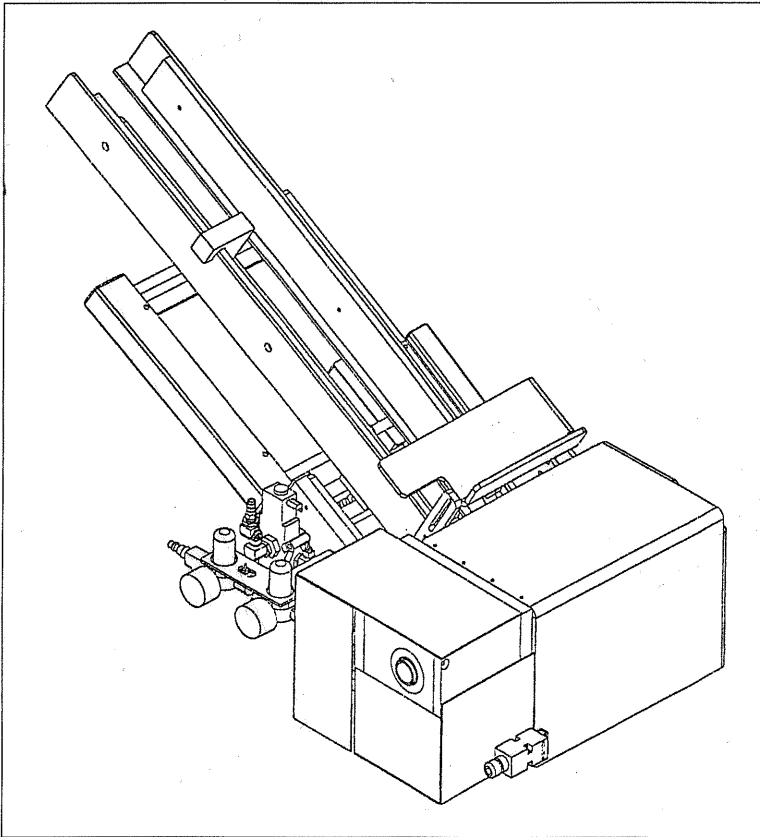


Kirk-Rudy, Inc.

Instruction and Parts Manual 203P Pick-n-Place



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.

10000-203P REV. 2 08/12/99

Manual

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NOTE: FIGURES AND DIAGRAMS ARE NOT INCLUDED IN PAGE NUMBERS.

1 Important Safety Instructions

Intended Use Statement: The Kirk-Rudy, Inc. 203P Pick-n-Place machine is designed to feed pieces that are normally difficult to gate through a typical shuttle or friction feeder. It can handle irregular shaped pieces such as sachets for cosmetic or medical samples. This machine can also handle product that varies in thickness in the hopper. It can be built to feed inline or 90 degrees to material flow. It can be shaft driven with standard Kirk-Rudy Inc. Head Drive Systems or Free Standing with its own motor drive and engaged with a single revolution clutch powered on demand from an external signal. The 203P is available in right and left hand models.

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.

2 SPECIFICATIONS

<u>PRODUCT SIZE RANGE</u>	<u>English</u>	<u>Metric</u>
Minimum Size:	2.75" W x 1" L	70mm W x 25mm L
Maximum Size:	7.75" W x 5" L	197mm W x 127mm L
Minimum Thickness:	Card Stock (.007")	Card Stock (.18mm)
Maximum Thickness:	1/4"	6.4mm

*Note: Minimum Width w/ filler plates 1.5".

PHYSICAL SIZE

Length:	38"	97cm
Width:	19.5"	50cm
Height:	22"	56cm
Weight:	70lb.	31.8 kg
Shipping:	90lb.	40.8 kg

SPEED

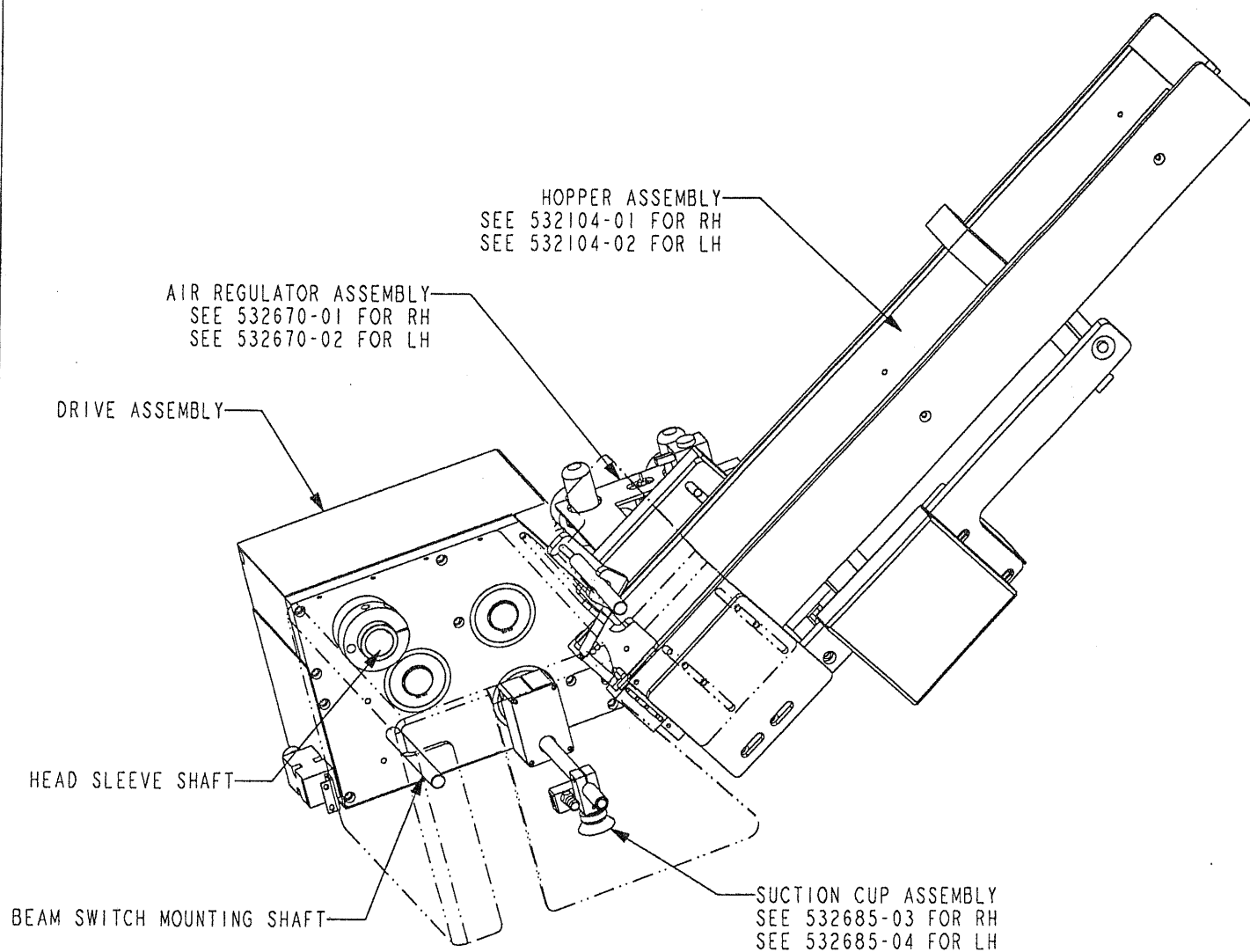
Maximum: 6000-8000/hr.

Varies on product size.

Some material can be fed 2 wide (side by side) in dual hopper.

ELECTRICAL

Base Main Power Input:	220 VAC
Vacuum:	20-25 in. Hg.
Minimum Air Pressure:	80 lb.



KR203P MAJOR COMPONENTS
FIGURE 1.0

R/H SHOWN, L/H OPPOSITE
NOTE: GUARDS PHANTOMED FOR CLARITY

3 INSTALLATION



WARNING

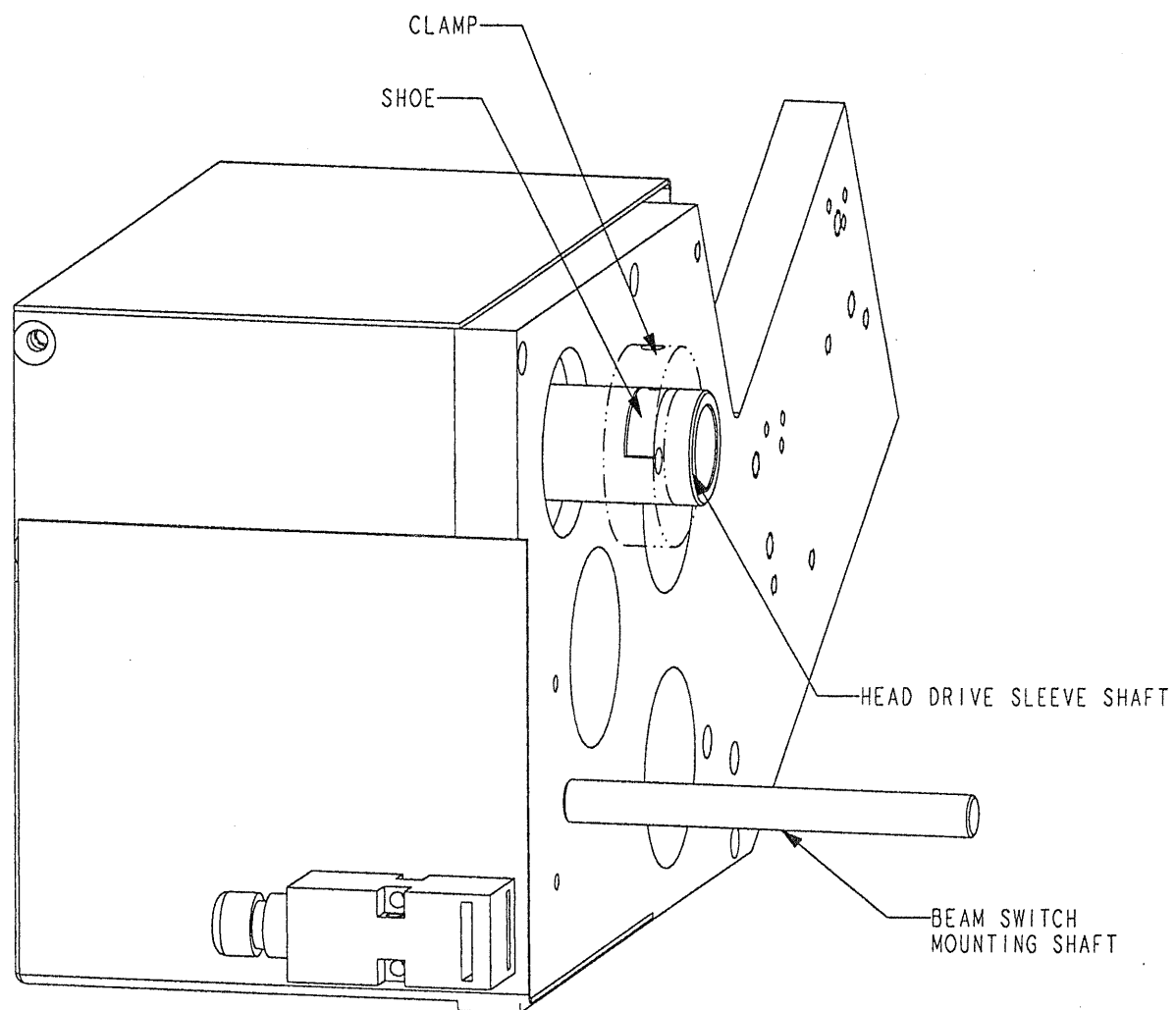
Read and follow all Safety Instructions in Section 1, Page 5 before proceeding

3.1 UNCRATING

Remove your Kirk Rudy 203P and all packaging from crate. Inspect for damage. The accessories and spare parts are boxed and located inside the crate. The box should be opened and checked against the packing list. Please check the enclosed checklist to insure all items have been received.

3.2 INSTALLING 203P TO BASE

1. Locate head drive clamp on standard Kirk Rudy head drive shaft (located opposite of operator side). Loosen clamp with 3/16" allen wrench.
2. Remove 7/16" x 14 flange bolts from bearing on operator's side of base.
3. Remove head shaft.
4. Lightly oil head drive shaft to resist contaminates. Insert shaft through 203P.
5. Tighten 3/16" allen screw in 203P clamp to secure shaft in 203P.
6. Insert shaft (w/ 203P) into operator side head bracket and then into opposite side head bracket.
7. Tighten 7/16" x 14 flange bolts in bearing.
8. Tighten both 3/16" allen screws in head drive clamp.
9. Attach electrical wires:
 - a) One 3 prong twist plug
 - b) One 2 prong twist plug
 - c) One beam switch
 - d) One stop circuit



INSTALLATION
FIGURE 2.0

4 OPERATING INSTRUCTIONS

Except for the material hopper, all adjustments are preset at the factory.



WARNING

Read and follow all Safety Instructions in Section 1, Page 5 before proceeding.

4.1 HOPPER ADJUSTMENT

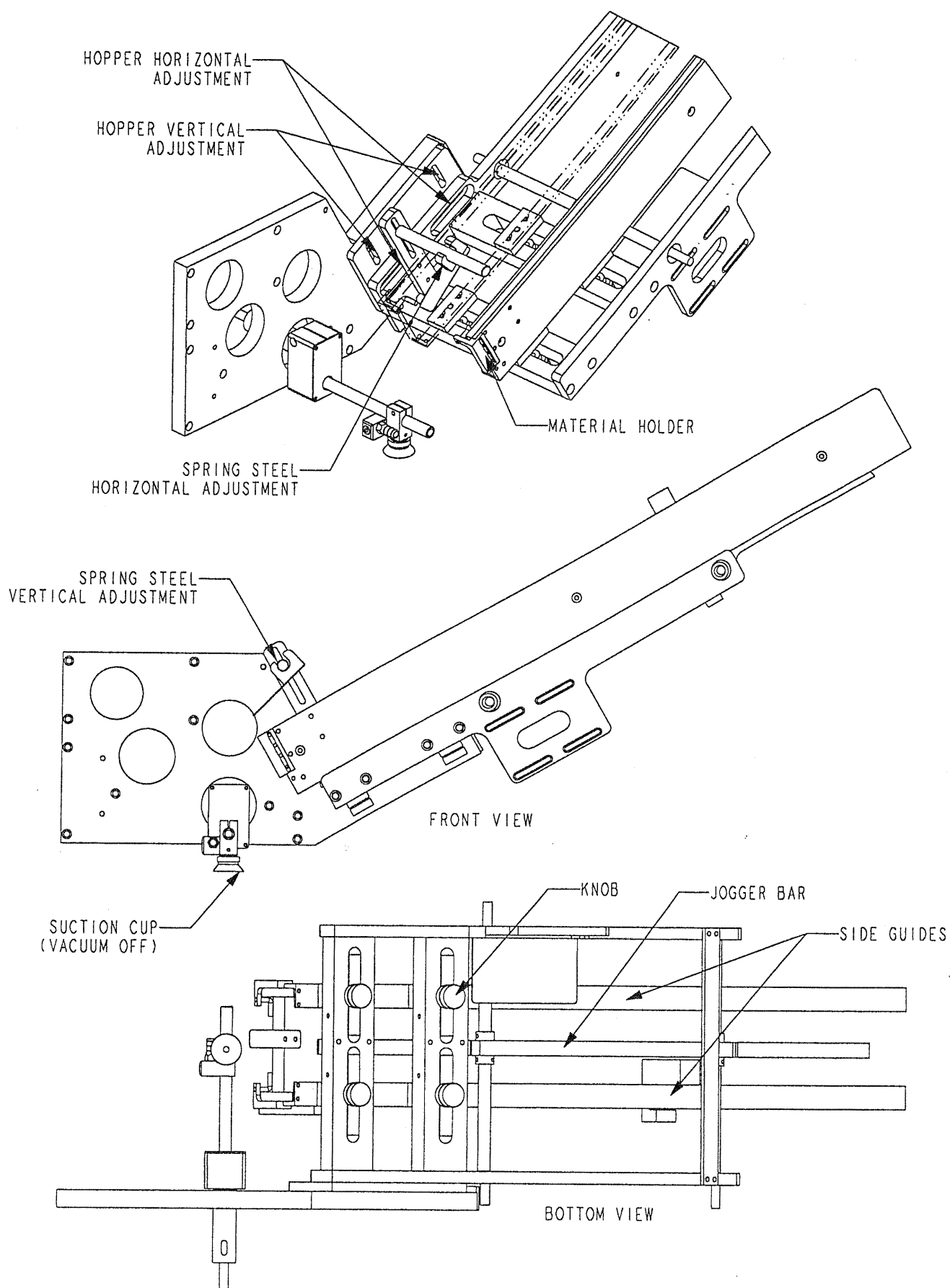
To adjust the hopper to handle your material, spread the hopper side guides SP18702 & SP18702-1 apart, lay the material in the bottom of the hopper and center it using the Jogger bar SP47905 as a guide. Bring the two sideguides to within 1/16" of material width allowing .030 on each side. Sideguides can be slightly wider on the upper end to allow for easier loading. On the lower end and at the bottom of each sideguide, there is an 8-32 screw used to hold back the stack of material. The proper setting will vary depending on the type of material. For plastic cards adjust the screw about 1/16" above the bottom of the side guide. For softer pieces like sachets it may be necessary to adjust this screw as much as 1/2" above the bottom of the hopper. To support and hold back the upper portion of the material, locate bracket 530447-02 RH and 530447-01 LH. These brackets should be adjusted up or down. To set rod 532139-01, the top of the material should split the middle of these rods. See Figure 4.0. Adjust the height of the hopper by loosening the two 5/16" x 18 hex bolts on bracket SP47902 and moving the hopper up or down to position the suction cup 1/16" from the bottom of the material. Before tightening bolts make sure the hopper bracket SP47902 fits squarely against plate SP26590. This will insure proper alignment of suction cup to material.

On the bracket SP47902 there are two 5/16" x 18 allen head screws which when loosened allows the hopper to slide toward or away from the suction cup. With vacuum off and the suction cup fully extended toward hopper, slide the hopper assembly toward or away from the suction cup as necessary. For most pieces set the hopper so that the material comes in contact with the suction cup.

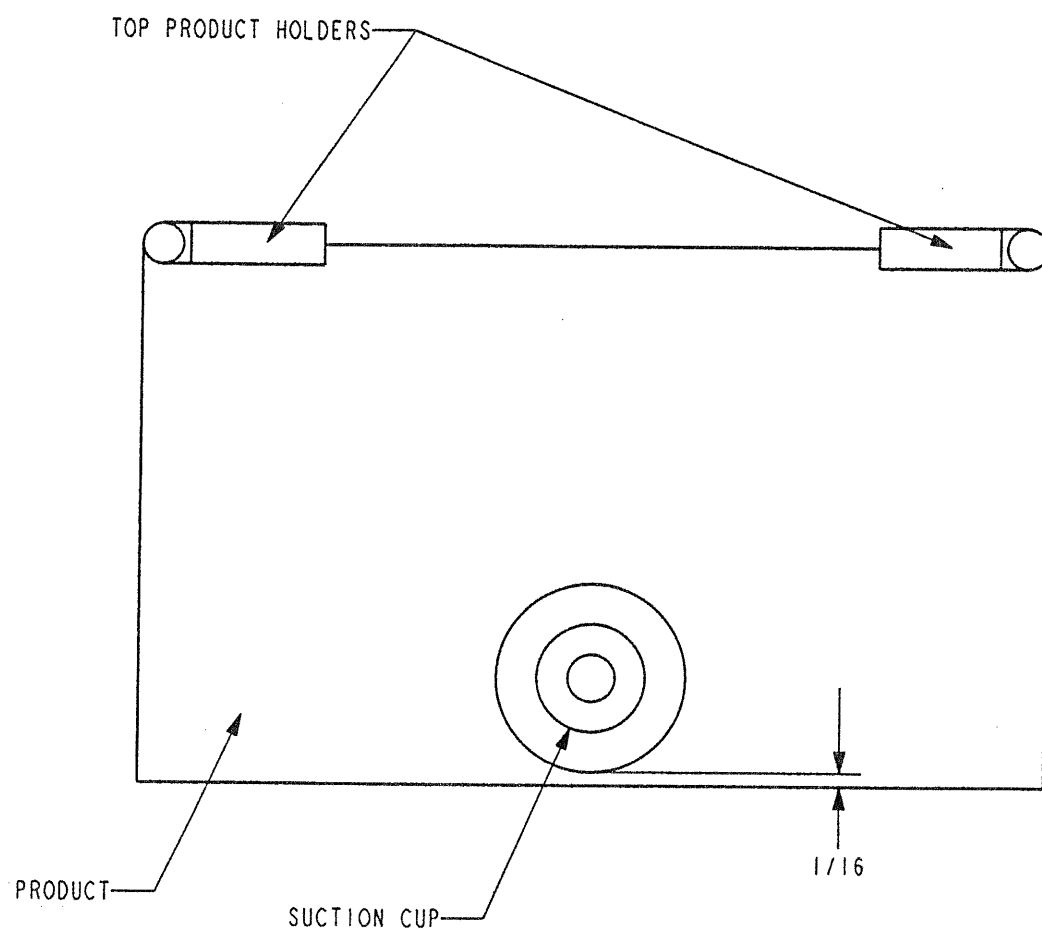
Spring Steel assembly 531556-01 should be set approximately .030 from the top of the material. Do not rest spring steel on top of material. The jogger is not used on all types of materials. For plastic cards and other pieces that will slide down the hopper unassisted do not use jogger. It may be necessary to use it with sachets and other lightweight materials.

4.2 VACUUM ADJUSTMENTS

Vacuum is preset at the factory. The head drive is to be turned clockwise as viewed from the hopper side. Vacuum will shut off as the pulley box 532987-02 is in the vertical position and the suction cup is parallel to the tabletop. A service technician should only make these adjustments.



HOPPER ADJUSTMENT
FIGURE 3.0



SUCTION CUP LOCATION
FIGURE 4.0

5 MAINTENANCE



WARNING

Read and follow all Safety Instructions in Section 1, Page 5 before proceeding.

5.1 LUBRICATION

Periodic greasing is required for gears inside 203P. Before sliding 203P along head drive shaft, lightly oil shaft to insure proper maintenance.

Lubrication should be checked weekly.

1. Check gearbox, pendulum gear and 1648 gears on the head weekly for proper lubrication. Use JT-6 Multi-Purpose Grease.

2. Keep vacuum airway clear.

3. Before repositioning head or removing from head shaft, clean head shaft and inspect shaft for any blemishes. Lubricate the shaft before moving head along the shaft. Failure to do this can cause the shaft to seize inside the sleeve.

Caution: Do not operate the base if the sleeve clamp on the head is not tightened down.

4. Mac air valve requires air pressure min. 30 psi and not to exceed 150 psi. Recommended pressure of 40psi.

5. Check sprocket chain for proper lubrication. Lightly lubricate chain with grease.

6. Suction Cup Replacement

Single Blue suction cup replacement is a VC57-A Suction Cup

Triple Black Bellow cup replacement is a 95McCain KR# 190699

Triple Blue Bellow cup is replacement VCB3 KR# 190699-1

6 PARTS LISTS AND DIAGRAMS

6.1 DIAGRAMS

Drawing #	Description
KR203PRH	203P R/H Pick-n-Place
532104-01	EG, Assy 203P Hopper
532446-01	Assy, Hub Bearing
532447-01	Assy, Hub Bearing
532570-02	Assy, Crank Arm
532570-01	Assy, Crank Arm
532670-01	Assy, Dbl Air Reg Brckt
532685-03	Assy, Vacuum Arm RH
532577-01	Assy, Pulley Box 203P
534007-01	Assy, Crank Adjust
535048-01	Assy, Vac. Valve & Fittings

Drawing #	Description
KR203PLH	203P L/H Pick-n-Place
532104-02	EG, Assy 203P L/H Hopper
532446-01	Assy, Hub Bearing
532447-01	Assy, Hub Bearing
532570-02	Assy, Crank Arm
532570-01	Assy, Crank Arm
532670-02	Assy, Dbl Air Reg Brckt
532685-04	Assy, Vacuum Arm LH
532577-01	Assy, Pulley Box 203P
534007-01	Assy, Crank Adjust
535048-01	Assy, Vac. Valve & Fittings

6.2 PARTS LIST

203P R/H Pick-n-Place

Item	Qty	Part #	Description
1	4	100623	WASHER, FLAT .250
2	4	102131	KNOB
3	1	102528	GEAR, 1648
4	1	102531	GEAR, 1648 .750B .188K
5	8	103106	BEARING, FLAT .375
6	6	103108	BEARING, FLAT .500
7	6	103116	BEARING, FLAT 1.000
8	2	103120	BEARING, FLAT 1.250
9	1	103500	BEARING, ROD END
10	1	104106	SNAPRING, .500
11	2	104108	SNAPRING, 1.250
12	5	104113	SNAPRING, 1.000
13	1	105630	ROD, THD 3/8-24 X 1.75
14	1	108721	PULLEY, 18XL037 .375B .125K
15	2	108785	PULLEY, 16XL037 .375B NK
16	1	109019	BELT, TIMING 60XL037
17	1	109529	CONNECTOR, PIPE
18	1	109533	ELBOW
19	1	109543	BRANCH, T
20	1	109544	NIPPLE, 1/4 NPT AIR GUN
21	4	109545	BUSHING, HEX 1/4 TO 3/8
22	4	109546	PLUG, 1/4 NPT
23	2	109549	PLUG, 1/8 NPT
24	1	109669	VALVE, MAC PID-121BAAA 220V
25	1	109818	PULLEY, 18XL037 .314B NK
26	1	109822	PULLEY, 14XL037 .500B .188K
27	1	109823	PULLEY, 21XL037 .375B NK
28	2	190100	MICROSWITCH, ROLLER
29	2	190605	NIPPLE, VACUUM LINE
30	5	190606	FITTING, 90 DEG 1/4 NPT
31	1	190773	CUP, VACUUM VC57A
32	1	201142	BRACKET, MICROSWITCH
33	1	201158	SWITCH, COVER
34	1	201159	KEY, INTERLOCK SWITCH
35	1	500975	SHOE, HEAD DRIVE CLAMP

Item	Qty	Part #	Description
36	1	501629	CLAMP, GUIDE STRIP
37	1	109013-2	BELT, TIMING 260XL037
38	1	109017-5	BELT, TIMING 80XL037
39	2	190695-1	GAUGE, AIR REGULATOR
40	2	190695-2	REGULATOR, AIR
41	1	200600-1	MOTOR, 41RPM 220V
42	1	500976-1	CLAMP, HEAD DRIVE
43	1	530208-01	ARM, HEAD SUPPORT
44	1	530445-01	CAM, PICK & PLACE
45	1	530447-01	BRACKET, GUIDE MOUNT
46	1	530447-02	BRACKET, GUIDE MOUNT
47	2	530693-01	BAR, MICROSWITCH MOUNT
48	1	530977-01	BLOCK, HOPPER
49	1	530987-02	BLOCK, BEARING
50	1	531556-01	BRACKET
51	1	532021-01	BRACKET, DBL AIR REGULATOR
52	1	532024-01	COVER, JOGGER PULLEY
53	1	532050-01	WELDMENT, HOPPER MTR CVR
54	1	536851-01	COVER, HOPPER PULLEY
55	1	536854-01	COVER, 203P DRIVE
56	1	532053-01	COVER, 203P DRIVE
57	1	532054-02	BLOCK, VACUUM MANIFOLD RH
58	1	532104-01	EG, ASSY 203P HOPPER
59	2	532138-01	SHAFT, C-CLAMP
60	2	532139-01	ROD, HOPPER FEED
61	1	532257-01	COVER, INLINE PICK-N-PLACE
62	1	532369-01	COVER, HOPPER ADJ
63	1	532370-01	PLATE, HOPPER COVER MOUNT
64	2	532446-01	ASSY, HUB BEARING
65	1	532447-01	ASSY, HUB BEARING
66	1	532570-01	ASSY, CRANK ARM
67	1	532570-02	ASSY, CRANK ARM
68	1	532577-01	ASSY, PULLEY BOX 203P
69	1	532670-01	ASSY, DBL AIR REG BRACKET RH
70	1	532684-01	COVER, BEARING BLOCK PULLEY

Item	Qty	Part #	Description
71	1	532685-03	ASSY, VACUUM ARM RH
72	1	532730-01	BRACKET, MICROSWITCH
73	1	532731-01	CAM, MICROSWITCH
74	1	534006-01	STUD, CRANK ADJUST
75	1	534007-01	ASSY, CRANK ADJUST
76	1	535048-01	ASSY, VAC VALVE & FITTINGS
77	1	CSDD269	
78	4	CSDD298	
79	1	HJN011	
80	2	HJN012	
81	1	S18702	HOPPER
82	1	S18705	HOUSING, BEARING
83	2	S18706	HOUSING, BEARING
84	1	S18707	SHAFT
85	1	S18709	GEAR, DRIVING
86	1	S18710	STOP, ARM
87	1	S18711	SHAFT, STOP
88	1	S18712	SHAFT, IDLER
89	1	S18713	GEAR, CRANK
90	1	S18717	CRANK
91	1	S18721	HOLDER, V.C.
92	4	S18732	HOPPER, MOUNT
93	4	S18737	WASHER, GUIDE
94	1	S18747	PLATE, SPACER
95	1	S18748	PLATE, SPACER
96	1	S18749	PLATE, SPACER
97	2	S18750	HOPPER, SPACER
98	1	S18751	HOPPER, SPACER
99	1	S26556	SHAFT, DRIVE
100	1	S26590	END, PLATE FRAME
101	2	S47901	BAR, HOPPER SUPPORT
102	1	S47902	PLATE, HOPPER MOUNT
103	1	S47905	BAR, LIFTER
104	1	S47906	SHAFT, LIFTER DRIVE
105	1	S47907	SHAFT, LIFTER DRIVE

Item	Qty	Part #	Description
106	4	S47908	COLLAR, LIFTER LOCATE
107	1	S47918	BAR, TIE
108	1	S18702-1	HOPPER
109	1	S18708-1	SLEEVE
110	1	S18715-1	SHAFT, CRANK
111	1	S18716-3	STOP, ARM
112	1	S18722-3	MOUNT, V.C.
113	1	S18723-5	SHAFT, VACUUM
114	1	S26557-1	FRAME, INLINE PICK-N-PLACE
115	1	S47903-R	BAR, LIFTER MOUNT
116	1	S47913-R	BAR, MOTOR MOUNT
117	1	WA011	WASHER

203P L/H Pick-n-Place

Item	Qty	Part #	Description
1	4	100623	WASHER, FLAT .250
2	4	102131	KNOB
3	1	102528	GEAR, 1648
4	1	102531	GEAR, 1648 .750B .188K
5	8	103106	BEARING, FLAT .375
6	6	103108	BEARING, FLAT .500
7	6	103116	BEARING, FLAT 1.000
8	2	103120	BEARING, FLAT 1.250
9	1	103500	BEARING, ROD END
10	1	104106	SNAPRING, .500
11	2	104108	SNAPRING, 1.250
12	5	104113	SNAPRING, 1.000
13	1	105630	ROD, THD 3/8-24 X 1.75
14	1	108721	PULLEY, 18XL037 .375B .125K
15	2	108785	PULLEY, 16XL037 .375B NK
16	1	109019	BELT, TIMING 60XL037
17	1	109529	CONNECTOR, PIPE
18	1	109533	ELBOW
19	1	109543	BRANCH, T
20	1	109544	NIPPLE, 1/4 NPT AIR GUN
21	4	109545	BUSHING, HEX 1/4 TO 3/8
22	4	109546	PLUG, 1/4 NPT
23	2	109549	PLUG, 1/8 NPT
24	1	109669	VALVE, MAC PID-121BAAA 220V
25	1	109818	PULLEY, 18XL037 .314B NK
26	1	109822	PULLEY, 14XL037 .500B .188K
27	1	109823	PULLEY, 21XL037 .375B NK
28	2	190100	MICROSWITCH, ROLLER
29	2	190605	NIPPLE, VACUUM LINE
30	5	190606	FITTING, 90 DEG 1/4 NPT
31	1	190773	CUP, VACUUM VC57A
32	1	201142	BRACKET, MICROSWITCH
33	1	201158	SWITCH, COVER
34	1	201159	KEY, INTERLOCK SWITCH
35	1	500975	SHOE, HEAD DRIVE CLAMP

Item	Qty	Part #	Description
36	1	501629	CLAMP, GUIDE STRIP
37	1	109013-2	BELT, TIMING 260XL037
38	1	109017-5	BELT, TIMING 80XL037
39	2	190695-1	GAUGE, AIR REGULATOR
40	2	190695-2	REGULATOR, AIR
41	1	200600-1	MOTOR, 41RPM 220V
42	1	500976-1	CLAMP, HEAD DRIVE
43	1	530208-01	ARM, HEAD SUPPORT
44	1	530445-01	CAM, PICK & PLACE
45	1	530447-01	BRACKET, GUIDE MOUNT
46	1	530447-02	BRACKET, GUIDE MOUNT
47	2	530693-01	BAR, MICROSWITCH MOUNT
48	1	530977-01	BLOCK, HOPPER
49	1	530987-02	BLOCK, BEARING
50	1	531556-01	BRACKET
51	1	532021-01	BRACKET, DBL AIR REGULATOR
52	1	532024-01	COVER, JOGGER PULLEY
53	1	532050-01	WELDMENT, HOPPER MTR CVR
54	1	536851-01	COVER, HOPPER PULLEY
55	1	532052-02	COVER, LH 203P DRIVE
56	1	532053-02	COVER, 203P DRIVE
57	1	532054-01	BLOCK, VACUUM MANIFOLD LH
58	1	532104-02	EG, ASSY 203P LH HOPPER
59	2	532138-01	SHAFT, C-CLAMP
60	2	532139-01	ROD, HOPPER FEED
61	1	532257-02	COVER, INLINE PICK-N-PLACE
62	1	532369-02	COVER, HOPPER ADJ
63	1	532370-01	PLATE, HOPPER COVER MOUNT
64	2	532446-01	ASSY, HUB BEARING
65	1	532447-01	ASSY, HUB BEARING
66	1	532570-01	ASSY, CRANK ARM
67	1	532570-02	ASSY, CRANK ARM
68	1	532577-01	ASSY, PULLEY BOX 203P
69	1	532670-02	ASSY, DBL AIR REG BRACKET LH
70	1	532684-01	COVER, BEARING BLOCK PULLEY

Item	Qty	Part #	Description
71	1	532685-04	ASSY, VACUUM ARM LH
72	1	532730-01	BRACKET, MICROSWITCH
73	1	532731-01	CAM, MICROSWITCH
74	1	534006-01	STUD, CRANK ADJUST
75	1	534007-01	ASSY, CRANK ADJUST
76	1	535048-01	ASSY, VAC VALVE & FITTINGS
77	1	CSDD269	
78	4	CSDD298	
79	1	HJN011	
80	2	HJN012	
81	1	S18702	HOPPER
82	1	S18705	HOUSING, BEARING
83	2	S18706	HOUSING, BEARING
84	1	S18707	SHAFT
85	1	S18709	GEAR, DRIVING
86	1	S18710	STOP, ARM
87	1	S18711	SHAFT, STOP
88	1	S18712	SHAFT, IDLER
89	1	S18713	GEAR, CRANK
90	1	S18717	CRANK
91	1	S18721	HOLDER, V.C.
92	4	S18732	HOPPER, MOUNT
93	4	S18737	WASHER, GUIDE
94	1	S18747	PLATE, SPACER
95	1	S18748	PLATE, SPACER
96	1	S18749	PLATE, SPACER
97	2	S18750	HOPPER, SPACER
98	1	S18751	HOPPER, SPACER
99	1	S26556	SHAFT, DRIVE
100	1	S26590	END, PLATE FRAME
101	2	S47901	BAR, HOPPER SUPPORT
102	1	S47902	PLATE, HOPPER MOUNT
103	1	S47905	BAR, LIFTER
104	1	S47906	SHAFT, LIFTER DRIVE
105	1	S47907	SHAFT, LIFTER DRIVE

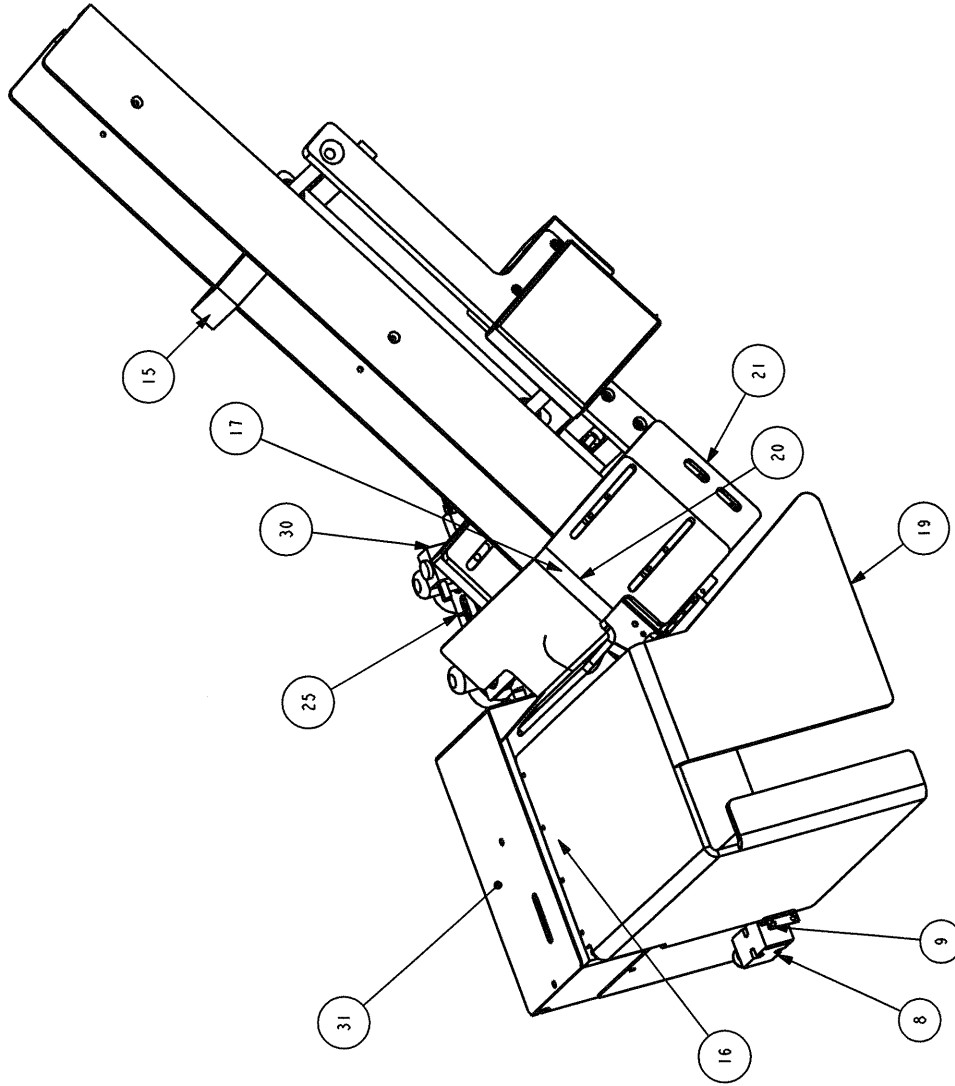
Item	Qty	Part #	Description
106	4	S47908	COLLAR, LIFTER LOCATE
107	1	S47918	BAR, TIE
108	1	S18702-1	HOPPER
109	1	S18708-1	SLEEVE
110	1	S18715-1	SHAFT, CRANK
111	1	S18716-3	STOP, ARM
112	1	S18722-3	MOUNT, V.C.
113	1	S18723-5	SHAFT, VACUUM
114	1	S26557-1	FRAME, INLINE PICK-N-PLACE
115	1	S47903-L	BAR, LIFTER MOUNT
116	1	S47913-L	BAR, MOTOR MOUNT
117	1	WA011	WASHER

DRAWING 1

KR203PRH

REV	DATE	DESCRIPTION	ECN	BY
1				

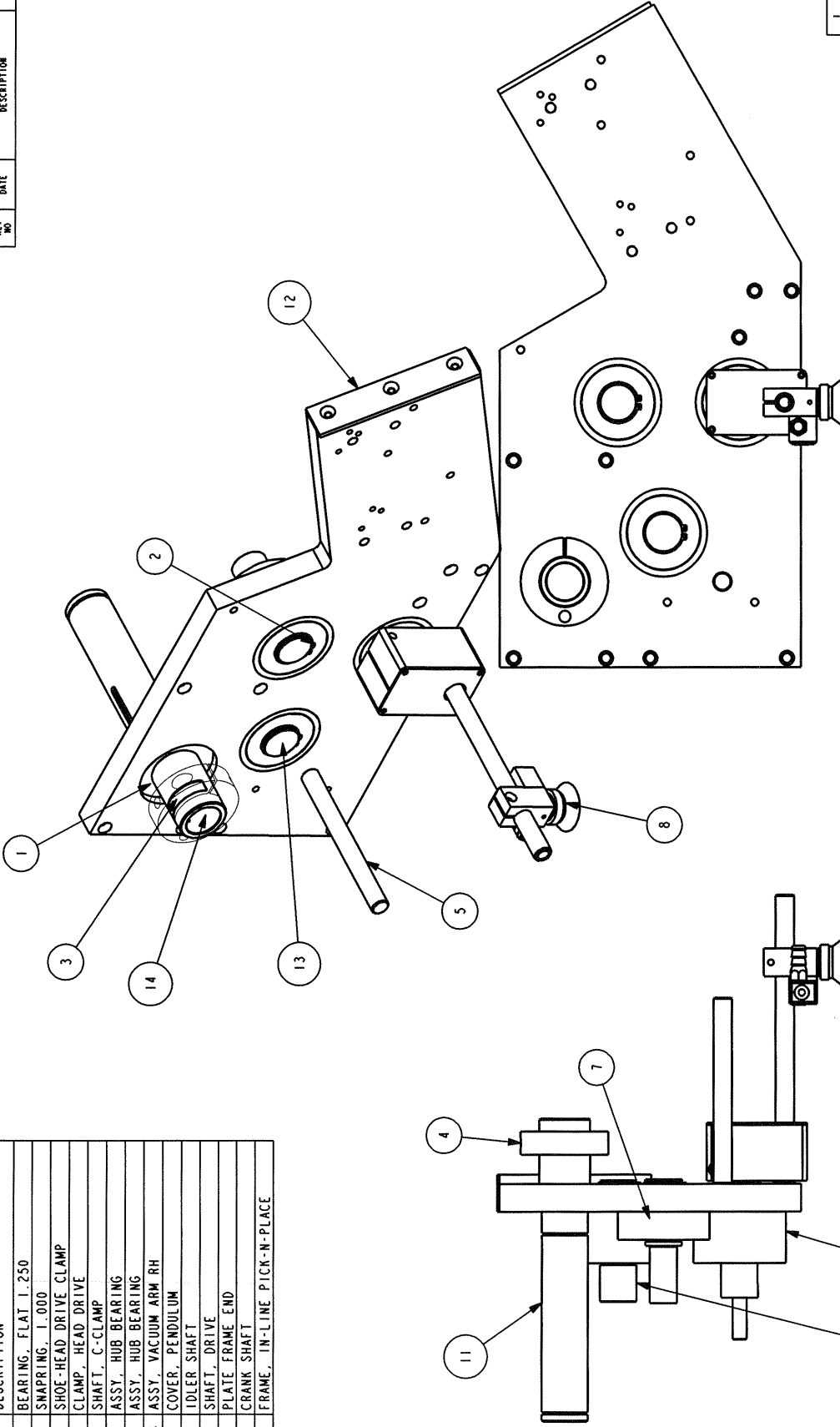
ITEM	QTY	PART #	DESCRIPTION
1	1	102528	GEAR, 1648
2	1	102531	GEAR, 1648 .7508 .188K
3	2	103120	BEARING, FLAT 1.250
4	2	104108	SNAPRING, 1.250
5	4	104113	SNAPRING, 1.000
6	2	190100	MICROSWITCH, ROLLER
7	1	201142	BRACKET, MICRO SWITCH
8	1	201158	SWITCH-COVER
9	1	201159	KEY, INTER-LOCK SWITCH
10	1	500975	SHOE-HEAD DRIVE CLAMP
11	1	500976-1	CLAMP, HEAD DRIVE
12	1	530208-01	ARM, HEAD SUPPORT
13	1	530445-01	CAM, PICK & PLACE
14	2	530693-01	BAR, MICRO SWITCH MOUNT
15	1	530977-01	BLOCK, HOPPER
16	1	532053-01	COVER, 203P DRIVE
17	1	532104-01	EG, ASSY 203P HOPPER
18	1	532138-01	SHAFT, C-CLAMP
19	1	532257-01	COVER, IN-LINE PICK-N-PLACE
20	1	532369-01	COVER, HOPPER ADJ
21	1	532370-01	PLATE, HOPPER COVER MOUNT
22	2	532446-01	ASSY, HUB BEARING
23	1	532447-01	ASSY, HUB BEARING
24	1	532570-02	ASSY, CRANK ARM
25	1	532670-01	ASSY, DBL AIR REG BRCKT RH
26	1	532685-03	ASSY, VACUUM ARM RH
27	1	532730-01	BRACKET, MICROSWITCH
28	1	532731-01	CAM, MICROSWITCH
29	1	534007-01	ASSY, CRANK ADJUST
30	1	535048-01	ASSY, VAC. VALVE & FITTINGS
31	1	536854-01	COVER, PENDULUM
32	1	SP18709	DRIVING GEAR
33	1	SP18710	STOP, ARM
34	1	SP18711	SHAFT, STOP
35	1	SP18712	IDLER SHAFT
36	1	SP18713	CRANK GEAR
37	1	SP18747	PLATE SPACER
38	1	SP18748	PLATE SPACER
39	1	SP18749	PLATE - SPACER
40	1	SP26556	SHAFT, DRIVE
41	1	SP26590	PLATE, FRAME END
42	1	SP18715-1	CRANK SHAFT
43	1	SP26557-1	FRAME, IN-LINE PICK-N-PLACE



DATE BY: MY	SCALE: 0.240	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	THIS DRAWING IS THE PROPERTY OF KIRK - RUDY, INC. NO PORTION OF THIS DRAWING IS TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK - RUDY, INC. WOODSTOCK, GA. 30090 USA	1 203PRH REV'D WHERE USED
CHECKED BY: 30-Mar-99	DATE: 30-Mar-99	MAX TREAT: N/A	PROPERTY AND CONFIDENTIALITY OF KIRK - RUDY, INC. NO PORTION OF THIS DRAWING IS TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK - RUDY, INC. WOODSTOCK, GA. 30090 USA	KIRK - RUDY, INC. WOODSTOCK, GEORGIA
TRACED BY:	DATE: 30-Mar-99	MAX TREAT: N/A	DATE: 203P	TITLE: 203P R/H PICK-N-PLACE
			SHEET NO: 1 OF 3	REV'D: KR203PRH

REV	DATE	DESCRIPTION	ECN	BY
1				

ITEM	QTY	PART #	DESCRIPTION
1	1	103120	BEARING, FLAT 1.250
2	2	104113	SNAPRING, 1.000
3	1	500975	SHOE-HEAD DRIVE CLAMP
4	1	500976-1	CLAMP, HEAD DRIVE
5	1	532138-01	SHAFT, C-CLAMP
6	2	532446-01	ASSY, HUB BEARING
7	1	532447-01	ASSY, HUB BEARING
8	1	532685-03	ASST. VACUUM ARM RH
9	1	536854-01	COVER, PENDULUM
10	1	SP18712	IDLER SHAFT
11	1	SP26556	SHAFT, DRIVE
12	1	SP26590	PLATE, FRAME END
13	1	SP18715-1	CRANK SHAFT
14	1	SP26557-1	FRAME, IN-LINE PICK-N-PLACE

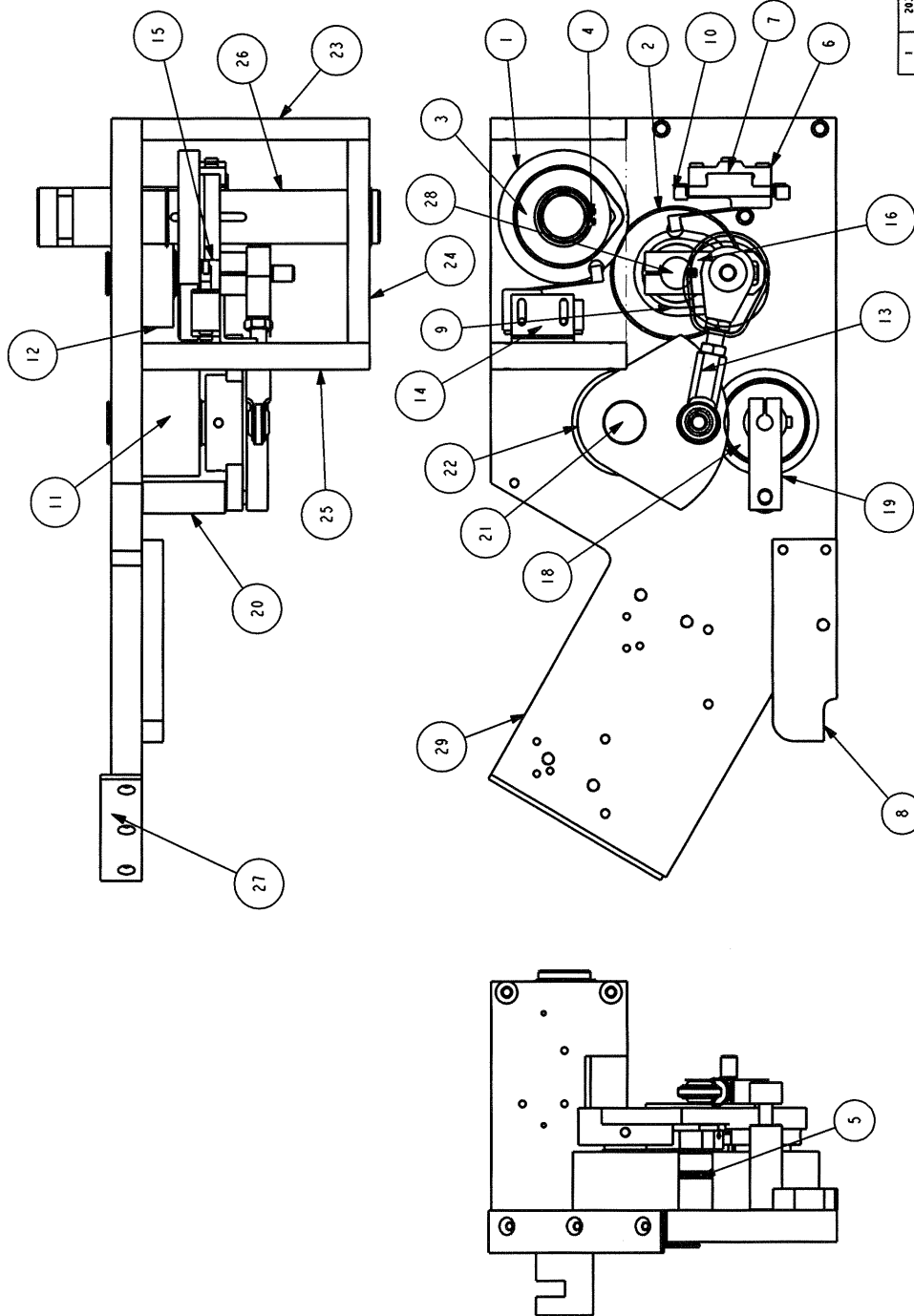


NAME BY: MY	SCALE: 0.375	DIMENSIONAL TOLERANCES: UNLESS OTHERWISE NOTED	MATERIAL: N/A	TYPICAL PROJECTION:	PROPERTY AND CONFIDENTIAL: NO PART OF THIS DRAWING MAY BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK - RUDY, INC. WOODSTOCK, GA 30188 USA	1	203PRH
CHECKED BY:	DATE: 30-Mar-99	REWORK: ALL DIMENSIONS ARE TO UNFINISHED DIMENSIONS UNLESS OTHERWISE NOTED	WEAT TREAT: N/A	MODEL: 203P	TITLE: 203P R/H PICK-N-PLACE	KIRK - RUDY, INC. WOODSTOCK, GEORGIA	
TRACED BY:	MASTER	ALL DIMENSIONS ARE TO UNFINISHED DIMENSIONS UNLESS OTHERWISE NOTED	FINISH: N/A	SHEET NO: 20F3		REVISION 1 KR203PRH	

NR203PRH

REV	DATE	DESCRIPTION	CCW	BY
1				

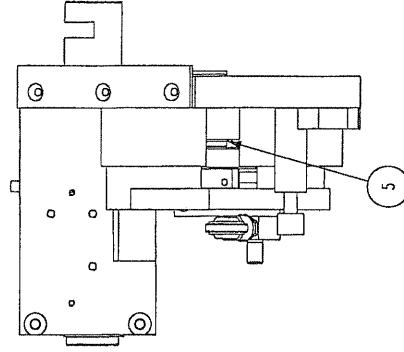
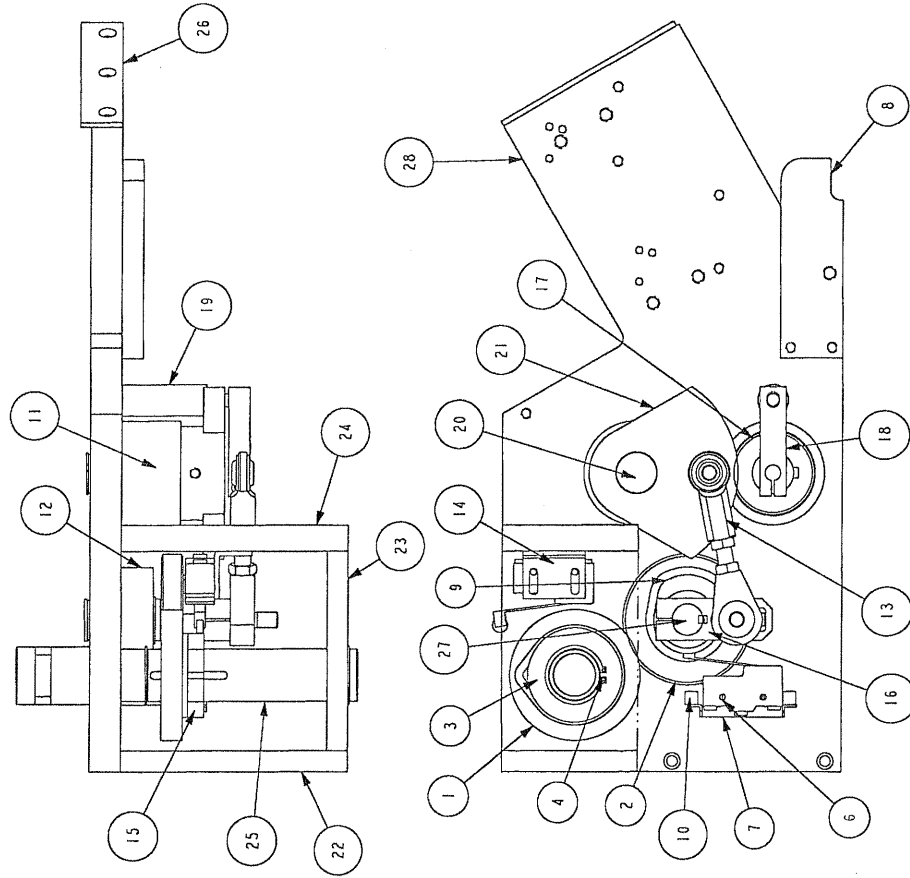
ITEM QTY	PART #	DESCRIPTION
1	102528	GEAR, 1648
2	102531	GEAR, 1648 - 750B - 188K
3	103120	BEARING, FLAT 1.250
4	104108	SNAPRING, 1.250
5	104113	SNAPRING, 1.000
6	190100	MICROSWITCH, ROLLER
7	201142	BRACKET, MICRO SWITCH
8	530208-01	ARM, HEAD SUPPORT
9	530445-01	CAM, PICK & PLACE
10	530693-01	BAR, MICRO SWITCH MOUNT
11	532446-01	ASSY, HUB BEARING
12	532447-01	ASSY, HUB BEARING
13	532570-02	ASSY, CRANK ARM
14	532730-01	BRACKET, MICROSWITCH
15	532731-01	CAM, MICROSWITCH
16	534007-01	ASSY, CRANK ADJUST
17	536854-01	COVER, PENDULUM
18	SP18709	DRIVING GEAR
19	SP18710	STOP, ARM
20	SP18711	SHAFT, STOP
21	SP18712	IDLER SHAFT
22	SP18713	CRANK GEAR
23	SP18747	PLATE SPACER
24	SP18748	PLATE SPACER
25	SP18749	PLATE - SPACER
26	SP26556	SHAFT, DRIVE
27	SP26590	PLATE FRAME END
28	SP18715-1	CRANK SHAFT
29	SP26557-1	FRAME, IN-LINE PICK-N-PLACE




NAME BY: MY	SCALE: 0.375	DIMENSIONAL TOLERANCES: UNLESS OTHERWISE NOTED	MATERIAL: N/A	THERMAL PROTECTION:	PROPERTY AND CONFIDENTIALITY: NO PORTION OF THIS DRAWING IS TO BE REPRODUCED OR COPIED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK - RUDY, INC. WOODSTOCK, GA 30188 USA	REV'D: 203PRH
CHECKED BY:	DATE: 30-Mar-99	FINISH: N/A	HEAT TREAT: N/A	WORK: 203P	TITLE: 203P R/H PICK-N-PLACE	KIRK - RUDY, INC. WOODSTOCK, GEORGIA
TRACER BY:	MASTER	ALL DIMENSIONS ARE FINISHED DIMENSIONS. NO DIMENSIONS ARE TO BE CHANGED.	FINISH: N/A	SHEET: 3 OF 3	DRWING: 1	KR203PRH

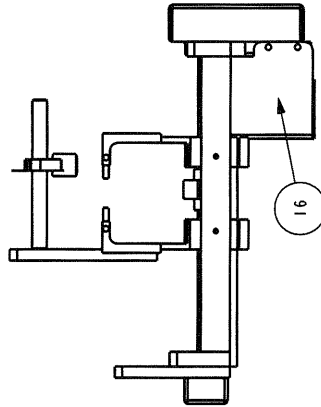
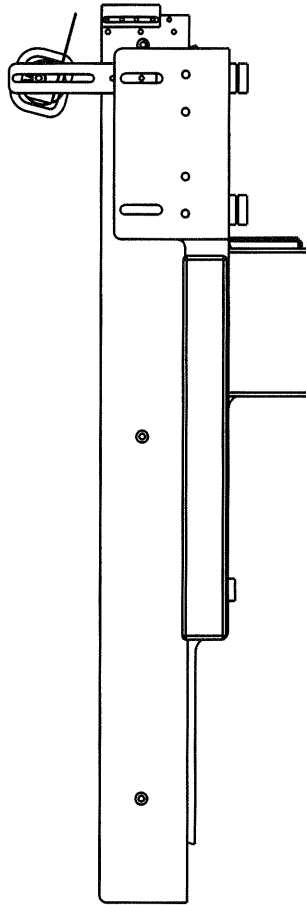
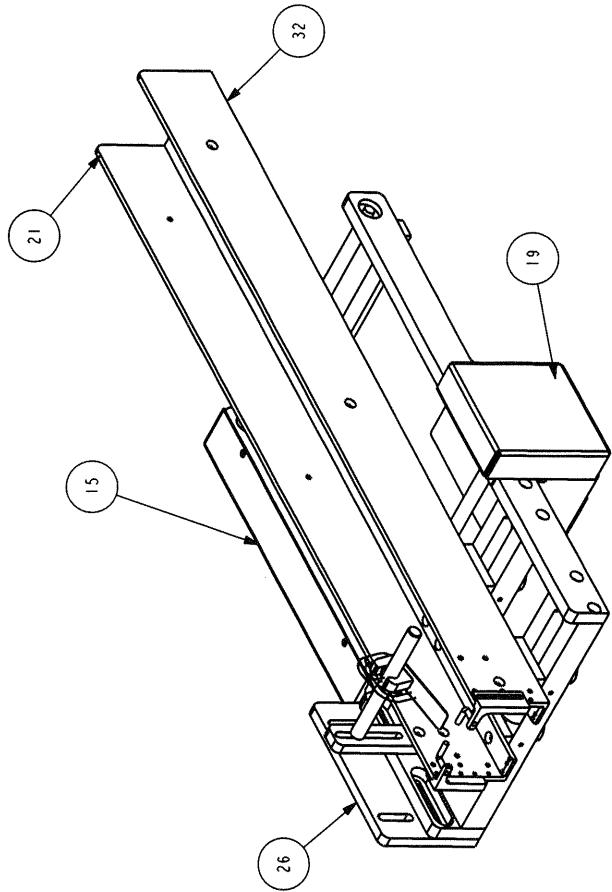
REV NO	DATE	DESCRIPTION	ECN NO	BY
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ITEM#	QTY	PART #	DESCRIPTION
1	1	102528	GEAR, 1648
2	1	102531	GEAR, 1648 .188K
3	2	103120	BEARING, FLAT 1.250
4	2	104108	SNAPPING, 1.250
5	2	104113	SNAPPING, 1.000
6	2	190100	MICROSWITCH, ROLLER
7	1	201142	BACKET, MICRO SWITCH
8	1	530208-01	ARM, HEAD SUPPORT
9	1	530445-01	CAM, PICK & PLACE
10	2	530693-01	BAR, MICRO SWITCH MOUNT
11	2	532448-01	ASSY. HUB BEARING
12	1	532447-01	ASSY. HUB BEARING
13	1	532570-02	ASSY. CRANK ARM
14	1	532730-01	BACKET, MICROSWITCH
15	1	532731-01	CAM, MICROSWITCH
16	1	534007-01	ASSY. CRANK ADJUST
17	1	SP18709	DRIVING GEAR
18	1	SP18710	STOP ARM
19	1	SP18711	SHAFT, STOP
20	1	SP18712	IDLER SHAFT
21	1	SP18713	CRANK GEAR
22	1	SP18747	PLATE SPACER
23	1	SP18748	PLATE SPACER
24	1	SP18749	PLATE - SPACER
25	1	SP26556	SHAFT DRIVE
26	1	SP26550	PLATE FRAME END
27	1	SP18715-1	CRANK SHAFT
28	1	SP26557-1	FRAME, IN-LINE PICK-N-PLACE



DATE BY:	MY	SCALE	0.375	UNLESS OTHERWISE NOTED				MATERIAL:		N/A		THIS SHEET PRODUCTION				FROM THIS FIRM, AND CONSENTUAL MAY BE QUOTED OR REPRODUCED EXPRESS WRITTEN PERMISSION KIRK - RUDY, INC. KENNESAW, GA 30144 USA		2303PLH REC'D 1 WHERE USED	
CHECKED BY:		DATE	30-Mar-99	UNLESS OTHERWISE NOTED KIRK - RUDY, INC. KENNESAW, GA 30144 USA				NEXT TITILE: N/A		N/A		MODEL:		2303		2303 L/H PICK-N-PLACE		KIRK - RUDY, INC. KENNESAW, GEORGIA	
THICK BY:		MASTER	M	DO NOT SCALE - WORK TO DIMENSIONS ONLY				FINISH:		N/A		SHEET NO.:		30F3		DRAWING #		KR203PLH	

ITEM QTY	PART #	DESCRIPTION
1	4	100623 WASHER, FLAT .250
2	4	102131 KNOB, THUMB 1/4-20 SHCS
3	4	103106 BEARING, FLAT .375
4	4	103108 BEARING, FLAT .500
5	1	108721 PULLEY, 18X1037 .375B .125K
6	2	108785 PULLEY, 16X1037 .375B NK
7	1	109818 PULLEY, 18X1037 .314B NK
8	1	501629 CLAMP, GUIDE STRIP
9	1	109013-2 BELT, TIMING 260XL037
10	1	109017-5 BELT, TIMING 80XL037
11	1	200600-1 MOTOR, 41RPM 220V
12	1	530447-01 BRACKET, GUIDE MOUNT
13	1	530447-02 BRACKET, GUIDE MOUNT
14	1	531556-01 SPRING STEEL HOLD BACK
15	1	532024-01 COVER, JOGGER PULLEY
16	1	532050-01 WLD MNT, HOPPER MOTOR COVER
17	1	532138-01 SHAFT, C-CLAMP
18	2	532139-01 ROD, HOPPER FEED
19	1	536851-01 COVER, BELT
20	4	CSD0298 SCREW, SHCS 1/4-20X1.500
21	1	SP18702 HOPPER
22	4	SP18732 HOPPER, MOUNT
23	4	SP18737 WASHER, GUIDE
24	1	SP18751 SPACER HOPPER
25	2	SP47901 BAR, HOPPER SUPPORT
26	1	SP47902 PLATE, HOPPER MOUNT
27	1	SP47905 BAR, LIFTER
28	1	SP47906 SHAFT, LIFTER DRIVE
29	1	SP47907 SHAFT, LIFTER DRIVE
30	4	SP47908 COLLAR, LIFTER LOCATE
31	1	SP47918 BAR, TIE
32	1	SP18702-1 HOPPER
33	1	SP47903-L BAR, LIFTER MOUNT
34	1	SP47913-L BAR, MOTOR MOUNT



DATE	30-Mar-99
CHECKED BY:	MY
TRACED BY:	MASTER

SCALE	0.250
DATE	30-Mar-99
CHECKED BY:	MY
TRACED BY:	MASTER

MATERIAL:	N/A
HEAT TREAT:	N/A
FINISH:	N/A

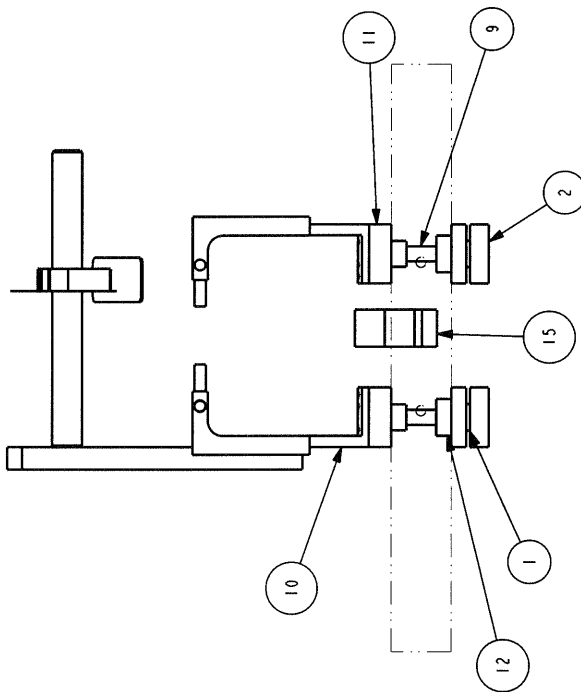
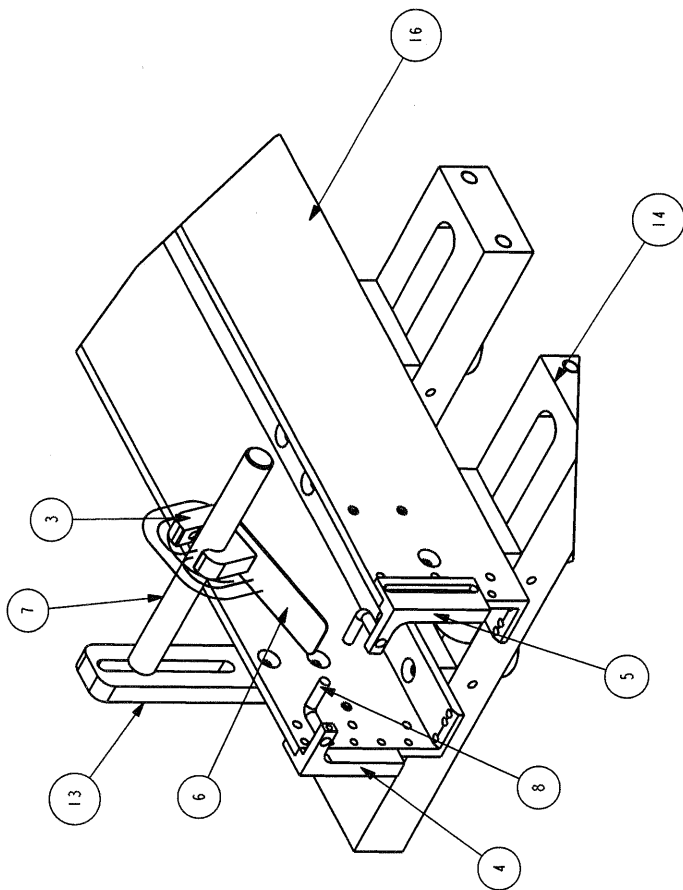
FINISH ONLY PRODUCTION	203P
MODEL:	203P
THEORY OF 3	10F3

PROPRIETARY AND CONFIDENTIAL	KIRK - RUDY, INC.
MAY BE COPIED OR REPRODUCED	KENNESAW, GEORGIA
EXCEPT BY WRITTEN PERMISSION	
KENNESAW, GA 30144 USA	

REV	NO	DATE	DESCRIPTION	ECO	BY
1	MR203PBN				
2	MR203PBN				

REV	NO	DATE	DESCRIPTION	ECN	BY
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ITEM QTY	PART #	DESCRIPTION
1	4	100623 WASHER, FLAT .250
2	4	102131 KNOB, THUMB 1/4-20 SHCS
3	1	501629 CLAMP, GUIDE STRIP
4	1	530447-01 BRACKET, GUIDE MOUNT
5	1	530447-02 BRACKET, GUIDE MOUNT
6	1	531556-01 SPRING STEEL HOLD BACK
7	1	532138-01 SHAFT, C-CLAMP
8	2	532139-01 ROD, HOPPER FEED
9	4	CSD0298 SCREW, SHCS 1/4-20X1.500
10	1	SPI8702 HOPPER
11	4	SPI8732 HOPPER, MOUNT
12	4	SPI8737 WASHER, GUIDE
13	1	SPI8751 SPACER HOPPER
14	2	SP47901 BAR, HOPPER SUPPORT
15	1	SP47905 BAR, LIFTER
16	1	SPI8702-1 HOPPER



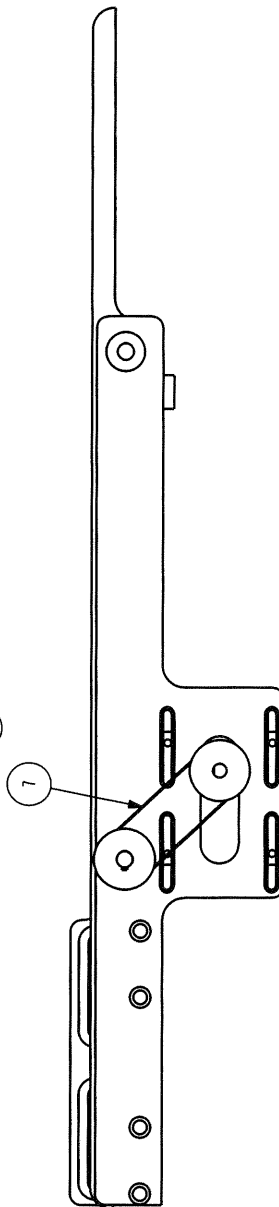
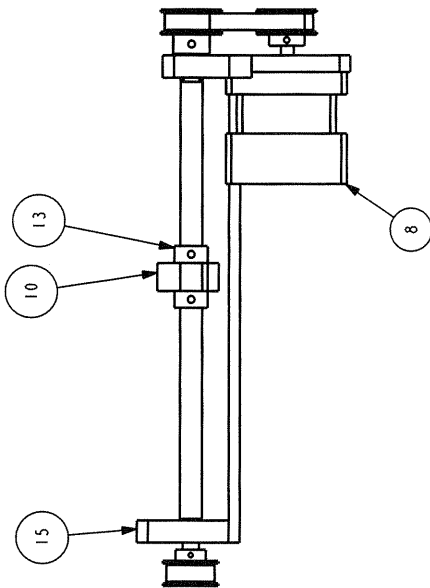
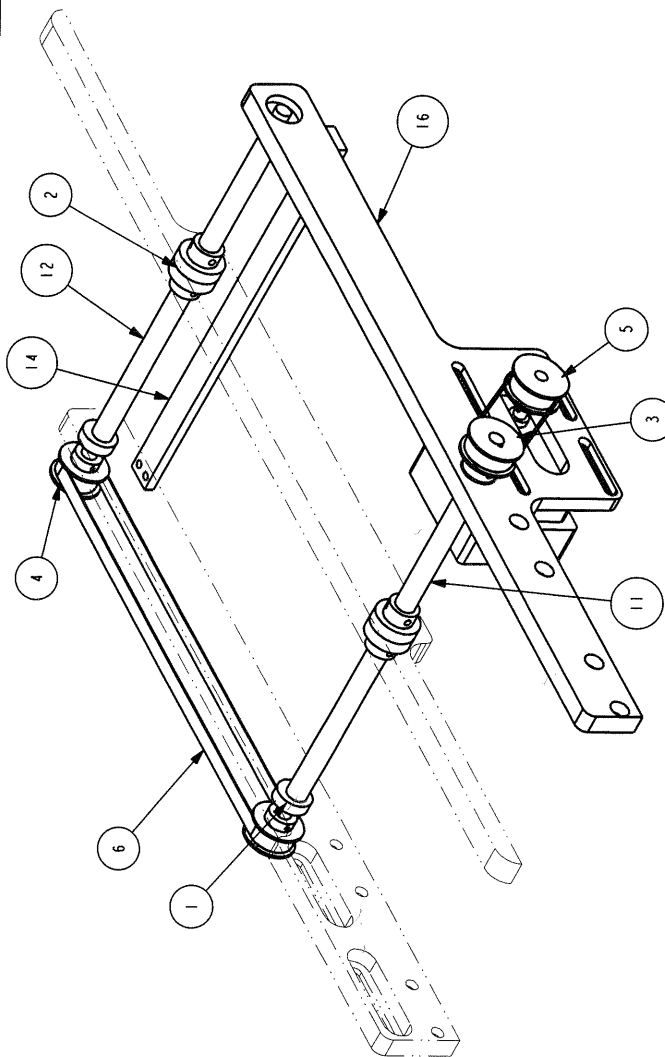
1	RR203PM	REC'D	WHERE USED
KIRK - RUDY, INC. KENNESAW, GEORGIA			
PROPERTY AND CONFIDENTIALITY MAY BE QUOTED OR REPRODUCED EXCEPT BY WRITTEN PERMISSION OF KIRK - RUDY, INC. KENNESAW, GA 30144 USA			
THIRD ANGLE PROJECTION	VIEW	MODEL	TITLE
203P	203P	203P	EG, ASSY 203P HOPPER
20F3	20F3	20F3	532104-01

SCALE	0.500	MATERIAL	N/A
DATE	30-Mar-99	WEAT TREAT	N/A
CHECKED BY:		FINISH	N/A
TRACED BY:			

DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	IN	MM	IN	MM
	.005	.125	.005	.125
REMOVE ALL DIMENSIONS AND TOLERANCES FROM THIS DRAWING				
ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - MORE TO DIMENSIONS ONLY				

ITEM	QTY	PART #	DESCRIPTION
1	4	103106	BEARING, FLAT .375
2	4	103108	BEARING, FLAT .500
3	1	108721	PULLEY, 18XL037 .375B .125K
4	2	108785	PULLEY, 16XL037 .375B NK
5	1	109818	PULLEY, 18XL037 .314B NK
6	1	109013-2	BELT, TIMING 260XL037
7	1	109017-5	BELT, TIMING 80XL037
8	1	200600-1	MOTOR, 4IRPM 220V
9	1	536851-01	COVER, BELT
10	1	SP47905	BAR, LIFTER
11	1	SP47906	SHAFT, LIFTER DRIVE
12	1	SP47907	SHAFT, LIFTER DRIVE
13	4	SP47908	COLLAR, LIFTER LOCATE
14	1	SP47918	BAR, TIE
15	1	SP47903-L	BAR, LIFTER MOUNT
16	1	SP47913-L	BAR, MOTOR MOUNT

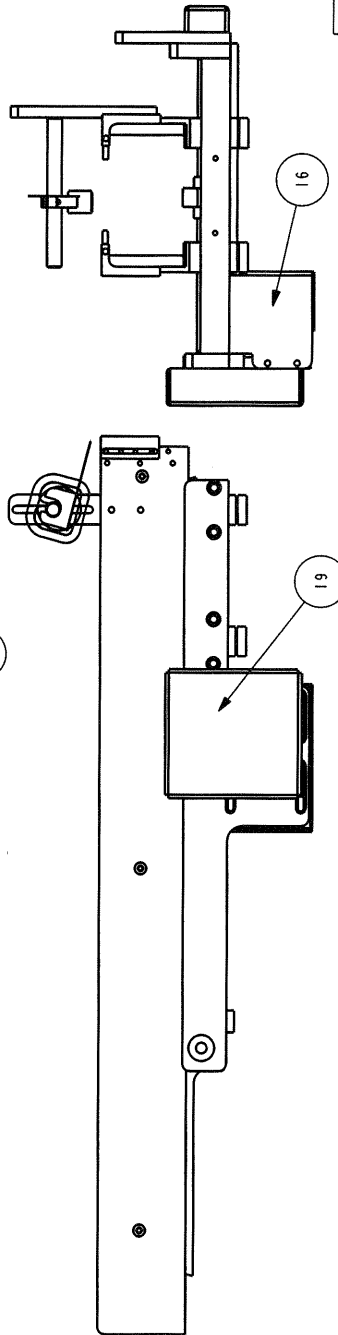
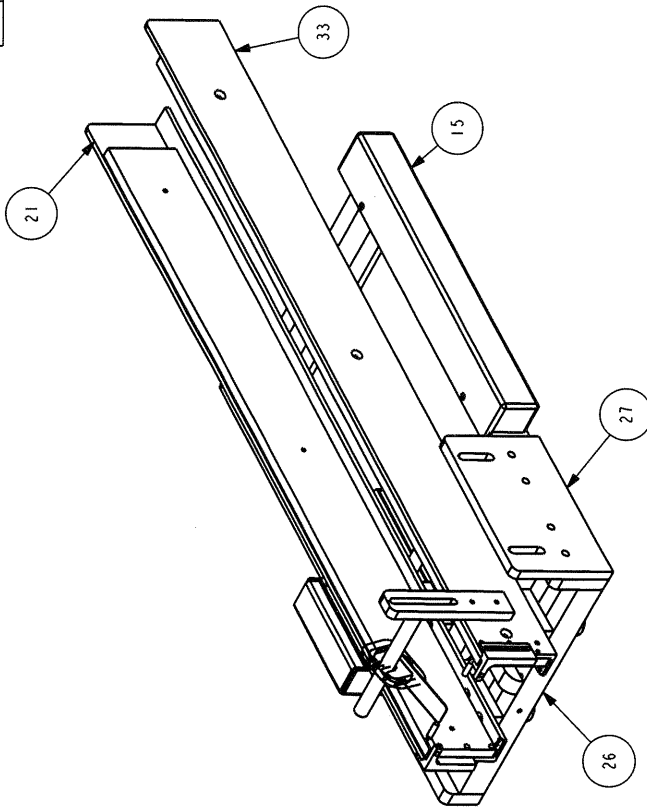
REV	NO	DATE	DESCRIPTION	ECC	NO	BT
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DATE BY: MY	SCALE: 0.375	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	MATERIAL: N/A	THIRD ANGLE PROJECTION	PROJECTION AND CONVENTIONAL PRACTICES ARE TO BE USED UNLESS OTHERWISE NOTED. MAY BE QUOTED OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM KIRK - RUDY, INC. KENNESAW, GA 30144 USA	REV'D WHERE USED
CHECKED BY:	DATE: 30-Mar-99	REWORK ALL DIMENSIONS AND TOLERANCES UNLESS OTHERWISE NOTED	HEAT TREAT: N/A	MODEL: 203P	KIRK - RUDY, INC. KENNESAW, GEORGIA	
TRAINED BY:	MASTER	ALL DIMENSIONS ARE TO FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY	FINISH: N/A	SHEET NO: 30F3	EG, ASSY 203P HOPPER	
						532104-01

REV	DATE	DESCRIPTION	ECN	BY
1				

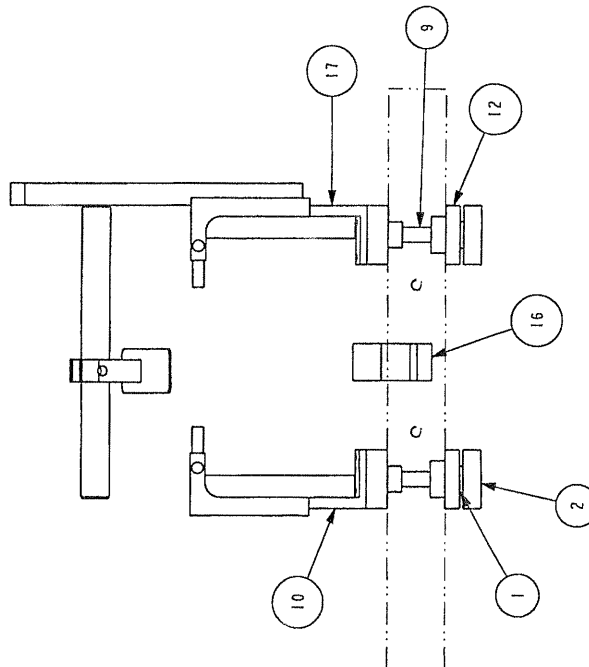
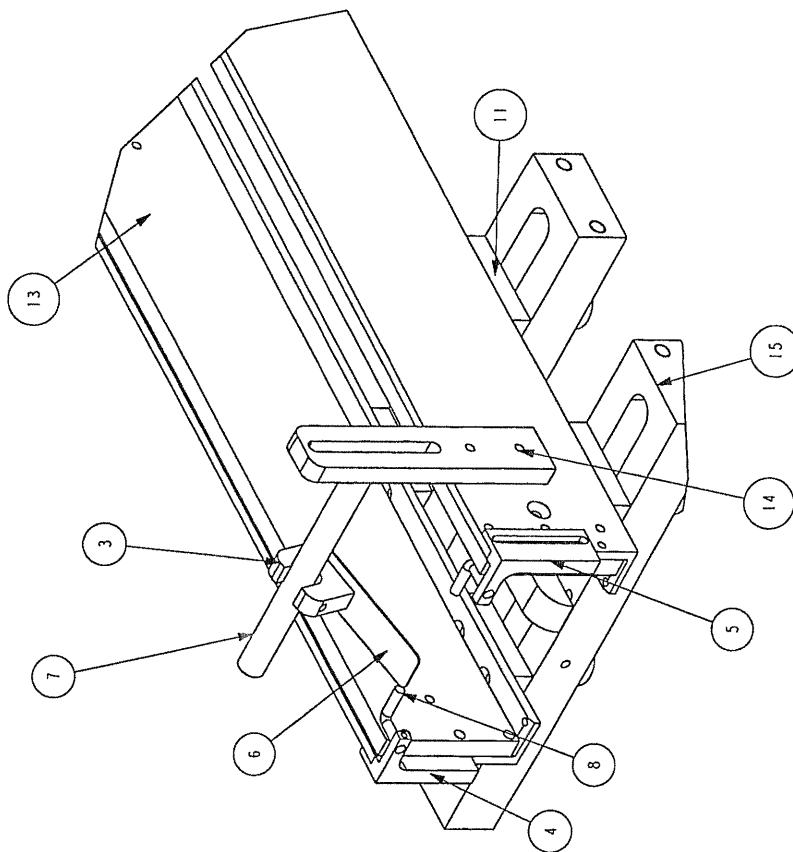
ITEM	QTY	PART #	DESCRIPTION
1	4	100623	WASHER, FLAT .250
2	4	102131	KNOB, THUMB 1/4-20 SHCS
3	4	103106	BEARING, FLAT .375
4	4	103108	BEARING, FLAT .500
5	1	108721	PULLEY, 18XL037 .375B .125K
6	2	108785	PULLEY, 16XL037 .375B NK
7	1	109818	PULLEY, 18XL037 .314B NK
8	1	501629	CLAMP, GUIDE STRIP
9	1	109013-2	BELT, TIMING 260XL037
10	1	109017-5	BELT, TIMING 80XL037
11	1	200600-1	MOTOR, 41RPM 220V
12	1	530447-01	BRACKET, GUIDE MOUNT
13	1	530447-02	BRACKET, GUIDE MOUNT
14	1	531556-01	SPRING STEEL HOLD BACK
15	1	532024-01	COVER, JOGGER PULLEY
16	1	532050-01	WDMNT, HOPPER MOTOR COVER
17	1	532138-01	SHAFT, C-CLAMP
18	2	532139-01	ROD, HOPPER FEED
19	1	536851-01	COVER, BELT
20	4	C500298	SCREW, SHCS 1/4-20X1.500
21	1	SP18702	HOPPER
22	4	SP18732	HOPPER, MOUNT
23	4	SP18737	WASHER, GUIDE
24	2	SP18750	SPACER HOPPER
25	1	SP18751	SPACER HOPPER
26	2	SP47901	BAR, HOPPER SUPPORT
27	1	SP47902	PLATE, HOPPER MOUNT
28	1	SP47905	BAR, LIFTER
29	1	SP47906	SHAFT, LIFTER DRIVE
30	1	SP47907	SHAFT, LIFTER DRIVE
31	4	SP47908	COLLAR, LIFTER LOCATE
32	1	SP47918	BAR, TIE
33	1	SP18702-1	HOPPER
34	1	SP47903-R	BAR, LIFTER MOUNT
35	1	SP47913-R	BAR, MOTOR MOUNT





NAME BY:	MY	SCALE:	0.250	DIMENSIONS: TOLERANCES UNLESS OTHERWISE NOTED	THIRD ANGLE PROJECTION	PROJECTION AND CONFIDENTIALITY MAY BE OBTAINED OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM KIRK - RUDY, INC. KENNESAW, GA 30144 USA	KIRK - RUDY, INC. KENNESAW, GEORGIA	REV'D	WHERE USED
CHECKED BY:		DATE:	30-Mar-99	REWORK ALL DIMENSIONS AND FINISHES UNLESS OTHERWISE NOTED	N/A	N/A	N/A		
TRACED BY:		MASTER:		ALL DIMENSIONS ARE FINISHED DIMENSIONS TO DIMENSIONS ONLY	N/A	N/A	N/A		
							EG, ASSY 203P L/H HOPPER	532104-02	

REV NO	DATE	DESCRIPTION	ECH NO	BY
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ITEM	QTY	PART #	DESCRIPTION
1	4	100623	WASHER, FLAT .250
2	4	102131	KNOB
3	1	501629	CLAMP, GUIDE STRIP
4	1	530447-01	BRACKET, GUIDE MOUNT
5	1	530447-02	BRACKET, GUIDE MOUNT
6	1	531556-01	BRACKET
7	1	532138-01	SHAFT, C-CLAMP
8	2	532139-01	ROD, HOPPER FEED
9	4	CSD0298	
10	1	SP18702	HOPPER
11	4	SP18732	HOPPER, MOUNT
12	4	SP18137	WASHER, GUIDE
13	2	SP18750	SPACER HOPPER
14	1	SP18751	SPACER HOPPER
15	2	SP47901	BAR, HOPPER SUPPORT
16	1	SP47905	BAR, LIFTER
17	1	SP18702-1	HOPPER

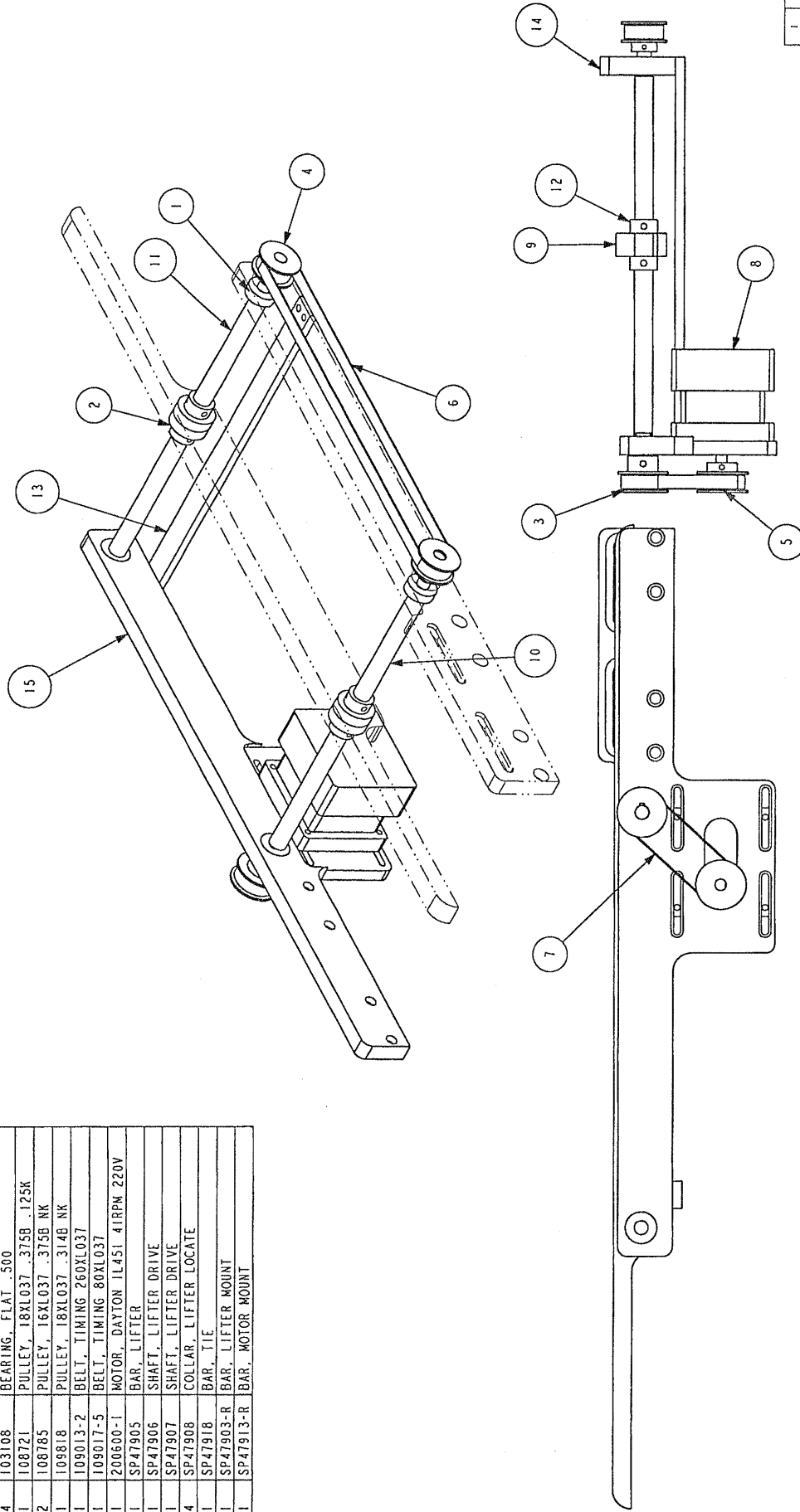


DRAWN BY: MY	SCALE 0.500	DIMENSIONS, TOLERANCES AND FINISHES UNLESS OTHERWISE NOTED				MATERIAL: N/A		THIRD ANGLE PROJECTION PROPRIETARY AND CONFIDENTIAL MAY BE REPRODUCED OR REPRODUCED MAY BE REPRODUCED OR REPRODUCED EXPRESS WRITTEN PERMISSION KENNESAW, GA 30144 USA	 KIRK - RUDY, INC. KENNESAW, GEORGIA	<table><tr><td>1</td><td>MRZD3PLN</td></tr><tr><td colspan="2">REQ'D WHERE USED</td></tr></table>	1	MRZD3PLN	REQ'D WHERE USED	
		1	MRZD3PLN											
REQ'D WHERE USED														
CHECKED BY: 30-Mar-99	DATE 30-Mar-99	DIMENSIONS ARE AS SHOWN UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE TO DIMENSIONS ONLY				HEAT TREAT: N/A	MOQ'S: 203P	TIME: EG, ASSY 203P L/H HOPPER						
TRACER BY:	MASTER M	FINISH: N/A				SHEET # 20F3	CRAFTING # 532104-02							

532104-02

REV	DATE	DESCRIPTION	REV	DATE
1			1	

ITEM	QTY	PART #	DESCRIPTION
1	4	103106	BEARING, FLAT .375
2	4	103108	BEARING, FLAT .500
3	1	108721	PULLEY, 18XL037 .375B .125K
4	2	108785	PULLEY, 16XL037 .375B NK
5	1	109818	PULLEY, 18XL037 .314B NK
6	1	109013-2	BELT, TIMING 260XL037
7	1	109017-5	BELT, TIMING 80XL037
8	1	200600-1	MOTOR, DAYTON IL451 41RPM 220V
9	1	SP47905	BAR, LIFTER
10	1	SP47906	SHAFT, LIFTER DRIVE
11	1	SP47907	SHAFT, LIFTER DRIVE
12	4	SP47908	COLLAR, LIFTER LOCATE
13	1	SP47918	BAR, TIE
14	1	SP47903-R	BAR, LIFTER MOUNT
15	1	SP47913-R	BAR, MOTOR MOUNT

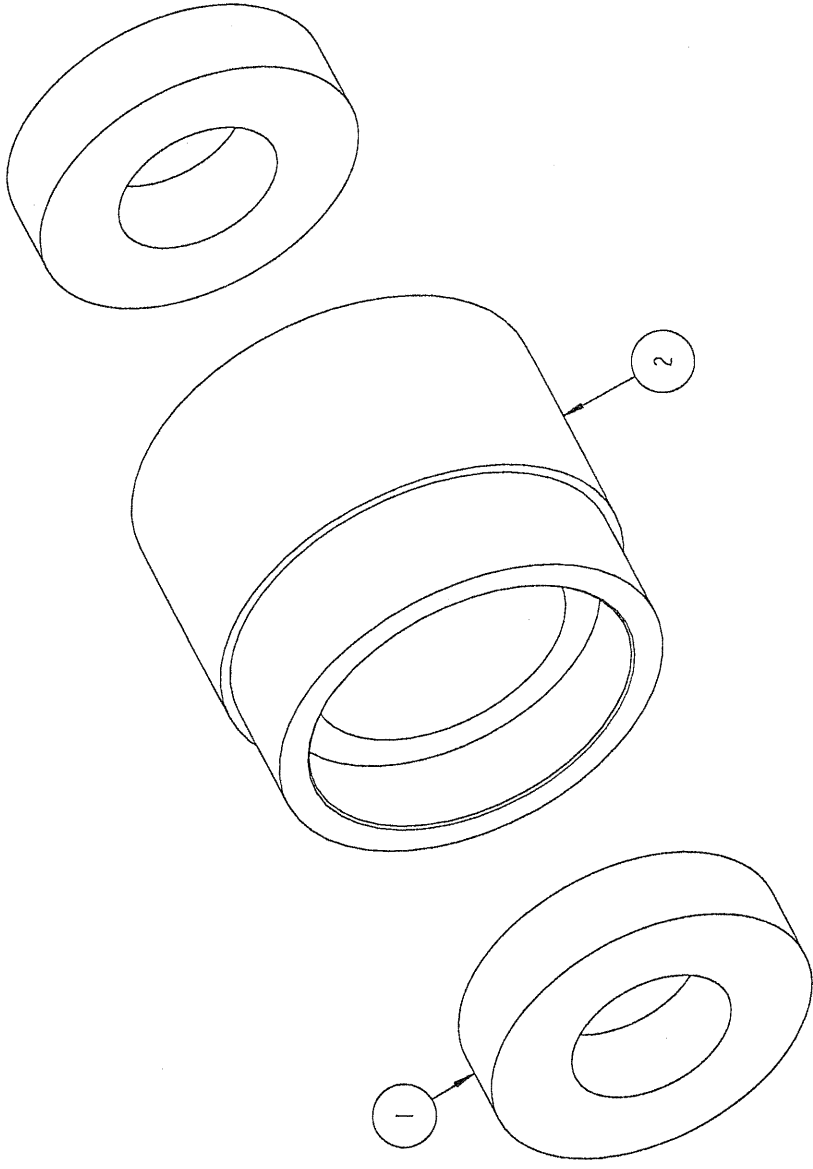


SCALE	0.375	MATERIAL	N/A	PROPORTION AND CONSTRUCTION	NO PORTION OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK - RUDY, INC. KENNESAW, GA 30144 USA	REV'D	WHERE USED
DATE	30-Mar-99	REVISION	N/A	WORKS	203P	1	KR203PLH
CHECKED BY:		THICK	N/A	TITLE	EG, ASSY 203P L/H HOPPER		
TRACED BY:		THIN	N/A	SHEET	30F3		

532104-02

ITEM	QTY	PART #	DESCRIPTION
1	2	103116	BEARING - FLAT
2	1	SP18706	BEARING HOUSING

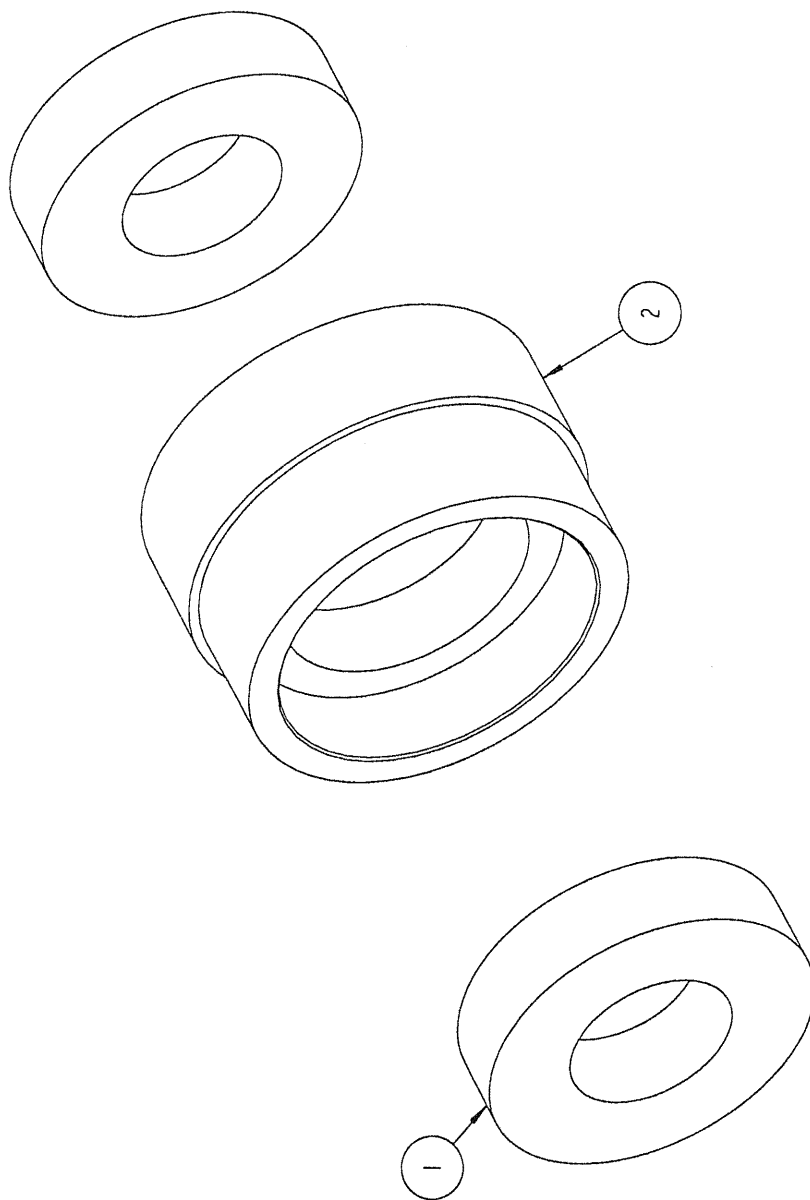
REV NO	DATE	DESCRIPTION	ECH NO	BY
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DRAWN BY: NJG	SCALE 1.000	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	.XX .XXX .5		MATERIAL: N/A	THIRD ANGLE PROJECTION 	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED WITHOUT THE WRITTEN PERMISSION OF KIRK-RUDY, INC. KIRK-RUDY, INC. KENNESAW, GA 30144 USA	REQ'D 2	WHERE USED 203P
	CHECKED BY:		DATE 19-Dec-97	HEAT TREAT: N/A					
TRACED BY:	MASTER 	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY	FINISH: N/A		TITLE: ASSY, HUB BEARING		DRAWING # 532446-01		

ITEM	QTY	PART #	DESCRIPTION
1	2	103116	BEARING - FLAT
2	1	SP18705	BEARING HOUSING

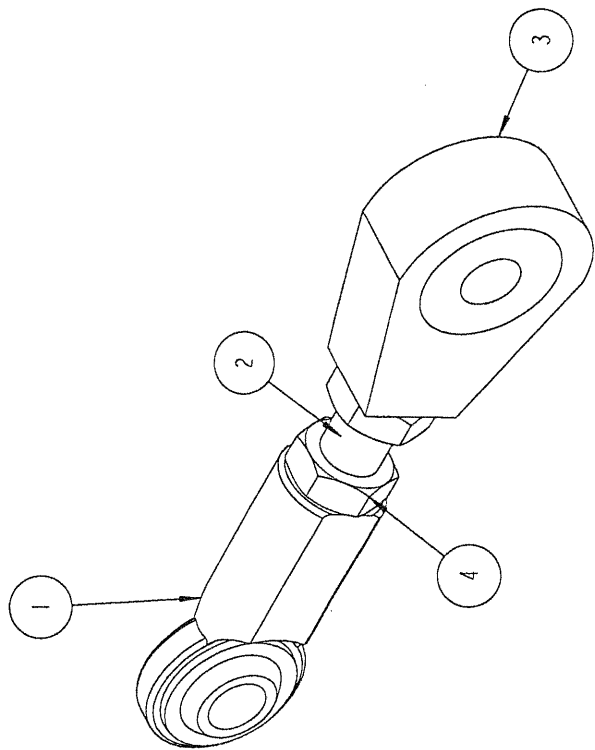
REV NO	DATE	DESCRIPTION	ECN NO	BY
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DRAWN BY: NJG	SCALE 1.000	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED		MATERIAL: N/A		THIRD ANGLE PROJECTION 	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK - RUDY, INC. KENNESAW, GA 30144 USA	KIRK - RUDY, INC. KENNESAW, GEORGIA	1 203P	REC'D WHERE USED
	CHECKED BY: DATE 19-Dec-97	DATE 19-Dec-97	HEAT TREAT: N/A	FINISH: N/A	MODEL: 203P					
TRACED BY:	MASTER	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY		SHEET NO. 10F1		DRAWING # 532447-01				

ITEM	QTY	PART #	DESCRIPTION
1	1	103500	BEARING - ROD END
2	1	105630	ROD, THD 3/8-24 X 1.75
3	1	532570-01	ASSY, CRANK ARM
4	2	HJN012	

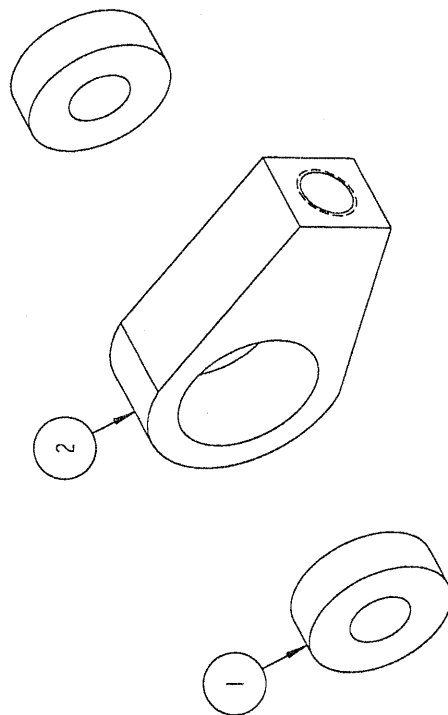
REV NO	DATE	DESCRIPTION	ECH NO	BY
1	06-APR-99	CHANGED 1 OF 532570 11 TO 103500	6458	MY



DESK BY: NJG	SCALE: 1.000	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED .XX .XX .XX ANG. .5	MATERIAL: N/A	THIRD ANGLE PROJECTION 	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. KENNESAW, GA 30144 USA	 KIRK - RUDY, INC. KENNESAW, GEORGIA	1 203P REQ'D WHERE USED
CHECKED BY:	DATE: 19-Dec-97	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY	HEAT TREAT: NONE	MODEL: 203P	TITLE: ASSY, CRANK ARM		
TRACED BY:	MASTER: M		FINISH: NONE	SHEET NO. 1 OF 1	DRAWING # 532570-02		

ITEM	QTY	PART #	DESCRIPTION
1	2	103106	BEARING - FLAT
2	1	SPI8717	CRANK

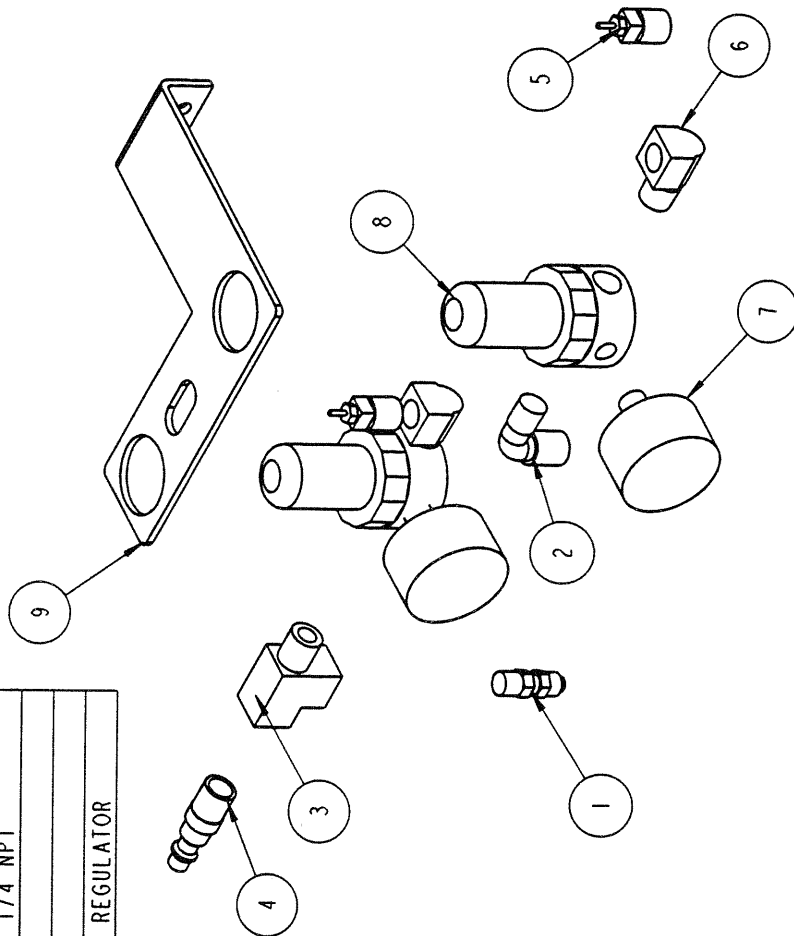
REV NO	DATE	DESCRIPTION	ECN NO	BY
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DRAWN BY: NJG	SCALE 1.000	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED XX .XX ANG. -01 .005 .5	MATERIAL: N/A	THIRD ANGLE PROJECTION 	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE REPRODUCED OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. KENNESAW, GA 30144 USA	2 532570-02	REC'D WHERE USED
CHECKED BY:	DATE 19-Dec-97	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY	HEAT TREAT: NONE	MODEL: 203P	KIRK - RUDY, INC. KENNESAW, GEORGIA		
TRACED BY:	MASTER 		FINISH: NONE	SHEET NO: 1 OF 1	ASSY, CRANK ARM		
							532570-01

532670-01

ITEM	QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
1	1	109529	CONNECTOR, PIPE					
2	1	109533	ELBOW					
3	1	109543	BRANCH T					
4	1	109544	NIPPLE, 1/4 NPT AIR GUN					
5	2	109546	PLUG, 1/4NPT W/.06 TUBE NIPPLE					
6	2	190606	FITTING - 90 DEG 1/4 NPT					
7	2	190695-1	GAUGE, PRESSURE					
8	2	190695-2	REGULATOR, AIR					
9	1	532021-01	BRACKET, DBL AIR REGULATOR					

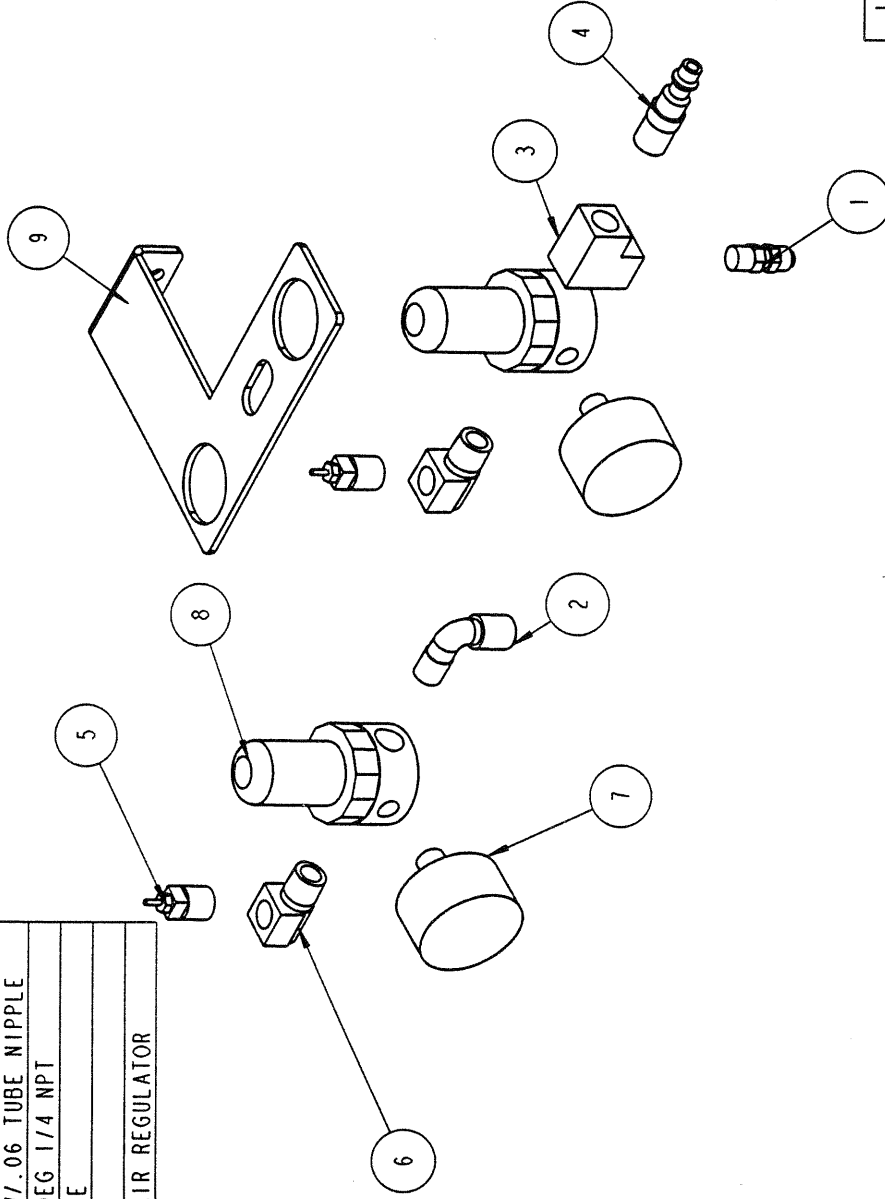


NOTE: FOR R/H MACHINE ONLY

DRAWN BY: NJG	SCALE 0.375	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED		MATERIAL: N/A	THIRD ANGLE PROJECTION	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. KENNESAW, GA 30144 USA	KIRK - RUDY, INC. KENNESAW, GEORGIA	1 203P	203P WHERE USED
CHECKED BY:	DATE 8-Jan-98	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED		HEAT TREAT: N/A	MODEL: 203P	TITLE: ASSY, DBL AIR REG BRCKT RH			
TRACED BY:	MASTER M	ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY		FINISH: N/A	SHEET NO.: 1 OF 1				532670-01




532670-02

ITEM	QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
1	1	109529	CONNECTOR, PIPE					
2	1	109533	ELBOW					
3	1	109543	BRANCH T					
4	1	109544	NIPPLE, 1/4 NPT AIR GUN					
5	2	109546	PLUG, 1/4NPT W/.06 TUBE NIPPLE					
6	2	190606	FITTING - 90 DEG 1/4 NPT					
7	2	190695-1	GAUGE, PRESSURE					
8	2	190695-2	REGULATOR, AIR					
9	1	532021-02	BRACKET, DBL AIR REGULATOR					



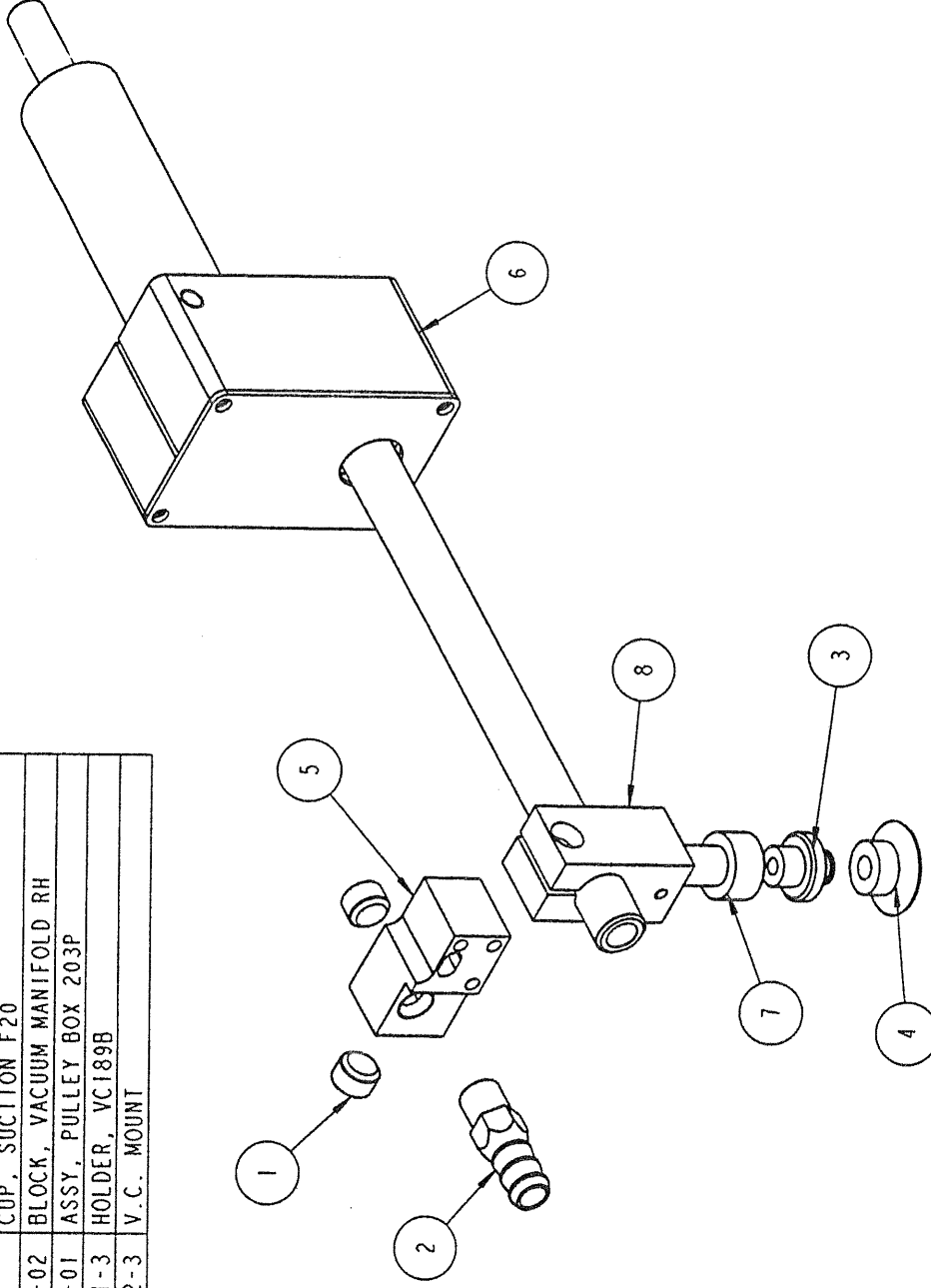
NOTE: FOR L/H MACHINE ONLY

1	203P
REV'D	WHERE USED

DRAWN BY: NJG	SCALE 0.375	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED		MATERIAL: N/A	THIRD ANGLE PROJECTION 	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. KENNESAW, GA 30144 USA	 KIRK - RUDY, INC. KENNESAW, GEORGIA	REV D	WHERE USED		
CHECKED BY:	DATE 8-Jan-98	<table><tr><td>.XX</td><td>.01</td><td>.005</td><td>.5</td></tr><tr><td></td><td></td><td></td><td>ANG.</td></tr></table>	.XX	.01						.005	.5
.XX	.01	.005	.5								
			ANG.								
TRACED BY:	MASTER 	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY		FINISH: N/A	MODEL: 203P	TITLE: ASSY, DBL AIR REG BRCKT LH					
					SHEET NO.: 1 OF 1	DRAWING #			532670-02		

ITEM QTY	PART #	DESCRIPTION
1	2	109549
2	1	190605
3	1	190808
4	1	190811
5	1	532054-02
6	1	532577-01
7	1	SP18721-3
8	1	SP18722-3
		V.C. MOUNT

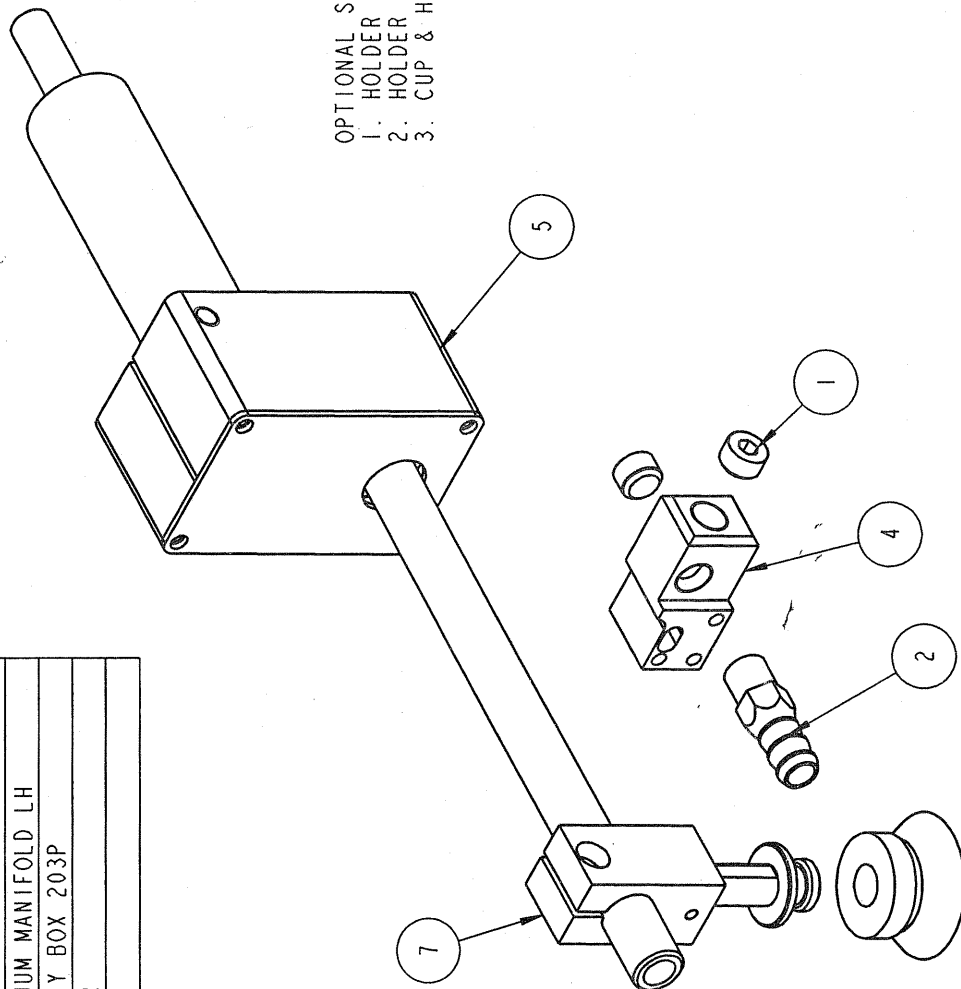
REV NO.	DATE	DESCRIPTION	ECN NO.	BY
1	07-MAY-99	REPLACED 190773 & SP18721 ADDED 190808	6471	MY






DRAWN BY: MY CHECKED BY: TRACED BY:	SCALE: 0.625 DATE: 30-Mar-99 MASTER: M	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED .XX .XXI .XXII .XXIII .XXIV .XXV .XXVI .XXVII .XXVIII .XXIX .XXX .01 .005 .5 REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY	MATERIAL: N/A HEAT TREAT: NONE FINISH: NONE	THIRD ANGLE PROJECTION MODEL: 203PRH SHEET NO: 1 OF 1	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE LOANED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. KENNESAW, GA 30144 USA TITLE: ASSY, VACUUM ARM RH DRAWING #: 532685-03	1 KR203PRH REQ'D WHERE USED	KIRK - RUDY, INC. KENNESAW, GEORGIA
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ITEM	QTY	PART #	DESCRIPTION
1	2	109549	PLUG, 1/8 NPT
2	1	190605	NIPPLE, VACUUM LINE
3	1	190773	CUP, VACUUM VC57A
4	1	532054-01	BLOCK, VACUUM MANIFOLD LH
5	1	532577-01	ASSY, PULLEY BOX 203P
6	1	SP18721	V.C. HOLDER
7	1	SP18722-3	V.C. MOUNT

REV NO	DATE	DESCRIPTION	ECN NO	BY
1	07-MAY-99	REPLACED 190773 & SP18721 ADDED 190808	6471	MY

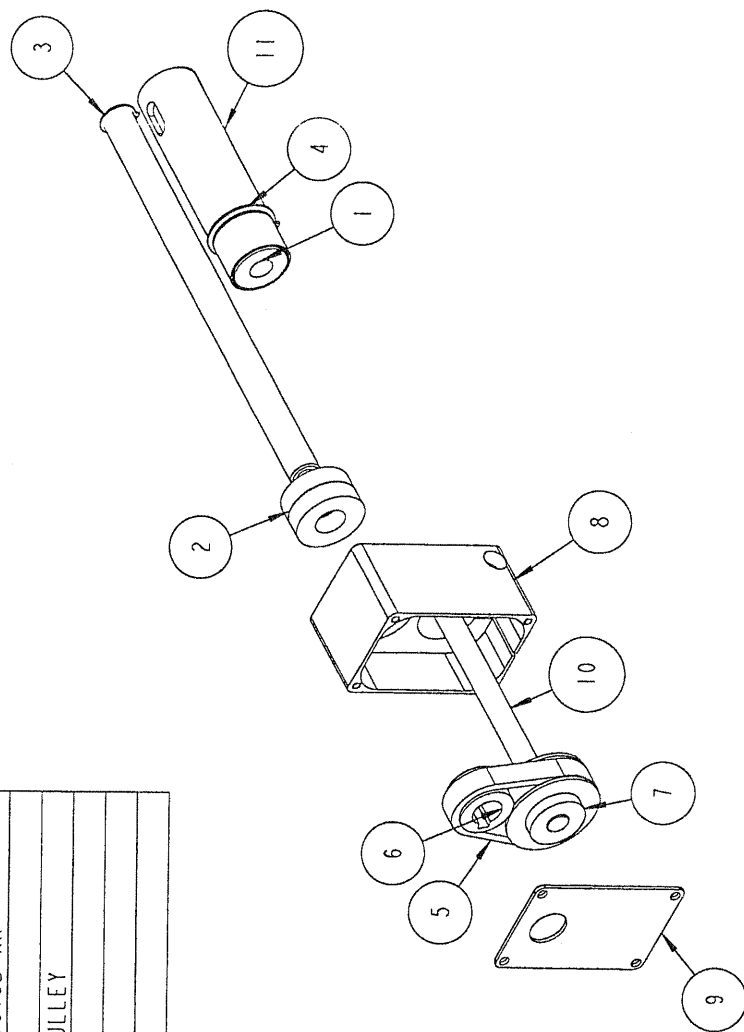


- OPTIONAL SUCTION CUPS
1. HOLDER SPI8721 & CUP 190773.
 2. HOLDER SPI8721-2 & CUP 190704.
 3. CUP & HOLDER 190820.


DRAWN BY: MY		SCALE 0.625		DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED			MATERIAL: N/A		THIRD ANGLE PROJECTION 		PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. WOODSTOCK, GA 30188 USA		 KIRK - RUDY, INC. WOODSTOCK, GEORGIA		REQ'D I		WHERE USED KR203PRH	
CHECKED BY:		DATE 30-Mar-99		REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED			HEAT TREAT: NONE		MODEL: 203PLH		TITLE: ASSY, VACUUM ARM LH							
TRACED BY:		MASTER 		ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY			FINISH: NONE		SHEET NO.: 1 OF 1		DRAWING #		532685-04					

ITEM	QTY	PART #	DESCRIPTION
1	2	103106	BEARING, FLAT .375
2	2	103108	BEARING, FLAT .500
3	1	104106	SNAPRING, .500
4	1	104113	SNAPRING, 1.000
5	1	109019	BELT, TIMING 60XL037
6	1	109822	PULLEY, 14XL037 .500B .188K NH
7	1	109823	PULLEY, 21XL037 .375B NK
8	1	530987-02	BLOCK,BEARING
9	1	532684-01	COVER, BRG BLK PULLEY
10	1	SP18707	SHAFT
11	1	SP18708-1	SLEEVE
12	1	SP18723-5	SHAFT, VACUUM

REV NO	DATE	DESCRIPTION	ECN NO	BY
1	3-1-98	CHNG'D DRIVE FR / TO PULLEY	6298	NJG
2	30-MAR-99	CHANGED SHAFT / SP1B723-2-T-5	6458	MY

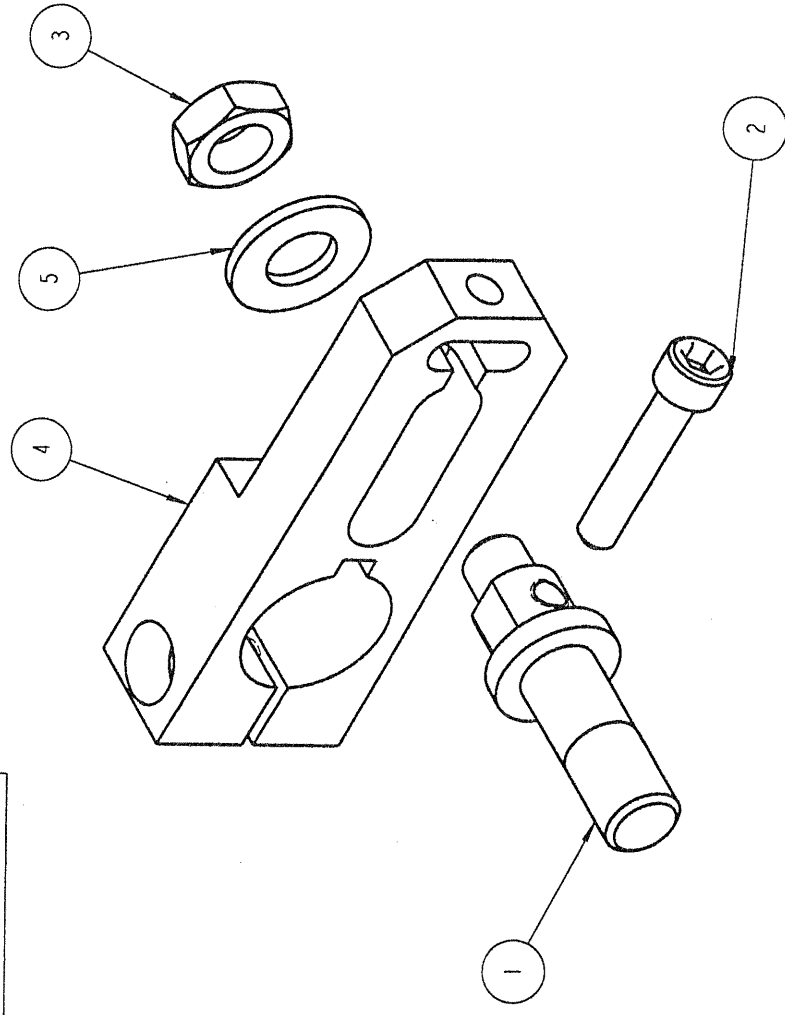


1	532685-03
REQ'D	WHERE USED

DRAWN BY: NJG	SCALE 0.375	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED		MATERIAL:	N/A	THIRD ANGLE PROJECTION 	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. KENNESAW, GA 30144 USA	KIRK - KENNESAW, GEORGIA	REC'D WHERE USED
CHECKED BY:	DATE 5-Jan-98	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED		HEAT TREAT:	N/A	MODEL: 203P	TITLE: ASSY, PULLEY BOX	RUDY, INC.	
TRACED BY:	MASTER M	ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY		FINISH:	N/A	SHEET NO.: 10F1	DRAWING #		532577-01

ITEM	QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
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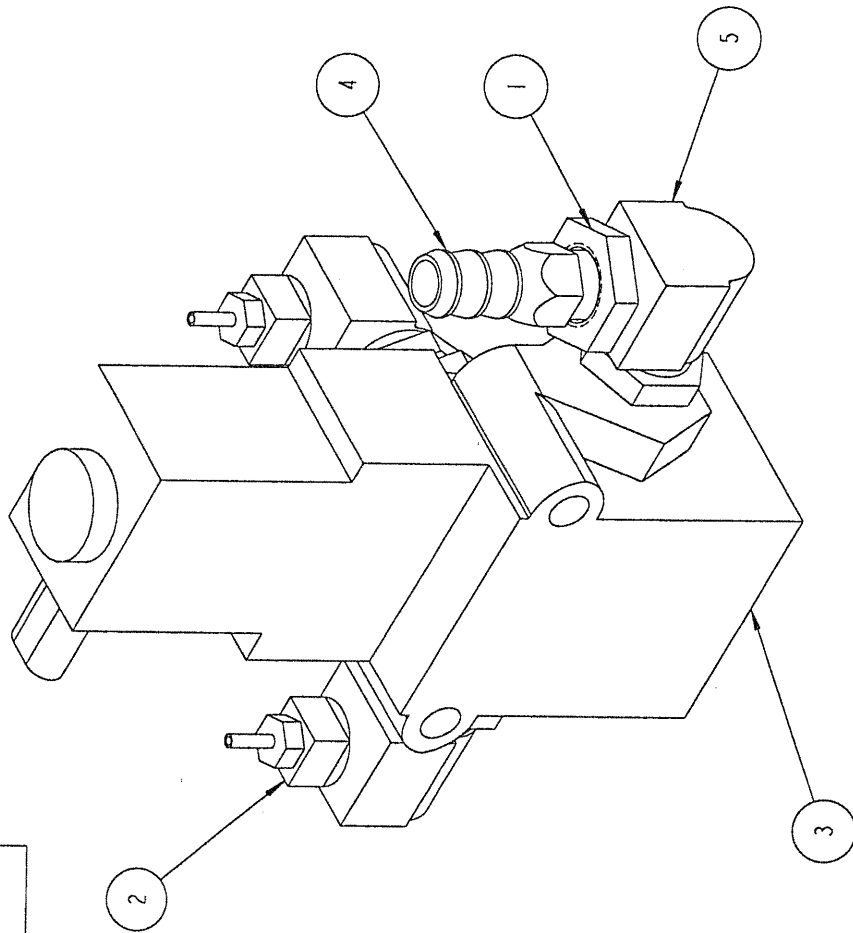
1	1	534006-01	STUD, CRANK ADJUST					
2	1	CSD269						
3	1	HJN011						
4	1	SP18716-3	STOP, ARM					
5	1	WA011						



DRAWN BY: A KEY	SCALE 1.250	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED		MATERIAL: N/A	THIRD ANGLE PROJECTION 	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. KENNESAW, GA 30144 USA	KIRK - RUDY, INC. KENNESAW, GEORGIA	REQ'D WHERE USED 1 203P
	CHECKED BY: 10-JUL-98	DATE	HEAT TREAT: N/A					
TRACED BY:	MASTER M	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY		FINISH: N/A	MODEL: 203P	TITLE: ASSY, CRANK ADJUST	SHEET NO.: 10F1	DRAWING # 534007-01

ITEM	QTY	PART #	DESCRIPTION
1	4	109545	HEX BUSHING, 1/4 TO 3/8
2	2	109546	PLUG, 1/4NPT W/.06 TUBE NIPPLE
3	1	109669	VALVE, MAC PID-121BAAA 220V
4	1	190605	NIPPLE, VACUUM LINE
5	3	190606	FITTING - 90 DEG 1/4 NPT

REV NO	DATE	DESCRIPTION	ECN NO	BY
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1	203P
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PROPRIETARY AND CONFIDENTIAL
NO PORTION OF THIS DRAWING
MAY BE QUOTED OR REPRODUCED
IN ANY FORM WITHOUT THE
EXPRESS WRITTEN PERMISSION
OF KIRK-RUDY, INC.
KENNESAW, GA 30144 USA

KR KIRK - RUDY, INC.
KENNESAW, GEORGIA

THIRD ANGLE PROJECTION
MODEL: KR203
SHEET NO. 1 OF 1

MATERIAL: N/A

HEAT TREAT: N/A

FINISH: N/A

SCALE 1.000
DATE 20-NOV-98
MASTER

REMOVE ALL BURRS AND
SHARP EDGES UNLESS
OTHERWISE NOTED
ALL DIMENSIONS ARE
FINISHED DIMENSIONS
DO NOT SCALE - WORK
TO DIMENSIONS ONLY

TITLE: ASSY, VAC. VALVE & FITTINGS

DRAWING # 535048-01

7 ELECTRICAL SCHEMATICS AND PARTS



WARNING

Read and follow all Safety Instructions in Section 1, Page 5 before proceeding.

7.1 WIRING DIAGRAMS LIST

200-174-00-110 *PICK + PLACE SHAFT DRIVE*
200-106-01-112 Pick & Place with Motor Drive

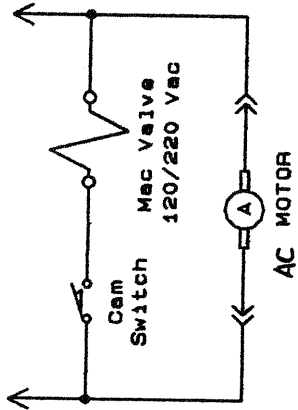
7.2 PARTS LIST – STANDARD SHAFT DRIVE

KR Part #	Qty	Name	Description
109666	1	Valve, Mac	558-12-PI-111CA-110VAC
190100	2	Microswitch, Roller	BZ-2RW82-A2

7.3 PARTS LIST – MOTOR DRIVE

KR Part #	Qty	Name	Description
104033	1	Warner Clutch	405-23-005
109666	1	Valve, Mac	558-12-PI-111CA-110VAC
190100	2	Microswitch, Roller	BZ-2RW82-A2
200124	1	Pump, Vacuum	823 GAST
200170-01	1	Motor, Bodine 1/8 hp	250 rpm
202277	2	Socket, Relay	RH4B-ULCD24V
202291	2	Relay, 24V AC	700-HF32A24-4
202297	1	Relay, Multi-function	TRM Strelel
202426-2	1	Board, 90V DC Motor	KBNM-225D 240 VAC
203022	1	Micron GlobalTRAN	B050-0021-GA
208015	1	Fuse	MDL 1
208031	2	Fuse	5 MDL
208043	2	Fuse	MDL/GDL 10
208045	1	Fuse	MDL/GDL 2

3 Pin Twist
120/220 Vac



200 174 00 110

Kirk-Rudy, Inc.
2700 Due West Drive
P.O. Box 1507
Kennesaw, Georgia 30144

Title

Pick & Place Feeder

Size Document Number

A

200 174 00 110

REV

0

Date:

July 28, 1997 Sheet 1 of 1

18 Bit

8 APPENDIX

SPECIAL OPTIONS

8.1 SUCTION CUP OPTIONS

KR Part #	Manufacturer's #	Description	KR Holder needed
190704	VC36B	Small Round Blue	SP18721-2
190773	VC57A	Big Round Blue	SP18721
190774	B-15-2	Black Bevels	SP18721-1
190778	VC189B	Medium Rectangular Blue	SP18721-3
190811	P1AB F20	Small Round Black	SP18721-3
190818	VC189A	Large Rectangular Blue	SP18721-3
190819	VC189C	Small Rectangular Blue	SP18721-3
190820	P1AB F25	Large Round Black	SP18721-3

8.2 DUAL HOPPER OPTION

The Dual Hopper option assembly is 531989-01 and is used to feed two products side by side. See following page for 531989-01.

8.3 MOTOR DRIVE OPTION

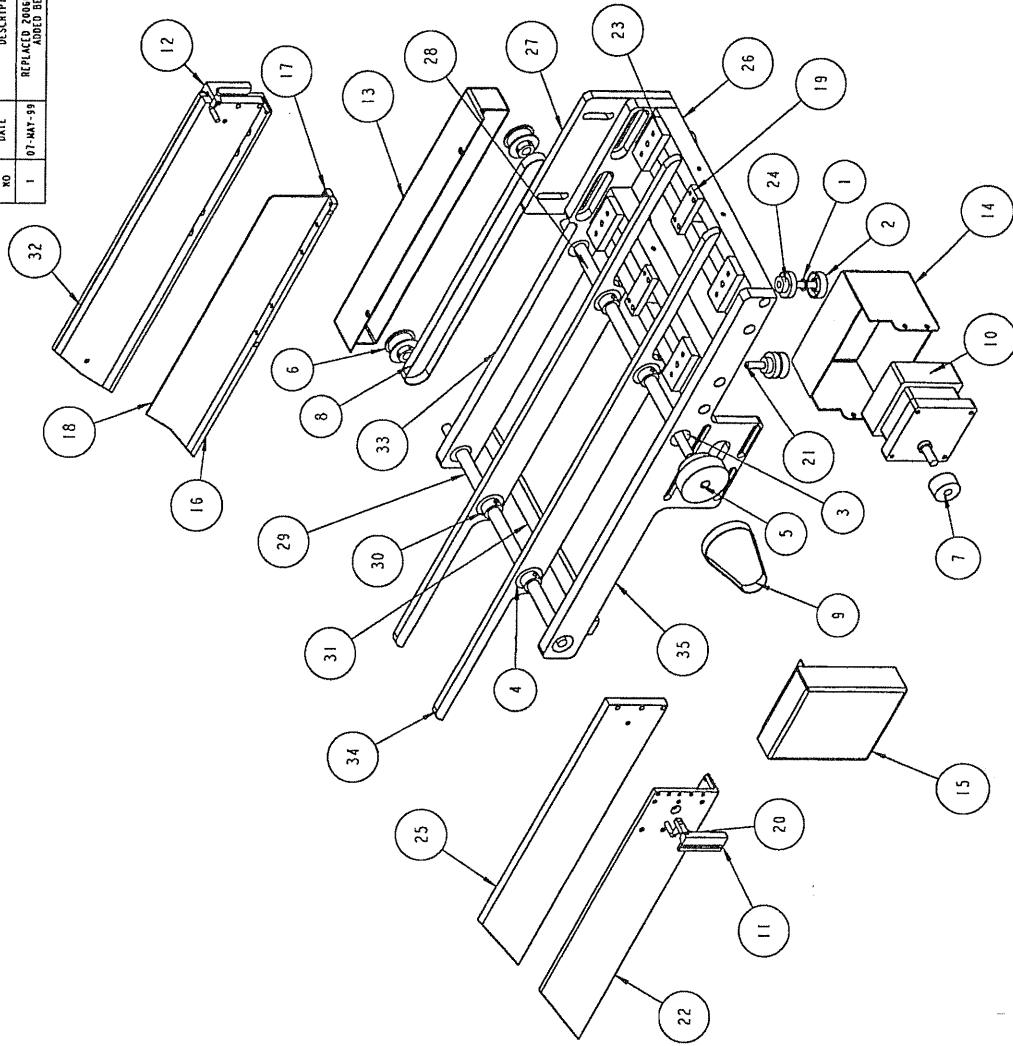
The Motor Drive option assembly is 534945-01 and is used to drive the head instead of using the standard shaft drive. See following page for 534945-01.

531989-01

MARKING 1

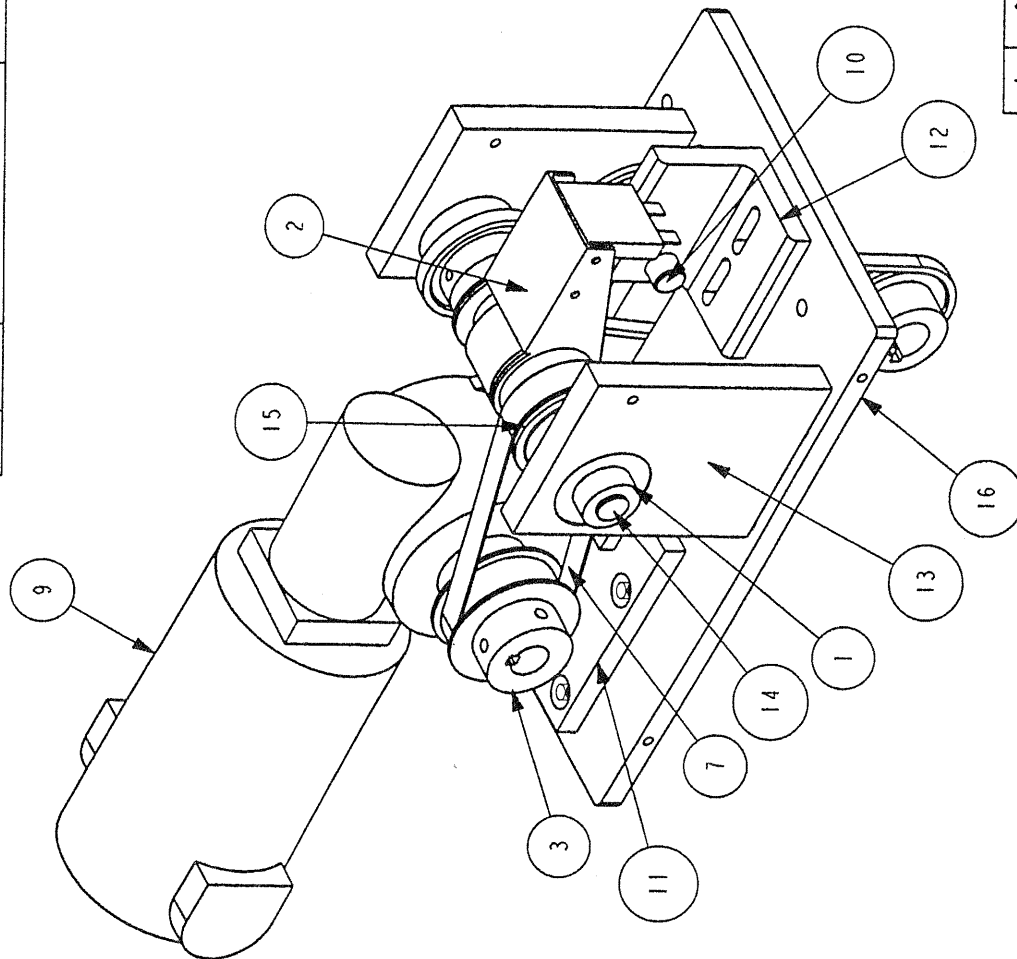
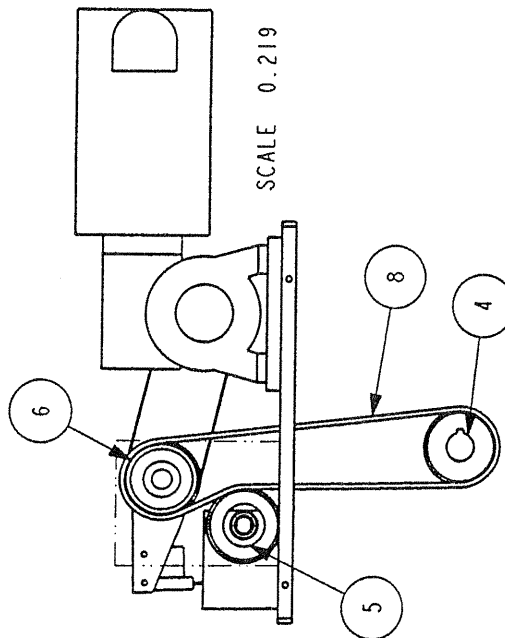
ITEM QTY	PART #	DESCRIPTION
1	4	100623 WASHER, FLAT .250
2	4	102131 KNOB
3	4	103106 BEARING, FLAT .375
4	4	103108 BEARING, FLAT .500
5	1	108757 PULLEY, 32XL037 .3758 NK
6	2	108785 PULLEY, 16XL037 .3758 NK
7	1	108788 PULLEY, 16XL037 .3128 NK NH
8	1	109013-2 BELT, TIMING 100XL037
9	1	109018-2 MOTOR, DAYTON 1L451 41RPM 220V
10	1	530447-01 BRACKET, GUIDE MOUNT
11	1	530447-02 BRACKET, GUIDE MOUNT
12	1	532024-01 COVER, JOGGER PULLEY
13	1	532050-01 WLDMT, HOPPER MOTOR COVER
14	1	532051-01 COVER, HOPPER PULLEY
15	1	532083-01 BAR, CTR GUIDE MOUNT
16	1	532084-01 BAR, CTR GUIDE MOUNT
17	1	532085-01 GUIDE, CENTER
18	2	532086-01 BLOCK, CTR GUIDE MOUNT
19	2	532139-01 ROD, HOPPER FEED
20	4	CSD0298 HOPPER
21	1	SP18702 HOPPER, MOUNT
22	4	SP18732 WASHER, GUIDE
23	4	SP18750 SPACER, HOPPER
24	2	SP47901 BAR, HOPPER SUPPORT
25	2	SP47902 PLATE, HOPPER DRIVE
26	1	SP47906 SHAFT, LIFTER DRIVE
27	1	SP47907 SHAFT, LIFTER DRIVE
28	8	SP47908 COLLAR, LIFTER LOCATE
29	1	SP47918 BAR, TIE
30	1	SP18702-1 HOPPER
31	1	SP47903-R BAR, LIFTER MOUNT
32	2	SP47905-1 BAR, LIFTER
33	1	SP47913-R BAR, MOTOR MOUNT
34	1	
35	1	

REV	NO	DATE	DESCRIPTION	ECN	BY
1	07-MAY-99		REPLACED 200600 W/ -1L, ADDED BELTS	6471	MT



DATE	0.219	SCALE	0.219	PROPRIETARY AND CONFIDENTIAL	WHERE USED
CHECKED BY:	3-Mar-98	MATERIAL:	N/A	KIRK - RUDY, INC.	KENNESAW, GEORGIA
TRACED BY:	M	REMARKS:	N/A	EG ASSY, 203P L/H DUAL HOPPER	531989-01
		ALL DIMENSIONS ARE TO DIMENSIONS ONLY			

ITEM	QTY	PART #	DESCRIPTION
1	2	103803	BEARING, HUB .500
2	1	104032	SPRING WRAP CLUTCH
3	1	108834	PULLEY, TIMING 16L050 .625B .188K
4	1	110208	SPRKT, 35B15 .750B .188K
5	1	110219	SPRKT, 35B15 1.125B NK
6	1	110954	SPRKT, 35B15 .500B .125K
7	1	108916-4	BELT, TIMING 150L050
8	1	110020-10	CHAIN, #35
9	1	200170-1R	GEARMOTOR
10	1	508790-1	STUD, IDLER
11	1	534949-01	PLATE, MOTOR MOUNT
12	1	536407-01	BRACKET, TAKE-UP
13	2	SP47921	PLATE, BEARING
14	1	SP47922	SHAFT, CLUTCH
15	1	SP47924	PULLEY, TIMING 16L050
16	1	SP47920-1	PLATE, MTR MNT



DRAWN BY: MY	SCALE 0.375	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	MATERIAL: N/A	THIRD ANGLE PROJECTION	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. KENNESAW, GA 30144 USA	REV NO	DATE	DESCRIPTION	ECN NO	BY
	CHECKED BY: 06-May-99									
TRACED BY: M	DATE 06-May-99	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY	HEAT TREAT: N/A	MODEL: SP47900	TITLE: ASSY, PICK & PLC MTR MNT					
			FINISH: N/A	SHEET NO: 1 OF 1	DRAWING # 534945-01					

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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.

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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.

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