Troubleshooting Thermal Transfer Printing Problems

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Poor Edge Definition (bar codes and alphanumerics)	Print speed is too high	Reduce print speed; do not rotate symbol
	Ribbon and media are incompatible	Test alternative ribbon or media
Bar Codes Smearing (bar code edges "bleeding" or "feathering")	Printhead energy setting is too high	Reduce energy setting until bar edges are clean
	Print speed is too high	Reduce print speed
	Rotated ("ladder" style) bar code is being used	Change label design to include only normal ("picket fence" style) bar codes
Bars in Bar Codes Are Too Wide or Too Narrow Resulting in a Poor Scan Grade	Print speed is too high	Reduce print speed
	Printhead energy setting is too high/too low	Adjust to optimize average bar growth (visually or with verifier)
	Underburn (not enough ribbon transfer)	Increase printhead energy setting or use a ribbon with higher sensitivity (refers to ribbons requiring less energy)
	Overburn (too much ribbon transfer)	Reduce printhead energy setting or use a ribbon with lower sensitivity (refers to ribbons requiring more energy)
	Bars too thick	Reduce printhead energy setting
Insufficient Print Contrast: Bars Are Not Dark Enough, Spaces Are Not Light Enough	Label surface is too dark to provide proper contrast between bars and background	Choose label with lighter surface color
	Printhead energy setting is too low	Increase printhead energy setting
Printed Image Is Full, but Grayish or "Translucent"	Printhead energy setting is too high	Reduce energy setting
	Printhead pressure is too high	Reduce printhead pressure
	Ribbon and media are incompatible	Test alternative ribbon or media
Voids in Printed Image: Areas Where There Is No Print	Dust on label	Remove dust with compressed air. Place static tinsel across label unwind
	Tag or label surface is inconsistent (including color flood coating)	Choose face sheet or flood coating inks specifically designed for thermal transfer
	Ribbon and media are incompatible	Test alternative ribbon or media
	Printhead elements or "dots" are dirty or obstructed	Clean printhead with presaturated cleaning card or soft-stemmed Q-tip and isopropyl alcohol
	Printhead elements or "dots" are burned out	Replace printhead
	Printhead misalignment	Check for alignment-related defects with a known well-performing ribbon/media combination; realign if necessary
Repetitive Voids in Image	Printhead elements or "dots" are dirty or obstructed	Clean printhead with presaturated cleaning card, or soft-stemmed Q-tip and isopropyl alcohol
	Printhead elements or "dots" are burned out or worn down	Replace printhead
Streaks or "Dead Spots" in Printed Image	Ribbon is wrinkled	See Ribbon Wrinkling
	Poor coating quality on tag or label surface	Contact media supplier for assistance
	Printhead elements or "dots" are dirty	Clean printhead with presaturated cleaning card, or soft-stemmed Q-tip and isopropyl alcohol

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Not Printing Any Image (or barely any image)	Ribbon is loaded backwards	Use tape to determine “ink side” of ribbon (ink will come off on tape). Then, make sure ink side of ribbon is facing the media surface as it feeds through printer
	Ribbon and media are incompatible	Test alternative ribbon or media
Ribbon Wrinkling	Printhead is misaligned	Realign printhead
	Guide-bar is misaligned	Realign guide-bar
	Printhead energy setting is too high	Reduce printhead energy setting
	Rewind tension is greater than unwind tension	Adjust tension (unwind should be greater than rewind)
	Ribbon is feeding unevenly	Remove supply roll and used ribbon from take-up shaft; reload ribbon making sure film is feeding straight to rewind shaft, not pulling in one direction
	Label liner is migrating out of feed path	Make sure label roll is flush against printer on label roll bar and label guide bar is up and just beyond outside edge of label liner
	Ribbon rewind shaft is out of alignment	Service required to realign or replace ribbon rewind shaft
	Printhead pressure is too high	Reduce printhead pressure
	Ribbon is too narrow or wide for media	Make sure ribbon width is equal to, or slightly greater than, media width
Ribbon Breaking	Printhead elements or “dots” are dirty or obstructed	Clean printhead with presaturated cleaning card or soft-stemmed Q-tip and isopropyl alcohol
	Obstruction in ribbon feed path	Check for and remove label, tag or other particles from feed path and printhead assembly
	Printhead energy setting is too high	Reduce printhead energy setting
	Printhead pressure is too high	Reduce printhead pressure
	Printer set on direct thermal mode	Set printer to thermal transfer mode
	Unwind tension is too high	Reduce unwind tension
	Backcoat – not there/insufficient	Replace ribbon and contact your ribbon supplier
Ribbon Slippage: Ribbon and Label Not Advancing at the Same Rate	Rewind tension is too low	Increase rewind tension
	Ribbon is sticking to printhead	Clean printhead with presaturated cleaning card or soft-stemmed Q-tip and isopropyl alcohol
	Label surface is too slick for ribbon	Test different ribbon grades or change to a matte-coated label stock in place of gloss
	Unwind tension is too high	Reduce unwind tension
Excessive Sticking Between Ribbon and Label	Printhead energy setting is too high	Set energy setting as low as possible while still achieving acceptable print quality
	Printhead pressure is too high	Reduce printhead pressure
	Angle at which label is exiting the printer is too steep	Adjust angle down

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Excessive Noise During Printing	Printhead energy setting is too high	Reduce printhead energy setting
	"Strip plate" on printer	Lower strip plate is not adjusted properly
Die-Cut Labels Continue to Feed Without "Calibrating"	Label sensor is dirty or obstructed	Clean sensor with soft-stem Q-tip and isopropyl alcohol or compressed air
	Printer is set in "continuous" mode	Change setting to "label" mode in label software
	Die-cut label length is less than minimum length for specific printer model	Change to a "two-up" format
	Label sensor may not be aligned properly with gap between die cut labels	Realign label sensor
Printer Doesn't Stop When Out of Ribbon	Ribbon sensor is dirty or obstructed	Clean sensor with soft-stem Q-tip and isopropyl alcohol or compressed air
	Ribbon sensor is out of position	Align sensor properly
	Ribbon "trailer" is incorrect for specific printer model	Contact your ribbon supplier to confirm that the correct trailer is attached
Printer Stalls or Will Not Print	Ribbon or media are not loaded properly (missing sensor)	Reload ribbon and media, making sure both pass under respective sensors
	Ribbon ink density is too light to be "seen" by ribbon sensor	Consult printer manual or contact printer manufacturer or VAR for instructions on calibrating sensor
	Ribbon or media sensors are dirty or obstructed	Clean sensors with soft-stemmed Q-tip and isopropyl alcohol or compressed air
	Label liner is too opaque to be "seen" by label gap sensor	Consult printer manual, or contact printer manufacturer or VAR for instructions on re-calibrating sensor, or contact label manufacturer for liner alternatives
	Printer is in "label" mode and you are running "continuous" material	Change media type to "continuous" on printer or in label software
Trouble Removing Used Ribbon From Take-up Shaft	Rewind tension is too high	Reduce rewind tension and/or begin using empty cores on rewind shaft as take-up cores
Premature Printhead Failure	Excessive thermal stress	Make sure printhead energy is set as low as possible while still printing an acceptable image
	Printhead pressure is too high	Choose thinner gauge media or reduce printhead pressure
	Insufficient printhead maintenance	Printheads must be cleaned after every ribbon or media roll change. Use a pre-saturated cleaning card or a soft-stemmed Q-tip or cotton cloth dipped in isopropyl alcohol. The inside of the printer, including parts along the media feed path, must also be wiped down using a slightly damp cotton cloth to eliminate plastic label liner dust which is drawn to the printhead while the machine is running and can fuse to printhead surface causing elements to burn out.
	Rewind tension is too high	Reduce rewind tension
	Label surface is uneven (containing a hologram or raised area)	Without a label design change, the edges of the raised surface will abrade the printhead more quickly than the rest of the label surface will
	Ribbon width is not covering media width	Make sure ribbon width is equal to or slightly greater than media width