AstroJet™ 3600P/3800P PRINTER

inkjet technology by hp invent

OPERATOR MANUAL

Astro Machine Corp.
630 Lively Blvd.
Elk Grove Village, IL 60007
Phone: (847) 364-6363
Fax: (847) 364-9898
www.astromachine.com

SAFETY PRECAUTIONS

THIS EQUIPMENT PRESENTS NO PROBLEM WHEN USED PROPERLY. HOWEVER, CERTAIN SAFETY RULES SHOULD BE OBSERVED WHEN OPERATING THE ASTROJET 3600P/3800P PRINTER.

BEFORE USING THE PRINTER, YOU SHOULD READ THIS MANUAL CAREFULLY AND FOLLOW THE RECOMMENDED PROCEDURES, SAFETY WARNINGS, AND INSTRUCTIONS:

- ✓ Keep hands, hair, and clothing clear of rollers and other moving parts.
- ✓ Avoid touching moving parts or materials while the machine is in use. Before clearing a jam, be sure machine mechanisms come to a stop.
- ✓ Always turn off the machine before making adjustments, cleaning the machine, or performing any maintenance covered in this manual.
- ✓ Use the power cord supplied with the machine and plug it into a properly grounded, easily accessible wall outlet located near the machine. Failure to properly ground the machine can result in severe personal injury and/or fire.
- ✓ The power cord and wall plug is the primary means of disconnecting the machine from the power supply.
- ✓ DO NOT use an adapter plug on the line cord or wall outlet.
- ✓ DO NOT remove the ground pin from the line cord.
- ✓ DO NOT route the power cord over sharp edges or trap it between furniture.
- ✓ Avoid using wall outlets that are controlled by wall switches, or shared with other equipment.
- ✓ Make sure there is no strain on the power cord caused by jamming between equipment, walls or furniture.
- ✓ DO NOT remove covers. Covers enclose hazardous parts that should only be accessed by a qualified service representative. Report any cover damage to your service representative.
- ✓ This machine requires periodic maintenance. Contact your authorized service representative for required service schedules.
- ✓ To prevent overheating, do not cover the vent openings.
- ✓ Use this equipment only for its intended purpose.

In addition, follow any specific occupational safety and health standards for your workplace or area.

This manual is intended solely for the use and information of Astro Machine Corp., its designated agents, customers, and their employees. The information in this guide was obtained from several different sources that are deemed reliable by all industry standards. To the best of our knowledge, that information is accurate in all respects. However, neither Astro Machine Corp. nor any of its agents or employees shall be responsible for any inaccuracies contained herein.

AstroJet™ is a registered trademark of Astro Machine Corp.
Hewlett-Packard is a registered trademark of Hewlett-Packard Corporation.
Windows 98, ME, 2000, NT and XP are registered trademarks of Microsoft Corporation.
IBM is a registered trademark of International Business Machines.
All other trademarks are the property of their respective holders.

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the publisher

Table of Contents

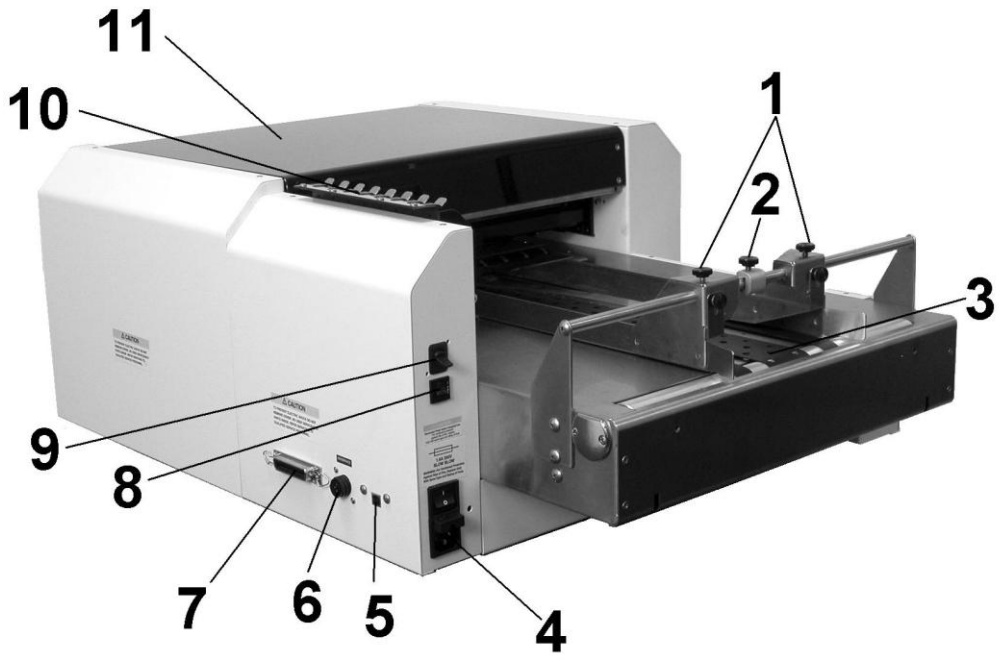
Section 1 – Getting Acquainted **1**
AstroJet 3600P/3800P 1
Control Panel 2
Optional Feeder Controls 3
Section 2 – Installing the Printer **5**
Choosing a Location 5
Connecting the Printer and Optional Feeder 5
Installing the Optional Feeder 6
Installing the Inkjet Cartridges 7
Adjusting the Printer to the Media 8
Optional Feeder Setup 8
Installing the Printer Driver 10
Section 3 – Operating the AstroJet 3600P/3800P **11**
Printer Operation 11
Printer Driver Properties 13
Printing from Microsoft Word 17
Section 4 – Maintenance **19**
The Inkjet Cartridge 19
Jams in the Printer 21
Replacing the Sheet Separators 21
Cleaning 22
Section 5 –Troubleshooting **23**
HP Inkjet Print Cartridges 23
The Printer 24
Appendices **25**
Appendix A – Specifications 25
Appendix B – Supplies and Optional Hardware 26
Index **27**

Notes

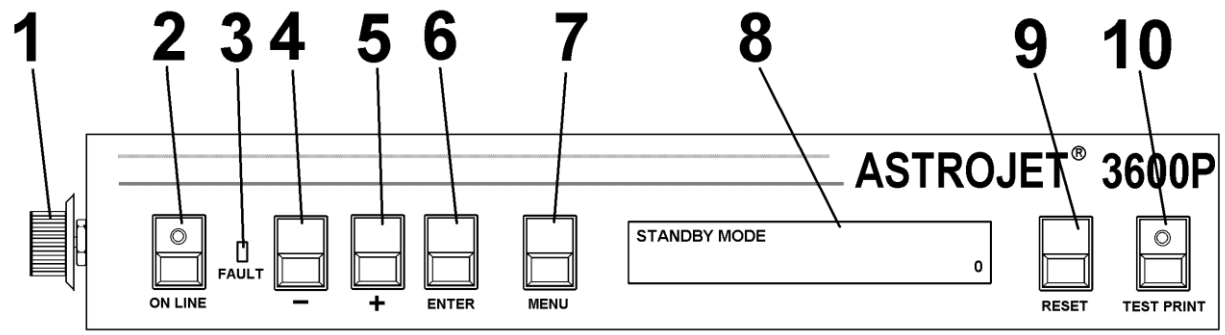
Section 1 – Getting Acquainted

AstroJet 3600P/3800P

The AstroJet 3600 and AstroJet 3800 are high-speed printing and addressing systems that can print addresses, bar code, return addresses, bitmapped graphics, and special messages using TrueType scaleable fonts simultaneously on mail pieces. The 3600 has six Printheads and the 3800 has eight Printheads.



1	**MEDIA SIDE GUIDES** – Guides the media to the Printheads.
2	**MEDIA GUIDES** – Holds down media to help guide it to the Printheads.
3	**VACUUM TRANSPORT** – The Vacuum Transport Belt helps transport the media to the Printheads.
4	**MAIN POWER SWITCH AND RECEPTACLE** – Printer receives power here. Also contains the Main Power Switch and the Fuse Assembly.
5	**USB PORT** – Used to connect the Printer to some types of computers.
6	**PRINTER/FEEDER INTERFACE CONNECTOR** – Connects the Printer to the optional Feeder so that they can function as a system.
7	**PARALLEL PORT** – Centronics Printer Port connects the Printer to the computer.
8	**MOTOR CIRCUIT BREAKER** – Protects the Motor in the case of a jam.
9	**VACUUM TRANSPORT ON/OFF SWITCH** – Controls the power to the Vacuum Transport Vacuum.
10	**DOCKING STATION** – Stores Ink Cartridges when not in use.
11	**PRINTHEAD COVER** – Protects the Printheads.



(AstroJet 3600P shown)

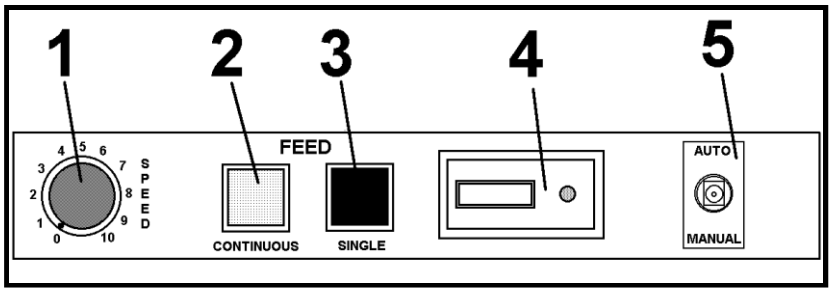
Control Panel

1.	**MEDIA THICKNESS –** Knob on the right side of the Control Panel is used to adjust the height of the Printheads to compensate for different media thickness.
2.	**ON LINE key** – Indicator lights when data is sent to the AstroJet 3600P/3800P and printing is ready to begin. Also turns the Printer off line to access the Menu Mode.
3.	**FAULT Indicator** – Lights when there is a problem with the printing process.
4.	**- key** – In Menu Mode, use to scroll to the previous selection.
5.	**+ key** – In Menu Mode, use to scroll to the next selection.
6.	**ENTER key** – Starts and stops printing.
7.	**MENU key** – Puts the Printer in the Menu Mode to access several operator functions.
8.	**OPERATOR DISPLAY** – Indicates the Printer's status including menus and error messages.
9.	**RESET key** – Resets the Printer to its wait state.
10.	**TEST PRINT key** – Puts the Printer in the Test Mode and sends a sample copy to check the Printer's output.

NOTE: A complete description of the functions and operation of the Printer Keys can be found in <u>Section 3 – Operating the AstroJet 3600P/3800P</u>.

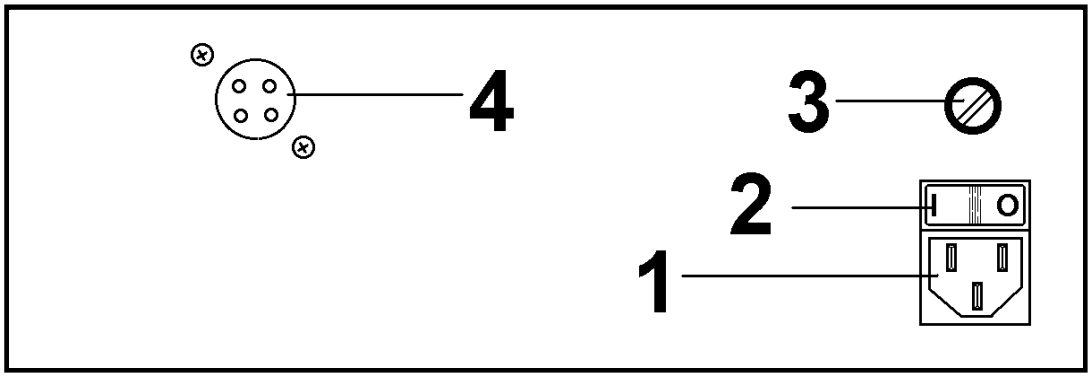
OPTIONAL FF14 FRICTION FEEDER CONTROL PANEL

Control Panel



1	**SPEED** – Used to vary the speed of the Feeder in either the MANUAL or AUTO Mode to provide separation between the pieces.
2	**CONTINUOUS** – Pressing this switch with the Feed Select Switch in the MANUAL position allows the Feeder tofeed continuously.
3	**SINGLE** – Pressing this switch with the Feed Select Switch in MANUAL Mode allows the Feeder to feed a single piece of media.
4	**BATCH COUNTER** – Resettable to keep track of the pieces run on each job.
5	**AUTO/MANUAL** – With the Feed Select Switch in MANUAL, the operator can feed one or continuous pieces of media by pressing the FEED switches. When in AUTO, the Interface controls the Feeder through an external device.

Front Panel



1	**POWER RECEPTACLE** – Plug power cord here. Make sure that power cord is only plugged into a properly grounded receptacle.
2	**ON/OFF SWITCH –** Controls power to the Feeder.
3	**FUSE HOLDER –** Fuse protects the electronics and motor in the Feeder.
4	**INTERFACE CONNECTOR –** Used to control the FF14 Feeder. (See Interfacing for more information.)

Notes

Section 2 – Installing the AstroJet 3600P/3800P

To install the AstroJet 3600P/3800P Printer the following must be done:

- Choose a location for the AstroJet 3600P/3800P Printer and optional Feeder
- Place the Feeder and connect it to the Printer
- Plug in the Printer and Feeder, then connect the Printer to the computer
- Install the Inkjet Cartridges
- Set up the feed on the Feeder
- Install the AstroJet 3600P/3800P software on the computer
- Create a job to be printed (refer to Section 3 – *Operating the AstroJet 3600P/3800P*)

Choose a Location

Place the Printer with the Feeder on a sturdy worktable or cabinet at least 12 inches from any walls. Allow enough room to place the Feeder on the same work surface. Protect the AstroJet 3600P/3800P from excessive heat, dust, and moisture – avoid placing it in direct sunlight.

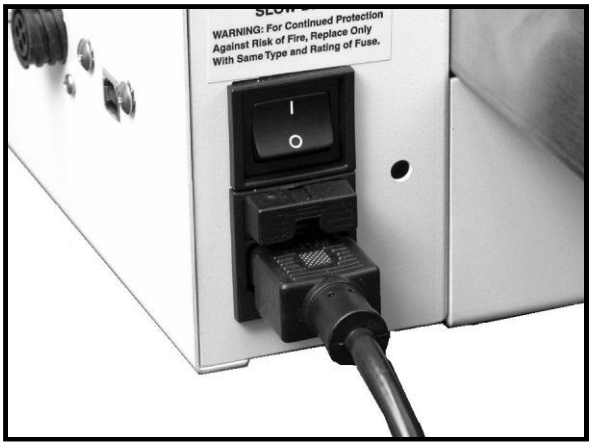
Place the Printer on the Support Stand if supplied. (The Stand is supplied only when the optional FF14 Friction Feeder is used.)

Connecting the AstroJet 3600P/3800P and Optional Feeder

Plugging in the Printer

Make sure that the Printer's Main Power Switch is in the OFF position.

1. Connect one end of the power cord to the rear of the Printer in the corresponding receptacle.
2. Plug the other end into a 115-220 Volt AC, 50/60 Hz. grounded outlet.



CAUTION

Do not use an adapter plug or extension cord to connect the printer to the wall outlet.

Do not use outlets controlled by wall switches.

Do not use an outlet that shares the same circuit with large electrical machines or appliances.

Connecting to the Computer

Parallel Port: Plug the Parallel Printer Cable from your computer into the rear of the Printer and latch the two locking clips.
USB Port: You may also connect the Printer through a USB connection if you are using Windows ME, 2000 or XP. **NOTE: The Cable supplied with the AstroJet 3600P/3800P should be used to connect it to the computer.**

USB Port

Parallel Port

Installing the Optional FF14 Friction Feeder

Assembling the Feeder

After unpacking the Feeder, install the two Side Guides as shown using the four screws supplied *(two on each side*).

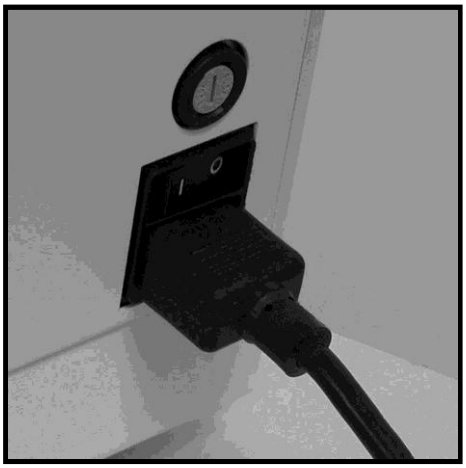
Place the Feeder on a flat level surface. The Feeder can be permanently mounted by removing the four rubber feet, aligning the Feeder on the Support Stand, then reinstalling the feet to hold the Feeder in place.

Plugging in the Feeder

Make sure that the Main Power Switches on the Printer and the Feeder are in the OFF position.

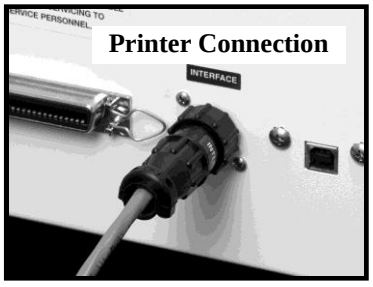
1. Connect one end of the power cord to the rear of the Feeder in the corresponding receptacle.
2. Plug the other end into a 115-220 Volt AC, 50/60 Hz. grounded outlet.

CAUTION
Do not use an adapter plug or extension cord to connect the printer to the wall outlet.
Do not use outlets controlled by wall switches.
Do not use an outlet that shares the same circuit with large electrical machines or appliances.



Connecting the Optional Feeder to the Printer

The Printer/Feeder Communication Cable must be attached to the Printer and the Feeder for the two machines to work together. Remove the Jumper Plug from the Printer (*if installed*) and attach the Printer/Feeder Communication Cable between the two machines as shown in the photo at the right.



Completing Assembly of the System

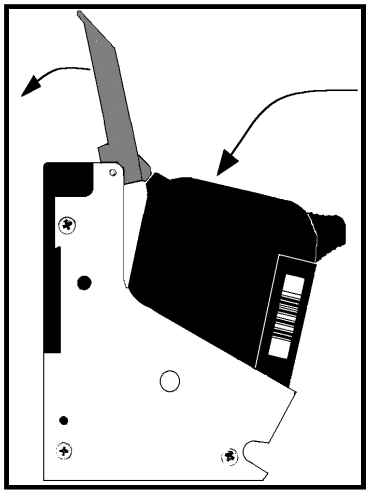
Remove the packing blocks from the Printheads and install the Side Guides on the Feeder if not already done.

Install the Inkjet Cartridges

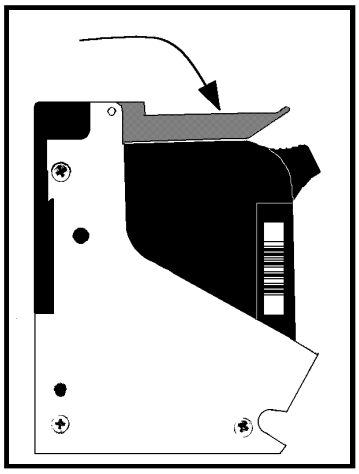
Standard Cartridge Installation

The AstroJet 3600P can be configured with six Inkjet Cartridges and the AstroJet 3800P can be configured with eight Inkjet Cartridges. Install standard Cartridges as follows:

1. Remove the Inkjet Cartridge from its packaging, taking care not to touch the copper contacts, the metal plate, or the gold printhead. Remove the protective tape from the Printhead.
2. The Cartridges are held in place by a Latch Lever mounted on the Inkjet Cartridge Holder. Release the Lever by raising it vertically.
3. With the Cartridge's Printhead pointing down, slide the Cartridge into the Holder and push down and toward the contacts in the Holder.



4. Make sure the Cartridge is seated in the Holder then close the Latch Lever to secure the Cartridge in the Holder. Do not force the Lever into place. (*See diagram*.)
5. Repeat the above for the remaining Cartridges.

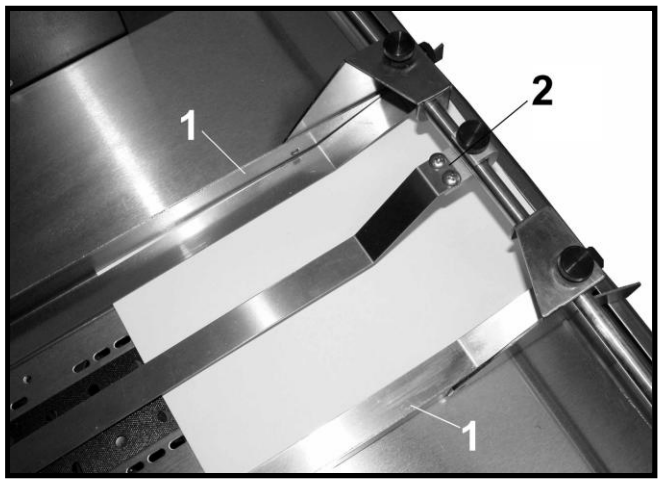


NOTE: For optimum image quality during the run, refer to *"Cleaning the Printhead"* on page 39.

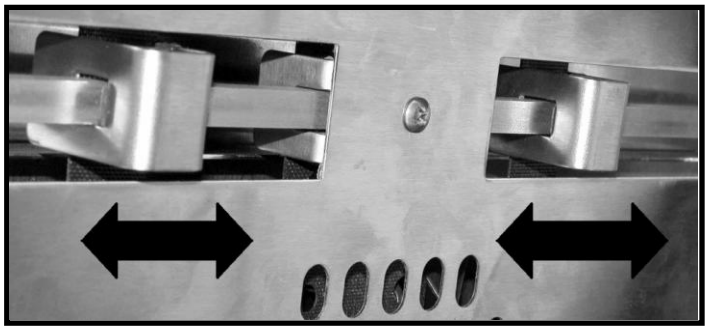
The ink in the cartridge may be harmful if swallowed. Keep new and used cartridges out of reach of children. Discard empty cartridges immediately.

Adjusting the Printer to the Media

Place one piece of media on the center of the conveyor portion of the Feeder and adjust the Side Guides **[1]** to the media. Use one or two Center Straps **[2]** to help hold the media down. The Center Belt has a vacuum-assist feature that can be turned ON with the Vacuum Transport Switch located above the Motor Circuit Breaker as required. It is useful in feeding smaller size stock.

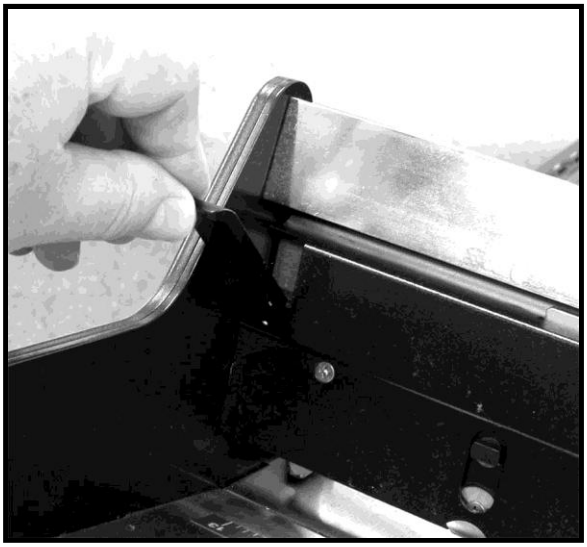


NOTE: The two narrow Belts can be moved by turning the Printer ON and sliding the Belt Guide Adjusters located under the Conveyor Table in the appropriate direction until they are under the media.

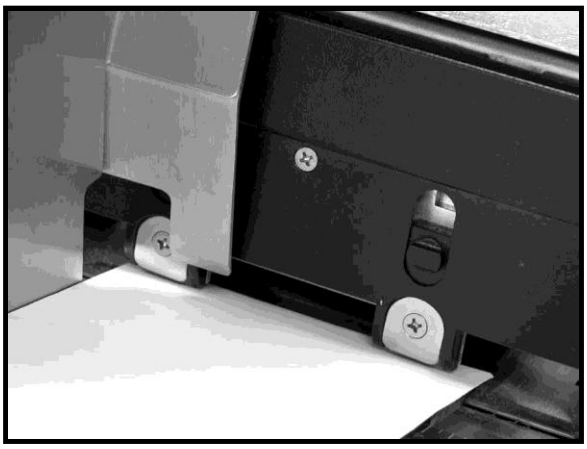


Optional Feeder Setup and Operation

1. Release the Separator Locking Lever and raise the Separators to their up position as shown.

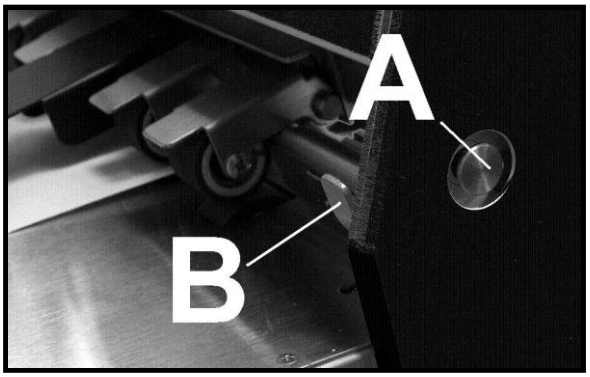


2. Place the media under the Separators and release them so that they rest on the media. Then lock the Separators in position using the Separator Locking Lever.

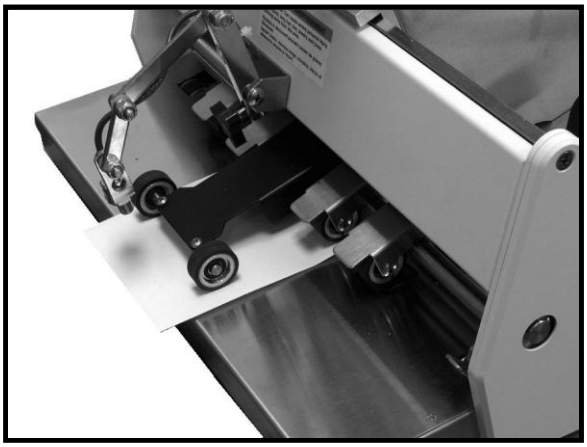


3. Adjust the Side Guides to within 1/32" of the media. Then adjust the Rear Guide so that the media is raised approximately ½" (For heavy, thick media this may not be required.)

4. Adjust the Exit Roller pressure by pushing in on the Pressure Control Lock Button **[A]** and raising or lowering the Adjusting Lever **[B]**. For plain paper or envelopes the lever should be in the down position, for thicker material the lever should be adjusted so that the media is fed without any bounce in the Exit Roller Assembly.



5. Turn on the Feeder and feed one piece with the Speed Control set to low speed (*1 or 2*). Stop the Feeder with the piece halfway through the exit. Then adjust the Feed Sensor so that it is pointed directly at the piece as it exits the Feeder. The Sensor prevents double feeding in case of a jam or stoppage.



6. Turn the Feeder Power Switch **ON**. Set the **AUTO/MANUAL** Switch to **AUTO** and press the **CONTINUOUS** Feed Button for continuous feeding.

7. Turn the AstroJet 3600/3800 ON, then turn the Media Thickness Knob to set the initial Printhead height:

NOTE: These are initial settings. It may be necessary to adjust the MEDIA THICKNESS Control to optimize the print quality.

Media Thickness	Dial Setting
.004" to 1/32"	0 to 2
1/32" to 1/16"	2 to 3
1/16" to 1/8"	3 to 5
1/8" to ¼"	5 to 7
¼"to 3/8"	7 to 10

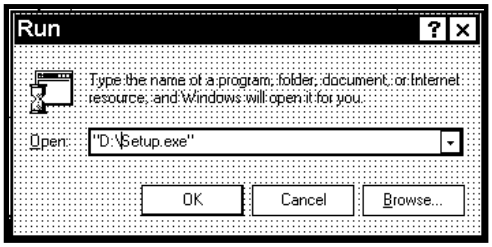
8. To test-feed media after set up, turn the Feeder and Printer ON. Place the AUTO/MANUAL Selector Switch on the Feeder to the AUTO position. Press the **ON-LINE** key on the Printer, and then press the **ENTER** key, to test-feed media.

Installing the Printer Driver

A dedicated Printer Driver is included with the Printer. It must be installed on your computer before you install the AstroPrint Software. **Install the Driver for the Printer using the steps below.**

1. If you have any applications running on your computer close them and restart the computer before beginning the Driver installation.

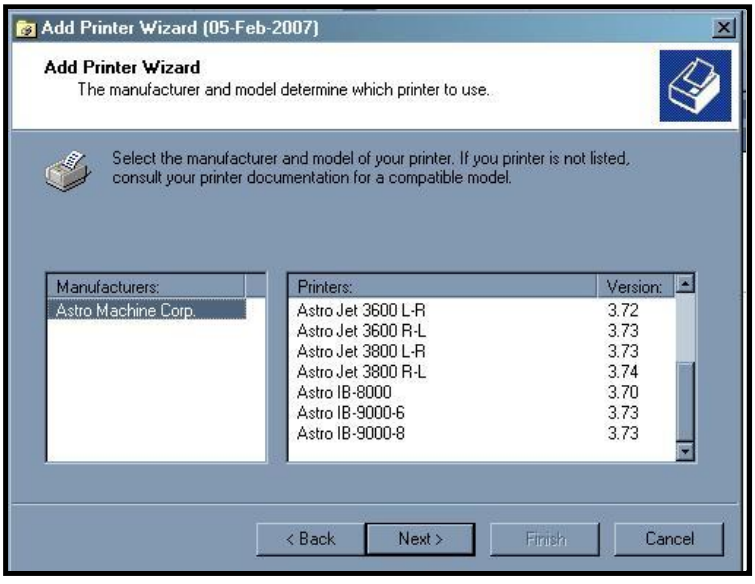
2. Install the CD in the CD drive and click on **START**. Then click on **RUN**, then type the following; D*:\Setup.exe* (where D is the CD drive) then click **OK**.



3. The "Add Printer Wizard (*n.nn*)" window will open, then click **Next>**.

4. Type in your Name and Company and click **Next>**.

5. Select the Printer Port **LPT1** or **USB**. Then click **Next>**. The "Add Printer Wizard" will appear. Select your printer from the list, then click **Next>**



NOTE: The difference between the L-R and R-L Printers is the direction the media travels in. L-R means Left to Right when standing at the Printer's Control Panel.

6. The next screen allows you to "Name Your Printer". Unless you have another printer of the same name on your system or network ignore this step and click **Next>**.

7. Click **Finish** to complete the installation.

Section 3 – Operating the AstroJet 3600P/3800P

Once the Printer Driver is installed on your computer, you are ready to start printing. This section is divided into three parts. The first describes the function of the Printer Control Panel. The second section describes the Driver Properties and the various options available when you run a job. The third section describes how to Set Up a Job to Print from Microsoft Word.

The Printer Driver that you installed on your computer in Section 2 should be set as the default driver. It will then be accessible through your applications such as Microsoft Word. Other types of applications and database management software will work in a similar manner using the AstroJet 3600P/3800P Driver.

This Section further assumes that you have connected the AstroJet 3600P/3800P to your computer.

Printer Operation

When you first turn the Printer ON, the **ON LINE** key light will blink. The Printer's Display will show the message; "*Printer Off line / Enter for Paper Feed*". The **TEST** key light will be OFF. In this mode, pressing the **ENTER** key starts the paper feeding, but no printing will take place.

To print you must put the Printer **On-Line.** When you do, the Display will change to the following message; "*Printer On line / Waiting for Data*". In this mode, when you send a job, the Printer will be ready to print when the **ENTER** key is pressed.

The following is a description of the operation of the Printer's various menu options that let you customize the operation of the Printer to suit. The Printer Control-Panel Keys can be used to access various functions that help the operator control the Printer. These functions and their operation are as follows:

TEST key

Pressing the **TEST** key momentarily places the Printer in the **Test Print Mode**. The word "Working" appears in the lower half of the Display. After a short period of time the Display changes to "Enter to feed". Pressing the **ENTER** key will start the printing process and print the Test Print. To stop the feeding, press **ENTER** again.

NOTE: If you have chosen to have the Printer start automatically (see the Menu key below) the Printer will start printing the Test Print once it is loaded without your having to press the ENTER key. In this case, pressing the ENTER key will stop the paper feed.

To exit the Test Print Mode, press the **TEST** key again and the Printer will return to its ready state.

Pressing and holding the **TEST** key will cause the Printer to enter the "Service Menu", where various functions of the Printer can be tested. To exit the "Service Menu", simply press the **TEST** key a second time. The "Service Menu" is primarily used by service to diagnose problems should they occur. You can use the "**+**" or "**-**" key to scroll through the menu. Pressing the **ENTER** key will test the function.

To check the level of the Ink Cartridges when you enter the **Service Menu** press the "**-**" key and the amount of ink remaining will appear as a percentage in the lower half of the Display window.

MENU key

The **MENU** key is used to access the special features built into the Printer and to customize the operation of the Printer. The basic features are accessed by momentarily pressing the **MENU** key. Use the "**+**" or "**-**" keys to access the features. The features available under this mode of operation are as follows:

NOTE: If the ON LINE key is ON, you cannot enter the Menu Mode. You must first take the machine off line by pressing the ON LINE key.

> ***Media Thickness Setup* –** The first item to appear in the Display is the "*Media Thickness Setup*", if the Printer is equipped with an Automatic Media Thickness Control. You can use this feature to pre-set the Printhead height for various media thicknesses.

Press Enter to Purge – The purging function is useful to clear the Printhead Nozzles when the machine has been sitting idle for a time. To activate the Purge, press the **ENTER** key to feed one piece of media. To purge the Printheads additional times, press the **ENTER** key for each additional purge.

NOTE: The Printer will only purge one piece each time you press the ENTER key. For additional purges, press the ENTER key again for each subsequent purge.

Clear Batch Counter – Pressing the **ENTER** key will clear the number in the upper right hand corner of the Display. Resetting the counter is usually performed at the start of each job. Turning the Printer OFF will not reset this counter.

Purge First Piece – Turning the feature ON will cause the Printer to send one purge pattern on the first piece. After the purge is completed, the next piece will be have the first record of your database. Once this is turned ON it will remain ON even if the Printer is turned OFF.

Address Recovery – In event of a jam in the Printer, you can recover up to 10 pieces by pressing the **MENU** key, then stepping to the "*Address Recovery*". Then press the **ENTER** key. The message "Enter: Recover 1 Piece" will appear. Use the "+" key to select the number of pieces to reprint (1-10) then press **ENTER** again to start the printing process. When the pieces are printed, press the **ON LINE** key and then the **ENTER** key to resume printing the job.

Print Enhancement – Pressing the "+" or "-" key will bring this message up in the Display. The Print Enhancement feature is used when printing to ensure that the Printhead Nozzles stay open and prevent the loss of the descender on letters such as "y" or "q" and accent marks that do not appear in every address. Pressing the **ENTER** key will turn this function ON or OFF. The function will remain as changed until the operator changes it again. Turning the Printer ON and OFF will not affect the setting.

NOTE: The Print Enhancement feature will time out after 100 seconds if no media is going through the Printer. Once media is being printed it will restart.

Automatic Feed – Turning the feature ON will cause the Printer to start feeding once the job is sent. If the **ON LINE** key is ON the Printer will start feeding and printing automatically. If you prefer to press the **ENTER** key to start the printing process, then turn this feature OFF. Turning the machine ON or OFF will not affect your selection.

Pause Type: – This feature allows the Printer to respond to a "break mark" set in the database used in a given job. The "break mark" marks the end of a series within the database. For example, addresses with the same postal code or after a set number of entries. There are two "**Pause Type:**" selections:

> ***Feed Stop*** – This setting is for standalone desktop units not used in line with other mailing equipment. The Printer will stop feeding media for a set amount of time after it "sees" a "break mark". Allows time for the operator to pack or separate that set of printed pieces before the next set starts. Use the "+" or "-" key to access this feature. Press **ENTER** to turn this function ON or OFF.
>
> ***Conveyor Speed Up*** – This feature is for use when the Printer is used in line with other mailing equipment (conveyors, tabbers, etc.) When this feature is activated, the Printer responds to the "break mark" by sending a signal to the conveyor to speed up momentarily. This creates an obvious gap between the end of one set of pieces and the beginning of the next. Use the "+" or "-" key to access this feature. Press **ENTER** to turn this function ON or OFF.

Installing New Printheads – The Printer is capable of telling you when a Printhead is running low on ink. To use this feature, press the **MENU** key momentarily. Then use the "+" or "-" key to highlight "Enter when head (*n*) is filled". Press the **ENTER** key and install a new Cartridge. Repeat for each Cartridge you install. When the **ENTER** key is pressed the Display will change to "Head (*n*) has a new cartridge". To check the level of ink in the Cartridges, Press and hold the **TEST PRINT** key until the "Service Menu" appears. Use the "+" or "-" key to scroll to the "Service Menu: Ink Levels, 100%100%100%". This will show how much ink remains in the Cartridge.

NOTE: This feature only works if the Cartridges remain in the original Head where they were installed. If you swap the Cartridges from one Head to another, the levels will not be accurate.

There is a second set of menus available in the Display. To activate them, press and hold the **MENU** key until the "Setup Menu" appears. You can step through these items with the "+" or "-" key.

Total Count – The total count displayed is the total number of prints that have passed through the Printer. It is non-resettable.

BIOS Version – Press the "+" key to display the version of the BIOS.

Bulk Ink – This feature is not used on the AstroJet desktop Printers. No provisions are made to install the larger Cartridges.

+ / - key

Used to step through the options in various Menu Modes.

ON LINE key

If the **ON LINE** key is ON, the display shows the following message, "*Printer On line / Waiting for Data*" and the light is ON. This means that the Printer is ready to print the job when it is sent. To have the Printer start printing immediately when the job is sent you must also have the Automatic Feed feature turned ON. If the **ON LINE** key is OFF the Display will return the following message, "*Printer Off line / ENTER for Paper Feed*". In this condition the machine can feed paper. This is useful for setting up the Feeder.

NOTE: If the Printer is off line and you send a job, the display shows "*Printer Off line / Data Ready to Print***". To print, you must first press the ON LINE key to put the Printer on line. If you sent data and the Printer is set up not to start feeding automatically and the ON LINE key is lit, the display will show "***Printer On line / ENTER to Start Feed***".**

ENTER key

Used to start the Printer printing when it is on line and the Automatic Feed is turned OFF. Additionally, when the Printer is placed in any of the Menu Modes, the **ENTER** key is used to choose the options available.

RESET key

Used to clear the Printer Memory and return it to the wait state. This key only functions if the Printer is off line.

Purge While Printing

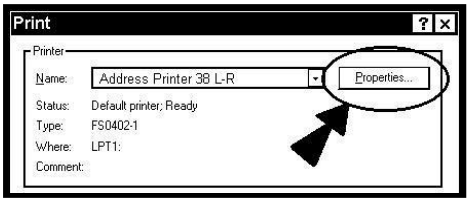
To do the purge in the middle of a job, follow these steps:

Press **ON LINE** to pause the current job.
Press **MENU**, then step to "Press Enter to Purge".
Press **ENTER** to start the purge. Press **ENTER** again to stop purge.
Press **ON LINE**, then **ENTER** to get back to normal printing.

NOTE: If a paper jam occurs during the purge: after the purge you should use "Address Recovery" to get back to normal printing. Otherwise you will lose records.

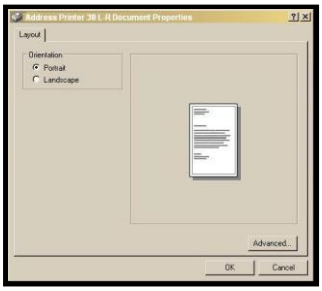
Printer Driver Properties

The Printer Driver describes to the Printer how to print your job. It controls the operation of the Printer and allows you to send fixed and variable text and graphics to the Printer. Within your data management software is a "Print" function. In that "Print" function is a Properties Button. Through Properties you can control the output of the Printer. The following describes the Properties Windows for the AstroJet 3600P/3800P and how to use them to customize your Printer's output.

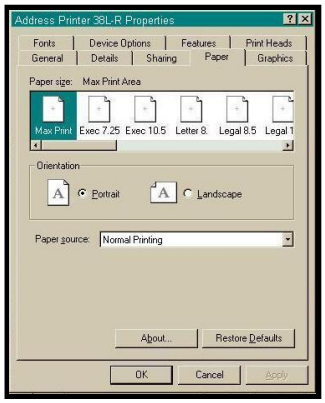


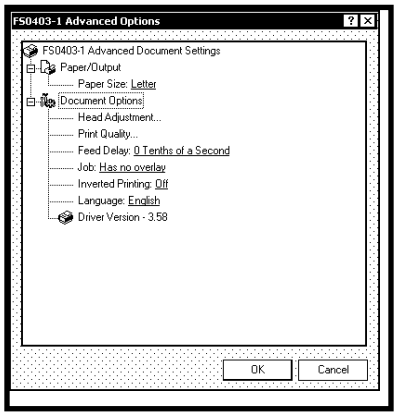
To start printing, click on **File**, then **Print**. The Print window opens. If you wish to print the job, click **OK**. If you wish to use the Special Features built into the AstroJet 3600P/3800P Drivers, click on the Properties Button to open the Properties Window in Windows 98, NT, or ME.

If you are using Windows 2000 or XP the window at right will open. Clicking on **Advanced** will open the "Options" window. In the following illustrations, the windows for Windows 98, NT, and ME will be on the left. The windows for Windows 2000 and XP will be on the right.



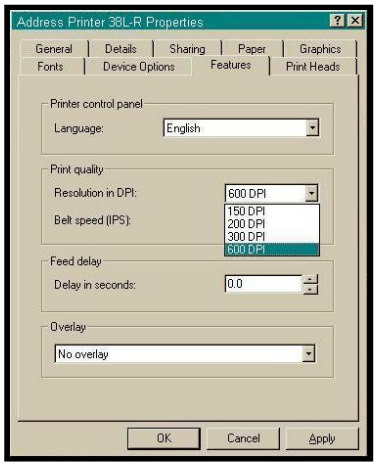
When the Properties window opens you are presented with several tabs in Windows 98. The following are standard Windows Printer Driver functions and should be left at their defaults**: Graphics**, **Fonts**, and **Device Options**. The **Features** and **Print Heads** tabs are used to setup, change, and adjust the Printer.

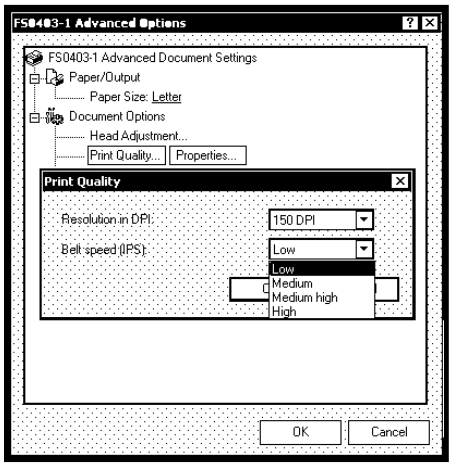




Features Tab

The **Features Tab/ Advanced Options,** depending on the operating system, is used to change the speed and resolution of the Printer, to add a delay to the feed to provide separation between the pieces, and to print and overlay with the job. The first feature is the **Print Quality**, which has two settings, one for the resolution of the print quality and the second for the appropriate speed. Changing the resolution to a higher number (*e.g. 200 DPI to 600 DPI*) will increase the quality of the image. When the resolution is changed, the Belt speed (IPS) is automatically changed to the optimum speed for the resolution selected. You can, however change the speeds to a lower speed as follows:

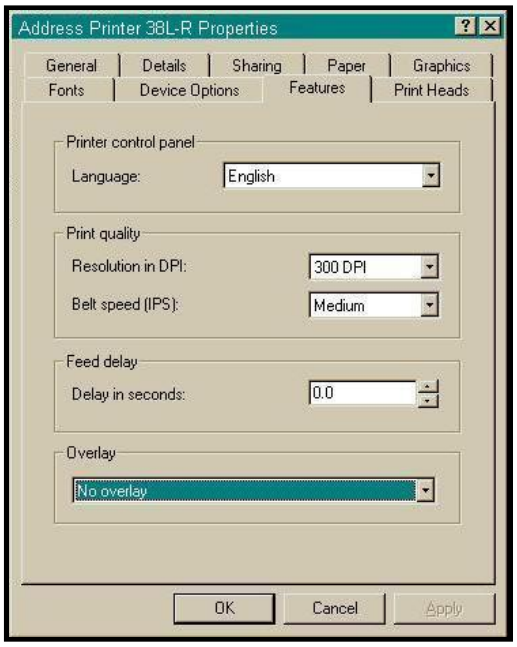


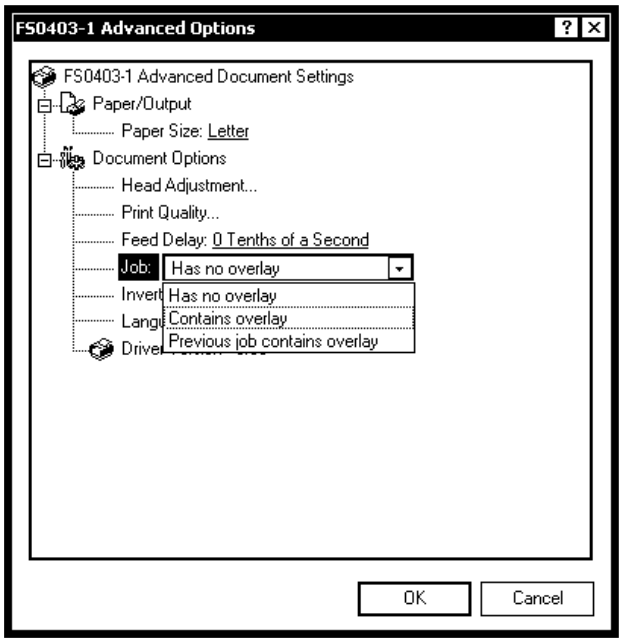


Resolution	Speeds available
150 DPI	Low, Medium, Medium High, and High
200 DPI	Low, Medium, and Medium High
300 DPI	Low, and Medium
600 DPI	Low

The **Feed Delay** can be used to put more space between the pieces as they are being printed. This will give the first piece printed more time to dry before the next piece is printed. The adjustment range is in 0.1-second increments. This feature works at all speeds.

The **Overlay** feature is used to save time printing when you are combining a database with fixed information or graphics. The default is "No overlay".





To use the Overlay feature: First create a layout in an application such as Microsoft Word. Place all of the fixed information and graphics on this layout. Open the layout and go to **Print** in the **File** menu. Click on **Features** and then click on **Overlay**. Select "Contains overlay" from the box, and then click on **Apply** and **OK**.

Next, click **OK** on the "Print" window. The Overlay will download and the Printer will start running.

Now open the job that contains the variable data and using **File** then **Print** from the dropdown menu open the "Print" window for the application. Click on **Properties** then on the **Features** tab. Then click on the dropdown menu under "Overlay" and click on **Previous job contains overlay**. Click **Apply**, then **OK**. When the Print window reappears, click **OK** to send the job to the Printer. To start printing, press the **ENTER** key on the Printer.

If you wish to print a second job using the same Overlay, simply open that job and send it to the Printer. If the next job does not contain an Overlay, then click on **Properties** in the "Print" window, select Overlay, then **No overlay**. Click **Apply**, then **OK**.

To print the next job with a different Overlay, repeat the process for the first Overlay.

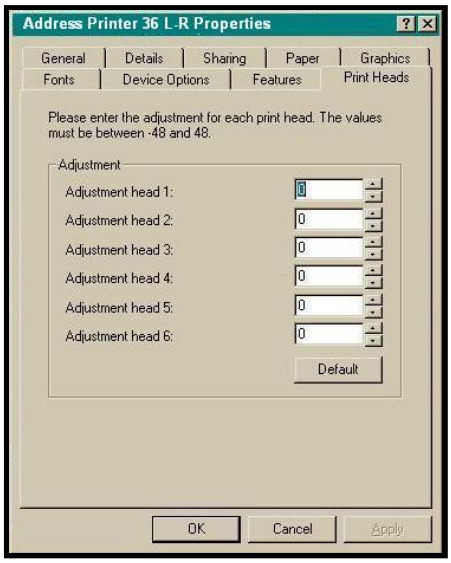
NOTE: Turning the Printer OFF, then ON will clear the Overlay and the job.

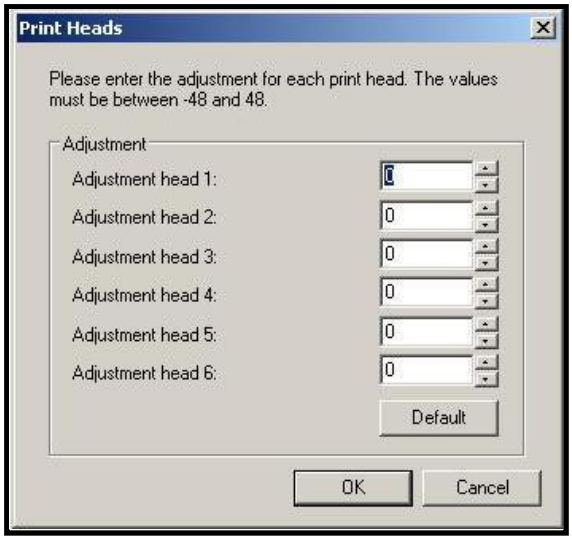
Print Heads Tab

The purpose of the Print Heads Tab is to permit slight (0.001-inch) adjustment to the position of the Printheads to each other. The adjustment is used to precisely align the three Printheads when printing graphics or type that extends beyond the width of one Printhead. Each head can be moved +/- 0.048-inch in 0.001-inch increments.

If you want to move the Printhead toward the lead edge of your layout, then it should be moved in the "-" direction. To move the Head away from the lead edge, move it in the "+" direction.

When the Printer is turned OFF, any changes made this way will return to their original settings.





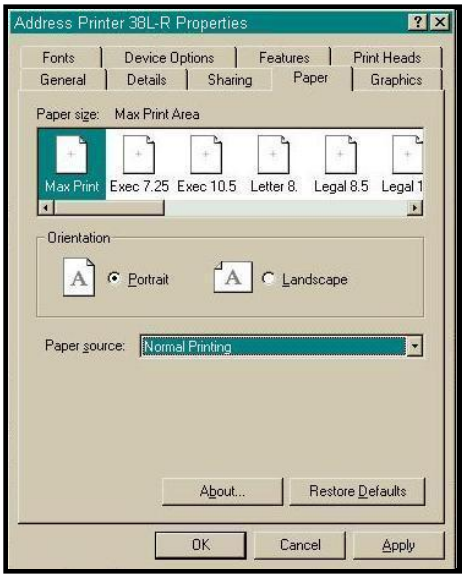
Inverse Printing

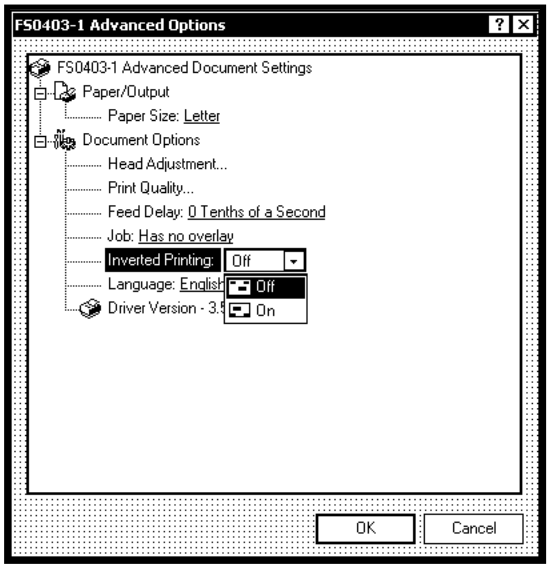
The Paper Tab contains one element that is used to reverse or invert the printing on the AstroJet 3600P/3800P.

In normal operation, the printing is read from the operator side of the Printer. It is sometimes necessary to turn the printing direction 180 degrees from the normal direction. This occurs when, due to the layout or the method of binding, the media must be fed in the reverse direction.

Clicking on the Paper Tab, then on the Paper Source will permit you to reverse the printing direction 180 degrees.

The rest of the settings on this tab should be left as they are. Paper size is always “Max Print Area” and Orentation is always “Portrait”. **Do not change them.**



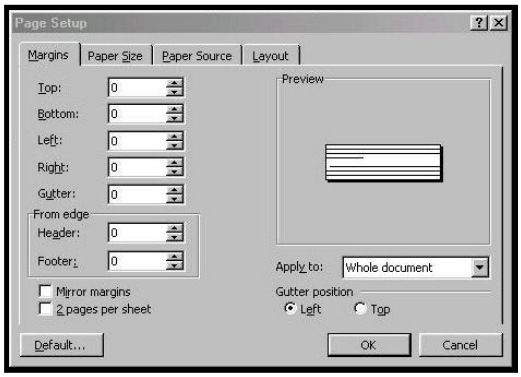


Printing from Microsoft Word

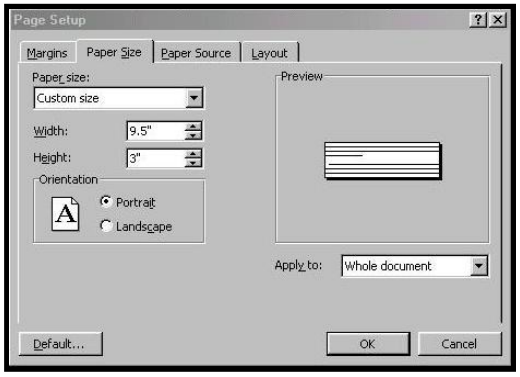
If you are not using a specific program designed for mailing applications it is possible to print your mail pieces using Microsoft Word. This section will cover how to layout a piece and to print from Microsoft Word.

To begin, open a new page and turn on the Toolbar for "Mail Merge". Under Print, select the Address Printer 6 as the default printer. Go to **Page Setup** in the **File** menu. Set all of the margins to "0".

NOTE: The Printer must be selected before you do the set up so that the setting will be registered.

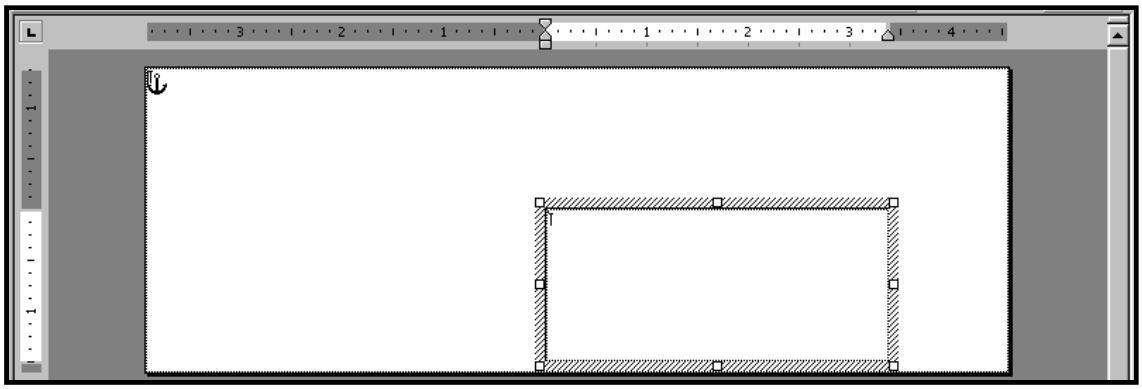


Next, select the **Page Size** tab and Custom Page. The size of the layout should be 3-inches high by the length of the piece you are intending to print. In our example, we have selected the width of a # 10 envelope, 9.5-inches. The orientation of the piece is always **Portrait**. The effective printing area of the AstroJet 3600P/3800P is 3-inches by 15-inches. When you have completed this step click **OK**.



The next step is to create a text box so that you can position the address the proper distance from the lead edge of the piece. Once the page layout is set, you might want to save it as a template for use later.

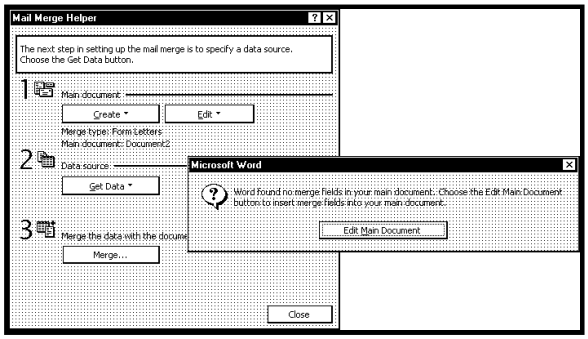
When you have completed the steps above, the layout should look like the one below.



NOTE: When setting up a layout for the AstroJet 3600P/3800P, be aware that the Printheads are aligned in two banks and these banks can be aligned so that you can print in a 3" or 4" wide spread over the width of the media. Head 1 is on one rail and opposite it are Heads 5 and 6. There is a 1-3/4" gap between these Heads. On the second rail, Heads 2, 3 and 4 are attached together. If you are using a 3800P, a second two heads, 7 and 8, are arranged opposite to these Heads. There is a 1-3/4" gap between Heads 2, 3 and 4 and Heads 7 and

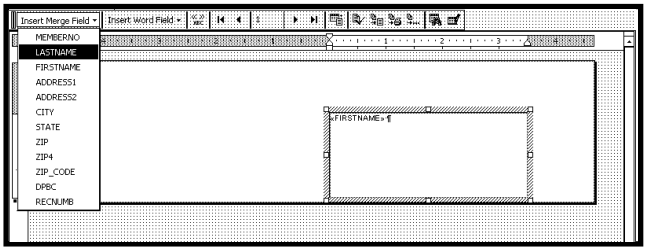
8. Head 1 can be combined with Heads 2, 3 and 4 to print 2" of information. In the 3800P, Heads 5 and 6 can be combined with Heads 7 and 8 to print another 2" of information.

Click on **Tools,** then **Mail Merge**. The "Mail Merge Helper" window will open. Click on **Create**, then **Envelopes**. The "Microsoft Word" window will open. Click on the **Active Window** button, and then click on the **Get Data** button. Next, click on **Open data** source. Locate the data file you intend to use. In our example, we are using a Microsoft Excel file. Select the file and the "Microsoft Excel" window opens. Select the entire spreadsheet and click **OK**.

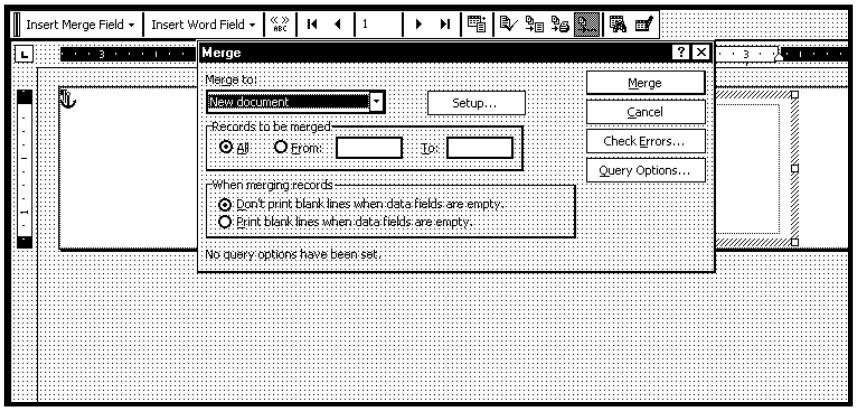


Next, click on **Edit Main Document** and then click on **Close**.

Use the "Mail Merge" Toolbar, click on "Insert Merge Field", and begin to build the layout by inserting the address fields.



When you have completed setting up the layout, click on the **Mail Merge** icon on the toolbar and the "Merge" window will open.



In the **Merge to** menu, there are several choices for where and how the data is exported. The two that concern us are "New Document" and "Printer". If you choose "New Document", the merge will be created in your word application with a separate record for each address. If you choose "Printer", the merge will send directly to the Printer and each record will be printed.

The next selection is "Records to be merged". You can select **All** or **From**.

The last selection is "When merging records". The default is "Don't print blank lines when data fields are empty." This should be left checked.

Clicking on **Merge** will start merging the documents.

If you chose to send the merge directly to the Printer and the Printer is connected to the computer and turned ON, the Printer will start. Pressing the **ENTER** key will start the printing process.

If you have a graphic or fixed text to be printed with the data, refer to the section on **Overlays**.

Section 4 - Maintenance

This section covers how to care for the Ink Cartridges, clear paper jams, replace the Sheet Separators, and perform routine maintenance on the Printer.

The Inkjet Cartridge

The Inkjet Cartridges must be replaced when out of ink, when print quality is poor, or when purging and cleaning have not helped the image quality.

The approximate life of the HP 45 Inkjet cartridges, based on three lines of 20 characters at 10-point size per address, is:

600 x 600 DPI	50,000 addresses
300 x 600 DPI	100,000 addresses
200 x 600 DPI	150,000 addresses
150 x 600 DPI	200,000 addresses

NOTE: These figures can vary depending on the font selected.

To Replace the Inkjet Cartridge:

- Remove the used Cartridge from the Cartridge Holder by raising the Latch Lever to release the Cartridge, and then pull the Cartridge up and out of the Holder.
- Remove the new Inkjet Cartridge from its packaging, taking care not to touch the copper contacts, the metal plate, or the gold printhead. Remove the protective tape from the Printhead.
- The Cartridges are held in place by a lever mounted on the Inkjet Cartridge Holder. Release the lever by raising it vertically.
- With the Cartridge's Printhead pointing down, slide the Cartridge into the Holder and push down and toward the contacts in the Holder.
- Make sure the Cartridge is seated in the Holder, then close the lever to secure the Cartridge in the Holder. Do not force the lever into place.
- Repeat the above for the remaining Cartridges.

CAUTION

NEVER SHAKE, DROP, OR HIT THE CARTRIDGE AGAINST THE PALM OF YOUR HAND OR ANY OTHER HARD SURFACE. SHAKING THE PRINT CARTRIDGE DOES NOT "MIX" THE INK AND HITTING THE CARTRIDGE AGAINST A HARD SURFACE DOES NOT CLEAR THE NOZZLES. BOTH OF THESE ACTIONS ACTUALLY HURT THE PRINT QUALITY BECAUSE THEY ALLOW BUBBLES TO FORM NEAR THE INK FIRING CHAMBERS. THESE BUBBLES PREVENT THE NOZZLES FROM FIRING, CAUSING WHITE STREAKS IN THE PRINT IMAGE.

Storage

Short-term Storage – (less than 2 days or less than 1 day in a hot and dry environment.)

Store the Cartridge in the Docking Station.
The next time that the Printer is used, the Printhead may have to be cleaned and purged.

Long-term Storage – (more than 2 days or more than 1 day in a hot and dry environment.)

Place the Cartridges in the Docking Station, or

Place the Cartridges in a Tupperware® container with a damp sponge or towel to maintain humidity and prevent the Printhead from drying out.

When the Cartridges are ready to be used again, the Printhead may need to be cleaned.

Disposal

The Cartridge may be disposed of in a normal manner.

In case of an ink spill, use soap and water to clean up any problem areas. Abrasive soap works well in getting ink off of hands.

The ink in the cartridge may be harmful if swallowed. Keep new and used cartridges out of reach of children. Discard empty cartridges immediately.

Cleaning the Printhead

To maintain good print quality it is important that the Printheads are kept clean. During the printing process ink spray, paper fibers, and dust can cause a build-up on the Printheads. This build-up will eventually degrade the print quality. If you begin to notice problems with the quality of the print, or to just prevent a build-up from occurring, wipe the Printhead with a wet fiberless cloth.

Cloth should be:	*Cloth should not be:*
✔ Soft	✕ Abrasive
✔ Fiberless	✕ Made of small fibers
✔ Moistened with water (Distilled is best but tap water will work)	✕ Dry or contain chemical additives

Wipe slowly across the long-axis with the Printhead facing down (as shown). Do not apply excessive force, as this could scratch the Nozzle area.

Purging the Nozzles

If the Printhead sits inactive for a time, ink may dry in the Nozzles. Printing may not remove these "ink plugs" from the Nozzles. White streaks will then show up in the printed text or graphic. In order to obtain better print quality, these ink plugs need to be forced out or purged. A Purge routine is built into the AstroJet 3600P/3800P Printer. It can be accessed from the LCD Panel on the Printer from the **MENU** key. If this does not solve the problem, then proceed as follows:

1. Wipe the Printhead with a wet cloth as described in "*Cleaning the Printhead*" above.
2. Perform the Purge routine from the Printer by pressing the **MENU** key momentarily and then the "**+**" key. Load media and press the **ENTER** key to purge. Repeat if necessary.
3. Wipe the Printhead again with a moist cloth.

NOTE: For more information, refer to Troubleshooting Printheads in *Section 5 – Troubleshooting Guide*.

Jams in the AstroJet 3600P/3800P Printer

If a jam occurs, **STOP the Printer.** Up to 10 missed addresses can be recovered at the Printer Control Panel. (See ***Section 3 – Operating the AstroJet 3600P/3800P*** "*Print Recovery After Jam*".)

Some possible reasons for jamming are:

1. Feeding more than one piece of media.
2. Damaged media, such as dog-eared (turned down corners).
3. Media that is not stiff enough may not be usable. Media that meets Postal stiffness requirements for automated feeding is acceptable in the AstroJet 3600P/3800P.
4. Envelopes that are caught under the flap of another envelope or stuck to one another may cause jamming.

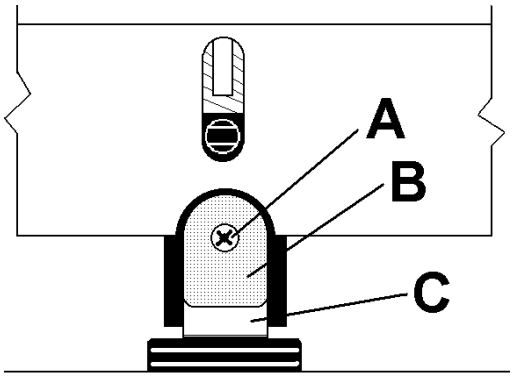
Removing Jammed Media

1. It may be necessary to move one or more of the Printheads to gain access to the jammed media. Take care in removing jammed media to prevent damage to the Printheads. All pieces of the jammed media must be removed from the feed path.
2. Follow the instructions in ***Section 3 – Operating the AstroJet 3600P/3800P*** "*Print Recovery After Jam*".

Replacing the Sheet Separators on Optional Feeder

The Sheet Separators insure separation of the pieces as they are being fed. They do wear and must be replaced from time to time. If you experience double sheet feeding and cannot adjust the Separators to prevent it, they should be replaced. Replacement of the Sheet Separators is not difficult, simply follow the steps below:

1. Turn off the Feeder and unplug it from the power source.
2. Release the Separator Locking Lever and move the Paper Side Guides to their maximum open position.
3. Lower the Separators so that they touch the Feed Roller.
4. Remove the screw **[A]** and the Separator Support **[B]**. Then remove the Separator **[C]** by prying it out of the Holder.
5. Install a new Separator in place and replace the Separator Support and screw.



Cleaning

WARNING

THE PRINTER IS A PRECISION MACHINE THAT SHOULD BE CLEANED REGULARLY TO INSURE MANY YEARS OF SERVICE. BEFORE PERFORMING ANY MAINTENANCE, DISCONNECT THE MACHINE FROM ITS POWER SOURCE!

The Printer must be cleaned regularly of accumulated paper dust and ink. Depending on the types of media that are run, paper dust may accumulate within the Printer and on the Transport. To properly clean the Printer, unplug it from the power receptacle and remove the covers.

- **Internal Areas:** Best cleaned with a vacuum that has a soft brush attachment to help loosen the dust particles. Take care not to damage the PC Boards or electrical wiring.
- **Exterior Areas:** May be cleaned with any standard non-abrasive household cleaner that does not contain plastic-harming solvents.

CAUTION

NEVER SPRAY OR POUR CLEANERS DIRECTLY ON OR INTO THE PRINTER. EXCESS LIQUID COULD HARM ELECTRONIC PARTS. ALWAYS DAMPEN A RAG WITH THE CLEANER AND APPLY IT TO THE PARTS TO BE CLEANED.

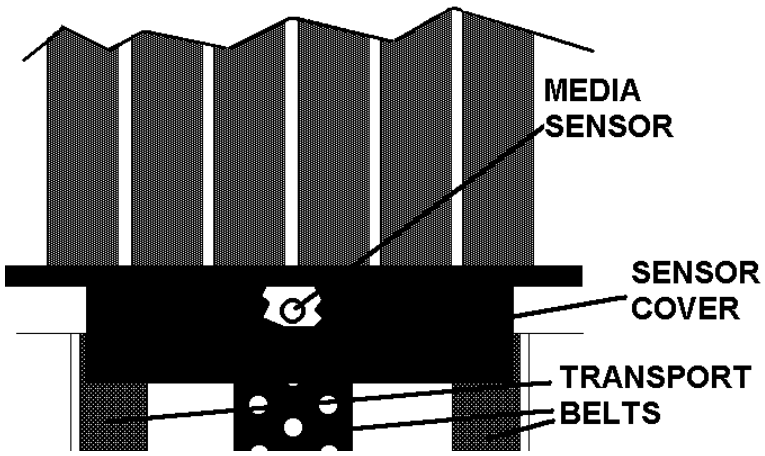
Feed Rollers and Forwarding Rollers on Optional Printer

The Feed and Forwarding Rollers can become glazed with paper lint and ink from the media. They should be regularly cleaned with a mild abrasive household cleaner on a damp cloth.

Avoid using solvents on the Rubber Rollers.

Cleaning the Media Sensor

Periodically check the Media Sensor located in the Print Carriage area of the Printer section. The Sensor should be clean and free of accumulated paper dust. Use a vacuum with a soft brush attachment or dry compressed air to remove the dust.



Section 5 – Troubleshooting Guide

The following Troubleshooting Guides are provided to assist you in solving any problems that might occur with the AstroJet 3600P/3800P Printer or its software. We have tried to make them as complete as possible. The best advice we can offer is to make sure that the system is setup properly, plugged in, that it has an adequate supply of ink before attempting to troubleshoot any problem.

HP Inkjet Print Cartridges

CONDITION	PROBLEM	SOLUTION
Black streaks in text ~~This is a sample of text showing black streaks in the copy.~~	Lint or paper dust on Printhead.	Clean the Cartridge Nozzles with a clean lint-free cloth moistened with distilled water.
Cartridge will not print	Sheet is blank even after it has gone underneath Cartridge(s).	Check to make sure the tape is off the Printhead. Remove and reinsert the Cartridge into the Carriage Holder. Install a new Print Cartridge.
White streaks in text or graphics Michael Jones Astro Machine Corp. 630 Lively Blvd. Elk Grove Village, IL 60007-1234	Lint or dust blocking Printhead holes. Poor contact between Printhead and Printhead Holder.	Clean the Cartridge Nozzles with a clean lint-free cloth moistened with distilled water. Clean Interconnects. Remove and reinsert the Cartridge into the Holder. Insert a new Print Cartridge.

The Printer

CONDITION	PROBLEM	SOLUTION
Extra lines; losing data	Database problem	Check data in database program
Improper output (address information out of order, miss-feeding, etc.)	Wrong Interface settings Static electricity Dirty Media Sensor	Check software or database on PC. Close AstroJet Control Panel software, the turn Printer OFF and ON. Clean Media Sensor.
Media jams	Double feeding Media is curled or bent Media is too thin	Adjust Sheet Separators on Feeder. Uncurl media. Media must be at least 0.008".
No communication	Improper cabling / connector Unit not receiving power	Use proper cable (*see Operator Manual*). Check plug connections, ON/OFF Switch and Fuse on Back Panel (*see Operator Manual*).
Not printing on media	Media not positioned properly	Adjust Printhead vertically. Adjust margin setting in layout software.
Print too light or missing character dots	Clogged or dirty Printheads Running out of ink	Purge or clean Cartridges. Replace Inkjet Cartridges.
Blurry address 	Image is not sharp	Printhead gap too high. Adjust Printhead closer to the media.
Split line of type **Astro Machine Corp.** ***630 Lively Blvd.*** **Elk Grove Village, IL 60007**	Line of type is placed across two Printheads	Reposition the text in the layout so that it does not print across two Printheads. Adjust the positioning of the two Printheads in relationship to each other using the Head Alignment in the Properties window of the PCL Driver.
Uneven split line of type **Astro Machine Corp.** **630 Lively Blvd.** **Elk Grove Village, IL 60007**	Some but not all of a line of type across two Printheads matches up	Reposition the text in the layout so that it does not print across two Printheads. Check the Sheet Separator adjustment. Separators should just touch the media. Check that the Printhead is set at the proper height. A Printhead that is too high will cause slippage in the media as it is passing under the Heads.

WARNING

DO NOT REMOVE THE SIDE COVERS OF THE PRINTER!
THERE ARE HIGH VOLTAGES PRESENT BEHIND THE COVERS!

Appendix A – AstroJet 3600P/3800P Specifications

PRINT TECHNOLOGY	Inkjet, 6 or 8 HP 45 High Capacity Inkjet Cartridges
ADDRESS SPEED	Up to 26,000/hr - #10 Envelopes
PRINT QUALITY (Dots Per Inch)	High Quality 600 x 600 dpi Standard Quality 600 x 300 dpi Letter Quality 600 x 200 dpi Draft Quality 600 x 150 dpi
IMAGE AREA	3" or 4" x 17"
PRINT ORENTATION	Normal and Reverse
INK MONITOR	Visible on Display
FONTS	All TrueType fonts available on PC
PRINTS	Prints graphics, logos, and barcodes
MATERIAL SIZE	Length – 5" to 17" Width – 3" to 13.5"
MATERIAL THICKNESS	Up to 3/8"
MEMORY	12 MB
PRINT COLORS	Versatile Black and General Black, Red, Blue, Green, and Yellow
INK	Water-based, may require drying assistance for coated stock
SOFTWARE	Windows™ Printer Drivers for Windows™ 98, 2000, NT, ME, and XP
DIAGNOSTICS	Resident in firmware
FIRMWARE UPDATE	Flash PROM update.
PC INTERFACE	Centronics Parallel
COUNTERS	One operator resettable job counter, one permanent lifetime counter
DUTY CYCLE	75 million addresses total or 1,250,000 per month over a 5-year life cycle.
DIMENSIONS	11.5" H x 30" L x 23" W (29.2 cm H x 76.2 cm L x 58.4 cm W)
WEIGHT	90 lbs. (40.9 kg)
ELECTRICAL	AstroJet 3600P/3800P 115VAC or AstroJet 3600P/3800PE 240VAC, 50/60 Hz
OPTIONS	Left-to-Right or Right-to-Left Operation, Stand, Conveyor/Stacker and Feeders

All Specifications Subject To Change Without Notice

Appendix B – Supplies and Optional Hardware

The following supply items and optional hardware are available from your Astro Machine Dealer:

Supplies

Red Inkjet Cartridge	HPC6168A
Green Inkjet Cartridge	HPC6169A
Blue Inkjet Cartridge	HPC6170A
Yellow Inkjet Cartridge	HPC6173A
Versatile Black	HPC8842A
General Black (*works on high gloss media when used with dryer*)	IQ2392

Optional Hardware

Vacuum Feeder

Friction Feeder

Conveyor / Stacker Available

Stand

- key 2, 13
+ key 2, 13

A

Address Recovery 12
Adjusting Side Guides 9
Adjusting Transport Belts 8
Advanced Properties 14
Aligning Printheads 15
Automatic Feed 12

B

BIOS Version 13
Blurred Printing 24
Broken Lines 24
Broken Printing 23
Bulk Ink 13

C

Cartridge Disposal 20
Cartridge Installation 7
Cartridge Replacement 19
Cartridge Storage 20
Choose Location 5
Choosing Printer 10
Circuit Breaker 1
Cleaning Feed Rollers 22
Cleaning Machine 22
Cleaning Printhead 20
Clear Batch Counter 12
Connection, Computer 5
Connection, Feeder 6
Connection, Printer 5
Connector, Interface 1, 3
Control Panel, Friction Feeder 3
Control Panel, Printer 2
Conveyor Speed Up 12

D

Display, Feeder 3
Display, Printer 2
Docking Station 1, 20
Driver Features 13
Driver Properties 13

E

Enter Key 2, 11

F

Fault Indicator 2
Features Tab 14
Feed Delay 15
Feed Roller Cleaning 22
Feed Stop 12
Feeder Assembly 6
Feeder Auto/Manual 3
Feeder Batch Counter 3
Feeder Connection 6
Feeder Continuous 3
Feeder Interface 1, 3
Feeder On/Off 3
Feeder Power 3
Feeder Setup 8
Feeder Single 3
Feeder Speed 3
Fuse, Feeder 3

I

Inkjet Cartridge 7, 12, 19
Installing Computer 5
Installing Feeder 6
Installing Inkjet Cartridges 7
Installing New Cartridges 12, 19
Installing New Printheads 19
Installing Printer Driver 10
Inverse Printing 16

J

Jam in Printer 21
Jam Recovery 12
Jam Removal 21
Jams 21, 24

L

Left-to-Right 10
Locating System 5
Long Term Storage 20

M

Main Power Switch 1, 3
Maintenance 19
Media Guides 1
Media Sensor Cleaning 22
Media Thickness 2, 10
Menu Key 2, 11
Microsoft Word 17
Missing Records 24
Motor Circuit Breaker 1

N

No Print 24

O

On Line Key 2, 13
Operator Display 2, 3
Optional Hardware 26
Overlay 15

P

Parallel Port 1, 5
Pause Type 12
Power Receptacle 1,3
Print Enhancement 12
Print Heads Tab 15
Printer Cleaning 22
Printer Display 2
Printer Driver Install 10
Printer Driver Properties 13
Printer / Feeder Interface 1, 3
Printer Operation 11
Printer Speed 14
Printer Troubleshooting 24
Printhead Alignment 15
Printhead Cleaning 20
Printhead Cover 1
Printhead Purging 21
Printing Blurry 24
Printing from Microsoft Word 17
Printing Inverse 16
Printing Light 24
Printing Troubleshooting 23
Purge 12
Purge While Printing 13
Purging Printheads 21

R

Records Missing 24
Recovering from Jam 12, 21
Replacing Cartridges 19
Replacing Sheet Separators 21
Reset Key 2, 13
Resolution 14
Right-to-Left 10
Rollers, Cleaning 22

S

Sheet Separator Replacement 21
Short Term Storage 20
Side Guides 1
Smeared Printing 23
Specifications 25
Speed, Printer 14
Storing Cartridges 20
Streaked Printing 23
Supplies 25

T

Test Print key 2, 11
Total Count 13
Transport Belt Adjustment 8
Troubleshooting Printer 24
Troubleshooting Printheads 23
Troubleshooting Printing 23

U

USB Port 1, 5

V

Vacuum Transport 1
Vacuum Transport Switch 1, 8

Copyright © 2013 ASTRO MACHINE CORP.
Elk Grove Village, IL 60007
09/05/2013
Part Number: **200-AJ3600/3800PCL** **Rev I**