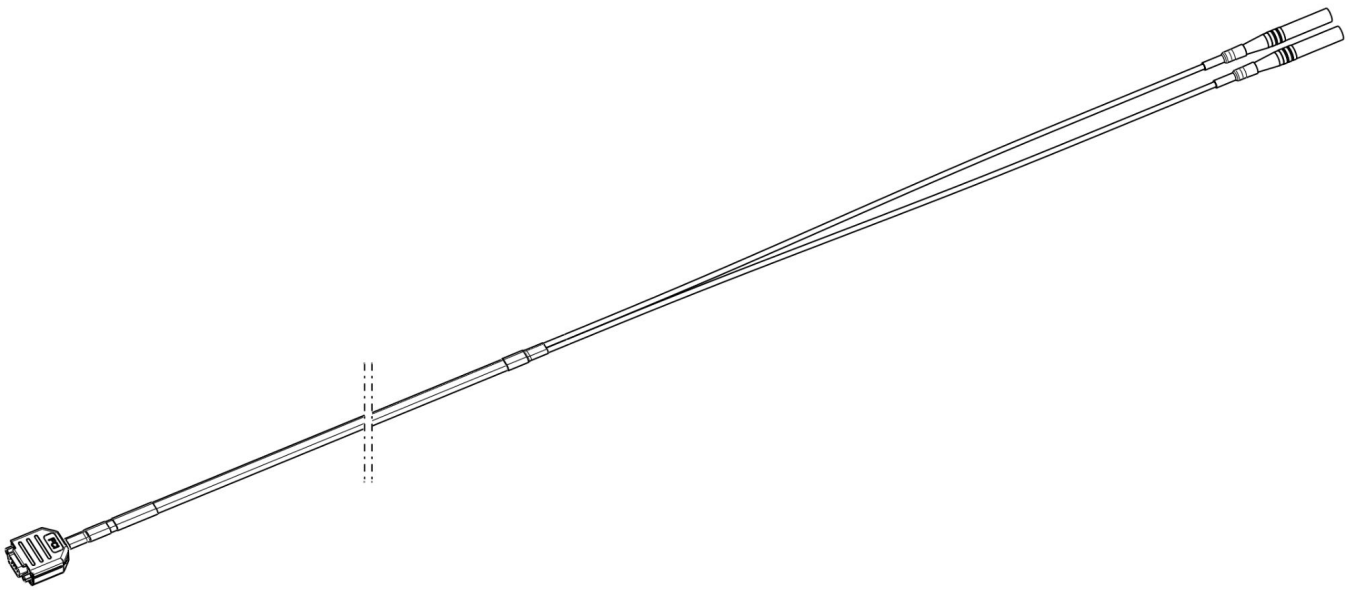
TOOL USE INSTRUCTION

RIVIAN		
	TOOL NUMBER	**TSN01541-300**
	TITLE	**PICO SCOPE - CAN BREAKOUT ADAPTER**
	REV - DATE	**REV 1 - 05/05/2026**

CONTENTS

TOOL FUNCTION

ADAPTS RIVIAN CAN BREAKOUT HARNESS TO PICO SCOPE TEST LEADS



- Checking Voltage Levels: Verifying that CAN-High and CAN-Low are resting at 2.5V (recessive) and switching correctly to 3.5V and 1.5V (dominant).
- Identifying Shorts: Detecting if a line is shorted to Ground, Battery Positive, or if the two CAN lines are shorted to each other.
- Open Circuit Detection: Finding breaks in the wiring that prevent communication from reaching certain modules.
- Termination Resistor Testing: Using the scope to see "ringing" or signal reflections that occur if one of the two 120Ω termination resistors is missing or damaged.
- Identifying "Silent" Modules: Seeing if a specific ECU is not "talking" at all, even though the rest of the network is active.
- Bus Loading/Traffic Analysis: Determining if the network is "flooded" with too much data, which can cause delays or "U-code" (network communication) faults.
- Node Identification: Using the scope to see which module is sending a specific ID by observing which signal amplitude changes when a module is unplugged.
- Timing Analysis: Measuring the exact time between a physical event (like pressing a brake pedal) and the actual message appear.
- Capture-on-Error: Using the "Mask Limit Testing" or "Deep Memory" features to catch a momentary glitch that only happens for a fraction of a millisecond while driving.
- Wiggle Testing: Monitoring the waveform in real-time while wiggling harnesses to see exactly where a connection is failing.

SPECIFICATIONS

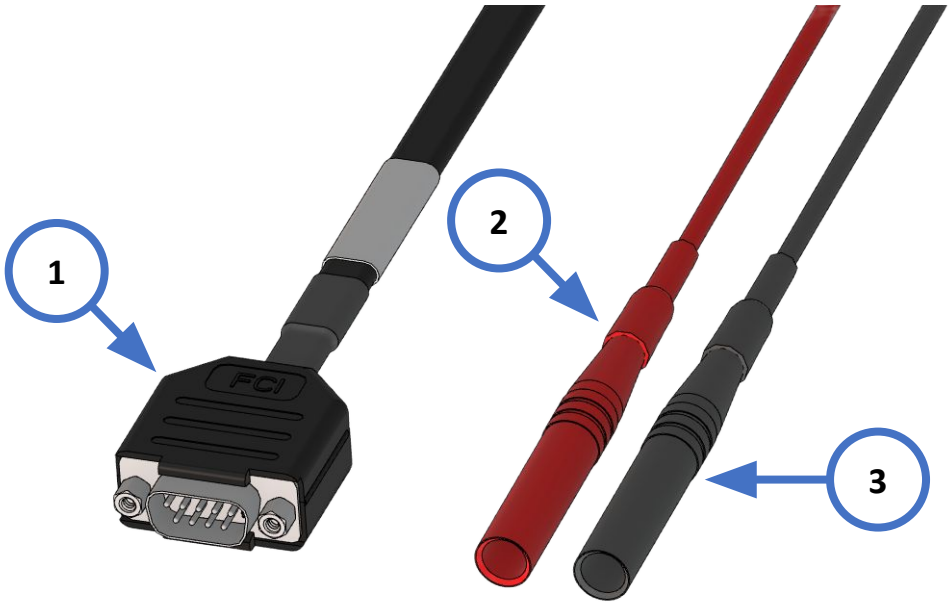
Weight: 1lb
Overall Length: 300 cm (~10ft)
Voltage Rating: 12v

LABOR CODES

780099012: Low Voltage Electrical General Diagnostic

OTHER TOOLS REQUIRED

TSN00035-100: Pico Scope, 4 Channel
TSN00743-300: CAN BREAKOUT HARNESS - 12 POSITION
TSN00744-300: CAN BREAKOUT HARNESS - 20 POSITION
TSN01448-300: CAN BREAKOUT HARNESS - 24 POSITION
TSN01449-300: CAN BREAKOUT HARNESS - 76 POSITION
TSN01587-300: R2 CAN BREAKOUT - KIT



COMPONENT GUIDE

ITEM	DESCRIPTION
1	DB9 Connector
2	Banana Jack (Red)
3	Banana Jack (Black)

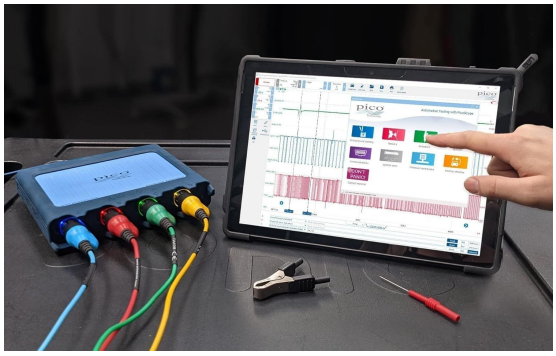
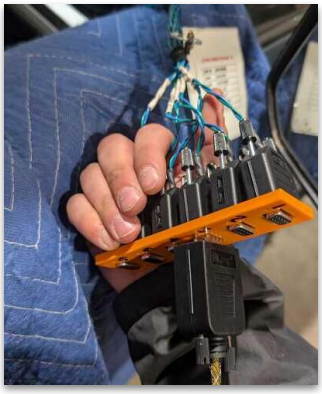
WARNING

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	**CAUTION** Take all recommended precautions when working with live electrical connections and signals	

1	Connect Pico Scope to tablet or laptop.	
2	Connect the DB9 end of the Pico Scope Adapter to the CAN Breakout	
3	Connect the red banana jack lead of the Pico Scope Adapter to the monitored CAN high channel. Connect the black banana jack lead of the Pico Scope Adapter to the monitored CAN low channel.	

BASIC MAINTENANCE GUIDE

TASK	FREQUENCY
Inspect adapter for any worn sheathing, damaged wires or bent pins. Replace the tool if damage is found.	Before Each Use
Coil the adapter up to avoid tangling and return it to the tool box.	After Each Use

PROBLEM	SOLUTION
No voltage display for CAN H and CAN L	1. Check resistance from pin 7 of the male DB9 to the red lead 2. Check resistance from pin 2 of the male DB9 to the black lead Expected Resistance ~.4 Ω

SYMBOL GLOSSARY

DANGER

Risk of electrocution or electric shock

WARNING

Risk of minor injury

DANGER

Risk of major injury such as

- fire
- chemical or poison
- crushing / maiming
- death

CAUTION

Risk of

- damage to vehicle or property
- data disruption
- voiding warranty

CAUTION

Risk of Pinch Point

- keep hands and fingers clear of all moving parts.

PPE REQUIRED

IMPORTANT

Instructions to successfully complete a task

NOTE

Useful information

REVISION LOG

REV	DATE	CHANGE DESCRIPTION
1	05/05/2026	Initial Release