MONTANA
Department of Transportation

May 2026

MDT Civil 3D State Kit User Tool Palettes

RELEASE 2026.1.0

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OVERVIEW

This document provides a how-to for the User Tool Palettes included in the **MDT Civil 3D State Kit** (hereafter referred to as "**State Kit**").

The State Kit includes "MDT" tool palette groups with MDT specific content and tools. The "MDT" tool palettes are locked to ensure consistent functionality between application sessions. Locked tool palettes cannot be edited. Any custom palettes added to an "MDT" tool palette group will be locked when Civil 3D is restarted.

If a user unlocks and alters a tool palette in an "MDT" tool palette group, the changes will be overwritten when the State Kit is updated. After an update, any changes made to an "MDT" tool palette will be lost, and any custom palettes added to an "MDT" tool palette group will not remain in the group.

To provide users with a mechanism to add personal tool palettes and store personal Civil 3D content, **the State Kit includes a "User" directory with an unlocked, editable "User" tool palette group**. To create and use custom user tool palettes, add them to the "User Palette Group".

SUPPORT

In the event there are conflicts between State Kit customizations and your Civil 3D configuration, please Open a Case for guidance or assistance.

MDT CIVIL 3D STATE KIT USER TOOL PALETTES

State Kit “User” tool palettes belong to the “User Palette Group”. “User Palette Group” files are stored in the MDT “User” directory.

STATE KIT USER DIRECTORY

The State Kit provides a local “User” directory. The directory structure allows users to add custom tool palettes that can be used alongside the default State Kit “MDT” tool palettes. The User directory is isolated from the rest of the State Kit content. The User directory and User tool palettes are not overwritten when the State Kit is updated. Files and folders can be freely added to the User directory. The User directory can be used to store Civil 3D content for use with the User tool palettes or as storage for other personal Civil 3D files.

The User directory is located at:

C:\MDOH\StateKit\Civil 3D\User

USER DIRECTORY DEFAULT SUBFOLDERS

The State Kit User directory contains six default subfolders.

C:\MDOH\StateKit\Civil 3D\User\Subassemblies

- *Suggested use:* User subassembly files (*.pkt) can be stored here.

C:\MDOH\StateKit\Civil 3D\User\Assemblies

- *Suggested use:* User assembly drawings (*.dwg) can be stored here.

C:\MDOH\StateKit\Civil 3D\User\Blocks

- *Suggested use:* User block drawings (*.dwg) or block templates (*.dwt) can be stored here.

C:\MDOH\StateKit\Civil 3D\User\Settings

- *Default use:* Stores files necessary for some State Kit user settings commands.

C:\MDOH\StateKit\Civil 3D\User\Toolpalette

- *Default use:* Stores files and folders necessary for the User Palette Group to function.
- **Do not delete or alter content in this directory.** User tool palette functionality will be lost.

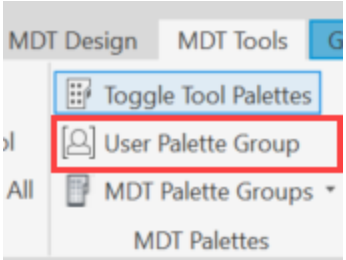
C:\MDOH\StateKit\Civil 3D\User\Tools

- *Suggested use:* AutoCAD scripts (*.scr), AutoLISP files (*.lsp), Action Recorder files (*.actm), Dynamo scripts (*.dyn), or other user tools can be stored here.

Note: Any number of additional folders can be created in C:\MDOH\StateKit\Civil 3D\User to store additional user content.

USER PALETTE GROUP

The State Kit includes a user editable tool palette group. Users can add content to the default "User" tool palettes or add additional tool palettes.



The User tool palettes can be accessed from the "User Palette Group" button on the **MDT Tools** ribbon tab or by typing **MDTPALETTE-USER** at the command line.

User tool palette files are stored in:

C:\MDOH\StateKit\Civil 3D\User\Toolpalette

DEFAULT USER TOOL PALETTES

The User Palette Group contains five default tool palettes:

Main tab

- Suggested use: add frequently used content.

Subassemblies tab

- Suggested use: add custom user subassemblies.

Assemblies tab

- Suggested use: add custom user assemblies.

Blocks tab

- Suggested use: add custom user blocks.

Tools tab

- Suggested use: add custom user tools.

Note: Besides the default User tool palettes, any number of additional tool palettes can be added to the User Palette Group.

CUSTOMIZING USER TOOL PALETTES

The default User palettes and any additional palettes added are fully customizable.

TOOL PALETTE DISPLAY

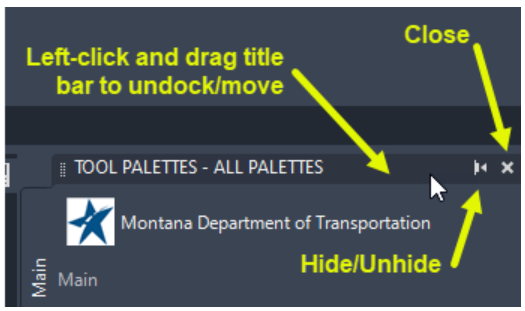
The display of tool palettes is customizable.

PALETTE WINDOW DISPLAY

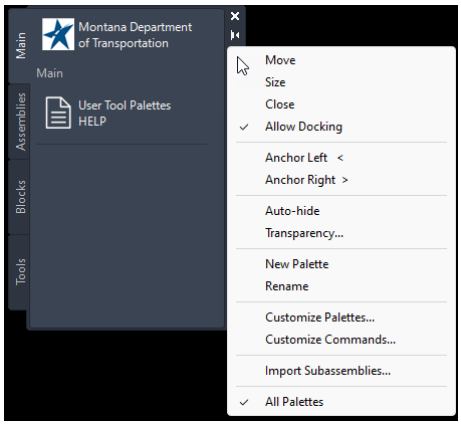
The tool palette window can be open, closed, hidden, docked, undocked, resized, and moved.

To open or close the tool palettes press the Tool Palette button on the Palettes panel of the Home ribbon tab or use the **Toggle Tool Palettes** button on the MDT Palettes panel of the MDT Tools ribbon tab.

Hover over the title bar to reveal the palette display controls.

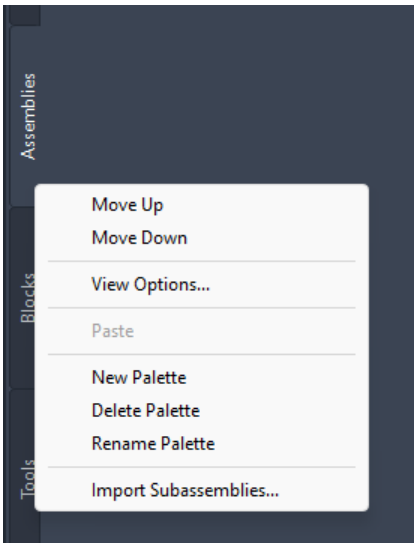


When the palette window is undocked, right-click on the title bar for even more options.



PALETTE TAB OPTIONS

Right-click on the active palette tab to reveal the palette tab options.



Move Up/Move Down – Customize the order of the palette tabs.

New Palette/Delete Palette – Add or remove a palette tab.

Rename Palette – Rename a palette tab.

View Options… - Customize thumbnail image size and style.

CREATING CONTENT FOR TOOL PALETTES

Drawing objects and custom tools can be created for a tool palette, but this content must be created in a way that it is always accessible and retains the original intent. When tool palette buttons are created, they are tied to the source location of the content that is added. If that content is edited, deleted, or moved, the tool palette button will no longer function as originally intended. For this reason, **do not add content directly from a project drawing**.

Project drawings are ever evolving, and items added from a project drawing may become missing or different than when initially added to a tool palette. Drawing items intended to be used on a user tool palette should be copied and saved to the local State Kit User folders so the user has full control and access of the content.

SUBASSEMBLIES

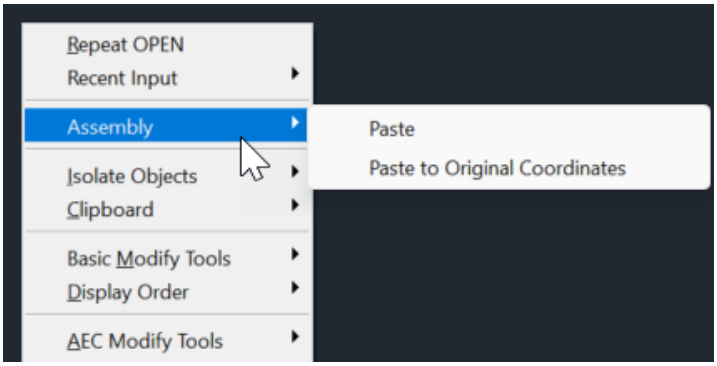
Custom user subassemblies can be created and added to a user tool palette. PKT files can be stored in a local State Kit User folder. For information on creating custom subassemblies, submit an MDT Digital Design and Modeling Services Request for guidance or assistance.

ASSEMBLIES

Custom user assemblies can be created. Best practice is to create one drawing for each individual assembly and save each drawing to a local State Kit User folder.

COPY AN EXISTING ASSEMBLY

1. Start a new drawing from **C:\MDOH\StateKit\Civil 3D\2026\Assemblies\assembly-start.dwt**
2. Save the drawing to a location under the State Kit User folder.
3. Open an existing drawing with an assembly.
4. Use the **Copy Assembly** tool**:** Ribbon > MDT Design tab > MDT Modeling panel > Assembly menu > Copy Assembly
5. Select an assembly to copy.
6. Switch to the new drawing.
7. Right-click and select Assembly > Paste



The **Copy Assembly** tool and right-click **Assembly > Paste** is the **only** way to copy an assembly from one drawing to another. **Do not** use the standard Clipboard > Copy/Paste. Your assembly may not function correctly.

8. Set parameters for subassemblies.
9. Save

CREATE A NEW ASSEMBLY

1. Start a new drawing from **C:\MDOH\StateKit\Civil 3D\2026\Assemblies\assembly-start.dwt**
2. Save the drawing to a location under the State Kit User folder.
3. Create an assembly.
4. Add subassemblies.
5. Set parameters for subassemblies.
6. Ribbon > Manage tab > Styles panel > Reference
7. Remove all reference templates
8. Save

BLOCKS

Custom blocks can be added to a palette. Similar blocks can be grouped into one drawing or blocks can be saved individually to a local State Kit User folder.

CUSTOM TOOLS

Custom commands from AutoLISP routines can be added to a palette. AutoLISP files can be saved to C:\MDOH\StateKit\Civil 3D\User\Tools. To prepare custom commands for use on the palettes, individual AutoLISP files can be added to the “Startup Suite”.

ADDING AUTOLISP FILES TO RUN AT STARTUP

1. Save or copy an AutoLISP file (*.lsp or *.vlx) to a location under the State Kit User folder.
2. Type: **APPLOAD**
3. Find Startup Suite in the lower right corner of the “Load/Unload Applications” dialog box.
4. Click **Contents…**
5. Click **Add…**
6. Browse to the file(s) with commands to be used on a palette and click **Open**.
7. When done adding files, click **Close**.
8. Click **Close**.
9. The commands will now load at startup and will be accessible to add and use from a palette.

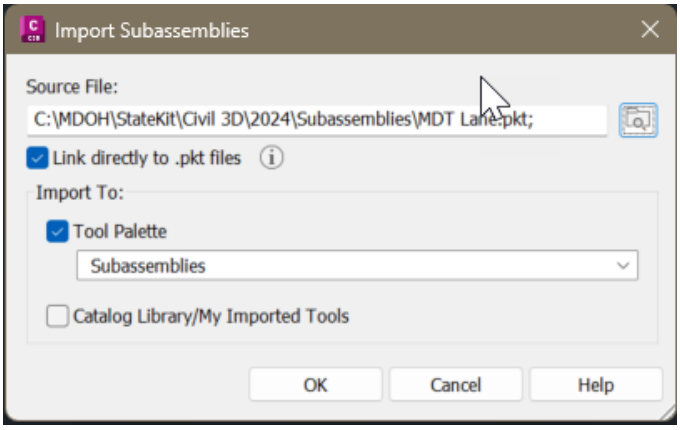
ADDING CONTENT TO TOOL PALETTES

Content is added to a palette by creating a tool palette button.

SUBASSEMBLIES

To add a subassembly to a palette button:

1. The User palette group must be open and active.
2. You will need a subassembly PKT file saved to a local State Kit User folder.
3. Ribbon > Insert tab > Import panel > Import Subassemblies menu > Import to Tool Palette



4. Browse to a PKT file.
5. Checkmark **Link directly to .pkt files**
6. Checkmark **Tool Palette**
7. **Select** a tool palette from the dropdown list.
8. Click **OK**.
9. Right-click on the new subassembly button on the tool palette and select **Properties…**
10. Edit “Name” and “Description”.
11. Scroll down to edit default parameter settings.
12. Click **OK**.

Hint: Import State Kit subassemblies from C:\MDOH\StateKit\Civil 3D\2026\Subassemblies to a User palette and edit the default parameter settings to create multiple variations of the standard subassemblies.

ASSEMBLIES

To add an assembly to a palette button:

1. Open the drawing containing the assembly.
2. Select the center assembly marker.
3. Hover over the vertical line of the assembly marker AWAY from the grips.
4. Left-click, HOLD, and drag the assembly onto the palette.

BLOCKS

To add a block to a palette button:

1. Open the drawing containing the block.
2. Select the block.
3. Hover over any part of the block AWAY from the grips.
4. Left-click, HOLD, and drag the block onto the palette.

TOOLS

To add an existing command to a palette button:

1. Right-click on an empty area of a palette.
2. Select **Customize Commands…**
3. Select and drag a command onto the tool palette.

To add custom commands, an existing button can be copied and edited:

1. Right-click on the “User Tool Palettes HELP” button at the top of the User “Main” palette tab.
2. Select **Copy**.
3. Right-click and **Paste** onto a palette.
4. Right-click on the copied button and select **Properties…**
5. Edit the Name and Description. (The description will be the tooltip when hovering over the button.)
6. Under the “Command” section select the “Command string” text.
7. Type: **^C^C_** followed by the custom command name. *(^C^C_MyCommandName)*
8. All other settings can be left the same.
9. Add thumbnail images if desired.
10. Right-click on the thumbnail image and select **Specify image…**

DRAWING OBJECTS

Drawing objects such as polylines or text can be added to a palette button.

1. Create a drawing object.
2. Set the properties of the object (layer, color, linetype, textstyle, scale, etc.)
3. Select the object.
4. Hover over a portion of the object AWAY from the grips.
5. Left-click, HOLD, and drag the object onto the palette.