SHAFT	1
16-24	71-998	下プーラーシャフト	LOWER REAR PULLER SHAFT	1
16-25	75-247	連結メカ	ROLLER	1
16-26	75-407	ワッシャ	WASHER	1
16-27	75-451	ワッシャ	WASHER	1
16-28	75-452	ワッシャ	WASHER	1
16-29	75-519	ワッシャ	WASHER	1
16-30	75-520	ワッシャ	WASHER	1
16-31	75-552	ワッシャ	WASHER	1
16-32	75-561	カラー	COLLAR	1
16-33	75-563	割りカラー	COLLAR	1
16-34	79-456	ハネ	SPRING	2
16-35	79-551	プーラー板ハネ	PULLER PLATE SPRING	1
16-36	81-321	ブッシュ	BUSHING	1
16-37	81-322	ブッシュ	BUSHING	1
16-38	81-323	ブッシュ	BUSHING	1
16-39	84-162	ネジ	SCREW	6
16-40	84-193	ネジ	SCREW	2
16-41	84-464	ネジ	SCREW	4
16-42	84-465	ネジ	SCREW	8
16-43	84-573	ネジ	SCREW	1
16-44	84-635	ネジ	SCREW	2
16-45	85-411	ナット	NUT	1
16-46	87-015	ネジ	SCREW	1
16-47	87-104	ネジ	SCREW	1
16-48	87-113	六角穴付きボルト	BOLT	2
16-49	87-129	六角穴付きボルト	BOLT	2
16-50	87-173	六角穴付きボルト	BOLT	1
16-51	87-181	ネジ	SCREW	1
16-52	87-225	六角穴付きボルト	BOLT	4
16-53	87-286	ネジ	SCREW	8
16-54	87-294	ネジ	SCREW	2
16-55	88-005	ナット	NUT	1
16-56	88-179	ナット	NUT	2
16-57	91-407	ワンウェイクラッチ	BEARING	2
16-58	93-221	ストップリング	E-RING	1

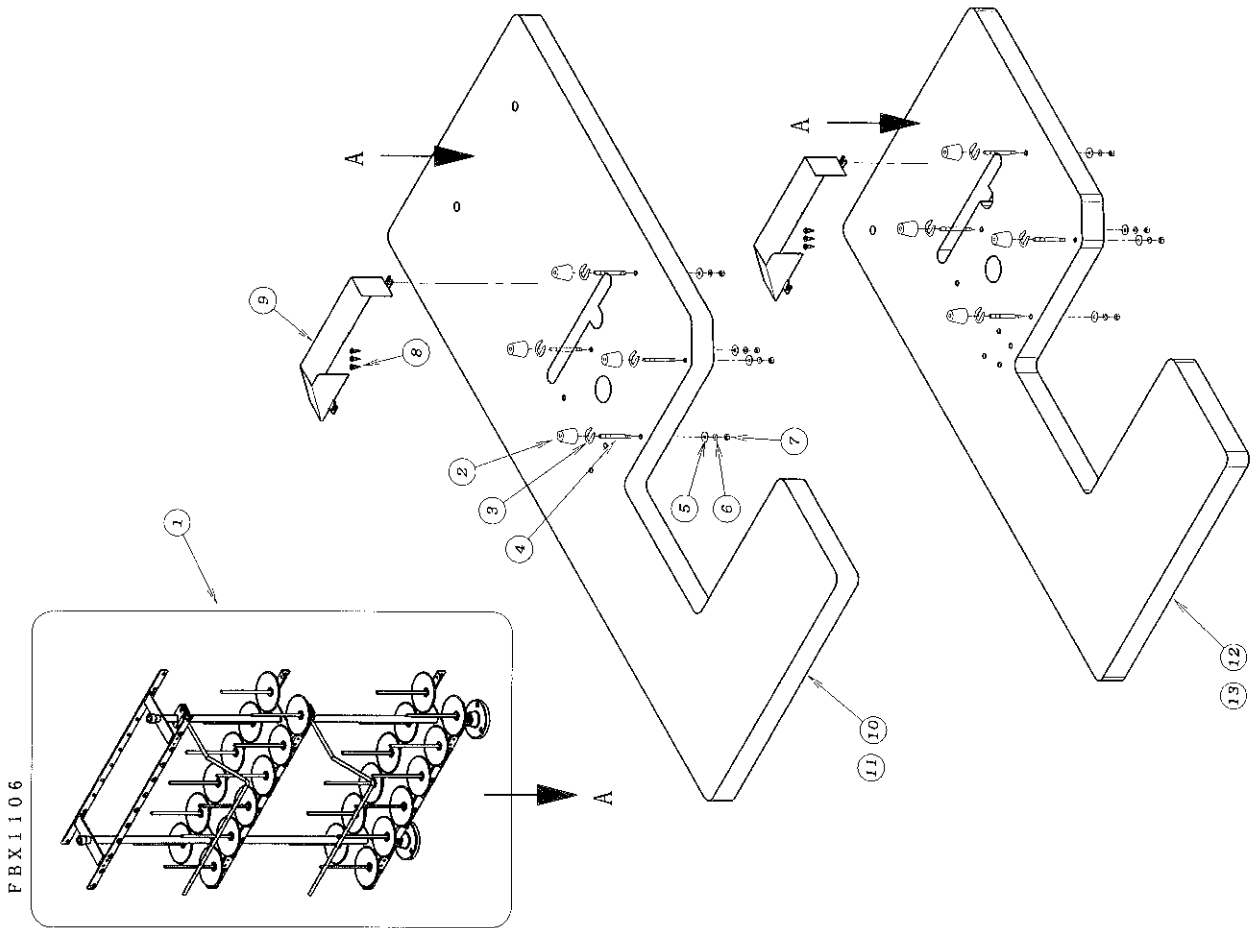
17. 糸立て及びテ-ブル (FBX1102~1104) THREAD STAND AND TABLE



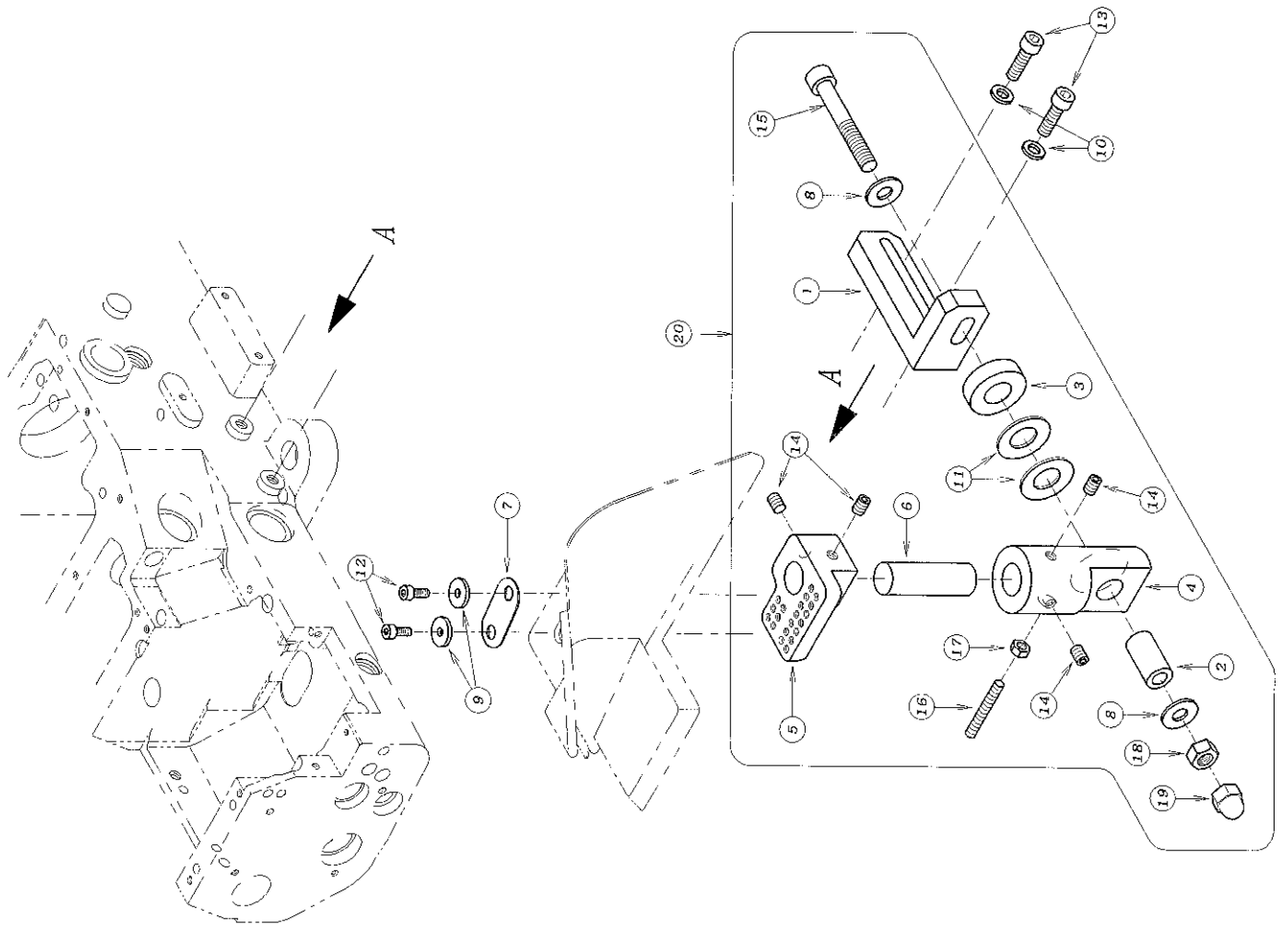
REF. NO.	PART NO.	品名	DESCRIPTION	QTY
17-01	42-718	8本糸立て	THREAD STAND ASSEMBLY 8	1
17-02	23-509	クッションゴム A	CUSHION RUBBER	4
17-03	93-501	U型止り輪	U-RING	4
17-04	42-501	クッションゴム A取付ネジ	SCREW	4
17-05	75-536	平ワッシャー	WASHER	4
17-06	75-527	M6用平ワッシャー	WASHER	4
17-07	88-166	固定ナット	NUT	4
17-08	87-901	ネジ	SCREW	3
17-09	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	補助テーブル	WITH ASSISTANCE TABLE	1

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

REF. NO.	PART NO.	品名	DESCRIPTION	Qty
18-01	42-024	2.4本糸立て (垂直タイプ)	THREAD STAND ASSEMBLY 2.4	1
18-02	23-509	クッションゴム A	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 A取付ネジ	SCREW	4
18-05	75-536	平ワッシャー	WASHER	4
18-06	75-527	M6用バネ硬金	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 - フラットテーブル	FLAT TABLE	1
18-11	21-084	補助向きテーブル	WITH ASSISTANCE TABLE	1
18-12	21-032	シリンダ - フラットテーブル	FLAT TABLE	1
18-13	21-025	補助向きテーブル	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	QTY
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	ワッシャー	WASHER	2
19-09	75-508	ワッシャー	WASHER	2
19-10	75-552	ワッシャー	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	六角穴付き止めネジ	SCREW	1
19-17	88-157	ナット	NUT	1
19-18	88-176	ナット	NUT	1
19-19	88-183	緩ナット	NUT	1
19-20	26-4640-2	ホルダー取付台セット	HOLDER BRACKET ASS'Y	1

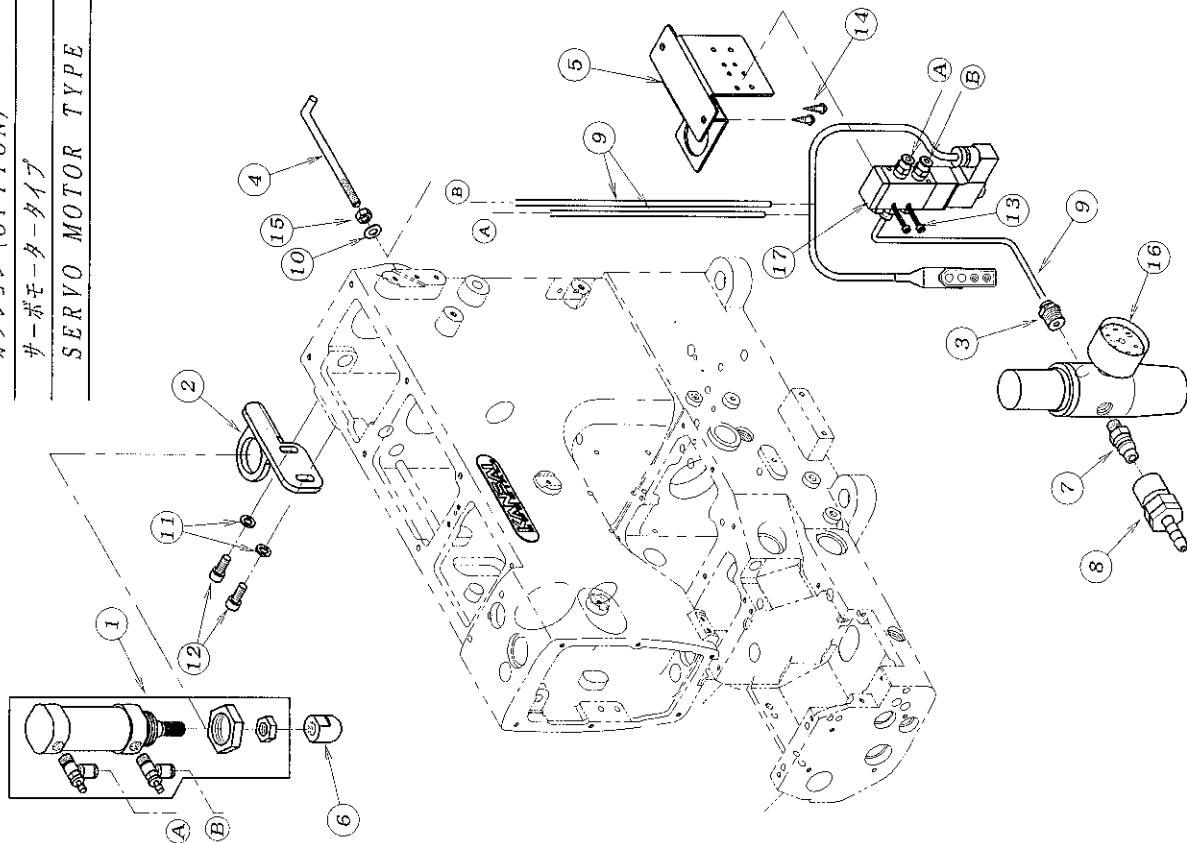
20. 押え揚げ装置 (エア-式) FL-1

FOOT LIFTER MECHANISM (PNEUMATIC TYPE) FL-1

オプション (OPTION)

サーボモータータイプ

SERVO MOTOR TYPE



REF. NO.	PART NO.	品名	DESCRIPTION	QTY
20-01	00-6082	押え揚げシリンダー-セット	AIR CYLINDER ASS'Y	1
20-02	05-035	シリンダーブラケット	BRACKET	1
20-03	05-217	ハーフェニオン	JOINT	1
20-04	05-558	ホ-シ-シヨナ-ハ-	BAR	1
20-05	05-644	電磁弁ブラケット	BRACKET	1
20-06	05-897	シリンダー-作動チップ	CHIP	1
20-07	06-516	カプ-ラ-オ-ス	CONNECTOR	1
20-08	06-517	カプ-ラ-オ-ス	CONNECTOR	1
20-09	05-979	チューブφ4x700mm	TUBE (φ4x700L)	3
20-10	175-452	ワッシャ	WASHER	1
20-11	175-552	ワッシャ	WASHER	2
20-12	187-171	六角穴付きボルト	BOLT	2
20-13	187-438	六角穴付きボルト	BOLT	2
20-14	187-902	木ねじ	SCREW	2
20-15	188-166	ナット	NUT	1
20-16	05-2120-A	フィルタレギュレータ	REGULATOR	1
20-17	05-982	電磁弁セット	SOLENOID VALVE ASS'Y	1

21. 押え揚げ装置 (エア-式) FL-4

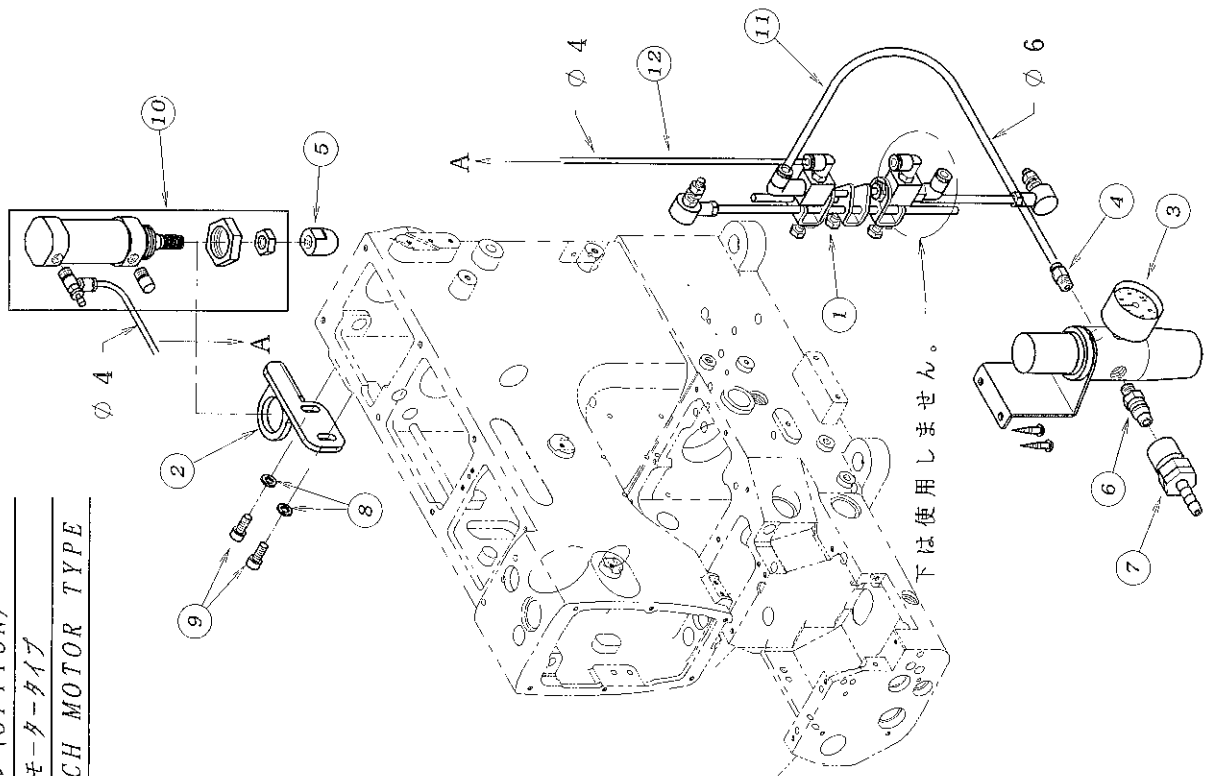
FOOT LIFTER MECHANISM (PNEUMATIC TYPE) FL-4

オプション (OPTION)

クラッチモータータイプ

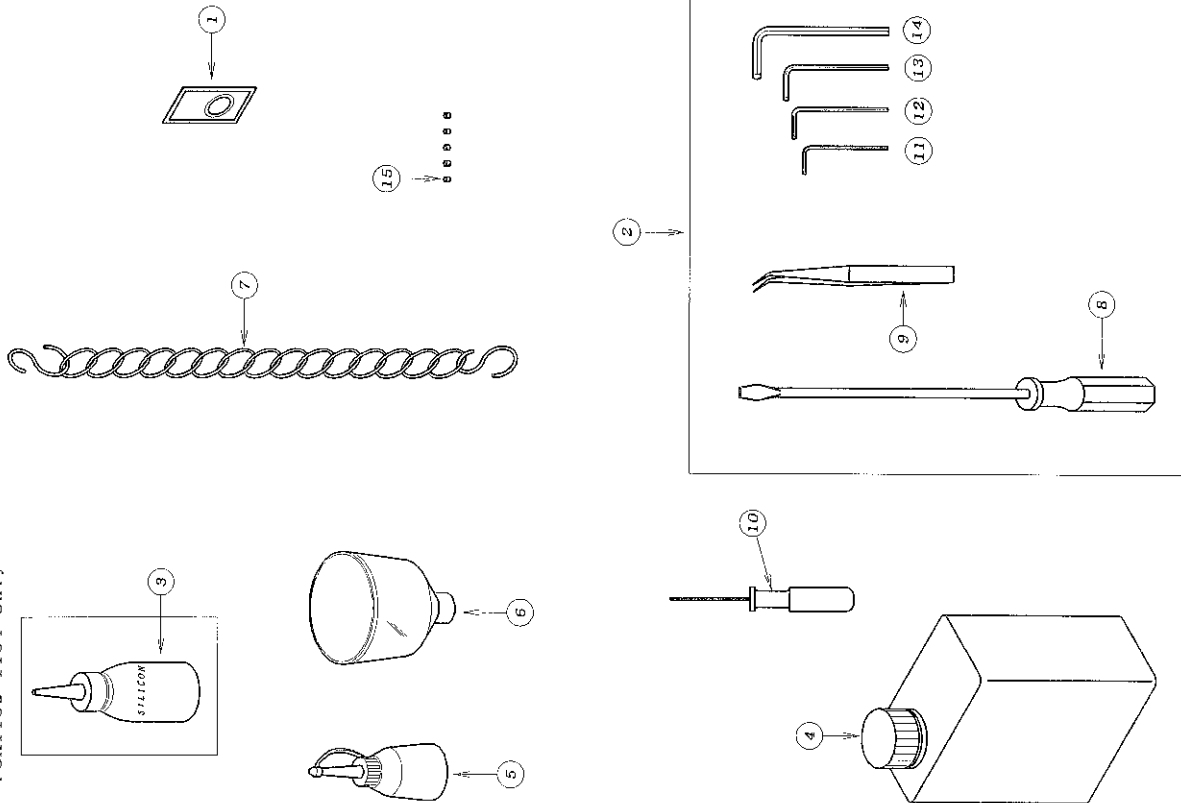
CLUTCH MOTOR TYPE

REF. NO.	PART NO.	品名	DESCRIPTION	QTY
21-01	00-8040	吸込押え上げバルブセット	AIR SWITCH ASSEMBLY	1
21-02	05-035	シリンダーブラケット	BRACKET	1
21-03	05-212	フィルタレキ・ユレータ	REGULATOR	1
21-04	05-218	レキ・ユレータ-用雑毛	JOINT	1
21-05	05-897	シリンダー-作動チップ	CHIP	1
21-06	06-516	カプ・ラマス	CONNECTOR	1
21-07	06-517	カプ・ラマス	CONNECTOR	1
21-08	75-552	ワッシャー	WASHER	2
21-09	187-171	六角穴付きボルト	BOLT	2
21-10	00-6130	押え揚げシリンダーセット	AIR CYLINDER ASS'Y	1
21-11	05-486	チューブφ6x1000mm	TUBE (φ6x1000L)	1
21-12	05-932	チューブφ4x1500mm	TUBE (φ4x1500L)	1



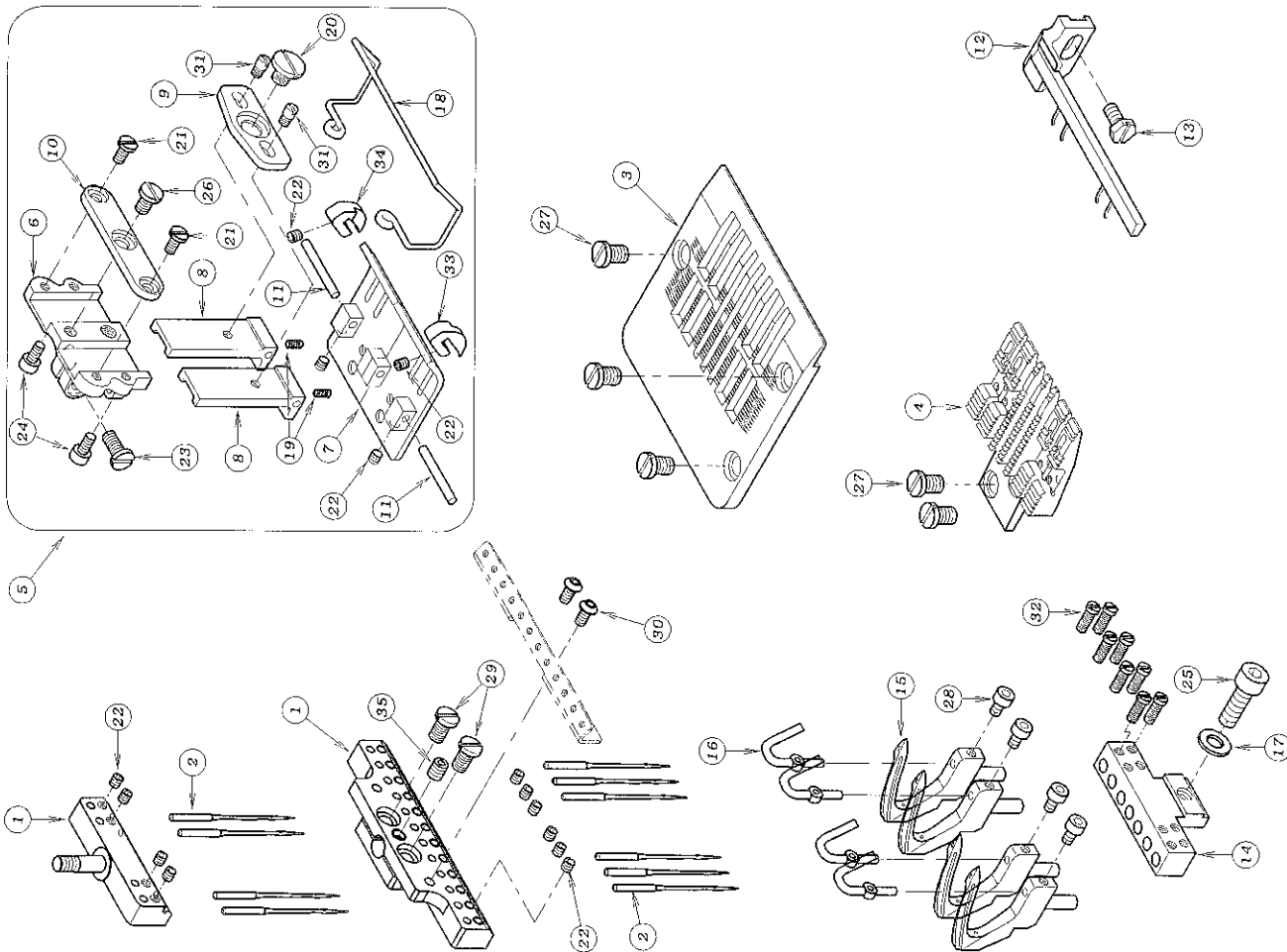
22. アクセサリー - ACCESSORIES

FBX1102-1104 Only



REF. NO.	PART NO.	品名	DESCRIPTION	QTY
22-0113	0610-5	針 (DVX57 #21)	NEEDLE	1
22-0220	0010	付属部品ケース	ACCESSORIES	1
22-0328	612	シリコンオイル	SILICON OIL	1
22-0428	618	オイル	OIL	1
22-0528	614	油差し	OILER	1
22-0628	615	シ'ョウコ'	OIL FUNNEL	1
22-0728	920	チェーン	CHAIN	1
22-0828	452	ドライバー (6)	DRIVER (L)	1
22-0928	011	ピンセット	TWEZERS	1
22-1028	317	グリップ付六角レンチ 1.5mm	ALLEN KEY (1.5mm)	1
22-1128	311	六角レンチ 2mm	ALLEN KEY (2mm)	1
22-1228	312	六角レンチ 2.5mm	ALLEN KEY (2.5mm)	1
22-1328	313	六角レンチ 3mm	ALLEN KEY (3mm)	1
22-1428	314	六角レンチ 5mm	ALLEN KEY (5mm)	1
22-1518	7-104	ネジ	SCREW	5


23. ゲージハーツ GAUGE PARTS



REF. NO.	PART NO.	品名	DESCRIPTION	QTY
23-01	*	針座	NEEDLE HOLDER	1
23-02	13-0610-5	針 (DVX57 #21)	NEEDLE	*
23-03	*	針板	NEEDLE PLATE	1
23-04	*	送り歯	FEED DOG	1
23-05	*	押えセット	PRESSER FOOT ASS'Y	1
23-06	17-2970-A	押えボス	BRACKET	1
23-07	*	押え足	BOTTOM	1
23-08	17-2970-C	取り付け金具	BRACKET	2
23-09	17-2970-D	取押えリンクプレート	LINK PLATE	1
23-10	17-2970-E	取押えスライト・プレート	SLIDE PLATE	1
23-11	17-2970-F	取押え取り付けピン	PIN	2
23-12	*	スプレッドャー	SPREADER	2
23-13	87-430	六角ボルト	SCREW	1
23-14	*	ルーパーホルダー	LOOPER HOLDER	1
23-15	19-287	ルーパー	LOOPER	*
23-16	19-288	針受け板	NEEDLE GUARD	*
23-17	75-520	ワッシャー	WASHER	*
23-18	*	ニードル保護カバー	FINGER GUARD	1
23-19	79-417	ばね	SPRING	2
23-20	87-431	リンクねじ	LINK SCREW	1
23-21	87-090	ネジ	SCREW	2
23-22	87-104	ネジ	SCREW	*
23-23	87-332	平小ネジ	SCREW	1
23-24	87-123	六角穴付きボルト	BOLT	2
23-25	87-245	六角穴付きボルト	BOLT	*
23-26	87-415	ネジ	SCREW	1
23-27	87-426	平小ネジ	SCREW	5
23-28	87-429	六角穴付きボルト	SCREW	*
23-29	84-564	ネジ	SCREW	2
23-30	87-099	ネジ	SCREW	2
23-31	87-432	取ねじ	SCREW	2
23-32	87-669	ネジ	SCREW	*
23-33	26-480	生地ガイド (左)	GUIDE (L)	1
23-34	26-481	生地ガイド (右)	GUIDE (R)	1
23-35	84-521	ネジ	SCREW	1

* 各ゲージ部品の品番は、25ページのゲージパーツ表を参照して下さい。
 * Please refer to Page 25 GAUGE PARTS LIST

24. ゲージ部品一覽表 GAUGE PARTS TABLE

モデル MODEL	ゲージサイズ GAUGE SIZE (インチ) (INCH)	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	スプレッダー SPREADER	ルーパー LOOPER	針受 NEEDLE GUARD
1102P	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	1/4-1-1/4	12-2970-1	17-2970-1	14-297	15-297	19-277	18-297	19-287	19-288
	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		
1106P	1/4-1. 1/8-1/4	12-2930-1	17-2930-1	14-293	15-293	19-283	18-293	19-287	19-288
	1/4	12-2860-1	17-2980-1	14-298	15-298	19-278	18-298		
	1/4x7/8	12-2870-1	17-2960-1	14-296	15-296	19-285	18-296		
1104PR	1/4-1-1/4	12-2970-1	17-2970-1	14-297	15-297	19-277	18-297	19-287	19-288
	1/4-7/8-1/4	12-2670	17-2670-1	14-267	15-267	19-267	18-267		
	1/4-1. 1/8-1/4	12-2930-1	17-2930-1	14-293	15-293	19-283	18-293		
1106PR	1/4	12-2860-1	17-2980-1	14-298	15-298	19-278	18-298	19-287	19-288
	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	19-287	19-288
	3/8	12-2700-1	17-3090-1	14-271	15-309	19-282	18-309		

INDEX 2

REF. PART NO.	REF. PART NO.
NO. 品番	NO. 品番
08-29 87-274	15-56 88-005
10-22 87-274	16-55 88-005
12-48 87-274	12-52 88-136
10-23 87-278	07-33 88-137
19-15 87-281	02-51 88-146
02-48 87-283	12-53 88-146
12-49 87-285	14-48 88-146
14-45 87-285	04-57 88-146C
12-50 87-286	08-32 88-157
15-55 87-286	19-17 88-157
16-53 87-286	12-54 88-165
02-47 87-287	11-31 88-166
03-48 87-287	14-49 88-166
04-52 87-287	17-07 88-166
14-46 87-287	18-07 88-166
08-30 87-291	20-15 88-166
02-48 87-293	19-18 88-176
03-49 87-293	15-57 88-179
04-53 87-293	16-58 88-179
16-54 87-294	19-19 88-183
01-30 87-311	08-33 91-263
02-49 87-311	10-24 91-264
06-35 87-317	15-58 91-407
23-23 87-332	16-57 91-407
08-24 87-333	14-51 91-413
03-30 87-338	06-38 91-417
04-54 87-338	10-16 91-913
04-55 87-339	10-08 91-914
03-51 87-372	05-39 91-994
12-51 87-391	10-25 91-994
01-14 87-400	07-34 93-202
09-15 87-401	02-52 93-205
06-36 87-407	14-52 93-205
06-37 87-408	08-31 93-211
23-26 87-415	15-59 93-221
07-30 87-425	16-59 93-221
07-31 87-426	07-35 93-222
23-27 87-426	08-35 93-222
07-32 87-427	14-53 93-222
08-31 87-428	14-54 93-223
23-28 87-429	08-17 93-260
09-16 87-430	14-55 93-261
23-13 87-430	17-03 93-501
23-20 87-431	18-03 93-501
23-31 87-432	01-37 93-701
19-16 87-434	03-25 93-701
02-54 87-436	05-26 94-222
20-13 87-438	05-27 94-231
11-30 87-661	05-28 94-402
01-31 87-663	05-29 94-403
23-32 87-669	05-30 94-502
02-50 87-670	14-56 94-502
14-47 87-759	03-04 94-503
17-08 87-901	01-32 94-505
18-08 87-901	09-18 94-506
20-14 87-902	14-37 94-506
04-56 87-903C	
13-33 88-003	

MEMO

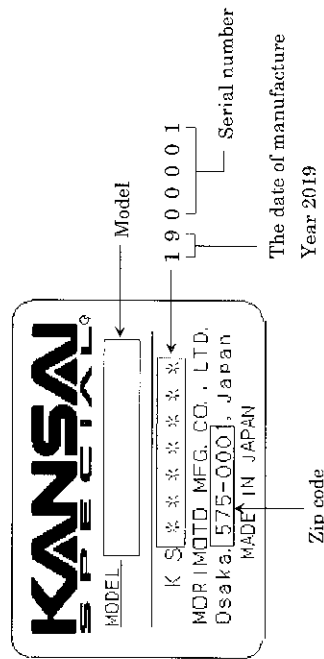
***FBX** Series Instruction Manual*

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

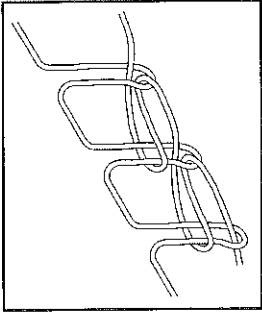


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[1] SPECIFICATIONS

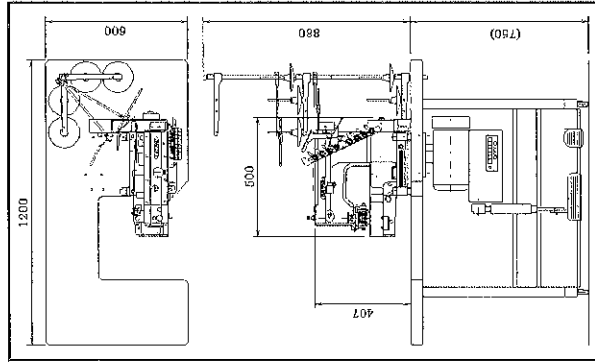
1-1 Stitch type
JIS401 double chain stitch machines



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



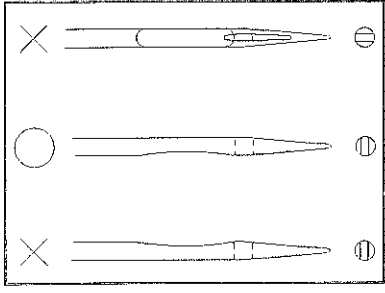
[2] NEEDLES & THREADING THE MACHINE

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).

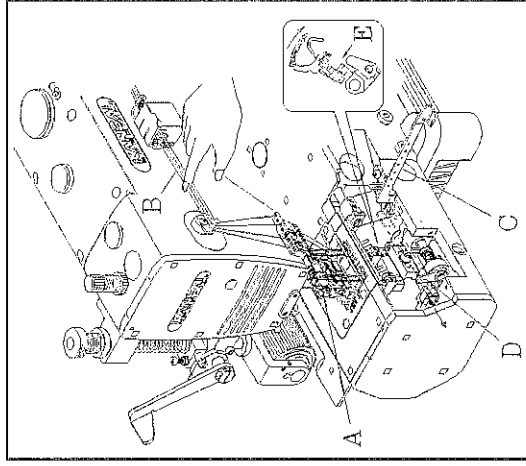
< Note >

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

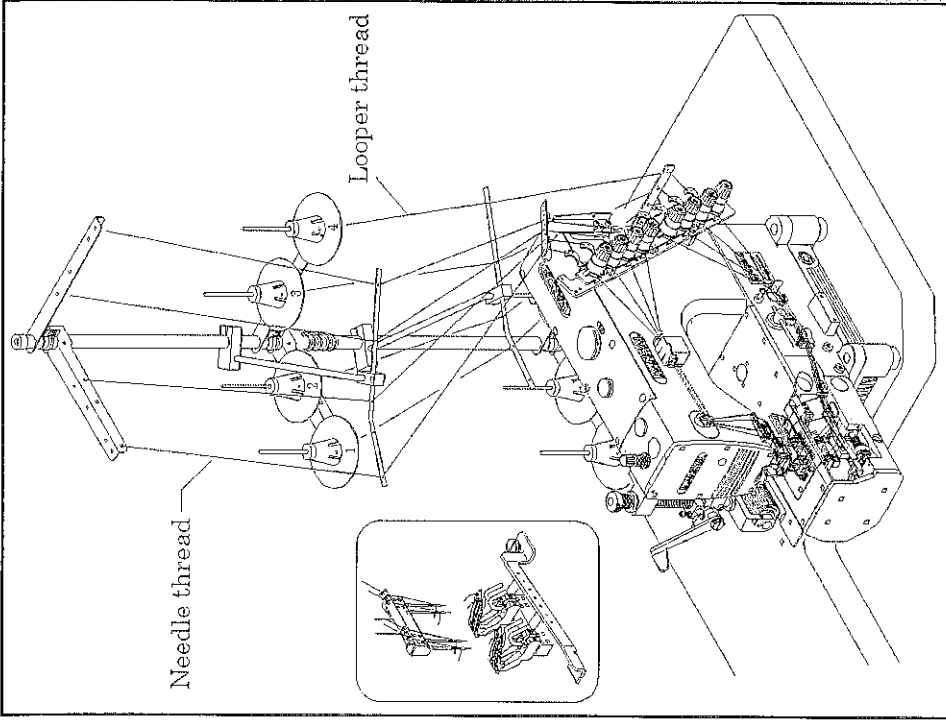
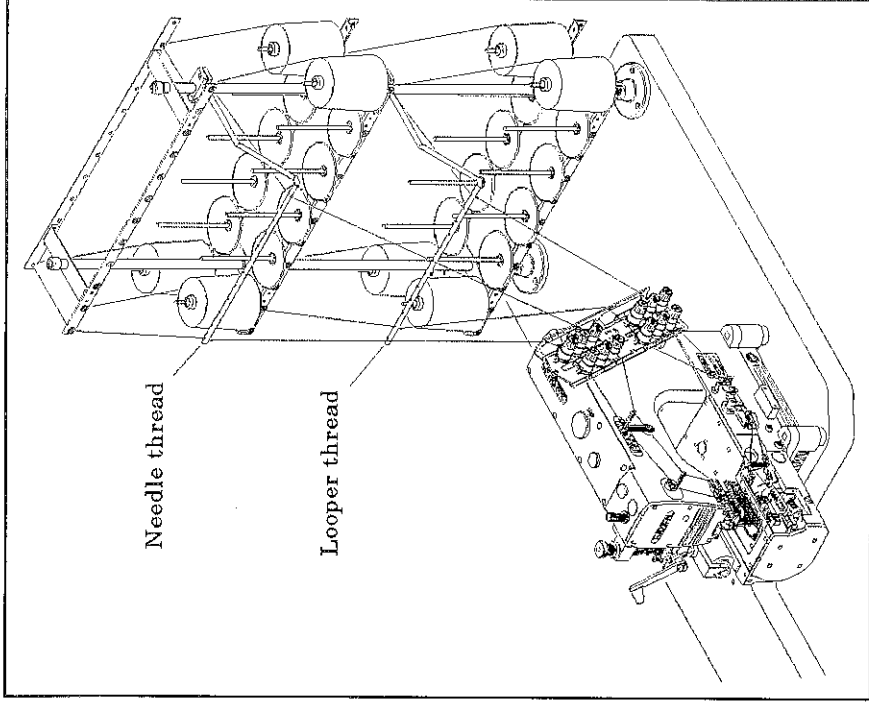
Thread the machine correctly by referring to pages 3 to 4. Incorrect threading may cause skip stitching, thread breakage and/or uneven stitch formation. When threading the looper, tilt the looper holder toward the front of the machine using the looper drawing bar.

- 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.



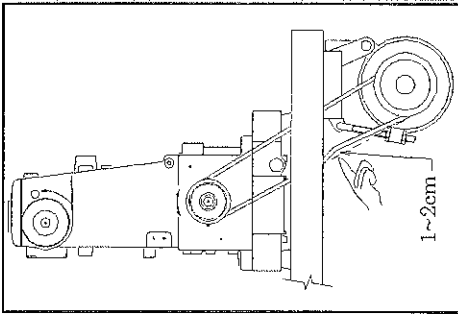
[3] MACHINE SPEED

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

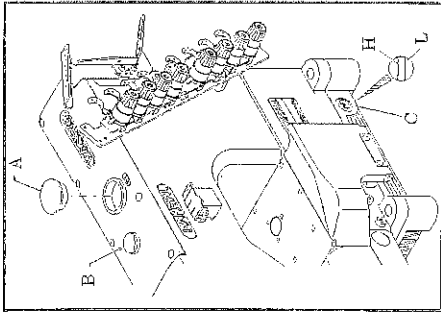
< Motor pulley selection table >

Motor pulley outer diameter (mm)	Machine speed (SPM)	
	50Hz	60Hz
60	2500	2950
70	2900	3450
80	3300	3900
90	3700	4400
100	4100	(4900)
110	(4500)	(5400)

[4] LUBRICATION

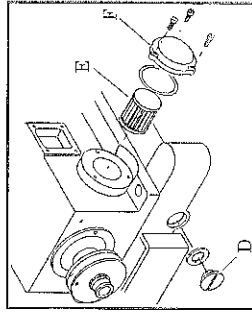
4-1 Oil

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.

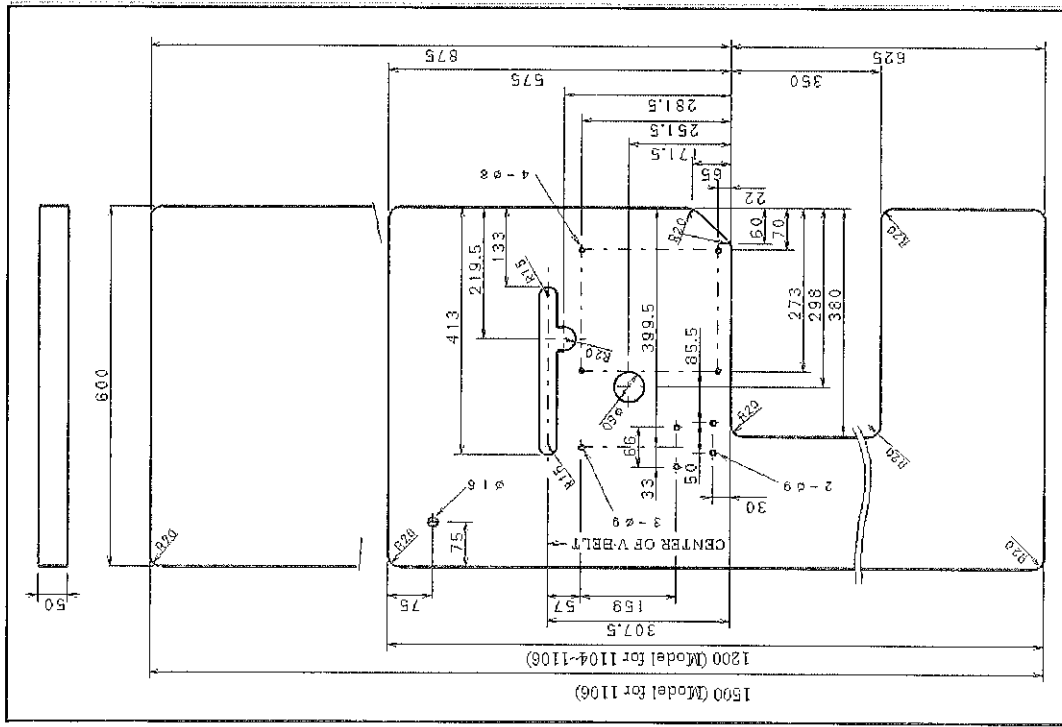
If element E is contaminated, proper oiling may not be performed.
Clean the filter element every six months. If just a little or no oil flows out from the nozzle with the proper amount of oil in the machine, check the element.
To do so, remove oil filter cap F. Replace the element if necessary.

< Note >

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

[5] SEWING MACHINE INSTALLATION

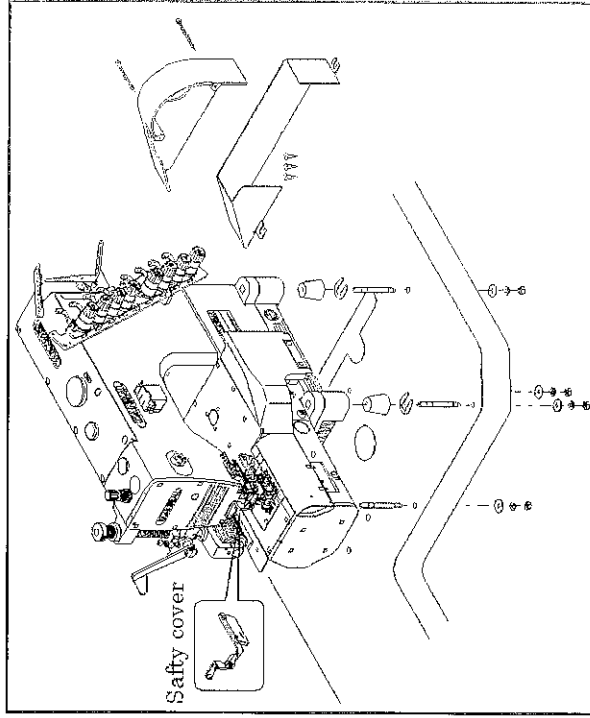
5-1 Cutting the machine table



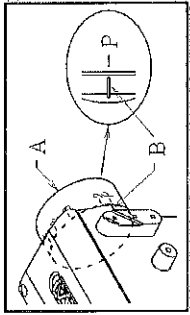
5-2 How to install the machine

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.

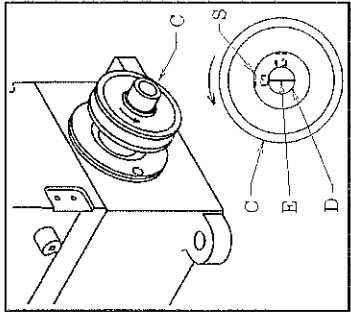
< Note >
Until all procedures will be done, do not switch on the motor.



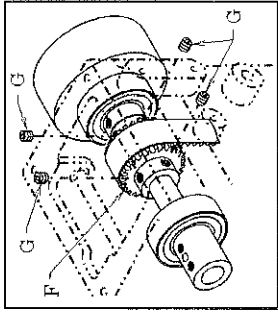
[6] TO ADJUST THE TIMING BETWEEN THE UPPER AND THE LOWER SHAFT



■ 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.



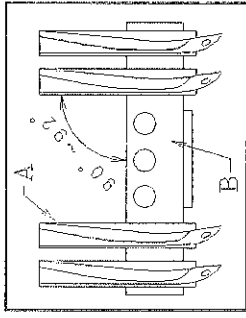
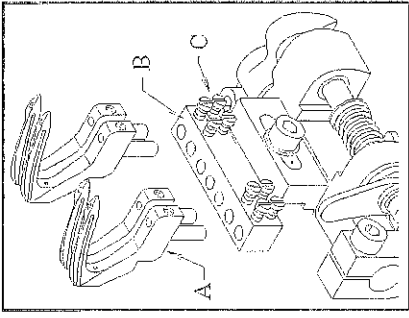
■ In this case, the line E marked on the lower shaft D should be vertical. And make sure if the first screw S of the turning direction is above the V-belt pulley C or not.



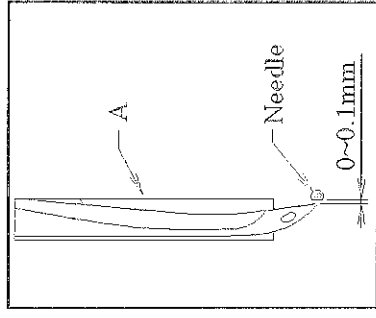
■ If not, loosen screw G (4pcs) on the timing pulley F of the upper shaft to be adjusted to the above mentioned position. Make sure of tightening screw G (4pcs) again after adjustment.

[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.

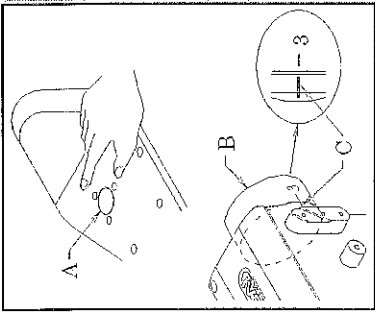


■ The clearance between the looper and the needle when the point of looper passes the scarf of the needle should be 0~0.1mm. (Adjust by the screw C)

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

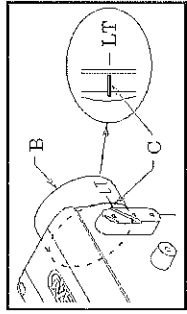
7-2 Timing of the looper to the needle

■ Turn the hand pulley B pressing push button A lightly until the push button touches an inside part 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.)

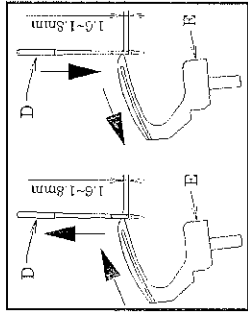


■ Detach your hand from the push button A.

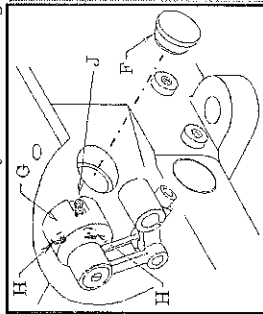
Then turn the hand pulley B and align mark C with the scale LT on the hand pulley B.



■ 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.



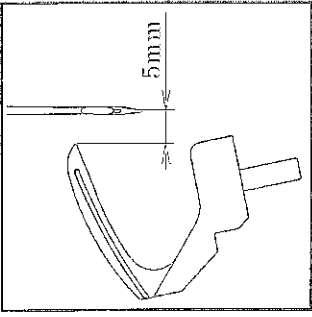
■ In the beginning, the stitch length would be adjusted to scale no.3. If you need to change it, procedures are as follows. Remove the rubber plug F and loosen screw H (2pcs) in the looper eccentric G to adjust appropriate timing. Make sure tighten screws H again one by one.



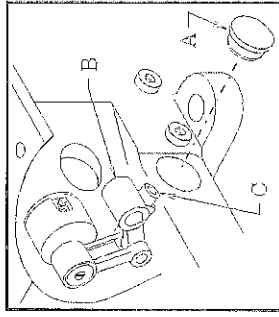
< Note >
Before adjusting machine, be sure to turn off the motor.

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.

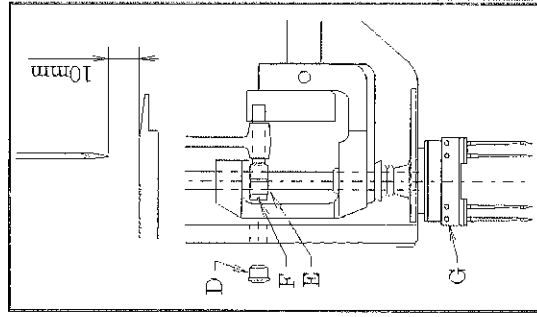


■ The adjustment for the looper setting distance is made by removing plug A and loosening screw C for the lever B. After adjusting, tighten screw C.

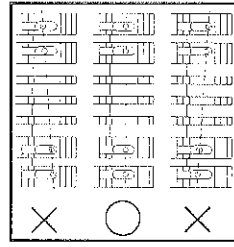


7-4 Needle height

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.



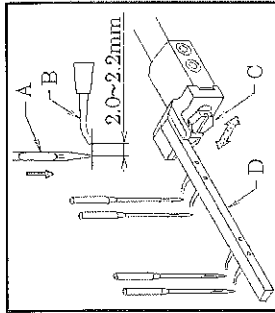
[8] TIMING OF THE RETAINER LOOPER

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.

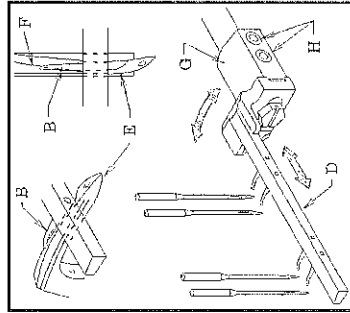
* When the stitch length is changed much, necessary to the adjust again because the clearance would be changed.



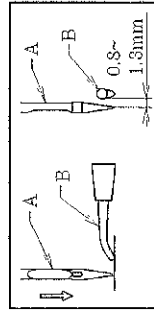
8-2 Left to right position of the retainer looper

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.

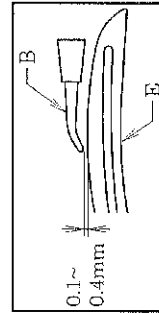


* When the needle bar descend from the top to the bottom of its stroke and the point of the needle A is same height as the point of the looper retainer B, there should be a clearance of 0.8~1.3mm between the point of the needle A and the left side of the retainer looper B.



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.

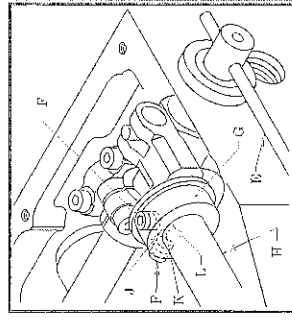
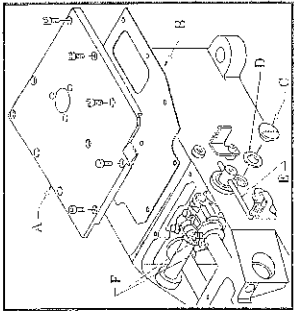
8-4 Timing of the retainer looper to the needle

Remove the upper cover A and gasket B.

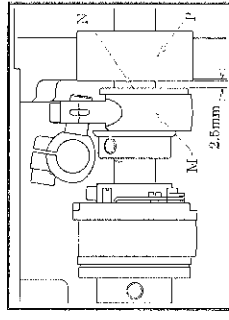
Loosen the screw C and packing D of the bed.

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.



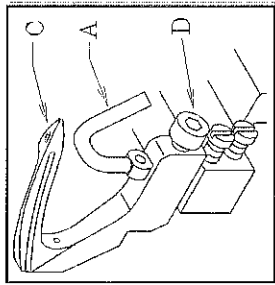
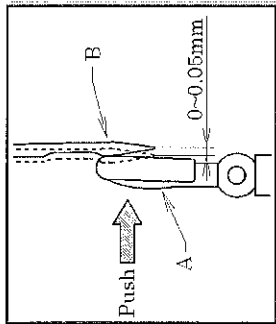
* After this adjusting, confirm to the position of front/back, the position of left/right and the height of the retainer looper. (Refer to the previous page)

< Note >

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

[9] ADJUSTING CLEARANCE BETWEEN NEEDLE AND NEEDLE GUARD

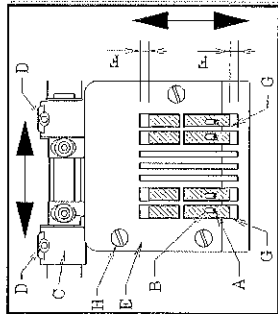
Adjustment should be made by pushing of the needle guard A to the needle B at 0~0.05mm. Adjusting by turning of the needle guard A after loosening of the screw D.



[10] ADJUSTING THE FEED DOG & STITCH LENGTH

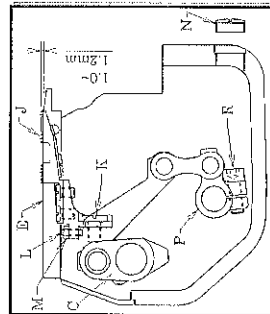
10-1 Adjusting of left-right position for the feed dog

Make sure each needle 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 F and also to be parallel between the feed dog and the feed grooves of the needle plate E.



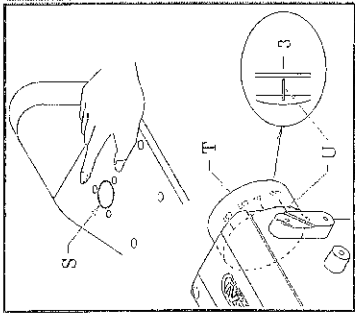
10-2 Adjusting of front-back position for the feed dog

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.



10-3 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.



10-4 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.

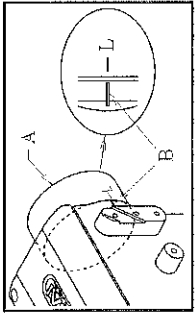
In case of happening the defect after big changing of the stitch length, adjust again for [7] timing of the looper to the needle, [8] timing of the retainer looper and the looper.

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

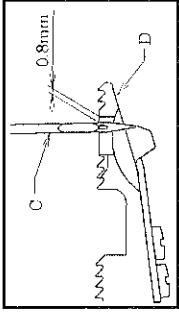
[11] ADJUSTING OF THE NEEDLE FEED

11-1 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.

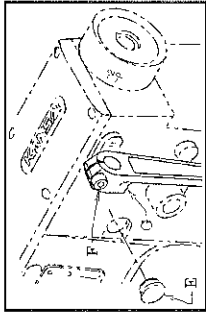


When the needle C is going down from the top dead point by turning of hand pulley A, align the top end of needle hole of the needle C to the top surface of the feed dog D. The clearance between the needle and the needle drop hole of the feed dog D should be approx. 0.8mm as fig.



Remove the rubber plug F 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.



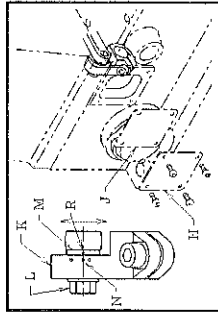
11-2 Adjusting of front-back movement amount of the needle

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 >

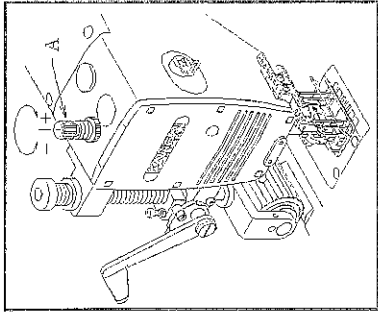
Before adjusting machine, be sure to turn off the motor.

[12] ADJUSTING THE PRESSER FOOT

12-1 Presser foot pressure

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

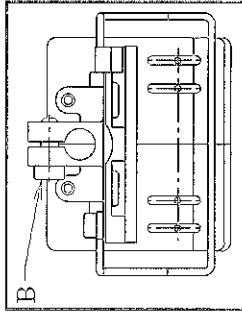
To increase the presser foot pressure, turn the adjusting knob clockwise.



12-2 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.

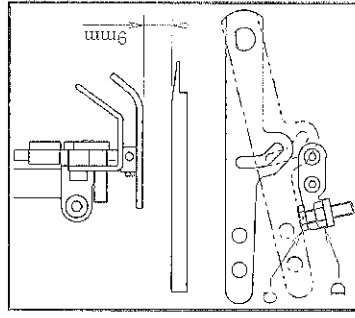


12-3 Foot lift

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

< Note >

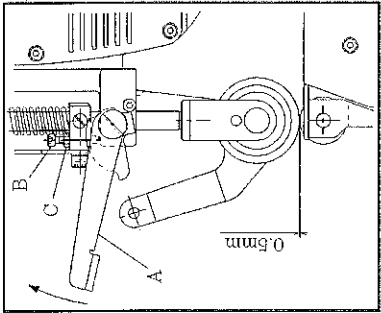
Before adjusting machine, be sure to turn off the motor.



[13] ADJUSTING THE REAR PULLER DEVICE

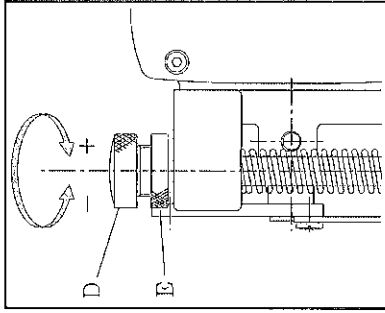
13-1 Manual lever and position of the stopper

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.



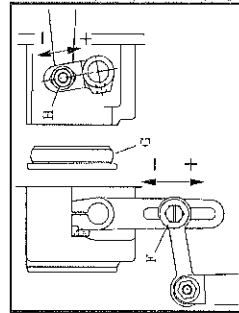
13-2 To adjust the puller pressure

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.



13-3 Adjusting the feeding amount of the rear puller

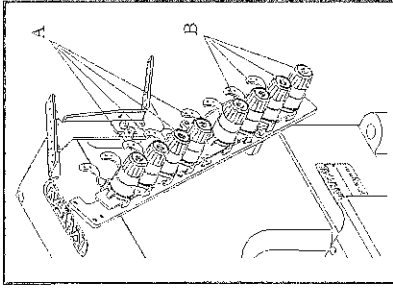
The feeding amount of the puller should be adjusted by changing of the movement amount of the upper roller in order to meet the sewing fabric and the sewing conditions. To decrease the amount, loosen nut F and move it up. To increase the amount, loosen nut F and move it down. If the feeding amount is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



[14] ADJUSTING THE STITCH FORMATION

14-1 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.

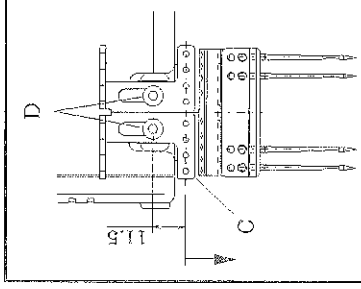


< Note >

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

14-2 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.

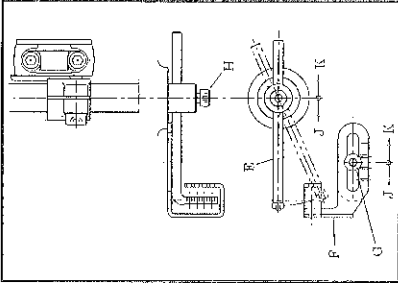


< Note >

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.

14-3 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 >

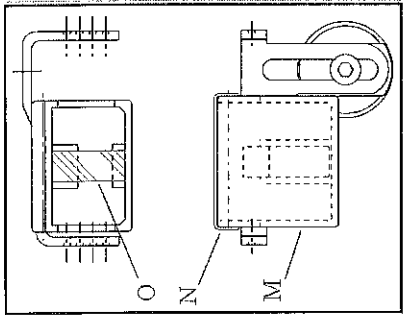
To loose the looper thread, move to the direction J for both of the looper thread eyelet F and the looper take-up bar E. To tight the looper thread, move to the direction K for both of the looper thread eyelet F and the looper take-up bar E.

14-4 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.

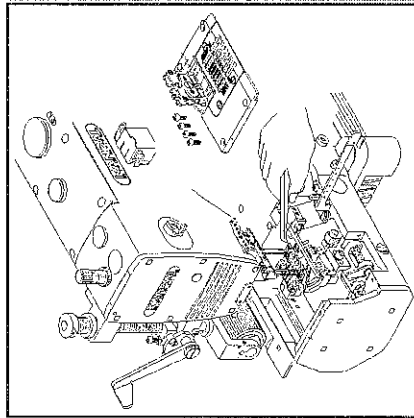
< Note >

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.



[15] 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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