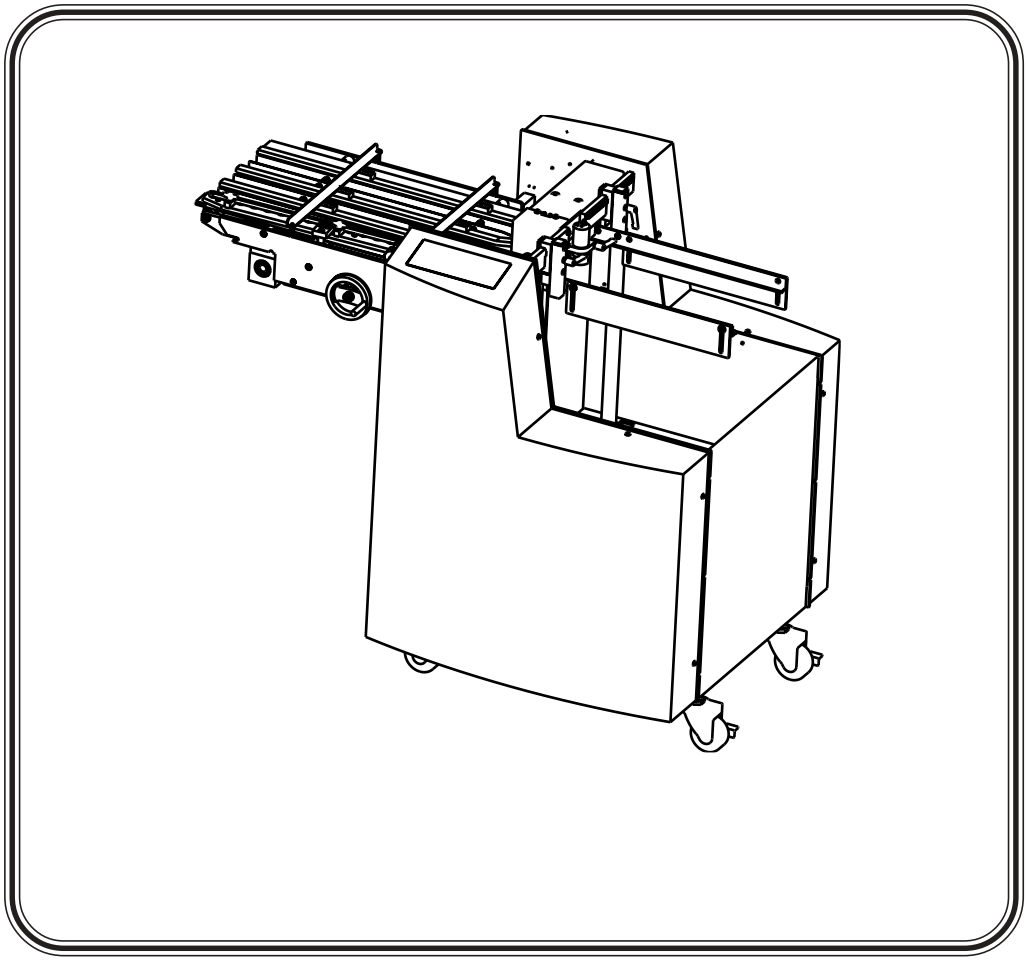


FLEXIFOLD PILE FEEDER

INSTALLATION & OPERATION MANUAL

TP10456-EN

WARNING

- Do not operate this machine without all guarding in place.
- Do not make adjustments or perform maintenance on this machine with power on.
- Keep the machine and the work area clean and free of spills to prevent accidents.
- Be sure to replace any safety decals that may have been detached for any reason.

Baumfolder reserves the right to make changes in design or to make additions or improvements in its products without imposing any obligation upon itself to install them on its products previously manufactured. It is recommended that modifications to this equipment not be made without the advice and express written consent of Baumfolder.

PILE FEEDER IDENTIFICATION

MODEL NO: _____ SERIAL NO: _____

DEALER: _____

INSTALLED BY: _____ DATE: _____

PHONE NO: _____

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF TABLES

FUNDAMENTAL SAFETY INSTRUCTIONS!

The diagrams and descriptions used in these instructions are not necessarily applicable to the specification of the machine supplied. Modifications, made for reasons of technical or operational improvement, are embodied without notice.

FUNDAMENTAL SAFETY INSTRUCTIONS!

These operating instructions are designed to familiarize the user with the machine and its designated use.

The instruction manual contains important information on how to operate the machine safely, properly and most efficiently. Observing these instructions helps to avoid danger, to reduce repair costs and downtimes and to increase the reliability and life of the machine.

In addition to the operating instructions and to the mandatory rules and regulations for accident prevention and environmental protection in the country and place of use of the machine, the generally recognized technical rules for safe and proper working must also be observed.

The following signs and designations are used in the manual to designate instructions of particular importance.

Important
(refers to special information on how to use the machine/plant most efficiently)

Attention
(refers to special information and/or orders and prohibitions directed towards preventing damage)

Danger
(refers to orders and prohibitions designed prevent injury or extensive damage)

1.0
Basic operation and designated use of the machine/plant

1.0.1
The machine /plant has been built in accordance with state-of-the art standards and the recognized safety rules. Nevertheless, its use may constitute a risk to life and limb of the user or of third parties, or cause damage to the machine and to other material property.

1.0.2
The machine/plant must only be used in technically perfect condition in accordance with its designated use and the instructions set out in the operating manual, and only by safety-conscious persons who are fully aware of the risks involved in operating the machine/plant. Any functional disorders, especially those affecting the safety of the machine/plant, should therefore be rectified immediately.

1.0.3
The machine/installation is designed exclusively for paper finishing of minimum and maximum sheet sizes (see corresponding operating instructions). Using the machine/ installation for purposes other than those mentioned above is considered contrary to its designated use. The manufacturer/supplier cannot be held liable for any damage or injury arising from such misuse. The risk of such misuse lies entirely with the user.

Operating the machine within the limits of its designated use also involves observing the instructions set out in the operating manual and complying with the inspection and maintenance directives. The working temperature of the machine should range between 0° and 55° C.

1.1 Organizational measures

1.1.1
The operating instructions must always be at hand at the place of use of the machine/plant, e.g. by stowing them in the tool compartment or tool-box provided for such purpose.

1.1.2
Personnel entrusted with work on the machine must have read the operating instructions and in particular the chapter on safety before beginning work. Reading the instructions after work has begun is too late. This applies especially to persons working only occasionally on the machine, e.g. during setting up or maintenance.

1.1.3
For reasons of security, long hair must be tied back or otherwise secured, garments must be close-fitting and no jewelry - such as rings - may be worn. Injury may result from being caught up in the machinery or from rings catching on moving parts.

1.1.4
Observe all safety instructions and warnings attached to the machine/plant.

1.1.5
See to it that safety instructions and warnings attached to the machine are always complete and perfectly legible.

1.1.6
In the event of safety-relevant modifications or changes in the behavior of the machine/plant during operation, stop the machine/ plant immediately and report the malfunction to the competent authority/person.

1.1.7
Never make any modifications, additions or conversions which might affect safety without the supplier’s approval. This also applies to the installation and adjustment of safety devices and valves as well as to welding work on load-bearing elements.

1.1.8
Spare parts must comply with the technical requirements specified by the manufacturer. Spare parts from original equipment manufacturers can be relied to do so.

1.1.9
Report any accident that occurs due to a malfunction of the machine though all prescribed safety precautions were observed directly to our agency.

1.2 Selection and qualification of personnel - Basic responsibilities

1.2.1
Employ only trained or instructed staff and set out clearly the individual responsibilities of the personnel for operation, set-up, maintenance and repair.

1.2.2
Make sure that only authorized personnel works on or with the machine.

1.2.3
Work on the electrical system and equipment of the machine/plant must be carried out only by a skilled electrician or by instructed persons under the supervision and guidance of a skilled electrician and in accordance with electrical engineering rules and regulations.

1.2.4
Work on gas fueled equipment (gas consumers) may be carried out by specially trained personnel only.

1.3 Safety instructions governing specific operational phases

1.3.1 Standard operation

1.3.1.1
Avoid any operational mode that might be prejudicial to safety.

1.3.1.2
Take the necessary precautions to ensure that the machine is used only when in a safe and reliable state. Operate the machine only if all protective and safety-oriented devices, such as removable safety devices, emergency shut-off equipment, sound-proofing elements and exhausters, are in place and fully functional.

1.3.1.3
Check the machine/plant at least once per working shift for obvious damage and defects. Report any changes (incl. changes in the machine's working behavior) to the competent organization/person immediately. If necessary, stop the machine immediately and lock it.

1.3.1.4
Before starting up or setting the machine/plant in motion, make sure that nobody is at risk.

1.3.2
Special work in conjunction with utilization of the machine/plant and maintenance and repairs during operation; disposal of parts and consumables.

1.3.2.1
Always press the emergency (Not-Stop) button first, if you stop the machine for adjustments or maintenance work which must not be done while the machine is in operation.

1.3.2.2
For extensive maintenance or repair work, turn off the main power supply.

1.3.2.3
After making adjustments or after doing maintenance or repair work, always make sure that all tools or other objects are removed from the machine. Otherwise they might fall into the machine, causing severe damage or injuries.

1.3.2.4
Keep the floor around the entire machine clean. Immediately clean any oil, grease or paint spills up off the floor. Remove tools, cleaning cloths or paper scraps from all work areas.

1.3.2.5
Never operate a folding machine without buckle plates or deflectors since these are protective as well.

1.3.2.6
Never clean moving parts of the machine (rollers, shafts) or remove any test sheets, spoiled sheets or bits of paper in such areas.

1.3.2.7
Observe the adjusting, maintenance and inspection activities and intervals set out in the operating instructions, including information on the replacement of parts and equipment. These activities may be executed by skilled personnel only.

1.3.2.8
Brief operating personnel before beginning special operations and maintenance work, and appoint a person to supervise the activities.

1.3.2.9
If the machine/plant is completely shut down for maintenance and repair work, it must be secured against inadvertent starting by:
- locking the principal control elements and removing the ignition key and/or
- attaching a warning sign to the main switch.

1.4.1 Electric energy

1.4.1.1
Use only original fuses with the specified current rating. Switch off the machine/plant immediately if trouble occurs in the electrical system.

1.4.1.2
If provided for in the regulations, the power supply to parts of machines and plants, on which inspection, maintenance and repair work is to be carried out must be cut off. Before starting any work, check the de-energized parts for the presence of power and ground or short-circuit them in addition to insulating adjacent live parts and elements.

1.4.1.3
The electrical equipment of machines/plants is to be inspected and checked at regular intervals. Defects such as loose connections or scorched cables must be rectified immediately.

1.4.1.4
Necessary work on live parts and elements must be carried out only in the presence of a second person who can cut off the power supply in case of danger by actuating the emergency shut-off or main power switch. Secure the working area with a red-and-white safety chain and a warning sign. Use insulated tools only.

1.4.1.5
Only unplug or plug electrical connectors if the main switch has been disconnected.

1.4.1.6
Only connect the folding units and no machines of other brands to the existing connectors. Any electrical connection of our folding machines with other brands needs our express consent.

1.4.1.7
For electrical connection, observe the prescribed admissible voltage and frequency. The minimum voltage protection required for this folder is 25 Amps.

1.4.1.8
Keep switch cabinets closed.

1.4.1.9
The socket outlet shall be installed near the folder and shall be easily accessible.

1.4.2
Oil, grease and other chemical substances

1.4.2.1
When handling oil, grease and other chemical substances, observe the product-related safety regulations.

1.5 Description and definition of the safety labels and pictographs on the machine

Replace damaged pictographs by new ones. The corresponding reference numbers are indicated.

Warning!
Folding rollers rotate in opposite directions. Keep hands away from rollers while the machine is running!

Warning!
To avoid bruising, keep hands away when operating moving machine parts!

Warning!
Do not reach into moving belts!

Warning!
Be careful! Height adjustment devices might cause bruising!

Warning!
Only operate machine when covers are closed.

1.6 Explanation of the pictographs used in the operating instructions

Warning!
You might risk bruising when moving the machine.

2.0 INTRODUCTION

The Flexifold Pile Feeder is a modular addition to the Flexifold Folding System. This feeder has these features that adds value to the folding system.

- Higher load capacity - 18 inch (45.8cm) stack
- Register - aligns the paper prior to folding for improved folding accuracy.
- Gap size - allows for larger gaps between sheets, allowing for better folding on some fold configurations
- Sheet counter
- Batch counter
- Speed slaved to the first folding station
- Single sheet operating mode for ease of set up
- Ability to vary sheet gap
- Pile table reload position at a constant height
- Jam or not running inhibit from first fold station (parallel)

3.0 SPECIFICATIONS

Model Name	Flexifold Pile Feeder
Minimum Sheet Size	4x6” (10.2 x 15.2cm)
Maximum Sheet Size	14 x 20” (35.5 x 50.8cm)
Maximum Paper Weight	65 lb Cover
Maximum Stack Height	18” (45.7cm)
Overall Dimensions	
Height	42.5” (108cm)
Width	33.1” (84.0cm)
Length	51.2” (130.0cm)
Operating Voltage	230VAC/1PH/50Hz 115VAC/1PH/60Hz
Supplied Power	230VAC/1PH/50Hz/25AMPS 115VAC/1PH/60Hz/25AMPS
Mating Connector	230VAC - CEE7 115VAC - NEMA5-30R

4.0 PILE FEEDER & REGISTER INSTALLATION INSTRUCTIONS

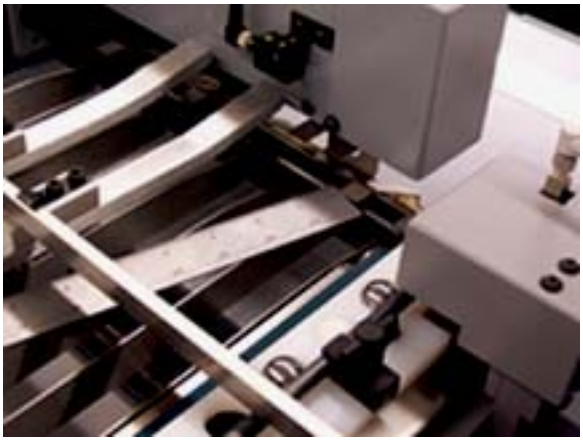
1. If applicable, remove existing short pile feeder from parallel folding unit. Be sure to disconnect both hoses.

2. Register will drop directly into parallel folding unit by aligning the four locating slots in the register side frames with four locating pins in the parallel unit.

3. Install register drive guard onto register drive gear block after register has been installed on parallel folding unit.

4. Roll pile feeder unit to register. There is one locating block w/pin on each side of feeder. There is also one locating slot in each register side frame for locating pins in blocks on feeder. Register side frames should fit in between locating blocks on feeder. Pile feeder has four height adjustable casters, adjust these up and/or down until locating pins on pile feeder slide into slots on register side frames. Now lock feeder into place by rotating locking pawls on register frames over pins in locating blocks on pile feeder.

5. Check height of feeder in relationship to register by placing a 1mm thick (approx.) object that will sit on top of register ribs without being held. A common 12 inch scale placed at an angle on top of the register ribs is a good example of what to use. The top surface of the 1mm thick object should be in line with the top surface of rake plate fingers on the pile feeder. Adjust casters on pile feeder accordingly to achieve this height relationship between the pile feeder and register.

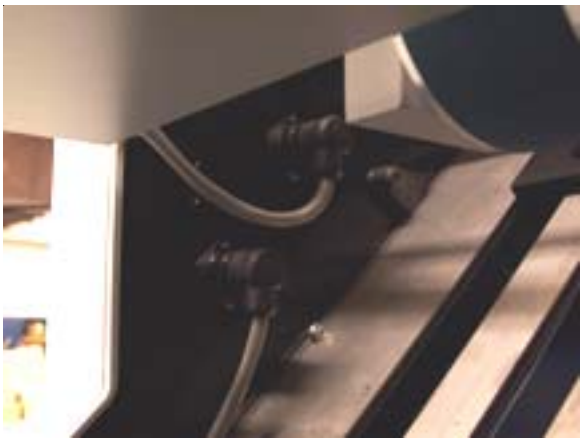


6. Level the feeder by adjusting casters on pile feeder accordingly. Once pile feeder has been leveled, lock the height adjustment in place by locking the nuts on the casters down on the feeder tie bars.

7. Hook up air blow and vacuum hoses on feeder to corresponding holes on 1st station folding unit manifold.

8. Connect double sheet detector cable on pile feeder to double sheet detector on register.

9. Connect communication cable on pile feeder to connector on 1st station folding unit. The connector on 1st station folding unit is the same (9) pin connector used for connecting the short pile feeder table.



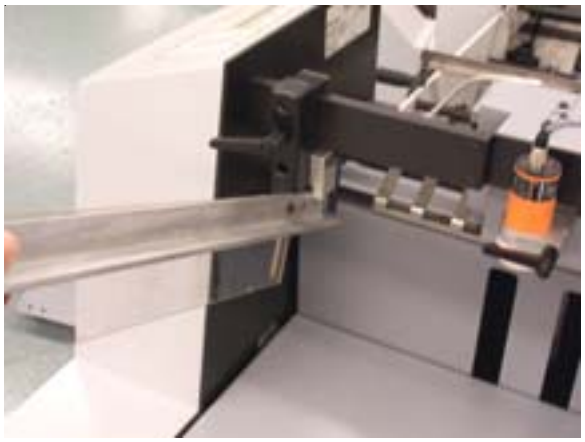
10. The pile feeder is designed to provide electrical power to both the 1st and 2nd station folding units. The receptacles for the 1st and 2nd station folding units are located on the operator side guard. Plug the 1st and 2nd station folding units into the receptacles provided on the pile feeder.

11. Plug the pile feeder into the proper type and size of wall receptacle. Refer to page #9 of this manual for electrical requirements.

5.0 PILE FEEDER & REGISTER SETUP

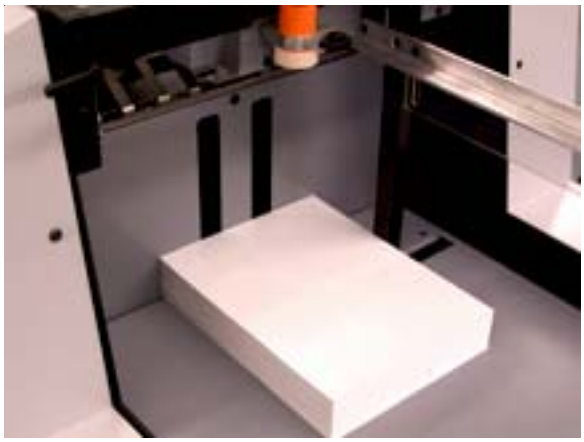
1. Set the right hand-side guide to half the sheet width using the scale located on the side guide support bar. Lock the side guide in place using the lock lever.

2. Remove the left hand side guide from feeder.



4. Press the Table Down Key on the operator panel, the Pile Feeder Table will travel downwards until it passes the Ergonomic Pile Reload Sensor.

5. Load the paper onto the feed table, using the spreader plate and right hand side guide as stops. As paper is loaded onto the Pile Feeder Table, the Ergonomic Sensor will sense the paper as it is added, and will lower the table automatically until it does not sense the paper stack. This will result in the constant loading of the paper stack at the same height on the feeder. The Feed Table will lower until the Lower Limit Switch is reached. You may continue to load the feed table after the table has reached the lower limit switch. It is recommended that there be at least a 1.00-1.25 inch (25.40 - 31.75mm) gap between the bottom of the sucker wheel and the paper stack. This will allow the Pile Height Sensor to control the necessary 1/2 inch (12.70mm) gap.

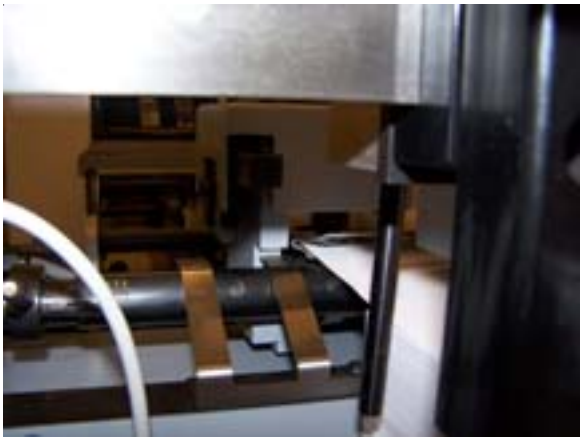


7. Raise the table by pressing the Table Up Key, on the operator panel. In order for the feed table to move upwards, the Table Up Key must be continuously pressed. If you stop pressing the Table Up Key, the feed table will stop. Continue pressing the Table Up Key until the Pile Height Sensor stops the upward travel of the feed table. During operation, the top of the paper stack shall remain 1/2” (12.70mm) below the sucker wheel and 5/8” (15.88mm) below the lower surface of the pile height sensor.

8. Reinstall and adjust the left hand side guide so that there is a maximum of 1/16” (1.50mm) gap between the plastic side guide and the paper stack. This will prevent the side guides from being to tight against the paper stack. If the side guides are allowed to become to tight against the paper stack, this may effect the feeding of the paper.

10. Each side guide has a sheet guide drag block with pins. Each sheet guide drag block has 2 pins. One pin will have a rubber bumper on the lower end, the other will not. Use of the rubber bumpers is dependent on the stock. Use the rubber bumpers to prevent the feeder from pulling doubles on to the register.

11.Using the handwheel, adjust the register gage to approximately 1/6” away from the edge of the paper stack. This will allow the register gage to engage the sheet as it travels down the register, squaring it to the fold rolls. For instance, if the right hand side guide on the feeder is set to 5.00” (127.00mm), set the register gage to 5.125” (130.17mm), using the scale provided on the register as a guide.



12. Move the sheet support to the right hand side of the register so that the right hand edge of the stock will be supported by the sheet support. This will aid in the paper traveling easily down the register.

13. The pile feeder and register is shipped with two types of marbles for the register gage. These may be used in different combinations, depending on the stock being folded. It is recommended that there be at least 2 steel marbles in the first 4 to six positions of the gage closest to the pile feeder. This will aid in the paper being pulled off the sucker wheel, and not stumbling on the register gage. This is only a suggestion for initially setting up the register gage. The marbles will need to be adjusted depending on the weight and stiffness of the paper.There is a “window” cutout on the register gage closest to the fold rolls on the 1st folding station. This cutout is provided to give the operator an idea of how the sheet is actually gaging to the register gage. If the sheet is not touching the inside vertical surface, more steel marbles may be required to drive the sheet closer to the gage surface. If the sheet is actually trying to curl up in the register gage, then the marbles selected are providing to much drive, and steel marbles may need to be replaced with plastic marbles.

14. The register is supplied with 2 short sheet holddowns and 1 long sheet holddown. The 2 short holddowns should always be used. They are placed in front of the sucker wheel guard assembly on the angle braces above the register ribs. The long holddown is used on sheets that require the register gage to be beyond the end of the sucker wheel guard assembly.

15. The pile feeder and register has a double sheet detector designed to stop double sheets from being fed onto the register and being folded. This allows the double sheet to be stopped at the double sheet detector and be removed while the previously fed sheets are folded without interruption. This will also shut off the vacuum to the sucker wheel, preventing more sheets from being fed until the double sheet is cleared.

The double sheet detector's main functional components are the sensing cam, roller bearing and proximity sensor. When a single sheet is ran through the double sheet detector, the sheet will pass between the sensing cam, and roller bearing without any drag, thus the sensing cam will not move. If the sensing cam does not move, the proximity sensor will continue to see the sensing cam, and the pile feeder will continue feeding sheets.

If two or more sheets are fed by the pile feeder, this will cause the sensing cam to rotate in the direction of the paper travel. As the sensing cam rotates, the gap between the sensing cam and roller bearing will close up, and actually pinch the sheets. As the sensing cam rotates, the gap between the sensing cam and roller bearing will close up, eventually pinching the multiple sheets. This will cause the sheets to stop immediately from traveling further on the register, and the proximity sensor will no longer sense the sensing cam. This will cause the pile feeder operator control panel to display "DOUBLE SHEET". A double sheet error on the pile feeder will prevent sheets from being fed by the sucker wheel until the double sheet error is cleared.

The double sheet detector must be set up so that the sensing cam remains untouched when a single sheet of paper is passed through. It also must be set up so that when 2 or more sheets of paper are fed through, the cam must be pushed in the direction of the paper travel. This setup is acheived by doing the following:

A. Tear two 0.75" (19.05mm) strips of the paper to be folded.

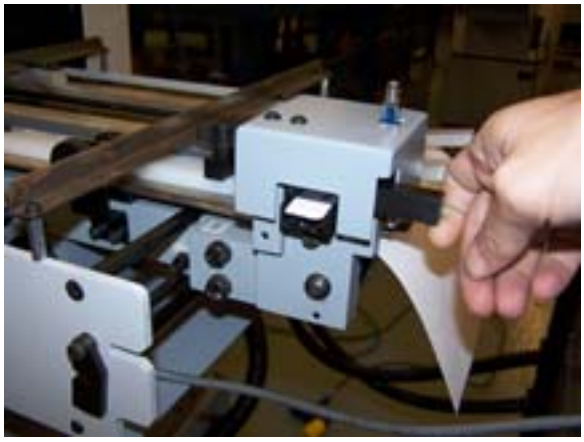
B. Lift the lever of the double sheet detector up.

C. Place the two strips of paper in between the lever and the stationary block.

D. Gently pull on the strips of paper to be sure that they are being held by the block and lever.

The double sheet detector will now only allow one sheet thickness to pass through, and stop multiple thicknesses from passing through.

The double sheet detector will need to have this set up done for every job in which the stock changes.



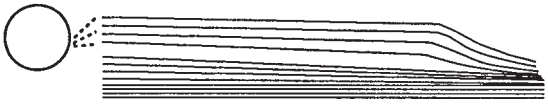
16. The pile feeder is equipped with an adjustable blow bar for different stock types and sizes. This blow bar is located on the pile feeder below the sucker wheel guard assembly. The blow bar has 5 different settings to change the number of locations in which the blow bar allows air to be blown into the pile for sheet seperation. The blow bar is also designed to pivot, to allow air to blown into the proper position on the stack to allow for proper sheet seperation.

To set up the blow bar follow these instructions:

A. Determine the width of sheets to be folded.

B. On side of the operator side guard, there is a blow bar settings chart. Locate the sheet width to be folded on this chart and the position the blow bar is recommended to be set at. Using the numbers on the operator side of the blow bar, set the blow bar to the recommended setting on the chart. This is only a recommendation and may need to be set up differently according to the stock being ran.

C. Turn the pump on by pressing the PUMP button on the first station.Now rotate the blow bar using the lever attached to it so the sheet seperation appears to be similar to the picture shown below. The concept of the blow bar set up is to have the top 7 - 8 sheets of stock to be seperated and floating close to the sucker wheel.



17. Now the feeder, register and folding unit(s) should be ready to begin final preparation for folding. Turn the folding unit(s) drives on. The register is driven by the 1st staion folding unit, and the pile feeder will begin running at this time.

18. The register is equipped with a bias skew adjustment feature. This will aid in squaring up folds on paper that was not cut square. This will need to be adjusted after paper is able to be fed.

6.0 FINAL ADJUSTMENTS OF THE PILE FEEDER & REGISTER

The pile feeder & register are designed with some unique adjustments that will allow the operator to fine tune the units to provide the most accurate and productive set up possible.

1. Register Skew Adjustment - This is used to aid in squaring up the sheets to the fold rolls as the sheets enter the nip point of the first staion folding unit. This will aid in acheiving a more accurate fold

2. Register Gage Window - This allows the operator to monitor how the sheet is being gaged in the register gage before it enters the fold rolls of the first station folding unit. Proper gaging is indicated by the sheets have no gap between the sheets and the gage with out being crowded into the gage.

If the sheet is crowding the gage (rolling up), then there may be an excess of marble weight driving the sheet to hard into the gage. If the sheet is not registering to the gage fully, then there may not be enough marble weight to properly drive it into the gage.

The register skew adjust may not be properly adjusted for the stock being ran on the folder.

Also, if the sheet is gaging properly, but when it enters the nip of the fold rolls in the first folding station, the sheet pulls one way or the other, the fold roll bank may need adjusting.

3. Pile Height Sensor Adjustments - The are three different adjustments on the pile height sensor. Note: Please use caution when adjusting the settings on the pile height sensor, as damage may occur to the pile feeder.

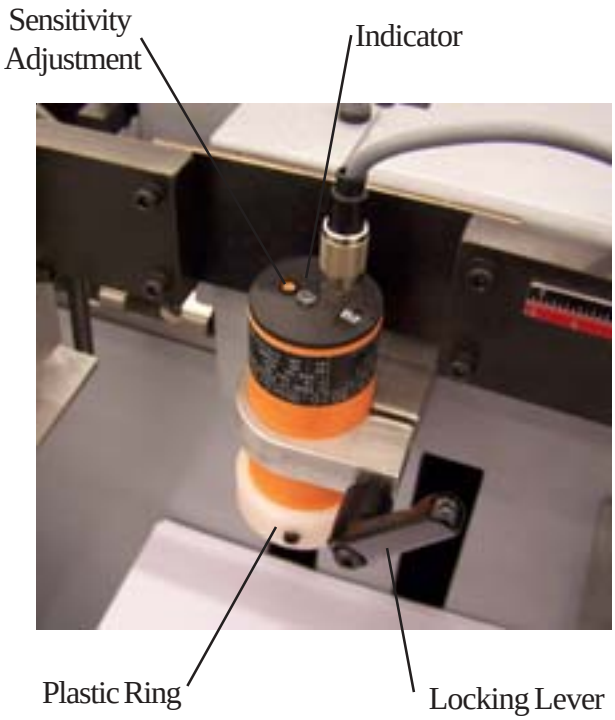
A. Pile Height Sensor Sensitvity Adjustment - This adjustment is made by turning the pot located on top of the sensor next to the indicator. This will increase or decrease the sensitivity of the sensor.

Note: Do not turn the pot adjustment past it stops. Damage to the sensor may result.

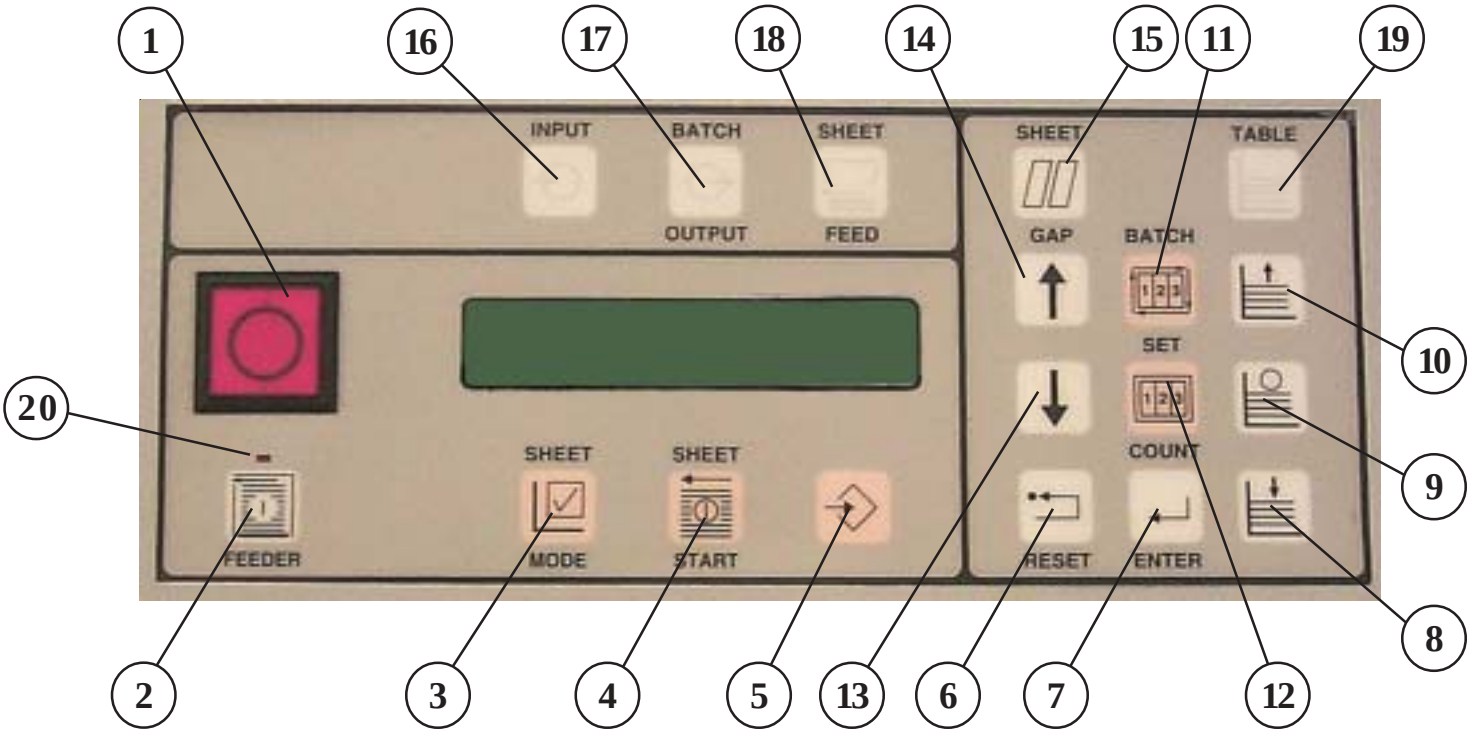
B. Pile Height Vertical Location Adjustment - This adjust can be made by loosening the locking lever holding the sensor in place. The sensor will now be free to move vertically in its retainer. Tighten the locking lever to lock the sensor in place. Only tighten the locking lever so much that it holds the sensor in place. Do not over tighten the locking lever, as this could damage the sensor.

This height is adjusted at the factory so that it is 1/2” (38.10mm) above the paper stack.

C. Pile Height Sensor Plastic Ring- This plastic donut prevents the sensor from detecting objects such as side guides. It may be necessary to lower or raise this ring by looseing the set screw holding it in place, depending on the location of the side guides.



7.0 OPERATOR PANEL LAYOUT



8.0 OPERATOR PANEL KEY & INDICATOR FUNCTION DESCRIPTIONS

1.) Pile Feeder Stop Key	Disables the controller outputs
2.) Pile Feeder Start Key	Initiates startup diagnostic and enables controller outputs
3.) Sheet Mode Key	Selects between production mode and single sheet mode
4.) Sheet Start Key	Initiates feeding of sheets by energizing the vacuum solenoid
5.) Diagnostic Key	Initiates the diagnostic program
6.) Reset Key	Initiates a reset function for counters or error functions
7.) Enter Key	Enters data into a function memory
8.) Pile Table Down Key	Initiates the table down function
9.) Pile Table Stop Key	Initiates the table stop function
10.) Pile Table Up Key	Initiates the table up function (key must be held for continuous table movement)
11.) Batch Set Key	Initiates the batch counter set up and resets the batch counters
12.) Counter Key	Resets the total counter and the batch counters
13.) Parameter Down Key	Decrement various parameters
14.) Parameter Up Key	Increment various parameters
15.) Sheet Gap Key	Initiates the adjustability of the sheet gap
16.) Sheet Count Input Indicator	Indicates when the sheet sensor detects a target (sheet)
17.) Batch Interrupt Output Indicator	Indicates when the feeding is interrupted at the batch point
18.) Sheet Feed Solenoid Output Indicator	Indicates the output signal to the vacuum solenoid to feed a sheet
19.) Pile Table Status Indicator	Indicates when the feed table is in motion
20.) Pile Feeder Ready Indicator	Indicates when Pile Feeder is powered up and ready for use.

9.0 PILE FEEDER INITIAL CALIBRATION INSTRUCTIONS

The pile feeder is programmed to match the feed rate of the parallel folding unit. However, before the pile feeder can accurately follow the parallel folding unit's feed rate, the pile feeder must be calibrated to do so. The next few steps listed in this section will explain how to achieve the pile feeder calibration.

In order for the pile feeder to be calibrated, the pile feeder, register, and parallel folding unit must be completely set up and be capable of running paper as it would in a production run. This will speed up the calibration process once it is begun, and help to ensure no errors occur during the calibration process. It is recommended that a non-production stock is used in the initial set up and calibration to avoid waste of production stock. Once, all units are set up properly and are able to feed and fold paper as in a production run, follow the steps below to guide you through the initial pile feeder calibration. Once this calibration procedure is started, it must be completed or erroneous data will be entered into memory.

Note: Before starting the calibration, be sure that the batch counter is off.

After the Feeder Start Key, #2, has been pressed and the 1st station folder and pump are running, enter the diagnostic mode by pressing the Feeder Diagnostic Key, 5, then press the Sheet Gap Key, 15.
The message

will be displayed. Adjust the 1st station folder unit to the slowest speed. After 4 seconds press the Enter Key.
The message

will be displayed. Press the Sheet Start Key, 4, and using the Up/Down Arrow Keys (14/13), adjust the feeder speed to achieve a 1 inch (25.40mm) gap between the sheets on the register. Then press the Enter Key, 7, to enter the information into the Pile Feeder's memory. Next, press the Sheet Start Key, 4, to temporarily stop feeding the sheets. The message

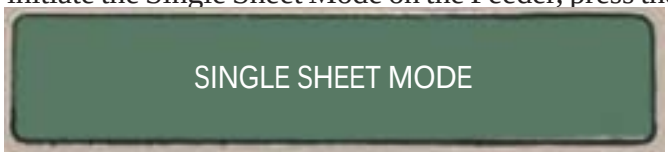
will be displayed. Adjust the 1st station folder speed to maximum and after 4 seconds press the Enter Key.
The message

will be displayed. Press the Sheet Start Key, 4, and using the Up/Down Arrow Keys (13/14), adjust the feeder speed to achieve a 1 inch (25.40mm) gap between the sheets on the register. Then press the Enter Key, 7, to enter the information into the Pile Feeder's memory. Next, press the Sheet Start Key, 4, to stop feeding the sheets. The Count Screen will then be displayed signifying that the calibration has been completed.

10.0 PRODUCTION RUN MODE

To initiate production, operate the Feeder ON and load the feeder.

1. Lower the table using the Table Down Key, 8.
   Note: If the Table Down Key is pressed twice within 0.5 seconds, the table will proceed past the ergonomic pile reload height position and continue until it trips the lower limit switch.
2. Load the Table and raise the Table by holding down the Table Up Key, 10.
3. Start the drive on the 1st Folding Station.
4. Start the Pump on the 1st Folding Station and adjust the air blow on the Pile Feeder.
5. To assist the setup of the 1st Station Folder for proper folding, the Feeder should be set to single sheet mode. To initiate the Single Sheet Mode on the Feeder, press the Sheet Mode Key, 3. The message



   is displayed. Single Sheet Mode will make the Feeder feed a single sheet each time the Sheet Start Key, 4, is depressed. Once the 1st Station Folding, Register, and Pile Feeder have been properly adjusted to the desired settings, exit Single Sheet Mode by pressing the Sheet Mode Key. This will place the Pile Feeder into production mode and the Pile Feeder will have the Count Screen displayed.
6. To start the Machine in production mode, press the Sheet Start Key, 4.
7. The sheet gap may be changed by varying the speed of the Feeder. The speed can be changed while running product. To enter into the sheet gap adjust feature, press the Sheet Gap Key, 15. The Sheet Gap screen should now be displayed. To adjust the sheet gap, press the Up/Down Arrow Keys, 14/13. Once the desired sheet gap has been achieved, then press the Enter Key, 7.

11.0 BATCH RUN MODE SETUP

The following steps will instruct you on how to setup the Pile Feeder for running batches.

1. Press the Batch Set Key, 11. The Batch Set screen will be displayed.

   The Z digits (flashing) are the batch size. Use the Up/Down keys, 14/13, to set the desired Batch Size.
2. Press the Enter key, 7, to enter the data into memory and switch to the Interrupt Timing setting.
3. The Y digits (flashing) are the Feed Interrupt Time measured in seconds. Use the Up/Down keys, 14/13, to set the desired Interrupt Time.
4. Press Enter key, 7, to enter the data into memory and switch to the Count Screen.

- The X digits represent the Total Count since the last reset.
- The Z digits represent the Number of Batches completed.
- The W digits represent the Number of Sheets remaining to complete the next batch (Batch Count).

NOTE: To turn off the Batch Counter, set the Batch Size to zero, 0.

12.0 SINGLE BATCH SETTING

The Single Batch Setting will allow the Pile Feeder process a Single Batch to the desired Batch Size each time the Sheet Start Key, 4, is pressed. The following instructions will tell you how to set up the Pile Feeder to run Single Batches at a desired Batch Size.

1. Press the Batch Set Key, 11. The Batch Set screen will be displayed.

The Z digits (flashing) are the batch size. Use the Up/Down keys, 14/13, to set the desired Batch Size.
2. Press the Enter Key, 7, to enter the data into memory and switched to the Interrupted Time setting.
3. The Y digits (flashing) are the Feed Interrupt Time. Use the Up key, 14, to increase the Interrupt Time until STOP is displayed.
4. Press the Enter Key, 7, to enter the data into memory and switch to the Count Screen.

13.0 RESETTING THE BATCH COUNTER

The following instructions will allow you to reset the batch Counter. The Total Counter will not be reset.

1. Reset the Batch Counter by pressing the Reset Key, 5. The Reset screen will be displayed.

2. Press the Batch Set Key, 11, and the display will return to the Batch Count Screen with the Batch Count displaying zero, 0.

14.0 RESETTING THE TOTAL COUNTER

The following instructions will allow you to reset the Total Counter.
Note: The Batch Counter will also be reset to zero, 0, when the Total Counter is reset.

1. Press the Reset Key, 5, and the Reset Screen

will be displayed.

2. Press the Count Key, 12, and the display will return to the Batch Count Screen with the Batch Counter and the Total Counter reset to zero, 0.

15.0 POWER UP FAULT ERROR MESSAGES

When power is applied to the Feeder Controller, a power up routine is automatically initiated. During this a message

is displayed. During this Power up routine, various aspects of the controller are checked. The Power up routine can generate error messages depending on the fault detected. The following Error messages table lists the messages that can be generated and a possible solution to the problem. The errors must be corrected before the feeder will become operational. If no errors are detected, the "PLEASE WAIT" screen will disappear, and a message

will appear for a few seconds. Press Pile Feeder Start Key, 2. This will allow the Pile Feeder to go into production mode and the display will show the main count screen.

ERROR MESSAGE	REMARKS
STOP KEY FAULT	Check wiring to switch, installation of contact block, wiring to display board
SHEET SENSOR FAULT	Check that sensor is not detecting a machine part, wiring of sensor to connectors, sensor and wiring to controller.
DOWN SAFETY FAULT	Check down safety switch, wiring to switch, wiring to controller
DOWN LIMIT FAULT	Check down limit switch, wiring to switch, wiring to controller.
PILE SENSOR FAULT	Check that sensor is not detecting a machine part, wiring of sensor to connectors, sensors and wiring to controller.
UP SAFETY FAULT	Check up safety switch, wiring to switch, wiring to controller.

16.0 RUN FAULT ERROR MESSAGES

These error messages may occur during setup or a production run.

ERROR MESSAGE	REMARKS
INHIBIT	1st Station is not running, check wiring to controller board.
DOUBLE SHEET	Remove the double sheet, check sensor, wiring to controller board

17.0 CONTROLLER LED LIST

The following is a list of LEDs and their associated circuit located on the controller.

LED DESIGNATION	ASSOCIATED CIRCUIT
D1	**Pile Reload Sensor**
D2	**Table Enable**
D6	**Direction**
D10	**Pile Height Sensor**
D11	**Double Sheet Detector**
D13	**Table Up Safety Limit Switch**
D14	**Table Down Safety Limit Switch**
D15	**Table Down Limit Switch**
D18	**Feed Enable**
D19	**Speed**
D21	**Pump**
D23	**Motor AC**
D35	**+12 Vdc Switched**
D40	**+5 Vdc Logic Power**
D42	**+12 Vdc Power**

18.0 DIAGNOSTIC PROGRAM

The diagnostic program contains several routines that will test the operator keypad, test the controller sensors, test the controller output circuits and test the panel indicators.

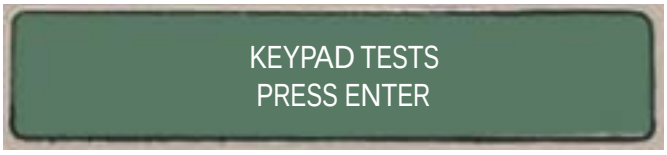
18.0.1 PILE FEEDER KEYPAD SWITCH TESTS

This test will provide a way of checking the operation of the switches on the operator keypad. During this test, all outputs from the motors, sensors, etc. are turned off. Also, you may exit this diagnostic program at any time by pressing the Diagnostic Key, 5.

1. Turn the main Pile Feeder Power Switch on.
2. Press the Pile Feeder Start Key, 2.
3. Press the Diagnostic Key, 5. The message

will be displayed.

4. Press the Enter Key, 7, to enter the diagnostic tests or press the Reset Key, 5, to exit. The message



will be displayed, if Enter Key is pressed.

5. Press the Enter Key, 7, to enter the keyboard tests. The message

will be displayed if Enter Key is pressed.

6. Press the Table Up Key, 10, and the display should switch between to “ACTIVE” each time the Table Up Key is pressed. If the display shows that the Table Up Key is still inactive while the switch is pressed, then there is a problem with the display assembly, communication cable or controller board.

8. Select each Keypad Key by using the Up/Down Arrow Keys, 14/13, and test each corresponding Keypad Key. As each key is operated, the status should switch between “INACTIVE” and “ACTIVE”. The table below shows what each Keypad Key’s normal and operated state should be.

KEYPAD KEY DESIGNATION	NORMAL STATE	OPERATED STATE
TABLE UP	INACTIVE	ACTIVE
TABLE STOP	INACTIVE	ACTIVE
TABLE DOWN	INACTIVE	ACTIVE
TOTAL COUNTER	INACTIVE	ACTIVE
SET BATCH COUNTER	INACTIVE	ACTIVE
ENTER	INACTIVE	ACTIVE
RESET	INACTIVE	ACTIVE
SHEET START	INACTIVE	ACTIVE
SHEET MODE	INACTIVE	ACTIVE
SHEET GAP	INACTIVE	ACTIVE
PILE FEEDER	VERSION 1.00	SOFTWARE INSTALLED
PUMP (Standalone Versions Only)	INACTIVE	ACTIVE

18.0.2 PILE FEEDER SENSOR TESTS

This test will test the operability of each sensor contained in the following table. As each sensor is operated, its status should switch between “INACTIVE” and “ACTIVE”. If the display does not switch from inactive to active when the sensor is operated, something is wrong with the sensor, display assembly, communication cable or controller board. Exiting this Diagnostic program can be done at any time by scrolling to the EXIT screen and pressing the Enter Key, 7.

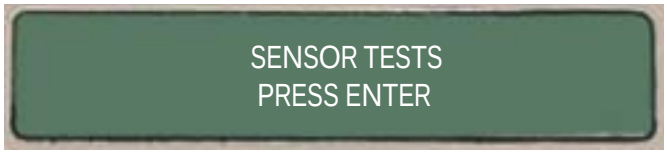
1. Turn the main Pile Feeder Power Switch on.
2. Press the Pile Feeder Start Key, 2.
3. Press the Diagnostic Key, 5. The message

will be displayed.

4. Press the Enter Key, 7, to enter the diagnostic tests or press the Reset Key, 5, to exit. The message

will be displayed, if Enter Key is pressed.

5. Press the Up Arrow Key, 14, until the message



is displayed.

6. Press the Enter Key, 7, and the message

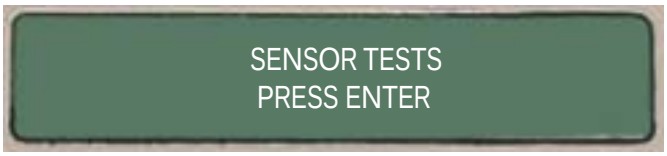
will be displayed.

7. Using the Up/Down Arrow Keys, 14/13, select the sensor test of interest. In the table on the next page, there is a list of each sensor test available in this diagnostic program, along with the normal and operated state displays, and the proper way to check functionality of each sensor.

8. To exit the sensor tests, use the Up Arrow Key, 14, until the message

is displayed.

9. Press the Enter Key, 7, and the operator panel will return to the



screen.

10. Use the Up Arrow Key, 14, until the message

is displayed.

11. Press Enter Key, 7, and the operator panel display will return to the main count screen.

SENSOR DESIGNATION	NORMAL STATE	OPERATED STATE	SENSOR ACTIVATION
SHEET COUNT SENSOR	INACTIVE	ACTIVE	Place sheet under sensor
PILE HEIGHT SENSOR	INACTIVE	ACTIVE	Place hand under sensor
PILE LOAD SENSOR	INACTIVE	ACTIVE	Ensure table or product is breaking sensor beam. Place hand in photobeam path.
DOUBLE SHEET SENSOR	INACTIVE	ACTIVE	Manually trip Double Sheet Detector
DOWN LIMIT SWITCH	INACTIVE	ACTIVE	Manually trip switch
UP SAFETY SWITCH	INACTIVE	ACTIVE	Manually trip switch
DOWN SAFETY SWITCH	INACTIVE	ACTIVE	Manually trip switch
ENCODER INPUT (1st Station required)	LOW	HIGH	Slowly rotate 1st station handwheel
INHIBIT INPUT (1st Station required)	ACTIVE	INACTIVE	Start 1st station or disconnect communication cable from 1st station

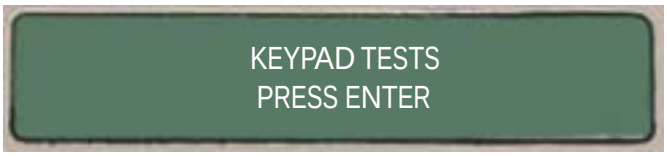
18.0.3 PILE FEEDER OUTPUT TESTS

This group of tests will help to verify the operation of the output circuits contained in the Output Circuit Test table. Exiting this Diagnostic program can be done at any time by scrolling to the EXIT screen and pressing the Enter Key, 7.

1. Turn the main Pile Feeder Power Switch on.
2. Press the Pile Feeder Start Key, 2.
3. Press the Diagnostic Key, 5. The message

will be displayed.

4. Press the Enter Key, 7, to enter the diagnostic tests or press the Reset Key, 5, to exit. The message



will be displayed, if Enter Key is pressed.

5. Press the Up Arrow Key, 14, until the message

is displayed.

6. Press the Enter Key, 7, and the message

will be displayed.

7. Using the Up/Down Arrow Keys, 14/13, select the output test of interest. In the table on the next page, there is a list of each output test available in this diagnostic program, along with remarks on how the chosen output should function normally.

8. To exit the sensor tests, use the Up Arrow Key, 14, until the message

is displayed.

9. Press the Enter Key, 7, and the operator panel will return to the

screen.

10. Use the Up Arrow Key, 14, until the message

is displayed.

11. Press Enter Key, 7, and the operator panel display will return to the main count screen.

OUTPUT	REMARKS
1 FEED WHEEL TEST	The Feed Wheel should turn on when entering this test and turn off when the arrow keys are used to select another test. If the Feed Wheel is not rotating, verify the motor wiring and check dc motor control
2 FEED SOLENOID TEST	The Feed Solenoid should energize when entering this test and turn off when the arrow keys are used to select another test. If the Feed Solenoid does not energize, check solenoid wiring and voltage (12 Vdc).
3 STOP SOLENOID TEST	The Sheet Stop Solenoid should energize when entering this test and turn off when the arrow keys are used to select another test. If the Sheet Stop Solenoid does not energize, check solenoid wiring and voltage (12 Vdc). This solenoid is not installed on all Feeders.

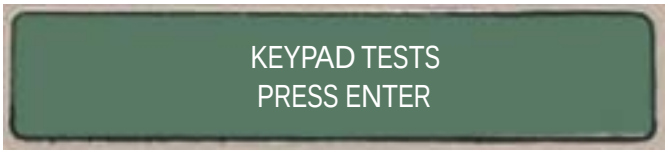
18.0.4 PILE FEEDER INDICATOR TESTS

These tests will test the operation of the each indicator on the operator panel. Exiting this Diagnostic program can be done at any time by scrolling to the EXIT screen and pressing the Enter Key, 7.

1. Turn the main Pile Feeder Power Switch on.
2. Press the Pile Feeder Start Key, 2.
3. Press the Diagnostic Key, 5. The message

will be displayed.

4. Press the Enter Key, 7, to enter the diagnostic tests or press the Reset Key, 5, to exit. The message



will be displayed, if Enter Key is pressed.

5. Press the Up Arrow Key, 14, until the message

is displayed.

6. Press the Enter Key, 7, to enter the Indicator Test, and the message

will be displayed.

The Batch Output Indicator, 17, should be flashing on and off. Also, The text in the display on the Operator Panel should be switching from “OFF” and “on” in relation with the Batch Output Indicator. This also appiles to each indicator listed in the Indicator Test Table.

7. Using the Up/Down Arrow Keys, 14/13, select the output test of interest. In the table on the next page, there is a list of each output test available in this diagnostic program, along with remarks on how the chosen output should function normally.

8. To exit the sensor tests, use the Up Arrow Key, 14, until the message

is displayed.

9. Press the Enter Key, 7, and the operator panel will return to the

screen.

10. Use the Up Arrow Key, 14, until the message

is displayed.

11. Press Enter Key, 7, and the operator panel display will return to the main count screen.

NOTE: The Input Indicator is not listed in the Indicator Test Table or part of the Diagnostic Program. To test the Input Indicator on the Operator Panel, run and object under the sheet count sensor. The Input Indicator on the Operator Panel should turn on and off. This test will also check for proper operation of the sheet count sensor and ensure the signal is getting to the control board properly.

INDICATOR	TEST INDICATION
1 BATCH OUTPUT	FLASHING
2 SHEET FEED	FLASHING
3 TABLE	FLASHING
4 FEEDER	FLASHING