

This tutorial is designed to help you correct a "carriage off track" issue with your USCutter **MH** or **SC** vinyl cutter.

There are a variety of reasons why the carriage on your cutter can get un-seated from the tracks including: shipping turbulence, improper blade exposure, improper pressure/force setting etc. While we won't be covering how to prevent the carriage from being forced off the tracks, we do however strongly encourage you to review the <u>blade-holder</u> and <u>material loading</u> guides.

There are a variety of symptoms that would indicate your carriage is not on the tracks, including but not limited to:

- Grinding sound when "jogging" the carriage or no movement at all
- Grinding sound after turning on the cutter
- Inconsistent cut depth
- Rounded corners or inconsistent out-put

Cutter Parts

Before you start cutting, you should familiarize yourself with the cutter and its basic parts and functions:

Front View





The carriage houses an electro-magnet which lifts and lowers the blade holder while cutting. The carriage moves back and forth along the rail via three Teflon wheels.

There are two wheels on the bottom of the carriage (left and right) and a single springloaded wheel on top. While you won't be able to see the top wheel, the bottom two wheels are plainly visible behind the backplate as shown in *figure* 3 & 4.





Figure 3

STEP #1: Determine if your carriage is in-fact, off the tracks.

With the cutter turned off, take the carriage by hand and slide it back and forth along the rail. The carriage should slide left and right fairly easily and should not scrape or get stuck at all when moved down the length of the cutter. (if it does get stuck please see STEP 1a.) Now place the carriage in the center of the cutter (if possible) and pull the bottom out towards you. The carriage should not be able to pull away from the rail. If it *does* pull away to any degree (as in *figure* 5), then it is <u>not</u> properly on the track.





Figure 6

STEP #1a: If your <u>MH</u> carriage is off the track and/or getting stuck.

If your carriage is not getting stopped or caught when sliding along the rail please feel free to skip this step.

The connecting cables and wires from the motherboard are fed into and under the top rail of the cutter (the part where the menu is located). Often when the carriage is forced off of the track the bracket that holds the ribbon cables to the carriage can get bent up (see *figure* 7). This can lead to contact between the circuit boards under the menu and the carriage bracket, impairing the movement of the carriage.

To access the carriage bracket we will need to lift up the top rail from the cutter. This can be accomplished with a small Philips screw-driver. Remove the two silver screws on the far right and far left as pictured in *figure* 8.



Figure 8



Figure 7







Gently, bend the metal bracket down such that it can freely clear the circuit board under the menu as well as the small circuit board at the start of the ribbon cable stiffener (measuring tape). Leave the top rail up or off until you are certain that the

carriage is securely back on the tracks and can move freely along the entire length of the rail. Once you have the bracket repositioned, put the top rail back on the cutter and set it in-place. Slide the carriage back and forth with the top rail in place prior to screwing it down. Ensure that the carriage no longer makes contact or gets stuck. For instructions on getting the carriage back on the track, continue to STEP 2.

STEP #2: Placing the carriage back on the track.

This part is very simple and easily done. Grab the underside of the carriage as shown in *figure* 11.



If you have an **SC** vinyl cutter, you'll need to check one final detail. The SC has a carriage bracket much like the MH, however it extends to the back of the machine to make contact with a green limit switch. The limit switch is what tells the cutter when to stop moving the carriage. Often when the carriage is forced off the track on an SC vinyl cutter, that bracket can get bent up causing it to miss the switch.

If the bracket isn't making contact with the switch and the carriage is properly on the track, we'll need to gently bend it back down.

Push up and in to compress the top wheel spring, then set the two bottom wheels back on the lower track. It can be easy to get only a single lower wheel properly on the track so be sure to check that both sides are back in position. Slide the carriage left and right. It should move with relatively little effort.

At this point, if we have an **MH** cutter and have taken the top rail off, the top rail can be replaced and secured. Turn the cutter back on and test to find that the issue has been resolved.





Figure 14