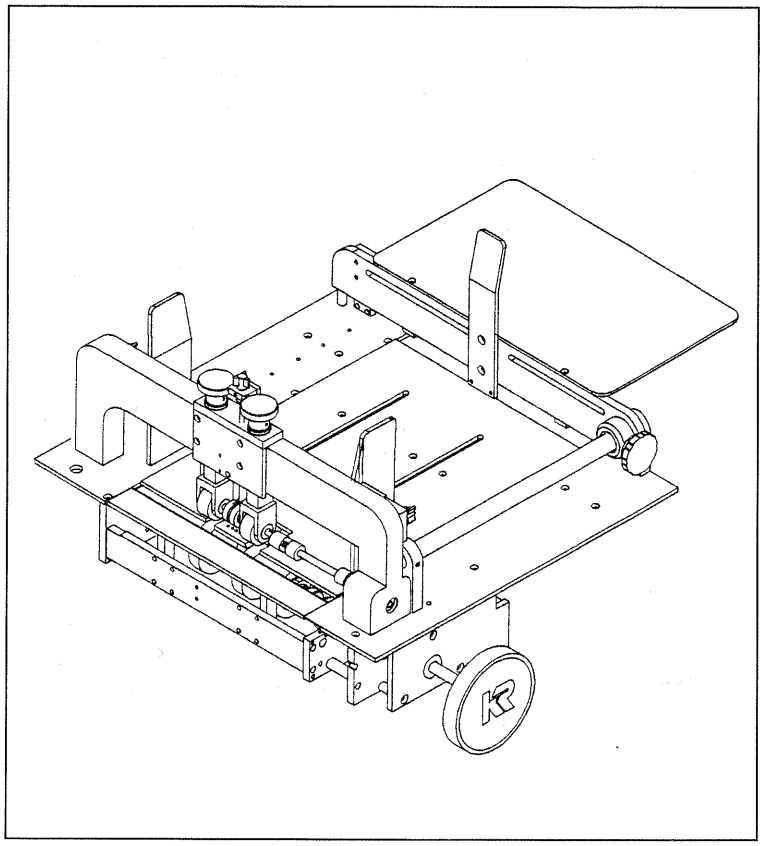
Kirk-Rudy, Inc.

Instruction and Parts Manual KR324M Feeder for Press

Manual



Manufactured by Kirk-Rudy, Inc.

Before using this machine, all operators must study this manual to understand and follow the safety warnings and instructions. Keep these instructions with the machine for future reference. If you have any questions, contact your local Kirk-Rudy, Inc. Distributor.

10000-324M REV. A 9/8/99

1 Important Safety Instructions

Intended Use Statement:

SAVE THESE INSTRUCTIONS. Read all instructions before using this product.

⚠ WARNING

* NEVER OPERATE THE MACHINE WITHOUT ALL GUARDS OR SAFETY DEVICES IN PLACE.

* ALWAYS TURN POWER OFF WHEN MAKING ADJUSTMENTS.

* ALWAYS DISCONNECT THE POWER SUPPLY BEFORE ANY MAINTENANCE OR SERVICE WORK.

* NEVER START THE MACHINE WITHOUT FIRST CHECKING ALL PERSONNEL ARE CLEAR OF MOVING PARTS.

* KEEP FINGERS CLEAR OF ALL MOVING PARTS.

* NEVER REMOVE THE PRODUCT FROM THE MACHINE WHILE MACHINE IS RUNNING.

* SHOULD MISFED PRODUCT JAM THE MACHINE AND STOP IT FROM RUNNING, ALWAYS PRESS THE STOP BUTTON BEFORE CLEARING PRODUCT. IF THE STOP BUTTON IS NOT PRESSED AND THE JAM IS CLEARED, THE MACHINE WILL BEGIN RUNNING.

* IT IS NOT RECOMMENDED THAT LOOSE CLOTHING, JEWELRY AND LONG HAIR BE WORN WHILE OPERATING THIS MACHINERY.

* ALWAYS USE AN EXPERIENCED ELECTRICIAN WHEN TROUBLE-SHOOTING ELECTRICAL PROBLEMS.

* CHANGES OR MODIFICATIONS TO THIS UNIT NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

1. **SPECIFICATIONS**

Product Size Range:

Minimum: 3" wide x 5" long.
Maximum 14" wide x 14" long.
Minimum thickness: card stock (.007")
Maximum thickness: 3/8"

2. **VACUUM REQUIREMENTS:** ½ H.P., 25" Hg. maximum.

3. **HOPPER SET-UP**

A. **Vacuum Plates:** Three vacuum plates are furnished with your machine

1. Deep concave: Used for light-weight material; material that will conform to the depression when vacuum is applied.
2. Shallow concave - for medium weight material: e.g., self mailers, light newspapers, folded sheets pamphlets, etc. - material that will conform to the depression when vacuum is applied.
3. Flat - for heavy material such as catalogs, booklets, magazines, etc.

A fourth plate is available as an option. The plate has a convex surface and is preferred when feeding product open edge first.

Select the proper vacuum plate using the above information as a guide. Humidity and or static in some mailing piece stocks may require interchanging the vacuum feed plates to achieve optimum feed operation. For greater vacuum control, a 10-32 tap can be run partially into each hole of the vacuum plate. 10-32 set screws can then be used as needed for controlling the vacuum. The vacuum plate is mounted to the feed shuttle by two allen cap screws. Before mounting, clean all foreign material from bottom of vacuum plate and shuttle mounting block. A light coating of grease on the bottom periphery of the vacuum plate is helpful to ensure a good seal.

B. **Side Guides:** Loosen thumb screws and move feeder side guides to allow approximately 1/16" clearance between the face of the guides and the mailing piece.

NOTE: The product is normally centered with the gate and upper feed rollers; however, it can be offset, as needed.

C. **Jogger Table:** Insert a few mailing pieces between the side guides (front edge flush with the gate) and move the jogger table forward until the vertical back plate is approximately 1/16" behind the rear edge of the mailing pieces. The jogger table is easily moved along its mounting shaft by pushing on the jogger table locking knob assembly.

D. **Pusher Blocks:** Two pusher block assemblies are provided to assist in feeding heavy material when vacuum alone will not suffice. To adjust, rotate machine by hand until feed table has reached its back position. Loosen the front screws and slide pusher block assemblies until pusher 'lip' is ¼" from rear of mailing piece. By turning the rear pusher block allen screws counterclockwise, the front edge of the spring-loaded pusher 'lip' can be raised - adjust height of lip to approximately one-half the thickness of an individual mailing piece.

E. **Lifter Fingers:** Two lifter finger assemblies are provided to assist in feeding wide, limp material: e.g., tabloids, newspaper stock, etc.) more effectively. The lifter fingers give this type material more rigidity at the gate separation area. They are made from ¼" round steel, and can be found mounted on either side of the back guide. To adjust, loosen retaining nuts, thereby permitting movement of the fingers laterally in their respective slots on the jogger plate, and up and down in the hex head bolt assemblies. Position each finger approximately 1/4 to 1/3" in from the edge of the mailing piece and raise to within 1/2 to 1" from feed table.

NOTE: Lifter fingers should always be at least 1/8" above shuttle table.

F. **Gate:** Loosen the round knob that holds the gate adjusting knob secure. To raise the gate turn the knob counterclockwise; clockwise lowers the gate. The gate is adjusted properly when only one piece can fit between the gate and vacuum plate.

1. Remove product from hopper.
2. Turn on vacuum pump for the feeder.
3. Jog machine so that shuttle table is in its most rear position.
4. Advance machine a slight amount until vacuum starts.
5. Place two products in the hopper and advance machine until leading edge passes the gate plane. Lower the gate until the gate tip reaches the product.
6. Slide the top piece back and lower the gate a slight amount. Only one piece should fit between gate and vacuum plate.
7. Tighten the gate-securing knob.

G. **Feeder Pinch Rollers:** Only the top rollers will need to be adjusted. Use an allen wrench to loosen the securing rings around each upper feed roller adjusting knob. Turning the knob clockwise lowers the feed roller; counter clockwise raises the roller. It is important the feed rollers apply the same amount of pressure otherwise the product will skew as it leaves the hopper. The bottom rollers are set at the

(G. Feeder Pinch Rollers, continued)

factory. Should the bottom rollers need to be adjusted or replaced, take the following steps.

1. Remove feeder from machine.
   a. Remove drive chain.
   b. Remove the four bolts securing feeder frame plates to cross channels.
   c. Lift feeder off of cross bars.
2. Adjust lower feed roller height. The lower feed roller assembly rotate up and down approximately 1/16". A cam located on the crankshaft provides this motion. When the lower feed rollers are set properly, they will rise above the shuttle table approximately 1/32" at the high point of the cycle. At the low point of the cycle, they have to be underneath the shuttle table.
   a. Loosen spring-loaded arm on right side of feeder frame plate.
   b. Rotate the feeder ccw such that the cam on the crankshaft lifts the cam follower to its high point.
   c. Lift lower feed roller assembly such that the top of the feed rollers are approximately 1/32" above the shuttle table. At the same time, rotate arm slightly downward (15°) against the spring and tighten the clamp.
3. Mount feeder onto machine.
4. Turn on vacuum pump for the feeder.
5. Jog machine such that feeder shuttle table is in its most forward position, and the vacuum valve assembly cuts the section to the feeder plate.
6. Loosen the set screws which secure the lower feed roller cam to the to crankshaft.
7. Rotate cam ccw such that the lower feed roller assembly rotates up to its high point.
8. Secure cam to crankshaft.

H. <u>Vacuum Body Timing Adjustment:</u> The vacuum plate has vacuum for ½ of a feed cycle. Vacuum starts when the shuttle table is in its rear position and then turns off when it is in its forward position. Control is accomplished by a push rod and spring valve assembly. These are set at the factory and adjustment is not necessary, except for maintenance.

To time the push rod,

1. Remove the product from hopper and rotate the feeder until the shuttle table is in its most rear position.

(H. Vacuum Body Timing Adjustment, continued:)

2. Locate the push rod underneath the shuttle table and loosen both collars.
3. Slide the push rod forward into the vacuum manifold until vacuum is present at the vacuum manifold plate.
4. Holding the push rod in place, slide the front collar back against the cross brace and tighten.
5. Advance the shuttle table to its most forward position.
6. Slide the push rod back until vacuum is no longer at the vacuum manifold plate.
7. Slide the rear collar up against the cross brace and tighten.

I. Vacuum Pump Regulator Adjuster: Different types of product require varying amounts of suction at the vacuum plate in order to feed properly. For example, a very thin, porous stock requires less vacuum than a heavy card stock. Too much vacuum at the vacuum plate will result in double feeds. A suction of 20-25" Hg. is a typical starting point. To determine the present setting, remove the plastic hose that connects the pump and the vacuum body. Cover the inlet with your finger. The gauge on the pump will display the amount of vacuum the pump is producing.

To vary the amount of vacuum,

1. Locate the vacuum inlet manifold. A gauge located on top of this manifold indicates the suction created by the pump in inches of mercury. A spring-loaded valve on the bottom of this manifold functions as a regulator.
2. To increase the suction, loosen the locknut and turn the nuts to decrease spring pressure.
3. To decrease the suction, loosen the locknut and turn the nuts to increase spring pressure.

I. Timing the Feeder into the Press: Locate the crank shaft sprocket. This sprocket is clamped onto the crankshaft. Loosening the clamp disengages the feeder from the press and allows for changing the relationship between the two. The feeder is timed properly when product reaches the product stop pins on the press, just prior to pickup by the gripper lugs.

4. **MAINTENANCE:**

A. Shuttle Feeder Vacuum System: Dust will collect underneath the grit plate and must be removed for proper feeding.

(4. MAINTENANCE, continued)

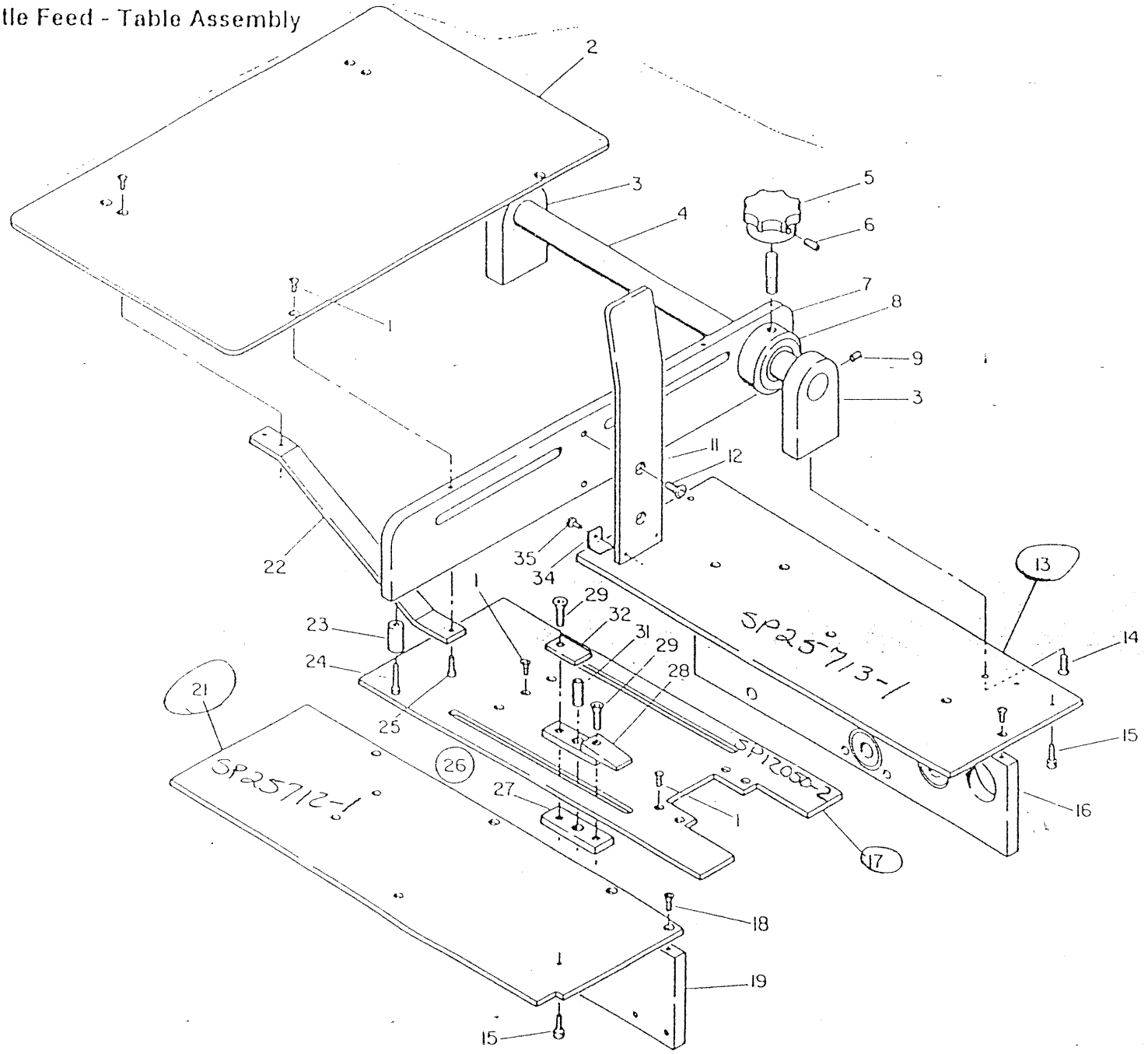
(A. <u>Shuttle Feeder Vacuum System:</u>)

1. Remove grit plate on shuttle feeder.
2. Remove the two panhead screws which secure the spring steel valve.
3. Clean and re-assemble.

B. Periodically, lubricate drive chains and check for proper tension.

C. Periodically, lubricate lower feed roller cam.

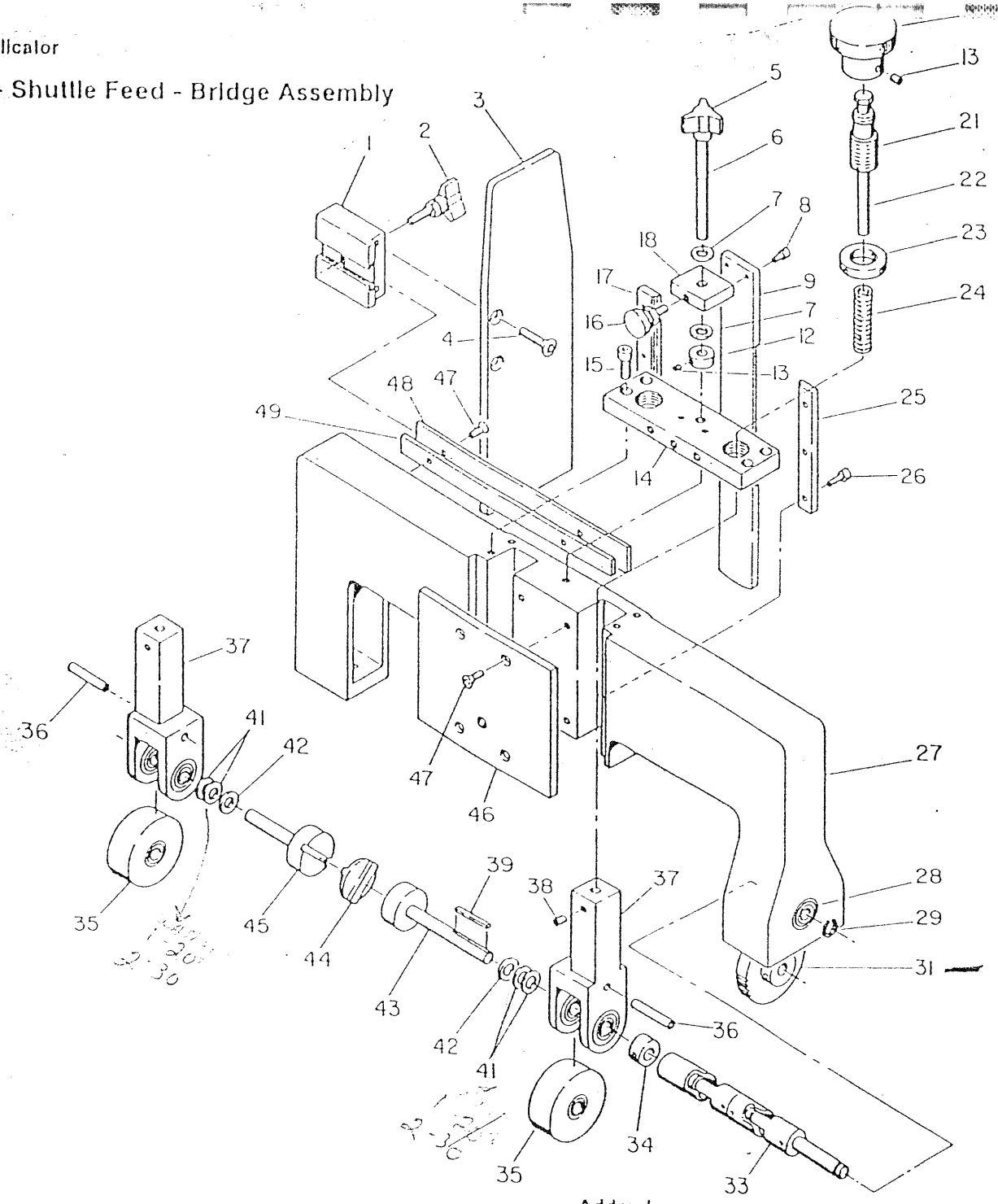
GROUP 59 — Shuttle Feed - Table Assembly



GROUP 59 — Shuttle Feed - Table Assembly

KEY	PART NUMBER	DESCRIPTION	QTY NT
1	KR-107500	SCREW, FT. HD	13
2	KR-500845	TABLE, JOGGER	1
3	KR-500832	BKT., REAR GUIDE	2
4	KR-503799-1	SHAFT, REAR BRIDGE	1
5	KR-500767	KNOB ASSY	1
6	KR-107629	SCREW, SET	1
7	KR-503712	BRIDGE, REAR GUIDE	1
8	KR-500770	HUB	1
	KR-100109	BUSHING	1
	KR-107627	SET SCREW	1
9	KR-107635	SET SCREW	1
11	KR-500715	PLATE, REAR GUIDE CENTER	1
12	KR-107504	SCREW, FT. HD.	2
13	KR-SP-25713-1	TABLE, L.H.	1
14	KR-107428	SCREW, SOC HD	2
15	KR-106815	SCREW, CAP	3
16	KR-SP-25702	PLATE, BASE SUPPORT L.	1
17	KR-503753 SP12050-2	PLATE, FEEDER	1
18	KR-107502	SCREW, FT HD	
19	KR-SP-25701-1	PLATE, BASE SUPPORT R.	1
21	KR-SP-25712-1	TABLE, R.H.	1
22	KR-500847	BRACKET, JOGGER TABLE	2
23	KR-500765	SPACER, REAR BRIDGE	1
24	KR-107408	SCREW, SOC HD	1
25	KR-107409	SCREW, SOC HD	2
26	KR-500760-A	PUSHER ASSY INCL 27-32	2
27	KR-500762	PLATE, FEEDER PUSHER	1
28	KR-500760	LIFTER, FEEDER PUSHER	2
29	KR-107517	SCREW, FLAT HD	4
31	KR-102700	SPRING, COIL	2
32	KR-500775	PLATE, FEEDER PUSHER	2
34	KR-500771	CLIP, REAR GUIDE	2
35	KR-107710	SCREW, RD HD	2

GROUP 60 — Shuttle Feed - Bridge Assembly



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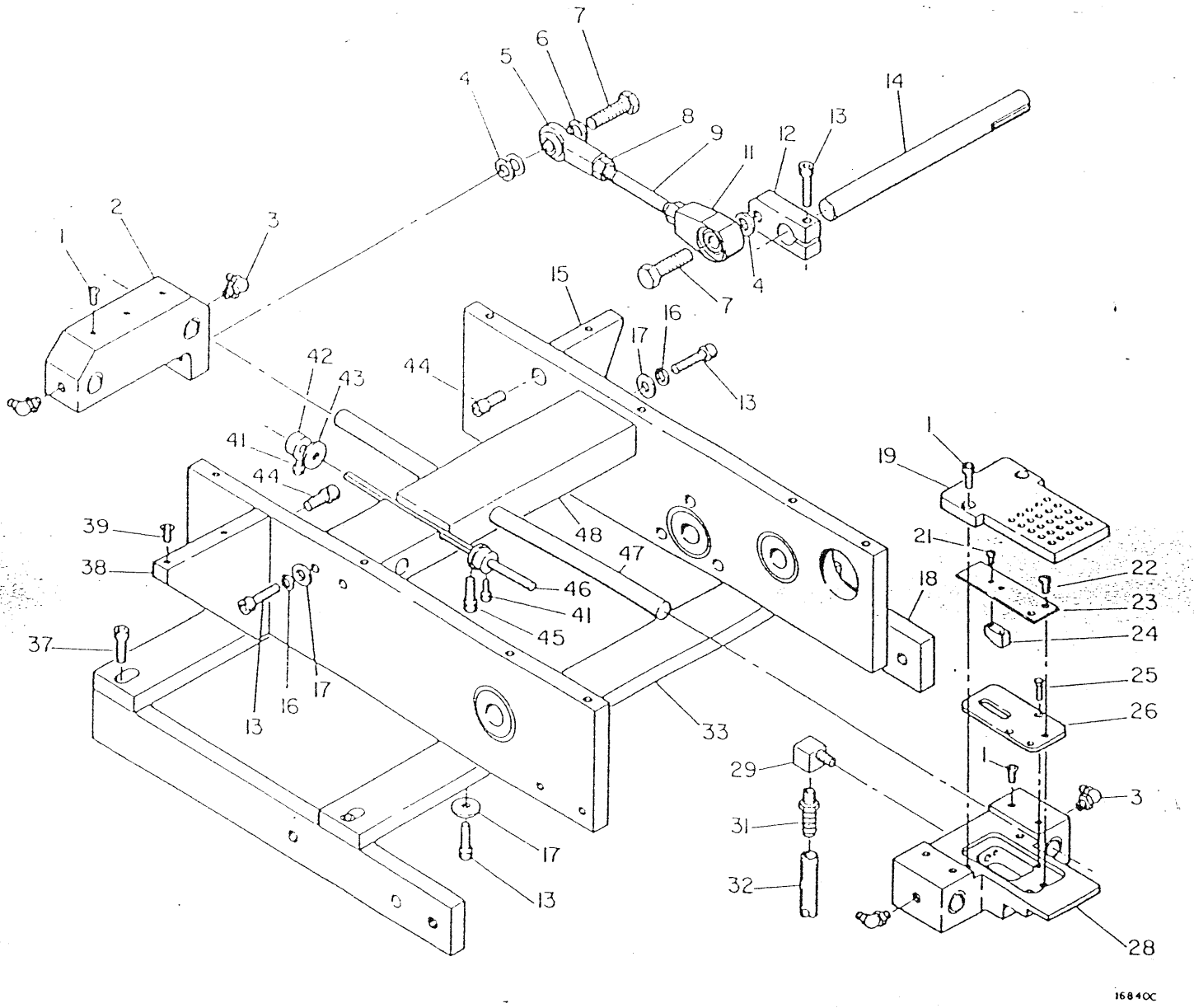
GROUP 60 — Shuttle Feed - Bridge Assembly

KEY	PART NUMBER	DESCRIPTION	QTY NT
1	KR-500755	CLAMP, SIDE GUIDE	2
2	KR-500790	KNOB ASSY	2
3	KR-500788	PLATE, SIDE GUIDE	2
4	KR-107504	SCREW, FLAT HD	4
5	KR-102119	KNOB	1
	KR-106700	NUT, HEX	1
6	KR-500810	SHAFT, ADJ. TOP ROLLER	1
7	KR-100409	WASHER	2
8	KR-107413	SCREW, CAP	2
9	KR-500730	PLATE, GATE FEEDER	1
	KR-500730-1	PLATE, GATE FEEDER/OPTION (RUBBER TIPPED)	1
	KR-500730-T	RUBBER TIP	1
	KR-107511	SCREW, FT. HD.	1
12	KR-102225	COLLAR	1
13	KR-107622	SCREW, SET	1
14	KR-500808	PLATE, TOP BRIDGE	1
15	KR-107428	SCREW, CAP	4
16	KR-102113	KNOB	1
	KR-106736	NUT, HEX	1
	KR-107680	SCREW, SET	1
17	KR-500805	PLATE, BRIDGE	2
18	KR-500806	PLATE, GATE END	1
19	KR-500812	KNOB	2
21	KR-500809	SLEEVE, TOP ROLLER	2
22	KR-104400	BOLT, HEX	2
23	KR-500807	NUT, LOCK BRIDGE	2
24	KR-102701	SPRING, COIL	2
25	KR-500805	PLATE, BRIDGE	2
26	KR-107409	SCREW, CAP	6
27	KR-503604	BRIDGE, FEEDER	1

KEY	PART NUMBER	DESCRIPTION	QTY NT
28	KR-103106	BEARING	1
29	KR-104100	RING, SNAP	1
31	KR-503788	GEAR	1
	KR-107624	SCREW, SET	2
33	KR-500726-A311	UNIVERSAL ASSY	1
34	KR-102200	COLLAR	1
	KR-107622	SCREW, SET	1
35	KR-500745-A	UPPER FEED ROLL ASSY.	2
36	KR-105457	PIN, DOWEL	2
37	KR-503777	FORK ASSY.	2
	KR-103106	BEARING	4
38	KR-107633	SCREW, SET	2
39	KR-105351	KEYWAY	1
41	KR-102306	WASHER	4
42	KR-102690	WASHER	2
43	KR-503655	SHAFT, TOP ROLLER DRIVE	1
	KR-105218	PIN, ROLL	1
44	KR-190600	SPIDER	1
45	KR-500744	SHAFT, TOP ROLLER	1
46	KR-500795	PLATE, BRIDGE	1
47	KR-107500	SCREW, FT. HD.	8

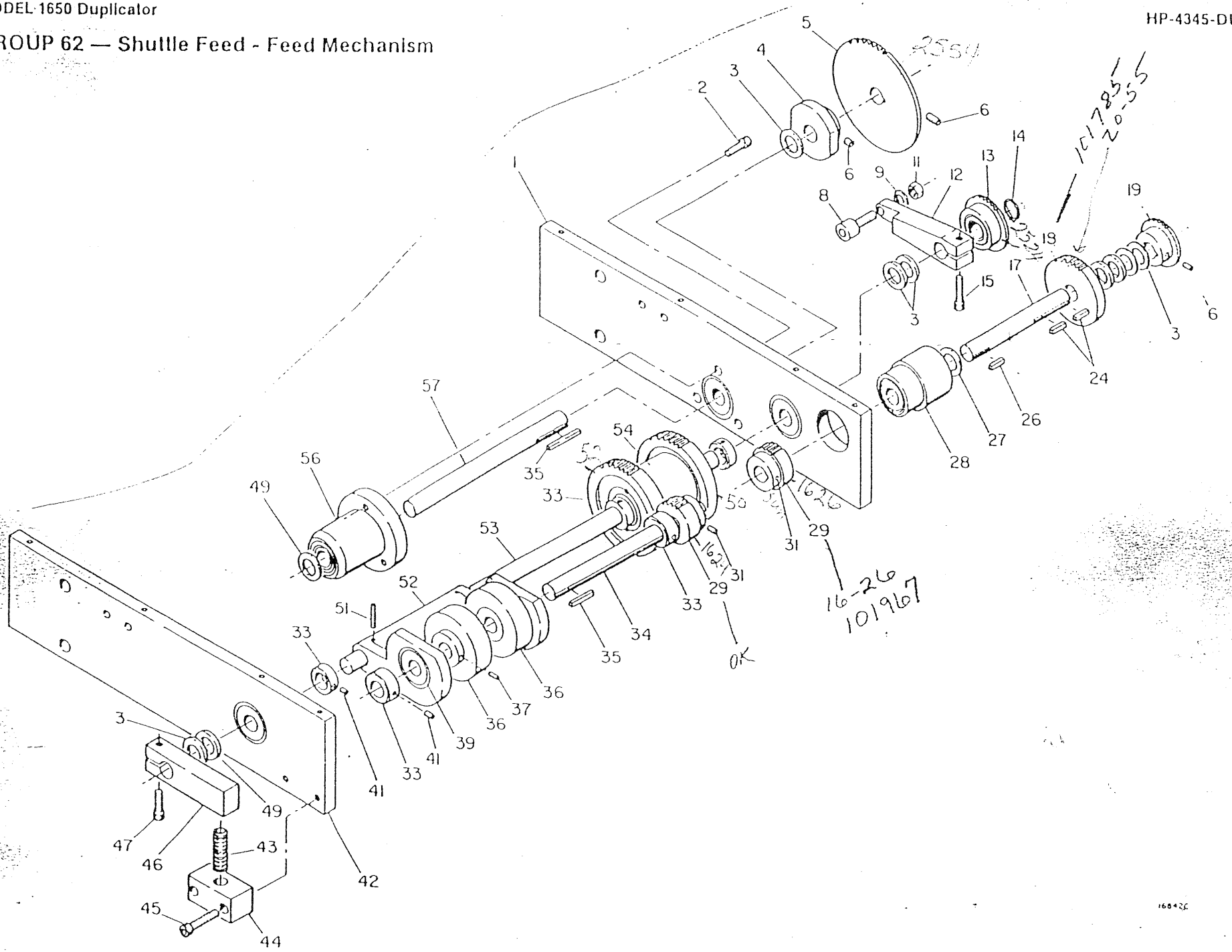
GROUP 61 — Shuttle Feed - Feed Assembly



GROUP 61 — Shuttle Feed - Feed Assembly

KEY	PART NUMBER	DESCRIPTION	QTY NT
1	KR-107500	SCREW, FT. HD	7
2	KR-503701	BRACKET, FEEDER	1
	KR-190639	BUSHING	4
3	KR-190616	FITTING, GREASE	4
4	KR-102308	WASHER	2
5	KR-103500	ROD END	1
6	KR-100700	WASHER, LOCK	1
7	KR-107307	SCREW, HEX	2
8	KR-106700	NUT	2
9	KR-503671	ROD	1
11	KR-500751	YOKE, FEEDER CRANK	1
	KR-103106	BEARING	2
12	KR-500750	CRANK, FEEDER SLIDE	1
13	KR-107407	SCREW, CAP	
14	KR-SP-25709	SHAFT, CRANK	1
15	KR-503670	BKT., TOP PLATE SUPPORT	1
16	KR-100701	WASHER, LOCK	4
17	KR-100603	WASHER	6
18	KR-SP-25703	BAR, FRAME	2
19	KR-503751	PLATE, VACUUM FEED	1
	KR-503751-1	PLATE, FLAT	1
	KR-503751-2	PLATE, SHALLOW	1
	KR-503751-3	PLATE, DEEP	1
	KR-503751-4	PLATE, CONVEX (OPTION)	1
21	KR-107708	SCREW, RD. HD.	2
22	KR-107705	SCREW, RD. HD.	2
23	KR-500738	SPRING, VALVE	1
24	KR-500739	BLOCK, PUSHER	1
25	KR-107514	SCREW, FT. HD.	2
26	KR-500740	PLATE, VACUUM	1
28	KR-503750	BODY, VACUUM VALVE	1
	KR-190639	BUSHING	4
29	KR-190606	PIPE CONN., BRASS	1
31	KR-190604	NIPPLE, CONN.	1
32	KR-13-0-196140	HOSE	1
33	KR-SP-25704	BAR, SUPPORT	2
37	KR-107401	SCREW	2
38	KR-503669	BKT., TOP SUPPORT PLATE	1
39	KR-107502	SCREW, FT	
41	KR-107429	SCREW, CAP	2
42	KR-102225	COLLAR, STOP	2
43	KR-500737	WASHER, BUMPER	2
44	KR-107419	SCREW, CAP	4
45	KR-107428	SCREW, CAP	2
46	KR-500735	ROD, PUSH	1
47	KR-503624	SHAFT, FEEDER	2
48	KR-503752	BRACKET, FEEDER SUPPORT	1
999	13-3-196758	VALVE ASSY., REG.	1
	13-2-196528	PUMP ASSY.	1

GROUP 62 — Shuttle Feed - Feed Mechanism



GROUP 62 — Shuttle Feed - Feed Mechanism

KEY	PART NUMBER	DESCRIPTION	QTY	NT
1	KR-SP-25702	PLATE, BASE SUPPORT L.	1	
2	KR-107407	SCREW, CAP	3	
3	KR-102657	WASHER	8	
4	KR-503625-1	CAM	1	
5	KR-110140	SPROCKET	1	
6	KR-107637	SCREW, SET	2	
8	KR-103405	FOLLOWER, CAM	1	
9	KR-100700	WASHER, LOCK	1	
11	KR-106700	NUT, HEX	1	
12	KR-503621-1	LEVER, CAM	1	
13	KR-110157	SPROCKET	1	
14	KR-104106	E RING	1	
15	KR-107407	SCREW, CAP	3	
17	KR-SP-25707	SHAFT, GEAR	1	
18	KR-503532 10/1795	GEAR	1	
19	KR-110100	SPROCKET	1	
24	KR-105327	KEYWAY, .63	2	
26	KR-105338	KEYWAY, .75	1	
27	KR-102320	WASHER	1	
28	KR-503531	HUB, GEAR BRG.	1	
	KR-103110	BRG.	2	
29	KR-101957	GEAR	2	
31	KR-107633	SCREW, SET	2	
33	KR-102201	COLLAR	3	
34	KR-500748	SHAFT, FEED ROLL	1	
35	KR-105315	KEYWAY, 1.00	2	
36	KR-503656	ROLLER, LOWER FEED	2	
37	KR-107623	SCREW, SET	2	
39	KR-103110	BEARING	2	
41	KR-107623	SCREW, SET	2	
42	KR-SP-25701-1	PLATE, BASE SUPPORT R.	1	
43	KR-102701	SPRING, COIL	1	
44	KR-500785	BLOCK, SPRING	1	
45	KR-107404	SCREW, CAP	2	
46	KR-SP-25711	LEVER, SPRING	1	
47	KR-107407	SCREW, CAP		
49	KR-102320	WASHER	2	
51	KR-105201	PIN, ROLL	2	
52	KR-500729	CRADLE, FEEDER	1	
53	KR-SP25708	SHAFT, SPRING LEVER	1	
54	KR-503622-A	HUB ASSY.	1	
56	KR-503729	HUB, BRG.	1	
	KR-103110	BRG	2	
57	KR-SP25709	SHAFT	1	

9 NOTES

10 WARRANTY AND SERVICE

WARRANTY

Warranty: Kirk-Rudy, Inc., warrants to the original retail purchaser that this product is free from defects in the material and workmanship, and agrees to repair or replace, at Kirk-Rudy's option, any defective product within (90) days from the date of purchase. This warranty is not transferable. It covers damage resulting from defects in material or workmanship, and it does not cover conditions or malfunctions resulting from normal wear, neglect, abuse or accident.
THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESSED WARRANTIES ANY IMPLIED WARRANTY OF MERCHANTABLITIY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE.

Limitation of Remedies: If product is proven to be defective within the warranty period stated above, THE EXCLUSIVE REMEDY, AT KIRK-RUDY'S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE PRODUCT, provided that the defective product is, at Kirk-Rudy's choice, returned immediately to Kirk-Rudy or authorized service representative designated by Kirk-Rudy, or made available at user's premises in a location suitable for servicing.

Limitation of Liability: Kirk-Rudy shall not otherwise be liable for any losses or damages, whether direct, indirect, special, incidental, or consequential, regardless of the legal or equitable theory asserted, including contract, negligence, warranty, or strict liability.

To obtain replacement parts and service, contact an Authorized Kirk-Rudy Dealer. Use Kirk-Rudy part numbers when ordering.

USE ONLY GENUINE KIRK-RUDY REPLACEMENT PARTS

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