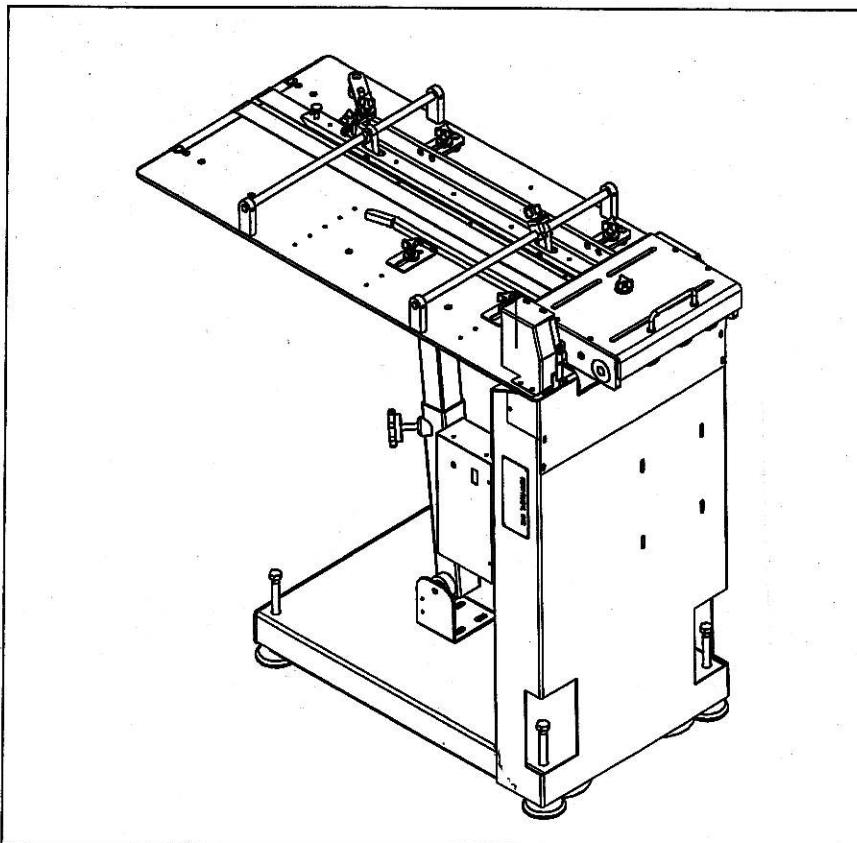


Kirk-Rudy, Inc.

Parts and Instruction Manual

KR415 Incline Bumpturn Conveyor



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-KR415 REV. 3 11/18/2003

Parts
Manual

TABLE OF CONTENTS

<u>SECTION</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1	IMPORTANT SAFETY INSTRUCTIONS	3
2	SPECIFICATIONS	4
3	INSTALLATION	5
	3.1 UNCRATING	5
	3.2 ACCESSORIES & SPARE PARTS	5
4	MACHINE DESCRIPTION	6
	4.1 MECHANICAL COMPONENT DESCRIPTION	6
	4.2 ELECTRICAL COMPONENT DESCRIPTION	6
5	OPERATING INSTRUCTIONS	7-8
6	PARTS LIST AND DIAGRAMS	9
7	NOTES	10
8	WARRANTY AND SERVICE INFORMATION	11

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

1 Important Safety Instructions

Intended Use Statement: The KR415 Incline Bumturn Conveyor has been designed to convey and bumturn product between two machines of differing or same height. The KR415 infeed height is easily adjustable by changing the incline angle of the conveyor. The conveyor also has a driven set of upper round belts to help control product as it is transferred to the next machine. Usage for other purposes may lead to an unsafe condition.

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

PRODUCT SIZE (AFTER BUMPTURNING)

Minimum Size:	2" W x 5" L	51mm W x 127mm L
Maximum Size:	10.5" W x 12" L	266mm W x 305mm L
Minimum Thickness:	.01"	.25mm
Maximum Thickness:	.188"	4.7mm

PRODUCT SIZE (STRAIGHT THRU NO BUMPTURN)

Minimum Size:	2" W x 5" L	51mm W x 127mm L
Maximum Size:	11.5" W x 17" L	292mm W x 432mm L
Minimum Thickness:	.01"	.25mm
Maximum Thickness:	.188"	4.7mm

SPEED

Maximum 550 fpm

MACHINE DATA

Length:	36.6"	93 cm
Width:	18"	45.7cm
Height:(tabletop)	33.3"	84.6cm
Height Infeed Down:	19.5"	49.5cm
Height Infeed Up:	33.3"	84.6cm
Weight: Net	lbs.	kgs
Shipping Crate:	lbs.	kgs

ELECTRICAL

Schematic #: 210 495 0001
120 VAC, Single Phase 60/50 Cycle, 5A

3 INSTALLATION



WARNING

Read and follow all Safety Instructions in Section 1, Page 3 before proceeding.

3.1 UNCRATING

1. Position crate near installation site.
2. Remove crate top and sides.
3. Locate accessories box and verify all items are present.
4. Remove metal strapping and securing blocks.
5. Lift the machine off the skid. If a forklift is used be sure to position the forks in a centrally located position.
6. Machine is on casters and can be rolled to desired location.

3.2 ACCESSORIES AND SPARE PARTS

The accessories and spare parts are packaged and located inside the base cabinet. The box should be opened and checked against the enclosed packing list.

4 MACHINE DESCRIPTION

4.1 Mechanical Component Description (see figure 1)

4.1.1 CONVEYOR BELTS: Two belts are used to convey product up the tabletop. Each belt has a clamp style belt tension guide, located on the bottom of the machine, to set the belt tension and location. (see diagram 542722-01)

4.1.2 SKIDBAR BUMPTURN ASSEMBLY: A skid bar is suspended over the tabletop on two sets of posts and shafts. Two clamp assemblies with tri-knobs allow for quick alignment of the skid bar anywhere across the tabletop. The clamp on the infeed end is also used to set the height of the skid bar and has an additional knob to fine tune the height of the skid bar. The clamp on the outfeed end is also used to set the spring pressure to hold down the skid bar. The skid bar contains ball bearings to provide pressure on the product to allow the belts to convey the product up the conveyor. The first ball bearing has an adjustment knob for individually increasing the pressure of the first ball bearing. (see diagram 537284-07)

4.1.3 SIDE GUIDE BUMPTURN ASSEMBLY: A shaft assembly, a sideguide and two bracket assemblies make up the sideguide bump assembly. A tri-knob is used to lock the shaft assembly in place. The shaft on the shaft assembly is the pivot point for bump turning the product. The collar on the shaft assembly keeps the product from moving upward when it bumps the shaft. The sideguide is used to precisely stop the rotation of the product being bump turned and guide it to the end of the conveyor. Two bracket assemblies can be attached with screws to either side of the side guide to hold the sideguide in place for use on either side of the conveyor belts. (see diagram 542743-01)

4.1.4 UPPER BELT DRIVE ASSEMBLY: Three round belts are used to divert products conveyed up the tabletop downward onto the next machine. Each belt is suspended between two rollers. The rollers can be relocated on the drive shafts by the use of setscrews. A tri-knob height adjustment screw is used to set the divert angle of the belts. Lifting on the handle will bring the outfeed end of the assembly upward for clearing jams. The assembly is locked in an up or down position by ball/spring assemblies. **Caution:** **Raising the upper belt assembly does not stop the conveyor belts. Always stop the machine to clear a jam.**(see diagram 542875-01)

4.1.5 GAS SPRING ASSEMBLY: A gas spring provides a lifting force to allow for easy adjustment of the angle of the tabletop. A lock knob is used to lock the angle in place. (see diagram 542722-01)

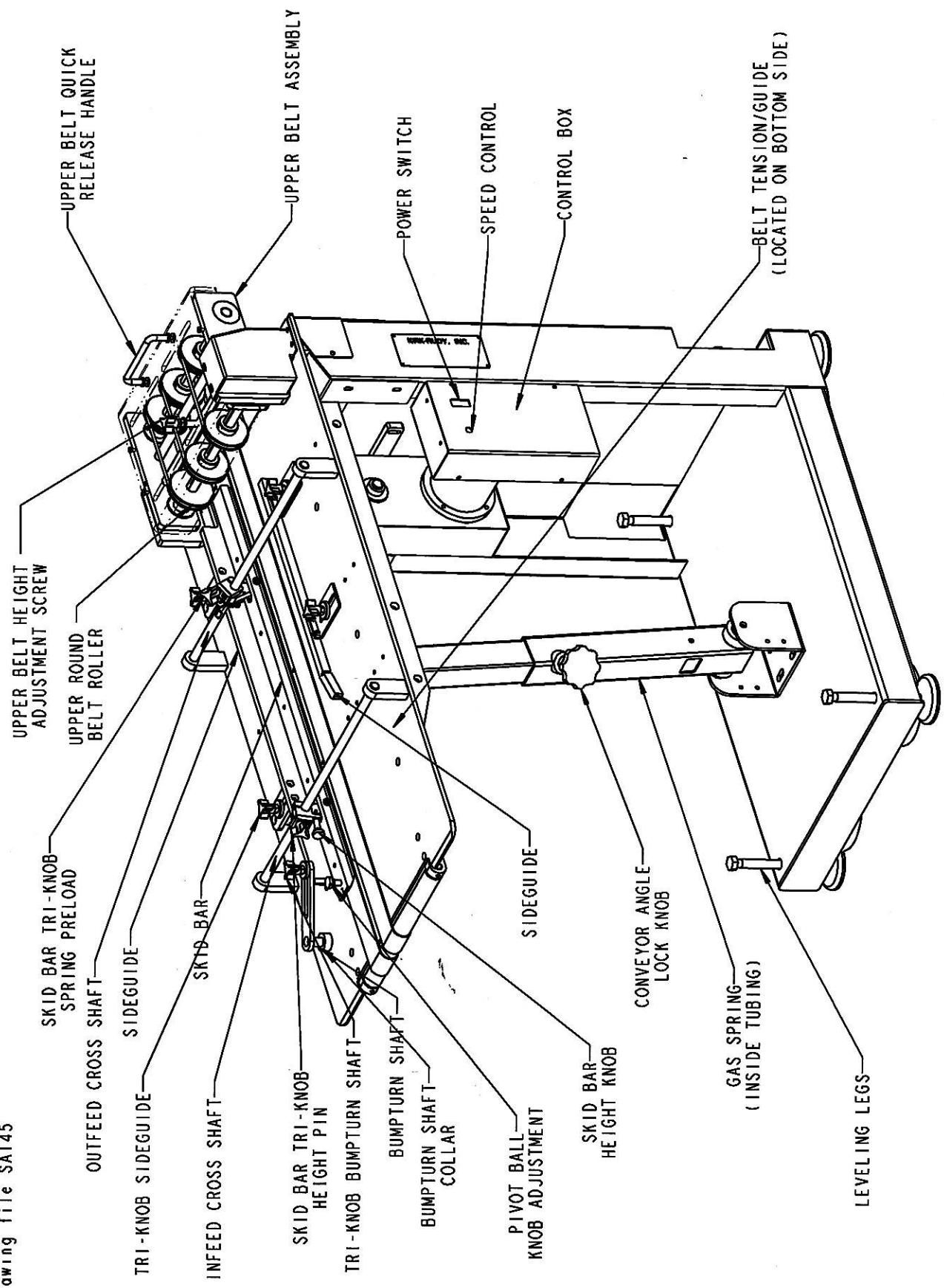
4.1.6 LEVELING LEGS: Locking jack screws and pads are used to stabilize and elevate the machine.

4.2 Electrical Component Description

4.2.1 CONTROL BOX: The on/off switch and the speed control are located on the control box.

4.2.2 ELECTRICAL CONNECTION: a standard 110 volt power cord supplies power to the machine

drawing file SAI45



COMPONENTS DESCRIPTION
FIGURE 1

5 OPERATING INSTRUCTIONS



WARNING

Read and follow all Safety Instructions in Section 1, Page 3 before proceeding.

NOTE: Setting up and adjusting the bump turn incline conveyor is much easier if it is done with the conveyor is off line.

5.1 Bump Turn Setup

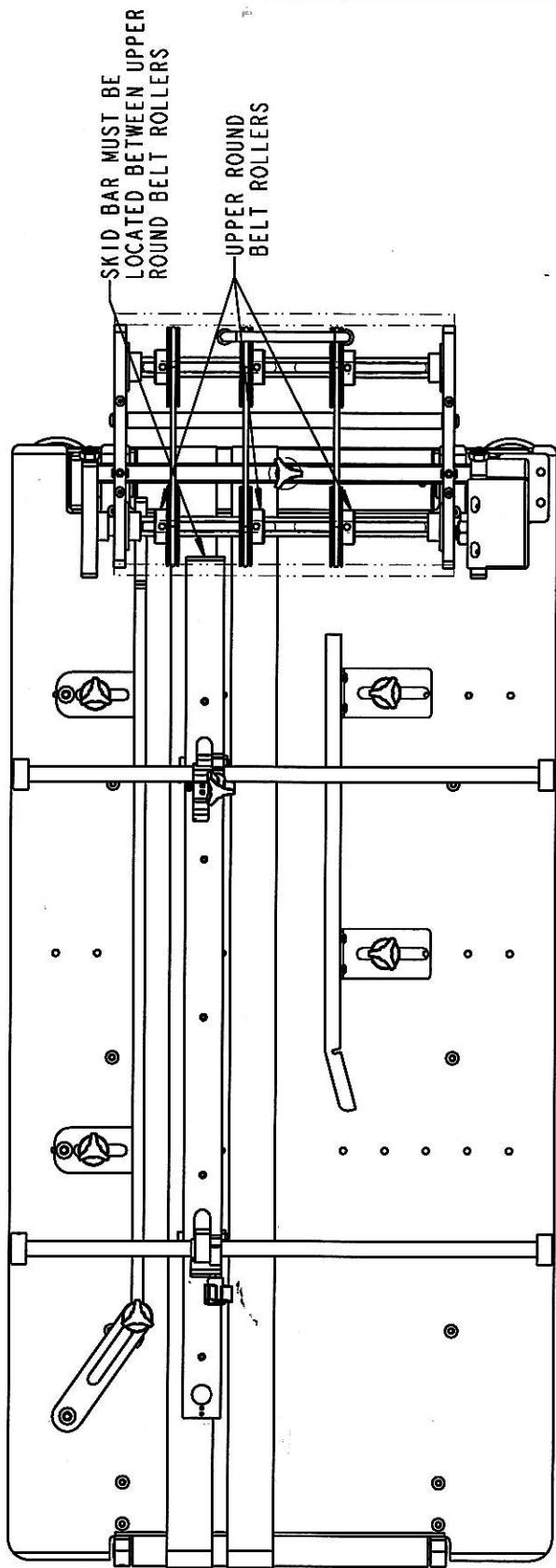
1. Set the conveyor belt positions for the product. The belts should be centered and within the edges of the product so as to convey the product up the tabletop after it has been bump turned. With small products, the outside edge of the belts should be a minimum of 3/4 of an inch inside the edges of the product. This distance increases up to two inches for wider products
2. With the product orientated as it will be after the bump turn, centered the product on the belts and set the sideguide to the edge of the product. If the bump turn will be clockwise, the sideguide should be set on the right side of the product. If the bump turn will be counter-clockwise, the sideguide should be set on the left side. Set the bump turn shaft inline and as close as possible to the infeed end of the sideguide. Make sure that the inside edge of the shaft lines up with the inside edge of the sideguide. Set the collar on the shaft so that the bottom of the collar is a little above the height of the product.
3. Set the skid bar centered on the belt away from the sideguide. The product should be fully under the skidbar after the product has bump turned. Using the infeed clamp, set the height of the skid bar for the product to just touch the balls. **Important: When correctly adjusted, the skidbar should be swinging upward towards the outfeed end of the conveyor.** Back off the pressure of the first ball to minimum and set the spring pressure on the skid bar using the outfeed clamp.
4. Turn on the conveyor and set the speed of the conveyor at a very slow speed. Hand feed product into the conveyor in the unturned alignment and adjust the pressure of the first ball bearing till the product begins to turn well. **Caution: Screwing in the screw does not lower the first ball bearing, it just increases the force needed for the product to push the ball bearing upward. A little pressure should be all that is necessary, too much pressure can break the spring on the ball bearing. Avoid using too much pressure on the first ball adjustment by lowering the whole skid bar.**
5. Hand feed product in to the conveyor, trying different locations to the left and to the right till a position is found in which the book fully turns and parallels the side guide. The larger the product the more it will have to be fed towards the side of the sideguide. Also, with larger products the bump turn stud might need to be moved a little outward to align the inside of the stud with the inside of the angle on the end of the sideguide. Mark the location that the product turns best.

6. Speed up the conveyor to operating speed, test and fine tune as necessary to get a good bump turn every time.
7. Roll the conveyor in place making sure the product will feed into the conveyor as marked in the steps above. Set the angle of the conveyor tabletop to where the infeed end is just below the outfeed of the product from the upstream machine. **Caution:** **Care should be taken to hold up the infeed end of the tabletop when loosening the angle lock knob for the gas spring assembly to keep the infeed end of the tabletop from falling.**
8. Use the jackscrews and pads to elevate and stabilize the conveyor as necessary for a good product flow of product from the upstream to the downstream machine.
9. Move the rollers in the upper belt drive assembly as necessary to position the upper belts over the product. **Caution: Care should be taken in the alignment of the rollers. If a roller is inline with the skidbar, the skidbar will hit the roller when swung fully up (downstream) and cause machine damage. (see figure 2)** Use the tri-knob on the assembly to adjust the angle of the upper belts as necessary.
10. Test run products and fine tune as necessary.

5.2 Straight Through No Bump Turn

The KR415 can be used as a straight through no bump turn conveyor. Product sizes are noted in the specifications. Note: Adjust sideguide making sure product clears upper belt drive frame.

drawing file SAI45



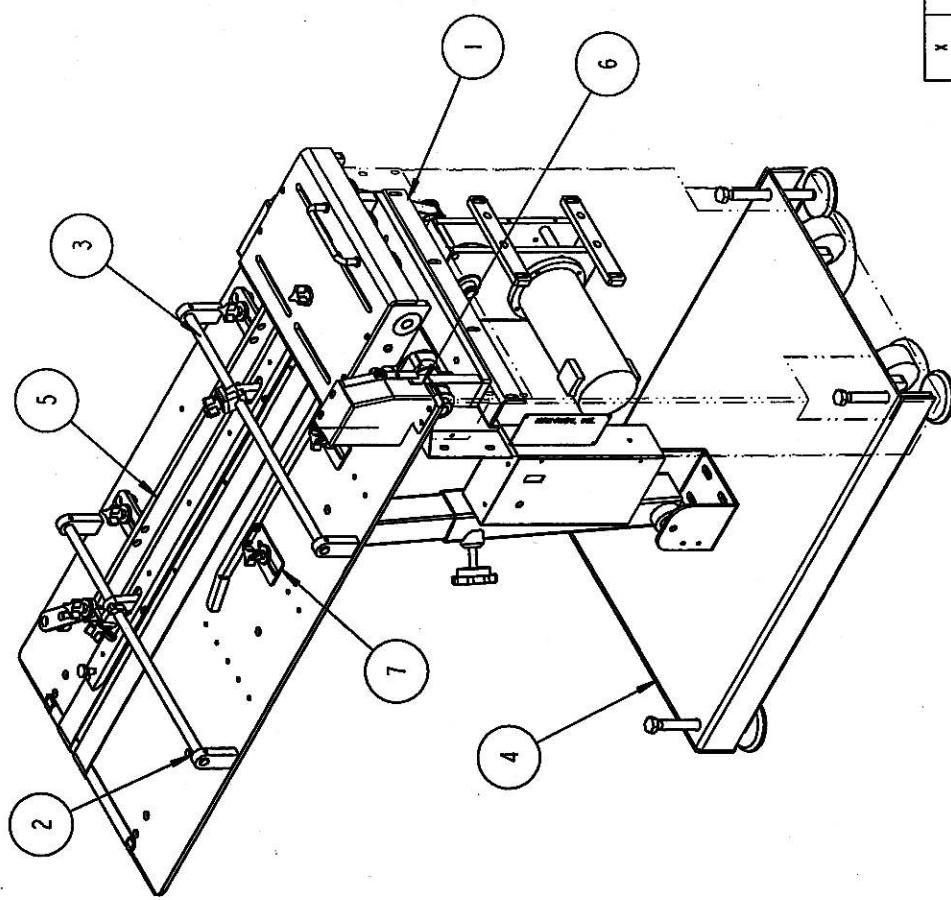
SKID BAR SET-UP
FIGURE 2

6 PARTS LISTS AND DIAGRAMS

ASSEMBLY DRAWINGS

Drawing #	Description
SA145	ASSY, INCLINE BUMPTURN CONVEYOR
537284-07	ASSY, SKID BAR BUMPTURN
539817-03	ASSY, SKID BAR CLAMP
542722-01	ASSY, BUMPTURN CONVEYOR
510611-5A	ASSY, ROLLER 1.5" WIDE
542466-01	ASSY, DRYER ARM PIVOT
536617-01	ASSY, OUTFEED IDLER ROLLER
538434-03	ASSY, DRIVE ROLLER
542875-01	ASSY, UPPER BELT DRIVE
542723-01	ASSY, BUMPTURN CABINET & COVERS
537337-03	ASSY, 1/4 SINGLE RED. NARROW
538240-01	ASSY, ELECTRICAL BOX BUMPTURN
542743-01	ASSY, SIDEGUIDE BUMPTURN
500790-1	ASSY, TRI-KNOB 1/4-20 STUD
500790-2	ASSY, TRI-KNOB 1/4-20 STUD
548090-01	ASSY, SIDEGUIDE BUMPTURN

ITEM QTY	PART #	DESCRIPTION
1	108927-9	BELT, TIMING 210L075
2	537284-07	ASSY, SKID BAR BUMPTURN
3	542722-01	ASSY, BUMPTURN CONVEYOR
4	542723-01	ASSY, BUMPTURN CABINET & COVERS
5	542743-01	ASSY, SIDEGUIDE BUMPTURN
6	544496-01	COVER, TIMING PULLEY
7	548090-01	ASSY, SIDEGUIDE BUMPTURN



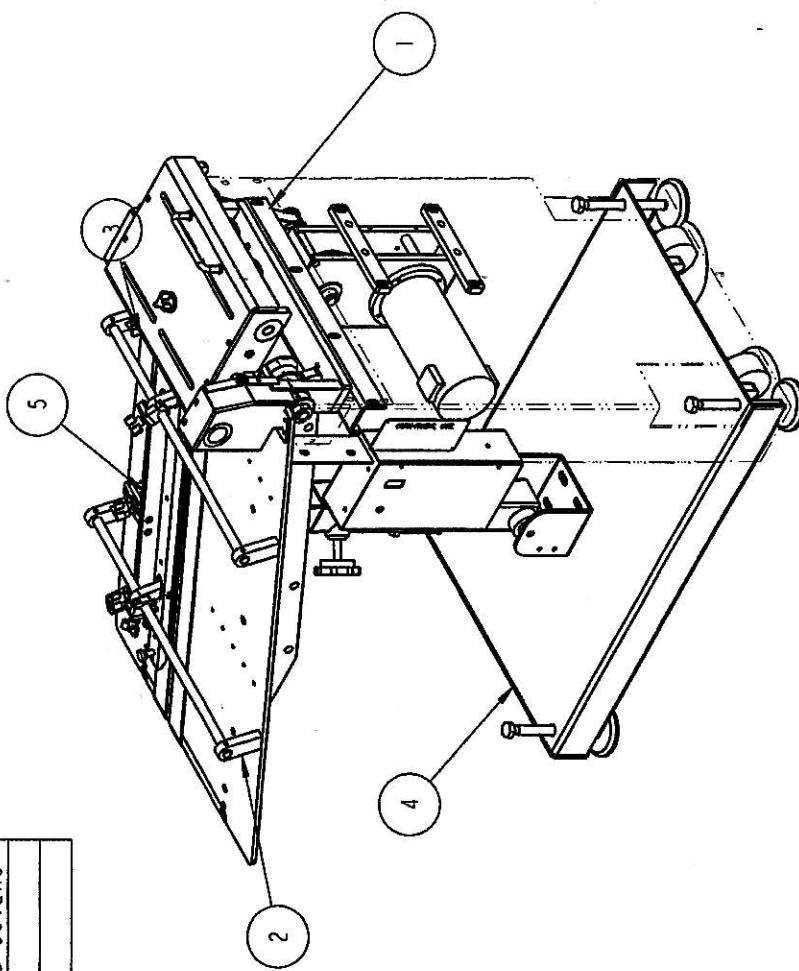
REV NO	DATE	DESCRIPTION	ECN NO	BY
1	15-JUL-05	ADDED 548090-01 SIDEGUIDE ASSY	1237	CNC

X	XXX
RECD	WHERE USED

DRAWN BY: T JG	SCALE: 0 . 110	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	MATERIAL: XXX	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, GEORGIA	
					DATE:	03-Dec-02
CHECDED BY:	MASTER	INITIALS:	.01 .005 .5	HEAT TREAT:	XXX	MODEL: SAI 45
TRACED BY:	M	INITIALS:	XXX	FINISH:	10F5	SHEET NO: 1

KIRK - RUDY, INC. WOODSTOCK, GEORGIA
ASSY, INCLINE BUMPTURN CONVEYOR
DRAWING #
SAI 45

ITEM QTY	PART #	DESCRIPTION
1	108927-9	BELT, TIMING 210L075
2	537284-07	SKID BAR BUMPTURN
3	542722-01	ASSY, BUMPTURN CONVEYOR
4	542723-01	ASSY, BUMPTURN CABINET & COVERS
5	542743-01	ASSY, SIDEGUIDE BUMPTURN
6	544496-01	COVER, TIMING PULLEY



REV NO	DATE	DESCRIPTION	ECN NO	BY

X	XXX
REQ'D	WHERE USED
 KIRK - RUDY, INC.	KENNEBUNK, GEORGIA
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. KENNEBUNK, GA 30144 USA	
SCALE: 0.10	THIRD ANGLE PROJECTION
DRAWN BY: T JG	MATERIAL: XXX
DATE: 03-Dec-02	HEAT TREAT: XXX
CHECKED BY:	REMOVED ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED
MASTER	ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY
TRACED BY:	FINISH: XXX
	SHEET NO. 0F5
	TITLE: ASSY, INCLINE BUMPTURN CONVEYOR
	DRAWING 1
	SAI 45

REV NO	DATE	DESCRIPTION	ECN NO	BY

3D View:

Front View:

41.062

36.604

36.750

18.000

33.301

33.317 37.926

26.284

17.250

X XXX

REF'D WHERE USED
XXX

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.

Third Angle Projection:

MATERIAL: XXX

HEAT TREAT: XXX

FINISH: XXX

MODEL: SAI 45

TITLE: ASSY, INCLINE BUMPTURN CONVEYOR

SHEET NO: 20F5

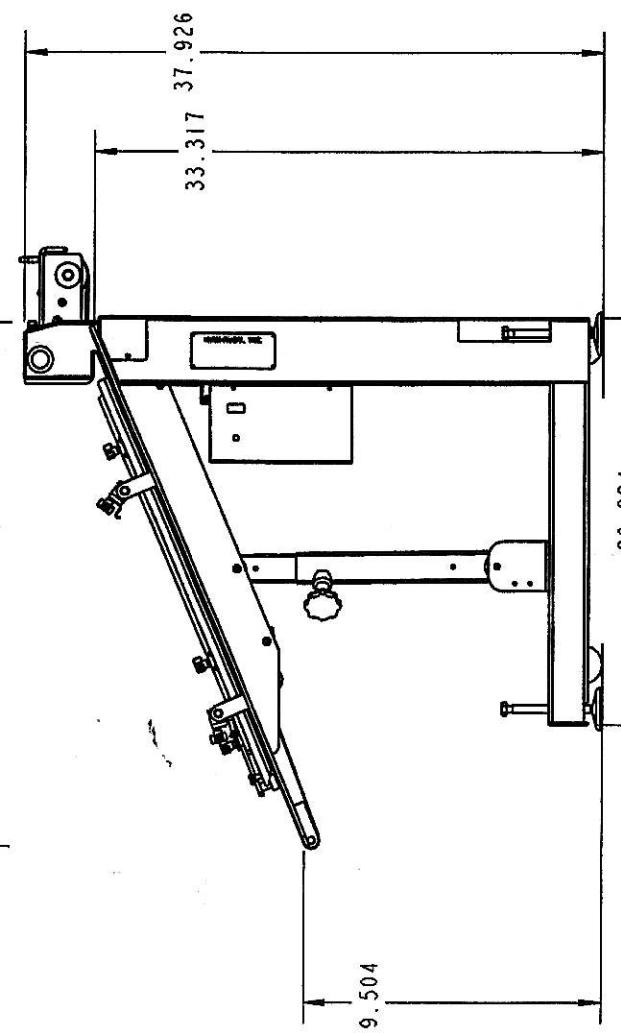
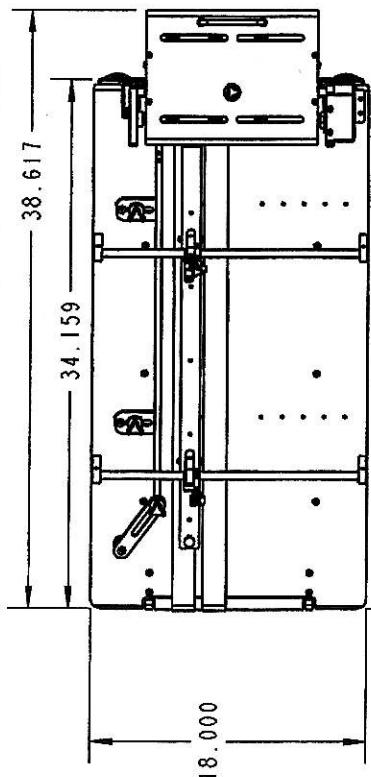
DRAWING I

DRAWN BY: T JG	SCALE: 0 . 090	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED		
		.1M	.01	.005
CHECKED BY:	DATE: 30 - Jan - 03	.1M	.01	.005
TRACED BY:	MASTER: M	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED		
		ALL DIMENSIONS ARE FINISHED DIMENSIONS		
		DO NOT SCALE - WORK TO OTHERS ONLY		

DRAWING #

SA | 45

REV NO	DATE	DESCRIPTION	ECN NO	BY
--------	------	-------------	--------	----



DRAWN BY:	T JG	SCALE	0 . 090	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	X X X	MATERIAL:	X X X	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
CHECKED BY:	DATE 30 - Jan - 03	DATE	.xx	.xx	.01	.005	.5	HEAT TREAT:	X X X
TRACED BY:	MASTER								

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

ASSY, INCLINE BUMPTURN CONVEYOR

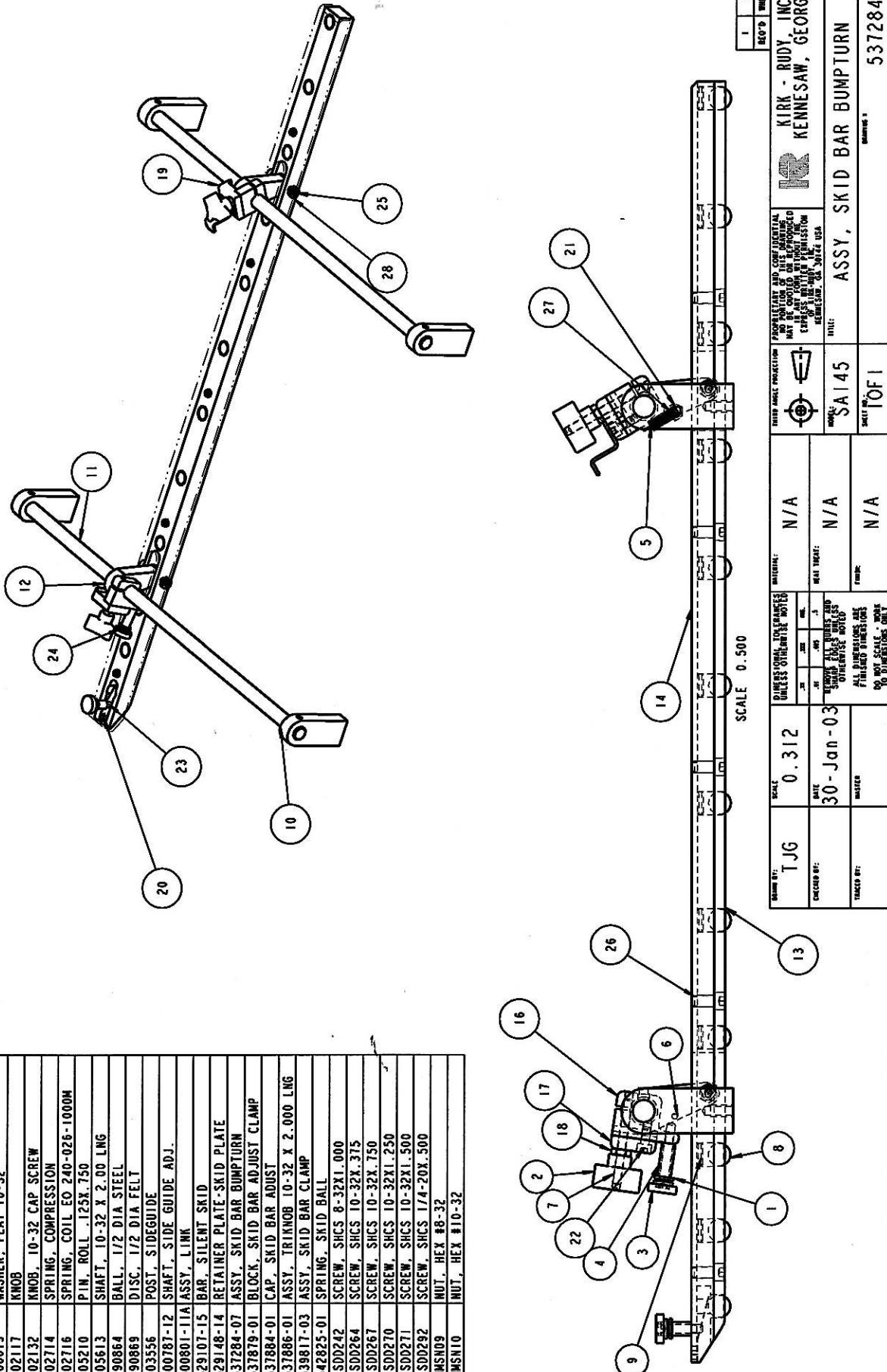
SA | 45

20F5

DRAWING #

ITEM QTY	PART #	DESCRIPTION	REV NO	DATE	ECN NO	BY
----------	--------	-------------	--------	------	--------	----

1	2	WASHER, FLAT 10-32				
2	1	102117 KNOB				
3	2	102132 KNOB, 10-32 CAP SCREW				
4	2	102714 SPRING, COMPRESSION				
5	1	102716 SPRING, COIL EO 240-026-1000M				
6	1	105210 PIN, ROLL .125X.750				
7	1	105613 SHAFT, 10-32 X 2.00 LNG				
8	12	190864 BALL, 1/2 DIA STEEL				
9	11	190869 DISC, 1/2 DIA FELT				
10	4	503556 POST, SIDEGUIDE				
11	2	500787-12 SHAFT, SIDE GUIDE ADJ.				
12	2	500801-11A ASSY, LINK				
13	1	529107-15 BAR, SILENT SKID				
14	1	529148-14 RETAINER PLATE, SKID PLATE				
15	1	537284-07 ASSY, SKID BAR BUMPTURN				
16	1	537819-01 BLOCK, SKID BAR ADJUST CLAMP				
17	1	537884-01 CAP, SKID BAR ADJUST				
18	1	537886-01 ASSY, TRIMOB 10-32 X 2.000 LIS				
19	1	539817-03 ASSY, SKID BAR CLAMP				
20	1	542825-01 SPRING, SKID BALL				
21	1	CSD0242 SCREW, SHCS 8-32X.1000				
22	1	CSD0264 SCREW, SHCS 10-32X.315				
23	1	CSD0267 SCREW, SHCS 10-32X.750				
24	1	CSD0270 SCREW, SHCS 10-32X1.250				
25	2	CSD0271 SCREW, SHCS 10-32X1.500				
26	5	CSD0292 SCREW, SHCS 174-20X.300				
27	1	HMS109 NUT, HEX #8-32				
28	3	HMS110 NUT, HEX #10-32				



1	SAC45	PROPRIETARY AND CONFIDENTIAL
2	SAFETY	ALL INFORMATION CONTAINED
3	HEREIN IS UNCLASSIFIED	HEREIN IS UNCLASSIFIED
4	DATE 10-32	DATE 10-32
5	EXPIRE NEVER	EXPIRE NEVER
6	100% TESTED	100% TESTED
7	100% INSPECTED	100% INSPECTED
8	100% ASSEMBLED	100% ASSEMBLED
9	100% OPERATED	100% OPERATED
10	100% FUNCTIONAL	100% FUNCTIONAL
11	100% INSPECTION	100% INSPECTION
12	100% ASSEMBLY	100% ASSEMBLY
13	100% OPERATING	100% OPERATING
14	100% TEST	100% TEST
15	100% INSPECTION	100% INSPECTION
16	100% ASSEMBLY	100% ASSEMBLY
17	100% OPERATING	100% OPERATING
18	100% TEST	100% TEST
19	100% INSPECTION	100% INSPECTION
20	100% ASSEMBLY	100% ASSEMBLY
21	100% OPERATING	100% OPERATING
22	100% TEST	100% TEST
23	100% INSPECTION	100% INSPECTION
24	100% ASSEMBLY	100% ASSEMBLY
25	100% OPERATING	100% OPERATING
26	100% TEST	100% TEST
27	100% INSPECTION	100% INSPECTION
28	100% ASSEMBLY	100% ASSEMBLY

SCALE 0.500

1 SAC45

KIRK - RUDY, INC.
KENNESAW, GEORGIA

ASSY, SKID BAR BUMPTURN
Drawing # 537284-07

ITEM QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
1	1	537884-02 CAP, SKID BAR ADJUST					
2	1	537885-01 BLOCK, SKID BAR ADJUST CLAMP					
3	1	537886-01 ASSY, TRIKNOB 10-32 X 2.000 LNG					
4	1	542824-01 BRACKET, SPRING HOOK					
5	1	CSD264 SCREW, SHCS 10-32X.375					

1 SP76300
REF'D WHERE USED

DRAWN BY: T JG SCALE .000 DIMENSIONAL TOLERANCES MATERIAL: N/A
CHECKED BY: DATE 12-Feb-03 REMOVE ALL BURRS AND ANG.
TRACED BY: MASTERS FINISH: N/A
ALL DIMENSIONS ARE FINISHED DIMENSIONS
DO NOT SCALE - WORK TO DIMENSIONS ONLY

THIRD ANGLE PROJECTION
PROPRIETARY AND CONFIDENTIAL
NO PART OF THIS DRAWING
MAY BE OUTITED OR REPRODUCED
IN ANY FORM WITHOUT THE
EXPRESS WRITTEN PERMISSION
OF KIRK-RUDY, INC.
KENNESAW, GA. 30144 USA

KIRK - RUDY, INC.
KENNESAW, GEORGIA
KR

MODEL: SA145 TITLE: ASSY, SKID BAR CLAMP
SHEET NO.: 1 OF 1 DRAWING I

539817-03

Drawing # 542722-01					
ITEM #	PART #	DESCRIPTION	REV. NO.	DATE	ECN NO.
1	2	100329 BUSHING, FL. 750ID. 00000.750LG			
2	1	102112 KNOB, PURCHASED			
3	2	102215 COLLAR .750			
4	4	103804 BEARING, HUB 625			
5	1	105601 SHAFT, THREADED 3/8-16			
6	1	108809 PULLEY, TIMING 1/2LC75 .625B .188K			
7	1	108888 PULLEY, TIMING 1/2L050 .625B .188K			
8	2	111827 BELT, FLAT 1.5" X 75.5"			
9	1	190834 GAS SPRING, 30LB GAS-132			
10	1	190841 END FITTING, FLAT GAS-214			
11	2	509949 ARM BELT TIGHTENER			
12	1	103023-2 BELT, TIMING D 50L050			
13	2	510611-5A ASSY, ROLLER 1.5" WIDE			
14	1	53460-01 ASSY, DRYER ARM PIVOT			
15	1	530617-01 ASSY, OUTFEED IDLER ROLLER			
16	1	53043-03 ASSY, DRIVE ROLLER			
17	2	541729-01 SHAFT, IDLER ROLLER			
18	1	542119-01 TABLETOP, INCLINE BUMPTURN			
19	1	542720-01 FRAME, BUMPTURN RH			
20	1	542720-02 FRAME, BUMPTURN LH			
21	1	542721-01 SHAFT, BUMPTURN DRIVE			
22	2	542730-01 BAR, BUMPTURN PIVOT			
23	1	542736-01 BAR, BUMPTURN LIFT			
24	3	542731-01 SHAFT, SPACER			
25	1	542803-01 WLMNT, TUBING CLAMP BUMPTURN			
26	1	542803-01 TUBING, VERTICAL BUMPTURN			
27	1	542875-01 ASSY, UPPER BELT DRIVE			
28	2	SP29701-4 BLOCK, ROLLER MOUNT			
Drawing # 542722-01					
1 SA445 HED 0 WHERE USED					
KIRK - RUDY, INC. KENNESAW, GEORGIA					
ASSY, BUMPTURN CONVEYOR					
Drawing # 542722-01					
Scale 0.125					
Drawing # 542722-01					
T J G SCALE 0 .156 DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED					
CIRCLE #: 31 - Jan - 03 REINFORCED ALL THICKNESS AND SIZES ARE IN INCHES. UNLESS OTHERWISE NOTED					
MASTER BY: M DATE: N/A REINFORCED ALL THICKNESS AND SIZES ARE IN INCHES. UNLESS OTHERWISE NOTED					
DRAWN BY: N OF 2					

ITEM	QTY	PART #	DESCRIPTION
1	2	103106	BEARING, FLAT .375
2	1	510611-5	ROLLER, IDLER

REV NO	DATE	DESCRIPTION	ECN NO	BY

4

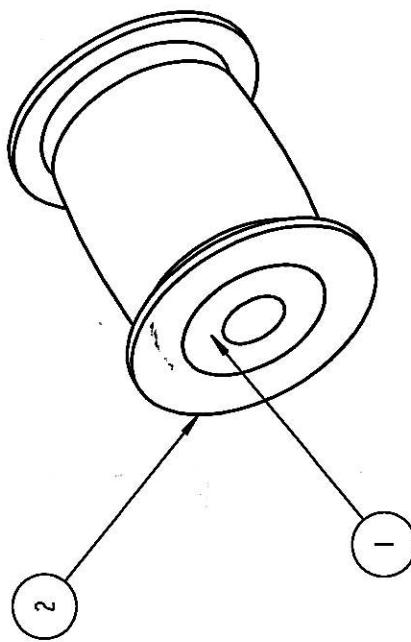
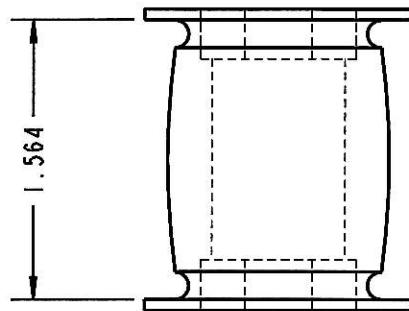
KIRK - RUDY, INC.
KENNESAW, GEORGIA

IDENTICAL DRAWING PRODUCED AT THE KIRK-RUDY, INC., MASSON, MASS. U.S.A.

X	XXX
REQ'D WHERE USED	

Y, ROLLER 1.5" WIDE

510611-5A



DRAWN BY:	T JG	SCALE	.000	MATERIAL:	XXX	THIRD ANGLE PROJECTION	KIRK - RUDY INC.
DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	.01	.005	.5	ANG.	XXX		KENNESAW, GEORGIA
CHECKED BY:	DATE	REMOVED ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED			HEAT TREAT:	XXX	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
TRACED BY:	21-Dec-01	ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY			FINISH:	XXX	ASSY, ROLLER 1.5" WIDE
MASTER						SHEET NO.: 1 OF 1	DRAWING #: 510611-5A

ITEM	QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
1	2	100326	BUSHING, FLI.0001DI.2500D.750LG					
2	2	102212	COLLAR I.000					
3	1	532465-01	BRACKET, DRYER ARM PIVOT					
4	1	532467-01	SHAFT, DRYER PIVOT					

1 532734-01
REQ'D WHERE USED

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.

DRAWN BY: T JG	SCALE: 0 .750	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED			MATERIAL: NOTED	THIRD ANGLE PROJECTION ICON	KIRK - RUDY INC, KENNESAW, GEORGIA
CHECKED BY:	DATE: 20 - Feb - 98	.01	.005	.5	HEAT TREAT: NONE	MODEL: SP62500	TITLE: ASSY, DRYER ARM PIVOT
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: NONE	SHEET NO.: 1 OF 1	DRAWING #: 532466-01

ITEM QTY	PART #	DESCRIPTION
1 2	103106	BEARING, FLAT .375
2 2	507278	STUD - OUTSIDE ROLLER
3 1	510735	ROLLER

REV NO	DATE	DESCRIPTION	ECON NO	BY
1	536618-01			
REQ'D	WHERE USED			

1

2

3

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. 30044 USA

KR KIRK - RUDY - INC,
 KENNESAW, GEORGIA

THIRD ANGLE PROJECTION

DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED			MATERIAL:	N / A	HEAT TREAT:
.00	.005	.005			
ANG.					
.01	.005	.5			

MODEL: 703R

TITLE: ASSY, OUTFEED IDLER ROLLER

SHEET NO. 1 OF 1

DRAWING #

536617-01

ITEM QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
1	2	500838 HUB-BELT DRIVE					
2	1	500742-14 ROLLER, TUBE BELT DRIVE					

.375 TYP →

$\#7(.201)$ DR THRU
1/4-20 THD THRU
2-PLCS

φ 2.250 →

φ .625

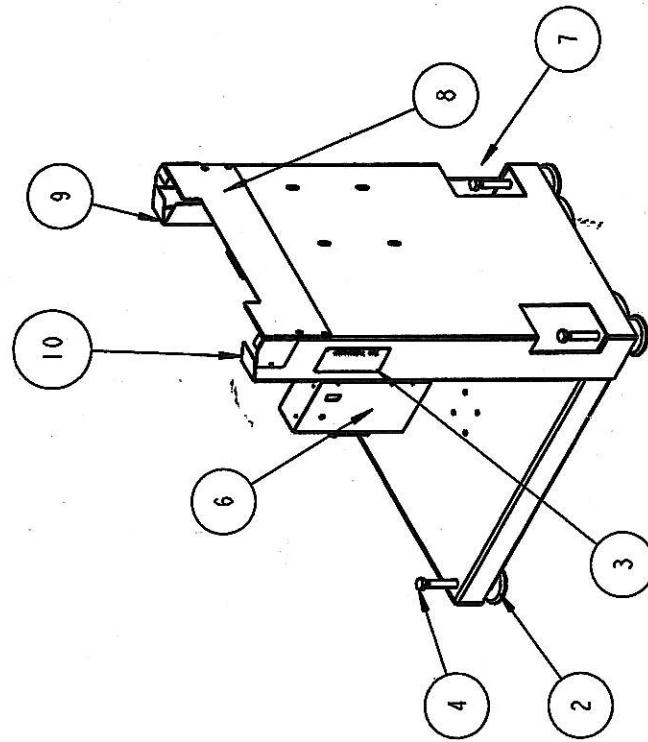
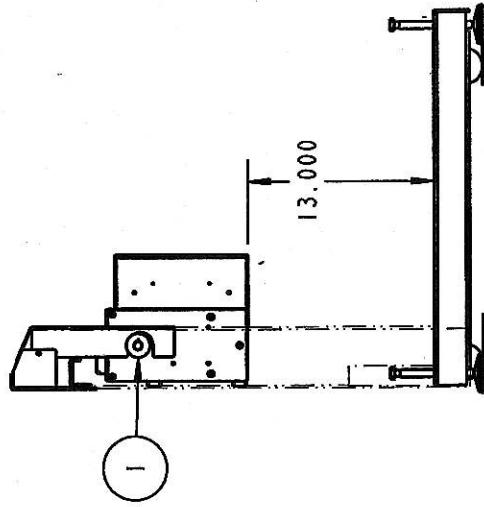
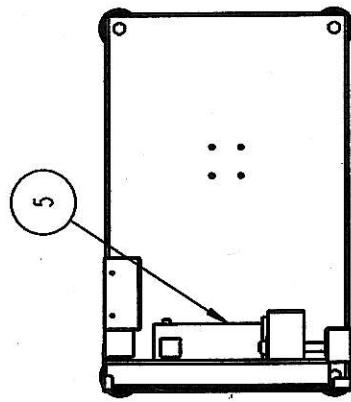
DRAWN BY: T JG	SCALE: 0 .500	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED		MATERIAL: N/A	THIRD ANGLE PROJECTION		PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY INC. KENNESAW, GA 30044 USA
CHECKED BY:	DATE: 26 - Nov - 02	.xx	.xxx	ANG. .01 .005 .5	HEAT TREAT:	N/A	KIRK - RUDY INC. KENNESAW, GEORGIA
TRACED BY:	MASTER	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED		FINISH:		N/A	TITLE: ASSY, DRIVE ROLLER
		ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE: WORK TO DIMENSIONS ONLY		SHEET NO.: 1 OF 1			DRAWING #: 538434-03

ITEM QTY	PART #	DESCRIPTION	REV A9	DATE	DESCRIPTION	REV A9
1	102119	KNOB				
2	102749	SPRING, COMP. .88L.. 3600 .05W				
3	103108	BEARING, FLAT .500				
4	103804	BEARING, HUB .665				
5	104106	SNAPRING .500				
6	107684	SCREW, SET 1/4-20X2.500				
7	108826	PULLEY, TIMING 14L050 .625B .188K				
8	1190955	HANDLE				
9	2190965	BALL PLUNGER, DELRIN NOSE 3/8-.16				
10	3106050-27	BELT, ROUND 4mm x 17.00"				
11	1109484-1	PULLEY, TIMING 12L015 1.125B .18K				
12	1528232-1	STUD-TAKEUP				
13	1542876-01	FRAME, UPPER BELT DRIVE				
14	1542877-01	SHAFT, DRIVE UPPER BELT				
15	2542878-01	FRAME, UPPER BELTS				
16	1542879-01	COVER, UPPER BELTS				
17	1542880-01	SHAFT, SPACER UPPER BELTS				
18	1542881-01	SHAFT, SPACER UPPER BELTS				
19	1542907-01	SHAFT, IDLER UPPER BELT				
20	1542908-01	COVER, TIMING BELT				
21	1542909-01	FRAME, UPPER BELT DRIVE				
22	1542911-01	SHAFT, SPACER UPPER BELT				
23	6CSFF53	SCREW, BUTTON HEAD #8-32X.500				
24	2CSFF67	SCREW, BUTTON HEAD 1/4X.150				
25	2HNO12	NUT, JAM 3/8-16				
26	1HNO14	NUT, JAM 1/2-13				
27	2HNSN12	NUT, HEX 1/4-20				
28	6SP49407-12	PULLEY, ROUND BELT				
29	4WA006	WASHER, FLAT #10				
30	1WA009	WASHER, FLAT 1/4				
31	1WA018	WASHER, FLAT 1/2				
DRAWING BY: T.J.G SCALE: 0 .375 DATE: 30 - Jan - 03						
CHECKED BY: MASTER SCALE: 0 .312 DATE: 30 - Jan - 03						
TAKEN BY: SA145 UNIT: ASSY, UPPER BELT DRIVE						
SHEET NO. 1 OF 1 DRAWING NO. 542875-01						

1	SALIS	RECO'D. INVOICE USED

KIRK-RUDY INC.
KENNESAW, GEORGIA
542875-01

ITEM QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
1	1 08809	PULLEY, TIMING 12L075 .625B .188K					
2	4 190634	FOOT, MOUNTING					
3	1 190619-1	PLATE, NAME	5				
4	4 501812-1	LEG, LEVELING					
5	1 537337-03	ASSY, 1/4 SINGLE RED. NARROW					
6	1 538240-03	ASSY, ELECTRICAL BOX BUMPTURN					
7	1 542724-01	WLDMNT, INCLINE BUMPTURN CABINET					
8	1 542748-01	COVER, OUTFEED BUMPTURN					
9	1 542814-01	COVER, TIMING BELT					
10	1 542912-01	COVER, TIMING BELT					



DRAWN BY:	T JG	SCALE	"0 . 080	MATERIAL:	XXX	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
CHECKED BY:		DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	.005 .005 .01	AMG.			KIRK - RUDY INC. KENNESAW, GEORGIA
TRACED BY:		DATE	30-Jan-03	HEAT TREAT:	XXX	MODEL:	ASSY, BUMPTURN CABINET & COVERS
MASTER	M	FINISH:	XXX	SHEET NO.	10F1	DRAWING #	542723-01

ITEM QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
1	2	103804 BEARING, HUB .625					
2	1	108821 PULLEY, TIMING 12L050 .500B NK					
3	1	108912-1 BELT, TIMING 187L050					
4	1	109319-1 PULLEY, TIMING 32L050 .625B .188K					
5	1	200165-5 MOTOR, 1/4 HP DC BRUSH					
6	1	500748-4 SHAFT - FEEDER ROLLER					
7	1	5090006-1 PLATE, REAR SIDE					
8	1	5090007-1 PLATE-GEARBOX 1/2 HP SINGLE RED					
9	1	509037-4 COVER, REDUCER					
10	2	530138-02 BAR, MOUNTING					
11	5	SP16208-1 SPACER, REDUCER					

1 SA145
REQ'D WHERE USED

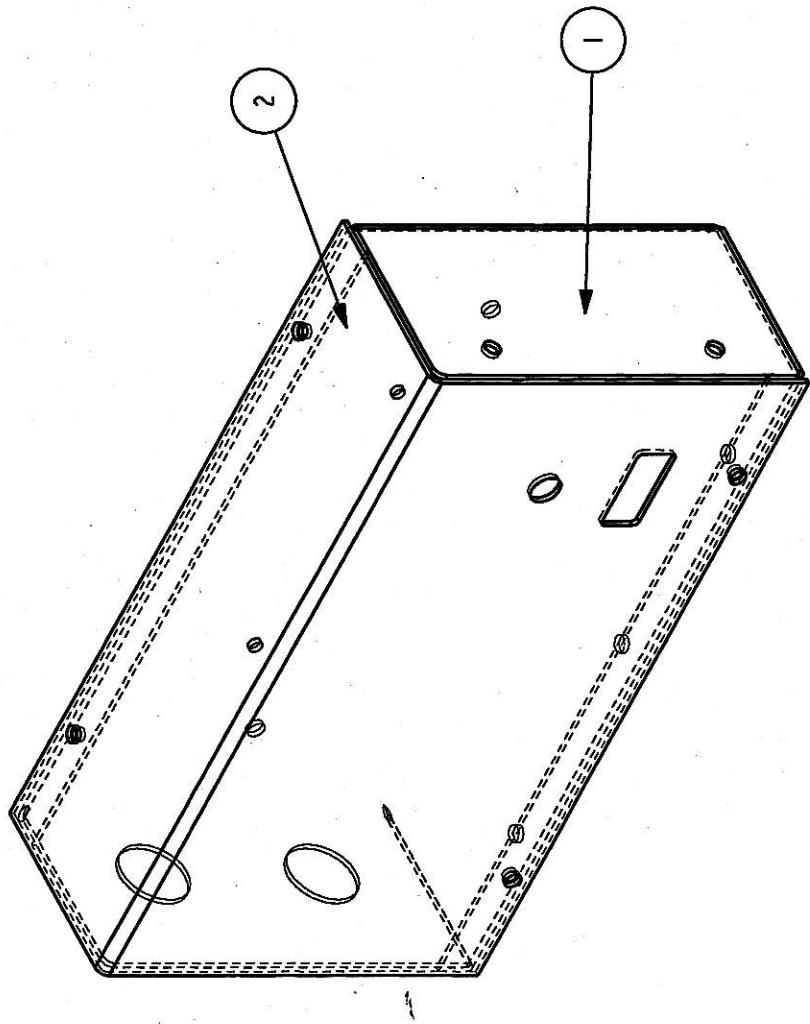
1 SA145
REQ'D WHERE USED

DRAWN BY: T J G	SCALE: 0 .375	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED			MATERIAL: N/A	THIRD ANGLE PROJECTION	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE COPIED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY INC. KENNESAW, GA 30444 USA
CHECHED BY:	DATE: 28-0c + -02	.xx	.xxx	.5	HEAT TREAT: NONE		KIRK - RUDY INC. KENNESAW, GEORGIA
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			SHEET NO. 1 OF 1	NOTE: SA145	TITLE: ASSY, 1/4 SINGLE RED. NARROW
							DRAWING # 537337-03

卷之三

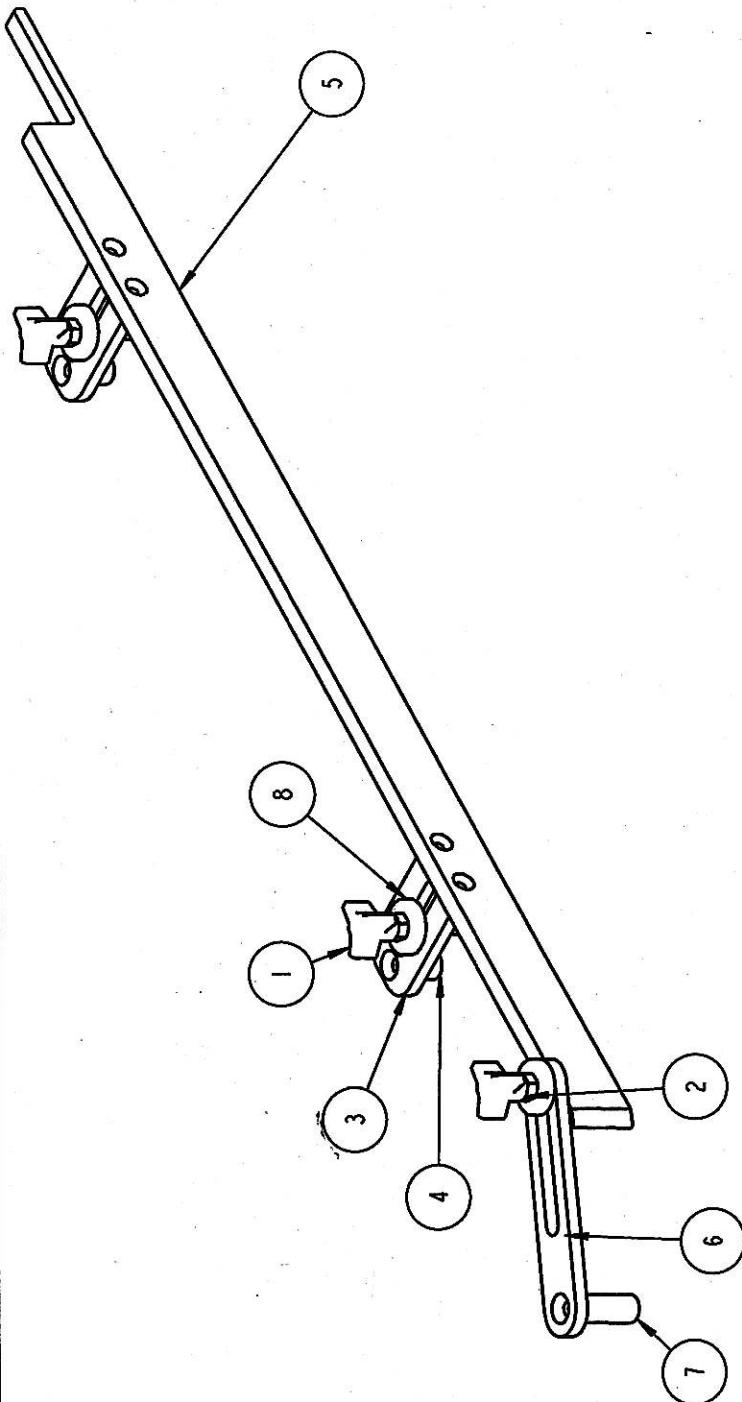
538240-03

ITEM	QTY	PART #	DESCRIPTION
1	1	536646-02	ELECTRICAL BOX, BUMPTURN
2	1	536647-03	COVER, ELECTRICAL BOX



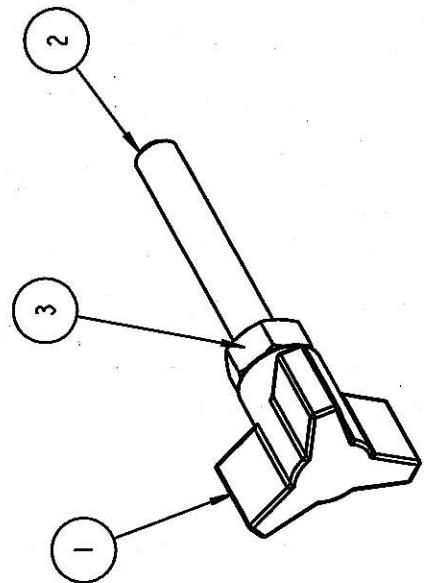
DRAWN BY:		T JG	SCALE	0 . 500	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	XXX	MATERIAL:	X X X	THIRD ANGLE PROJECTION	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY INC. KENNESAW, GA 3044 USA	KIRK - RUDY - INC. KENNESAW, GEORGIA
CHECKED BY:			DATE	18-0c + 02	xx .01 .005 ANG.	.05 - 5	HEAT TREAT:	NONE	MODEL:	S A 45	TITLE:
TRACED BY:			MASTER		REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED		FINISH:	PAINT	SHEET NO.:	1 OF 1	DRAWING #:
					ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY						

ITEM	QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
1	2	500790-1	ASSY, TRI-KNOB 1/4-20 STUD					
2	1	500790-2	ASSY, TRI-KNOB 1/4-20 STUD					
3	2	541709-01	BRACKET, SIDEGUIDE					
4	2	541710-01	SPACER, SIDEGUIDE MOUNT					
5	1	542744-01	SIDEGUIDE, BUMPTURN					
6	1	542746-01	BAR, BUMPTURN STUD MOUNT					
7	1	542747-01	STUD, BUMPTURN					
8	3	SP6383-1	SPACER, GEAR COVER					



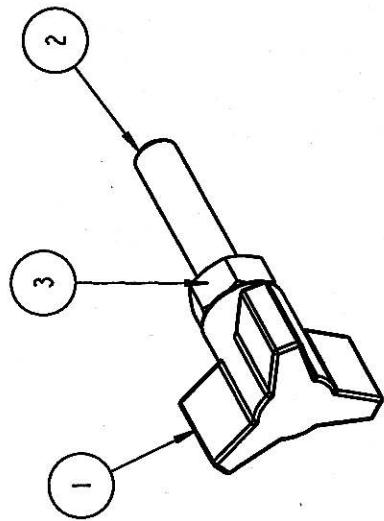
DRAWN BY: T JG	SCALE: 0 .312	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED		MATERIAL: N / A	THIRD ANGLE PROJECTION	PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY, INC. KENNESAW, GA 3044 USA	
CHECKED BY:	DATE: 14-Oct-02	.01	.005	HEAT TREAT: N / A	MODEL: SA145	TIME: ASSY , SIDEGUIDE BUMPTURN	
TRACED BY:	MASTER	REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED		FINISH: N / A	SHEET NO.: 1 OF 1	DRAWING #: 542743-01	

ITEM QTY	PART #	DESCRIPTION	REV NO	DATE	DESCRIPTION	ECN NO	BY
1	1	102119 KNOB					
2	1	542745-01 ROD, THREADED 1/4-20					
3	1	RHN010 NUT, HEX 1/4					



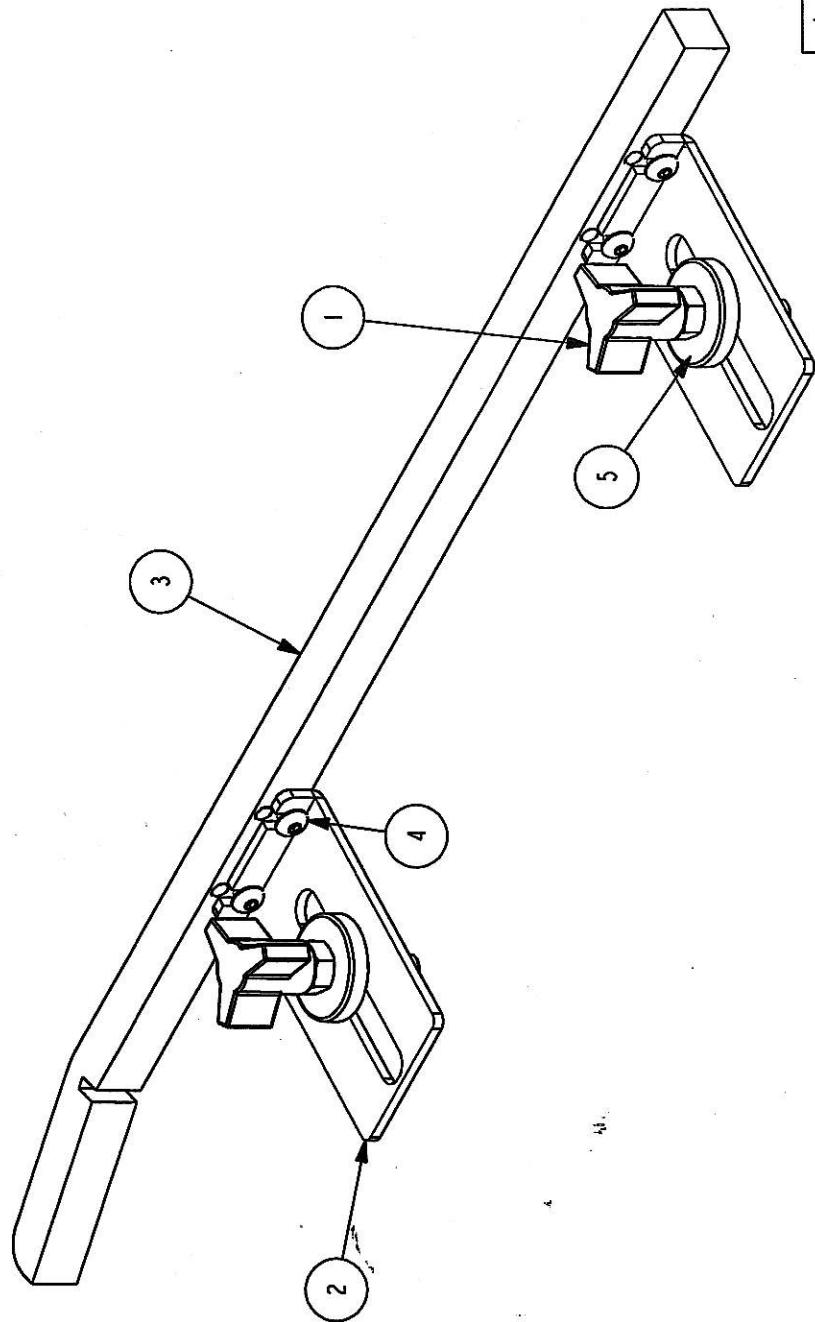
2	SAI45
REQ'D	WHERE USED
 KIRK - RUDY INC, KENNESAW, GEORGIA	
PROPRIETARY AND CONFIDENTIAL NO PORTION OF THIS DRAWING MAY BE QUOTED OR REPRODUCED IN ANY FORM WITHOUT THE EXPRESS WRITTEN PERMISSION OF KIRK-RUDY INC. KENNESAW, GA 30144 USA	
	
MODEL:	ASSY, TRI-KNOB 1 / 4-20 STUD
TIME:	DRAWING #
SAI45	500790-1
SHEET NO. 1 OF 1	
DRAWN BY: T J G SCALE: .000 DIMENSIONAL TOLERANCES MATERIAL: N/A UNLESS OTHERWISE NOTED .000 .005 .5 -MM -MM ANG. CHECKED BY: DATE: 10-0c + -02 HEAT TREAT: N/A REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY	
TRACED BY: MASTER	

ITEM QTY	PART #	DESCRIPTION
1	102119	KNOB
2	542745-02	ROD, THREADED 1/4-20
3	RHN010	NUT, HEX 1/4



2	SAI45
REV'D WHERE USED	
 KIRK - RUDY, INC KENNESAW, GEORGIA	
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	
MODEL:	SAI45
TITLE:	ASSY, TRI-KNOB 1/4-20 STUD
DRAWING #	500790-2
MATERIAL:	N/A
DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	
<small>.01 .005 .5</small> <small>.XXX ANG.</small>	
HEAT TREAT:	N/A
DATE: 10-0c+02	
<small>REMOVE ALL BURRS AND SHARP EDGES UNLESS OTHERWISE NOTED</small>	
<small>ALL DIMENSIONS ARE FINISHED DIMENSIONS DO NOT SCALE - WORK TO DIMENSIONS ONLY</small>	
MASTER:	N/A
SHEET NO.:	10F1

ITEM QTY	PART #	DESCRIPTION
1	2	500790-2 ASSY, TRI-KNOB 1/4-20 STUD
2	2	528217-2 ANGLE, SIDE GUIDE SUPPORT
3	1	532215-04 SIDE GUIDE, 415 LH/RH
4	4	CSFF52 SCREW, BUTTON HEAD #8-32X.375
5	2	SP6383-1 SPACER, GEAR COVER



NO.	REV NO	DATE	DESCRIPTION	ECN NO	BY
				1	SAL45

NO.	REV D	WHERE USED
		KIRK - RUDY - INC KIRK WOODSTOCK, GEORGIA

PROPRIETARY AND CONFIDENTIAL
NO PART OF THIS DRAWING
MAY BE COPIED OR REPRODUCED
IN ANY FORM WITHOUT THE
EXPRESS WRITTEN PERMISSION
OF KIRK-RUDY, INC.
WOODSTOCK, GA 30888 USA

TITLE: ASSY, SIDE GUIDE BUMPTURN

DRAWING I

SHEET NO. 1 OF 1

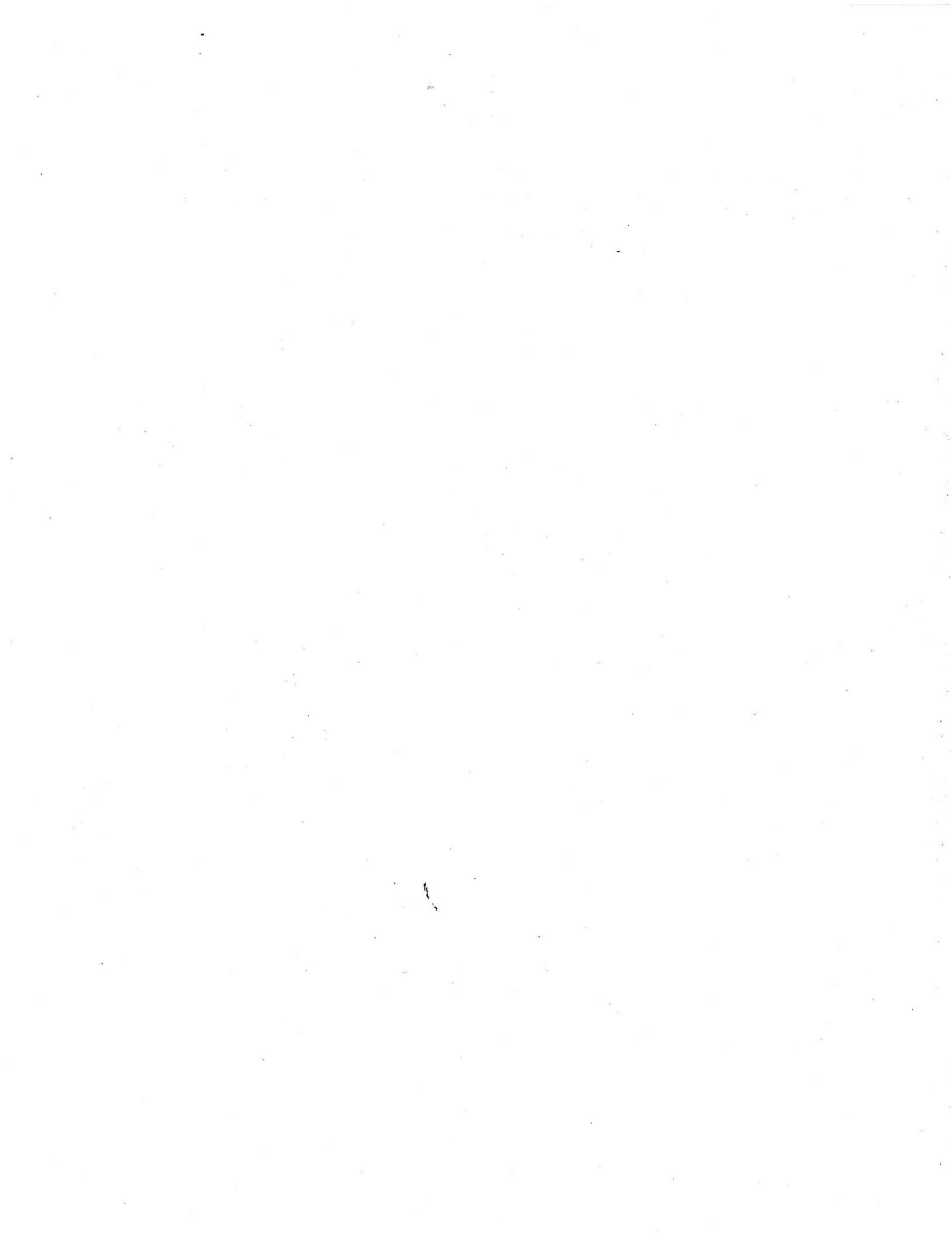
DRAWN BY:	SCALE	MATERIAL:	THIRD ANGLE PROJECTION
CMC	0 .625	DIMENSIONAL TOLERANCES UNLESS OTHERWISE NOTED	N/A
CHECKED BY:	DATE	.005 .005 .005 .005	HEAT TREAT:
TRACED BY:	MASTER	N/A	MODEL: 415

REMOVE ALL BURRS AND
SHARP EDGES UNLESS
OTHERWISE NOTED

ALL DIMENSIONS ARE
FINISHED DIMENSIONS

DO NOT SCALE - WORK
TO DIMENSIONS ONLY

7 NOTES



8 WARRANTY AND SERVICE

WARRANTY

Warranty: Kirk-Rudy 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 OR IMPLIED WARRANTY OF MERCHANTABILITY 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 REPLACEMENT PARTS

For Service or Replacement Parts Please Call:
Kirk-Rudy @ 770-427-4203

Kirk-Rudy, Inc.
125 Lorraine Pkwy
Woodstock, GA 30188
www.kirkrudy.com