STREET CHARACTERS INC.

Embroidery Training & Reference Guide

Applies To: Embroidery Production
Machine: Tajima TFMX-C1501
Purpose: Employee Training and Production Reference

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1. Purpose and Scope

This guide provides the knowledge required to safely and effectively operate the Tajima TFMX-C1501 embroidery machine. It is written for employees who may have little or no previous embroidery experience. The goal is to explain the machine, materials, terminology, controls, production standards, troubleshooting, maintenance, and documentation requirements in clear, practical language.

Embroidery is part of the larger mascot production process. The quality of the finished embroidery depends on more than simply operating the machine. Correct material preparation, placement, stabilization, thread selection, machine setup, quality control, and documentation are all important.

Important

Employees who are new to embroidery must not make mechanical adjustments, change machine tension settings, or modify embroidery files unless they have been specifically trained and authorized to do so. When in doubt, stop and ask an experienced embroidery operator.

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2. Operator Responsibilities

Every embroidery operator is responsible for:

- Following machine safety procedures.
- Using the correct materials and backing.
- Confirming that the correct embroidery file is being used.
- Following approved embroidery specifications.
- Checking embroidery placement before running the machine.
- Obtaining a second-person review and approval before running a new or uncertain design.
- Completing required test runs.
- Monitoring the machine while it is running.
- Stopping the machine when a problem occurs.
- Obtaining a second-person review and approval after the embroidery is complete.
- Completing all required embroidery documentation.
- Keeping the machine and work area clean.
- Completing required routine maintenance.
- Asking for assistance when something is unclear or outside their training.

3. Basic Embroidery Terminology

Term	Meaning
Embroidery file	A digital file containing the instructions the embroidery machine uses to create a design.
DST	The embroidery file format used by the Tajima machine.
Digitizing	Converting artwork into stitch instructions that an embroidery machine can read.
Needle bar	The numbered needle positions that hold the embroidery thread.
Bobbin	The lower thread supply located underneath the needle plate.
Backing / Stabilizer	Material placed behind or above fabric to stabilize it during embroidery.
Hoop / Frame	The frame that holds the fabric and backing securely during embroidery.
Cresting	Fabric or another material used to fill a design area instead of filling the area entirely with stitches.
Trace	A machine function that moves the needle around the design perimeter without stitching, allowing the operator to check clearance and placement.
Thread break / Detachment	When the upper embroidery thread breaks or becomes detached from its intended path.
Hoop strike	When the needle or machine components contact the embroidery frame.
Placement	The location and orientation of the embroidery on the finished mascot or component.
Test run	A sample embroidery completed before final production using the same materials and settings as the final product.
Specification sheet	Documentation that records how an embroidery was produced and positioned so it can be reproduced accurately in the future.

4. Machine Overview

The Street Characters embroidery machine is a Tajima TFMX-C1501. The machine has 15 needle positions, allowing multiple thread colors to be loaded and selected during a design.

Major Components

- Power switch
- Emergency stop button
- Safety/proximity sensors
- 15-needle bar assembly
- Presser foot
- Needle plate
- Bobbin assembly
- Hoop/frame arms
- Graphical control panel
- Start/Stop controls

The machine is a precision piece of equipment. Never force a component, continue running after an unusual mechanical problem, or attempt a repair unless you are trained and authorized to do so.

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5. Machine Safety

Power Switch

The main power switch is located on the side of the machine underneath the yellow triangle.

- Switch **UP** = ON
- Switch **DOWN** = OFF

At the end of each day, embroidery machines in the shop are shut off.

Emergency Stop

The large red button is the emergency stop.

Use it immediately if:

- The machine behaves unexpectedly.
- A needle or hoop is about to strike something.
- There is an unusual mechanical noise.
- Thread or material becomes caught.
- You see a potentially dangerous situation.
- You are unsure whether it is safe for the machine to continue.

When an emergency stop is required, stop the machine first. Do not attempt to troubleshoot a mechanical problem while the machine is moving.

Safety Sensors

Safety/proximity sensors are located on the sides of the machine. They detect when a hand or object enters an unsafe area while the machine is operating. Triggering a sensor will stop the machine.

Never intentionally place your hands near moving components. When manually positioning the machine, keep your hand positioned safely and avoid interfering with the sensors.

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6. Operator Tools

Keep the following tools available when working with the embroidery machine:

Tool	Common Use
Monkey/channel-lock wrench	Loosening and tightening hoop-arm bolts
Flathead screwdriver	Adjusting larger hoop/frame screws
Pliers	Tightening circular hoop adjustments
Sharp scissors	Trimming thread and excess material
Tweezers	Guiding thread through tension areas and the needle

Use the correct tool for the task. Do not use needles, scissors, or other sharp objects to clean precision components such as the bobbin tension area.

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7. Hoops and Frames

Street Characters uses several hoop/frame sizes for different embroidery projects. There are **five sizes of hoops/frames** used for production. The largest frame accommodates embroidery up to approximately **15 inches in width**.

Selecting a Frame

Always select a frame large enough to provide clearance around the entire embroidery design. A frame that is too small can cause the needle to strike the frame, potentially damaging the needle and machine. The frame should be large enough for the design while still allowing the material to be securely stabilized.

Frame Alignment Notches

Hoops have alignment notches on the top, bottom, and sides. These notches help the operator align the center marks on the material with the frame. The alignment marks on the material should correspond with the appropriate frame notches. Accurate alignment is essential for preventing crooked or incorrectly positioned embroidery.

Frame-Arm Holes

The silver portion of the embroidery frames contains rectangular holes. The machine's hoop arms connect to these holes. When the embroidery is being run with the material facing toward the operator, the frame holes should normally be positioned toward the bottom. Some frames have holes on both the top and bottom, allowing greater flexibility. Always confirm the correct orientation before installing the frame.

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8. Backings and Stabilizers

Backing provides stability and support while the embroidery is being stitched.

The correct backing helps prevent:

- Fabric movement
- Stretching
- Distortion
- Stitch registration problems
- Bulking
- Stitches sinking into textured materials

Backing Selection Guide

Fabric / Application	Recommended Backing	Typical Use
Stretch fabrics such as T-shirts, polos and sweaters	Cutaway or appropriate action backing	Supports knit fabrics and helps prevent distortion
Woven/non-stretch fabrics	Tear-away or appropriate action backing	Provides temporary stabilization
Fur/high-pile materials	Dissolvable/wash-away backing	Controls the fur and prevents it from interfering with the stitches
Terry cloth, waffle weave and other textured materials	Wash-away/iron-away topper as appropriate	Prevents stitches from sinking into the texture

Black/dark materials	Black backing when appropriate	Helps prevent visible backing around the embroidery
White/light materials	White backing when appropriate	Helps prevent visible backing around the embroidery

The correct backing depends on the material, embroidery design, and production requirements. If you are unsure, ask an experienced operator before hooping the material.

Action Backing

Street Characters uses black and white rolls of action backing. When using this backing, the shop procedure is to use two layers and secure them together with Tempo/505 spray.

Dissolvable Backing

Dissolvable backing is primarily used on fur and other high-pile materials. It helps control the fibers so they do not interfere with the embroidery.

Spray the dissolvable backing, not the fur. Do not apply Tempo/505 spray directly to fur because it can damage or contaminate the material.

Tear-Away Backing

Tear-away backing can be removed after embroidery by carefully tearing it away from the finished piece. It is not used for every application because it can tear or shift during embroidery. Confirm that it is appropriate for the specific material and design before using it.

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9. Tempo/505 Spray

Tempo/505 spray is used to temporarily secure backing, cresting, and other materials. Apply an even layer rather than heavily saturating the material. The adhesive should hold the material securely without creating unnecessary buildup.

Important

When working with fur: Spray the backing, never the fur.

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10. Cresting

Cresting is material placed inside a design to create a large area of color or texture without filling the entire area with dense embroidery stitches. Using cresting can significantly reduce the amount of stitching and time required.

Typical Process

A cresting design may:

1. Stitch an outline showing where the cresting material belongs.
2. Stop or pause for the operator to place the cresting.
3. Continue stitching to secure and finish the cresting.

Cresting pieces may be produced using a laser cutter from an appropriate artwork file.

Cresting Requirements

The cresting piece must:

- Fit completely within the placement outline.
- Be positioned accurately.
- Be secured adequately with Tempo/505 spray.
- Not extend outside the intended stitched edge.

Some designs may continue automatically after the placement outline. The operator must know whether the design requires a manual stop and must remain available during this portion of the run.

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11. Embroidery Thread

Only embroidery thread should be used in the machine. Embroidery thread is designed specifically for machine embroidery and generally has a smooth, slightly shiny appearance. Regular sewing thread should not be substituted because it may be too large, may fray, or may not run correctly through the machine. Each needle position is associated with a specific thread. The machine has **15 needle positions**. The thread color assigned to each needle can vary depending on the project. Do not assume that a needle number always represents a particular color unless the current machine setup or project documentation confirms it.

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12. Bobbins

The bobbin provides the lower thread used to form the embroidery stitch. The bobbin is located underneath the needle plate.

Correct Bobbin Installation

The bobbin should:

- Be installed in the correct direction.
- Have the thread placed through the required guide.
- Be securely seated.
- Click into place.
- Have enough thread remaining for the intended run.

A correctly installed bobbin should be secure before starting embroidery.

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13. Threading the Machine

The Tajima has a specific thread path for each needle.

Thread must pass correctly through:

- The upper thread guides.
- Tension components.
- Spinning/thread sensors.
- Lower guides.
- The needle eye.

Tweezers are helpful when threading the machine. If another color is already threaded through the machine, the new thread can often be tied to the existing thread and carefully pulled through the established path. If this does not work, follow the thread path of another correctly threaded needle.

Thread Tension

The grey tension knobs control the tension of the upper thread. Correct tension is important for producing clean embroidery.

Beginner Rule

New operators must not adjust the tension knobs unless instructed by an experienced embroidery operator.Turning the knobs too far can damage the tension springs and create additional machine problems.

If the embroidery appears too tight, loose, uneven, or otherwise incorrect, stop and ask an experienced operator to assess the tension.

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14. Embroidery Files

The Tajima TFMX-C1501 uses DST embroidery files. Before starting a project, always look for an existing approved embroidery file. For repeat mascot projects, check the existing Street Characters project files and Google Drive documentation before requesting a new file.

File Editing

This guide does **not** provide training for modifying or altering embroidery files. File alteration, resizing, digitizing, and other advanced file preparation will be covered in a separate training document. New operators should not modify an embroidery file unless specifically trained and authorized to do so.

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15. Obtaining New Embroidery Files

If an appropriate embroidery file cannot be found, contact the person responsible for embroidery file preparation or use the approved external digitizing service.

When requesting a new design, provide:

- Artwork showing exactly what needs to be embroidered.
- Required embroidery dimensions.
- Whether the design will be placed on woven or knitted material.
- Required thread/colour information when known.
- Cresting requirements.
- Required cresting dimensions.
- Any special instructions.

For example, a digitizing request might identify that a specific portion of a logo will be cresting on woven material and provide the required width and height. Allow sufficient time for outsourced digitizing. Quality Punch may require approximately one day or more to respond depending on the request.

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16. Embroidery Placement

Correct placement is critical to mascot production.

Before hooping material, determine:

- The overall design dimensions.
- The required center point.
- The horizontal position.
- The vertical position.
- Relevant seams and construction lines.
- Required seam allowances.
- Whether a placement template exists.

Center Mark

Use chalk to mark:

- A horizontal line.
- A vertical line.

These lines should intersect at the center point of the embroidery. Extend the lines far enough to make alignment with the hoop easier.

Placement Measurements

For example, if a design is 6 inches wide and 4 inches high:

- Measure 6 inches across the design width.
- Mark the center at 3 inches.
- Measure 4 inches vertically.
- Mark the center.
- The two lines should intersect at the design's center point.

The exact measurements used for a production project must be recorded in the embroidery specification documentation.

Placement Approval

A second person must review and approve new or uncertain embroidery placement before the embroidery is run.

This is especially important when:

- A new pattern is being used.
- No established placement specification exists.
- The design is near a seam or edge.
- The placement is difficult to judge.
- A placement template is unavailable.
- The operator is unsure.

Do not proceed based on a guess.

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17. Embroidery Placement and Seams

Embroidery should not interfere with mascot construction.

Before running the design, check for:

- Seams
- Hems
- Seam allowances
- Existing logos
- Other embroidery
- Construction areas
- Areas that may be inaccessible once the garment is assembled

Whenever possible, embroidery placement should be incorporated into sewing patterns and checked against the appropriate placement template. If a placement conflicts with a seam, hem, existing logo, or other construction requirement, stop and correct the placement before embroidery.

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18. Measuring and Centering the Design on the Machine

The machine uses the center point of the embroidery design as the primary positioning reference. Needle #11 can be used as the center reference when setting up the design.

After positioning the hoop using the center reference, the operator must make sure the machine is returned to the correct starting needle before beginning the embroidery sequence. Starting the design on the wrong needle can cause the embroidery to begin with the wrong thread color.

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19. Machine Control Panel

Only a small number of controls are required for normal beginner operation.

Control	Function	Primary Beginner Use
A	Main design/file menu	Access stored and USB designs
B-2	Needle bar selection	Assign needle positions to design colors
C-3	Frame Forward / Frame Back	Move through the design without stitching
D1-1	Trace	Check design size and frame clearance
D1-2	Manual Color Change	Select the correct starting needle
F1-3	Satin stitch adjustment	Adjust satin stitch width when authorized
E	Positioning/navigation	Assist with positioning the needle
SET	Confirm selection	Confirm menu choices
Green Start	Start machine	Begin embroidery
Stop	Stop machine	Stop a normal run
Emergency Stop	Immediate emergency stop	Stop the machine during an unsafe or abnormal condition

19.1. Menu A — Designs and Memory

Menu A is the primary design/file menu.Common functions include:

Stored Designs - Previously saved designs can be accessed from the machine's internal memory.

USB Designs - Designs on the USB drive can be accessed through the appropriate USB option. A USB design generally needs to be transferred into the machine's active memory before it can be run.

Memory - Machine memory contains stored designs. Do not delete designs casually. Only delete a design when the project is completely finished and you are certain the design is no longer required on the machine. Never use an option that will erase the entire memory when individual deletion is intended.

19.2. Menu B-2 — Needle Bar Selection

B-2 is used to assign needle positions to the colors in the embroidery sequence.

The displayed colors on the machine do not necessarily represent the actual thread colors loaded in the machine. The operator must verify the needle assignment against the project's thread requirements.

For example:

- Needle 15 may normally contain white.
- Needle 14 may normally contain black.
- Needle 1 may normally contain Street Characters red.

However, needle assignments can change depending on the project. Always verify the actual thread loaded on the machine.

19.3. Menu C-3 — Frame Forward and Frame Back

C-3 allows the operator to move through the design without stitching. This is useful when:

- A thread breaks.
- The bobbin runs out.
- A section needs to be inspected.
- The operator needs to move backward over a problem area.
- The operator needs to move forward through the design.

Moving backward allows the operator to restart before the point where a problem occurred, helping prevent gaps in the finished embroidery.

19.4. Menu D1-1 — Trace

The Trace function moves the needle around the design perimeter without stitching.Tracing should be completed before running embroidery. The purpose is to confirm:

- The design fits within the frame.
- The design is positioned correctly.
- The needle will not strike the frame.
- The design will not interfere with other objects.

Critical Safety Rule

Never run a design that does not successfully clear the frame. A hoop strike can damage the needle, frame, machine components, and machine alignment.

19.5. Menu D1-2 — Manual Color Change

Manual color change allows the operator to select the needle that should begin the design. Use this function when the machine is positioned at the wrong needle for the next required color. Always confirm the starting needle before pressing Start.

19.6. Menu F1-3 — Satin Stitch Adjustment

F1-3 can adjust satin stitch width. The standard setting is generally the middle setting (5). A different setting may be required in certain circumstances, such as when a wider satin stitch is needed to properly catch cresting. New operators should only change this setting when instructed or trained to do so.

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20. Test Runs

A test run is required for new embroidery designs.The test run must be created using the same:

- Fabric/material
- Thread
- Cresting
- Relevant backing
- Production method

as the final embroidery. The test run is not simply a practice piece. It becomes a permanent reference for future production.

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27. Final Embroidery Review

Every completed embroidery requires a final quality review. The review should confirm:

- Design is complete.
- Stitching is clean.
- Thread tension is acceptable.
- Thread colors are correct.
- Cresting is properly positioned and secured.
- Placement is correct.
- No fabric damage has occurred.
- No loose or excess threads remain.
- The finished embroidery meets the approved sample/specification.

A second person must review and approve the completed embroidery before it is released to the next stage of production.

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28. Embroidery Specifications and Documentation

The purpose of embroidery specifications is to ensure that an embroidery design can be accurately reproduced in future production. Every new embroidery design must have appropriate documentation.

Required Test Run Sample

Attach and retain a test run created using the same thread, cresting, and fabric as the final product. The test run serves as a physical reference for future production.

Final Embroidery Photo

Include a clear photograph showing:

- The completed embroidery.
- The overall design.
- Its placement on the mascot/component.

Placement Measurements

Record precise measurements showing where the embroidery is located.

Measurements may reference:

- Top edge
- Left/right edge
- Seams
- Other relevant construction points
- Other established mascot reference points

The measurements should be specific enough that another employee can reproduce the placement without guessing.

Additional Notes

Document any relevant variations, including:

- Different thread types.
- Special thread colors.
- Color changes.
- Cresting.
- Special techniques.
- Unusual production requirements.
- Other information that would be important for future replication.

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29. Final Documentation and Filing

Once the specification sheet is complete:

Physical Documentation

Place a physical copy of the specification sheet in the client's physical file. Retain the required physical test sample according to Street Characters' production filing procedures.

Digital Documentation

Upload the digital specification sheet and relevant files to the client's Google Drive folder.

Include appropriate:

- Specification documentation
- Final embroidery photo
- Test run/reference information
- Approved embroidery files
- Other relevant production information

Documentation Standard

The goal is simple:

> A future employee should be able to reproduce the embroidery without having to guess how it was made, what materials were used, or where it belongs.

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30. Troubleshooting and Error Recovery

Common Problems

Problem	Operator Action	Do Not Do
Thread Break / Thread Detachment	Stop, rethread the complete thread path, inspect the embroidery, move the design back several stitches, and restart.	Do not restart over a visible gap.
Bobbin Run-Out	Replace the bobbin, confirm correct installation, inspect the embroidery, move back far enough to cover the missing stitches, and restart.	Do not continue without correcting the gap.

Wrong Starting Needle	Use Manual Color Change to select the correct needle.	Do not run the design using the wrong thread color.
Poor Thread Tension	Stop and ask an experienced operator to inspect the machine.	Do not adjust tension knobs unless trained and instructed.
Hoop Strike	Stop immediately and notify an experienced operator.	**Do not restart the machine.**
Axle Misalignment Error	Stop and contact an experienced operator or repair technician.	Do not attempt to correct machine alignment yourself.
Unusual Noise	Stop the machine and report the problem.	Do not continue running to see if it gets better.
Design Does Not Trace Correctly	Stop and have the setup reviewed.	Do not run the design.
Machine Behaves Unexpectedly	Stop and ask for assistance.	Do not experiment with unfamiliar settings.

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31. Hoop Strike / Axle Misalignment

A needle striking the hoop is a serious machine problem.

A hoop strike can damage:

- Needle
- Hoop
- Needle plate
- Machine components
- Axles/alignment
- Machine timing

If an axle misalignment error occurs:

STOP.

Do not attempt to restart the embroidery. Contact an experienced operator or the designated repair technician.

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32. When to Stop and Ask for Help

Employees are expected to ask questions when they are unsure.

Stop the machine and ask for assistance if:

- The needle hits the frame.
- An axle misalignment error appears.
- The machine makes an unusual noise.
- The machine behaves unexpectedly.
- The design does not trace correctly.
- You are unsure about embroidery placement.
- You are unsure which backing to use.
- You cannot locate the correct embroidery file.
- You believe the file may be incorrect.
- The embroidery tension appears abnormal.
- You are considering changing a machine setting you have not been trained to change.
- You are unsure how to safely recover from an error.

Asking for assistance is part of responsible machine operation.

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33. Machine Maintenance

Routine maintenance is required to keep the Tajima operating properly. Maintenance should be performed according to the schedule below.

Daily Maintenance

Rotary Hook - Apply one drop of machine oil to the rotary hook area.

Bobbin Area - Remove lint from behind the bobbin-case tension spring. A Post-it note or small piece of paper can be used to carefully remove lint.

Important - Never use a needle, scissors, or other sharp metal object to clean the bobbin tension area. Scratching the precision surfaces of the bobbin case can permanently affect thread tension.

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34. Twice-Weekly Maintenance

Perform the following maintenance **Monday and Friday**.

Front Lubrication Ports - Apply one drop of machine oil to each lubrication port marked with red on the machine head.

Felt Wick - Move the needle bar to the far-right position so the felt lubrication pad can be accessed and oiled.

Rear Head Port - Apply oil to the lubrication port located behind the machine head. This port is particularly important because insufficient lubrication can cause mechanical resistance and contribute to error conditions.

Distribute Lubrication - After oiling, manually move the machine through the needle positions from one side to the other as appropriate to distribute the lubricant.

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35. Maintenance and Service

Do not attempt mechanical repairs unless specifically trained and authorized. If routine maintenance does not resolve a machine problem, or if the machine shows signs of mechanical failure, contact an experienced operator or the designated repair technician.

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36. Quick-Reference: Before Starting

Before beginning embroidery, confirm:

- Correct project.
- Correct embroidery file.
- Correct design dimensions.
- Correct material.
- Correct backing.
- Correct thread.
- Correct cresting, if required.
- Correct placement.
- Second-person placement approval.
- Correct hoop/frame.
- Material is securely hooped.
- Hoop arms are secure.
- Bobbin is installed correctly.
- Thread path is correct.
- Needle/color sequence is correct.
- Design is centered.
- Trace has been completed successfully.
- Required test run has been completed for a new design.

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37. Reference Contacts

Embroidery Machine Repair

Brian Mathews — iSew Inc.
Phone: **(403) 826-6416**

Shayden — iSew Inc.
Phone: **(587) 720-1990**

Embroidery File Digitizing

Thread Wings
Email: **wings.thread@gmail.com**

Quality Punch

Tim
Email: **tim@qualitypunch.net**

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38. Final Reminder

Quality embroidery requires attention to detail.

Take the time to:

- Confirm the file.
- Confirm the materials.
- Confirm the placement.
- Obtain a second opinion.
- Complete the test run.
- Monitor the machine.
- Stop when something is wrong.
- Obtain final approval.
- Document the finished result.

The goal is not simply to produce one good embroidery. The goal is to produce embroidery that is safe, accurate, consistent, repeatable, and properly documented for future Street Characters production.

STREET CHARACTERS INC.

Embroidery Step-by-Step Production Procedure

Applies To: Embroidery Production
Machine: Tajima TFMX-C1501
Purpose: Step-by-Step Production Procedure

Important

Follow this procedure in order when completing an embroidery project. For detailed explanations of machine controls, materials, backing selection, troubleshooting, maintenance, and other technical information, refer to the Tajima TFMX-C1501 Embroidery Training & Reference Guide.

Stop and Ask for Help

If you are unsure about a step, stop before proceeding and ask an experienced embroidery operator. Never continue with a setup that may damage the machine or finished product.

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1. Review the Project

Before preparing the machine, confirm:

- Client/project name.
- Correct mascot or component.
- Embroidery design.
- Required design dimensions.
- Fabric/material.
- Thread colors.
- .
- Cresting requirements.
- Backing requirements.
- Placement requirements.
- Existing embroidery specifications.
- Existing placement template, if applicable

For repeat projects, locate the previous approved embroidery file and documentation before creating or requesting anything new.

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2. Confirm the Approved Embroidery File

Find the approved embroidery file in the appropriate Street Characters project files or Google Drive folder.

Confirm:

- Correct client.
- Correct project.
- Correct design.
- Correct dimensions.
- Correct version.
- File format is **DST**.

New operators must not alter, resize, or otherwise modify embroidery files unless specifically trained and authorized to do so. If the correct file cannot be located, stop and ask an experienced operator.

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3. Confirm the Materials

Gather:

- Fabric/component to be embroidered.
- Appropriate backing.
- Embroidery thread.
- Bobbin thread.
- Cresting material, if required.
- Tempo/505 spray.
- Correct hoop/frame.
- Required tools.

Confirm that all materials match the project requirements.

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4. Review the Required Placement

Check the embroidery specification sheet or approved project instructions.

Confirm:

- Design dimensions.
- Horizontal placement.
- Vertical placement.
- Reference points.
- Seam locations.
- Hem locations.
- Existing logos or embroidery.
- Construction requirements.

Do not assume that a placement will work simply because it worked on another mascot.

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5. Measure and Mark the Placement

Use the approved design dimensions to determine the center point. Mark the material with:

- One horizontal center line.
- One vertical center line.

The lines must intersect at the center of the embroidery. Extend the lines far enough to assist with hoop alignment. Check the placement against seams, hems, and other construction details.

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6. Obtain Second-Person Placement Approval

A second person must review and approve the placement before the embroidery is run. Do not proceed until the placement has been approved.

If the placement is changed:

1. Recheck the measurements.
2. Obtain approval again.

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7. Select the Correct Hoop/Frame

Select a frame large enough to accommodate the entire embroidery design. Confirm:

- The design fits within the frame.
- Adequate clearance is available.
- The frame is appropriate for the material.

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8. Prepare the Backing

Select the backing specified for the material.

If using Street Characters action backing:

- Use two layers.
- Secure the layers together with Tempo/505 spray.

If using dissolvable backing for fur:

- Apply spray to the backing.
- Do not spray the fur.

9. Place the Bottom Hoop

Place the bottom portion of the hoop on a sturdy, flat surface. Position the adjustment screws so they can be accessed easily.

10. Position the Backing and Material

Place the backing over the bottom hoop. Place the fabric/material over the backing.

Confirm:

- Material is flat.
- No wrinkles or folds are present.
- Material is not stretched unnecessarily.
- Center marks are visible.
- Center marks align with the appropriate frame notches.

11. Install the Top Hoop

Place the top portion of the frame over the material. Align the notches on the top and bottom frames. Press the top frame firmly into the bottom frame.

12. Secure the Hoop

Move the frame to the edge of the work surface so the adjustment screw can be accessed.

Use the appropriate tool:

- Flathead screwdriver for applicable larger frames.
- Pliers for applicable circular hoops.

Confirm that the top and bottom frame sections are securely fitted together.

13. Perform the Drum-Tight Test

Tap the material lightly. The material should feel firm and tight, similar to the surface of a drum.

If the material is loose:

1. Reposition the material.
2. Tighten the frame.
3. Repeat the drum-tight test.

Do not begin embroidery with loose material.

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14. Set the Hoop Arms

Select the appropriate hoop-arm position for the frame being used. If necessary:

1. Loosen the rear bolts using the monkey/channel-lock wrench.
2. Move the arm to the appropriate position.
3. Tighten the bolts securely.

If you are unsure which position to use, ask an experienced operator.

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15. Install the Frame

Confirm the frame orientation. Slide the frame onto the machine arms. Confirm that the frame is securely connected before continuing.

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16. Confirm the Thread

Check that the correct embroidery thread is installed for each required needle position. Confirm:

- Thread color.
- Thread type.
- Needle assignment.
- Project requirements.

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17. Thread Each Needle

Follow the established thread path for each needle. Confirm that the thread passes through:

- Upper guides.
- Tension components.
- Spinning/thread sensor.
- Lower guides.
- Needle eye.

Use tweezers if needed. Do not force thread through the machine.

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18. Check Thread Tension

Visually inspect the existing tension setup. Do not adjust the tension knobs unless specifically instructed by an experienced operator. If tension appears incorrect, stop and ask for assistance.

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19. Install the Bobbin

Install the bobbin correctly. Confirm:

- Thread is positioned through the required slot.
- Thread is routed through the pigtail/guide.
- Bobbin is seated securely.
- Bobbin clicks into place.
- Sufficient thread is available.

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20. Insert the USB

Insert the USB containing the approved DST file.

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21. Open the Design Menu

Use Menu A to access the design/file options. Select the appropriate USB option and locate the required DST file.

---

22. Transfer the Design

Select the correct design. Press SET as required to transfer the design into the machine's active memory. Confirm that the correct design is displayed.

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23. Assign Needle Positions

Use B-2 to assign the required needle positions to the design's color sequence. Check each color carefully. Verify the actual thread loaded on each needle.

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24. Confirm the Starting Needle

Confirm which needle the design is scheduled to begin with. If the machine is positioned at the wrong needle, use D1-2 Manual Color Change to select the correct starting needle.

---

25. Position the Center Point

Use the marked horizontal and vertical lines on the material. Position the design so the machine's center reference corresponds with the center mark on the material. Needle #11 may be used as the center reference when establishing the design position.

---

26. Return to the Correct Starting Needle

After centering the design, confirm that the machine is positioned on the first needle required by the embroidery sequence. Do not start the machine while it is positioned on the wrong needle.

---

27. Run the Trace

Use **D1-1 Trace**. Confirm:

- Design is centered.
- Design is oriented correctly.
- Design fits inside the frame.
- Needle clears the frame.
- Design will not interfere with seams or other construction features.

---

28. Stop if There Is a Clearance Problem

If the needle could strike the frame: STOP. DO NOT START THE EMBROIDERY.

Correct the placement or frame selection and repeat the setup and trace. If you are unsure how to correct the problem, ask an experienced operator.

---

29. Complete the Required Test Run

A test run is required for every new embroidery design. Use the same:

- Fabric/material.
- Thread.
- Cresting.
- Relevant backing.
- Production method.

as the final embroidery.

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30. Obtain Test Run Approval

A second person must review and approve the test run before final production.

If changes are required:

1. Correct the problem.
2. Complete another test run as required.
3. Obtain approval again.

Do not proceed with final production until the test run is approved.

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31. Complete the Final Pre-Run Check

Before pressing Start, confirm:

- Correct project.
- Correct DST file.
- Correct material.
- Correct backing.
- Correct thread.
- Correct cresting, if required.
- Correct hoop.
- Hoop is secure.
- Bobbin is installed.
- Needle sequence is correct.
- Starting needle is correct.
- Design is centered.
- Trace has been completed successfully.
- Placement has been approved.
- Test run has been approved.

32. Start the Machine

Press the green Start button. Remain beside the machine during the initial portion of the run.

Watch for:

- Thread breaks.
- Bobbin problems.
- Fabric movement.
- Poor tension.
- Incorrect stitching.
- Cresting problems.
- Unusual sounds or movement.

33. Monitor the Run

Do not leave a newly started embroidery machine unattended until you have confirmed that the embroidery is running correctly. Continue checking the embroidery throughout the run. If something does not look or sound correct, stop the machine and refer to the Troubleshooting and Error Recovery section of the Training & Reference Guide.

34. Respond to Problems

Follow the Troubleshooting and Error Recovery section of the Training & Reference Guide for:

- Thread breaks.
- Bobbin run-out.
- Wrong starting needle.
- Poor tension.
- Hoop strikes.
- Axle misalignment.
- Unusual noises.
- Trace problems.
- Other machine problems.

Do not attempt unfamiliar adjustments or mechanical repairs.

35. Remove the Finished Piece

Once the embroidery is complete:

1. Stop the machine.
2. Remove the frame.
3. Carefully remove the embroidered material.
4. Remove excess backing as appropriate.
5. Trim loose threads.
6. Inspect the embroidery.

Take care not to damage the finished embroidery or fabric.

36. Inspect the Finished Embroidery

Check:

- Design is complete.
- No stitches are missing.
- Thread tension is acceptable.
- Thread colors are correct.
- Cresting is properly positioned.
- Cresting is securely stitched.
- Edges are clean.
- Placement is correct.
- Dimensions are correct.
- No fabric damage has occurred.
- No unnecessary loose threads remain.
- Overall appearance matches the approved test run.

37. Obtain Final Approval

A second person must review and approve the completed embroidery before it is released to the next production stage.

If the embroidery does not meet requirements:

1. Identify the issue.
2. Determine whether it can be corrected.
3. Consult an experienced operator when necessary.
4. Correct the issue.
5. Reinspect the embroidery.
6. Obtain final approval again.

38. Complete the Specification Sheet

For a new embroidery design, complete the embroidery specification sheet.

Record:

- Design information.
- Fabric/material.
- Thread information.
- Cresting information.
- Special techniques.
- Production variations.
- Exact placement measurements.
- Other information required for future production.

39. Retain the Test Run

Retain the approved test run with the embroidery documentation. The test run becomes the physical reference for future production.

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40. Take the Final Embroidery Photo

Take a clear photograph showing:

- Completed embroidery.
- Design.
- Placement on the mascot/component.

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41. Record Placement Measurements

Record precise measurements from established reference points. Examples include:

- Distance from top edge.
- Distance from left/right edge.
- Distance from seam.
- Distance from another established construction point.

Measurements must be specific enough for another employee to reproduce the placement accurately.

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42. Record Additional Production Notes

Document any variations or special requirements, including:

- Thread variations.
- Color changes.
- Cresting.
- Special stitching techniques.
- Approved unusual machine settings.
- Other information important for future production.

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43. File the Physical Documentation

Place the physical specification sheet in the client's physical file. Retain the physical test sample according to Street Characters' production filing procedures.

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44. File the Digital Documentation

Upload the digital specification sheet and relevant files to the client's Google Drive folder.

Include:

- Digital specification sheet.
- Final embroidery photo.
- Test run/reference information.
- Approved embroidery file.
- Other applicable production documentation.

EMBROIDERY COMPLETE

Once all production, quality-control, approval, and documentation requirements have been completed, the embroidery can be released to the next stage of production.

Remember

When you are unsure: STOP, ASK, and CONFIRM before continuing.