TOOL USE INSTRUCTION

RIVIAN		
	TOOL NUMBER	**TSN01578-100-A**
	TITLE	**TRAILER LIGHT AND BRAKE TESTER**
	REV - DATE	**REV A - 01/08/2025**

CONTENTS

TOOL FUNCTION

TESTS VEHICLE SIDE BRAKE CONTROLLER OUTPUT AND ALL TOWING/LIGHTING FUNCTIONS

SPECIFICATIONS

Connection Type: 7-Way Flat Pin
Materials: ABS Plastic, PVC Coated Wire
Package Weight: 2.3 lbs.
Package Dimensions: 10" L x 7" W x 4" H

LABOR CODES

780099012 LOW VOLTAGE ELECTRICAL GENERAL DIAGNOSTIC
780099112 LOW VOLTAGE ELECTRICAL GENERAL DIAGNOSTIC, NO TROUBLE CODE FOUND

OTHER TOOLS REQUIRED

N/A

COMPONENT GUIDE

ITEM	QTY	DESCRIPTION
1	1	BRAKE FORCE METER WITH LOAD SIMULATOR
2	1	25 FT IN CAB TEST CABLE w/ 7 PIN TRAILER ADAPTOR

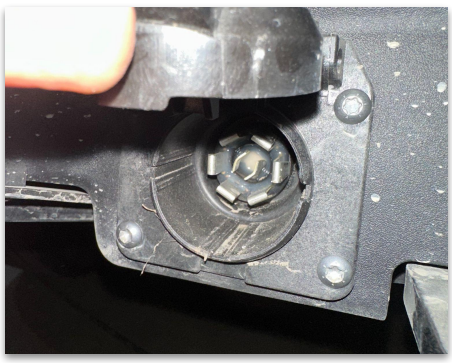
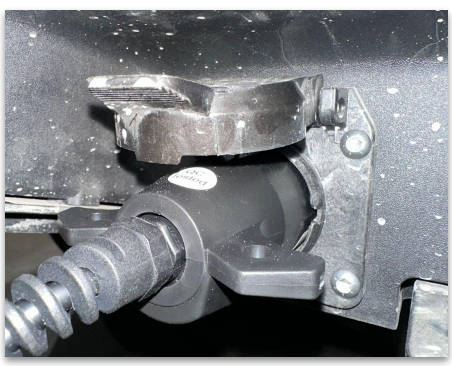
WARNING

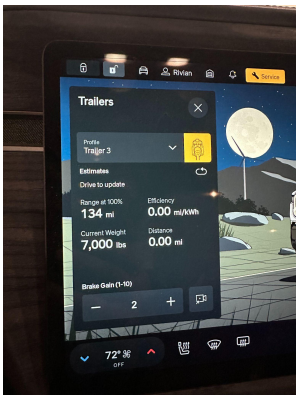
Do not perform procedure if tool is damaged or missing parts. Consult the Rivian Service Tool Catalog for replacement components.

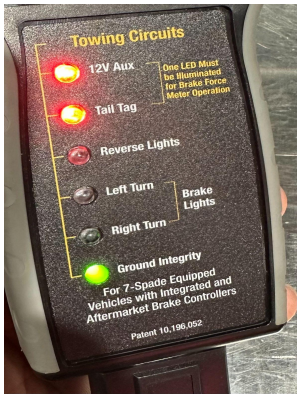
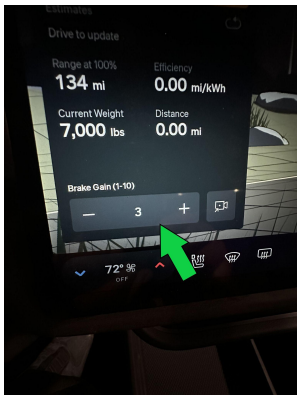
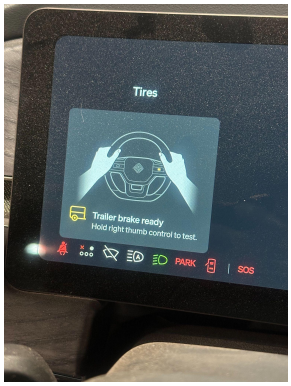
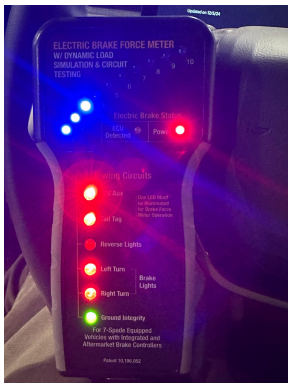
Failure to follow guidelines outlined in this document could result in injury and/or property damage.

SAFETY GUIDELINES

1	**WARNING** Ensure vehicle is on a flat surface with the parking brake engaged prior to testing.	

1	Remove contents from bag.	
2	Locate 7 pin trailer plug in rear of vehicle (typically located close to the trailer hitch assembly).	
3	Inspect the 7 pin connector for any corrosion or damage before plugging in adaptor.	
4	Align the key on the 7 pin connector with the trailer plug and press firmly to fully seat.	

5	Plug the connector end to the Brake test controller unit (be sure to tighten the x2 fine thread anchors on each side of connector).	
6	With the vehicle in PARK and the tool plugged in, the following lights should illuminate: • 12V Aux • Tail Tag • Ground Integrity	
7	In the CID, the vehicle will detect that an accessory is plugged into the trailer connector and allow access to Brake Gain control (Bring the controller with you into the cabin of the vehicle).	

1	When unit is powered up and connected to the vehicle, you will get real time signal from: • Left rear turn signal • Right rear turn signal • Reverse lights They must be operated to get the live signals.	
2	You can adjust Brake Gain on the CID screen to set up for the individual test.	
3	Brake Gain can be activated by pressing the brake pedal or via the right side scroll wheel on the steering wheel.	
4	When trailer brake is activated (Brake Gain) you will see the signal reflected on the controller as well as the Electric Brake Status light. The value shown on the controller is reflective of the Brake gain value input on the CID.	

5	When testing is done, be sure to disconnect the adaptor from the trailer plug in the rear of the vehicle before continuing with any other vehicle repairs.	
6	Put all contents back into the storage bag for the next technician to use.	

BASIC MAINTENANCE GUIDE

TASK	FREQUENCY
Inspect components for any damage to unit housing, adaptor ends or connectors	Before each use
Put all components of the kit back into the storage bag	After Each Use

SERVICE & REPLACEMENT COMPONENTS

FOR OTHER ITEMS NOT SHOWN, CONTACT RIVIAN SERVICE TOOL ENGINEERING

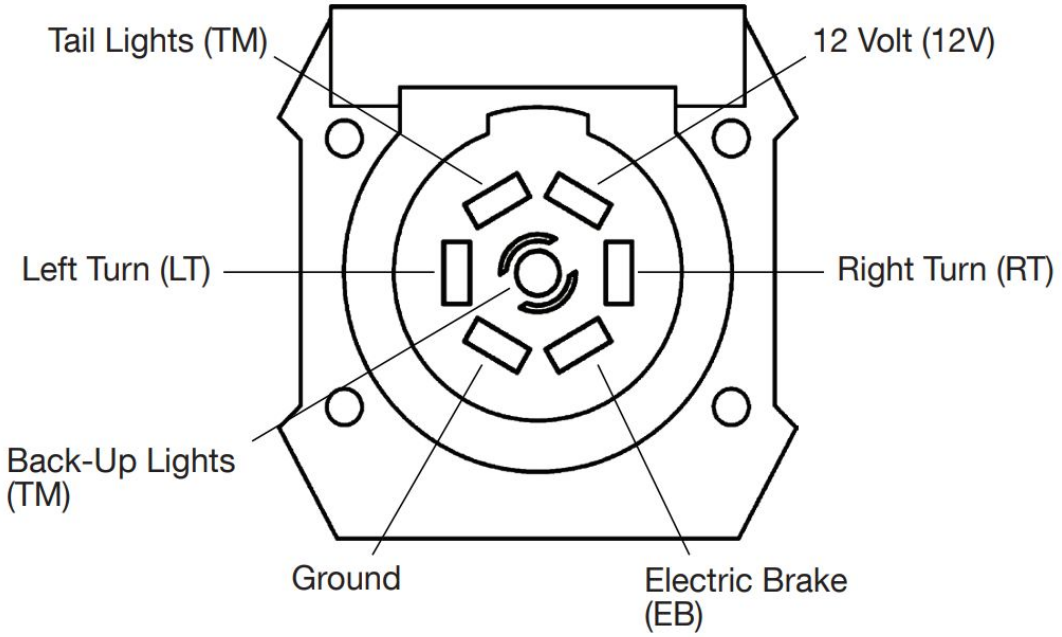
ITEM	DESCRIPTION	SUPPLIER + PART NUMBER
1	Electric brake force meter with dynamic load simulation and Circuit Testing	9107B-AS
2	25 ft. cable (unit plug and trailer adaptor)	KCBL-9107-AS
3	Storage bag	9107-B

STATUS LIGHTS		
ECU Detected (Yellow)	Blinking	Determining if ECU is present
	Steady	ECU detected Dynamic load is active
	Not illuminated	No ECU detected Static load is available
Power (Red)	Intermittent blink	Indicates search signal from vehicle This is typical and expected from vehicles with an established ECU connection
	Steady	Electric Brake circuit has power and continuity
	Not illuminated No power or continuity detected	Not illuminated No power or continuity detected
ECU and Power Light	Blinking	Fault in wiring—check connections and trouble codes
Gain 1-10 (Blue)	Illuminated Indicates gain from truck 1.0-1.5V increments	Illuminated Indicates gain from truck 1.0-1.5V increments

Circuit	Type of Fault	Diagnostic Procedure
Electric Brake	No Indication when energized	Check for faulty connection, fuse, wiring fault or controller gain too low
	Low current output or intermittent	Check for faulty connection or controller gain too low
Turn Signals	No power indication when energized	Check for faulty connectioN
	One or both stay on with no blink	Check for faulty connection, fuse or defective flasher
	Intermittent or erratic illumination	Check for faulty connections for wiring fault
Brake Lights	No power indication when energized	Check for wiring fault, turn signal operation or fuse if turn signals are also dead
	Intermittent or erratic illumination	Check for wiring, fuse or connection faults
Tail/Tag Lights	No power indication when energized	Check for wiring, fuse or connection faults
	Intermittent or erratic illumination	

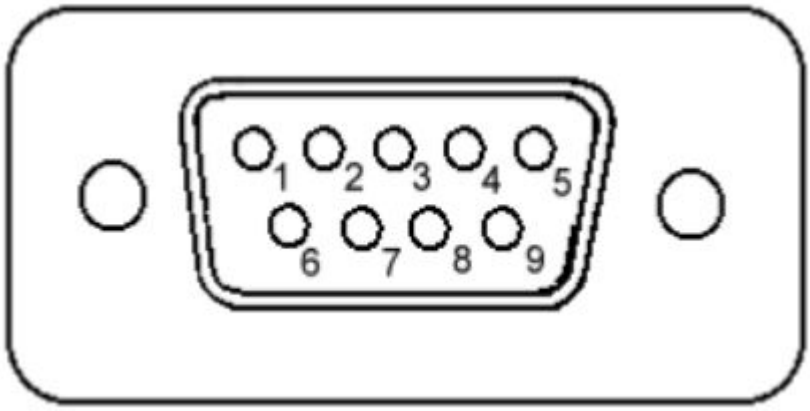
Circuit	Type of Fault	Diagnostic Procedure
Reverse Lights	No power indication when energized	Check for wiring, fuse or connection faults
	Intermittent or erratic illumination	
Power (RED)	No power indication when energized	Check for wiring, fuse or connection faults
	Intermittent or erratic illumination	
Trailer Not Detected	Vehicle does not recognize the brake force meter as a trailer	Check setup Procedure
		Check for wiring, fuse or connection faults
		Check for vehicle software updates

7-WAY SPADE/FLAT VEHICLE FEMALE SOCKET (FRONT VIEW)



7-Way Spade Pin	Color	Circuit
1	Black	Tail Lights (TM)
2	Brown	12 Volt (12V)
3	Red	Right Turn (RT)
4	Green/Purple	Electric Brake (EB)
5	Orange/White	Ground
6	Blue	Back-Up Lights (BU)
7	Yellow	Left Turn (LT)

#9107B CABLE PINOUT



7-Way Spade Pin	Color	Circuit
1	Green	Electric Brake
2	Yellow	Left Turn
3	Red	Right Turn
4	Blue	Reverse
5	White	Ground
6	Purple	Electric Brake (Redundant)
7	Black	Tail/Tag
8	Brown	12V + / AUX
9	Orange	Ground (Redundant)

SYMBOL GLOSSARY

WARNING

Risk of minor injury

REVISION LOG

REV	DATE	CHANGE DESCRIPTION
A	01/09/2025	Initial Release