



Troubleshooting

To better help our customers - this HP Laserjet 4345 mfp series troubleshooting page is simply a guide / additional information for your convenience, as you search for assistance in repairing your machine. Although this information is provided for your convenience it is recommended, for the most part, that a technician inspects your office equipment.

It is recommended to consult with a professional when ordering your printer part(s).

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Image-formation troubleshooting

The image-formation system is the central hub of the MFP. During image formation, an image is formed with toner and then fused onto the paper. The image-formation system consists of the following physical components:

- Laser/scanner
- Print cartridge
- Fuser
- Transfer roller
- Supporting circuitry (power supply and dc controller PCA)

Before beginning the image-formation troubleshooting, check that the media meets the specifications that are listed in the *HP LaserJet Printer Family Print Media Guide*. This guide is available for download in .PDF file format at www.hp.com/support/ljpaperguide. Also see [Media specifications](#).

Media-related print-quality problems

Use media that meets HP paper specifications. See the specifications listed in the *HP LaserJet Printer Family Print Media Guide*.

If any of the following conditions exist, print-quality problems can occur:

- The surface of the media is too smooth. Use media that meets HP paper specifications. See the specifications listed in the *HP LaserJet Printer Family Print Media Guide*.
- The printer driver is set incorrectly. Change the paper-type setting.
- The media is too heavy for the MFP, and the toner is not fusing to the media.
- The transparencies are not designed for good toner adhesion or high fusing temperatures. Use only transparencies that are designed for HP LaserJet printers.
- The moisture content of the paper is uneven, too high, or too low. Use paper from a different source or from an unopened ream of paper.
- Some areas of the paper reject toner. Use paper from a different source or from an unopened ream of paper. Make sure that the paper has not been previously used.
- The letterhead is printed on rough paper. Use a smoother, photocopy-grade paper. If this solves the problem, consult with the letterhead supplier to verify that the paper used meets the specifications for this MFP.
- The paper is excessively rough. Use a smoother, photocopy-grade paper.
- The paper has a coating that is not compatible with the electrophotographic process.
- The letterhead or other preprinted media was printed with inks or other materials that can contaminate the fuser, which causes offset or repeated images.
- The use of some carbonless papers contaminates the MFP and can cause damage if used repeatedly.

Overhead transparency defects

Overhead transparencies can contain any of the image-quality problems that appear in other types of media in addition to defects that are specific to transparencies. In addition, because transparencies are pliable, they can be affected by the media-handling components in the paper path.



NOTE Allow transparencies to cool at least 30 seconds before handling them.

- On the printer driver **Paper** tab, select **Transparency** as the media type. Also, make sure that the tray is correctly configured for transparencies.
- Make sure that the transparencies meet the specifications for this monochrome HP LaserJet MFP. For more information, consult the *HP LaserJet Printer Family Print Media Guide*.
- Handle transparencies by the edges. Skin oil on the surface of transparencies can cause spots and smudges.
- Small, random dark areas on the trailing edge of solid fill pages might be caused by transparencies sticking together in the output bin. Try printing the job in smaller batches.
- To show the printed transparency, use a standard overhead projector instead of a reflective overhead projector.

Print-quality problems that are related to the environment

When the MFP is operating in excessively humid or dry conditions, print-quality problems can occur. Verify that the printing environment is within specifications. See [Environmental specifications](#).

Print-quality problems that are related to jams

- Make sure that all media is cleared from the paper path.
- If the MFP recently jammed, print two or three pages to clean the MFP.
- Repeated jams might require that you clean the MFP as described in chapter 4. It might be necessary to process several cleaning pages through the MFP. See [Cleaning the fuser](#).

Image-defect examples

The MFP output quality is subject to user judgment. This section of the manual helps define print-quality defects and the factors that affect print quality.

The print samples that are shown in the following figures illustrate some print-quality defects. To use for future reference, HP suggests that you keep copies of print-quality defects that you encounter in the field and note the explanation of their causes.



NOTE When troubleshooting image defects, try scanning a test page through the ADF and from the scanner glass to help isolate the cause of the problem to the ADF, the scanner, or the print engine.

Table 7-11 Defects that can occur during printing

<p>See Light print (partial page)</p>	<p>See Light print (entire page)</p>	<p>See Specks or dots</p>	<p>See Specks or dots</p>	<p>See Dropouts</p>
<p>See Dropouts</p>	<p>See Dropouts</p>	<p>See Lines</p>	<p>See Gray background</p>	<p>See Loose toner or toner smear</p>
<p>See Loose toner or toner smear</p>	<p>See Repeating defects and repeating images</p>	<p>See Repeating defects and repeating images</p>	<p>See Misformed characters</p>	<p>See Page skew</p>

Table 7-11 Defects that can occur during printing (continued)

<p>See Curl or wave</p>	<p>See Wrinkles or creases</p>	<p>See Vertical white lines</p>	<p>See Tire tracks</p>	<p>See White spots on black</p>
<p>See Scattered lines.</p>	<p>See Blurred print.</p>	<p>See Random image repetition (dark)</p>	<p>See Random image repetition (light)</p>	

Table 7-12 Defects that can occur when using the ADF

<p>See Blank page (ADF)</p>	<p>See Page skew (ADF)</p>	<p>See Vertical lines (ADF)</p>
<p>See Image shifted (ADF)</p>	<p>See Unexpected image (ADF)</p>	

Light print (partial page)



Table 7-13 Light print (partial page)

	Possible cause	Solution
1	The print cartridge is not installed correctly.	Remove the print cartridge and then reinstall it. The top cover should close completely when the cartridge is fully seated.
2	The toner supply is low or the toner cartridge developer is defective.	<ol style="list-style-type: none">1 Shake the print cartridge gently to redistribute the toner.2 Replace the cartridge.
3	The transfer roller is worn or contaminated or maintenance might due.	Print a supplies status page and look at the maintenance-kit gauge. If maintenance is due, install a maintenance kit. For information about ordering a maintenance kit, see chapter 8.

Light print (entire page)

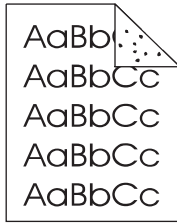


Begin by performing the half self-test functional check (see [Half self-test](#)). If the image on the print drum is light, proceed with actions 1, 2, 3, 6, and 7. If the drum image is normal, proceed with actions 5, 6, and 8.

Table 7-14 Light print (entire page)

Action	Possible cause	Solution
1	The toner supply is low.	Shake the print cartridge gently to redistribute the toner, or replace the cartridge.
2	EconoMode is on. EconoMode saves toner by reducing the dot density. The effect might appear to be a print-quality problem.	Turn EconoMode off.
3	The toner density is set incorrectly	In the PRINT QUALITY menu, change the toner density to a darker setting and try to print the job again.
4	The media does not meet specifications. The moisture content, conductivity, or surface finish might not work correctly with the electrophotographic process.	Try a different media type.
5	The transfer roller is defective or is not installed correctly. If the transfer roller loses conductivity, it cannot pull toner from the drum effectively.	Verify that the transfer roller is installed correctly. If the transfer roller is damaged, replace it. See Transfer roller .
6	The high-voltage connector springs are dirty or damaged.	The high-voltage connector springs protrude into the print cartridge cavity. Clean the springs if they are dirty. Replace the springs if they are damaged or missing.
7	The laser/scanner shutter door is not opening correctly.	<ol style="list-style-type: none">1 Remove and reseal the print cartridge.2 Verify that the laser/scanner shutter door can open correctly. If necessary, replace the laser/scanner assembly. See Laser/scanner.
8	The engine power supply is defective.	Replace the engine power supply. See Engine power supply .

Specks or dots



NOTE Specks might appear on a page after a jam has been cleared. Print two or three more pages and see if the specks disappear.

Table 7-15 Specks or dots

	Possible cause	Solution
1	The interior of the MFP is dirty.	<ol style="list-style-type: none">1 Print a few more pages and see if the problem corrects itself.2 Clean the inside of the MFP.3 Process a cleaning page. See Cleaning the fuser.
2	The print cartridge is damaged.	Replace the print cartridge.
3	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none">1 Turn over the stack of media in the tray. Also try rotating media 180 degrees.2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
4	The fuser rollers are worn.	Replace the fuser. See Fuser .
5	The static-eliminator teeth are dirty.	Clean the static eliminator teeth by using a small brush compressed air.
6	Poor contact exists between the static-eliminator teeth and the power supply.	Clean the contacts, if they are dirty. If the problem persists after cleaning, or the contacts are damaged or deformed, replace them.
7	The transfer roller is deformed or has deteriorated.	Replace the transfer roller. See Transfer roller
8	The engine power supply is defective.	Replace the engine power supply. See Engine power supply .

Dropouts



Table 7-16 Dropouts

	Possible cause	Solution
1	The user is printing on the wrong side of the paper. The label on the ream of paper indicates which side to print on. The different surface properties of some papers might cause problems if the paper is loaded incorrectly.	<ol style="list-style-type: none"> 1 Check the arrow on the paper wrapper. From tray 1, the MFP prints on the side of the paper that faces up. From the other trays, the MFP prints on the side of the paper that faces down. 2 Turn over the stack of paper in the tray. Also try rotating the stack 180 degrees. Do <i>not</i> fan the stack. 3 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
2	The media surface is too smooth or too rough for good toner adhesion.	Use media that meets HP specifications. See the <i>HP LaserJet Printer Family Print Media Guide</i> .
3	The transparencies do not meet HP specifications.	Use HP-approved transparencies for monochrome LaserJet printers. See the <i>HP LaserJet Printer Family Print Media Guide</i> .
4	The operating environment does not meet specifications.	Make sure that the MFP is installed in an area that meets the environmental specifications. See Environmental specifications .
5	The fuser roller is dirty and is lifting part of the image off of the paper.	Process a cleaning page. Several pages might be required if the fuser is very dirty.
6	The print cartridge is defective or nearly empty.	Replace the print cartridge.
7	The toner-density setting is incorrect.	Open the PRINT QUALITY menu at the control panel and adjust the toner-density setting. Make sure that EconoMode is off.
8	The fuser setting is incorrect for the media type.	Open the CONFIGURE DEVICE menu at the control panel. Open the PRINT QUALITY submenu, select

Table 7-16 Dropouts (continued)

	Possible cause	Solution
		FUSER MODES , and then select the media type you are using. Change the setting to HIGH 1 or HIGH 2, which helps the toner fuse more completely onto the media.
9	The transfer roller is damaged, has finger oils on its surface, or is dirty or worn.	Clean the transfer roller by using a dry, lint-free cloth. Do not touch the transfer roller with your fingers. If the problem persists, replace the transfer roller. See Transfer roller .
10	Poor high-voltage contact exists between the power supply and the print cartridge or transfer roller.	Inspect the contacts and clean them if they are dirty. Replace them if they are damaged.
11	The engine power supply is defective (the transfer voltage is low).	Replace the engine power supply. See Engine power supply .

Lines

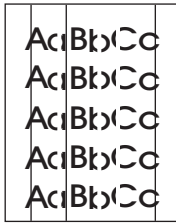


Table 7-17 Vertical lines (in the paper-path direction)

	Possible cause	Solution
1	The print cartridge is not installed correctly.	Remove the print cartridge and then reinstall it. The top cover should close completely when the print cartridge is fully seated.
2	The print cartridge is defective.	Replace the print cartridge.
3	The fuser roller is worn or dirty.	Process a cleaning page. See Cleaning the fuser . Several pages might be required the fuser is very dirty. If the problem persists, replace the fuser. See Fuser .
4	The static-eliminator teeth (just beyond the transfer roller) are contaminated or defective.	Clean the static-eliminator teeth by using a small brush or compressed air. Replace the assembly if it is damaged.
5	Light is leaking into the MFP.	Make sure that all of the covers are in place. Move the MFP away from windows that face the outdoors.

Horizontal lines

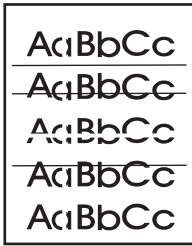


Table 7-18 Horizontal lines (perpendicular to the paper-path direction)

	Possible cause	Solution
1	If the lines are repeated at a consistent interval down the page, a repetitive defect exists.	Use the repetitive defect ruler to determine the cause of this defect. See Repetitive defect ruler .
2	Sharp, random lines indicate a problem with the laser/ scanner control circuitry.	<ol style="list-style-type: none"> 1 Check the cables between the dc controller and the laser/scanner assembly. 2 If the cables are not connected, connect the cables. 3 Print an engine test page. See Engine test. If the defect appears on the engine test page, replace the dc controller PCA. See DC controller. 4 If, after checking the cables between the dc controller and the laser/scanner, the problem persists, replace the laser/ scanner assembly. See Laser/scanner. 5 If, after replacing the dc controller PCA, the problem persists, replace the Formatter assembly. See Formatter cover and formatter.

Gray background



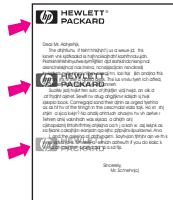
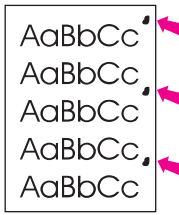
	Possible cause	Solution
1	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none">1 Turn over the stack of media in the tray. Also try rotating the media 180 degrees.2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Printing and paper-storage environment.
2	The operating environment does not meet specifications.	Make sure that the MFP is installed in an area that meets the environmental specifications. See Environmental specifications .
3	The customer is printing on the envelope seams. (Printing on an envelope seam can cause a background-scatter problem.)	Move the text to an area that has no seams.
4	The inside of the MFP is dirty (toner leaked out of the print cartridge).	Clean the inside of the MFP (see Cleaning the MFP). Install a new print cartridge.
5	The problem occurs during copying.	In the CONFIGURE DEVICE menu, open the ENHANCEMENT submenu, and adjust the BACKGROUND REMOVAL setting.
6	The toner-density setting is wrong.	Open the print-quality menu at the control panel and adjust the toner-density setting. Make sure that EconoMode is off.
7	The high-transfer setting is turned off.	Open the print-quality menu at the control panel. Select OPTIMIZE and set HIGH TRANSFER=ON .
8	The print cartridge is defective.	Replace the print cartridge.
9	The high-voltage connector springs are dirty or damaged.	The high-voltage connector springs protrude into the print cartridge cavity. Clean the springs if they are dirty. Replace the springs if they are damaged or missing.
10	The engine power supply is defective.	Replace the engine power supply. See Engine power supply .

Loose toner or toner smear



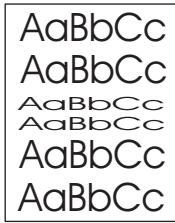
	Possible cause	Solution
1	The interior of the MFP is dirty.	<ol style="list-style-type: none">1 Print a few more pages and see if the problem corrects itself.2 Clean the inside of the MFP. See Cleaning the MFP.3 Process a cleaning page. See Cleaning the fuser.
2	The fuser roller is dirty.	Process a cleaning page. See Cleaning the fuser . Several pages might be required if the fuser is very dirty.
3	The media surface is too smooth or too rough for toner adhesion.	Use media that meets HP specifications. See Media specifications .
4	The static-eliminator teeth (just beyond the transfer roller) are contaminated or are not grounded, which allows a static charge to remain on the page.	Clean the static-eliminator teeth with a small brush or compressed air. Replace the assembly if it is damaged.
5	The fuser is defective. The print will smear if the fuser does not heat sufficiently to bond the toner to the paper.	Replace the fuser. See Fuser .
6	The dc controller PCA is defective. The dc controller PCA regulates the fuser roller temperature.	Replace the dc controller PCA. See DC controller .

Repeating defects and repeating images



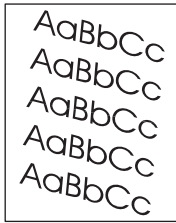
	Possible cause	Solution
1	<p>The print cartridge or fuser is damaged. The circumference of the photoconductive drum inside of the print cartridge is 94.2 mm (3.7 inches). If the defect repeats at this interval, the defect is associated with the drum.</p> <p>Repetitive defects caused by the fuser roller repeat at 94.0 mm (about 3.7 inches) Because the fuser roller is just 2 mm (0.07 inch) smaller than the photoconductive drum it can be difficult to distinguish defects that the photoconductive drum causes from those that the fuser roller causes.</p>	<p>1 Inspect the drum for scratches or other damage. Replace the print cartridge for defects that repeat at 37.7 mm (1.5 inches), 62.8 mm (2.5 inches), 54.0 mm (2.1 inches), or 94.2 mm (3.7 inches).</p> <p>2 Process a cleaning page. See Cleaning the fuser.</p> <p>3 If the problem persists, and the defect repeats at the 75.0 mm (2.95 inches) or 94.0 mm (about 3.7 inches), replace the fuser (see Fuser).</p> <p>For more information about repetitive defects, see Repetitive defect ruler.</p>
2	<p>The rollers are dirty. A dirty roller in the paper path can cause a repetitive defect.</p>	<p>Examine and clean (or replace) the rollers in the paper path.</p>
3	<p>The media does not meet specifications.</p>	<p>Try a different media type or quality.</p>
4	<p>Preprinted form paper is used.</p>	<p>Some preprinted forms (for example, letterheads) use an ink that cannot withstand the high temperatures in the fuser. Check the media for type and quality. Replace the media, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.</p>

Misformed characters



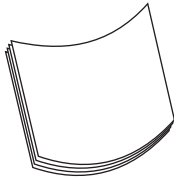
	Possible cause	Solution
1	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none">1 Turn over the stack of media in the tray. Also try rotating media 180 degrees.2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
2	The operating environment does not meet specifications.	Make sure that the MFP is installed in an area that meets the environmental specifications. See Environmental specifications .
3	The cables are not securely connected to the laser/scanner assembly.	Reseat the cables that are connected to the laser/scanner assembly.
4	The cables are not securely connected to the dc controller PCA.	Reseat the cables that are connected to the dc controller PCA.
5	The laser/scanner assembly is defective.	Replace the laser/scanner. See Laser/scanner .
6	The gears are worn.	Inspect the gears that drive the print cartridge and fuser. If any gears are worn, replace the defective assembly.
7	The print-cartridge motor is defective.	Replace the print-cartridge motor. See Print-cartridge motor (M102) .
8	The dc controller PCA is defective.	Replace the dc controller PCA. See DC controller .

Page skew



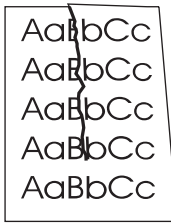
	Possible cause	Solution
1	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none">1 Turn over the stack of media in the tray. Also try rotating the media 180 degrees.2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
2	The media is not loaded correctly or the trays are not adjusted correctly.	Make sure that the media is loaded correctly and that the guides fit snugly against the stack.
3	The registration assembly is not installed correctly or is damaged.	Make sure that the registration assembly is installed correctly. If necessary, replace the registration assembly. See Feed-roller assembly .

Curl or wave



	Possible cause	Solution
1	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none">1 Turn over the stack of media in the tray. Also try rotating the media 180 degrees.2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
2	The operating environment does not meet specifications.	Make sure that the MFP is installed in an area that meets the environmental specifications. See Environmental specifications .
3	The wrong output bin is in use.	Print to a different output bin (top or rear output bin).
4	The fuser setting is incorrect for the media type.	Open the CONFIGURE DEVICE menu at the control panel, open the PRINT QUALITY menu, and change the fuser-mode setting or select another media type.

Wrinkles or creases



	Possible cause	Solution
1	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none">1 Turn over the stack of media in the tray. Also try rotating the media 180 degrees.2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
2	The operating environment does not meet specifications.	Make sure that the MFP is installed in an area that meets the environmental specifications. See Environmental specifications .
3	The media is not loaded correctly or the trays are not adjusted correctly.	Make sure that the media is loaded correctly and that the guides fit snugly against the stack.
4	The wrong tray is in use.	Print from tray 1 when you use a heavy media.
5	Output delivery is set for FACE-DOWN.	Select FACE-UP output for the straightest paper path.
6	An obstruction exists in the paper path.	<ol style="list-style-type: none">1 Check the paper path for debris.2 Check for damaged components that might be creasing the paper.

Vertical white lines



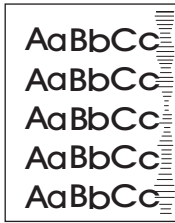
	Possible cause	Solution
1	The toner supply is low or the print cartridge is defective.	<ol style="list-style-type: none">1 Shake the print cartridge gently to redistribute the toner.2 If another print cartridge is available, try using that one to see if the problem goes away.3 Replace the print cartridge.
2	The laser path is dirty.	Clean the laser path. Remove the laser/scanner assembly (see Laser/scanner) and check for dirt or other obstructions in the beam path.
3	The fuser is defective.	Replace the fuser. See Fuser .
4	The mirror in the laser/scanner is dirty.	Replace the laser/scanner assembly. See Laser/scanner .

Horizontal white lines



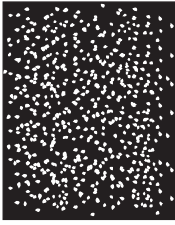
	Possible cause	Solution
1	The print drum is damaged.	<ol style="list-style-type: none">1 If another print cartridge is available, try using that one to see if the problem goes away.2 Replace the print cartridge.
2	The fuser roller is damaged.	Process a cleaning page. See Cleaning the fuser .
3	The fuser is defective.	If the problem persists, replace the fuser. See Fuser .
4	The laser beam or beam circuitry is unstable.	<ol style="list-style-type: none">1 Print an engine-test page to determine whether the defect is related to the print engine or the formatter. See Engine test. If the problem does not appear on the engine-test page, replace the formatter. See Formatter cover and formatter.2 Check the cables between the dc controller and the laser/scanner assembly.3 If the cables are not connected, connect the cables.4 If, after checking the cables between the dc controller and the laser/scanner, the problem persists, replace the laser/scanner assembly. See Laser/scanner.5 If, after replacing the laser/scanner, the problem persists, replace the dc controller PCA. See DC controller.6 If, after replacing the dc controller PCA, the problem persists, replace the Formatter assembly. See Formatter cover and formatter.

Tire tracks



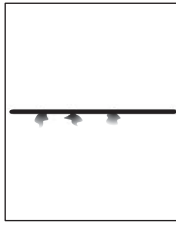
Possible cause	Solution
1 The paper path is contaminated or damaged.	<ol style="list-style-type: none">1 Perform the half self-test functional check. See Half self-test. If the print drum is damaged, replace the print cartridge.2 Process a cleaning page. See Cleaning the fuser. If the problem persists, replace the fuser. See Fuser.3 Check the tray 1 feed roller and the rollers in the other trays. Clean or replace the rollers as necessary.4 Check for other sources of contamination or damage in the paper path and clean or replace parts as necessary. <p>This type of defect might also be a repetitive defect, See Repetitive defect ruler.</p>
2 The print cartridge has passed its life expectancy.	<p>This defect typically occurs when the print cartridge has far exceeded its rated life of 18,000 pages. For example, if you are printing a very large quantity of pages with very little toner coverage, toner might still remain in the print cartridge even though you have printed more than 18,000 pages.</p>

White spots on black



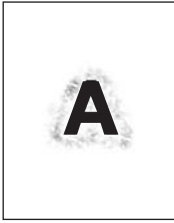
	Possible cause	Solution
1	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none">1 Turn over the stack of media in the tray. Also try rotating the media 180 degrees.2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
2	The operating environment does not meet specifications.	Make sure that the MFP is installed in an area that meets the environmental specifications. See Environmental specifications .
3	The print cartridge is defective.	Replace the print cartridge.

Scattered lines



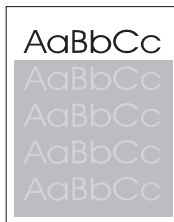
	Possible cause	Solution
1	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none">1 Turn over the stack of media in the tray. Also try rotating the media 180 degrees.2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
2	The operating environment does not meet specifications.	Make sure that the MFP is installed in an area that meets the environmental specifications. See Environmental specifications .
3	The toner-density setting is incorrect.	Open the PRINT QUALITY menu at the control panel and adjust the toner-density setting.
4	The high-transfer setting is turned off.	Open the PRINT QUALITY menu at the control panel. Select OPTIMIZE and set HIGH TRANSFER=ON .
5	The line-detail setting is turned off.	Open the PRINT QUALITY menu at the control panel. Select OPTIMIZE and set LINE DETAIL=ON .

Blurred print



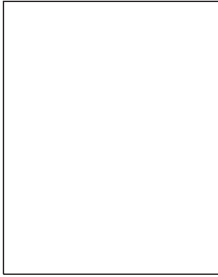
	Possible cause	Solution
1	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none">1 Turn over the stack of media in the tray. Also try rotating the media 180 degrees.2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
2	The operating environment does not meet specifications.	Make sure that the MFP is installed in an area that meets the environmental specifications. See Environmental specifications .
3	The toner-density setting is incorrect.	Open the PRINT QUALITY menu at the control panel and adjust the toner-density setting.
4	The high-transfer setting is turned off.	Open the PRINT QUALITY menu at the control panel. Select OPTIMIZE and set HIGH TRANSFER=ON .
5	The line detail setting is turned off.	Open the PRINT QUALITY menu at the control panel. Select OPTIMIZE and set LINE DETAIL=ON .

Random image repetition



	Possible cause	Solution
1	If an image that appears at the top of the page (in solid black) repeats farther down the page (in a gray field), the toner might not have been completely erased from the last job. (The repeated image might be lighter or darker than the field that it appears in.)	<ol style="list-style-type: none">1 Change the background darkness of the field that the repeated image appears in.2 Change the order in which the images are printed. For example, have the lighter image at the top of the page, and the darker image farther down the page.3 From the software program, rotate the whole page 180° to print the lighter image first.4 If the defect occurs later in a print job, turn the MFP power off for 10 minutes, and then turn the MFP power on to restart the print job.

Blank page (ADF)

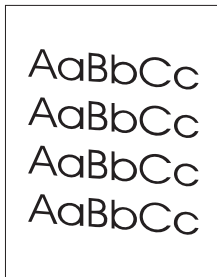


First, verify that the scanner is scanning from the ADF and not the scanner glass. If it is scanning from the glass, you should be able to see the scanner lamp and optical head move the entire length of the glass. If no document is on the glass, a blank page is produced.

If the scanner is scanning from the ADF and blank pages are produced, continue with the following troubleshooting steps.

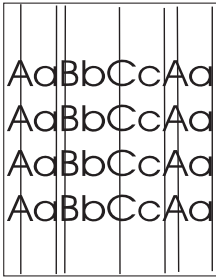
	Possible cause	Solution
1	The source document was not placed in the ADF input tray face-up.	Verify that the source document is face-up in the ADF input tray.
2	The source document was not detected in the ADF input tray.	Remove and then reinsert the original page into the ADF, making sure that it is placed face-up.
3	A source document was not picked up when attempting to feed multiple documents.	Inspect the ADF pickup and feed rollers and the ADF Separation pad for damage. See ADF pickup and feed rollers and see ADF separation pad . Clean the rollers if they are dirty. See Cleaning the ADF delivery system . If the ADF separation pad or rollers are worn, replace them. See Performing preventive maintenance .

Page skew (ADF)



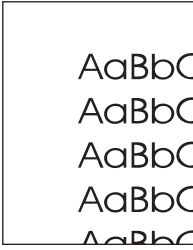
	Possible cause	Solution
1	The scanner needs to be calibrated.	Calibrate the scanner. See Calibrating the scanner .
2	The ADF input tray guides are not adjusted correctly.	Make sure the ADF input tray guides are adjusted so that they are lightly touching the sides of the paper stack.
3	The ADF mylar strip is dirty	Replacement mylar strips are stored in an envelope that is underneath the white, vinyl ADF backing. Follow the instructions that are in the envelope.

Vertical lines (ADF)



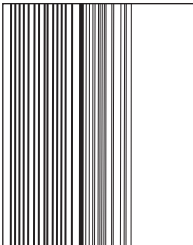
	Possible cause	Solution
1	The ADF is dirty.	Clean the ADF. See Cleaning the ADF delivery system . If the mylar strip is dirty or worn, replace it. Replacement mylar strips are stored in an envelope that is underneath the white, vinyl ADF backing. Follow the instructions that are in the envelope.
2	The scanner needs to be calibrated.	Calibrate the scanner. See Calibrating the scanner .
3	The ADF pickup roller is dirty.	Clean the ADF pickup roller. See Cleaning the ADF delivery system . Replace the roller if necessary. See ADF pickup and feed rollers .

Image shifted (ADF)



	Possible cause	Solution
1	An image that is shifted on the page horizontally, vertically, or both ways indicates that the scanner is incorrectly calibrated.	Calibrate the scanner. See Calibrating the scanner .

Unexpected image (ADF)



	Possible cause	Solution
1	The copied image does not look like the original document.	Make sure that no media is on the flatbed glass from a previous copy job.

Repetitive defect ruler

Defects on rollers can cause image defects to appear at regular intervals on the page, corresponding to the circumference of the roller that is causing the defect. Measure the distance between defects that recur on a page. Use [Table 7-19 Repetitive defects](#) or the repetitive defect ruler to determine which roller is causing the defect. To resolve the problem, try cleaning the roller first. If the roller remains dirty after cleaning or if it is damaged, replace the part indicated in [Table 7-19 Repetitive defects](#).



NOTE Do not use solvents or oils to clean rollers. Instead, rub the roller with lint-free paper. If dirt is difficult to remove, rub the roller with lint-free paper that has been dampened with water.

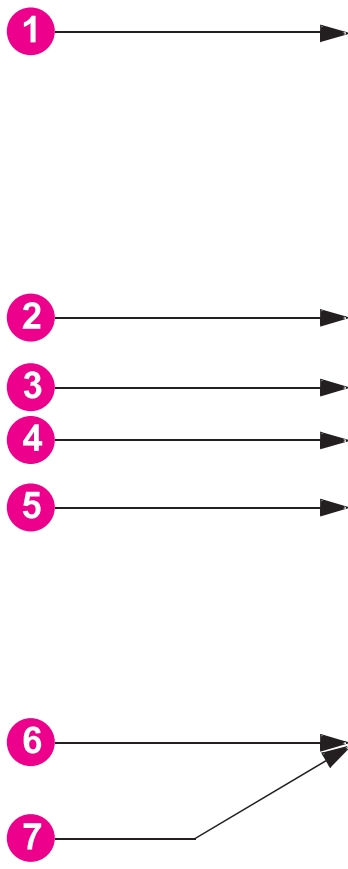


Table 7-19 Repetitive defects

Reference	Roller	Distance between defects	Replacement part
1		First occurrence of the defect	
2	Primary charging roller	38.0 mm (1.5 inches)	Print cartridge
3	Transfer roller	47.0 mm (1.9 inches)	Transfer roller (part of the printer maintenance kit)
4	Developing cylinder (see note)	54.0 mm (2.13 inches)	Print cartridge
5	Developing cylinder (see note)	63.0 mm (2.5 inches)	Print cartridge

Table 7-19 Repetitive defects (continued)

Reference	Roller	Distance between defects	Replacement part
6	Fuser	94.0 mm (3.75 inches)	Fuser
7	Photosensitive drum	94.2 mm (3.75 inches)	Print cartridge



NOTE The developing cylinder circumference is 62.83 mm (2.5 inches). A defect that is related to the developing cylinder will most likely repeat at intervals of 54.0 mm (2.15 inches) because of the way the roller is geared.

To identify if the print cartridge is the problem, insert a print cartridge from another HP LaserJet 4345mfp, if one is available, before ordering a new print cartridge.

If the defect repeats at 94.0 mm (3.75 inch) intervals, try replacing the print cartridge before replacing the fuser.

Media-transport problems

The following issues can cause media-transport problems

Multiple pages feed.

Cause	Solution
The tray 1 separation pad is worn.	Replace the separation-pad assembly.
Too much media (particularly envelopes) is loaded in tray 1.	Remove some of the media and resend the print job.
The separation and feed rollers in the tray are worn or damaged	Replace the rollers.
The media edges are locked together.	Flex the media stack before loading it into the MFP. Do <i>not</i> fan the media.

The media is wrinkled or folded.

Cause	Solution
The feed rollers or registration rollers are dirty or defective.	Replace the affected rollers.
The paper path contains foreign substances or dirt.	Remove any foreign substances or dirt from the paper path.
The cartridge shutter open/close mechanism is damaged. (This can cause jams in which the media is crumpled into an accordion fold under the print cartridge.)	The shutter in the print cartridge should open as you insert the cartridge. If a shutter does not open, replace the print cartridge.

The media is skewed.

Cause	Solution
The fuser inlet guide is dirty.	Replace the fuser. See Fuser .
The fuser pressure roller is dirty or damaged.	Run several cleaning pages through the MFP. See Cleaning the fuser . If the problem persists, replace the fuser. See Fuser .

The top margin is misaligned.

Cause	Solution
The dc controller PCA has been replaced or the laser/scanner has been replaced.	<ol style="list-style-type: none"><li data-bbox="894 275 1466 327">1 Press the test-print switch, and make several test prints. See Engine test.<li data-bbox="894 352 1466 457">2 On each test print, measure the distance from the leading edge of the paper to the print pattern. Calculate the average distance. The optimal distance is 5 mm (0.2 inch).<li data-bbox="894 483 1466 562">3 On the dc controller PCA, adjust the variable resistor VR830 clockwise to increase the distance, or turn it counterclockwise to decrease the distance.<li data-bbox="894 588 1466 638">4 Repeat the procedure until the distance measures 5 mm (0.2 inch).

The pages feed incorrectly through the ADF.

Cause	Solution
The media guides are not adjusted correctly.	Make sure that the guides in the ADF input tray gently touch the sides of the original document.