

TSN00590-100-A | Countersink Bit Set Tool Use Instructions

PURPOSE:

To accurately drill a countersink into sheet metal to aide with installation of countersink rivets (4.8mm and 6.4mm)



LABOR CODE:

OTHER TOOLS REQUIRED:

- TSN00416-101-A: M18 RIVET TOOL
 - TSN00340: M18 Drill
-

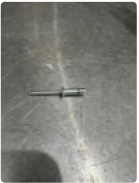




PRIOR TO USAGE:

- Inspect for broken drill bits, jogger or micro-stop
- Perform necessary maintenance to the tool prior to use (replace the nylon foot piece if needed)
- Ensure that the drill used is sufficiently charged before performing the procedure
- Be sure to review the service manual procedure to ensure you are set up correctly (bit sizes, jogger, rivets etc.) before performing the procedure

⚠ CAUTION: Do not perform procedure if any equipment is missing or damaged. Contact tooling team with any questions or requests for replacement parts. ServiceToolEngineering@rivian.com

TOOL USAGE:

Images used in this TUI are on a bench on a double stacked plate to simulate tool use on a vehicle. The rivet size used is a 4.8mm countersink rivet.

STEP	DIRECTIONS	VISUAL AID
1	<p>Identify the countersink rivet to be used in the repair.</p> <p>Typical rivet sizes are either 4.8mm and 6.4mm, consult the service manual for the correct size for your application.</p>	 <p>4.8mm countersink rivet shown</p>
2	<p>Use a center punch (or similar tool) to make an indent on the surface to help start the drill bit and prevent it from walking.</p>	 <p>Punch being used to make an indent on panel</p>  <p>Indent on panel after using the punch</p>
3	<p>Choose the appropriate jobber drill bit in the kit to make the hole</p> <div style="background-color: #fff9c4; padding: 5px; border: 1px solid #ccc;"> <p>⚠ 4.8mm drill bit is marked as #10 (0.1935") and is the smaller set provided in the kit</p> <p>6.4mm drill bit is marked as "G" (0.261") and is the larger set provided in the kit</p> </div>	 <p>4.8mm #10 drill bit is shown</p>
4	<p>Install the jobber drill bit into the TSN00340-102-A: M18 Drill</p>	 <p>#10 Drill bit installed onto TSN00340-102-A M18 Drill</p>

5

Locate the jobber drill bit onto the indent on the panel made by the center punch.



locate drill bit onto the indent on the panel



Position the drill and the bit to get ready to drill the hole

6.

Drill the hole into the panel. Make sure that the drill goes through deep enough and can be pulled out smoothly with minimal resistance.



Once bit is positioned, start drilling against the panel



Make sure the drill bit goes through the layers of the panel sufficiently. Pull the bit out and make sure there is no resistance of obstruction coming out. This will ensure the hole is precise and clean.

7.

Test fit the countersink rivet to be used to make sure the rivet will fit into the hole snug.



4.8 mm countersink rivet being tested for fit



The rivet fits but as you can see, there is no countersink in the panel for the rivet to fit flush against and the rivet remains elevated from the surface (not ideal).

8.

Choose the appropriate countersink bit to be used for the panel and rivet install

⚠ Keep in mind:
In the kit the 4.8mm setup is labeled as #10 and the 6.4mm setup is labeled as "G" on the countersink bit set. There is also a notable size difference between the 2. #10 is for 4.8 and is smaller, "G" is for 6.4 and is the larger of the 2 countersink bits.



4.8mm (#10) countersink bit shown

9.

Remove the micro-stop cage from the kit and make sure that it works as intended before using (check for plunging action on the micro-stop)



Microstop from the kit



Check for plunge actuation on the Microstop before using. If the plunger has a bind or excessive resistance, **DO NOT USE** and replace the Microstop!

10. With the plunger is depressed on the micro-stop, install the appropriate counter drill bit into the micro-stop by threading it into place.



With the plunger depressed, install the appropriate countersink into the Microstop



Countersink bit installed into the Microstop

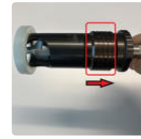
11. **Setting Height on Countersink drill bit on the micro-stop:**
On the micro-stop, loosen the rear nut that holds the sliding collar in place and back it out until it stops.



Back out the rear locking nut until it stops

12.

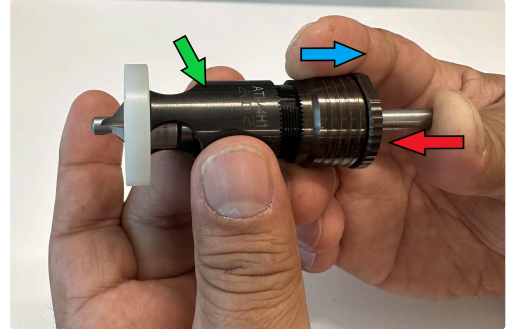
When the locking collar on the micro-stop is fully backed out, ensure that the middle collar can slide in between loosely. It has a spring tension that allows it to slide over the rear locking nut as well.
Keep the fine teeth separated from the cage assembly to allow adjustments to be made.



Make sure the middle collar can move freely and slide over the rear locking nut (spring tensioned)

13.

With the plunger depressed (RED), the middle collar pulled back on top of the rear locking nut under spring tension (BLUE), adjust the front cage (GREEN) by turning the housing to adjust the stop height for the countersink bit against the panel.



14.

Adjust the cage housing to height that the fluke end of the counter bit is even with the nylon foot piece.



Adjust the Microstop cage until the end of the fluke on the countersink bit is even with the Nylon foot piece

15.

Once the ideal height is set, slide the middle collar (BLUE) with the fine teeth against the micro-stop cage housing.
Then lock it into place using the rear locking nut (Orange). Turn it until it bottoms against the middle collar past the spring tension.



Slide middle collar (BLUE) to the Microstop cage to set the height.



Turn the rear locking nut until it bottoms out on the middle collar past the spring tension



What the setup should look like when the desired height for the countersink bit is set and locked into place.

16. Install the micro-stop setup into the TSN00340-102-A: M18 Drill and lock into place



Install the Microstop setup into the drill and lock into place prior to use.

17. Put the nylon foot piece against the surface of the panel and align the countersink drill bit with the hole by pushing against the plunger to guide it into position.



Position the Nylon foot piece on the Microstop onto the panel surface



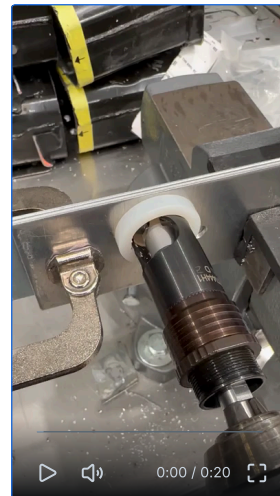


Push the plunger via the drill to guide the Countersink drill bit into position (the hole)

18. With the micro-stop and the drill set into position, drill the hole until the micro-stop bottoms out. This will create the ideal countersink bevel for the rivet to sit in.



Drill the countersink hole with the Microstop setup



19. Test fit the appropriate rivet into the countersink bevel made by the micro-stop setup to ensure that the rivet is flush with the surface of the panel.





Test fit and ensure that the countersink rivet sits flush with the surrounding panel surface

20. Install the countersink rivet into the panel using the TSN00416-101-A: M18 Rivet Tool



Install the rivet into the panel using the approved riveting tool

21. Once rivet is successfully installed, it should be flat against the surface of the panel with no exposed edge or the rivet sitting above the main panel surface.



Countersink rivet successfully installed using the Countersink Drill kit and Approved riveter

22.

Disassemble the micro-stop setup (reverse of assembly) and put back all contents of the Countersink Drill Kit back into the proper locations in the box for next time use.

