RAPIDAIR

STRAIGHTENER AND PUSHBUTTON RAPID-ROLL OPERATING INSTRUCTIONS

MODELS

SC SERIES
SA3 THROUGH SDX SERIES
(INCLUDES ADJUSTABLE PLATEN STOCK STRAIGHTENER – SA3 THROUGH SD. 120VAC, 1PH, 60HZ)

(5-07)

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Tech Bulletin

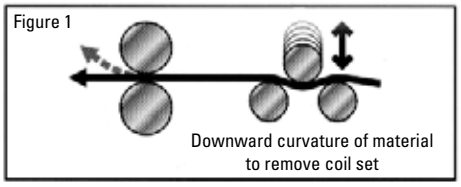
No. 180

Adjustable Platen Stock Straighteners vs. Straighteners with Traditional Vertical Roll Adjustment

CONCEPT: The concept behind a movable platen containing the upper bank of rolls for straighteners can be somewhat difficult to grasp, but once the principles are understood the superiority of this system becomes obvious. To explain the differences between the adjustable platen system and one that uses traditional single-point vertical roll adjustment, we are describing both types of systems here.

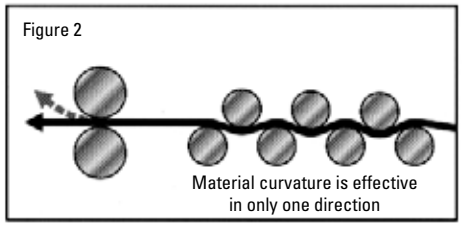
VERTICALLY ADJUSTABLE UPPER ROLLS: For centuries the bending of materials has been done by variations of a three-roll arrangement as illustrated in **Figure 1**.

Figure 1



Bending occurs when one roll is forced into the space between the other two rolls for downward curvature of the material to remove coil set. Pressroom straighteners add multiple three-roll combinations in order to level the material in small increments at each stage. This method can provide acceptable results for some materials, but is limited because correction of material curvature is effective in only one direction as illustrated in **Figure 2**.

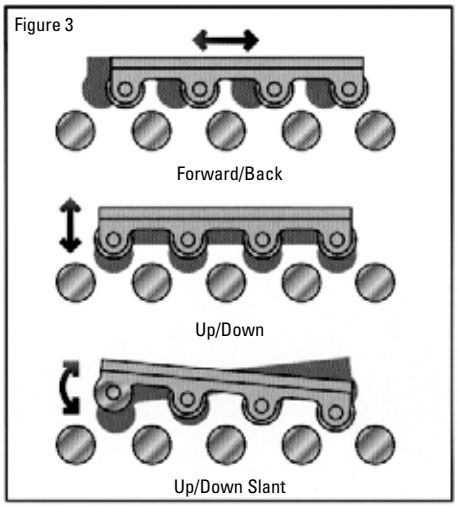
Figure 2



If the straightener is made to correct a clockwise curvature, it is often impossible to correct a counterclockwise curvature. The only available adjustment is the variation of the degree of bend at each station. This is true even for straighteners that have banked upper rolls that pivot for two-point adjustment.

SIX-WAY UPPER ROLL ADJUSTMENT: After manufacturing straighteners with vertically adjustable rolls for many years, Rapid-Air developed and patented the adjustable platen type straightener as illustrated in **Figure 3**.

Figure 3



This design mounts the upper rolls in a platen which can be adjusted for *degree of bend* as illustrated in **Figure 4** and **Figure 5**

Figure 4

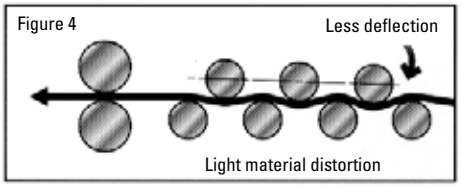
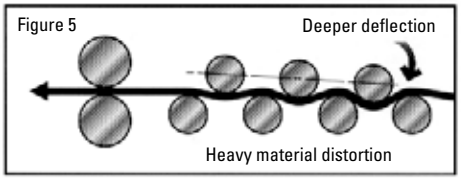


Figure 5



and for *curvature direction* as shown in **Figure 6** and **Figure 7**.

Figure 6

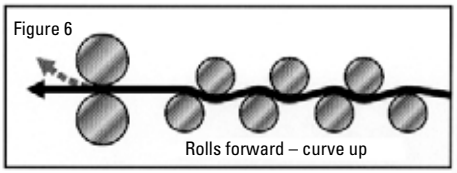
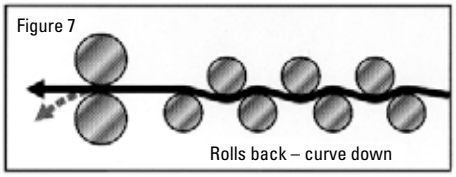


Figure 7



To more easily explain the concept, **Figure 8** shows a three-roll combination with the upper roll forward and **Figure 9** shows a three-roll combination with the upper roll to the rear.

Figure 8

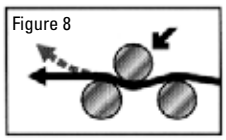
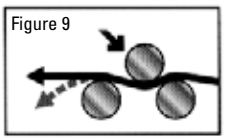


Figure 9



Notice that the sharpest bend occurs where two rolls are in close proximity. When the upper roll is forward, the curvature will be up and when the forward roll is adjusted to the rear, the bend will be down. The degree of bend can be adjusted by a combination of vertical and horizontal adjustments.

ADVANTAGES: The high degree of flexibility afforded by the adjustable platen design provides a predictable straightening method for a wide variety of materials and takes a lot of the "Black Magic" out of pressroom straightener setup. The reduction in the flexing and distortion of the strip of material and the reduction of the straightening power required allows effectiveness with heavy materials. Additionally, the ability to place rolls in a proper close proximity allows effective straightening with very thin materials.

ROLL DIAMETER: The smaller the roll diameter in a straightener the better it is able to remove distortions in the strip of material, but this factor is compromised by the requirement of larger rolls in wider models of straighteners in order to prevent deflection of the rolls themselves. Rapid-Air straighteners are designed to optimize all factors (including number of rolls, diameter and position) within the published material capacities and specifications for each model.

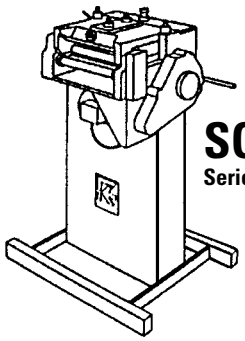
SWING-OPEN TOP: Rapid-Air developed and introduced the swing-open top for straighteners in order to facilitate the cleaning of rolls and the threading of a new strip of material through the straightening rolls. For convenience and safety, each top is counterbalanced and held in the open position until it is clamped for operation. Roll adjustment settings are maintained when the top is closed and locked.

AVAILABILITY: All models of Rapid-Air straighteners are presently available with the adjustable platen design with an expanded range of models being introduced in the coming months.

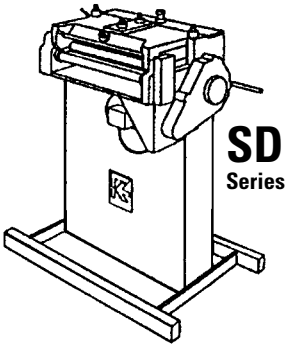
SA
Series

SB
Series

SBX
Series



SCX
Series



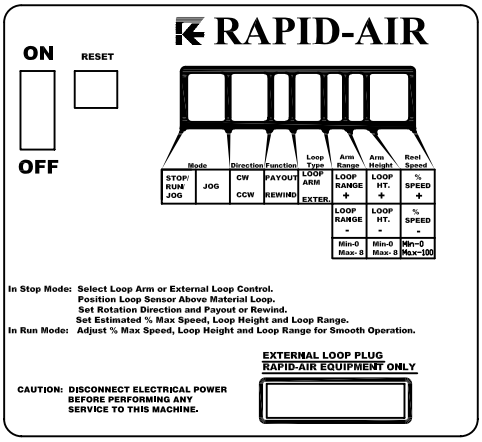
SD
Series

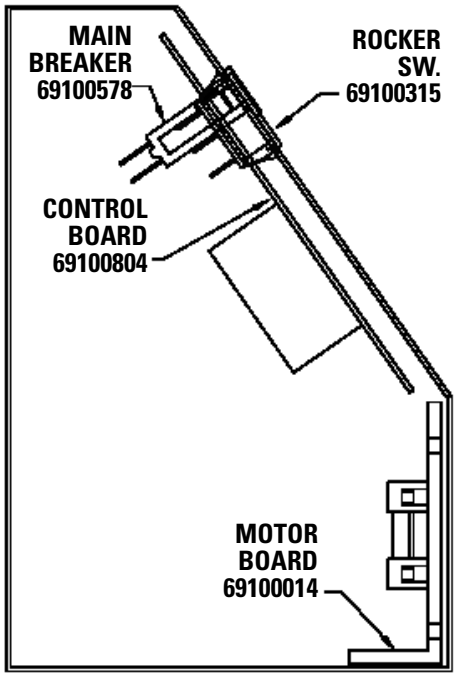
RAPID-AIR STRAIGHTENER MODEL SELECTION

Model	Max Material Width	Effective Straightening Range	Max Speed per min
SA3	3" (76mm)	.002" - .030" (.051-.76mm)	700" (1778cm)
SA3M	3" (76mm)	.002" - .030" (.051-.76mm)	1,400" (3556cm)
SB4	4" (102mm)	.003" - .050" (.076-1.27mm)	700" (1778cm)
SB4M	4" (102mm)	.003" - .050" (.076-1.27mm)	1,400" (3556cm)
SBX4	4" (102mm)	.004" - .080" (.10-2.03mm)	825" (2100cm)
SBX8	8" (203mm)	.004" - .070" (.10-1.78mm)	825" (2100cm)
SBX12	12" (305mm)	.004" - .060" (.10-1.52mm)	825" (2100cm)
SBX4M	4" (102mm)	.004" - .080" (.10-2.03mm)	1,650" (4200cm)
SBX8M	8" (203mm)	.004" - .070" (.10-1.78mm)	1,650" (4200cm)
SBX12M	12" (305mm)	.004" - .060" (.10-1.52mm)	1,650" (4200cm)
SCX6	6" (152mm)	.006" - .100" (.15-2.54mm)	825" (2100cm)
SCX12	12" (305mm)	.006" - .090" (.15-2.29mm)	825" (2100cm)
SCX18	18" (457mm)	.006" - .080" (.15-2.03mm)	825" (2100cm)
SCX24	24" (610mm)	.006" - .065" (.15-1.65mm)	825" (2100cm)
SCX6M	6" (152mm)	.006" - .100" (.15-2.54mm)	1,650" (4200cm)
SCX12M	12" (305mm)	.006" - .090" (.15-2.29mm)	1,650" (4200cm)
SCX18M	18" (457mm)	.006" - .080" (.15-2.03mm)	1,650" (4200cm)
SCX24M	24" (610mm)	.006" - .065" (.15-1.65mm)	1,650" (4200cm)
SCX6H	6" (152mm)	.006" - .080" (.15-2.03mm)	4,100" (10400cm)
SCX12H	12" (305mm)	.006" - .070" (.15-1.78mm)	4,100" (10400cm)
SCX18H	18" (457mm)	.006" - .060" (.15-1.52mm)	4,100" (10400cm)
SCX24H	24" (610mm)	.006" - .055" (.15-1.40mm)	4,100" (10400cm)
SD6	6" (152mm)	.006" - .125" (.15-3.18mm)	825" (2100cm)
SD12	12" (305mm)	.006" - .125" (.15-3.18mm)	825" (2100cm)
SD18	18" (457mm)	.006" - .100" (.15-2.54mm)	825" (2100cm)
SD24	24" (610mm)	.006" - .090" (.15-2.29mm)	825" (2100cm)

PUSHBUTTON CONTROL

The main control unit is located behind the pushbutton cover. Here is an illustration of the layout of the control panel. This diagram lists all the components and the approximate location of each that could be used for troubleshooting the machine if a problem should occur. The reel is shipped with—120 VAC (1 phase) input. Visually check all electrics before starting the reel.





INSTALLATION

Operating Instructions For SBX Series Powered Straightener

The straightener that you just received is fully assembled and tested and ready to be put into position.
CAUTION: Due to shipment vibration, the straightener should be checked to be sure that all screws and bolts are secure and all electrical components are in place inside the cabinet. Visually inspect the complete machine for physical damage due to shipment and handling. If the straightener was damaged in shipment, contact the carrier first and then Rapid-Air.

Install the straightener on a level surface with sufficient clearance for loading the material and adjusting the roller pressure for straightening. Align and center the straightener to the device that it will be supplying the straightened stock. The straightener should then be bolted to the floor especially when used to pull stock from a non-powered reel.
CAUTION: Before bolting the straightener down, check for the longest feed length to be run. The straightener should be set so that there will be about two or three feed lengths in storage in the loop without re-inducing coil set in the material.

The standard speed straightener is completely self contained and only needs to be plugged into a 20 amp, 120 VAC, 60 HZ outlet. If an extension cord is used as a source to the straightener power, it should be a minimum 12 gauge wire to keep the voltage losses down and also for electrical safety reasons.
Please check your local safety codes.

The medium and high speed straighteners require 230 VAC, 60 HZ, 1PH as the supply voltage. Please refer to the schematics in the manual for required fuse sizes.
Please check your local safety codes.

Turn on the main power button and run a test cycle checking the jog (using the jog button) and run (using the dancer arm to test that the speed varies if using the proportional control). Test all electrical features before continuing.

START UP PROCEDURE

Prior to applying power to the machine the operator should review all the controls on the machine. A brief summary of the controls is listed below.

Main Console And Controller

The main pushbutton control box is mounted on the top of the straightener frame. Located on the face of the console are eleven pushbuttons, one display, one on/off switch, one circuit breaker, one external loop plug and inside the box is motor board and one potentiometer when required, all of which are explained below.

1. % SPEED POT
The % speed function adjusts the maximum speed that the straightener will feed and should be set to maintain a constant feed rate. Adjustable in the run mode.

2. ON/OFF SWITCH
This illuminated switch is the main power switch for the controller. It must be "ON" for the machine to function.

3. RUN/STOP/JOG SELECTOR SWITCH
This function selects between Run, Stop and Jog. If in Run and the control arm is moved the rolls will turn. If in Jog, the Jog button has to be depressed for the rolls to turn. If in Stop, there should be no movement of the rolls even if the dancer arm is raised or lowered or the jog pushbutton is pressed.

4. JOG BUTTON
Used for intermittent movement of material on the rolls, mainly used for set up or getting material thru the straightener and over to the pulling device. Active in jog mode only.

5. DANCER ARM LOOP HEIGHT AND RANGE ADJUSTMENT
a. Loop Range – The loop range function adjusts the amount the dancer arm will travel to provide the full range of speed of the straightener. There are eight positions available.

b. Loop Height – The loop height function is used for setting the start position of the control arm. The setting determines when the straightener rolls will start turning. Each position will move the operating start position up from the home position to accommodate specific material rest height requirements.

6. LOOP ARM / EXTERNAL SWITCH
This switch selects either dancer arm (internal) by displaying "LV" for loop arm vertical reel or "LH" for loop arm horizontal reel (PMD) or external loop control by displaying "RT" for the RTB and "RS" for the RS_1. The RLL will work on the "RT" selection.

7. RESET BUTTONS
a. 15 amp – This is the main circuit breaker for the 120 VAC input straightener.

8. REMOTE INTERFACE PORT "D" CONNECTOR
This connector is used to communicate with external loop control equipment.
CAUTION: Never plug any type of computer or non Rapid-Air equipment into this plug or severe damage will result. Always consult with the factory when installing new external controls for compatibility and wiring information.

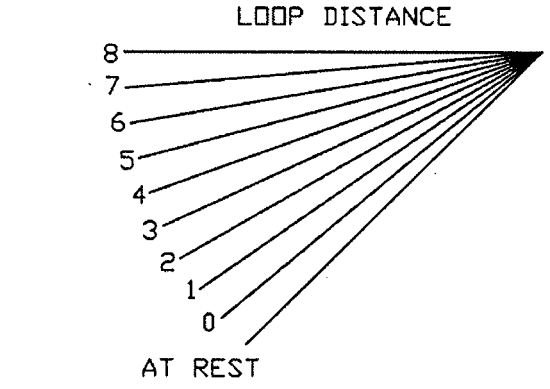
Electrical Component Description

69100804 board - main reel control board
69100014 (RAMM) - D.C. motor board
29100021 dancer arm potentiometer
69100578 circuit breaker
69100315 rocker switch

DANCER ARM LOOP

Dancer Arm Loop Height Adjustment

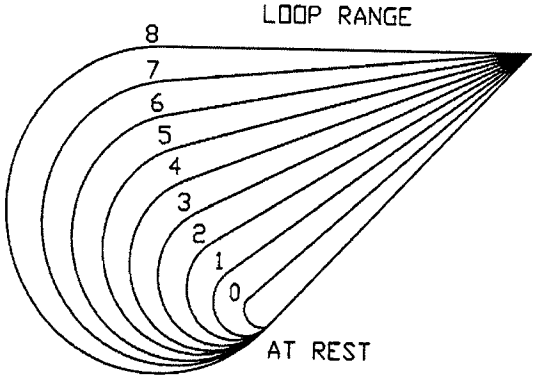
Eight different loop sensing arm operating positions can be selected during set-up. The material thickness determines the dancer arm rest position. Once the material is threaded up and the dancer arm is resting on the material and the reel runs in the rest position then select a higher number on the height adjustment until the reel stops rotating. The zero point of the dancer arm is raised from its no material rest position to the current rest position angle shown (as indicated 0-8). The dancer arm will start the material dereeling from the new rest position selected. The function is active and can be changed in the run mode.



EACH NUMBER IS THE DISTANCE FROM REST THAT THE DANCER ARM HAS TO MOVE TO ACTIVATE THE REEL MOTOR.

Dancer Arm Loop Range Function

The loop range function selects the degree of arm movement to achieve maximum motor speed selected. If a loop range of "0" was selected then the arm would only have to move approximately 10 degrees to have the reel at full speed whereas if the loop range "8" was selected then the arm would have to move almost the full travel or approximately 90 degrees to get to full speed. The function is active and can be changed in the run mode.



EACH NUMBER IS THE DISTANCE FROM REST THAT THE DANCER ARM HAS TO MOVE TO ACHIEVE FULL SPEED OF THE REEL MOTOR.

DANCER ARM ADJUSTMENT EXPLANATION

JOG SPEED AND DANCER SET-UP
The straightener was shipped with the dancer arm set up for its correct position so the only thing that has to be reset would be the jog speed if you need it to jog faster or slower. The rest of the keypad is pretty much self explained so become familiar with the keypad positions for making adjustments on the fly. Turn on the main power switch and select "LV" for loop arm vertical at "Loop Type" on the pushbuttons.

MAKING INTERNAL PROGRAM ADJUSTMENTS
Turn off the main power switch, press and hold the "Run/Stop/Jog" button while turning the main power switch on. The first screen you see will display the jog speed percentage.

JOG SPEED	**23% +**
NEXT	**-**

If you want the jog speed faster then press the "Reel Speed "+ "" % speed pushbutton. If you want the jog speed slower then press the "Reel Speed "-"" % speed pushbutton. The jog speed is shown in percent of max jog speed. If the jog speed is "OK " then push the "Run/Stop/Jog button" once for next.

The next screen asks if you want to set up the sensor. As before the percent speed buttons are used for the yes-no. Select "no" if all you wanted to do was set the jog speed. Select "yes" if you want to reset the dancer arm position setup. And then "next".

SETUP SENSOR	**YES**
NEXT	**NO**

The next screen asks you to set the low set point. If the dancer arm is at "No Material Rest" then just save the setting by pushing the Stop/Run Jog pushbutton.

SENSOR LOW SETPOINT	
SAVE	**XXX**

The next screen is for setting the high set point. Raise the dancer arm to its upper stop position and press the save or Stop/Run/Jog button once.

SENSOR HIGH SETPOINT	
SAVE	**XXX**

The next screen is to set the offset of the program. Potentiometers are hard to get set from left to right so we built in an offset. If you set the low and high range and go into run and the reel runs for no reason then an offset has to put in. Go through the setup procedure again and put in an offset of –3 to –5 and now the pot is zero.

LOW OFFSET	**+ 0**	**+**
NEXT		**-**

You have now set the dancer arm limits. The next screen is to exit the setup and start working

EXIT SETUP?	**YES**
	NO

Choose yes and next and the next screen appears .

SHUT OFF POWER TO SAVE AND EXIT

The dancer arm is now ready for production running.

STANDARD STRAIGHTENER COMPONENTS

Curve Up/Down Adjustment

Some applications have dies that cannot accept anything but flat stock and other dies run better with the material curving up or down to miss the built-in edge required in the die. Before this feature was added, operators would under straighten or over straighten the material to suit their needs but in doing so would severely change the material entering the die. This not only caused feeding problems but part quality problems. With this feature, curve up or down can be accomplished by changing the position of the rolls without stressing the material.

Entrance Guide Roll Block

All straighteners are shipped with an entrance guide roll block. This contains a roller and two adjustable edge guides.

OPTIONAL STRAIGHTENER COMPONENTS

Entrance Cascade Roll

The entrance cascade roll assembly is used to maintain a support arc for stock entering a feed. The cascade roll has three extra rollers to help the material flow better.

Exit Cascade Roll

The straightener is shipped with the exit side pre-drilled for the cascade roll or guide roll block. The entrance and exit use the same components.

Angle Bracket

Rapid-Air offers this accessory that mounts between the straightener head and the base. It angles the exit side of the straightener twelve degrees lower than the entrance side. This feature works very well when using the straightener to pull off a non-powered reel.

OPERATION

Once the straightener has been tested and all the functions work then it should be tested for what it was designed to do and that is to remove coil set.

Retract all of the idler rolls and the exit pinch roll to a position so when the cover is closed the material is not being deformed. Open the cover of the straightener and position the edge guides for maximum width. Cut and place about a four foot length of the material onto the straightener rolls with the exit end of the material extending through the exit pinch rolls and centered from side to side in the straightener. Close the cover and latch it. Adjust the exit pinch roll enough to grip and hold the material. Adjust the edge guides so that they just touch the material.

Adjust the first idler roll knob, this is the one nearest the entrance of the straightener, so that it deforms the material no more than the thickness of the material. Adjust the second idler roll knob so it is lightly on the roll. Run the material to check that the exit pinch roll is not slipping on the material, readjust if necessary. This piece will still have coil set in the first two feet of the material as it was not run through the complete straightening cycle. At this time, this piece could be rerun and checked for straightness or a new piece could be cut and run and then be checked.

A good check is to guide the exiting material, keeping it parallel to the rolls, until the run is complete and then hold one end of the material in the air while peering down the length of the material. If the material still has "coil set" then readjust roll pressure on the last roll, towards the exit end but before the pinch roll, until the material is straight. Run one or more short length setups while making final adjustments. Once the proper setting has been determined, the quick release top maintains the adjustment during loading.

Thread the material from the reel through the straightener, under the dancer arm, and into the pulling device leaving ample loop between the straightener and the pulling device. If the material thickness is such that when exiting the straightener, it will not let the dancer arm down to the rest position, then either lengthen the dancer arm or adjust the loop height until the straightener stops feeding.

Set the % speed potentiometer to 50% for a starting position and start the pulling device to have the material feeding. If the straightener gets finished and stops before material is needed again then the straightener is set to feed too fast, slow it down by adjusting the % speed potentiometer. The ideal straightening is to have the straightener slightly exceed the feed rate required. This minimizes the starting and stopping and resultant stock deformation.

MAINTENANCE

Lubrication

Gear transmission:
The reservoir oil capacity is about 3 to 12 oz. depending on the size of the straightener. The reservoir oil should be changed every 2000 hours and should be filled to the oil level site gauge. Use MOBILE 600W cylinder oil or equivalent. This is a non synthetic oil.

Rolls:
Although the rolls should be cleaned periodically they never have to be greased as all the rolls have permanently lubricated bearings.

Drive Belt:
At the oil change interval, check for belt tension and wear.

TROUBLESHOOTING GUIDE

MAIN SWITCH ON BUT NOT LIT

1. CB tripped.
   a. Reset CB
2. Unit not plugged into main power.
   a. Plug into main power source.
3. No power in incoming line.
   a. Check outlet.
   b. Check power cord.
4. Loose wiring.
   a. Check terminals and connections.

MOTOR CREEPS IN STOP POSITION

1. "Min" speed pot on RAMM board out of adjustment.
2. Dancer arm could be bent which changes the home position of the arm.

UNIT TURNS BUT WON'T JOG

1. Jog function was not selected.
   a. Select jog.
2. Jog speed has not been set up.
   a. Call factory.

UNIT ON BUT MOTOR WON'T RUN. (ARMATURE VOLTAGE PRESENT – ON RAMM BOARD)

1. Check motor wiring.
   a. Replace motor cord or correct motor wiring. Call factory.
2. Check motor.
   a. Worn brushes or motor defective. Call factory.
   b. Check for oil in motor, gear box seal could have ruptured.

UNIT ON BUT MOTOR WON'T RUN. (NO ARMATURE VOLTAGE ON RAMM BOARD)

1. Selector switch not in run position.
   a. Turn selector switch to run position.
2. If running with a dancer arm control.
   a. Check that the external/loop arm function is in the loop arm position.
3. If running with external control.
   a. Check that the external/loop arm function is in the external position.
4. Loop height switch setting too high.
   a. Set height setting to "0".
5. Percent speed function set too low.
   a. Adjust percent speed function to 100%.
6. Fuses blown.
   a. Check fuses & circuit breaker.
7. No AC voltage at DC drive board.
   a. Check wiring.
8. Check signal voltage between P2 to P1 on DC drive.
   0-6 VDC—RAMM
   0-9 VDC—Regen Drive
   while moving dancer arm.
   a. If there is a signal, check continuity between I1 & I2.
   b. If no continuity, replace D.C. drive or call factory.
9. Check Pico fuse on 69100804 board (F1).
   a. Replace fuse, 1 amp pico fuse—call factory.

SAFETY WARNING – PLEASE READ CAREFULLY

RAMM Solid State DC Motor Speed Control

This product should be installed and serviced by a qualified technician, electrician or electrical maintenance personnel familiar with its operations and the hazards involved. Proper installation (see instruction information which accompanies product), which includes wiring, mounting in proper enclosure, fusing or other over current protection and grounding, can reduce the chance of electrical shocks, fires or explosion in this product or products used with this product, such as electric motors, switches, coils solenoids and/or relays. Eye protection must be worn when working with control under power. This product is constructed of materials (plastics, metals, carbon, silicon, etc.) which may be a potential hazard. Individual material safety data sheets (MSDS) are available upon request. Proper shielding, grounding and filtering of this product can reduce the emission of radio frequency interference (RFI) which may adversely affect sensitive electronic equipment. If information is required on this product, contact our factory. It is responsibility of the ultimate user of this product to read and comply with this safety warning. (SW effective 1/89).

*****IMPORTANT*****
YOU MUST READ THESE INSTRUCTIONS BEFORE OPERATING CONTROL

1. Be sure AC line voltage corresponds to control voltage.
2. Install the correct Plug-In Horsepower Resistor according to armature voltage and motor horsepower.
3. Recheck connections: AC line to L1 and L2; armature to A+ and A– and field (Shunt motors only to F+ and F-.) (**Note:** If motor runs in improper direction, interchange armature leads.)
4. Install proper AC line fuse and armature fuse as required.
5. Nominal trimpot settings are as follows (expressed in % of full CW rotation):

TABLE 1: NOMINAL TRIMPOT SETTINGS

MIN (minimum speed):	15%	CL (current limit/torque):	65%
MAX (maximum speed):	65%	ACCEL (acceleration start):	20%
IR (IR compensation):	25%	DECEL (deceleration stop):	20%

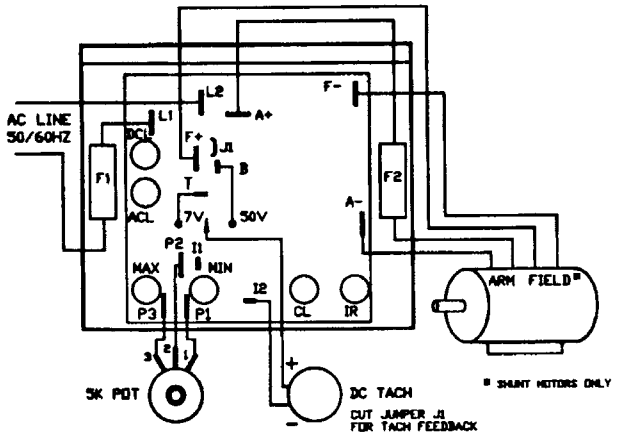
For motor drive board instructions, go to www.info@kbelectrics.com and find KBMM write up which is closest to the Rapid-Air RAMM board.

Plug In Horsepower Resistor

A Plug-In Horsepower Resistor must be installed to match the RAMM to the motor horsepower and voltage. See table 2 for the correct value. Plug-In Horsepower Resistors are stocked by your distributor.

TABLE 2: PLUG IN HORSEPOWER RESISTOR CHART

MOTOR HORSEPOWER RANGE **		Plug-in Horsepower Resistor Resistance Value (ohms)	Rapid-Air P/N
Armature Voltage 90-130 VDC	Armature Voltage 180 VDC		
1/4	1/2	.05	69100529
1/2	1	.025	69100530
3/4	1-1/2	.015	69100534
1**	2***	.01	69100531



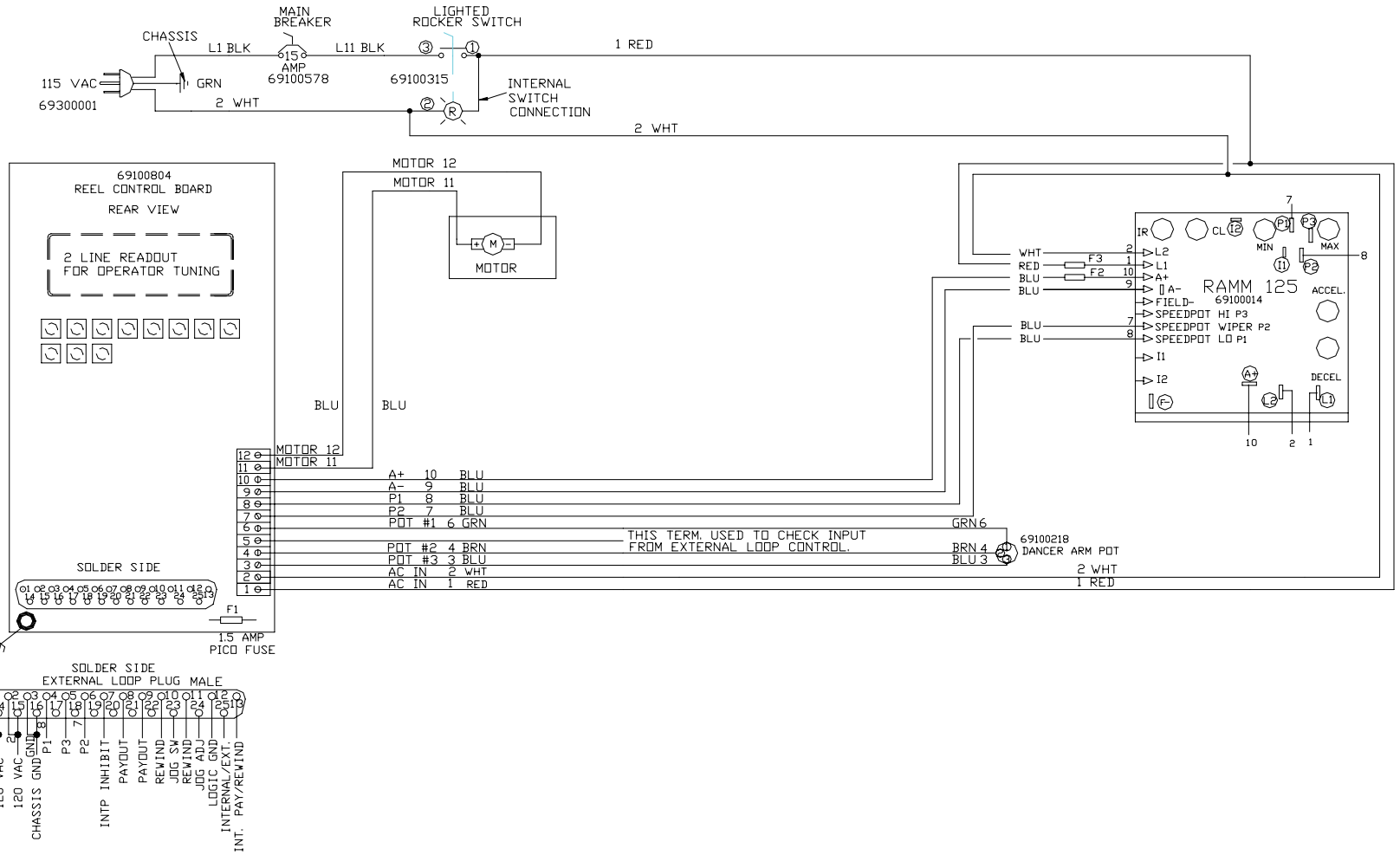
* Motor horsepower and armature voltage must be specified when ordering so that proper resistor will be supplied.
** For overlapping motor horsepower range use lower value Plug-In Horsepower Resistor.
*** Auxiliary heat sink must be used to achieve HP rating.

WARRANTY

Limited Warranty – RAMM 125, 225, 225D

For a period of one (1) year from date of original purchase Rapid-Air Corporation will repair or replace without charge devices which our examination proves to be defective in material or workmanship. This warranty is valid if the unit has not been tampered with by unauthorized persons, misused, abused or improperly installed and has been used in accordance with the instructions and/or ratings supplied. The foregoing is in lieu of any other warranty or guarantee expressed or implied, and we are not responsible for any expense (including installation and removal), inconvenience, or consequential damage, including injury to any person, caused by items of our manufacture and/or sale. Some states do not allow certain exclusions or limitations found in this warranty so that they may not apply to you. In any event, Rapid-Air Corporation's total liability, under all circumstances, shall not exceed the full purchase price of this unit.

Pushbutton Control Straightener - 120 VAC



REF.

APROX. FUSE RATINGS

AC INPUT VOLTS	MOTOR SIZE HP	ARMATURE FUSE AMPS	CURRENT LIMIT SETUP AMPS	AC FUSE AMPS
120	1/4	4	5	5

FUSE	VOLT	AMP	PART #	QTY
F1	120	1.5	PICO	1
F2	90	15	69280021	1
F3	120	15	69280021	1
CB	120	15	69100578	1

REF.
CHART A
APROX. FUSE RATINGS

MOTOR SIZE HP	ARMATURE FUSE AMPS	CURRENT LIMIT SETUP AMPS
1	15	12
3\4	12	12
1\2	10	7.5
1\4	4	3.9

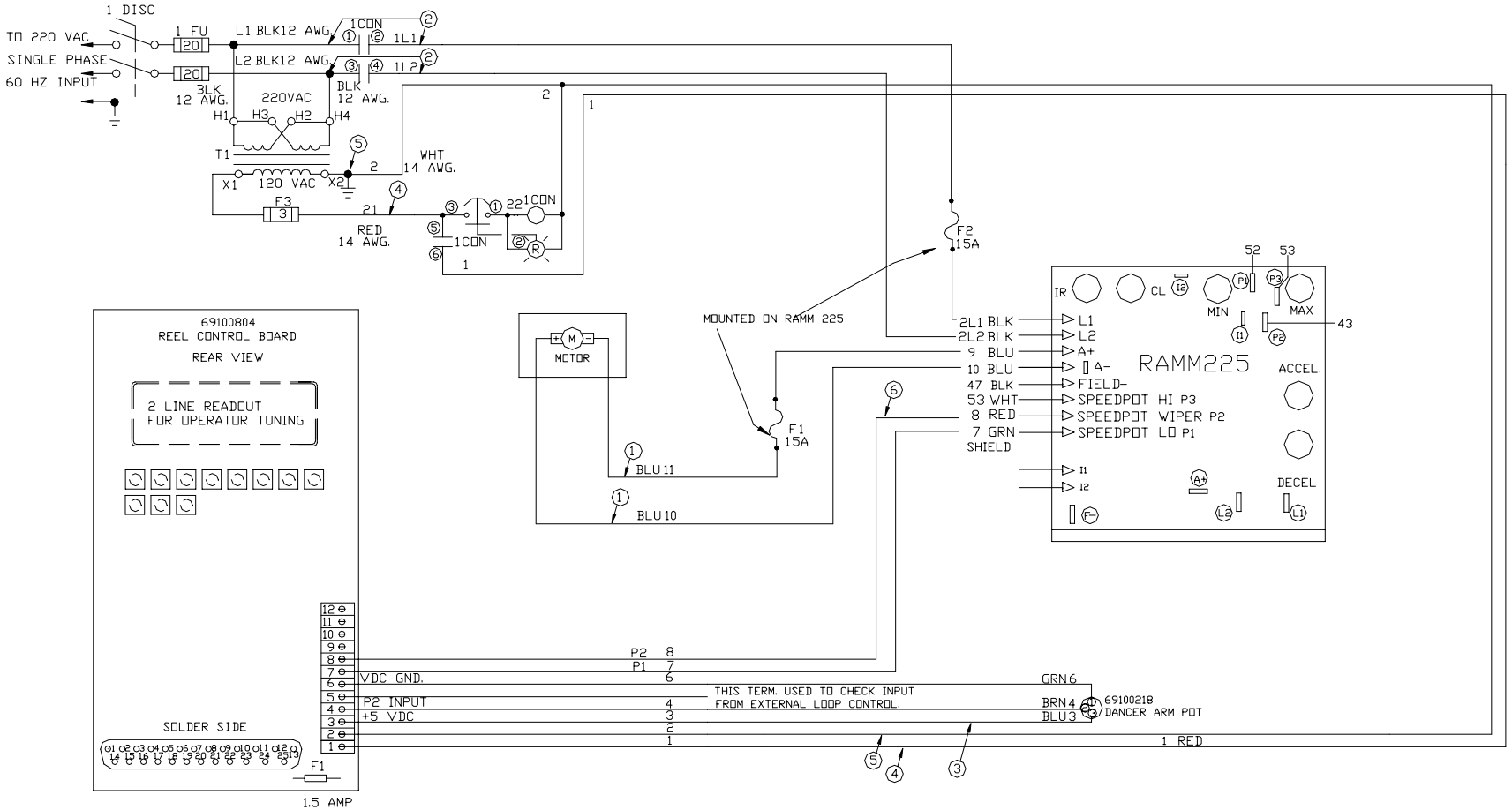
RAPID-AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

PART NAME PUSHBUTTON CONTROL STRAIGHTENER-120 VAC

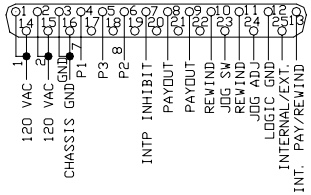
MATERIAL | WEIGHT | HEAT TREAT | HARDNESS | DRAWN BY GSM | CHECKED BY | FINAL FINISH | DATE 01/14/2004 | DRAWING NUMBER 85500312 D | SCALE FULL

NEXT ASSY. | STANDARDS MFG TOLERANCES UNLESS OTHERWISE SPECIFIED | DECIMALS ONE PLACE .X ±.030 TWO PLACE .XX ±.010 THREE PLACE .XXX ±.005 FOUR PLACE .XXXX ±.0005 FRACTIONS ±1/64 | FINISH 63 | REV. | CHANGE | DATE

Pushbutton Control Straighteners - 2 and 3HP



SOLDER SIDE
EXTERNAL LOOP PLUG MALE



REF. ONLY
WIRE AND CABLE CHART

ITEM	QTY.	PART NO.	DESCRIPTION
11			
10			
9			
8			
7			
6		69310028	22 GAGE 3 COND CORD
5		69310004	16 GAGE WHITE
4		69310005	16 GAGE RED
3		69310028	22 GAGE 3 COND CORD
2		69310065	12 GAGE BLACK
1		69310071	12 GAGE BLUE

FUSE	VOLT	AMP	PART #	QTY
F1-2HP	180	10	69100504	1
F1-3HP	180	15	69100503	1
F2	220	15	69280021	1
F3	120	1	69100549	1
DISC 2HP	240	15	69100512	2
DISC 3HP	240	20	69100580	2

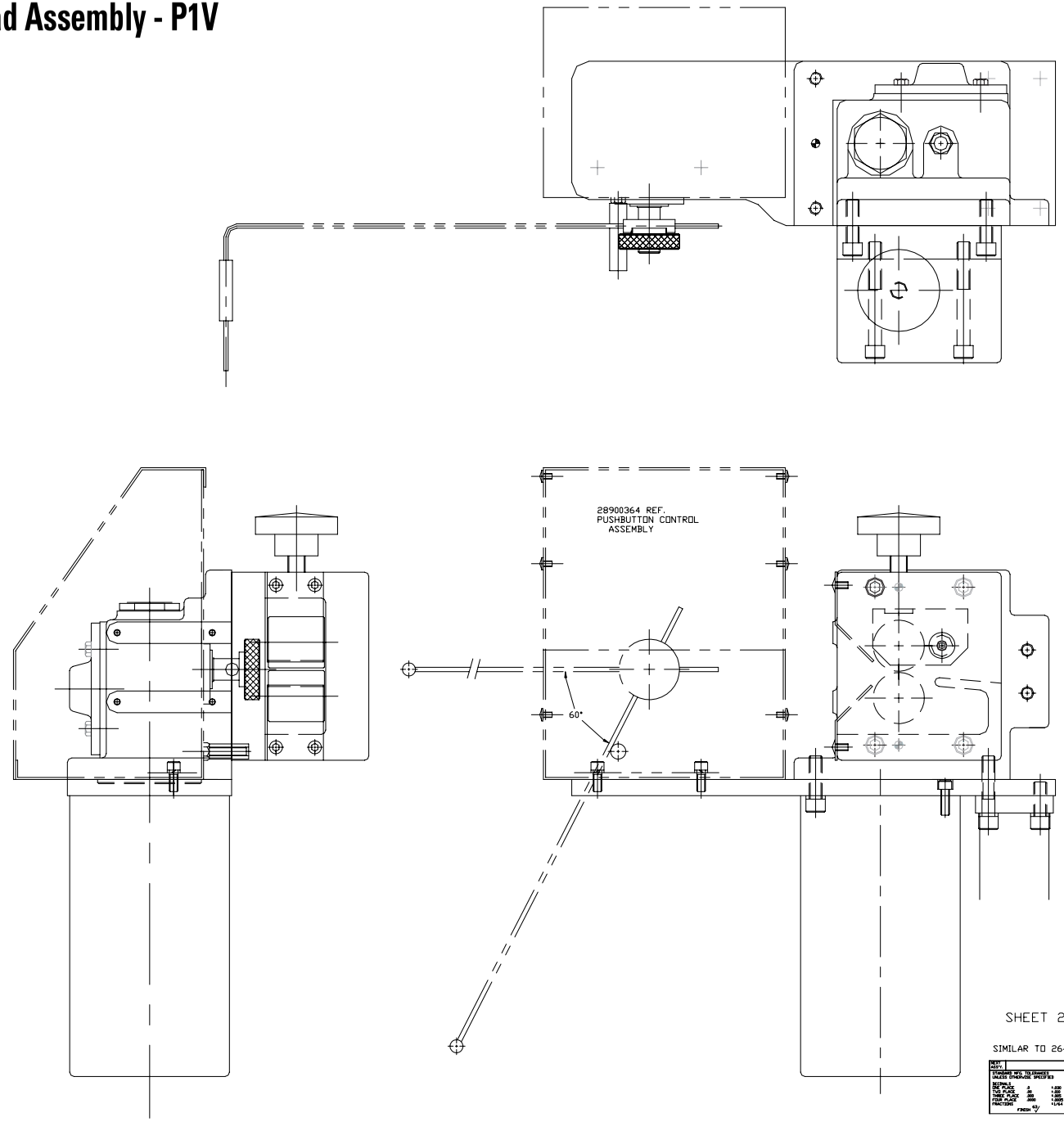
REF.
CHART A
APROX. FUSE RATINGS

MOTOR SIZE HP	ARMATURE FUSE AMPS	CURRENT LIMIT SETUP AMPS	AC FUSE AMPS
2	10	10	15
3	15	12	20

RAPID-AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

PART NAME PUSHBUTTON CONTROL STRAIGHTENERS 2 AND 3HP
MATERIAL
WEIGHT
HEAT TREAT
HARDNESS
DRAWN BY GSM
CHECKED BY
FINAL FINISH
DATE 02/26/03
DRAWING NUMBER 85500303 D
SCALE FULL
NEXT ASSY.
STANDARD MFG. TOLERANCES UNLESS OTHERWISE SPECIFIED
DECIMALS
ONE PLACE .X ±.030
TWO PLACE .XX ±.010
THREE PLACE .XXX ±.005
FOUR PLACE .XXXX ±.0025
FRACTIONS ±1/64
FINISH 63
REV. CHANGE DATE

Gear Head Assembly - P1V



SHEET 2 OF 2

SIMILAR TO 26400006 (85000091)

REV.	CHANGE	DATE
E	ECN #4851	1/03
D	ECN #4703	10/01
C	ECN #2688	9/98
B	ECN #2650	9/98
A	ECN #2638	8/98

RAPID-AIR CORPORATION
ROCKFORD,IL ◆ MADISON,SD

PART NAME: GEAR HEAD ASSEMBLY-P1V

MATERIAL | WEIGHT

HEAT TREAT | HARDNESS

DRAWN BY: BW | CHECKED BY | FINAL FINISH

DATE: 6-28-83

SCALE: FULL

DRAWING NUMBER: 26400015-19 E

Gear Head Assembly - P1V

ITEM	QTY.	PART NO.	DESCRIPTION
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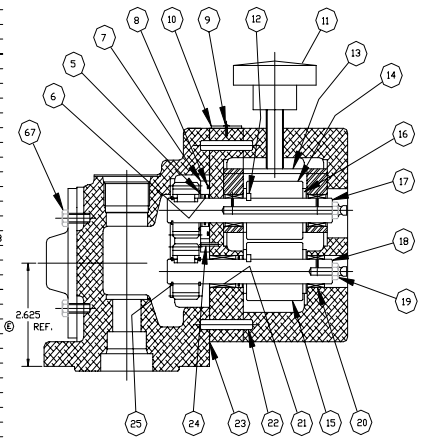
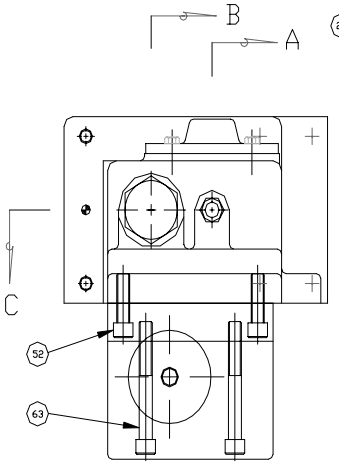
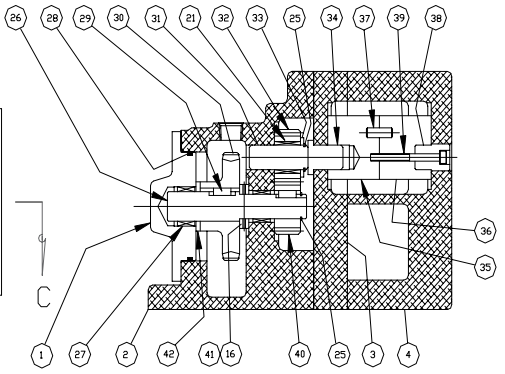
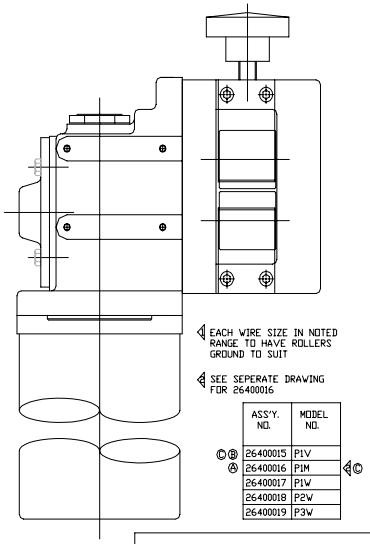
67	4	65820062	HEX BOLT 1/4-20 X 5/8
66	6	61320037	SPLIT LOCK WASHER
65	2	34100003	SPACER
64	.	.	
63	4	65936300	SHCS 3/8-16 X 3
62	4	66612037	BHSCS #10-32 X 3/8
61	.	.	.
60	1	31500112	EXIT GUARD
59	1	31500113	EXIT GUARD
58	1	69420010	BREATHER
57	1	63130125	PIPE PLUG 1/8 NPT
56	1	63130375	PIPE PLUG 3/8 NPT
55	4	65920075	SHCS 1/4-20 X 3/4
54	2	65936175	SHCS 3/8-16 X 1 3/4
53	2	65936100	SHCS 3/8-16 X 1
52	6	65936125	SHCS 3/8-16 X 1 1/4
51	.	.	
50	1	37901000	OLDHAM COUPLING
49	1	32900229	WORM SHAFT
48	1	60200005	OIL SEAL
47	1	32600012	WORM
46	1	36800010	KEY
45	1	60810062	SPIRAL RING
44	1	60108916	"O" RING
43	1	36100024	WORM COVER
42	1	64520005	THRUST WASHER
41	2	64510002	THRUST BEARING
40	3	32600034	GEAR
39	1	65912200	SHCS #10-32 X 2
38	1	32900056	ECCENTRIC SHAFT
37	2	62325075	DOWEL PIN
36	1	31900138	ROLL BRACKET
35	1	31900139	ROLL BRACKET
34	1	32900227	PIVOT PIN
33	1	34700034	THRUST WASHER
32	1	32600035	IDLER GEAR
31	1	32900226	IDLER SHAFT
30	1	32600071	WORM GEAR
29	4	36800005	KEY 3/16 SQUARE
28	1	60108146	"O" RING
27	1	64500031	NEEDLE BEARING
26	1	32900228	WORM GEAR SHAFT
25	5	60910062	RETAINING RING
24	1	62409050	ROLL PIN 3/32 X 1/2
23	1	37600058	GASKET
22	2	62325150	DOWEL PIN
21	4	64500003	NEEDLE BEARING
20	4	64500002	NEEDLE BEARING
19	2	67101001	LUBE FITTING
18	1	32900224	LOWER ROLL SHAFT
17	1	32900225	UPPER ROLL SHAFT
16	9	64520002	THRUST WASHER
15	1	SEE CHART	LOWER ROLLER
14	1	SEE CHART	UPPER ROLLER
13	1	37500032	FLAT SPRING
12	2	61810213	WOODRUFF KEY
11	1	36700002	KNOB
10	1	39900051	NAME PLATE
9	2	66300250	DRIVE SCREW
8	1	60108024	"O" RING
7	1	31800024	SEAL PLATE
6	2	60200043	TROSTEL SEAL
5	1	37500026	WAVE SPRING
4	1	30100039	ROLLER SUPPORT HOUSING
3	1	31100055	SPACER BLOCK
2	1	30100040	GEAR HOUSING
1	1	31500111	WORM GEAR COVER



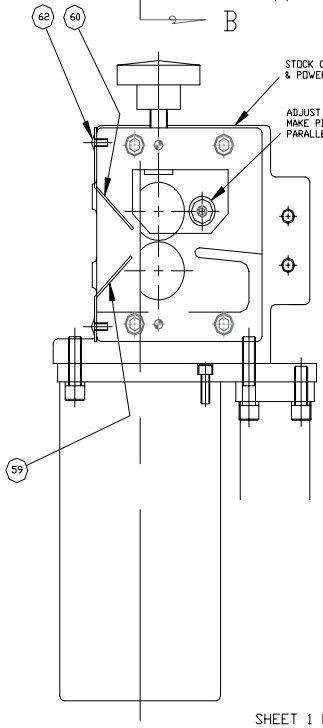


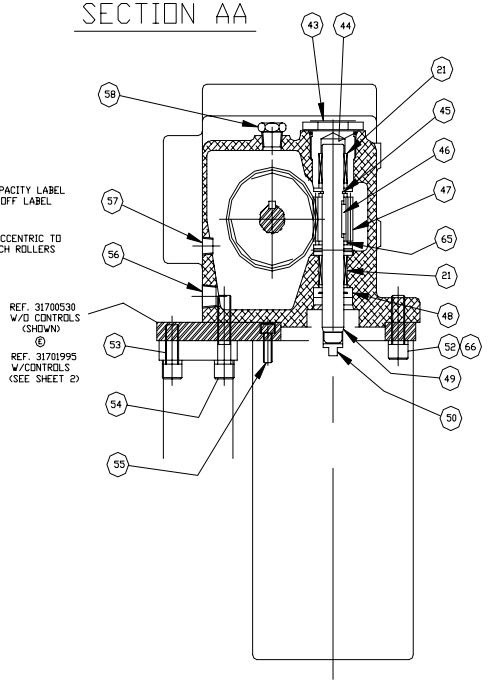




ASS'Y. NO.	MODEL NO.
26400015	P1V
26400016	P1M
26400017	P1W
26400018	P2W
26400019	P3W

ROLLER CHART-MAX. STOCK WIDTH 1.5				
RAPID-ROLL MODEL	STOCK	STOCK THICKNESS RANGE	ITEM 14 UPPER ROLLER	ITEM 15 LOWER ROLLER
P1V	FLAT	.0005 TO .060	34200011	34200011
.	.	.	◁	◁
P1W	WIRE	.025-.048 DIA.	34200016	34200016
P2W	WIRE	.048-.078 DIA.	34200022	34200022
P3W	WIRE	.078-.188 DIA.	34200023	34200023





SHEET 1 OF 2

SIMILAR TO 26400006 (B5000091)

RAPID-AIR CORPORATION
ROCKFORD,IL ◆ MADISON,SD

GEAR HEAD ASSEMBLY-P1V

REV.	DESCRIPTION	DATE
E	ECN #4851	1/03
D	ECN #4703	10/01
C	ECN #3688	9/98
B	ECN #2650	9/96
A	ECN #2638	8/96

DRAWN BY: BW
DATE: 6-28-83
SCALE: FULL
DRAWING NUMBER: 26400015-19 E

SA3 Straightener Head Assembly

	QTY.	ITEM	PART NO.	DESCRIPTION	SHT.
	1	156	62319025	DOWEL PIN	3
	7	155	63800125	BALL	2
	1	154	34700034	WASHER	3
	1	153	69420011	BREATHER	2
	1	152	69420010	BREATHER	3
	1	151	39900091	LABEL	3
	1	150	39900092	INSTRUCTION PLATE	3
		149			
	1	148	37901000	COUPLING, OLDHAM	3
	14	147	35800051	RETAINER, SEAL	2
	2	146	34100003	SPACER	3
	14	145	34700048	WASHER	3
	1	144	64520010	WASHER	2
	1	143	34700061	WASHER	2
	1	142	34700060	WASHER	2
	3	141	34700062	WASHER	2
	1	140	64520005	WASHER	3
Ⓗ	11	139	64520002	WASHER	3
	21	138	34700057	WASHER	2
	6	137	61300037	WASHER	3
	2	136	61300010	WASHER	2
	2	135	65936175	SCREW, SHCS 3/8-16x1-3/4	3
	2	134	35900007	SCREW, STOCK GUIDE	2
	1	133	36100044	SCREW, ADJ. HORIZ.	2
		132			
	4	131	65820062	SCREW, HHCS 1/4-20x5/8	3
	4	130	66612037	SCREW, BHCS 10-32x3/8	3
	4	129	66700701	SCREW, PHIL. PAN 10-32x3/8	3
	4	128	65920075	SCREW, SHCS 1/4-20x3/4	3
	8	127	65920125	SCREW, SHCS 1/4-20x1-1/4	3
	8	126	65936125	SCREW, SHCS 3/8-16x1-1/4	3
	5	125	66212025	SCREW, SHSS 10-32x1/4	2
	12	124	65912037	SCREW, SHCS 10-32x3/8	2
	1	123	65912087	SCREW, SHCS 10-32x7/8	3
	1	122	65912200	SCREW, SHCS 10-32x2	3
	1	121	66536100	SCREW. FHCS 3/8-16x1	2

	QTY.	ITEM	PART NO.	DESCRIPTION	SHT.
	5	120	65936475	SCREW, SHCS 3/8-16x4-3/4	2
	1	119	63130375	PLUG, PIPE	3
	2	118	63130125	PLUG, PIPE	2
	1	117	37600058	GASKET	3
	1	116	37600059	GASKET	2
	1	115	33700016	STUD, ADJ.	2
	1	114	33700015	STUD, ADJ	2
	1	113	33700014	STUD, ADJ.	2
Ⓖ	1	112	65600004	INSERT, THREADED	2
	3	111	65600002	INSERT, THREADED	2
	5	110	60200049	SEAL, SHAFT	2
	1	109	36800010	KEY	3
	4	108	36800005	KEY	3
	2	107	61810213	KEY, WOODRUFF	3
	1	106	62412125	ROLLPIN	2
	3	105	62412062	ROLLPIN	2
	1	104	62409050	ROLLPIN	3
	2	103	62325150	PIN, DOWEL	3
	10	102	62305075	PIN, DOWEL	3
	2	101	62325100	PIN, DOWEL	2
	1	100	62312062	PIN, DOWEL	2
	6	99	62312025	PIN, DOWEL	2
	2	98	33600168	PIN, INDICATOR	2
	3	97	60910037	RING, RETAINING	2
	13	96	60910025	RING, RETAINING	2
	14	95	60910015	RING, RETAINING	2
	1	94	60910031	RING, RETAINING	2
	6	93	60910062	RING, RETAINING	3
	1	92	60810062	RING, SPIRAL	3
	1	91	60108916	"O" RING	3
	1	90	60108146	"O" RING	3
	1	89	60108024	"O" RING	3
	1	88	31800024	PLATE, SEAL	3
	14	87	37600062	SEAL, SHAFT	2
	1	86	60200005	SEAL, SHAFT	3
	3	85	60200043	SEAL, SHAFT	3
	1	84	37500046	SPRING, FLAT	2
	1	83	37500026	SPRING, WAVE	3
	1	82	37500012	SPRING, COMP.	2
	2	81	37500045	SPRING, COMP.	2

	QTY.	ITEM	PART NO.	DESCRIPTION	SHT.
	2	80	37500044	SPRING, COMP.	2
	2	79	37500043	SPRING, TEN.	2
	2	78	37500042	SPRING, COMP.	2
	2	77	37500041	SPRING, COMP.	2
	2	76	37500040	SPRING, COMP.	2
	2	75	64510002	BEARING, THRUST	3
	2	74	64520008	BEARING, THRUST	3
Ⓕ	1	73	64520010	BEARING, THRUST	2
	1	72	64500031	BEARING, NEEDLE	3
	28	71	64500033	BEARING, NEEDLE	2
	5	70	64500036	BEARING, NEEDLE	2
		69			
	6	68	64500034	BEARING, NEEDLE	2
	11	67	64500030	BEARING, NEEDLE	2
	1	66	64500029	BEARING, NEEDLE	3
	5	65	64500028	BEARING, NEEDLE	2
	4	64	64500003	BEARING, NEEDLE	3
Ⓗ	3	63	64500002	BEARING, NEEDLE	3
	2	62	64500032	BEARING, NEEDLE	3
	3	61	36700017	KNOB	2
	2	60	34200005	ROLLER	2
	2	59	36200005	NUT	2
	1	58	65230004	NUT, LOCK	2
	2	57	36200018	NUT, LOCK	2
	1	56	66700041	THUMB, SCREW	2
	1	55	36700015	KNOB	2
	1	54	31500127	GUARD, LOWER	3
	1	53	31500126	GUARD, UPPER	3
		52			3
	1	51	31500125	COVER	2
	1	50	31900415	ANCHOR, SPRING BOTTOM	2
	1	49	31900414	ANCHOR, SPRING TOP	2
	1	48	31900413	BAR, CLAMP	2
	1	47	31900412	PIVOT, BLOCK	2
	1	46	31900411	ADJ. TEE HORIZ.	2
	2	45	31900409	LINK	2
	1	44	31900410	LINK, UPPER	2
	1	43	22900285	ECCENTRIC TRUNION	3
	1	42	32900227	PIN, PIVOT	3
	1	41	32900290	PIN, HINGE	2

	QTY.	ITEM	PART NO.	DESCRIPTION	SHT.
	1	40	32900289	PIN, PIVOT	2
	1	39	32900288	PIN, PIVOT	2
	1	38	32900287	PIN, PIVOT	2
	2	37	32900286	PIN, PIVOT	2
	1	36	36100024	FITTING, WORM COVER	3
	1	35	32600012	WORM	3
	3	34	32600034	GEAR	3
	1	33	32600035	GEAR, IDLER	3
	1	32	32600071	GEAR, WORM	3
	11	31	32600086	GEAR, SPUR	2
	1	30	32600087	GEAR, SPUR	3
	1	29	32600088	GEAR, SPUR	3
	1	28	32600089	GEAR, PINION	2
	1	27	32600090	RACK	2
	7	26	34200061	ROLLER	2
	5	25	34200060	ROLLER, DRIVE LOWER	2
	2	24	34200059	ROLLER	3
	1	23	32900229	SHAFT, WORM	3
	1	22	32900228	SHAFT, WORM GEAR	3
	1	21	32900226	SHAFT, IDLER	3
	7	20	32900284	SHAFT, ROLLER	2
	1	19	32900283	SHAFT, GUIDE	2
	1	18	32900280	SHAFT, IDLER	3
	6	17	32900279	SHAFT, IDLER	2
	1	16	32900282	SHAFT, ROLLER UPPER	3
	1	15	32900281	SHAFT, ROLLER LOWER	3
	1	14	34100119	SPACER, SQUEEZE	2
	1	13	34100121	SPACER, UPPER	3
	1	12	34100120	SPACER, LOWER	2
	1	11	31900428	GUIDE	2
	1	10	31900429	BRACKET, GUIDE SUPPORT	2
	1	9	31900408	BRACKET, SQUEEZE	2
	1	8	31900407	BRACKET, SQUEEZE	3
	1	7	31900406	BRACKET, IDLER	2
	1	6	31500124	COVER, GEAR CASE	3
	1	5	31500123	COVER, ROLLER SUPPORT	2
	1	4	30100054	FRAME, DRIVE SIDE	3
	1	3	30100053	FRAME, CONTROL SIDE	3
	1	2	31500111	COVER. WORM	3
	1	1	30100057	HOUSING, GEAR	3

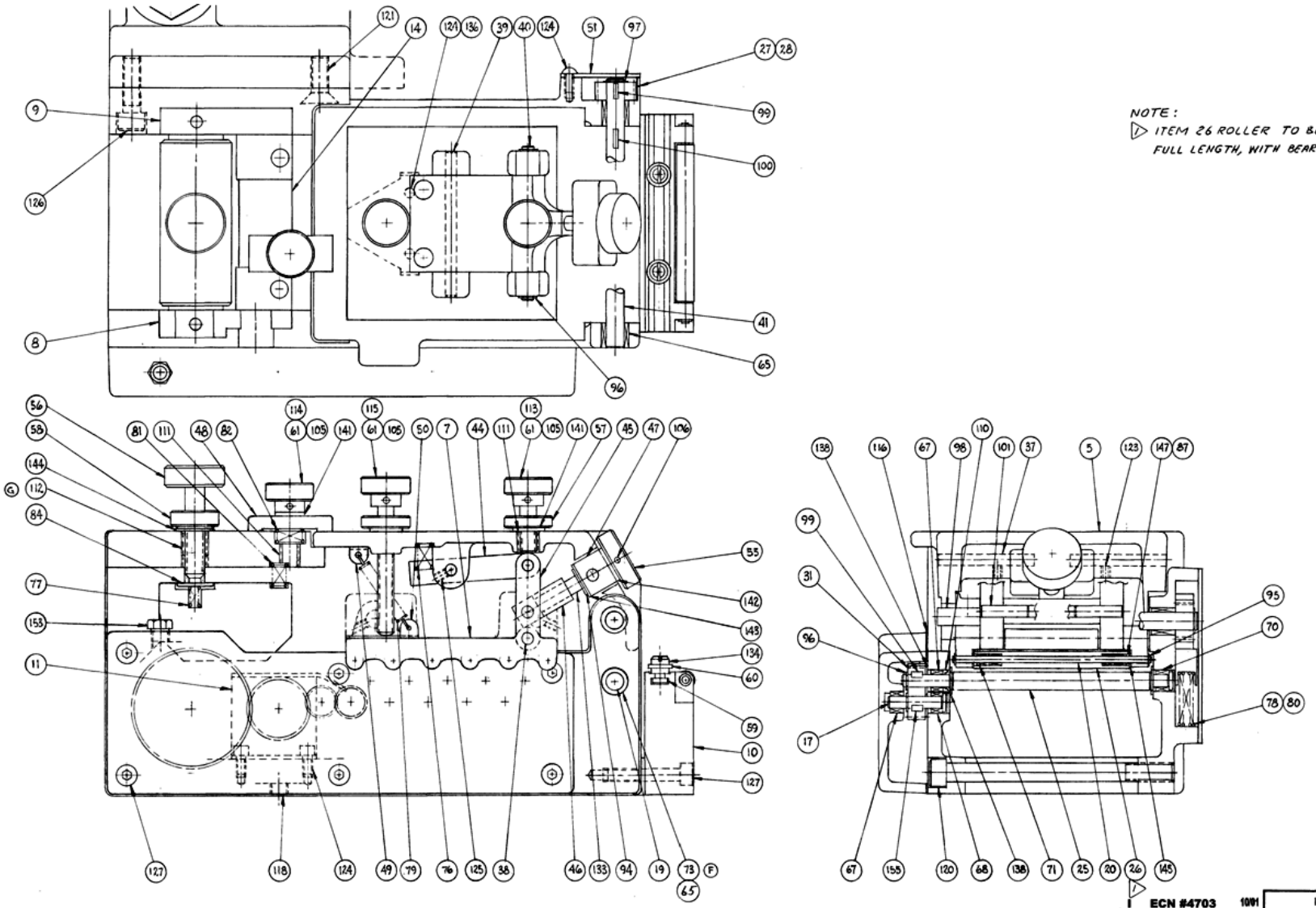
STANDARD MFG. TOLERANCES
DECIMALS:
ONE PLACE .0 ± .030
TWO PLACE .00 ± .010
THIRD PLACE .000 ± .005
FOUR PLACE .0000 ± .0005
CHAMPERS ± .005
FINISH 63
FRACTIONS ✓ ± 1/64
THE ABOVE TOLERANCES APPLY UNLESS OTHERWISE SPECIFIED

SYMBOL	CHANGE	DATE
I	ECN 4703	10-01
H	ECN 3500	1-94
G	ECN 3212	7-92
F	ECN 2549	4-90
E	ECN 1302	4-87
D	ECO 1028	7-85
C	ECO 0970	5-85
B	ECO 0962	5-85
A	ECO 0905	4-85

RAPID-AIR CORPORATION
ROCKFORD, IL • MADISON, S.D.

PART NAME **SA3 STRAIGHTENER HEAD ASSY**
MATERIAL
HEAT TREAT | HARDNESS
DRAWN BY *C.R.A.* CHECKED BY | FINAL FINISH
DATE *3-27-85* | DRAWING NUMBER *26400027* | SHT *1/3*
SCALE

SA3 Straightener Head Assembly



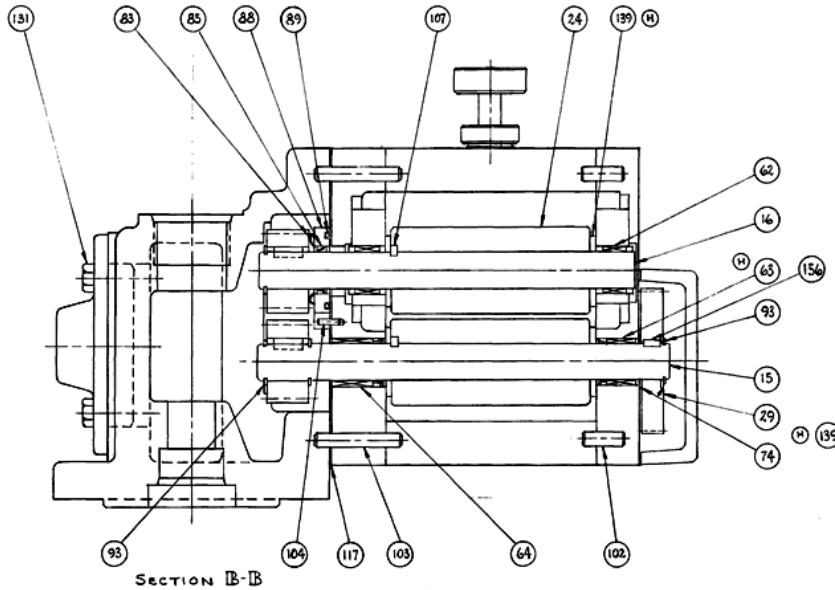
I	ECN #4703	10/01
H	ECN 3500	1-96
G	ECN 3212	7-92
F	ECN 2549	4-90
E	ECN 1302	4-87
D	ECO 1028	7-85
C	ECO 0970	5-85
B	ECO 0962	5-85
A	ECO 0905	4-85
SYMBOL	CHANGE	DATE

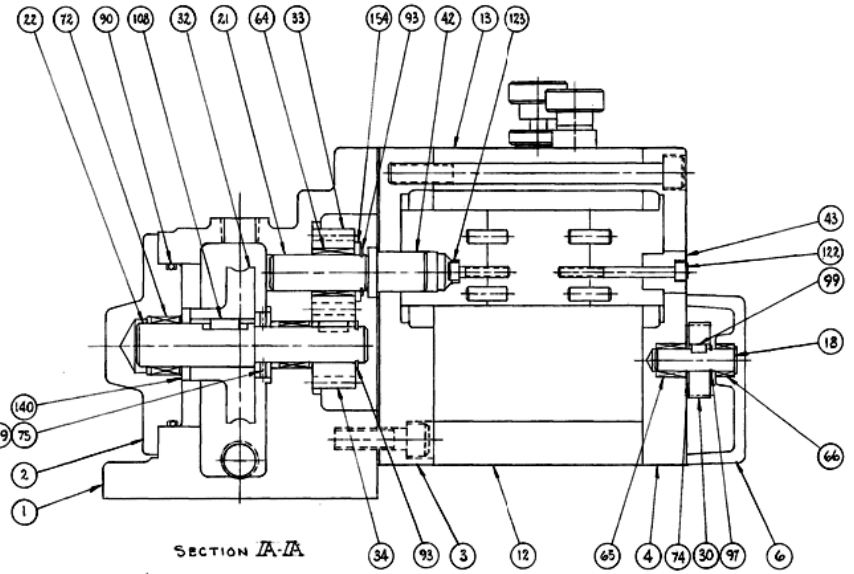
RAPID-AIR CORPORATION
ROCKFORD, IL • MADISON, S.D.

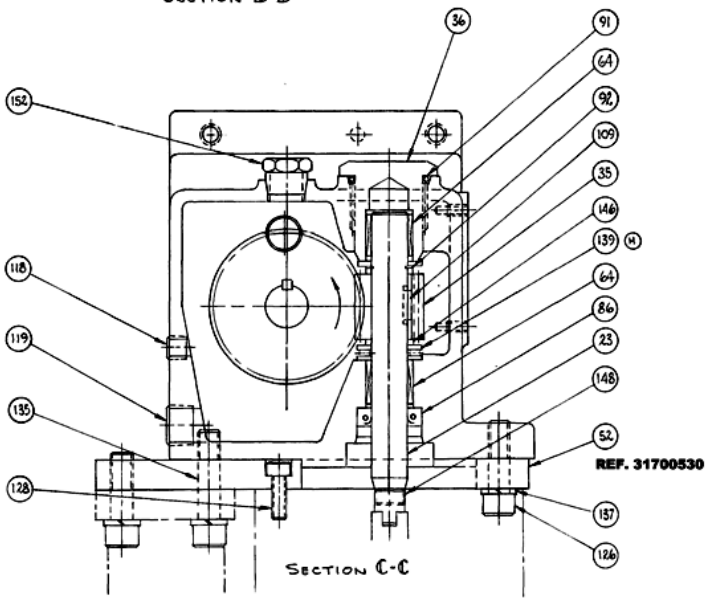
PART NAME: SA3 STRAIGHTENER HEAD ASSY.
MATERIAL:
HEAT TREAT: HARDNESS:
DRAWN BY: C.R.A. CHECKED BY: FINAL FINISH:
DATE: 3-20-85 DRAWING NUMBER: 26400027 SHT. 2/2
SCALE: 1:1

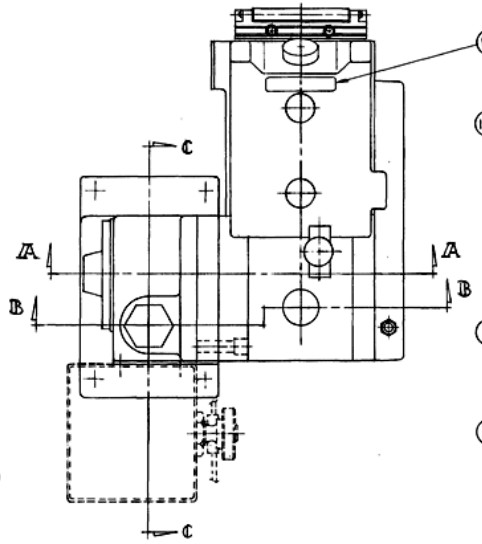
STANDARD MFG. TOLERANCES
DECIMALS: ONE PLACE ± .030; TWO PLACE ± .010; THREE PLACE ± .005; FOUR PLACE ± .0005
CHAMFERS ± .005
FINISH 125
FRACTIONS ± 1/64
THE ABOVE TOLERANCES APPLY UNLESS OTHERWISE SPECIFIED.

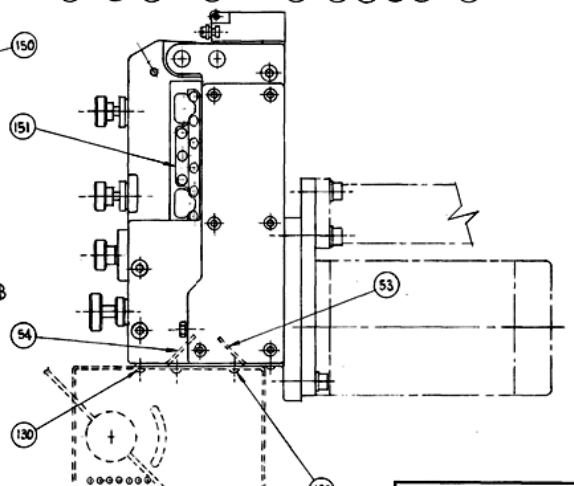
SA3 Straightener Head Assembly











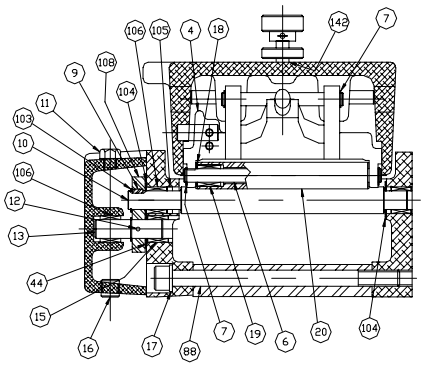
H	ECN 3500	1-96
G	ECN 3212	7-92
F	ECN 2549	4-90
E	ECN 1302	4-87
D	ECO 1028	7-85
C	ECO 0970	5-85
B	ECO 0962	5-85
A	ECO 0905	1-85
SYMBOL	CHANGE	DATE

I ECN #4703 10/01

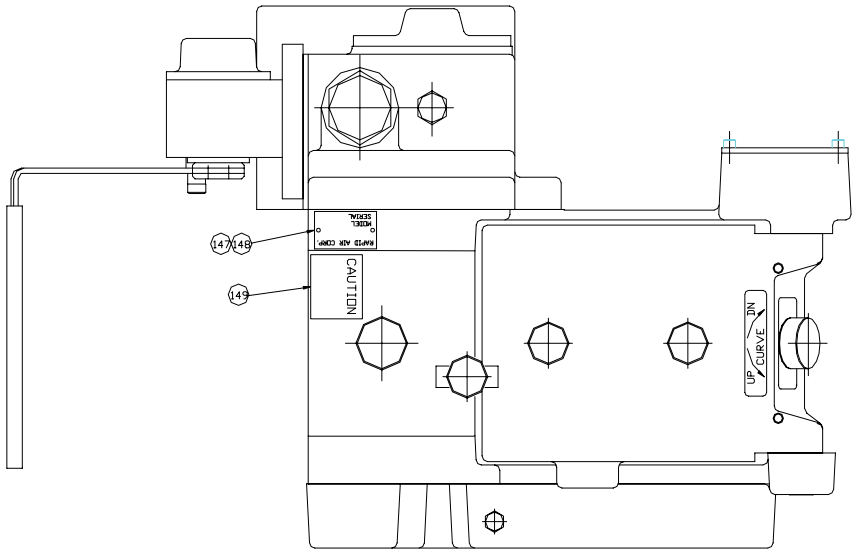
RAPID-AIR CORPORATION
ROCKFORD, IL • MADISON, S.D.

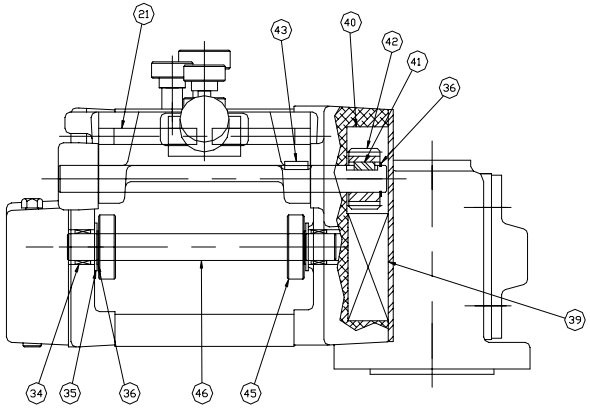
PART NAME: SA3 STRAIGHTENER HEAD ASSY.
MATERIAL:
HEAT TREAT: HARDNESS:
DRAWN BY: C.R.A. CHECKED BY: FINISH:
DATE: 3-21-85
SCALE: 1:1 & 1:2
DRAWING NUMBER: 26400027
SHT: 3/

SB4 Straightener Head Assembly

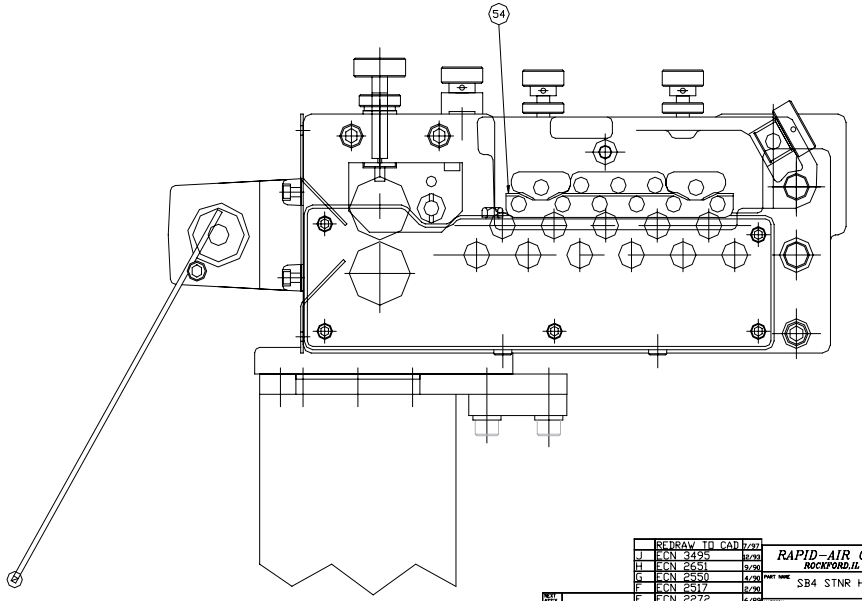


SECTION B-B





VIEW C-C



SHEET 1 OF 2

REV.	CHANGE	DATE
	REDRAW TO CAD	2/87
J	ECN 3495	10/90
H	ECN 2651	9/90
G	ECN 2550	4/90
F	ECN 2517	2/90
E	ECN 2272	6/89
D	ECN 2017	10/88
C	ECN 1300	3/87
B	ECN 1030	8/86
A	ECN 0950	5/86

RAPID-AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

PART NAME: SB4 STNR HEAD ASSY

MATERIAL | WEIGHT

HEAT TREAT | HARDNESS

DRAWN BY: SMS | CHECKED BY | FINAL FINISH

DATE: 3/5/85

SCALE: FULL

DRAWING NUMBER: 26400029 E

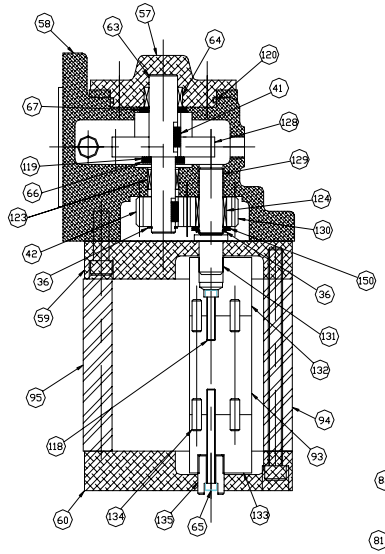
STANDARD MFG. TOLERANCES UNLESS OTHERWISE SPECIFIED

DECIMALS: ONE PLACE ± .030; TWO PLACE ± .010; THREE PLACE ± .005

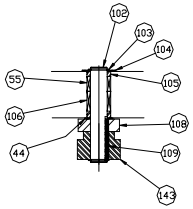
FRACTIONS: ±1/64

FINISH: 63/

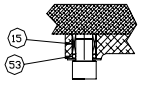
SB4 Straightener Head Assembly



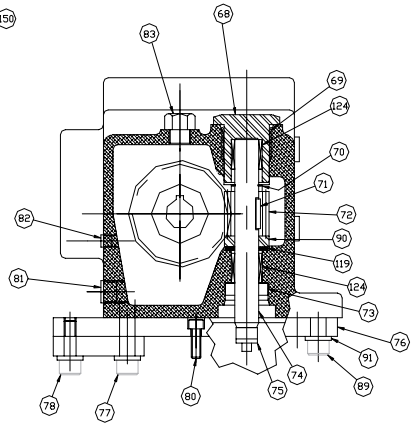
SECTION D-D



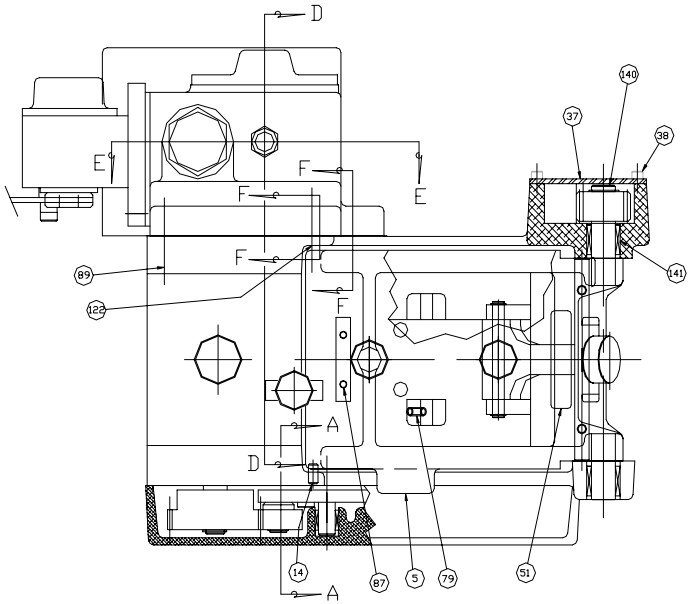
SECTION A-A

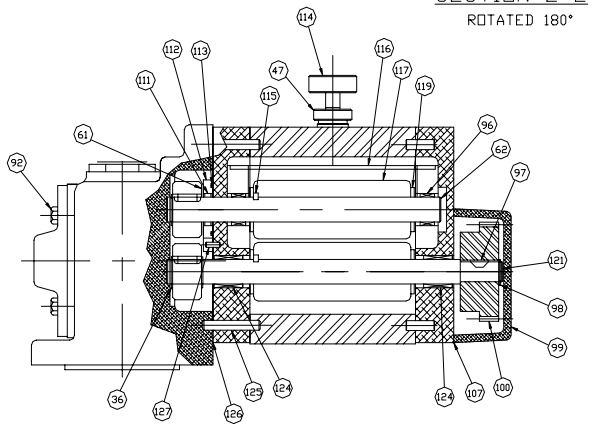


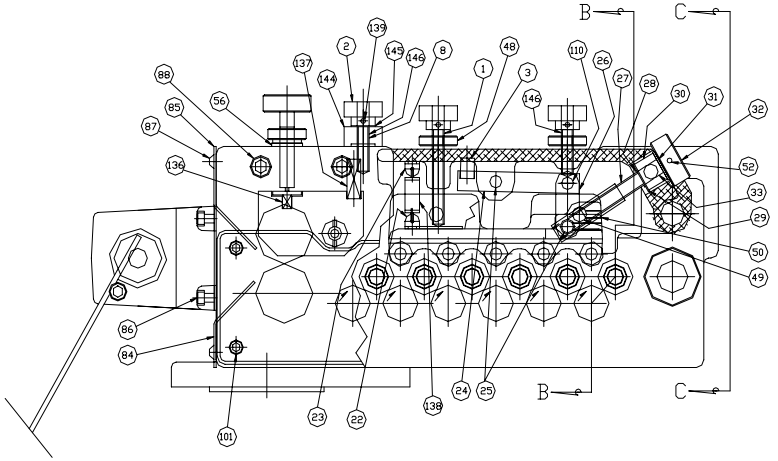
SECTION F-F
TYP (2)



SECTION E-E
ROTATED 180°







SHEET 2 OF 2

REV.	CHANGE	DATE
	REDRAW TO CAD	2/92
J	ECN 3495	10/93
H	ECN 2651	9/90
G	ECN 2550	4/90
F	ECN 2517	2/90
E	ECN 2272	6/89
D	ECN 2017	10/88
C	ECN 1800	2/87
B	ECN 1030	8/85
A	ECN 0950	5/85

RAPID-AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

PART NAME: SB4 STNR HEAD ASSY

MATERIAL | WEIGHT
HEAT TREAT | HARDNESS
DRAWN BY: SMS | CHECKED BY | FINAL FINISH
DATE: 3/5/85
SCALE: FULL
DRAWING NUMBER: 26400029 E

SB4 STNR HEAD ASSY 0-700 1PM ASM #26400029

ITM	PART #	QTY	DESCRIPTION
1	33700011 B	1	STUD, ADJ.
2	36700017 B	3	KNOB
3	37500040 A	2	SPRING, COMP'N LEE LC-045E-6
4	31900417 C	1	IDLER ROLL BRKT SB4
5	31500129 D	1	COVER SB4
6	32900301 B	5	IDLER SHAFT SB4 STNR
7	60910031 B	12	RET RING 5100-31
8	37500012	1	SPRING, SPEC STOCK CLAMP F56-A
9	62309025	6	DOWEL PIN Q21-093025
10	32900297 B	6	LOWER DRIVE ROLLER SB4 STNR
11	69420011 N	1	BREATHER VENT *FLUID PWR ASP-1-BV
12	63800093	5	BALL Q32-093
13	32900298 B	5	IDLER SHAFT SB4 STNR
14	62325062	2	DOWEL PIN Q21-250062
15	64500040 C	11	BEARING NEEDLE TORR M-781 CL END
16	63130250	1	PIPE PLUG Q23-25
17	60500001	2	STAT-O-SEAL WASH, PARKER 600-3/8
18	34700064 B	10	WASHER, SB4 STNR.
19	64500041 C	10	BEARING NEEDLE TORR JTT-59 DBL SL
20	34200062 B	5	IDLER ROLL SB4 STNR
21	62237200 N	2	PULL DOWEL JERGENS 31707 3/8 X 2
22	31900415 B	1	ANCHOR, SPRING BOTTOM
23	31900414 B	1	ANCHOR, SPRING TOP
24	31900423 B	1	LINK, UPPER SB4 STNR
25	32900303 B	2	HINGE PIN SB4 STNR
26	31900422 B	2	LINK, SB4 STNR
27	31900421 B	1	HORIZ. ADJ. BLOCK, SB4 STNR
28	60910037 B	1	RET RING 5100-37
29	64520010 B	3	RACE, THRUST TORR. #TRA-613
30	31900420 B	1	PIVOT BLOCK, SB4 STNR
31	67410008	1	WAVE WASHER ASC. SPG. W0484-009
32	36700018 B	1	ADJUSTABLE KNOB, SB4 STNR
33	33700017 B	1	HORIZ. ADJ. SCREW, SB4 STNR
34	64500018 B	1	BEARING TORR B1010
35	64520006 B	2	BEARING TORR TRB-1018
36	60910062 B	8	RET RING 5100-62
37	31500130 B	1	COVER, SPRING SB4 STNR
38	65912050 B	4	SCREW, CAP, SOC. HD. Q8-02050
39	37500051	1	SPRING COMP LEE #LC120L-4
40	32600109 B	1	RACK SB4 STNR
41	36800005 N	5	KEY 3/16 x 3/16 x 1/2
42	32600034 B	4	GEAR-DRIVE
43	62319050	1	DOWEL PIN ---
44	34700094 B	11	WASHER, THRUST
45	34300053 N	2	STOCK GUIDE COLLAR STAFFORD 10L
46	32900299 B	1	GUIDE ROLL SHAFT SB4 STNR
47	65230004 N	1	NUT, LOCK 3/8-16 JERGENS 28101
48	36200018 B	2	NUT, LOCK, KNURLED 5/16-24 x 1/4
49	62337100	2	DOWEL PIN Q21-375100
50	66212025 N	3	SCREW, SOC SET, CUP PT Q10-02025
51	39900092 B	1	INSTR. PLATE - CURVE ADJ.
52	62412125	1	ROLL PIN Q18-125125
53	60108111	2	O RING Q1-8111
54	39900093 B	1	LABEL, ROLLER IND SB4 STNR

SB4 STNR HEAD ASSY 0-700 1PM ASM #26400029

ITM	PART #	QTY	DESCRIPTION
55	64500042 C	1	BEARING, NEEDLE TORR. B-76
56	61200026 B	1	WASHER Q5-26
57	31500111 B	1	WORM GEAR COVER P1V CSTG#50110009
58	30100040 R	1	GEAR HOUSING P1V CSTG #50110121
59	30100056 D	1	CONTROL SIDE FRAME SB4
60	30100055 D	1	DRIVE SIDE FRAME SB4
61	37500026 N	1	SPRING-WASHER ASSOC. SPR W1102-01
62	32900294 B	1	UPPER ROLLER SHAFT SB4 STNR
63	32900228 B	1	WORM GEAR SHAFT P1V
64	64500031 C	1	BEARING, NEEDLE TORR B-128
65	65912200	1	SOCKET HD CAPSCREW Q8-02200
66	64510002 B	2	BEARING, NEEDLE THRUST Q53-2
67	64520005 B	1	BEARING TORR TRD-1220
68	36100024	1	WORM COVER 113-P1V
69	60108916	1	O RING Q1-8916
70	60810062 B	1	RET RING SPIROLOX RS 62
71	36800010 A	1	KEY
72	32600012 B	1	WORM, P1V STD.
73	60200005 B	1	OIL SEAL CR 6204
74	32900229 B	1	SHAFT WORM P1V
75	37901000 B	1	COUPLING, OLDHAM R3, R4, S4V, S8V
76	10000005	1	FILLER - NO PART REQUIRED
77	65936175	2	SOCKET HD CAPSCREW Q8-066175
78	65936100	2	SOCKET HD CAPSCREW Q8-066100
79	66220025 N	3	SCREW, SOC HD SET, 1/4-20 X 1/4
80	65920075 B	4	SCREW, CAP, SOC. HD. Q8-040075
81	63130375	1	PIPE PLUG Q23-37
82	63130125	2	PIPE PLUG Q23-12
83	69420010 B	1	BREATHER VENT F.P. ENG ASP-3-BV
84	31500120 B	1	EXIT GUARD LOWER P4V
85	31500119 B	1	EXIT GUARD UPPER P4V
86	65912075 B	4	SCREW, CAP, SOC. HD. Q8-02075
87	66612037	8	BHMS 10/32 x 3/8
88	65936550 N	5	SOC HD CAPSCREW 3/8-16 x 5-1/2
89	65936125	5	SOCKET HD CAPSCREW Q8-066125
90	34100003	2	SPACER 44B-P1V
91	61300037 N	6	SPLIT LOCK WASHER 3/8 MEDIUM DUTY
92	65820062	4	HEX HD. CAP SCREW Q15-040062
93	34100027 B	1	SPACER, SQUEEZE ROLL BRACKET P4V
94	34100124 B	1	UPPER SPACER SB4 STNR
95	34100125 C	1	LOWER SPACER SB4 STNR
96	64500032 C	2	BEARING, NEEDLE TORR. JTT-1010
97	61810002	1	#2 WOODRUFF KEY 3/32 X 1/2
98	60910050 B	1	RET RING 5100-50
99	31500128 D	1	GEAR COVER SB4
100	32600110 B	1	SPUR GEAR 38T, 16P, SB4 STNR
101	65920150 N	5	SOCK HD CAP SCREW 1/4-20 x 1-1/2
102	32900296 B	1	IDLER SHAFT SB4 STNR
103	60910043 B	13	RET RING 5100-43
104	34700063 B	21	WASHER, SB4 STNR.
105	60200047	11	OIL SEAL TROSTEL 01 EB 040 028 02
106	64500001 C	12	N. BRG. B-78 7/16 x 5/8 x 1/2 LG
107	37600060 B	1	GASKET, SB4 STNR
108	32601200	12	GEAR –MTE–

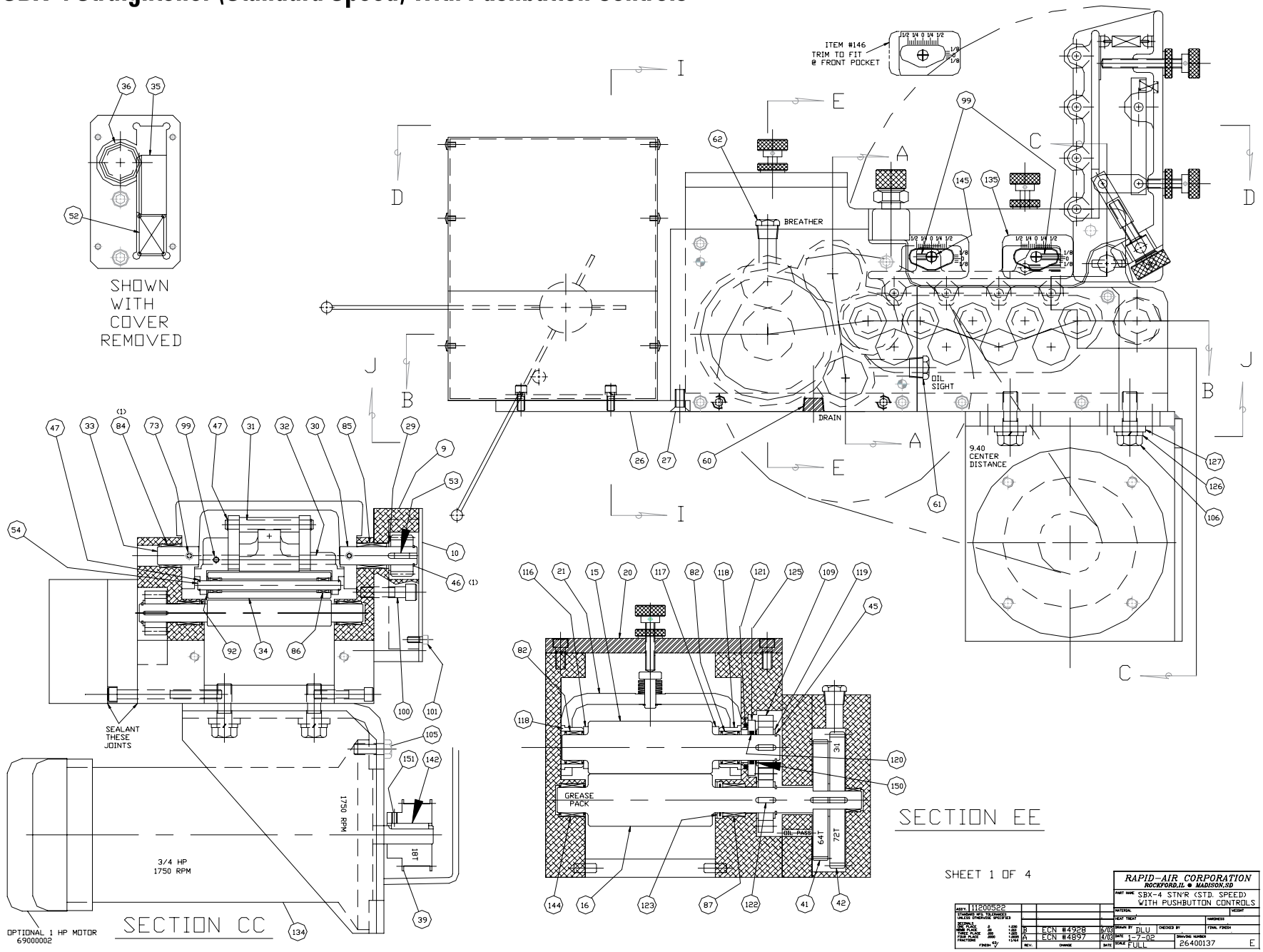
SB4 STNR HEAD ASSY 0-700 1PM ASM #26400029

ITM	PART #	QTY	DESCRIPTION
109	62309100 B	1	PIN, DOWEL 3/32 x 1 INCH LG.
110	32900302 B	1	IDLER BRKT HINGE PIN SB4 STNR
111	60200043 B	3	SEAL SHAFT EB-52-40-2 TROSTEL
112	31800024 B	1	SEAL PLATE P1V
113	60108024	1	O RING Q1-8024
114	66700041 N	1	SCREW, THUMB 3/8-16 JERGENS 43910
115	61810213	2	KEY Q30-213
116	37500023 B	1	SPRING, FLAT SQUEEZE 36B-P4V
117	34200040 B	2	ROLLER, PINCH P4V
118	65912100	1	SOCKET HD CAPSCREW Q8-02100
119	64520002 B	9	BEARING TORR TRC 1018
120	60108146	1	O RING Q1-8146
121	32900295 B	1	LOWER ROLLER SHAFT SB4 STNR
122	66536100 N	1	SCREW, CAP, SOC FLAT HD 3/8-16 x 1
123	64500002 B	1	BEARING TORR B108
124	64500003 B	5	BEARING TORR B1012
125	62325150	2	DOWEL PIN Q21-250150
126	37600058 C	1	GASKET
127	62409050	1	ROLL PIN Q18-093050
128	32600071 B	1	WORM GEAR P1V
129	32900226 A	1	IDLER SHAFT P1V
130	32600035 B	1	GEAR-IDLER
131	32900227 A	1	PIVOT PIN P1V
132	31900408 B	1	BRACKET, SQUEEZE ROLLER
133	31900418 B	1	SQUEEZE ROLL BRACKET SB4 STNR
134	62325075	10	DOWEL PIN Q21-250075
135	32900056 B	1	TRUNNION, ECCENTRIC S4V
136	37500041 A	2	SPRING, COMP'N LEE LC-040C-2
137	37500045 A	2	SPRING, COMP LEE # LC-45E-10
138	37500050 N	2	SPRING, TENSION LEE #LE-037D-1
139	62412062	3	ROLL PIN Q18-125062
140	32900300 B	1	HINGE PIN, COVER SB4 STNR
141	64500025 C	2	BEARING NEEDLE TORR BH-1012
142	65600007	2	INSERT, THD. JERGNES 26123
143	32600111 B	1	SPUR GEAR 16T, 16P, SB4 STNR
144	31900419	1	CLAMP BAR SB4 STNR
145	61200022	3	WASHER Q5-22
146	33700015 B	2	STUD, ADJ. 5/16-24 x 1.62
147	66300250 B	2	SCREW, DRIVE Q17-025
148	39900051 B	1	NAMEPLATE, .875 x 1.500
149	39900261 B	1	CAUTION, LABEL
150	34700034 B	1	THRUST WASHER

* RECORD NUMBER

PSRV

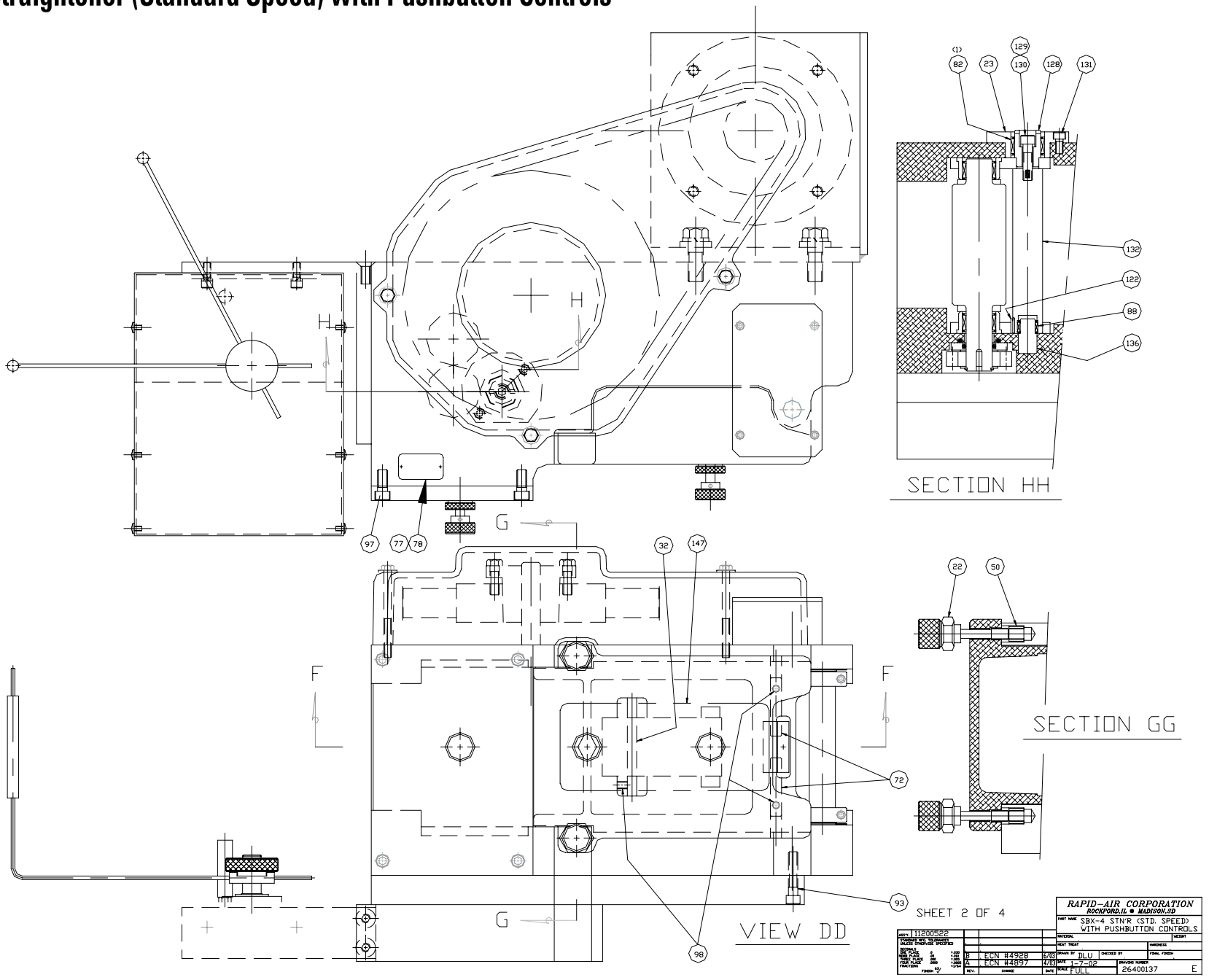
SBX-4 Straightener (Standard Speed) with Pushbutton Controls



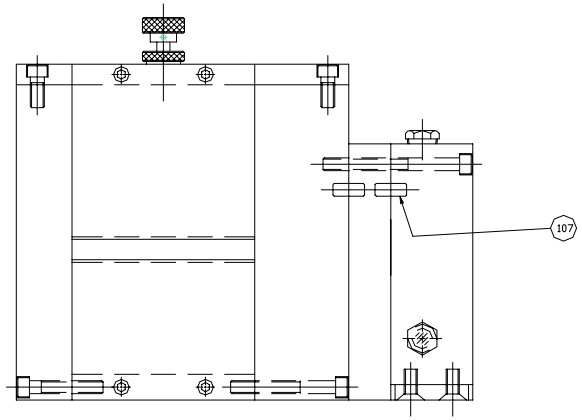
SHEET 1 OF 4

RAPID-AIR CORPORATION ROCKFORD,IL ● MADISON,SD					
PART NAME SBX-4 STN'R (STD. SPEED) WITH PUSHBUTTON CONTROLS					
ASSY. 11200522				MATERIAL	WEIGHT
STANDARD MFG TOLERANCES UNLESS OTHERWISE SPECIFIED				HEAT TREAT	HARDNESS
DECIMALS ONE PLACE .X ±.100 TWO PLACE .XX ±.030 THREE PLACE .XXX ±.005 FOUR PLACE .XXXX ±.0030 FRACTIONS 1/32				DRAWN BY DLU	CHECKED BY
FINISH 63	REV.	CHANGE	DATE	DATE 1-7-02	DRAWING NUMBER 26400137 E
	B	ECN #4928	6/03	SCALE FULL	
	A	ECN #4897	4/02		

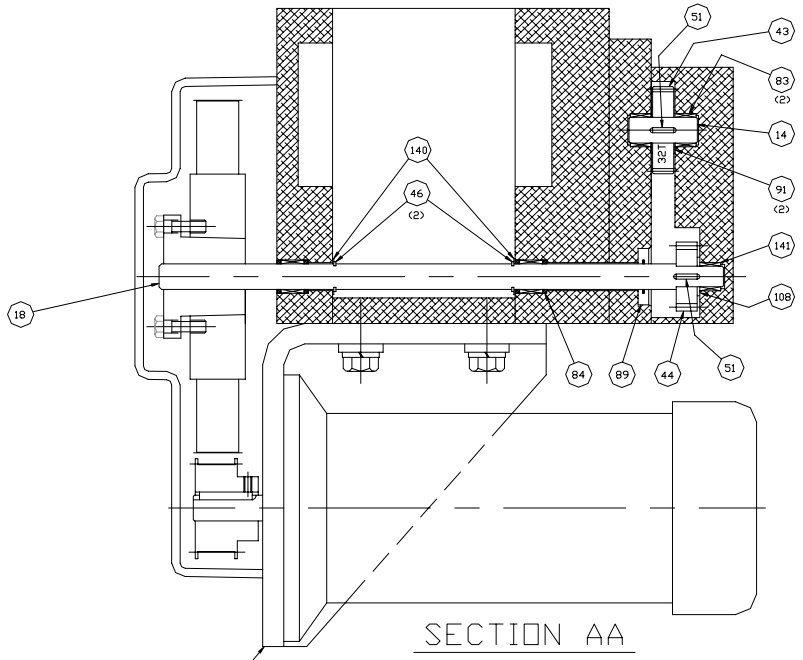
SBX-4 Straightener (Standard Speed) with Pushbutton Controls



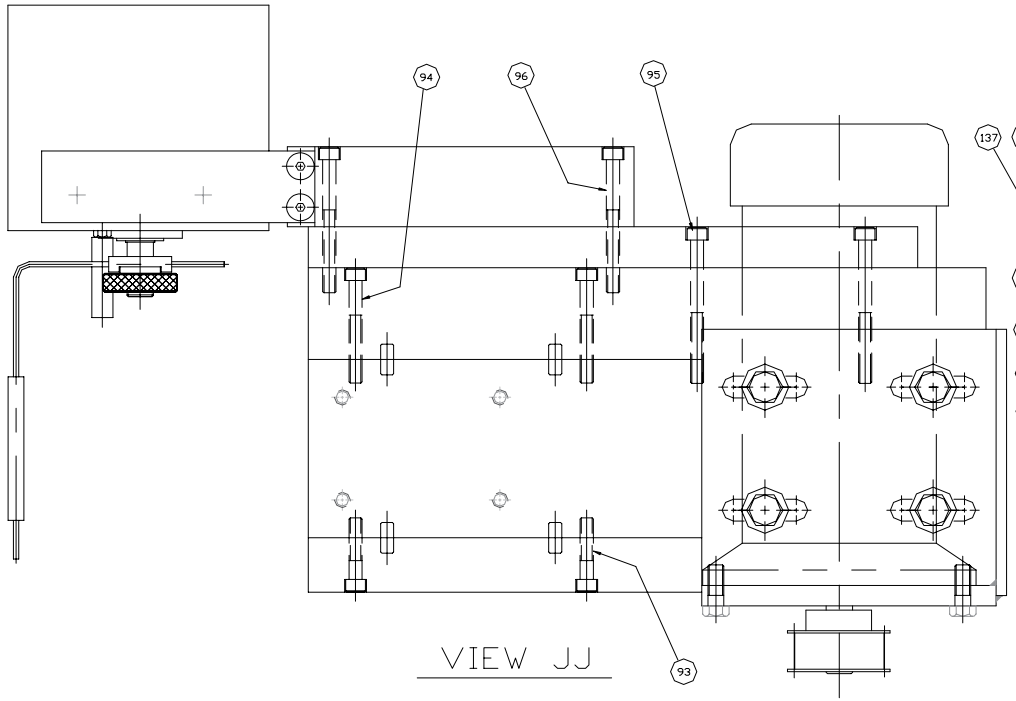
SBX-4 Straightener (Standard Speed) with Pushbutton Controls



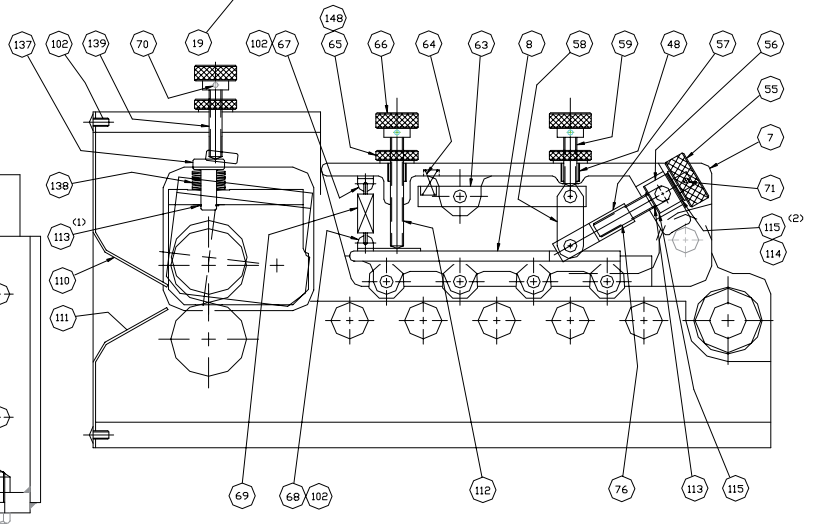
VIEW II



SECTION AA



VIEW JJ



SECTION FF

SHEET 3 OF 4

ASSY	11200522				
STANDARD MFG. TOLERANCES UNLESS OTHERWISE SPECIFIED					
DECIMAL 3 PLACE	± .005				
DECIMAL 2 PLACE	± .01				
DECIMAL 1 PLACE	± .030				
FRACTIONS	± 1/64				
FINISH 63		REV.	CHANGE	DATE	
		B	ECN #4928	6/03	
		A	ECN #4897	4/03	

RAPID-AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

PART NAME: SBX-4 STN'R (STD. SPEED) WITH PUSHBUTTON CONTROLS

MATERIAL | WEIGHT

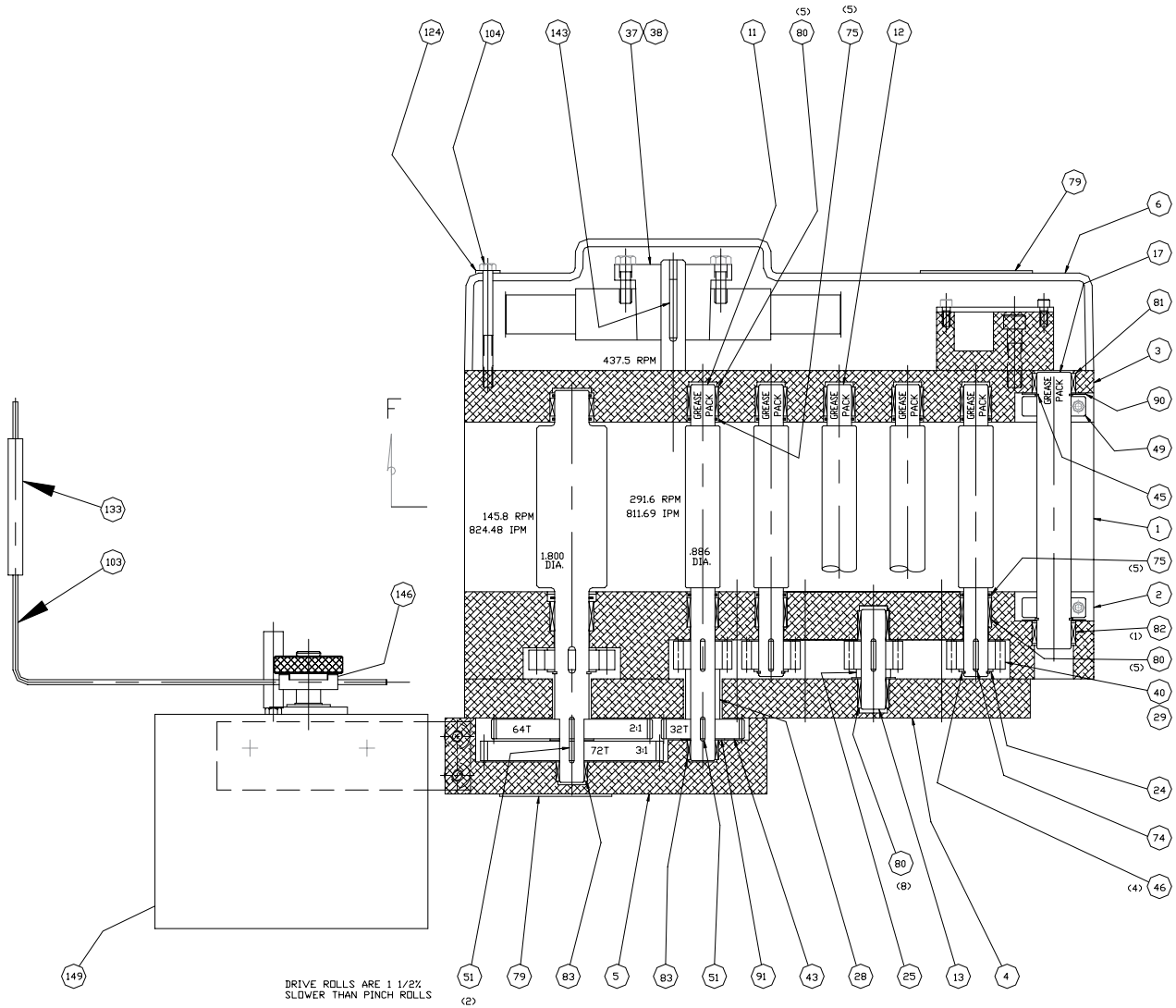
HEAT TREAT | HARDNESS

DRAWN BY: DLU | CHECKED BY | FINAL FINISH

DATE: 1-7-02 | DRAWING NUMBER: 26400137 E

SCALE: FULL

SBX-4 Straightener (Standard Speed) with Pushbutton Controls



SECTION BB

SHEET 4 OF 4

ITEM	QTY.	PART NO.	DESCRIPTION
156	.	.	.
155	.	.	.
154	.	.	.
153	.	.	.
152	.	.	.
151	1	61434050	SET SCREW
150	1	67410015	WAVE WASHER
149	1	28900364	CONTROL ASS'Y.
148	3	61200020	WASHER
147	1	39900278	INSRUCTION LABEL
146	1	34600038	ADAPTOR
145	2	33801019	LOCATING PIN
144	1	64500063	NEEDLE BRG. JTT-1414
143	1	36800019	KEY 3/16 X 1 1/2
142	1	36800013	KEY 3/16 X 1 1/4
141	1	64500015	NEEDLE BRG. B-88
140	2	34700051	WASHER
139	1	36100088	ADJUSTING SCREW
138	8	37500027	SPRING WASHER
137	1	32900636	SPRING RETAINER SHAFT
136	1	32900734	SHAFT
135	2	39900277	LABEL
134	1	69000030	MOTOR 3/4 HP
133	1	34300056	DANCER ROLLER
132	1	32900733	SPACER SHAFT
131	2	65920050	SHCS 1/4-20 X 1/2
130	1	61320031	LOCKWASHER 5/16
129	1	66700064	SHCS 5/16-24 X 1 1/4 W/LOCKWELL
128	1	32900685	ECCENTRIC SHAFT
127	4	69400068	THICK WASHER 1/2"
126	4	61300050	LOCKWASHER 1/2"
125	1	31701842	SEAL PLATE
124	3	61200019	FLAT WASHER 1/4"
123	1	60200066	OIL SEAL - NATIONAL #5976S
122	3	62318050	DOWEL PIN
121	1	60108218	"O" RING
120	1	60108212	"O" RING
119	4	34700110	SPACER
118	2	33900255	NEEDLE BRG. BUSHING
117	1	34100282	SPACER
116	1	34100283	SPACER
115	3	64520010	THRUST WASHER
114	1	67410008	WAVE WASHER
113	2	60910037	RETAINING RING
112	1	33700016	STUD
111	1	31400479	LOWER FRONT GUARD
110	1	31400478	UPPER FRONT GUARD
109	2	32602600	GEAR (MTE)
108	1	64520012	THRUST WASHER
107	8	62331075	DWL PIN 5/16 X 3/4
106	4	65853150	HEX BOLT 1/2-13 X 1 1/2
105	4	65836100	HEX BOLT 3/8-16 X 1
104	3	65820300	HEX BOLT 1/4-20 X 3" LG.
103	1	33600142	DANCER
102	8	66612037	BHSCS #10-32 X 3/8
101	4	65912050	SHCS #10-32 X 1/2
100	2	65936150	SHCS 3/8-16 X 1 1/2
99	3	66212025	SET SCREW
98	3	66220025	SET SCREW
97	4	65931075	SHCS 5/16-18 X 3/4
96	4	65931325	SHCS 5/16-18 X 3 1/4
95	2	65931350	SHCS 5/16-18 X 3 1/2
94	2	65931250	SHCS 5/16-18 X 2 1/2
93	5	65931150	SHCS 5/16-18 X 1 1/2
92	8	34700064	THRUST WASHER
91	10	64520008	THRUST WASHER
90	2	64520022	THRUST WASHER
89	1	60200009	OIL SEAL C/R #6373
88	1	64500062	NEEDLE BRG. JTT-87
87	1	64500008	NEEDLE BRG. B-1412
86	8	64500041	NEEDLE BRG. JTT-59
85	1	64500051	NEEDLE BRG. JTT-1014
84	3	64500057	NEEDLE BRG. JTT-1012
83	4	64500002	NEEDLE BRG. B-108
82	4	64500061	NEEDLE BRG. JTT-1410
81	1	64500005	NEEDLE BRG. B-148
80	18	64500003	NEEDLE BRG. B-1012
79	2	39900245	RAPID-AIR LOGO

ITEM	QTY.	PART NO.	DESCRIPTION
78	2	66300250	DRIVE SCREW
77	1	39900051	NAME PLATE
76	1	33700017	HORZ. ADJ. SCREW
75	10	60200043	OIL SEAL
74	9	33801018	DOWEL PIN
73	2	62225100	PULL DOWEL
72	2	62237200	PULL DOWEL
71	1	62412125	ROLL PIN
70	3	62412062	ROLL PIN
69	2	37500050	SPRING
68	1	31900415	BOTTOM SPRING ANCHOR
67	1	31900414	TOP SPRING ANCHOR
66	3	36700017	ADJ. KNOB
65	3	36200018	KNURLED LOCKNUT
64	2	37500040	SPRING
63	1	31701852	UPPER LINK
62	1	69420010	BREATHER
61	1	67700001	OIL SIGHT
60	1	63130375	PIPE PLUG 3/8 NPT
59	1	33700015	STUD
58	2	31701851	LINK
57	1	31900421	HORZ. ADJ. BLOCK
56	1	31900420	PIVOT BLOCK
55	1	36700018	ADJ. KNOB
54	4	32900301	IDLER SHAFT
53	1	36800005	KEY
52	1	37500051	SPRING
51	5	36800030	KEY
50	2	65600004	THREADED INSERT
49	2	34300090	COLLAR (STAFFORD #7L014)
48	2	65600007	THREADED INSERT
47	10	60910031	RETAINING RING
46	7	60910062	RETAINING RING
45	4	60910087	RETAINING RING
44	1	32600210	SPUR GEAR 24T
43	2	32600209	SPUR GEAR 32T
42	1	32600208	SPUR GEAR 72T
41	1	32600207	SPUR GEAR 64T
40	9	32602000	GEAR
39	1	32500017	PULLEY
38	1	32500016	PULLEY W/QD BUSHING
37	1	32500015	TIMING BELT
36	1	32600034	PINNION
35	1	32600109	RACK
34	4	34200270	IDLER ROLLER
33	1	32900741	PIVOT SHAFT
32	2	32900303	HINGE PIN
31	1	32900302	HINGE PIN
30	1	32900742	PIVOT SHAFT
29	11	34700033	SPACER
28	1	34400486	SPACER
27	2	66531075	FHSCS 5/16-18 X 3/4
26	1	31701996	CONTROL MTG. PLATE
25	4	34100287	SPACER
24	4	34100284	SPACER
23	1	30100234	ECC. BRG. HOUSING
22	2	32900743	KNOB SHAFT
21	1	31900602	ROLLER BRACKET
20	1	31701874	TOP PLATE
19	1	21900210	MOTOR MTG. BRKT.
18	1	32900758	MOTOR DRIVE SHAFT
17	1	32900740	GUIDE SHAFT
16	1	34200279	LOWER ROLLER
15	1	34200266	UPPER ROLLER
14	1	32900757	IDLER SHAFT
13	4	32900737	IDLER ROLLER
12	4	34200267	LOWER ROLLER
11	1	32900756	LOWER DRIVE SHAFT
10	1	31400462	RACK HSG. COVER
9	1	30100228	RACK HOUSING
8	1	30100227	PLATTEN HOUSING
7	1	30100226	TOP COVER HOUSING
6	1	30100233	BELT COVER HOUSING
5	1	31701997	GEAR COVER PLATE
4	1	31701871	GEAR SPACER PLATE
3	1	31701870	L.H. SIDE PLATE
2	1	31701869	R.H. SIDE PLATE
1	1	31701868	BASE PLATE

ITEM	QTY.	PART NO.	DESCRIPTION

RAPID-AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

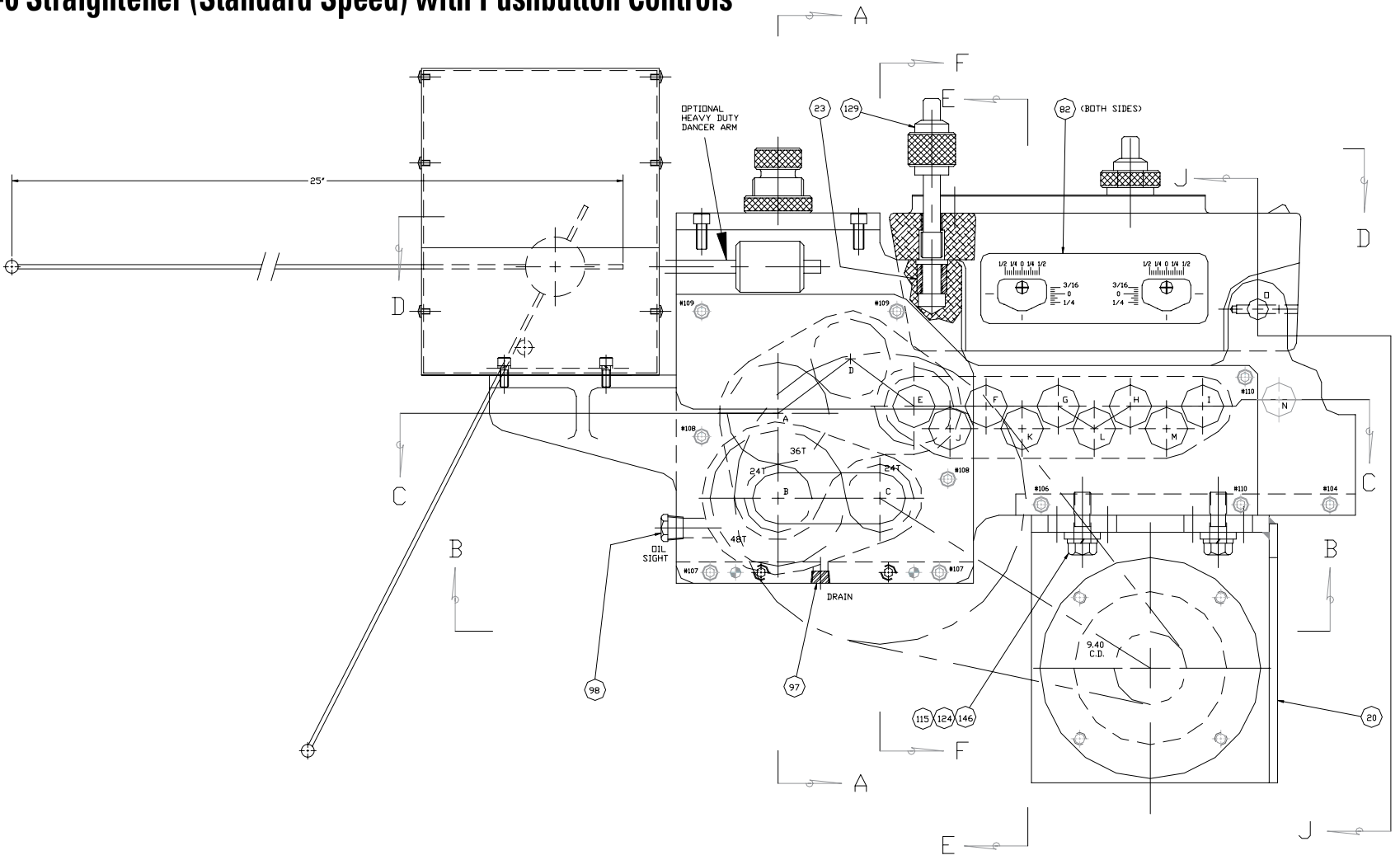
PART NAME: SBX-4 STN'R (STD. SPEED) WITH PUSHBUTTON CONTROLS

ASS'Y. 11200522

REV.	CHANGE	BY	DATE
B	ECN #4928	DLU	5/03
A	ECN #4897		4/03

MATERIAL | WEIGHT
HEAT TREAT | HARDNESS
DRAWN BY DLU | CHECKED BY | FINAL FINISH
DATE 1-7-02 | DRAWING NUMBER 26400137 E
SCALE FULL

SCX-6 Straightener (Standard Speed) with Pushbutton Controls



SHEET 1 OF 7

RAPID–AIR CORPORATION
ROCKFORD, IL ● MADISON, SD

PART NAME: SCX-6 STN'R. (STD. SPEED) W/PUSHBUTTON CONTROLS

REV.	CHANGE	DATE
D	ECN #4996	12/03
C	ECN #4987	12/03
B	ECN #4925	9/03
A	ECN #4879	2/03

NEXT ASSY USED ON: 11200528

STANDARD MFG. TOLERANCES UNLESS OTHERWISE SPECIFIED

DECIMALS: TWO PLACE ±.020, THREE PLACE ±.005, FOUR PLACE ±.0050, FRACTIONS ±1/64

FINISH

MATERIAL | WEIGHT

HEAT TREAT | HARDNESS

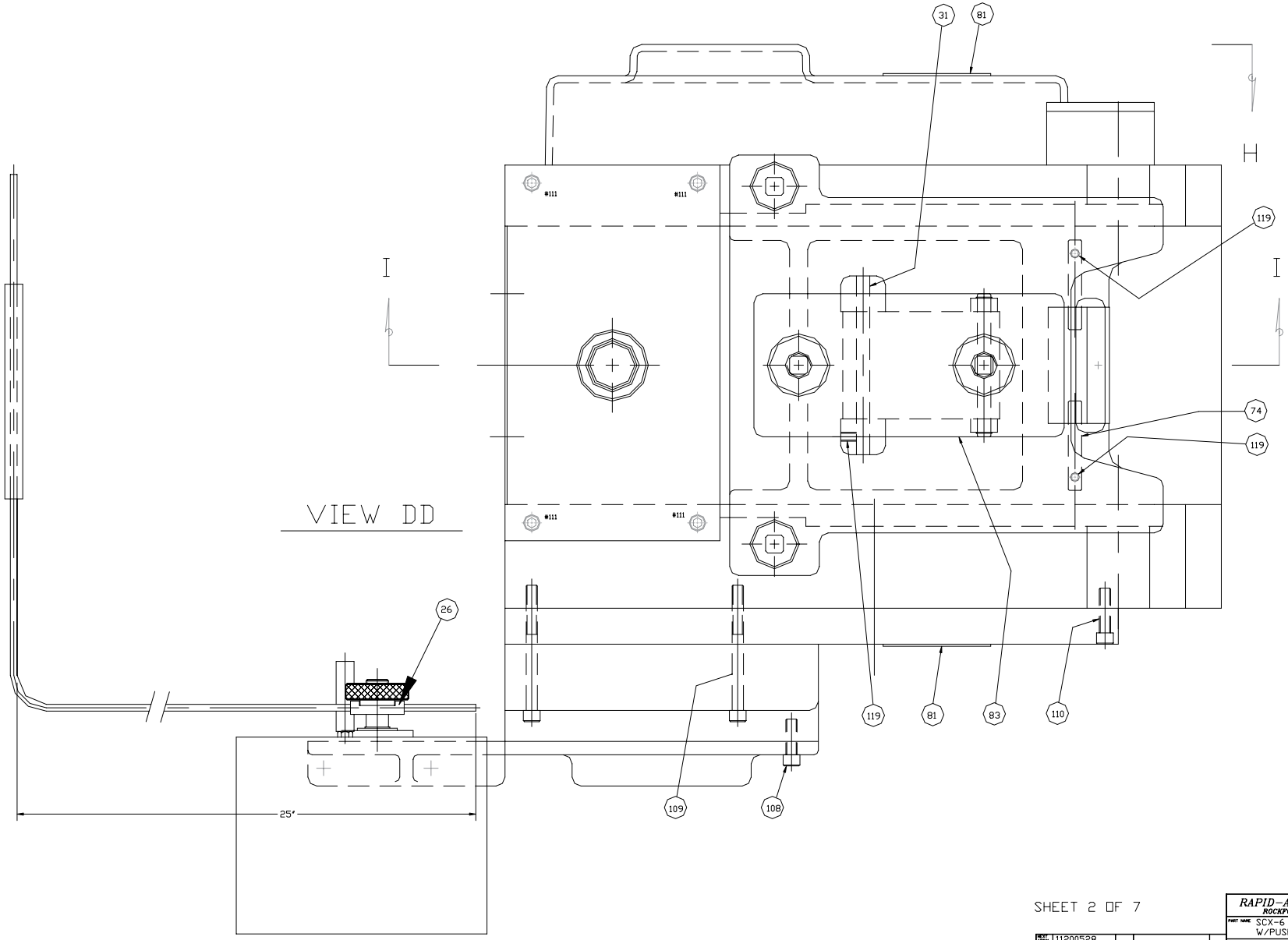
DRAWN BY: DLU | CHECKED BY | FINAL FINISH

DATE: 1-28-03

SCALE: FULL

DRAWING NUMBER: 26400143 E

SCX-6 Straightener (Standard Speed) with Pushbutton Controls



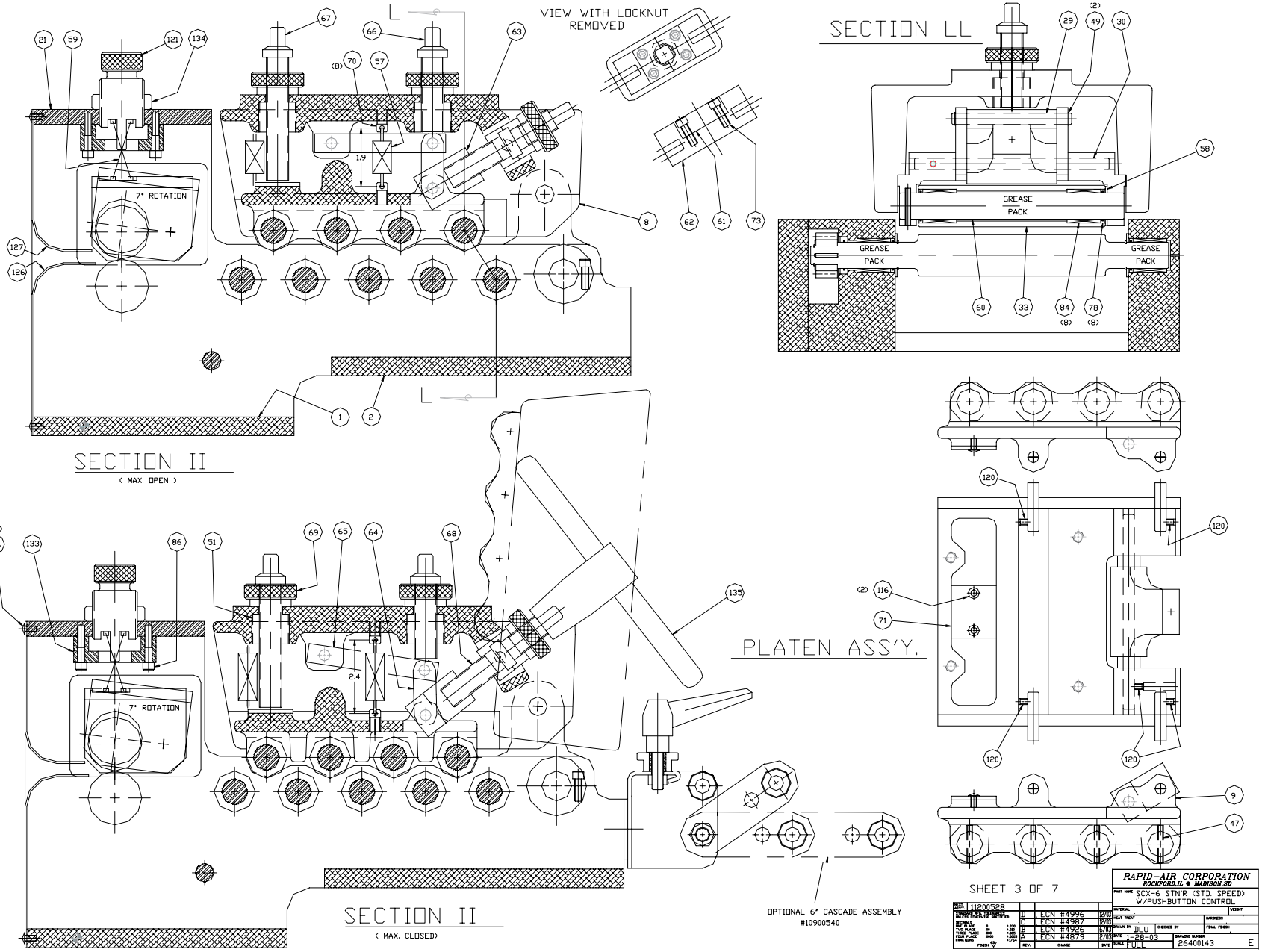
SHEET 2 OF 7

NEXT ASSY.	11200528				
STANDARD MFG. TOLERANCES UNLESS OTHERWISE SPECIFIED		REV.	CHANGE		DATE
DECIMALS ONE PLACE .X ±.030		D	ECN #4996		12/05
TWO PLACE .XX ±.010		C	ECN #4987		12/05
THREE PLACE .XXX ±.005		B	ECN #4926		6/05
ITEM PLACE .XXXX ±.0005		A	ECN #4879		2/05
FRACTIONS ±1/64					
FINISH 63					

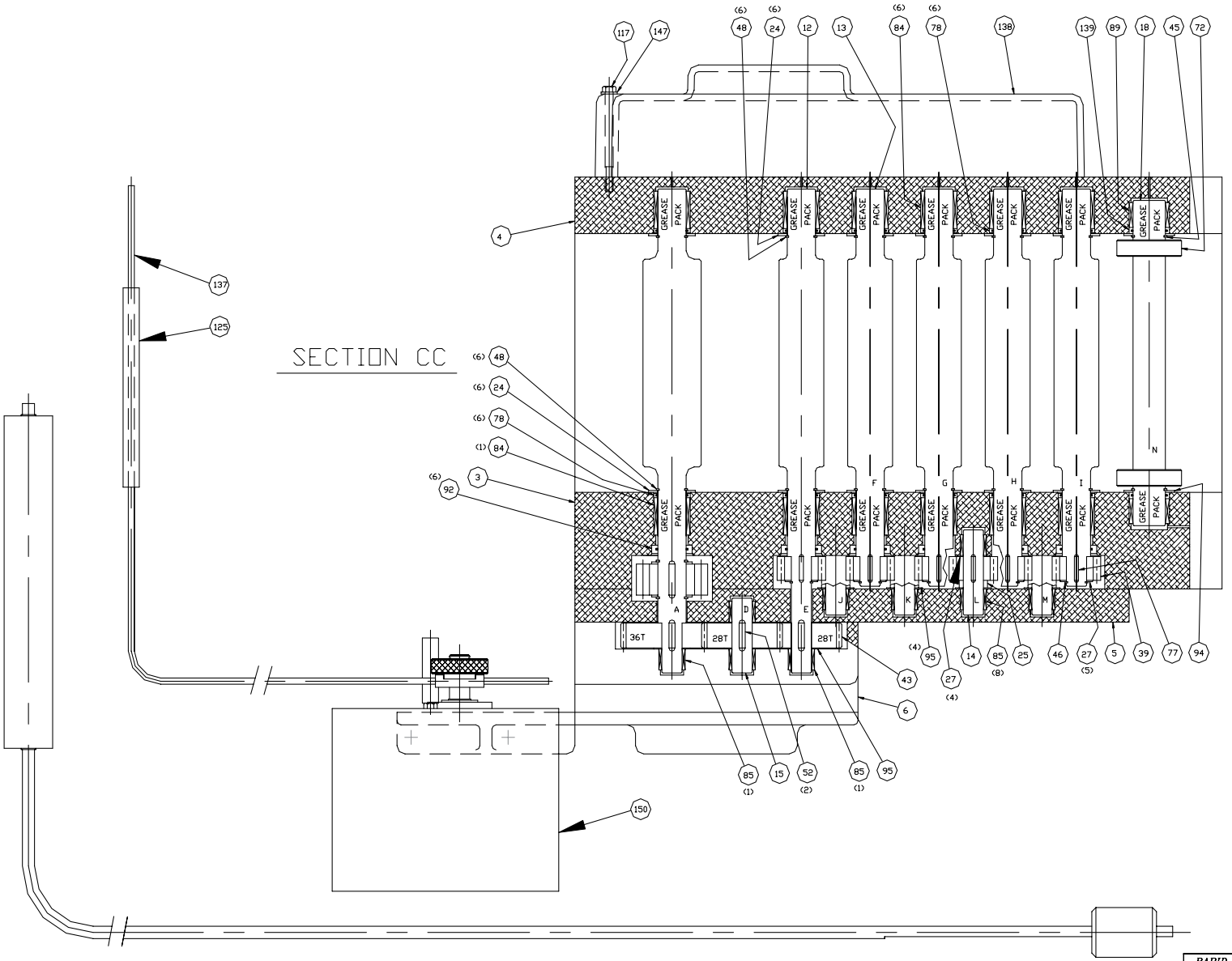
RAPID–AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

PART NAME	SCX-6 STN'R. (STD. SPEED) W/PUSHBUTTON CONTROL		
MATERIAL		WEIGHT	
HEAT TREAT		HARDNESS	
DRAWN BY	DLU	CHECKED BY	FINAL FINISH
DATE	1-28-03	DRAWING NUMBER	26400143 E
SCALE	FULL		

SCX-6 Straightener (Standard Speed) with Pushbutton Controls



SCX-6 Straightener (Standard Speed) with Pushbutton Controls



SHEET 4 OF 7

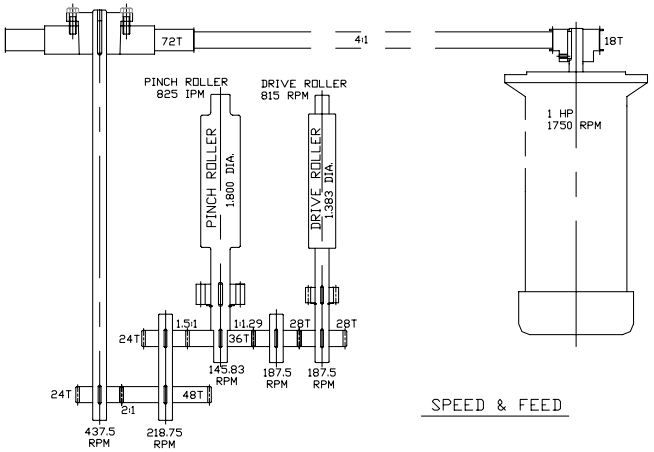
RAPID-AIR CORPORATION
ROCKFORD,IL • MADISON,SD

PART NAME: SCX-6 STN'R. (STD. SPEED) W/PUSHBUTTON CONTROL

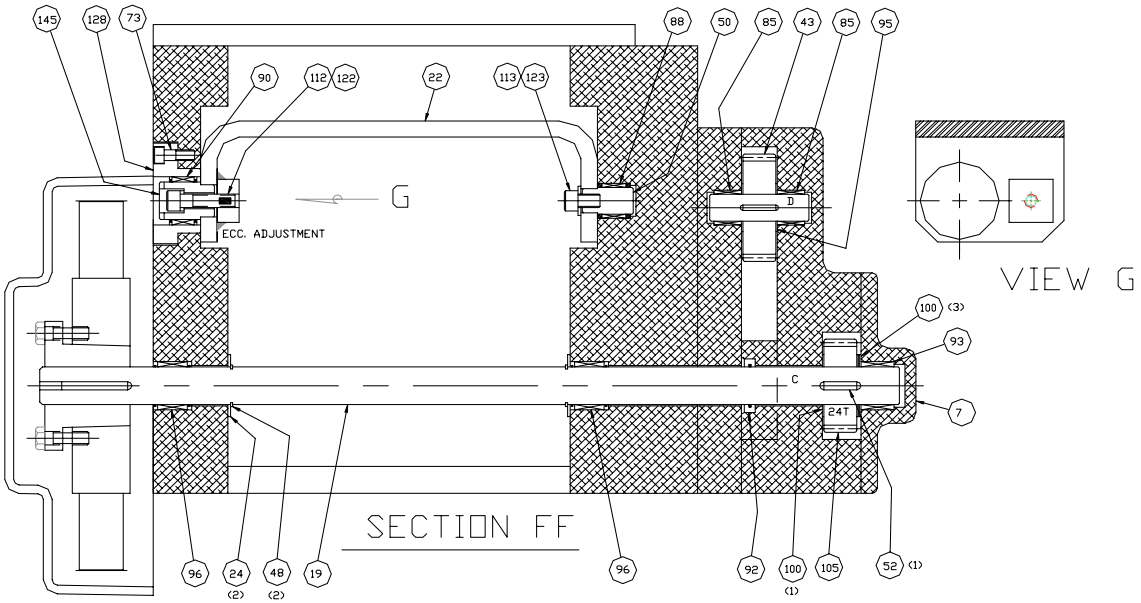
REV.	CHANGE	DATE
D	ECN #4996	2/03
C	ECN #4987	2/03
B	ECN #4926	2/03
A	ECN #4879	2/03

DRAWN BY: DLU | DATE: 1-28-03 | SCALE: FULL | DRAWING NUMBER: 26400143 E

SCX-6 Straightener (Standard Speed) with Pushbutton Controls



SPEED & FEED



ITEM	QTY.	PART NO.	DESCRIPTION
156	.	.	.
155	.	.	.
154	.	.	.
153	.	.	.
152	.	.	.
151	.	.	.
150	1	28900364	PUSHBUTTON CONTROL
149	1	61434050	SET SCREW
148	1	69000002	MOTOR 1 HP
147	3	61200019	FLAT WASHER 1/4"
146	4	61300050	LOCK WASHER 1/2"
145	1	32900685	ECCENTRIC SHAFT
144	1	60108220	"O" RING
143	1	60108212	"O" RING
142	2	62318087	DOWEL PIN 3/16 X 7/8
141	4	34700110	SPACER
140	4	33801020	LOCATING PIN
139	2	60200055	OIL SEAL NATIONAL #343098
138	1	30100233	BELT COVER HOUSING
137	1	33600215	DANCER ARM
136	1	67410015	WAVE WASHER
135	1	21100061	WRENCH ASSEMBLY
134	1	36200031	LOCKNUT
133	1	31701920	ADJ. SCREW RET. PLATE
132	1	34100297	SPACER
131	1	31701919	OIL SEAL PLATE
130	2	33900258	NEEDLE BRG. BUSHING
129	2	32900796	KNOB SHAFT
128	1	30100243	ECC. BRG. HSG.
127	1	31400494	UPPER FRONT GUARD
126	1	31400493	LOWER FRONT GUARD
125	1	34400497	ROLLER TUBE
124	4	69400068	THICK WASHER
123	1	61200022	FLAT WASHER 5/16
122	1	61320031	LOCKWASHER 5/16
121	1	36100078	ADJ. SCREW
120	5	66212025	SET SCREW
119	3	66220025	SET SCREW
118	.	.	.
117	3	65820300	SHCS 1/4-20 X 3
116	6	66612037	BHSCS #10-32 X 3/8
115	4	65853150	HEX BOLT 1/2-13 X 1 1/2
114	4	65836100	HEX BOLT 3/8-16 X 1
113	1	65931050	SHCS 5/16-18 X 1/2
112	1	66700064	SHCS 5/16-24 X 1 1/4 W/LOCWELL
111	4	65931075	SHCS 5/16-18 X 3/4
110	2	65931125	SHCS 5/16-18 X 1 1/4
109	2	65931350	SHCS 5/16-18 X 3 1/2
108	2	65931100	SHCS 5/16-18 X 1
107	2	65931450	SHCS 5/16-18 X 4 1/2
106	1	65931400	SHCS 5/16-18 X 4
105	1	32600215	SPUR GEAR 12P 24T
104	3	65931300	SHCS 5/16-18 X 3
103	4	65931200	SHCS 5/16-18 X 2
102	4	65912050	SHCS #10-32 X 1/2
101	2	65936150	SHCS 3/8-16 X 1 1/2
100	4	64520022	THRUST WASHER
99	1	69420010	BREATHER
98	1	67700001	OIL SIGHT
97	1	63130375	PIPE PLUG 3/8 NPT
96	4	64500063	NEEDLE BRG JTT-1414
95	13	64520008	THRUST WASHER
94	2	64520017	THRUST WASHER
93	1	64500008	NEEDLE BRG. B-1412
92	7	60200068	OIL SEAL C/R 8621
91	1	64500051	NEEDLE BRG. JTT-1014
90	1	64500061	NEEDLE BRG. JTT-1410
89	2	64500038	NEEDLE BRG. B-1612
88	2	64500057	NEEDLE BRG. JTT-1012
87	1	32900794	IDLER SHAFT
86	2	65920125	SHCS 1/4-20 X 1 1/4
85	14	64500018	NEEDLE BRG. B-1010
84	20	64500064	NEEDLE BRG. B-1418
83	1	39900281	INSTRUCTION LABEL
82	2	39900280	PLATEN ADJUST. LABEL
81	2	39900245	LOGO
80	2	66300250	DRIVE SCREW
79	1	39900051	NAME PLATE

ITEM	QTY.	PART NO.	DESCRIPTION
78	20	60200067	OIL SEAL C/R #8619
77	9	33801018	DOWEL PIN
76	10	62331075	DOWEL PIN
75	2	62225100	PULL DOWEL
74	2	62237250	JERGENS PULL DOWEL #31734
73	4	65920075	SHCS 1/4-20 X 3/4
72	2	34300093	COLLAR STAFFORD #1L100
71	1	31701918	WEAR PLATE
70	8	36100092	SPRING ANCHOR
69	3	36200036	LOCKNUT
68	1	36100089	ADJUSTING SCREW
67	1	36100091	ADJUSTING SCREW
66	1	36100090	ADJUSTING SCREW
65	1	31701917	UPPER LINK PLATE
64	2	31701916	LINK
63	1	31701915	HORZ. ADJ. PLATE
62	1	31701914	PIVOT BLOCK
61	1	31701922	ADJ. SCREW RETAINING PLATE
60	4	32900793	ROLLER SHAFT
59	1	37500145	SPRING
58	8	34100296	WASHER
57	4	37500144	EXTENSION SPRING
56	1	37500146	SPRING
55	1	36800019	KEY
54	1	36800013	KEY
53	1	36800005	KEY
52	6	36800021	KEY 3/16 X 3/4
51	2	34300094	THREADED INSERT
50	1	32900795	PIVOT SHAFT
49	2	60910037	RETAINING RING
48	18	60910087	RETAINING RING
47	4	62419125	ROLL PIN
46	6	60910062	RETAINING RING
45	2	60910100	RETAINING RING
44	2	32602800	GEAR (MTE)
43	2	32600214	SPUR GEAR 12P 28T
42	1	32600213	SPUR GEAR 12P 36T
41	1	32600212	SPUR GEAR 12P 24T
40	1	32600211	SPUR GEAR 12P 48T
39	9	32602000	GEAR
38	1	32500017	PULLEY
37	1	32500020	PULLEY & QD BUSHING
36	1	32500015	TIMING BELT
35	1	32600034	PINNION
34	1	32600109	RACK
33	4	34200290	IDLER ROLLER
32	1	32900792	PIVOT SHAFT
31	1	32900791	HINGE PIN
30	1	32900790	HINGE PIN
29	1	32900789	HINGE PIN
28	1	32900788	PIVOT SHAFT
27	11	34700033	SPACER
26	1	34600041	DANCER ADAPTOR
25	4	34100287	SPACER
24	15	64520020	THRUST WASHER
23	2	65600006	THREADED INSERT
22	1	21900217	ROLLER BRACKET ASS'Y.
21	1	31701911	TOP PLATE
20	1	21900210	MOTOR MTG. BRACKET
19	1	32900787	MOTOR DRIVE SHAFT
18	1	32900786	GUIDE SHAFT
17	1	34200289	LOWER ROLLER
16	1	34200288	UPPER ROLLER
15	1	32900785	IDLER SHAFT
14	4	32900737	IDLER SHAFT
13	4	34200287	LOWER ROLLER
12	1	32900784	LOWER DRIVE SHAFT
11	1	31500412	RACK HOUSING COVER
10	1	30100242	RACK HOUSING
9	1	30100240	PLATEN HOUSING
8	1	30100239	TOP COVER HOUSING
7	1	30100275	GEAR COVER PLATE
6	1	30100276	GEAR HOUSING
5	1	31701910	GEAR SPACER PLATE
4	1	31701909	L.H. SIDE PLATE
3	1	31701908	R.H. SIDE PLATE
2	1	31701907	REAR BASE PLATE
1	1	31701906	FRONT BASE PLATE

SHEET 5 OF 7

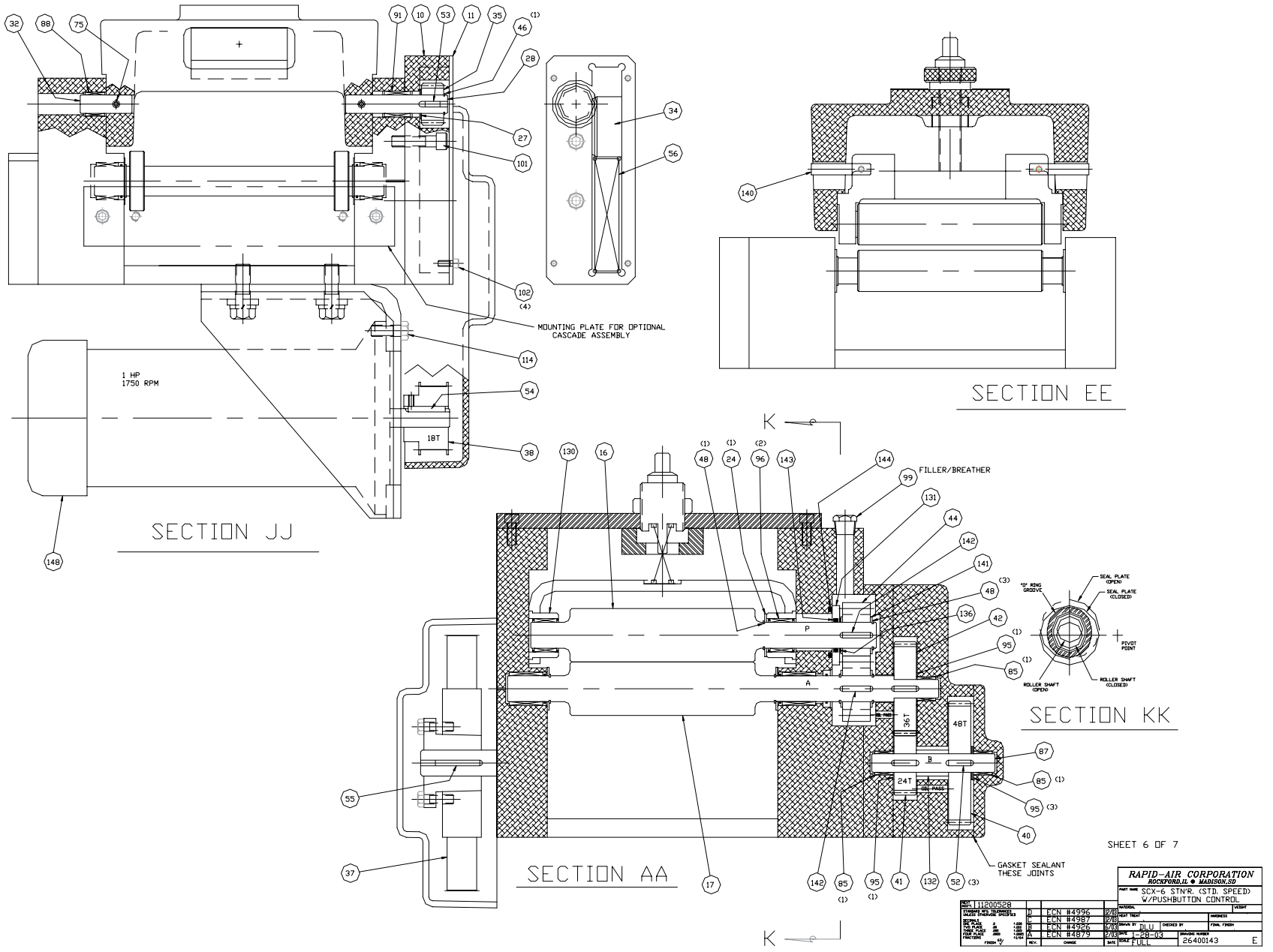
RAPID-AIR CORPORATION
ROCKFORD, IL ● MADISON, SD

PART NAME: SCX-6 STN'R (STD. SPEED) W/PUSHBUTTON CONTROL

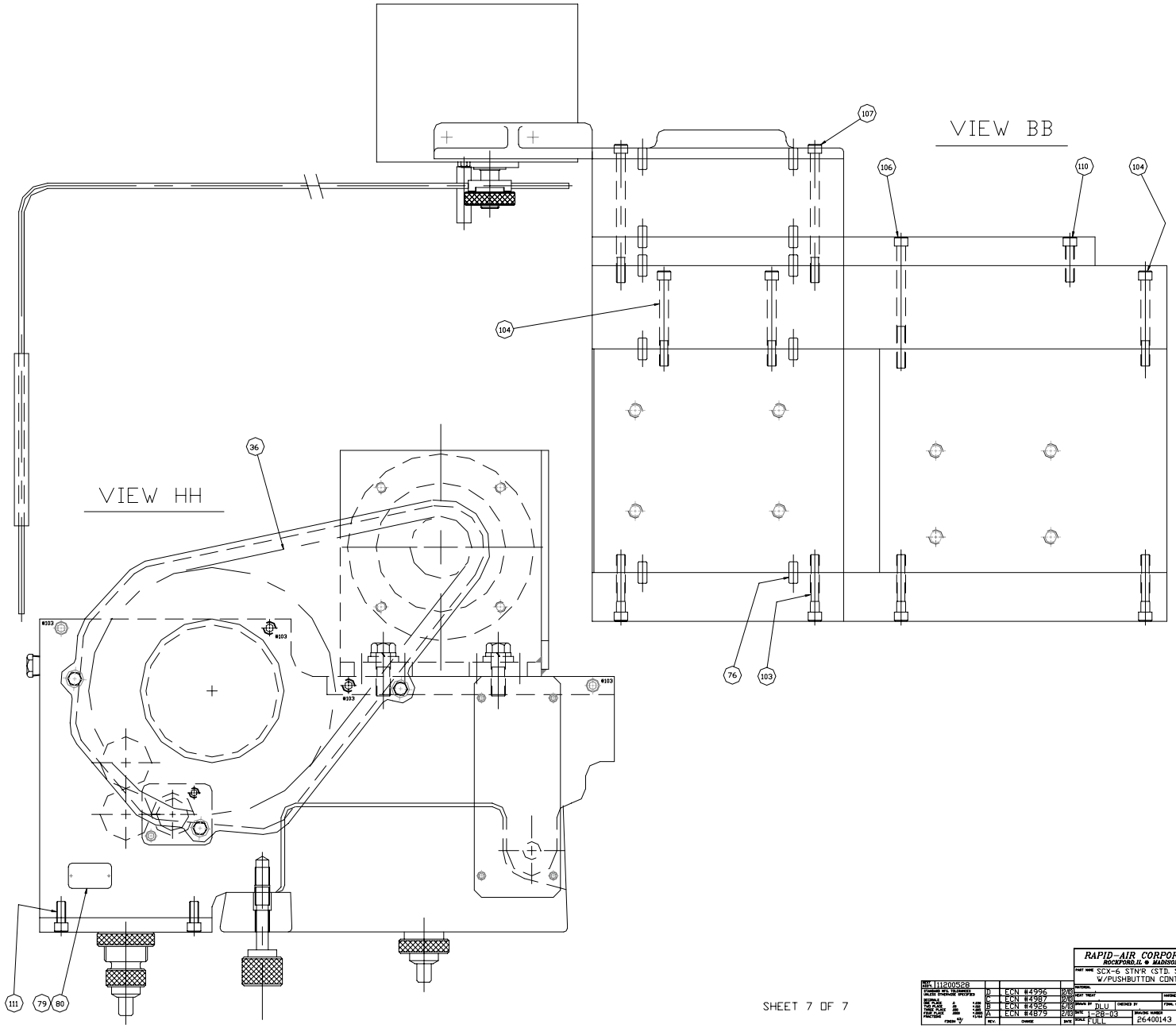
NEXT ASSY.	11200528			
		D	ECN #4996	12/03
		E	ECN #4987	12/03
		B	ECN #4926	6/03
		A	ECN #4879	2/03
		REV.	CHANGE	DATE

MATERIAL — WEIGHT
HEAT TREAT — HARDNESS
DRAWN BY: DLU — CHECKED BY — FINAL FINISH
DATE: 1-28-03 — DRAWING NUMBER: 26400143 E.
SCALE: FULL

SCX-6 Straightener (Standard Speed) with Pushbutton Controls



SCX-6 Straightener (Standard Speed) with Pushbutton Controls



SHEET 7 OF 7

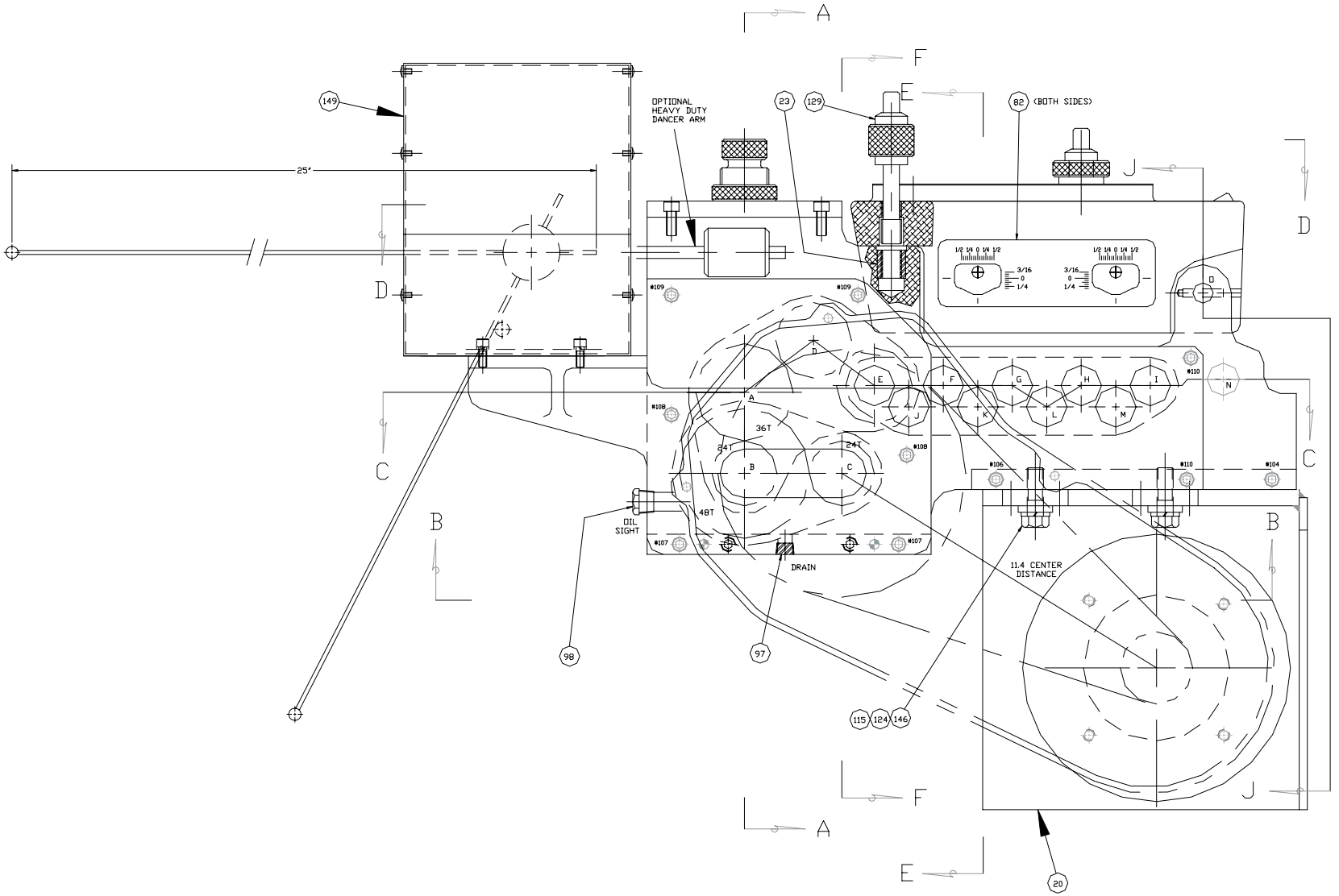
RAPID-AIR CORPORATION
ROCKFORD, IL ● MADISON, SD

PART NAME: SCX-6 STN'R (STD. SPEED) W/PUSHBUTTON CONTROL

REV.	CHANGE	DATE
D	ECN #4996	9/03
C	ECN #4987	9/03
B	ECN #4926	6/03
A	ECN #4879	2/03

DRAWN BY: DLU
DATE: 1-28-03
SCALE: FULL
DRAWING NUMBER: 26400143 E

SD-6 Straightener (Standard Speed) with Pushbutton Controls



SHEET 1 OF 7

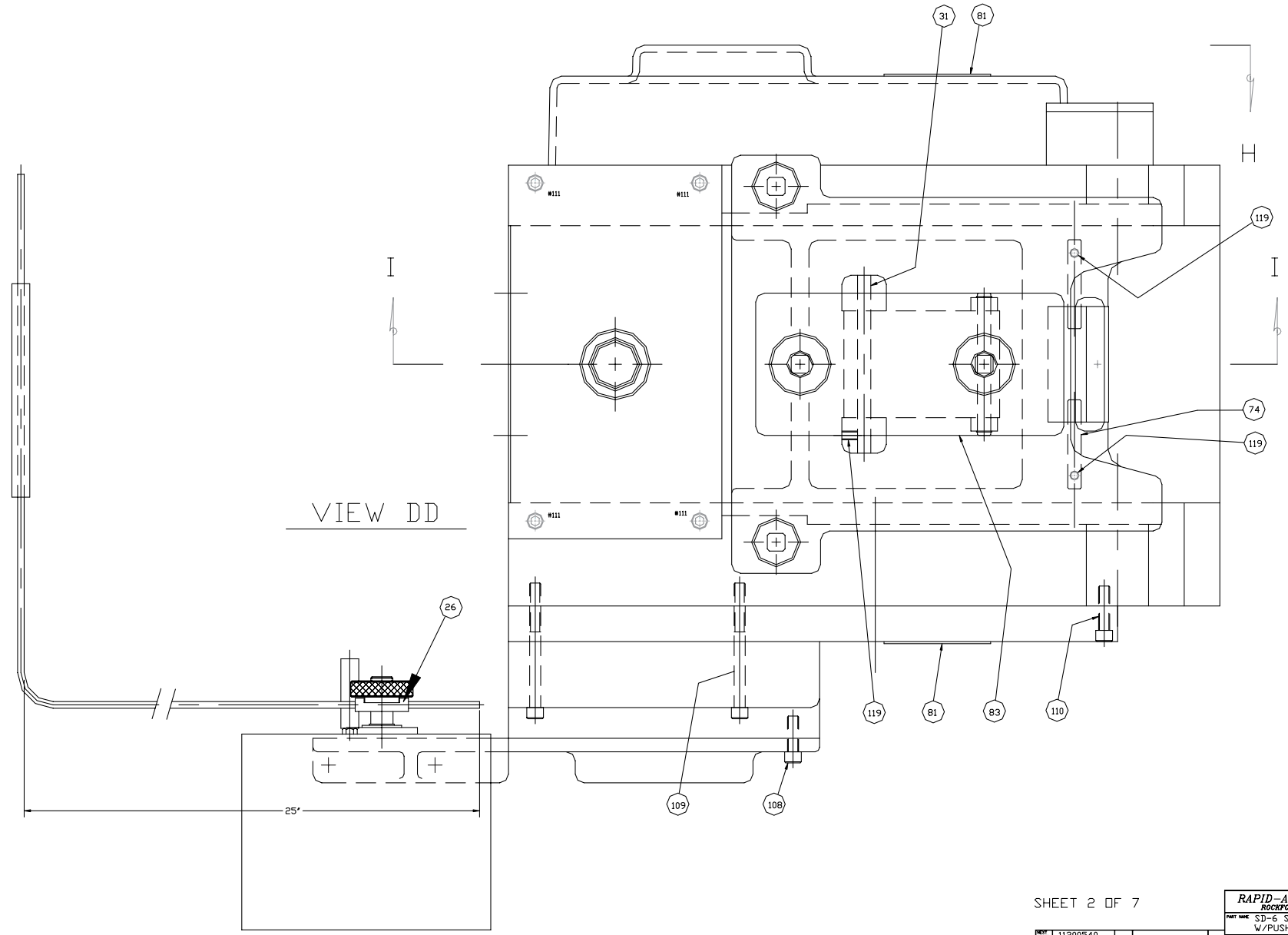
RAPID-AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

PART NAME: SD-6 STN'R (STD. SPEED) W/PUSHBUTTON CONTROLS

PART NO.	11200540
MATERIAL	WEIGHT
HEAT TREAT	HARDNESS
DRAWN BY: DLU	CHECKED BY: FINAL FINISH
DATE: 2-20-03	DRAWING NUMBER: 26400155 E
SCALE: FULL	

REV.	CHANGE	DATE
C	ECN #4996	2/03
B	ECN #4987	2/03
A	ECN #4902	1/03

SD-6 Straightener (Standard Speed) with Pushbutton Controls



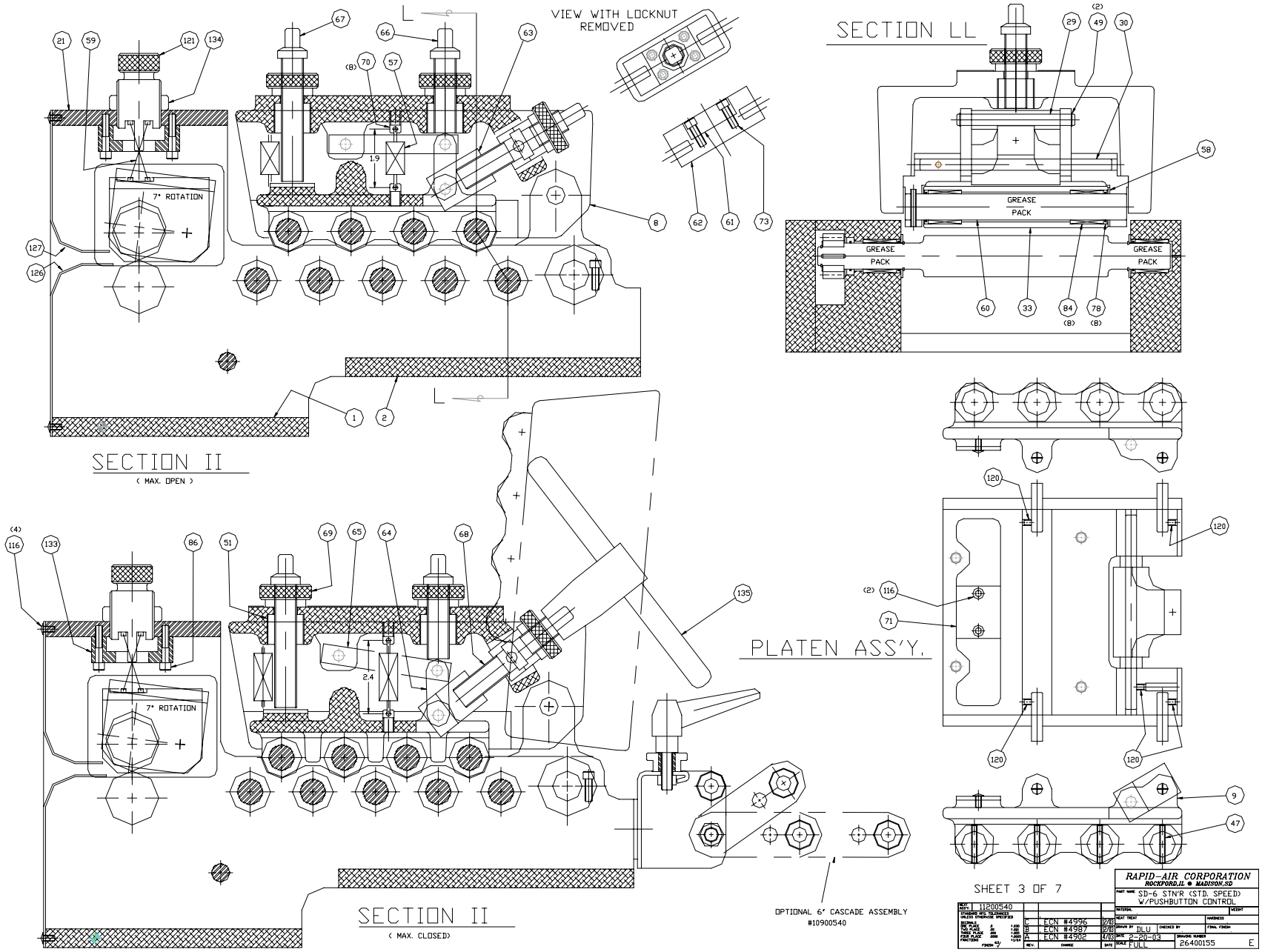
SHEET 2 OF 7

NEXT ASSY.	11200540		
STANDARD MFG TOLERANCES UNLESS OTHERWISE SPECIFIED			
DECIMALS ONE PLACE .X ±.030			
TWO PLACE .XX ±.010			
THREE PLACE .XXX ±.005			
FOUR PLACE .XXXX ±.0005			
FRACTIONS ±1/64			
FINISH 63	REV.	CHANGE	DATE
	C	ECN #4996	12/03
	B	ECN #4987	12/03
	A	ECN #4902	4/03

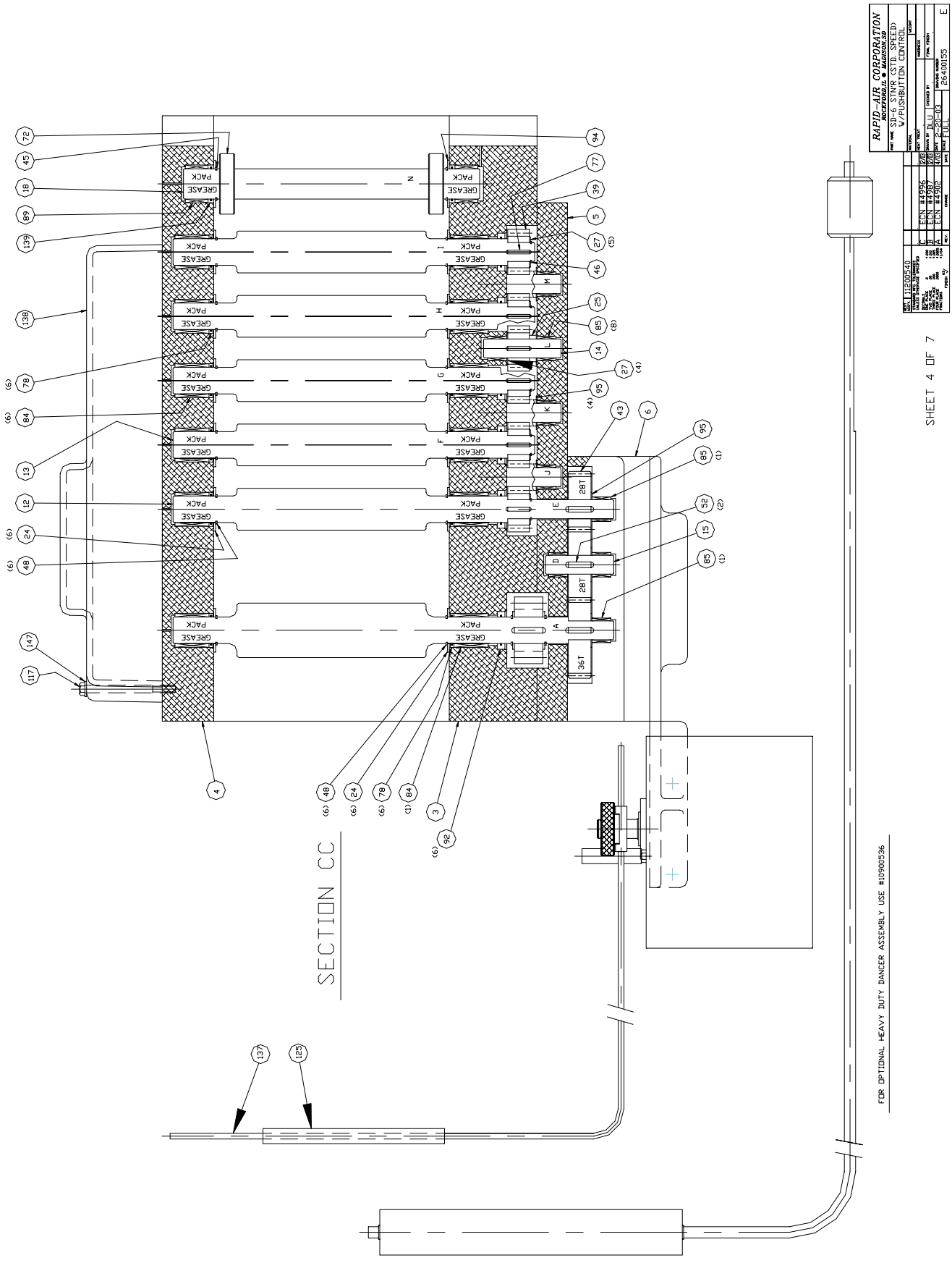
RAPID-AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

PART NAME	SD-6 STN'R (STD. SPEED) W/PUSHBUTTON CONTROL
MATERIAL	WEIGHT
HEAT TREAT	HARDNESS
DRAWN BY DLU	CHECKED BY / FINAL FINISH
DATE 2-20-03	DRAWING NUMBER 26400155 E
SCALE FULL	

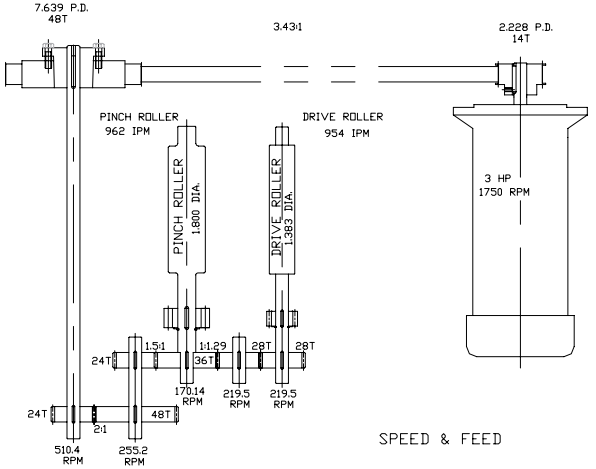
SD-6 Straightener (Standard Speed) with Pushbutton Controls



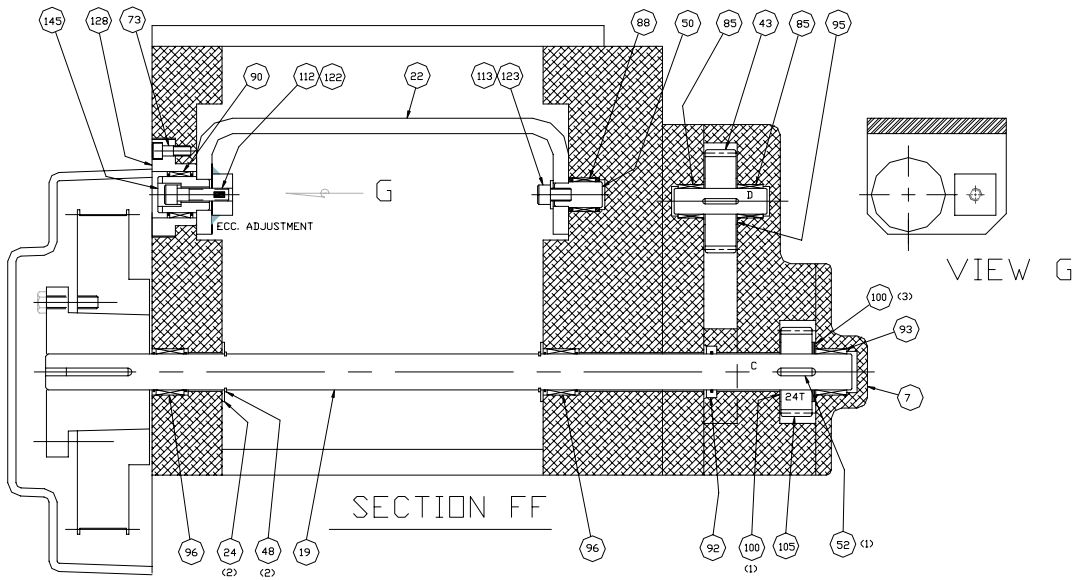
SD-6 Straightener (Standard Speed) with Pushbutton Controls



SD-6 Straightener (Standard Speed) with Pushbutton Controls



SPEED & FEED



ITEM	QTY.	PART NO.	DESCRIPTION
156	.	.	.
155	.	.	.
154	.	.	.
153	.	.	.
152	.	.	.
151	.	.	.
150	.	.	.
149	1	28900365	PUSHBUTTON CONTROL
148	1	69000003	MOTOR 2 HP
147	3	61200019	FLAT WASHER 1/4"
146	4	61300050	LOCK WASHER 1/2"
145	1	32900685	ECCENTRIC SHAFT
144	1	60108220	"O" RING
143	1	60108212	"O" RING
142	2	62318087	DOWEL PIN 3/16 X 7/8
141	4	34700110	SPACER
140	4	33801020	LOCATING PIN
139	2	60200055	OIL SEAL NATIONAL #343098
138	1	30100261	BELT COVER HOUSING
137	1	33600215	DANCER ARM
136	1	67410015	WAVE WASHER
135	1	21100061	WRENCH ASSEMBLY
134	1	36200031	LOCKNUT
133	1	31701920	ADJ. SCREW RET. PLATE
132	1	34100297	SPACER
131	1	31701919	OIL SEAL PLATE
130	2	33900258	NEEDLE BRG. BUSHING
129	2	32900796	KNOB SHAFT
128	1	30100243	ECC. BRG. HSG.
127	1	31400494	UPPER FRONT GUARD
126	1	31400493	LOWER FRONT GUARD
125	1	34400497	ROLLER TUBE
124	4	69400068	THICK WASHER
123	1	61200022	FLAT WASHER 5/16
122	1	61320031	LOCKWASHER 5/16
121	1	36100078	ADJ. SCREW
120	5	66212025	SET SCREW
119	3	66220025	SET SCREW
118	.	.	.
117	3	65820300	SHCS 1/4-20 X 3
116	6	66612037	BHSCS #10-32 X 3/8
115	4	65853150	HEX BOLT 1/2-13 X 1 1/2
114	4	65836100	HEX BOLT 3/8-16 X 1
113	1	65931050	SHCS 5/16-18 X 1/2
112	1	66700064	SHCS 5/16-24 X 1 1/4 W/LOCWELL
111	4	65931075	SHCS 5/16-18 X 3/4
110	2	65931125	SHCS 5/16-18 X 1 1/4
109	2	65931350	SHCS 5/16-18 X 3 1/2
108	2	65931100	SHCS 5/16-18 X 1
107	2	65931450	SHCS 5/16-18 X 4 1/2
106	1	65931400	SHCS 5/16-18 X 4
105	1	32600215	SPUR GEAR 12P 24T
104	3	65931300	SHCS 5/16-18 X 3
103	4	65931200	SHCS 5/16-18 X 2
102	4	65912050	SHCS #10-32 X 1/2
101	2	65936150	SHCS 3/8-16 X 1 1/2
100	4	64520022	THRUST WASHER
99	1	69420010	BREATHER
98	1	67700001	OIL SIGHT
97	1	63130375	PIPE PLUG 3/8 NPT
96	4	64500063	NEEDLE BRG JTT-1414
95	13	64520008	THRUST WASHER
94	2	64520017	THRUST WASHER
93	1	64500008	NEEDLE BRG. B-1412
92	7	60200068	OIL SEAL C/R 8621
91	1	64500051	NEEDLE BRG. JTT-1014
90	1	64500061	NEEDLE BRG. JTT-1410
89	2	64500038	NEEDLE BRG. B-1612
88	2	64500057	NEEDLE BRG. JTT-1012
87	1	32900794	IDLER SHAFT
86	2	65920125	SHCS 1/4-20 X 1 1/4
85	14	64500018	NEEDLE BRG. B-1010
84	20	64500064	NEEDLE BRG. B-1418
83	1	39900281	INSTRUCTION LABEL
82	1	39900280	PLATEN ADJUST. LABEL
81	2	39900245	LOGO
80	2	66300250	DRIVE SCREW
79	1	39900051	NAME PLATE

ITEM	QTY.	PART NO.	DESCRIPTION
78	20	60200067	OIL SEAL C/R #8619
77	9	33801018	DOWEL PIN
76	10	62331075	DOWEL PIN
75	2	62225100	PULL DOWEL
74	2	62237250	JERGENS PULL DOWEL #31734
73	6	65920075	SHCS 1/4-20 X 3/4
72	2	34300093	COLLAR STAFFORD #1L100
71	1	31701918	WEAR PLATE
70	8	36100092	SPRING ANCHOR
69	3	36200036	LOCKNUT
68	1	36100089	ADJUSTING SCREW
67	1	36100091	ADJUSTING SCREW
66	1	36100090	ADJUSTING SCREW
65	1	31701917	UPPER LINK PLATE
64	2	31701916	LINK
63	1	31701915	HORZ. ADJ. PLATE
62	1	31701914	PIVOT BLOCK
61	1	31701922	ADJ. SCREW RETAINING PLATE
60	4	32900793	ROLLER SHAFT
59	1	37500145	SPRING
58	8	34100296	WASHER
57	4	37500144	EXTENSION SPRING
56	1	37500146	SPRING
55	1	36800019	KEY
54	1	36800013	KEY
53	1	36800005	KEY
52	6	36800021	KEY 3/16 X 3/4
51	2	34300094	THREADED INSERT
50	1	32900795	PIVOT SHAFT
49	2	60910037	RETAINING RING
48	18	60910087	RETAINING RING
47	4	62419125	ROLL PIN
46	6	60910062	RETAINING RING
45	2	60910100	RETAINING RING
44	2	32602800	GEAR (MTE)
43	2	32600214	SPUR GEAR 12P 28T
42	1	32600213	SPUR GEAR 12P 36T
41	1	32600212	SPUR GEAR 12P 24T
40	1	32600211	SPUR GEAR 12P 48T
39	9	32602000	GEAR
38	1	32500028	PULLEY
37	1	32500027	PULLEY & QD BUSHING
36	1	32500026	TIMING BELT
35	1	32600034	PINNION
34	1	32600109	RACK
33	4	34200290	IDLER ROLLER
32	1	32900792	PIVOT SHAFT
31	1	32900791	HINGE PIN
30	1	32900790	HINGE PIN
29	1	32900789	HINGE PIN
28	1	32900788	PIVOT SHAFT
27	11	34700033	SPACER
26	1	34600041	DANCER ADAPTOR
25	4	34100287	SPACER
24	15	64520020	THRUST WASHER
23	2	65600006	THREADED INSERT
22	1	21900217	ROLLER BRACKET ASS'Y.
21	1	31701911	TOP PLATE
20	1	21900221	MOTOR MTG. BRACKET
19	1	32900787	MOTOR DRIVE SHAFT
18	1	32900786	GUIDE SHAFT
17	1	34200289	LOWER ROLLER
16	1	34200288	UPPER ROLLER
15	1	32900785	IDLER SHAFT
14	4	32900737	IDLER SHAFT
13	4	34200287	LOWER ROLLER
12	1	32900784	LOWER DRIVE SHAFT
11	1	31500412	RACK HOUSING COVER
10	1	30100242	RACK HOUSING
9	1	30100240	PLATEN HOUSING
8	1	30100239	TOP COVER HOUSING
7	1	30100275	GEAR COVER PLATE
6	1	30100276	GEAR HOUSING
5	1	31701910	GEAR SPACER PLATE
4	1	31701909	L.H. SIDE PLATE
3	1	31701908	R.H. SIDE PLATE
2	1	31701907	REAR BASE PLATE
1	1	31701906	FRONT BASE PLATE

ITEM	QTY.	PART NO.	DESCRIPTION

SHEET 5 OF 7

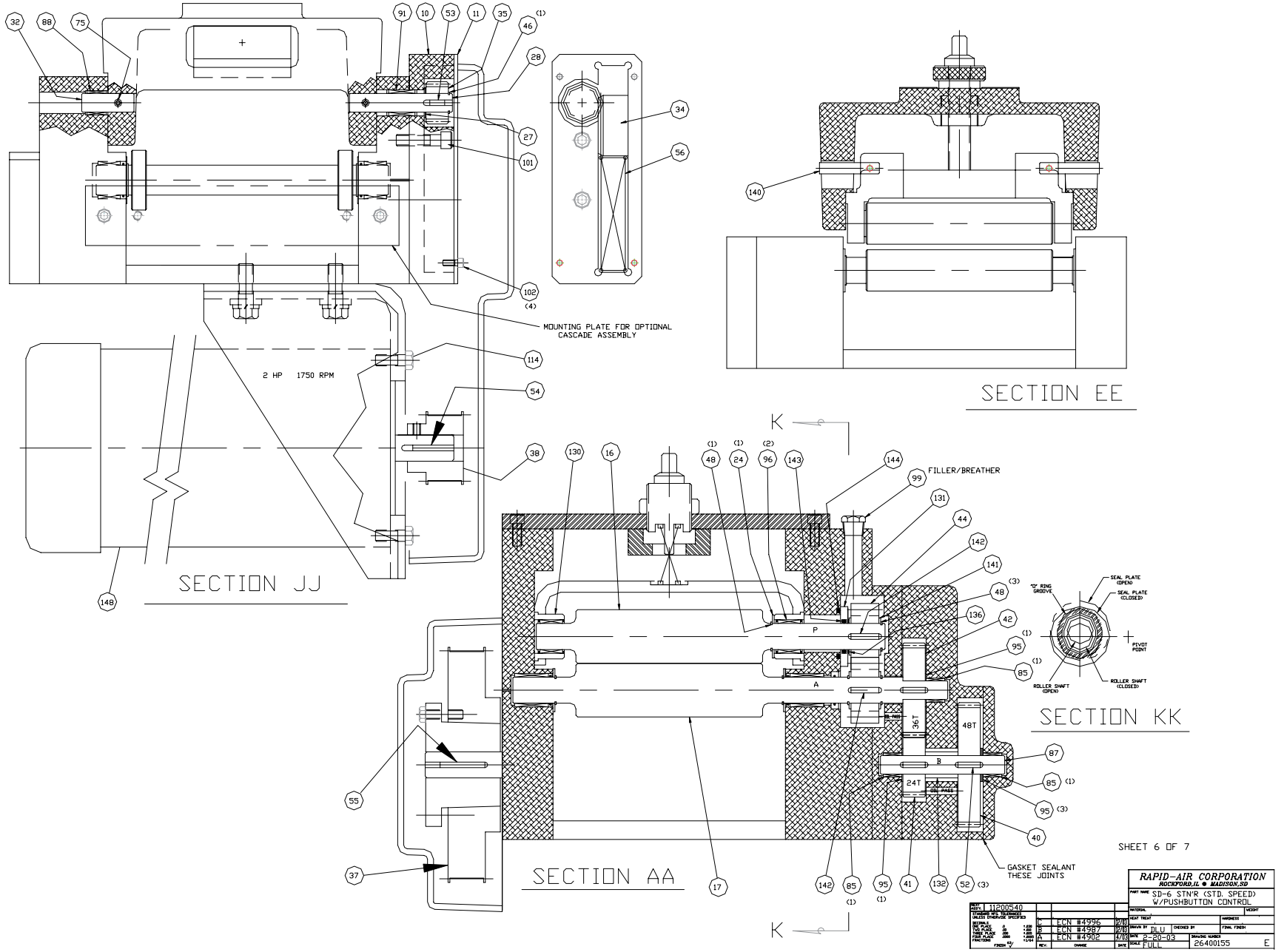
RAPID-AIR CORPORATION
ROCKFORD,IL ● MADISON,SD

PART NAME: SD-6 STN'R (STD. SPEED) W/PUSHBUTTON CONTROL

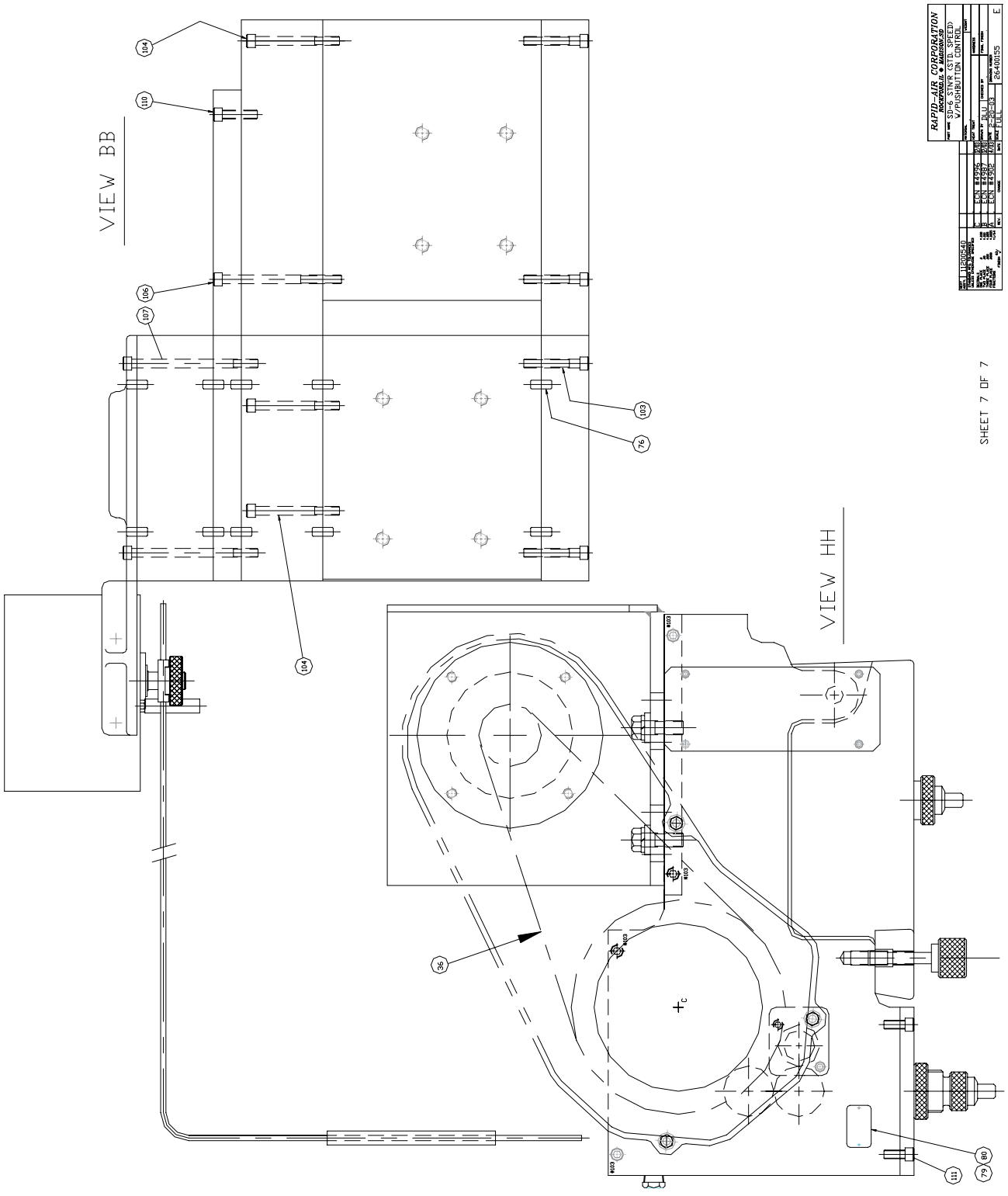
NEXT ASS'Y: 11200540
MATERIAL: WEIGHT:
STANDARD MFR. TOLERANCE UNLESS OTHERWISE SPECIFIED
DECIMALS X ±.030, XX ±.010, XXX ±.005, THREE PLACE XXX ±.001, ANGLES ANG ±.5°, FRACTIONS ±1/64
FINISH
HEAT TREAT: HARDNESS:
DRAWN BY: DLU CHECKED BY: FINAL FINISH:
DATE: 2-20-03 DRAWING NUMBER: 26400155 E
SCALE: FULL

REV.	CHANGE	DATE
C	ECN #4996	2/05
B	ECN #4987	2/05
A	ECN #4902	4/03

SD-6 Straightener (Standard Speed) with Pushbutton Controls



SD-6 Straightener (Standard Speed) with Pushbutton Controls



Typical Stamping Layout