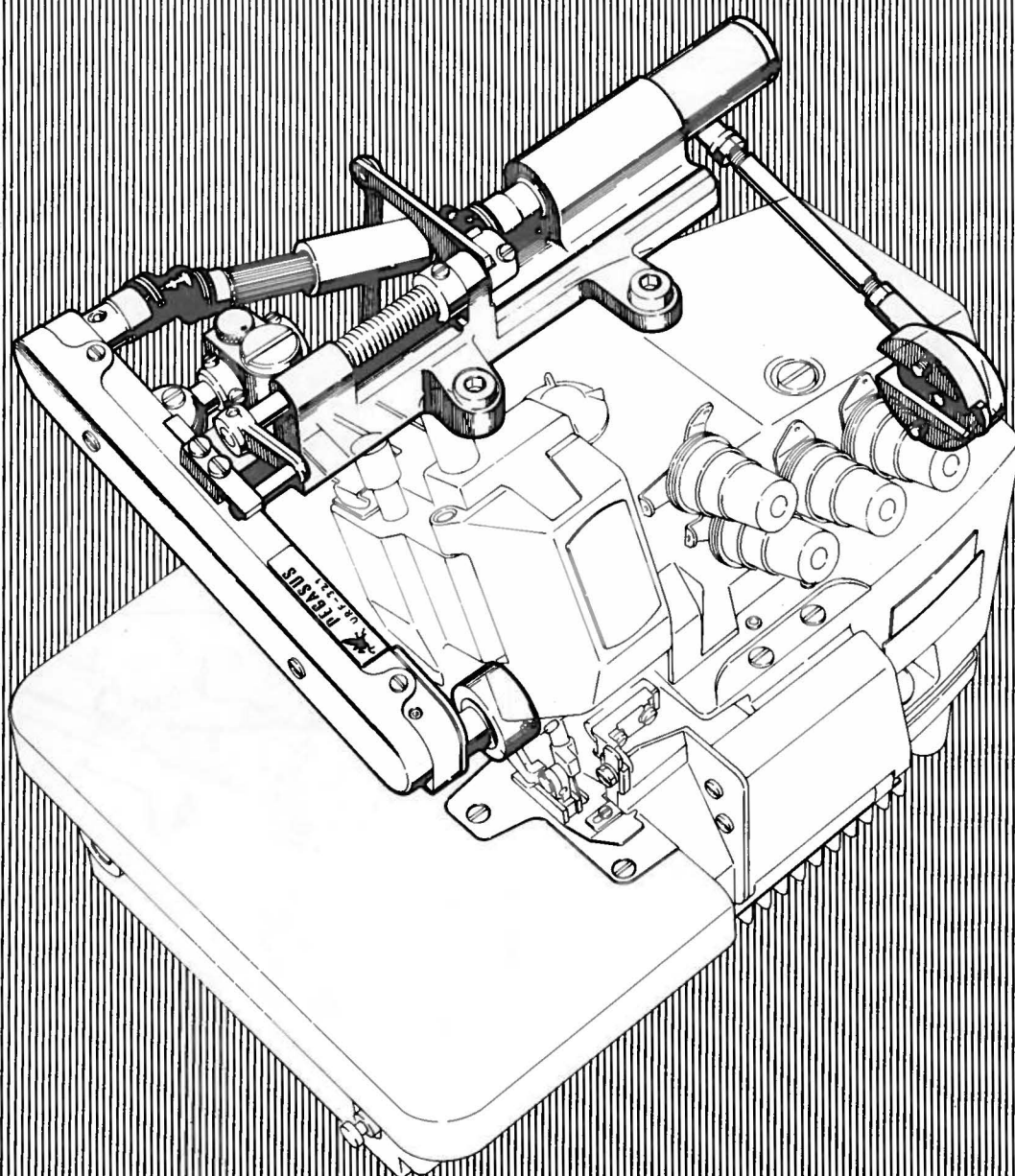


Cat.No.8240 (023-410-039)

SYNCHRONIZED TOP FEED PULLER

URF DEVICE

FOR THE NEW WILLCOX & GIBBS -4 SERIES



WILLCOX & GIBBS, inc.

From the library of: Superior Sewing Machine & Supply LLC

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FEATURES

The feed mechanism of the URF device is driven by the machine pulley and its movement is synchronized with that of the feed dogs. In addition, the Feed Roller ⑪ can keep the same feed amount with the feed dogs when finely adjusted.

As the feed dogs feed the material, Feed Roller ⑪ also feeds at the same time and in the same feed amount of the feed dogs. When the feed dogs are idle under Needle Plate, Feed Roller ⑪ is also in a stop. URF-321 repeats this movement as the machine runs.

This feature can bring the result that there would occur no ply shift and no seam puckering when sewing two plies. Because the machine equipped with URF-321 can feed the upper and lower plies in the same timing and in the same amount.

IN ORDERING

URF-321, the Synchronized Top Feed Puller, is supplied with machine only. In ordering, please specify the required machine type number as well as the URF device, e.g., 515-4-26/URF. Note: The lift of Roller ⑪ is 5.5mm at maximum.

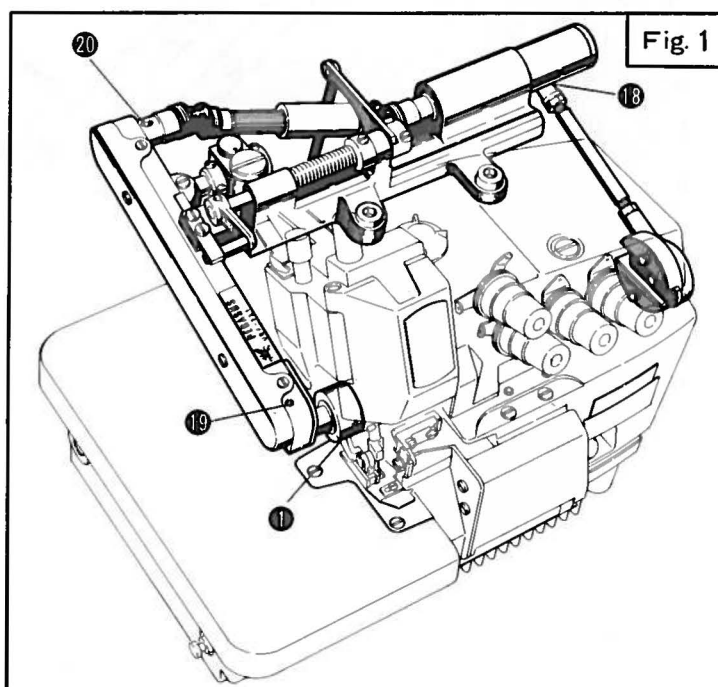
RECOMMENDED OPERATIONS

- 1) Side seaming on Men's dress shirts, Ladies' blouses, etc.
- 2) Attaching Yoke on Men's dress shirts, etc.
- 3) Seaming on other fabrics which have a tendency to cause ply shift and seam puckering.
- 4) Available as an auxiliary top feeder on piping operation for knit and woven materials.

LUBRICATION

Before morning start, lubricate Ball Joint ⑮ and Oil Holes ⑰ ⑱. Caution! Lack of lubrication may cause accidental seizure of parts.

Fig. 1



INSTALLATION

Fig. 2, 3, 4, 5

The URF-device was tuned up with the machine at the factory. Then they were separated, packed in each carton and delivered in the same shipment. So install the URF device on the machine as follows.

1. Mount Base ② on the machine with Screws ④ and Washers ③ so that the front edge 'A' of Feed Roller ⑪ is vertical to the feed slots 'B' of Needle Plate.
2. Make sure the followings are correct.
 - * Roller ⑪ does not interfere Presser Foot.
 - * Frame Cover ⑫ is parallel and approximately 4mm apart from Machine Arm (Left).
 - * Roller ⑪ can be lifted 5.5mm up or more.
 - * Roller ⑪ is even and flat on Cloth Plate.If necessary, move the URF device a little and adjust the above.
3. Tighten Screws ④ securely.
4. Set Nut ⑦ and Washer ⑥ at the center of the long groove of Lever ⑧.
5. Put the drive belt in Machine Pulley.
6. Set Washer ⑩ and Screw ⑨ in the groove end of Eccentric ⑫ (Fig. 4). See ADJUSTING THE FEED AMOUNT OF ROLLER ⑪ below.
7. Set Lever ⑮ with Screws ⑬ for Foot Lift Lever ⑭.
8. Install the machine in the sewing position.

ADJUSTING THE FEED AMOUNT OF ROLLER ⑪

Fig. 5

Sew the material and adjust the feed amount of Roller ⑪.

The feed amount of Roller ⑪ should be the same as that of the feed dogs so that the upper and lower plies of the material can be fed in the same amount. This adjustment can be made; roughly by shifting the position of Screw ⑨ and finely by shifting the position of Nut ⑦.

For rough adjustment

1. Set Nut ⑦ at the center of the long groove of Lever ⑧.
2. Loosen Screw ⑨. Move it inward for less feed amount of Roller ⑪, and outward for more feed amount.
3. Tighten Screw ⑨ when Roller ⑪ is approximately in the same feed amount with the feed dogs.

For fine adjustment

1. Loosen Nut ⑦. Raise it for more feed amount of Roller ⑪ and lower it for less feed amount.
2. After the feed amount is finely adjusted, tighten Nut ⑦.

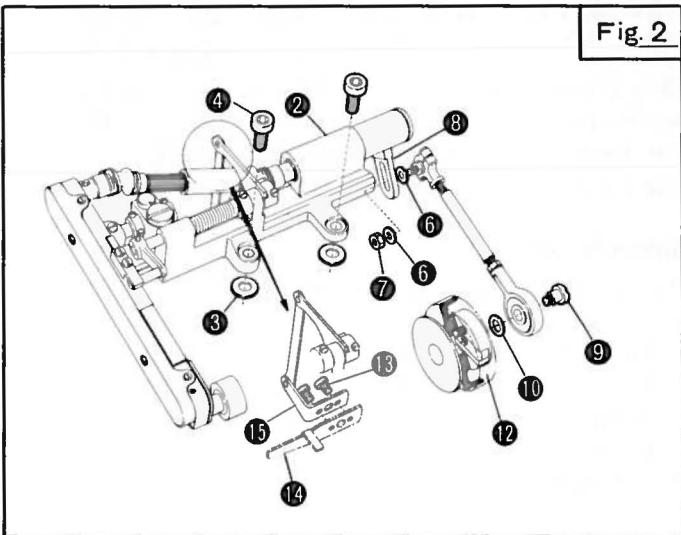


Fig. 2

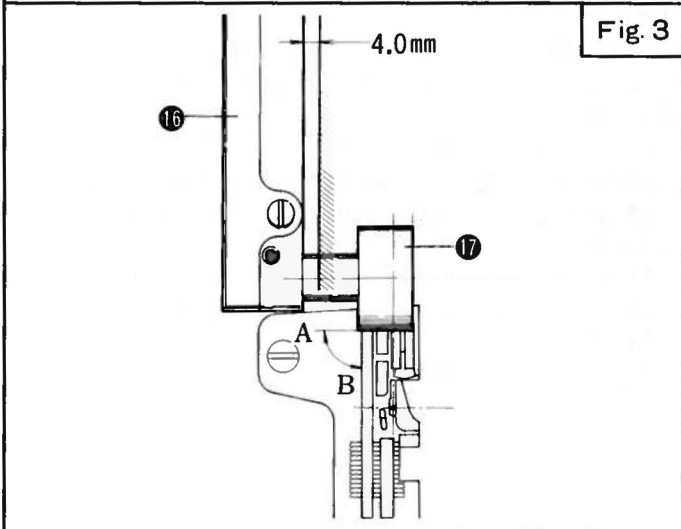


Fig. 3

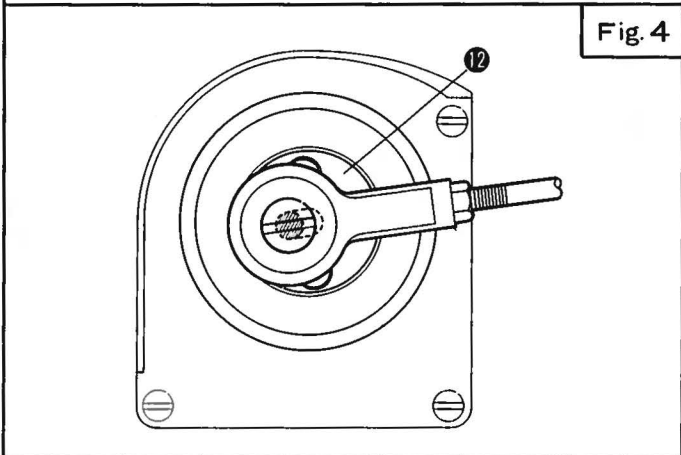


Fig. 4

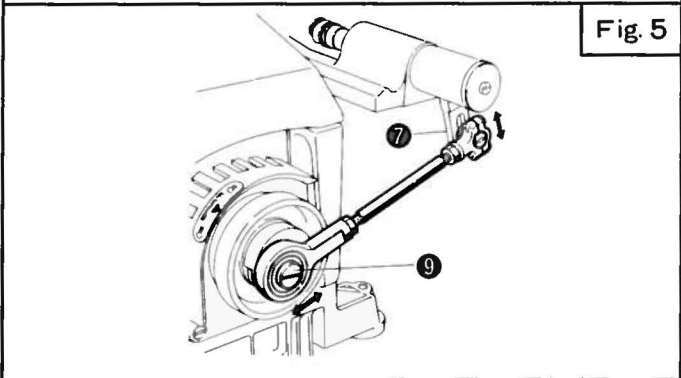


Fig. 5

ADJUSTING THE POSITION OF FEED ROLLER

Fig. 6, 7, 8

This setting is correct at the factory and requires no further adjustment unless Feed Roller ④ has been moved from its original position for any reason.

Sidewise setting

Roller ④ should align with Presser Foot.

1. Loosen Screw ① .
2. Move Base ③ as required.

Make sure Base ③ is parallel and approximately 4.0mm apart from Machine Arm (Left).

3. Tighten Screw ① .

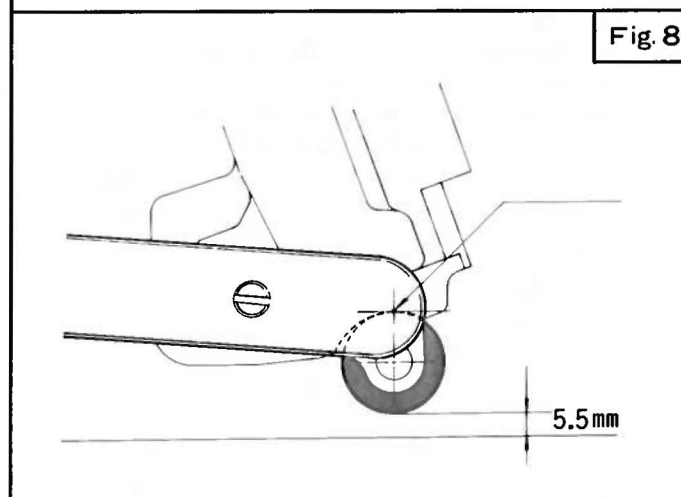
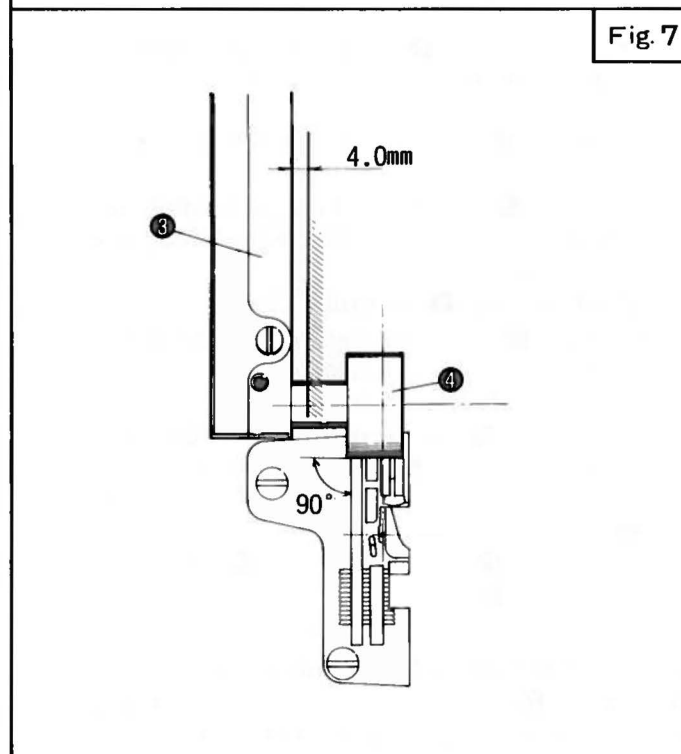
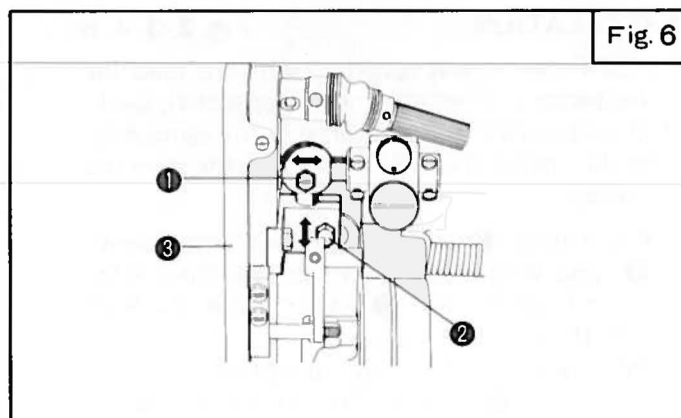
Front to rear setting

Roller ④ should be even and flat on Cloth Plate, and a lift of 5.5mm should also be obtained when it is lifted up.

1. Loosen Screw ② .
2. Move Base ③ so that Roller is in the middle of the round cut portion of Machine Arm (Left).

Make sure Roller ④ is even and flat on Cloth Plate and does not interfere with Presser Foot.

3. Tighten Screw ② .



ADJUSTING THE PRESSURE OF FEED ROLLER

Fig. 9, 10

The pressure of Feed Roller on the material should be just enough to feed material and obtain proper stitch formation.

1. Pull Pin ⑦ up and swing Base ③ to the left.
2. Loosen Screws ⑫ and Screws ⑬
3. With Spring 'a' hooked on the Hinge Frame, set Pin ⑭ so that a proper pressure is obtained. Tighten Screws ⑬
4. Placing Pin ⑭ on Base ③, turn Collar ⑮ and tighten Screws ⑫. When tightening Screws ⑫, eliminate the sidewise play of Lever ⑯.
5. Replace Base ③ and Pin ⑦ in position.

POSITION OF BASE ③ WHEN IT IS RAISED UP.

Fig. 9, 11

Rubber 'C' is filled with grease. When Base ③ is raised up, Rubber 'C' should not rub on Hinge ⑨. This is to keep Rubber 'C' from wear by rubbing. Screw ⑥ for Collar ⑩ acts as a stopper of Base ③ from raising up. If necessary, reset Collar ⑩ so that Rubber 'C' will not rub on Hinge ⑨.

1. Release Pin ⑦ and swing Base ③ to the left.
2. Loosen Screws ⑤ and ⑥.
3. With Base ③ high, making sure Rubber 'C' not touching Hinge ⑨, turn Collar ⑩ until Screw ⑥ is stopped by Pin ⑪.
4. Tighten Screws ⑤ and ⑥. When tightening these screws, avoid any excess sidewise play but assure no binding when Base ③ is moved up and down.

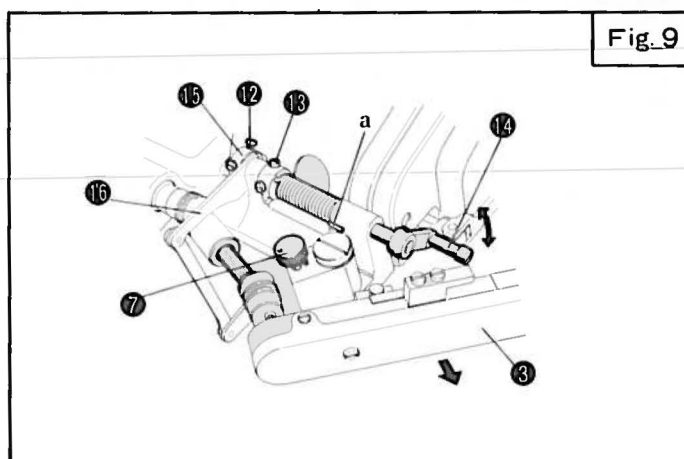


Fig. 9

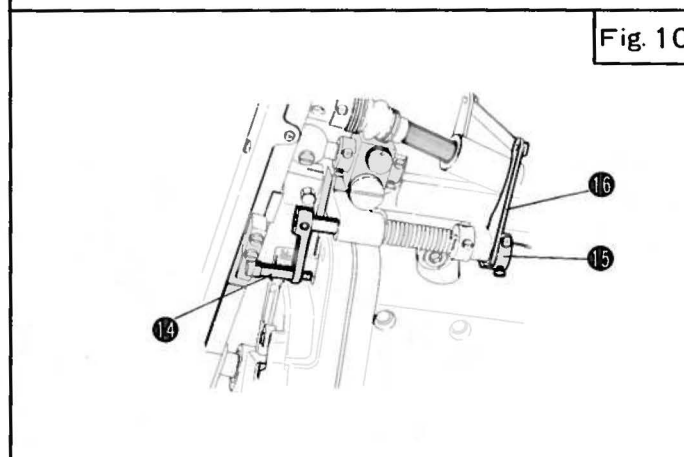


Fig. 10

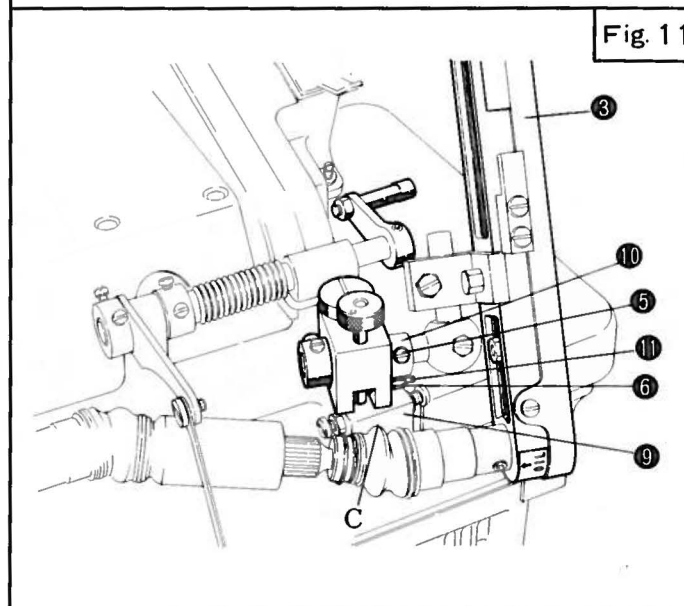
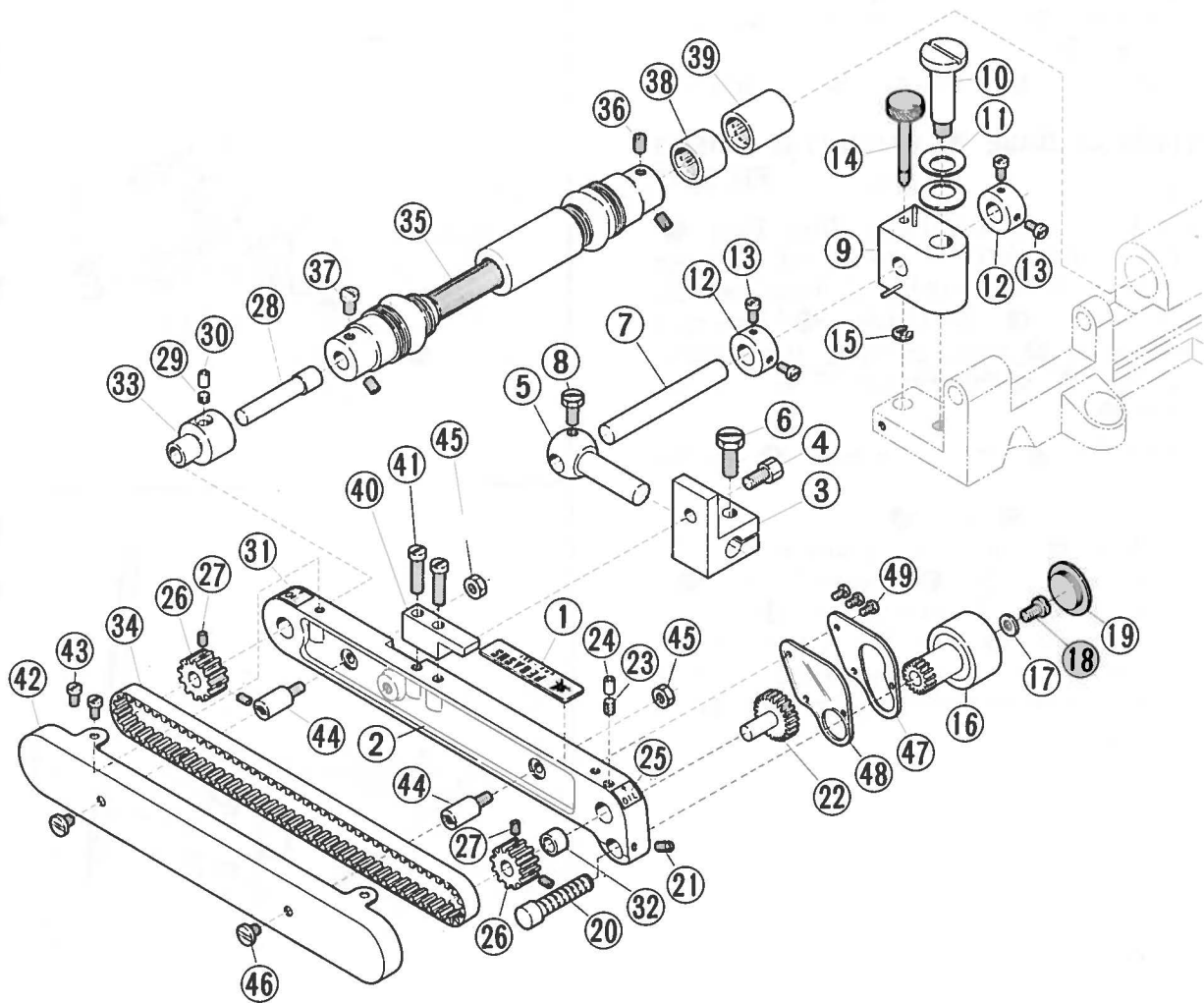


Fig. 11

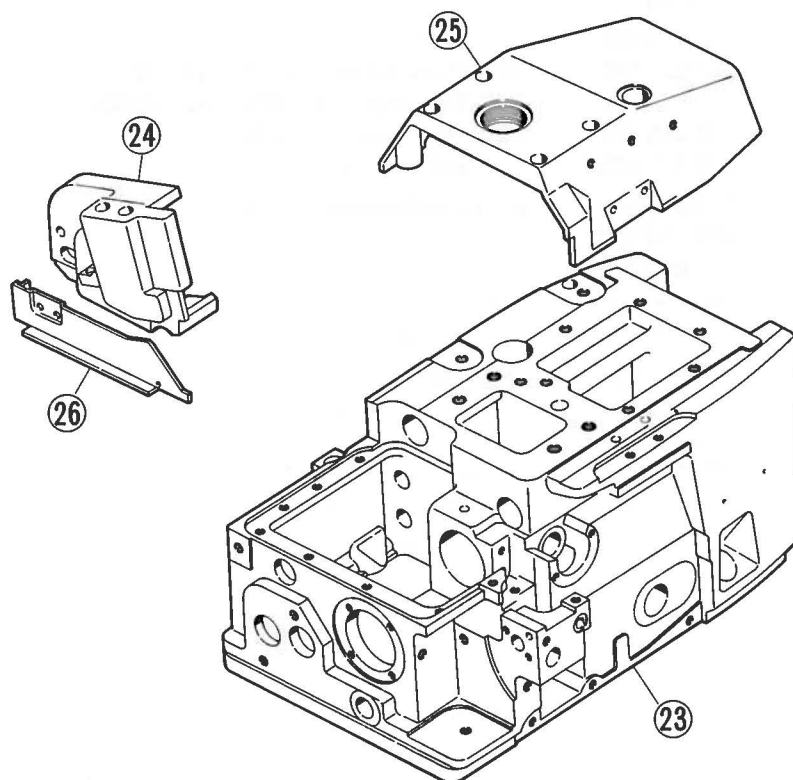
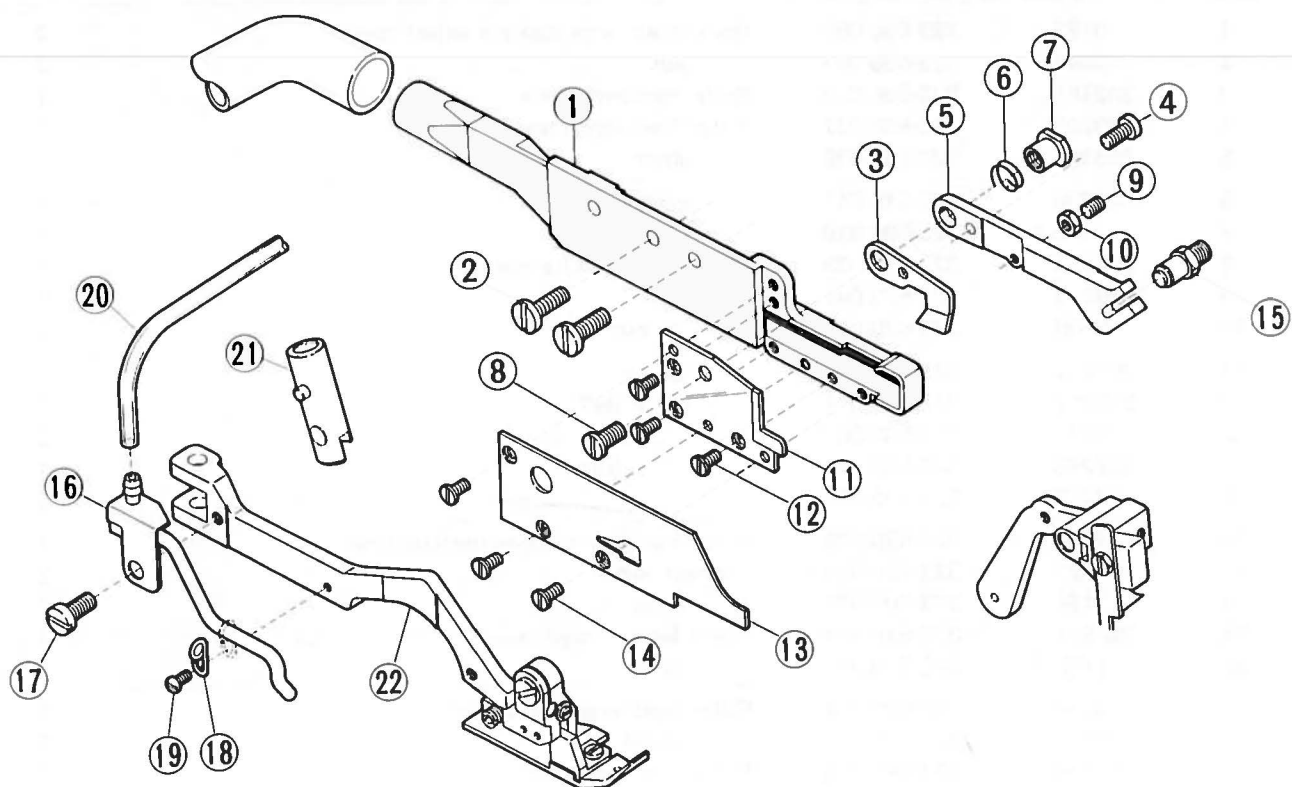


(1) URF-320

REF. NO.	PART NO.	NEW PRODUCT CODE NO.	DESCRIPTION	QT.
	303480	323-900-065	URF-321 head complete	1
	303481	323-895-001	Feed roller drive mechanism (Includes parts of Ref. Nos. 1-48)	1
1	303473	323-692-042	Name plate	1
2	303521	323-508-021	Roller feed frame	1
3	303522	323-728-015	hinge	1
4	5274	323-600-263	" screw	1
5	303175	323-608-001	" ball stud	1
6	5266	323-600-265	" " " clamp screw	1
7	303176	323-620-045	" " " pin	1
8	5048	323-600-028	" " " screw	1
9	303493	323-728-016	Roller feed hinge, complete	1
10	303178	323-620-046	pin	1
11	303179	323-640-032	" spring	2
12	201029	323-618-002	" thrust collar	2
13	2237	323-600-067	" " " screw	4
14	303492	323-620-047	lock pin	1
15	200555	323-634-004	" " retaining ring	1
16	303182	323-720-002	Feed roller	1
17	205097	323-615-026	washer	1
18	5317	323-600-355	screw	1
19	303185	323-780-015	cap	1
20	303186	323-540-037	Feed roller shaft	1
21	5292	323-600-341	screw	1
22	303187	323-764-005	Feed roller gear	1
23	202047	323-653-205	oil felt	1
24	303485	323-780-016	" " cap	1
25	303486	323-690-001	Oil mark	1
26	303191	323-546-005	Timing belt pulley	2
27	5408	323-600-129	screw	4
28	303192	323-540-038	shaft	1
29	303487	323-653-021	" oil felt	1
30	303485	323-780-016	" " " cap	1
31	303486	323-690-001	Oil mark	1
32	303193	323-676-056	Feed roller gear bushing	1
33	303523	323-676-057	Timing belt pulley shaft bushing	1
34	303195	323-550-005	Timing belt	1
35	303509	323-636-021	Universal joint	1
36	5234	323-600-297	screw	3
37	5116	324-600-207	"	1
38	303202	323-676-058	Roller clutch bushing	1
39	303204	323-760-001	Roller clutch	1
40	303221	323-750-012	Feed roller pressure lever seat	1
41	5152	323-600-061	screw	2
42	303223	323-510-100	Roller feed frame cover	1
43	1216	323-600-068	screw	2
44	5430	323-620-048	fixing pin	2
45	5137	323-630-202	" " nut	2
46	2905	323-600-074	screw	2
47	303224	323-510-099	Feed roller gear cover	1
48	303225	323-663-034	gasket	1
49	2922	323-600-229	screw	3

(2) URF-321

REF. NO.	PART NO.	NEW PRODUCT CODE NO.	DESCRIPTION	QT.
1	5152	323-600-061	Roller feed hinge lock pin adjust screw	2
2	3044	323-630-001	nut	2
3	303181	323-505-018	Roller feed hinge base	1
4	303203	323-530-037	Roller feed adjust lever	1
5	303205	323-540-039	shaft	1
6	303206	323-615-041	washer	1
7	1175-3	323-600-019	" screw	1
8	303213	323-530-038	Feed roller pressure lever	1
9	303215	323-620-049	pin	1
10	5426	323-630-035	" nut	1
11	303216	323-640-033	spring	1
12	303217	323-680-014	collar (left)	1
13	2237	323-600-067	" " screw	2
14	303218	323-680-015	" (right)	1
15	2213	323-600-237	" " screw	2
16	303525	323-530-039	Roller feed foot lift intermediate lever	1
17	303222	323-530-040	Connect lever	2
18	5184	323-600-079	screw	2
19	303524	323-530-041	Roller feed foot lift lever	1
20	1175-3	323-600-019	screw	2
21	4504	323-600-374	Roller feed hinge base screw	2
22	202576	323-615-201	spacer	2
	303496	323-546-006	Pulley, complete with parts of Ref. Nos. 23-26	1
23	303207	323-546-007	Pulley	1
24	303208	323-580-085	Roller feed eccentric	1
25	5118	323-600-060	screw	2
26	303279	323-800-074	plate	1
27	5080	323-600-008	Pulley position screw	1
28	5081	323-600-009	screw	1
	303245	323-535-006	Roller feed connecting rod, complete (Includes parts of Ref. Nos. 29-38)	1
29	303209	325-535-001	Roller feed drive connection	1
30	303210	325-671-005	ball bearing	1
31	303212	323-535-007	Roller feed connecting rod	1
32	28-1	325-630-207	nut (rear)	1
33	89-1	325-630-210	" (front)	1
34	201579	323-525-015	Roller feed ball joint	1
35	1170-1	323-600-020	cap screw	2
36	201580	323-604-020	ball stud	1
37	202433	323-615-027	" " washer	2
38	3144	323-630-220	" " nut	1
39	303211	323-600-375	Ball bearing screw	1
40	204520	323-615-233	thrust washer	1
41	303204	323-760-001	Roller clutch	2



KSL-321/SPECIFIC PARTS

REF. NO.	PART NO.	NEW PRODUCT CODE NO.	DESCRIPTION	QT.
	303371	323-900-066	KSL-321 head complete	1
			(Includes parts of Ref. Nos. 1-20)	
	303497	323-900-067	Chain cutter frame, complete	1
			(Includes parts of Ref. Nos. 1-14)	
1	303227	323-508-022	Chain cutter frame	1
2	4009-1	323-600-014	screw	2
	303298	323-900-068	Movable blade, complete	1
			(Includes parts of Ref. Nos. 3-11)	
3	303293	323-873-011	Movable blade	1
4	5346	323-600-366	screw	1
5	303230	323-530-036	drive lever	1
6	303278	323-643-011	" " spring	1
7	303295	323-630-028	" " screw nut	1
8	4009-1	323-600-014	" " screw	1
9	5408	323-600-129	adjust screw	1
10	5409	323-630-027	" " lock nut	1
11	303074	323-873-003	Stationary blade	1
12	5022	323-600-251	screw	3
13	303229	323-560-059	fabric guard	1
14	5022	323-600-251	" " screw	3
15	300135A	323-620-031	Movable blade drive lever pin	1
16	303482	323-639-037	Air blower	1
17	1216	323-600-068	screw	1
18	303472	323-683-022	clamp	1
19	1333	323-600-048	" screw	1
20	303086	323-639-022	tube	1
			Other relating parts for URF-321	
21	303477	323-592-002	Presser bar, complete	1
22	303478	323-502-013	Presser arm	1
23	303474	323-508-023	Machine frame	1
24	303475	323-500-024	Machine arm (left)	1
25	303476	323-510-101	Machine top cover	1
26	303479	323-560-060	Cloth plate fabric guard	1

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323-505-018	303181	11	3	323-620-047	303492	9	14				
323-508-021	303521	9	2	323-620-048	5430	9	44				
323-508-022	303227	13	1	323-620-049	303215	11	9				
323-508-023	303474	13	23	323-630-001	3044	11	2				
323-510-099	303224	9	47	323-630-027	5409	13	10				
323-510-100	303223	9	42	323-630-028	303295	13	7				
323-510-101	303476	13	25	323-630-035	5426	11	10				
323-525-015	201579	11	34	323-630-202	5137	9	45				
323-530-036	303230	13	5	323-630-220	3144	11	38				
323-530-037	303203	11	4	323-634-004	200555	9	15				
323-530-038	303213	11	8	323-636-021	303509	9	35				
323-530-039	303525	11	16	323-639-022	303086	13	20				
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323-560-060	303479	13	26	323-683-022	303472	13	18				
323-580-085	303208	11	24	323-690-001	303486	9	25				
323-592-002	303477	13	21	323-690-001	303486	9	31				
323-600-008	5080	11	27	323-692-042	303473	9	1				
323-600-009	5081	11	28	323-720-002	303182	9	16				
323-600-014	4009-1	13	2	323-728-015	303522	9	3				
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323-600-019	1175-3	11	7	323-750-012	303221	9	40				
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323-600-074	2905	9	46	323-900-066	303371	13					
323-600-079	5184	11	18	323-900-067	303497	13					
323-600-129	5408	9	27	323-900-068	303298	13					
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323-600-229	2922	9	49	325-535-001	303209	11	29				
323-600-237	2213	11	15	325-630-207	28-1	11	32				
323-600-251	5022	13	12	325-630-210	89-1	11	33				
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323-600-263	5274	9	4								
323-600-265	5266	9	6								
323-600-297	5234	9	36								
323-600-341	5292	9	21								
323-600-355	5317	9	18								
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323-600-374	4504	11	21								
323-600-375	303211	11	39								
323-604-020	201580	11	36								
323-608-001	303175	9	5								
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323-615-041	303206	11	6								
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89-1	325-630-210	11	33	303207	323-546-007	11	23				
1170-1	323-600-020	11	35	303208	323-580-085	11	24				
1175-3	323-600-019	11	7	303209	325-535-001	11	29				
1175-3	323-600-019	11	20	303210	325-671-005	11	30				
1216	323-600-068	9	43	303211	323-600-375	11	39				
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1333	323-600-048	13	19	303213	323-530-038	11	8				
2213	323-600-237	11	15	303215	323-620-049	11	9				
2237	323-600-067	9	13	303216	323-640-033	11	11				
2237	323-600-067	11	13	303217	323-680-014	11	12				
2905	323-600-074	9	46	303218	323-680-015	11	14				
2922	323-600-229	9	49	303221	323-750-012	9	40				
3044	323-630-001	11	2	303222	323-530-040	11	17				
3144	323-630-220	11	38	303223	323-510-100	9	42				
4009-1	323-600-014	13	2	303224	323-510-099	9	47				
4009-1	323-600-014	13	8	303225	323-663-034	9	48				
4504	323-600-374	11	21	303227	323-508-022	13	1				
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5080	323-600-008	11	27	303278	323-643-011	13	6				
5081	323-600-009	11	28	303279	323-800-074	11	26				
5116	324-600-207	9	37	303293	323-873-011	13	3				
5118	323-600-060	11	25	303295	323-630-028	13	7				
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5152	323-600-061	9	41	303371	323-900-066	13					
5152	323-600-061	11	1	303472	323-683-022	13	18				
5184	323-600-079	11	18	303473	323-692-042	9	1				
5234	323-600-297	9	36	303474	323-508-023	13	23				
5266	323-600-265	9	6	303475	323-500-024	13	24				
5274	323-600-263	9	4	303476	323-510-101	13	25				
5292	323-600-341	9	21	303477	323-592-002	13	21				
5317	323-600-355	9	18	303478	323-502-013	13	22				
5346	323-600-366	13	4	303479	323-560-060	13	26				
5408	323-600-129	9	27	303480	323-900-065	9					
5408	323-600-129	13	9	303481	323-895-001	9					
5409	323-630-027	13	10	303482	323-639-037	13	16				
5426	323-630-035	11	10	303485	323-780-016	9	24				
5430	323-620-048	9	44	303485	323-780-016	9	30				
200555	323-634-004	9	15	303486	323-690-001	9	25				
201029	323-618-002	9	12	303486	323-690-001	9	31				
201579	323-525-015	11	34	303487	323-653-021	9	29				
201580	323-604-020	11	36	303492	323-620-047	9	14				
202047	323-653-205	9	23	303493	323-728-016	9	9				
202433	323-615-027	11	37	303496	323-546-006	11					
202576	323-615-201	11	22	303497	323-900-067	13					
204520	323-615-233	11	40	303509	323-636-021	9	35				
205097	323-615-026	9	17	303521	323-508-021	9	2				
300135A	323-620-031	13	15	303522	323-728-015	9	3				
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303179	323-640-032	9	11								
303181	323-505-018	11	3								
303182	323-720-002	9	16								
303185	323-780-015	9	19								
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303191	323-546-005	9	26								
303192	323-540-038	9	28								
303193	323-676-056	9	32								
303195	323-550-005	9	34								
303202	323-676-058	9	38								
303203	323-530-037	11	4								
303204	323-760-001	9	39								
303204	323-760-001	11	41								
303205	323-540-039	11	5								