



**AIR FEED / RAPID MASTER
WITH KEYPAD
OPERATING INSTRUCTIONS**

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INSTALLATION AND MECHANICAL SET-UP

Rapid Master Installation

The Rapid Master that you have just received is fully assembled and ready to be put into production. Due to shipment vibration and handling, the machine should be checked to ensure all screws and bolts are tight. Remove the cover to the electrical controls and visually inspect that all parts are in place and secure. If the machine was damaged in shipment, contact the carrier first to report the damage and then Rapid-Air.

CAUTION:

THE RAPID MASTER MACHINE IS TOP HEAVY WHEN NOT SITTING ON ITS BASE LEGS. USE EXTREME CAUTION WHEN MOVING THIS MACHINE!

Install machine on a level surface with sufficient clearance for loading and unloading process material. The machine should be secured to the floor through the 4 holes provided in the feed of the machine using 7/16 tie-down bolts. Or, can be installed using 1/2-13 leveling bolts and machine pads. The pads keep the machine from walking during operation and also act as a noise reduction device.

The machine has two other requirements that need attention before putting the Rapid Master into production.

- 1) The customer must provide minimum CFM – RE: chart, at 75 or 120 PSI of dry air to the machine. Connect a minimum of 5/8" ID hose into the filter regulator provided on the machine. The inlet to the F-R-L is a NPT female thread.
- 2) The customer must provide 120 volt, 20 amp, 60 cycle electrical power. If an extension cord is used between the source and the machine, it should be a minimum 12 gauge wire to keep the voltage loss down and for electrical safety reasons.

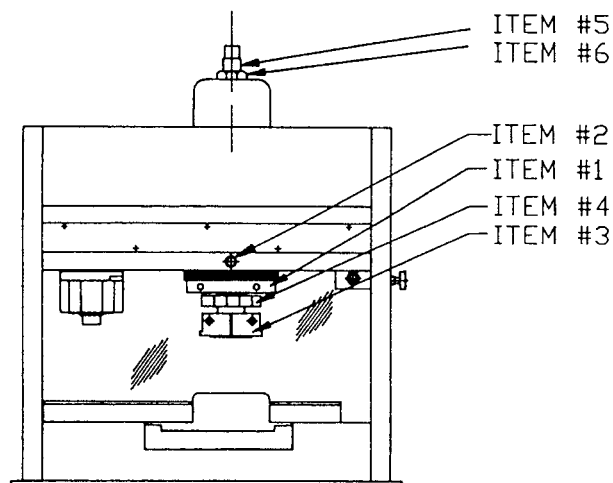
Mechanical Set-Up Of Die Or Punch

- 1) Secure the die set to the bolster plate.
- 2) The piston adjustment sleeve (item #1) establishes the stroke to a maximum of .50 inches when fully extended. The stroke is reduced by 1.8 inches with each full inward rotation, using the 3-3/4 spanner wrench provided. The piston stroke adjustment sleeve is locked in place with a nylon tipped set screw (item #2).
- 3) Lift the punch holder plate and loosely connect it to the inner shaft ram adjustment screw with the two half shell clamps (item #3) provided.
- 4) Adjust the inner shaft (item #4) for proper open height, using the wrench provided.

- 5) Tightly secure the punch holder plate to the inner shaft.
- 6) Lower the piston, piston shaft and piston sleeve by rotating the adjustment screw on top of the head assembly (item #5) with the crank provided. This is done to

check the full stroke set up. If all adjustments are within limits, the top adjustment screw should be retracted to fully raise the piston and ram assembly.

- 7) Lock the upper adjustment screw (item #6) in the up position.



SET-UP AND MAINTENANCE

Air Feed Progression Set-Up

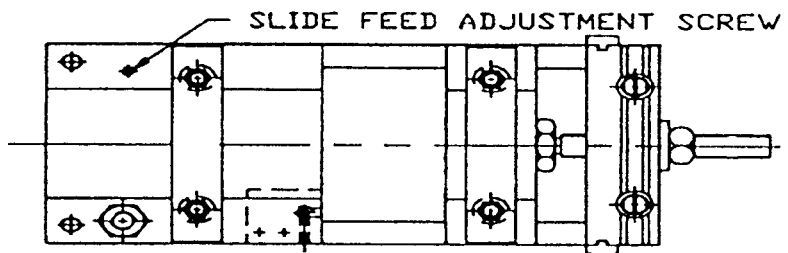
The feed guide rollers are adjustable by loosening the machine screws and moving the rollers to the desired position. For best result, the stock should be centrally located in the feed.

The notches in the guide rails provide for coarse feed adjustment of the stop block. The final feed adjustment for stroke length is made by the screw in the center of the stop block. The final feed adjustment is aided by the use of accurately dimensioned spacers or gauge blocks placed between the adjusting screw and the main cushion bolt, and with the air pressure turned on to keep the slide block tight against the main body.

With the air pressure off, the material is then inserted between the guide rollers and passed under the feed clamp. Lift the stock clamp and push the material through to the starting position. Turn on the air (75-120 P.S.I.) and the feed is ready to operate.

The last adjustment, if necessary, would be the speed adjusting valve.

The valve adjustment is located on top of the main body on the opposite side of the actuating valve. Adjust the screw for minimum impact by turning clockwise and for faster speed by turning counterclockwise. When the impact is high, slippage is possible resulting in poor repeatability and also part fatigue. Refer to the diagram below.



Maintenance

The ram head assembly requires very little maintenance. There are four dynamic "O" rings that would need to be replaced on the rare occasion of an air leak. These are as follows per Rapid Master head assembly drawing #24000001 parts list.

Item 43, part no. 60108212 1 Req.
Item 45, part no. 60108234 1 Req.
Item 90, part no. 60108269 2 Req.

To absorb mechanical shock, reduce noise and prolong machine life, a rubber bumper is incorporated into the

assembly. Some stroke accuracy could be affected by rubber deterioration. Stroke adjustment will compensate for any small overall stroke increase.

The rubber bumper (item 52, part no. 35900037), should be examined during any "O" ring maintenance procedure.

LUBRICATION

Proper Lubrication

For a general guide for the Rapid Master, the lubricator oil release adjustment should be set to one drop of oil for each 50-80 strokes. (See insert on lubrication of "O" rings.)

LUBRICATION OF "O" RINGS

The "O" rings furnished with Rapid-Air feeds are made of a Buna N Compound designed to give long life on service with air, oil and water. This rubber compound features high abrasion resistance and good dimensional stability if the recommendations listed below are followed.

A filter and lubricator should be used; the filter to remove grit that would otherwise act as an abrasive, and the lubricator to provide an adequate quantity of oil. For best results, avoid an excess of oil.

Paraffin base oils in general will give the best service. The viscosity should be 140-

170 S.S.U., the API gravity 29.5 minimum and the aniline point between 150 F and 210 F. Variation of the aniline point from the limits given is likely to cause either shrinkage or stretching of the "O" rings.

DETERGENT MOTOR OILS AND ALL OTHER OILS DESIGNED FOR AUTOMOTIVE USE ARE GENERALLY UNRELIABLE IN CHEMICAL MAKEUP FOR USE WITH RUBBER COMPOUNDS. SPINDLE OILS ARE TOO LOW IN VISCOSITY.

The group of oils listed below are generally recommended for Buna N compound 366Y "O" rings. This grouping is given in good faith but, because of the constant changes made in oils by the manufacturers, we cannot guarantee any consistency of chemical makeup. All of these oils have an aniline point of 210, and API gravity of 29.5 minimum and a viscosity of 140-170 S.S.U. The base stock is paraffin.

RECOMMENDED:

Cities Service Oil Co.

– Pacemaker #1 (Standard hydraulic oil)

Standard Oil of Indiana

– #5 Hydraulic Oil

Sun Oil Co.

– Sunvix #916

Texaco

– Regal A,R&O

Shell Oil Co.

– Tellus #27

– Terbo #27

Sinclair Oil Co.

– Rubilene Extra Light

Atlanta Refining Co.

– Hytherm Oil #C

New Jersey Lubricant

– A-88/HNR

Standard Oil of Ohio

– Sohivis #43

Mobil DTE

– IOW Hydraulic

Recommended Lube For Assembly Of Rapid-Air Feeds

MIXTURE OF

LUBRIPLATE & MOLYKOTE

No. 105 Lubriplate

Fiske Bros. Refining Co.

Newark, NJ - Toledo, OH

Molykote

Power (Molybdenum disulfide)

Dow Corning Corp.

Midland, Michigan

To a 2 lb. coffee can filled with

lubriplate, add 2 tablespoons of molykote and thoroughly mix.

Locite sealant is used on threaded parts type AV.

ELECTRICAL SET-UP, PRETEST AND LOADING

Electrical Set-Up

1. Master power on/off button

Lighted 2 position switch, located on the side of the console. When turned on the switch should illuminate.

2. Tonnage selector switch

The tonnage selector switch selects the Rapid Master ram force exerted. On the side of the ram units is a 2 position, screwdriver slot, selector switch to accomplish this task. The switch is labeled 2 ton or 4 ton.

3. Door closed switches

There are 3 door closed switches, 2 are on the ram unit and 1 is on the slide unit. The ram doors must be closed all the time while the slide door has to be closed in the automatic mode.

4. Position switches

There are 2 position switches on the air feed and 1 position switch on the ram. Any failure on any of these switches could stop the running of the complete unit.

5. Pre-operation check

- * Check that the air is connected and turned on.
- * Pull the "power button" to the "on" position.
- * Select "cycles per cut" – make it 1.
- * Select "manual" then press the "feed air" selection button. F1 turns the air on to hold the material and F2 turns the feed air off the load material. Turn the feed air on to cycle.
- * Press the feed button, the feed should

cycle the number of cycles entered in the cycles per hit.

- * Press the down ram button. The ram should cycle one time.
- * Press the single cycle button, the feed and ram should cycle one complete cycle.
- * Increase the feed strokes from 1 to 2, the feed should now feed 2 times to 1 stroke of the ram.
- * Select "auto total", the machine will start cycling and continue to cycle until the stop button is pressed.
- * Select "auto batch", enter desired batch size and the start cycle. The machine will cycle until the cycle stop button is pressed or the batch count is complete, then stop.

Pretest For Unit Without Material

The first step is to turn on the main switch on the electrical enclosure. The button should illuminate to indicate that there is power to the system.

If you are comfortable with programming a job then continue, if not, please refer to the "Programming Procedure" located in this manual.

Follow the programming sequence for the operators terminal to input feed parameters. Your unit has been fully

tested before it was shipped to your facility and this procedure is merely a test to insure that all functions are still functional and the cables are properly seated.

Once you have programmed the required parameters, select the manual mode of operation.

After you have verified that the feed and the ram are operational, you can experiment with single cycle moves. The procedure is outlined in the

programming section of this manual.

Now you can cycle the ram and watch the feed to verify that the signal from the ram switch is functional and actuating at the proper time.

After all the checks have been made and you feel comfortable with the programming of the unit controller, place the unit in automatic mode. The feed should react upon the closure of the ram signal and simulate a feed progression of material.

Loading Material Into The Air Feed

Upon satisfactory completion of all the tests, you should be ready to load a strip of material into the feed. Step number one is to select the manual mode of operation on the keypad. You can now open the clamps manually by turning the air feed air off. Position the leading edge of the material near the center of the entry guide and adjust the edge guides on the feed to the

proper width setting. Hand feed the material through the air feed unit until it protrudes out of the feed and starts into the guide on the ram unit then turn the feed air on to clamp the material.

You are now ready to begin testing the complete system under power. To check the progression, cycle the unit in the single cycle mode to test

for correct progression length. If the progression is correct, no further adjustments are necessary. If the progression is either short or long, go to the troubleshooting chart and perform the sequences described there for inaccurate feeding. Once the feed progression has been accurately set and the repeatability is satisfactory, you are ready for full automatic mode.

INTERFACING

Interfacing Explanation

A. Taut stock input

This is a normally open contact from a switch or device that monitors the loop of material prior to the air feed. When the material reaches a point that it trips the switch, a taut stock has been reached. This input, when received, immediately drops the automatic mode which stops the feed in progress. The material should be repositioned in the die before restarting the automatic sequence.

This input also could be used as a "no stock" switch that would monitor whether or not there is material available to feed.

B. Keypad and display interface (RS 232 Port)

The keypad/display is the interface between the operator and the resident program. The cyberpak unit is purchased with a great many capabilities, none of which can be used unless a program is written to utilize these capabilities. Rapid-Air invested a great deal of time to develop a program that is user-friendly, yet gets the job done efficiently. We took all the questions and constructive criticism and came up with a program that would cover all the applications, yet be easy to interface and program by a customer.

If an operator reads the programming procedure in this manual, then reads the screen parameters listed as they are displayed and acts on them by inputting data as needed, the unit can be up and running in a very short time.

1. Select a job number.
2. Input or review setup parameters for the unit.
3. Thread up material in manual mode.
4. If properly interfaced, go into automatic mode.

PROGRAMMING PROCEDURE

Operator Input Terminal – Programming Procedure – Standard Software

The intent of this section is to familiarize the operator with the program flow and what to expect with every keypress. Each screen on the display will be reviewed with special comments to help clarify what is being asked on the screen. The program flow is broken down into sections with the main menu being the home position. Reviewing the flow chart in the back of this manual will help in understanding the sections.

- Section 1** **F1=cycles per hit entry**
- Section 2** **F2>manual mode**
 setup parameters
- Section 3** **F3=automatic**

The first screen to be displayed on the operator terminal will look like this:

Rapid-Air Corporation
Rockford, IL 61109

After a few seconds, the display will clear and the following display will appear:

Feed cycles/hit=XX
F1=set cycle per hit
F2>manual mode
F3=automatic mode

Select F1=set cycles per cut

The first step in programming the cut to length feed is to input the correct cycles to achieve the desired feed length. When the operator selects F1 on the keypad, the screen will change to:

Set feed cycles per hit
_____ **"Enter"**
A number must be
entered to continue

When the enter key is pushed, the screen reverts back to the main menu.

Select F2-Manual. The following screen appears:

Manual keys are now active
**** USE CAUTION ****
F4=exit to main menu

1. When pressing the F4 key the display reverts back to the main menu.
2. All manual keys are now active. Pressing any labeled key will activate a movement.
CAUTION: Make sure there is air to the cutter before cycling or the system will lock up. To unlock, the main power has to be cycled.
3. Pressing the "Feed Button" will cause the feed to move the number of cycles that was entered.
4. Pressing the "Ram Cycle Button" will cause the ram to cycle one time.
5. Pressing the "Single Cycle Button" will cause the feed and ram to perform one complete cycle.
6. Press the "Total Reset" button and the following display appears.

Total Count = XXXXXX
F1=Reset to Zero
F4=Exit Display

- a. Pressing the F1 key will cause the total count to be all zeros
 - b. Pressing the F4 key will take you back to the main menu.
7. Press the "Ram Time Button" and the following screen appears.

Ram Dwell Time =XX
F1=Set Dwell Time
F4=Exit Display

- a. Pressing the F1 key will display a screen which will force you to enter a dwell time before leaving the screen.

b. Pressing the F4 key will take you back to the main menu.

8. Press the "Clamp Air Button" and the following screen appears:

Feed Air Selection
F1=Turn Feed Air On
F2=Turn Feed Air Off
F4=Exit

Use this feature when loading material into the air feed.

9. Press the "Diagnostics Button" and the following display appears.

Feed at Main SW-Off
Feed at Stop SW-Off
Ram Ret'd SW-ON
F4=Next

Press F4 and the next screen appears.

Ram Door Closed SW-Off
Feed Door Closed SW-Off
F4=Exit

Each time the switch changes state, the screen switches to off or on. If the switch is energized, the screen displays - on. If the switch is de-energized, the screen displays- off.

10. Press the "Count Display Button" and the following screen appears.

Part Count Display
Total Count=XXXXXX
Batch Count=XXXXXX
F4=Exit

Pressing the F4 "Exit" key and the screen reverts back to the previous screen.

PROGRAMMING PROCEDURE (CONTINUED)

Operator Input Terminal – Programming Procedure – Standard Software

Press the F4 exit key until the main menu screen appears.

Feed cycles/cut=XX
F1=Set Cycle per Cut
F2=Manual Mode
F3=Automatic Mode

We have covered all the setup operations of the Air/Rapid Master. Now we will cover the automatic portion of the programming. Press the F3 "Auto" key and the following screen appears.

**** Automatic Mode ****
F1=Auto Total Cycle
F2=Auto Batch Cycle
F4=Exit Auto Mode

Pressing the F1 key will put you in the auto total mode. In this mode the feed, once started, will feed on command until you stop it by pressing the stop key.

Pressing the F2 key will put you in the auto batch mode. In this mode you put in the quantity of cycles you want and the feed will stop when this count has been reached.

Press F1 auto total cycle key and the following screen appears.

**** Auto Total Mode ****
Total Counts= XXXXXX
F1= Run Auto Total
F2= Exit Auto Total

At this time the operator can choose to run auto total or exit. If exit is chosen then the previous screen is displayed. If run is chosen then the following screen is displayed.

**** Auto Total Mode ****
Feeds per cycle=XX
Total Count = XXXXXX
F4= Stop Cycle

The unit is now in full automatic. Whenever an input for feed is received, the air feed will feed the cycles programmed and increment the counter by one count. If you press the F4 "Stop Cycle" key, the automatic cycle will drop out and the next screen to appear is as follows.
Note: The stop cycle key has to be pressed and held until the sequence that is currently running is complete.

Auto Cycle
Was Stopped
F2=Continue Cycle
F4=Stop and Exit

The decision now is whether to continue cycling or stop. If F2 is pressed then the feed would continue where it left off. If F4 is pressed the following screen will appear:

**** Automatic Mode ****
F1=Auto Total Cycle
F2=Auto Batch Cycle
F4= Exit Auto Mode

At this time you can choose to go back into auto total. Select auto batch or exit to the main menu.

Press F2 auto batch cycle and the following screen appears.

Batch Size = XXXXXX
F1= Enter New Batch
F2= Run Current Batch
F4= Exit Auto Batch

If the current batch size is correct then press F2 run current batch. If not then press F1 enter new batch size and the following screen appears.

Batch Size
_____Enter
A Number Must Be
Entered to Continue

Once the number has been entered, the previous screen appears. Press F2 run current batch and the following screen appears and cycling begins

Auto Batch F4=Stop
Feeds Per Cycle = XX
Batch Count = XXXXXX
Total Count - XXXXXX

The batch count will decrement while the total count increments. Once the batch size gets to zero, the auto cycle stops. Pressing the F4 at any time stops the cycle and the following screen appears.

Note: The stop cycle key has to be pressed and held until the sequence that is currently running is complete.

Auto Cycle
Was Stopped
F2=Continue Cycle
F4=Stop and Exit

The decision now is whether to continue or stop. If F2 is pressed the feed would continue cycling or stop. If F2 is pressed the feed would continue where it left off. If F4 is pressed the following screen will appear.

**** Automatic Mode ****
F1=Auto Total Cycle
F2=Auto Batch Cycle
F4=Exit Auto Mode

Press F4= Exit and the main menu appears.

This completes the programming procedure section of the Air Feed/Rapid Master.

TROUBLESHOOTING ELECTRICS

Problem	Possible Cause	Remedy
The attempt is made to start the machine by pulling the mushroom start button but no lights illuminate.	<ul style="list-style-type: none"> – No power at source. – The machine is not plugged into the source power. – Fuse blown on the control. – Loose wiring. – Defective pushbutton. 	<ul style="list-style-type: none"> – Check building for recept. for voltage. – Plug cord into 120 volt - 1 PH recept. – Look for burn spots to see what caused the blown fuse – replace fuse. – Inspect wiring to terminals for loose wires or loose screws. – Disconnect all power, check out pushbutton.
The attempt is made to cycle the feed but the slide will not move.	<ul style="list-style-type: none"> – Check that there is air present on the machine. – Check that the “Feed Air” switch is in the “ON” position. 	<ul style="list-style-type: none"> – Air gauge should read: 75-120 PSI. – The “Feed Air” switch button is located on the keypad. Turn valve control on and off, the main slide valve should energize and deenergize.
When commanded, the feed moves to the stop block position, but will not return to the main body switch.	<ul style="list-style-type: none"> – The Ram returned switch is not properly adjusted or is defective. – The stop block switch is not properly adjusted or is defective. – The wiring to or from the switch is not properly connected or is incomplete. 	<ul style="list-style-type: none"> – Readjust or replace the switch. – Readjust or replace the switch. – Check for loose wiring or screws.
The attempt is made to cycle the Ram, but it won't move.	<ul style="list-style-type: none"> – The Ram door closed switch is not energized or is defective. – Loose wiring or defective solenoid valve. 	<ul style="list-style-type: none"> – Readjust or replace the switch. – Check wiring.
The unit drops out of automatic at random times.	<ul style="list-style-type: none"> – Door closed switches are improperly adjusted. – Loose wiring. 	<ul style="list-style-type: none"> – Readjust switch. – Check for loose wires or screws.
The total count counter will not increment.	<ul style="list-style-type: none"> – Check that auto total or auto batch has been selected. 	<ul style="list-style-type: none"> – Select auto total or auto batch.
The total batch counter will not increment.	<ul style="list-style-type: none"> – Check that auto total or auto batch has been selected. 	<ul style="list-style-type: none"> – Select auto total or auto batch.

CHARACTERISTICS AND POSSIBLE CAUSES OF TROUBLES WITH RAPID-AIR FEEDS

Problem	Possible Causes	Remedy
Feed and stock clamps work, but slide block does not move when actuating valve is depressed.	<ul style="list-style-type: none"> – Pilot operated valve is stuck. 	<ul style="list-style-type: none"> – Check for grit, swollen nylon or swollen “O” rings.
Excessive leakage of air from exhaust hole beneath speed adjusting screw when actuating valve is in up position.	<ul style="list-style-type: none"> – Poppet not seating on bottom of valve hole. – Leaking of “O” rings #85, 83, 84, 88, 90 and 100. 	<ul style="list-style-type: none"> – Check for grit or chips. – Check “O” rings #85, 83, 84, 88, 90 and 100. See assembly drawing #106 for location.
Excessive leakage of air from exhaust hole, also sluggish operation of feed clamp pistons, actuating valve up.	<ul style="list-style-type: none"> – Leaking of “O” rings #85 and 90. 	<ul style="list-style-type: none"> – Check “O” rings #85 and 90. See assembly drawing #106 for location.
Excessive leakage of air from exhaust hole when actuating valve is in down position. (Note: that a slight amount of leakage is normal in this position).	<ul style="list-style-type: none"> – Tight “O” rings or grit around pilot operated valve may prevent it from moving its full stroke. – Worn poppet. – Poppet in backwards. 	<ul style="list-style-type: none"> – Clean grit, cycle feed manually to break in “O” rings. – Insert new poppet. – See feeds parts list #106 for correction orientation.
Stock clamp does not move up and down when actuating valve is depressed. Other operations appear normal.	<ul style="list-style-type: none"> – Worn “O” rings #96 around O.D. of stock clamp pistons. 	<ul style="list-style-type: none"> – Replace “O” rings. See assembly drawing #106 for location.
Excessive leakage of air from actuating valve vent hole when actuating valve is in up position.	<ul style="list-style-type: none"> – “O” rings #103 beneath actuating valve retainer #31C is leaking. 	<ul style="list-style-type: none"> – Install “O” rings beneath retainer - not in air groove. See assembly drawing #106.
Gradually reduced speed.	<ul style="list-style-type: none"> – Lack of oil. – Low viscosity oil. – Speed adjusting screw turned in too far. – Oversized poppet. 	<ul style="list-style-type: none"> – Adjust air / oil mixture. – Use lighter weight oil. – Readjust screw. – Clean poppet area; check for free fit.
Excessive leakage of air from pilot operated valve vent hold on side of feed.	<ul style="list-style-type: none"> – Leaking of “O” rings #100, 101 or 102. 	<ul style="list-style-type: none"> – Check “O” rings #100, 101 and 102. See assembly drawing #106 for location.

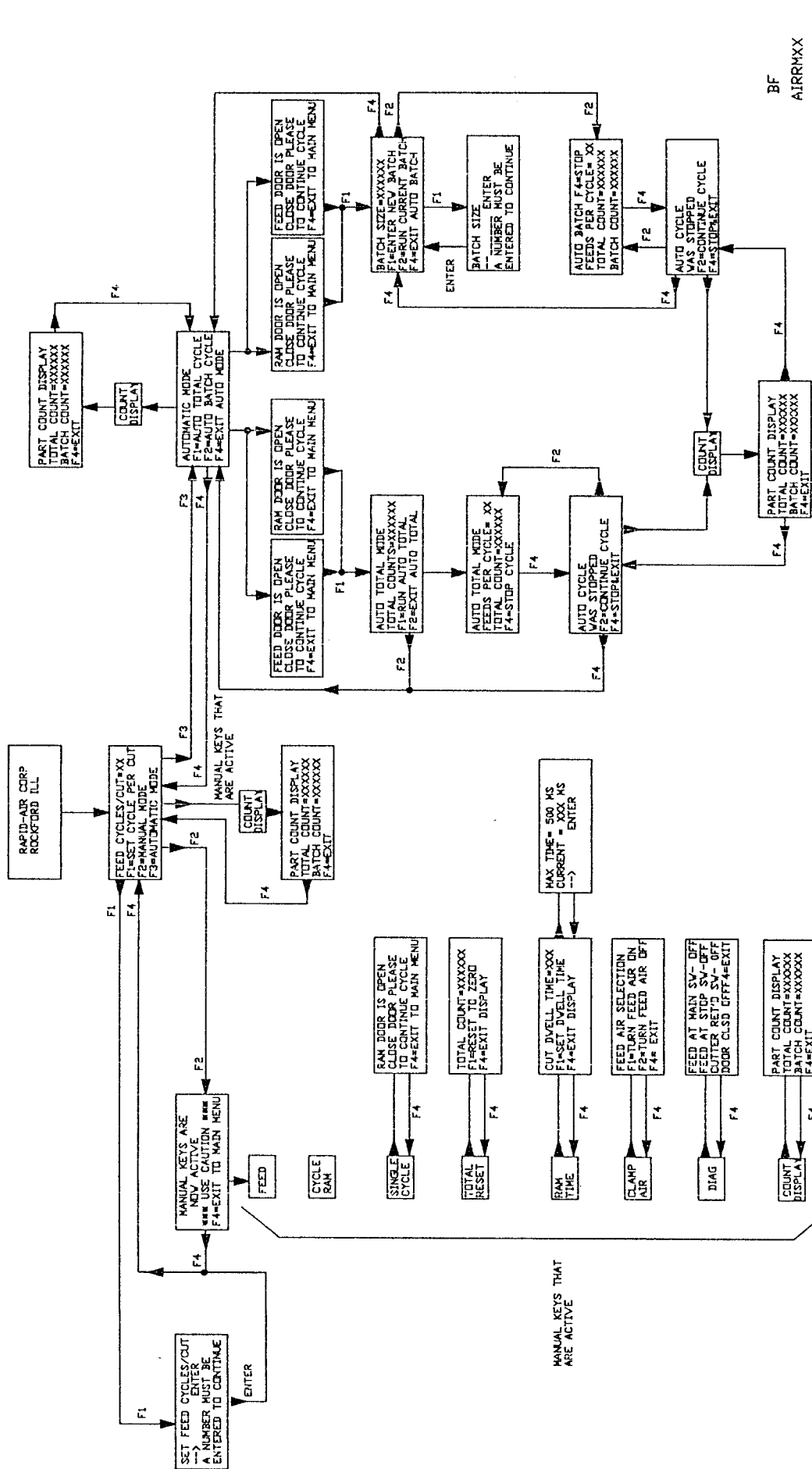
CHARACTERISTICS AND POSSIBLE CAUSES OF TROUBLES WITH RAPID-AIR FEEDS (CONTINUED)

Problem	Possible Causes	Remedy
Cushion pistons act too slow and provide too much cushion.	<ul style="list-style-type: none"> – Excessive oil, reduce supply. 	<ul style="list-style-type: none"> – Adjust air / oil mixture.
Mist of oil coming from exhaust hole.	<ul style="list-style-type: none"> – Excessive oil, reduce supply. 	<ul style="list-style-type: none"> – Adjust air / oil mixture.
Feed has difficulty pushing last part of progression.	<ul style="list-style-type: none"> – Feed is not inline with die. 	<ul style="list-style-type: none"> – A slight angular adjustment of the feed will reduce the binding of the stock on the die guides.
Over feeding.	<ul style="list-style-type: none"> – Stock excessively dirty or oily. – Feed is operating too fast. – Stock and feed clamps may be loose. 	<ul style="list-style-type: none"> – Clean unit and stock. Run and retest. – Turn speed adjusting screw clockwise to slow down. – Although nuts are self-locking, they can in time work themselves loose; retighten the nuts.
Under feeding.	<ul style="list-style-type: none"> – Insufficient air pressure. – Stock has large slitting burr. – Stock clamp and feed clamps are loose. – Feed is not lubricated. – Stock excessively dirty. – Feed may be feeding before punches are clear from stock or die. – Feed may be operating too slow. 	<ul style="list-style-type: none"> – Adjust air pressure to between 80 and 100 PSI. – Check clearance between clamps and stock. – Although nuts are self-locking, they can in time work themselves loose: retighten them. – Check lubricator at air inlet, there should be oil in the bowl. – Clean away dirt which may be present between slide block and main body area. – Adjust the amount of depression of the actuating valve. – Turn speed adjusting screw counter-clockwise to increase speed.

CHARACTERISTICS AND POSSIBLE CAUSES OF TROUBLES WITH RAPID-AIR FEEDS (CONTINUED)

Problem	Possible Causes	Remedy
Slide block will move out okay, but will not return without hesitation.	<ul style="list-style-type: none"> – Check speed adjusting screw. – Check pilot operated valve. Swollen “O” ring could be binding, until pressure build up breaks it free. Check poppet valve. 	<ul style="list-style-type: none"> – Adjust for smooth operation. – Check moisture content in air lines. Change “O” rings.
Feed acts sluggish on start up. Okay after running for awhile.	<ul style="list-style-type: none"> – Check pilot operated valve for “O” rings binding. Valve should move freely in cartridge. 	<ul style="list-style-type: none"> – This usually occurs after a period of non-running. After running unit for awhile the unit usually frees up okay.

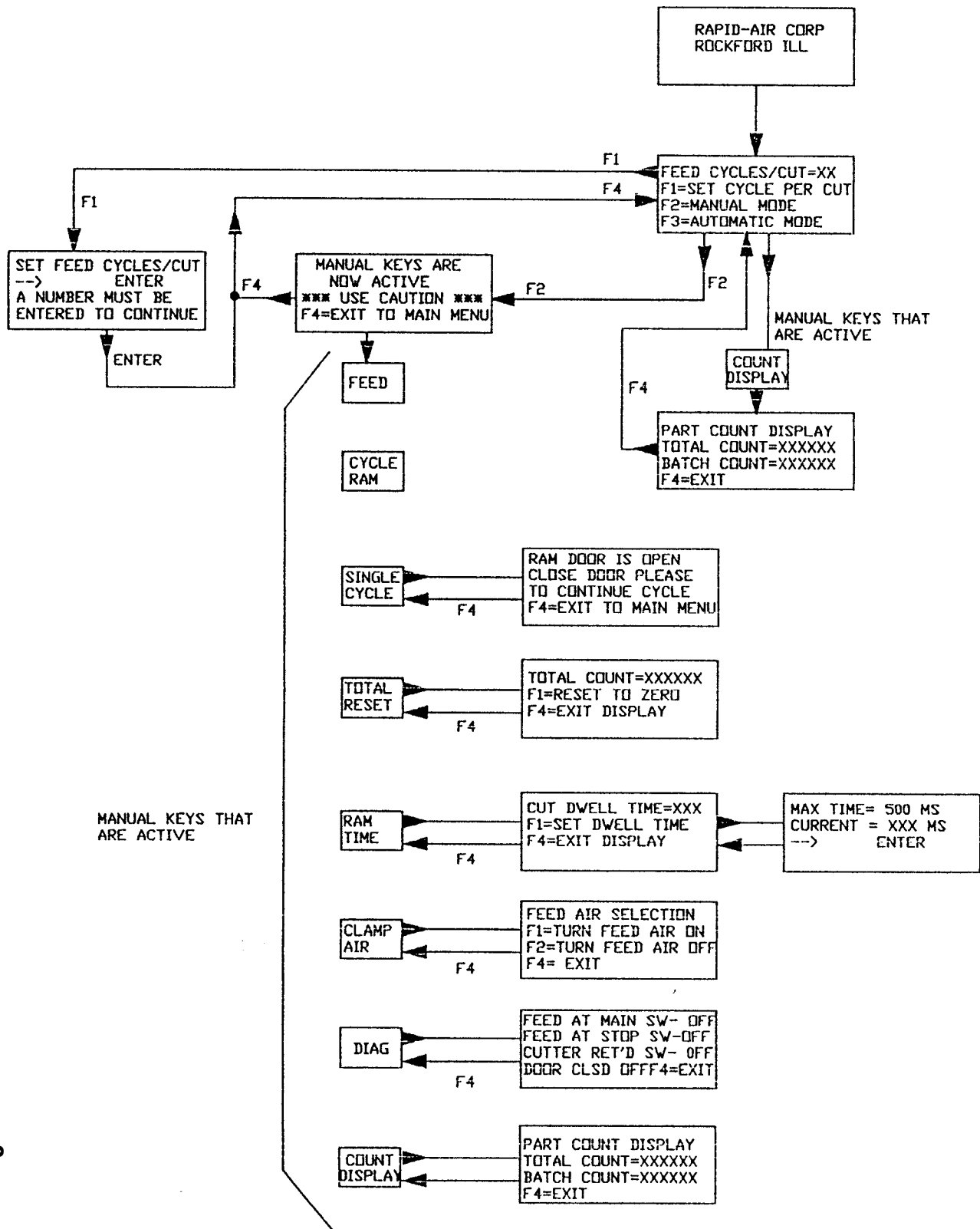
Programming Procedure



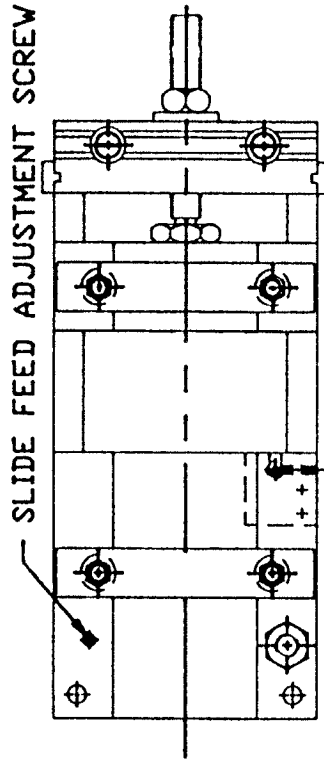
PART NAME: _____
 DATE: _____
 DESIGNED BY: _____
 CHECKED BY: _____
 DRAWN BY: _____
 DATE: _____
 PROJECT: _____
 SHEET: _____ OF _____
 SCALE: _____
 UNIT: _____
 MATERIAL: _____
 FINISH: _____
 QUANTITY: _____
 ORDER NO: _____

BF AIRRMXX
RAPID-AIR CORPORATION
 ROCKFORD, ILL. 61080-5000

Programming Procedure

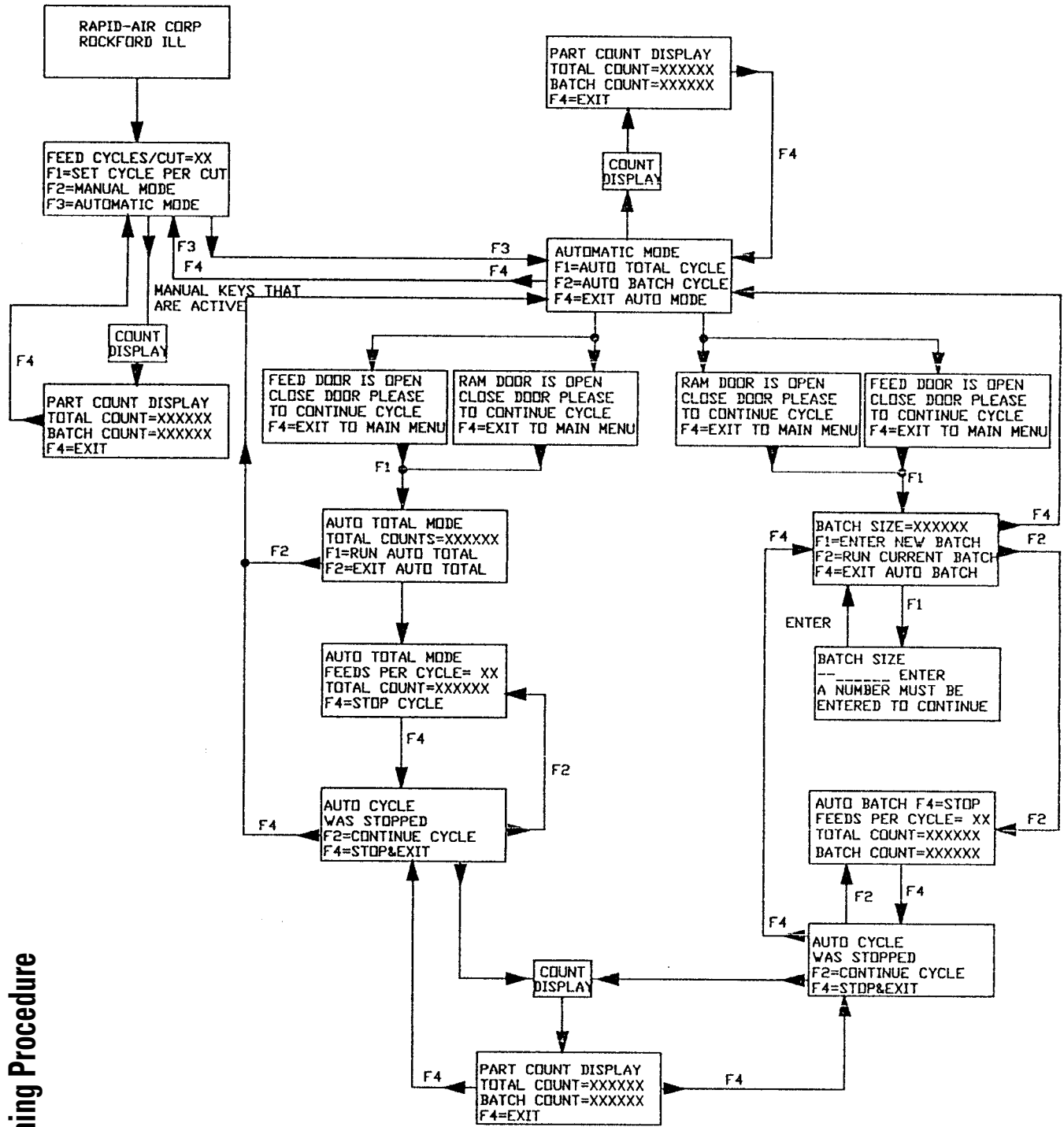


Air Feed Speed Adjustment

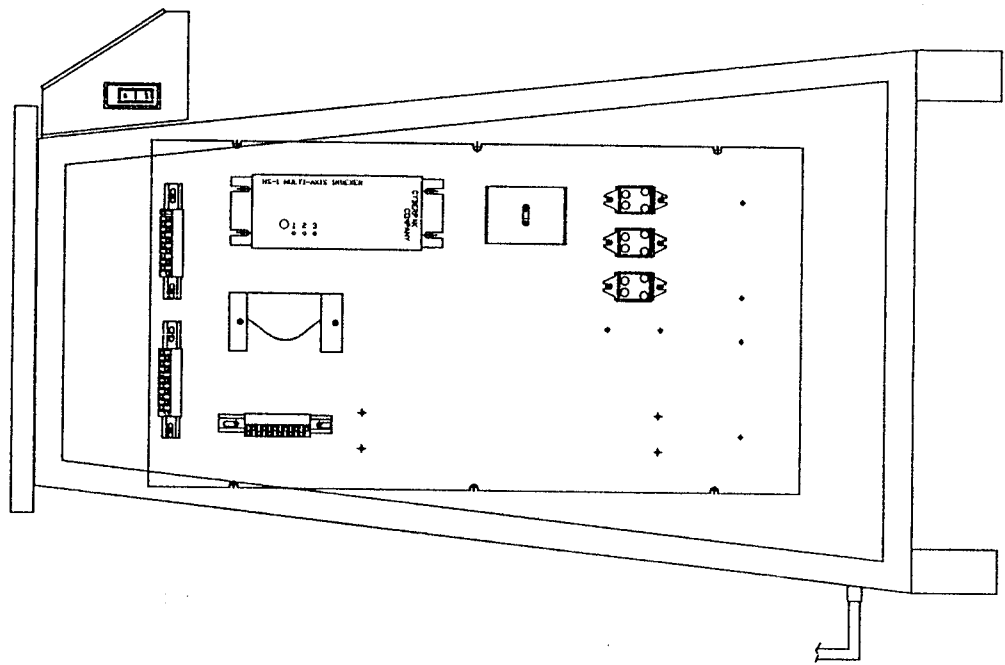
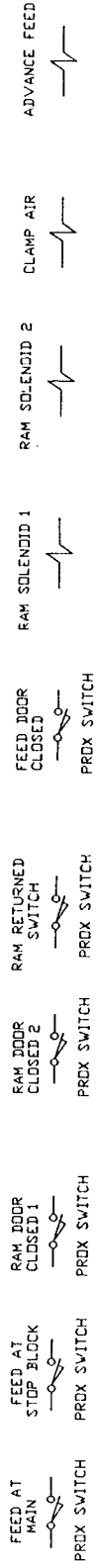


<i>RAPID-AIR CORPORATION</i> ROCKFORD, IL • MADISON, SD	
PART NAME AIR FEED MANUAL RAPID MASTER	
MATERIAL	WEIGHT
HEAT TREAT	HARDNESS
DRAWN BY	CHECKED BY
DATE	DRAWING NUMBER
SCALE FULL	MAN4
	B

Programming Procedure



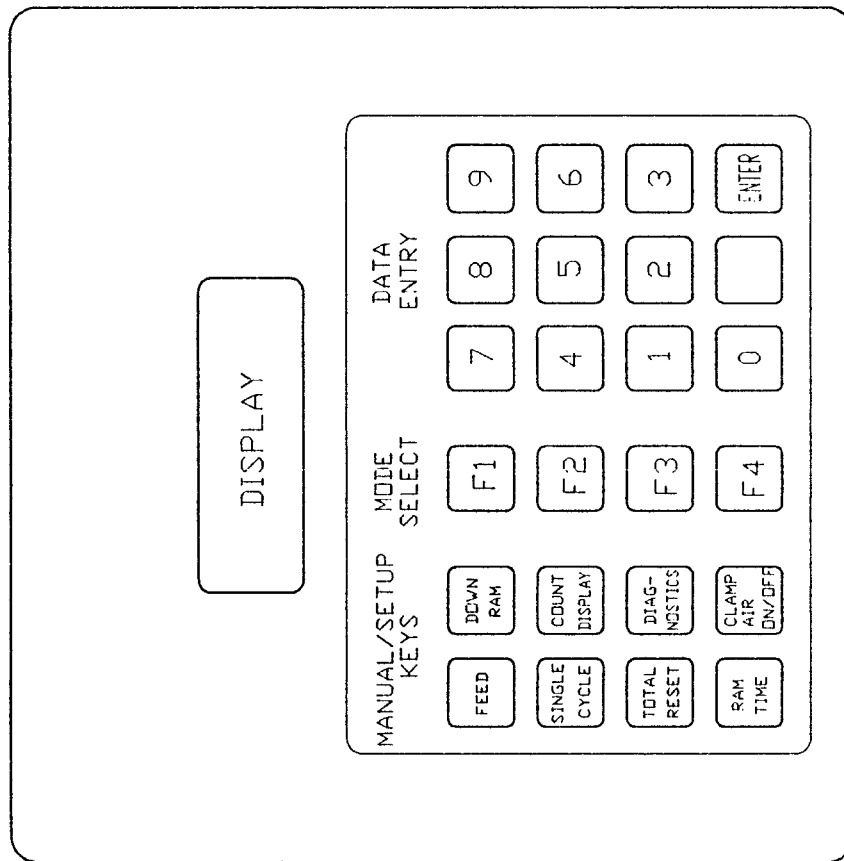
Electrical Assembly



289XX253 BH
 DRAWING IS NOT TO SCALE

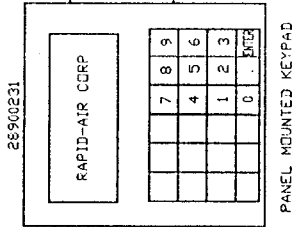
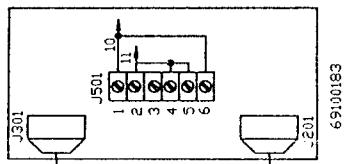
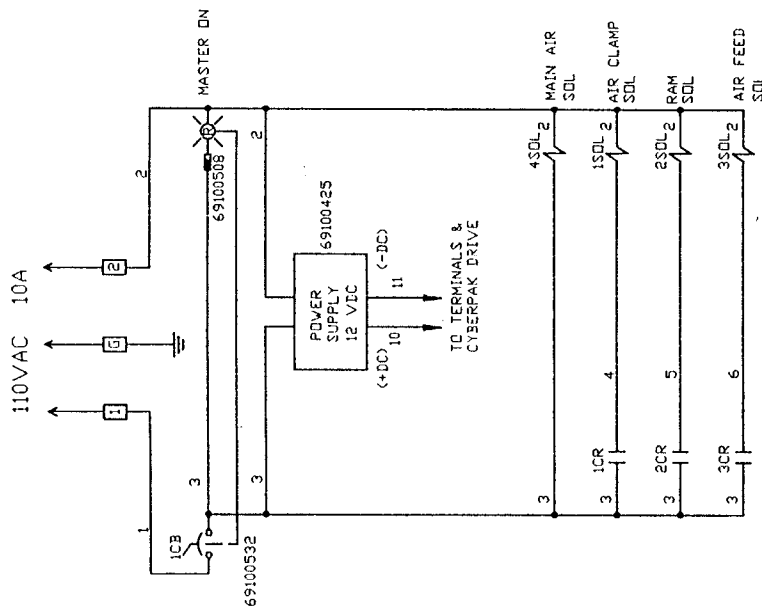
RAPID-AIR CORPORATION 1000 W. 10TH ST. S. #100 MINNEAPOLIS, MN 55404	
PART NAME ELECT ASSY AIR FEED CABINET RAPID/MASTER	PART NUMBER 28900253
DATE 1/26/95	DRAWN BY GSN
CHECKED BY WJG	DESIGNED BY WJG
APPROVED BY WJG	PROJECT D

Operator Keypad

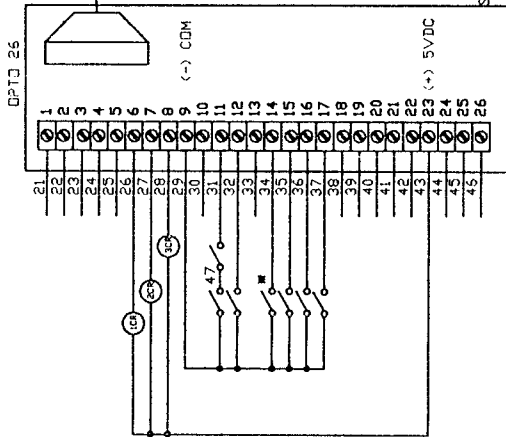


TOP VIEW

Control Panel Wiring Diagram



28900236

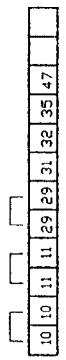
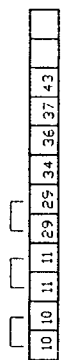
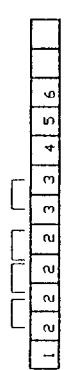


CLAMP AIR
RAM AIR FEED
RAM DOOR SWITCH

NO STOCK, PRESENT
FEED AT MAIN BODY
FEED AT STOP BLOCK

NOTE
CUSTOMER SUPPLIED SWITCHES
PROX SWITCH WIRING DIAGRAM
BLUE (-) 11
BROWN (+) 10
BLACK (TO LOAD)

NOTE
CUSTOMER SUPPLIED RELAYS
SOLID STATE RELAYS RECOMMENDED
TO PURCHASE FROM RAPID-AIR
USE 69100165



28900234

28900234

28900234

69100171

RAPID-AIR CORPORATION
ROCKFORD, IL • MADISON, SD

CONTROL PANEL WIRING DIAG
AIR FEED/RAPID MASTER

DATE: _____

DESIGNED BY: _____

CHECKED BY: _____

APPROVED BY: _____

PROJECT NO: _____

REV: _____

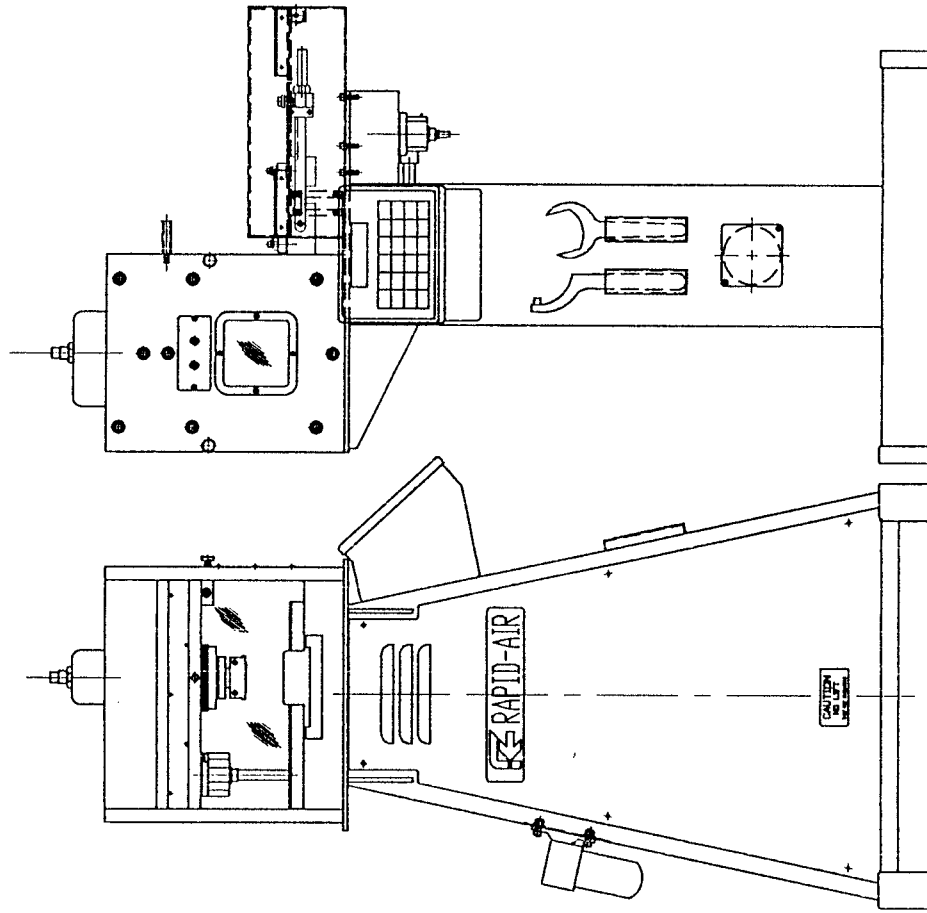
DATE: _____

BY: _____

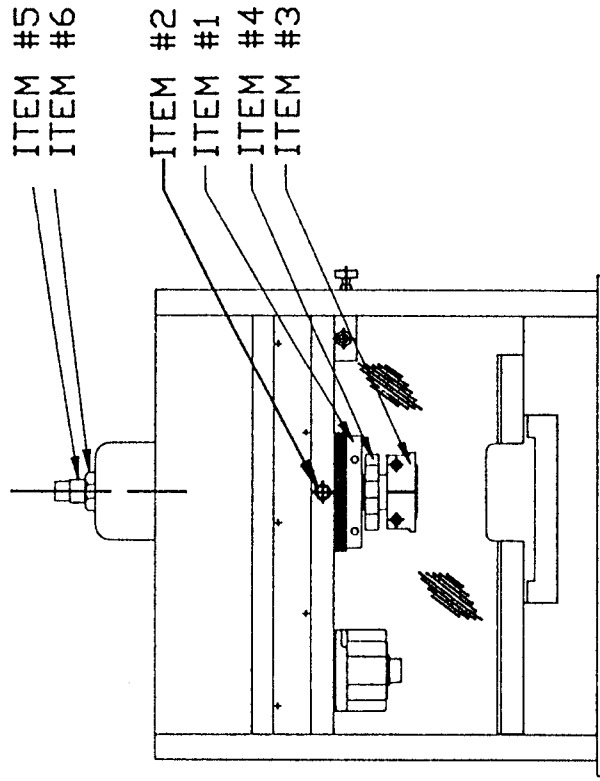
85500234

BH
855XX234

Rapid Master Unit with Air Feed



Rapid Master Mechanical Setup



PART NAME		RAPID-AIR CORPORATION ROCKFORD, IL • MADISON, SD	
MATERIAL	WEIGHT	HARDNESS	
HEAT TREAT	DRAWN BY		FINAL FINISH
DATE	CHECKED BY	DRAWING NUMBER	
SCALE	HALF	MAN12	B

WARRANTY

Warranty Terms & Conditions

ALL SALES BY THE COMPANY ARE MADE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS. PLEASE READ.

WARRANTY – The Company warrants, for a period of one year from date of shipment by the Company, that the product shipped is free from defects in material and workmanship. **THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL IMPLIED WARRANTIES IN LAW, INCLUDING MERCHANT - ABILITY.** The Company obligation under this warranty is limited to repairing or replacing, F.O.B. Madison, SD, any part or parts proved to have been defective when shipped. In no event shall the Company be liable for special or consequential damages. Provisions set forth in specifications are descriptive and subject to change and are not intended as warranties.

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- B. Modify or merge any portion of the program for use on non compatible hardware.
- C. Make alterations to the program.