

2022 CHEVROLET CORVETTE SERVICE MANUAL

- SEARCH

1. Diagnostic Overview, Starting Point, and Programming

2. Vehicle Diagnostic Information

3. Specifications

- 4.

K160 Brake System Control Module: Scan Tool Information

The Electronic Brake Control Module (EBCM) scan tool data parameters list contains all ABS related parameters that are available on the scan tool. The list is arranged in alphabetical order. A given parameter may appear in any one of the data lists.

Brake System Control Module Scan Tool Data Parameters

Parameter	System State	Expected Value	Description
Operating Conditions: Ignition ON			
ABS Active Signal		OK/Malfunction	Determine the state of the ABS system
ABS Pump Motor Voltage		0 V	The scan tool displays the commanded pump motor voltage.
Actual Brake System Plunger Motor Torque		Varies	The scan tool displays the motor torque feedback.
Actual Brake System Plunger Position		Varies	The scan tool displays Plunger Position Feedback
Actual Brake System Plunger Speed		Varies	The scan tool displays Plunger Speed Feedback
All Wheel Drive		Active/Inactive	The scan tool displays when in four wheel drive (if equipped).
Antilock Braking System		OK/Malfunction	The scan tool displays OK or Malfunction. Malfunction is displayed if there is an ABS malfunction.
Automatic Brake Control Gain Request from Brake System Control Module		Varies	The scan tool displays a percentage of Autonomous Control Gain Request from BSCM
Automatic Braking Event		Detected/Not Detected	The scan tool displays Automatic Trailer Braking Event
Automatic Brake Request from Brake System Control Module		Yes/No	The scan tool displays Trailer Brake Autonomous Control Status
Automatic Braking Active Signal		Okay/Malfunction	ABS Active Malfunction indicates invalid protected ABS active data received from Automatic Brake System Control Module
Automatic Braking Torque Signal		Okay/Malfunction	The scan tool displays Automatic Brake Torque Signal Failure
Autonomous Braking Request Signal		Okay/Malfunction	Autonomous Signal malfunction indicates invalid autonomous braking data received from Automatic Brake System Control Module
Brake Fluid Level Sensor		Okay/Low	The scan tool displays OK when the brake fluid is at correct level and Low when the brake fluid is low.
Brake Fluid Level Switch		Varies	The scan tool displays Brake Fluid Level Switch Voltage
Brake Fluid Reservoir Separating Solenoid Valve		Active/Inactive	The scan tool displays Eboost System Internal Valves Feedback Status Reservoir Separation Valve Commanded
Brake Master Cylinder Separating Solenoid Valve 1		Active/Inactive	The scan tool displays Eboost System Internal Valves Feedback Status Circuit Separating Valve 1 Commanded.
Brake Master Cylinder Separating Solenoid Valve 2		Active/Inactive	The scan tool displays Eboost System Internal Valves Feedback Status Circuit Separating Valve 2 Commanded

Parameter	System State	Expected Value	Description
Brake Pad Wear Malfunction Signal		None Propulsion Active, Vehicle Speed, Malfunction, Reset	The scan tool displays the Brake Pad Life Monitoring Axle Reset Reject Reason
Brake Pad Wear Signal		Low/High	The scan tool displays Brake Pad Wear Input Status
Brake Pedal Position Sensor	Brake pedal released	Inactive	The scan tool displays Inactive or Active depending on the state of the brake pedal.
	Brake pedal applied	Active	
Brake Pedal Simulator Separating Solenoid Valve		Active/Inactive	System Internal Valves Feedback Status Simulator Separating Valve Commanded
Brake Pressure Signal		Okay/Malfunction	The scan tool displays Brake Pressure Signal Failure
Brake System		Active/Inactive	The scan tool displays the boost status.
Brake System Plunger Motor Resistance		Varies	The scan tool displays the calculated Motor Resistance
Brake System Plunger Motor Temperature 1		Varies	The scan tool displays the Module Motor Driver Temperature CH1
Brake System Plunger Motor Temperature 2		Varies	The scan tool displays the Module Motor Driver Temperature CH2
Brake System Plunger Separating Solenoid Valve 1		Active/Inactive	The scan tool displays System Internal Valves Feedback Status Plunger Separating Valve 1 Commanded.
Brake System Plunger Separating Solenoid Valve 2		Active/Inactive	System Internal Valves Feedback Status Plunger Separating Valve 2 Commanded
Brake Pressure		Varies	The scan tool displays brake apply pressure.
Brake Pressure Created by Applying Brake Pedal		Varies	The scan tool displays Brake Pedal Driver Applied Pressure
Brake Pressure Sensor	Brake pedal released	0 Åž Å“ Å“1 V	The scan tool displays 0 Åž Å“ Å“5 V depending on the applied hydraulic brake pressure.
	Brake pedal applied	1 Åž Å“ Å“5 V	
Brake Pressure Sensor	Brake pedal released	2000 Åž Å“ Å“3000 kPa	The scan tool displays the actual pressure applied to the brake pedal.
Brake Pressure Test		Incomplete, Active, Complete, Failed	The scan tool displays the Wheel Pressure Control Feedback Test Status
Brake System Plunger Motor Current Limitation		Active/Inactive	Eboost Motor Current Limitation
Brake System Plunger Motor Status		Active/Inactive	The scan tool displays if the Eboost Motor Status has limitations.
Brake System Plunger Motor Temperature Limitation		Active/Inactive	Eboost Motor Temperature Limitation
Brake System Plunger Motor Torque Limitation		Active/Inactive	Eboost Motor Torque Limitation
Brake System Plunger Travel		Varies	The scan tool displays the plunger travel.
Calculated Input rod Position		Varies	The scan tool displays the EBoost Input Rod Stroke - Calculated
Delivered Torque		Varies	The scan tool displays 0 Åž Å“ Å“100% depending on the how much torque the engine is delivering.
Desired Trailer Brake Control Duty Cycle		OK/Malfunction	The banded trailer brake duty cycle sent to the Trailer Brake Module. It represents the requested duty cycle as transformed to allow diagnostics on the transmission line

Parameter	System State	Expected Value	Description
Desired Brake System Plunger Position		Varies	The scan tool displays the command Plunger Position
Desired Brake System Plunger Speed		Varies	The scan tool displays the commanded Plunger Speed.
Desired Brake System Plunger Motor Torque		Varies	The scan tool displays the commanded Motor Torque.
Deviation Between Manual Trailer Brake Apply Request Signal 1 and 2		Varies	The scan tool displays Trailer Brake Manual Apply Switch Position Error
Diagnostic Mode		Active/Inactive	Diagnostic Mode Status
Driver Initiated Brake Event		Not Detected/Detected	The scan tool displays Brake Event Detected
Dynamic Rear Proportioning Status		Okay/Malfunction	The scan tool displays Dynamic Rear Proportioning System Failure Status
Engine Drag Control Status		Okay/Malfunction	The scan tool displays Engine Drag Control Status
Front Brake Pad Wear Sensors		Varies	The scan tool displays Front Axle Brake Pad Wear Sensor Voltage
Induced Voltage by Trailer Brake Coil		Varies	The scan tool displays Inductance Measurement Voltage
Input Rod Position 1		Varies	The scan tool display the position of the Input Rod Stroke 1
Input Rod Position 2		Varies	The scan tool display the position of the Input Rod Stroke 2
Input Rod Position Sensors 1 and 2 Supply Voltage		Varies	The scan tool display the Brake Pedal Postion Sensor Reference Voltage
Lateral Acceleration		Varies	The scan tool displays 0ÅçÅ€Å“5 V depending on the vehicle's lateral acceleration.
Left Front Inlet Solenoid Valve Feedback		Inactive/Active	Active is displayed when the left front inlet solenoid valve is commanded ON.
Left Front Outlet Solenoid Valve Feedback		Inactive/Active	Active is displayed when the left front outlet solenoid valve is commanded ON.
Left Front Wheel Speed		0 km/h (0 MPH)	The scan tool displays km/h (MPH) depending on the current speed of the left front wheel speed sensor.
Left Front Brake Pressure		Varies	The scan tool displays the left front wheel pressure
Left Park Brake Actuator Force		Varies	The scan tool displays the Left Park Brake Actuator force
Left Park Brake Actuator Status		Released, Applied, Malfunction, Service Release, Releasing, Applying, Unknown	The scan tool displays the Left Park Brake Actuator Status
Left Park Brake Actuator Voltage		Varies	The scan tool displays the Left Park Brake Actuator voltage
Left Rear Brake Pressure		Varies	The scan tool displays the left rear wheel pressure
Left Rear Inlet Solenoid Valve Feedback		Inactive	The scan tool displays Inactive or Active. Active is displayed when the left rear inlet solenoid valve is commanded ON.
Left Rear Outlet Solenoid Valve Feedback		Inactive	The scan tool displays Inactive or Active. Active is displayed when the left rear outlet solenoid valve is commanded ON.
Left Rear Wheel Speed		0 km/h (0 MPH)	The scan tool displays km/h (MPH) depending on the current speed of the left rear wheel speed sensor.
Limited Brake Function - Only Limited Brake Pressure Available		Active/Inactive	The scan tool displays Partial Boost status
Limited Brake Function - Low Voltage Condition		Active/Inactive	The scan tool displays Low Voltage Boost Status
Limited Brake Function - Only One Brake Circuit Available		Active/Inactive	The scan tool displays half system boost status.
Longitudinal Acceleration		Varies	The scan tool displays the vehicle's longitudinal acceleration.
Manual Trailer Brake		Released/Applied	Trailer Braking Signals Status Manual Trailer Brake Applied

Parameter	System State	Expected Value	Description
Manual Trailer Brake Apply Request Signal 1		Varies	Trailer Brake Primary Manual Apply Switch Position
Manual Trailer Brake Apply Request Signal 2		Varies	Trailer Brake Redundant Manual Apply Switch Position
Module Temperature		Varies	The scan tool displays the Brake System Control Module Temperature.
Normal Braking Mode		Active/Inactive	The scan tool displays if the vehicle is in normal braking mode.
Park Brake Actuator		Active/Inactive	The scan tool displays the Electric Park Brake Motor Status
Park Brake Actuator Direction		Released/Applied	The scan tool displays the Electric Park Brake Motor Status
Panic Brake Assist Status		OK	The scan tool displays OK or Malfunction. Malfunction is displayed if the EBCM disables the panic brake assist due to a fault.
Park Brake Mode		Active/Inactive	The scan tool displays if in Shut Down Boost status
Park Brake Switch		Active/Inactive	The scan tool displays the status of the Electric Park Brake Switch
Pump Motor Relay Feedback		Inactive	The scan tool displays Inactive or Active. Active is displayed when the pump motor is commanded ON.
Primary Isolation Solenoid Valve Feedback		Inactive	The scan tool displays Inactive or Active. Active is displayed when the isolation solenoid valve is commanded ON.
Primary Prime Solenoid Valve Feedback		Inactive	The scan tool displays Inactive or Active. Active is displayed when the prime solenoid valve is commanded ON.
Rear Brake Pad Wear Sensors		Varies	The scan tool displays the remaining percentage of brake pad.
Redundant Trailer Brake Manual Apply Slider		Varies	The scan tool displays Manual Apply Switch Voltage.
Regenerative Braking Axle Torque Request		Varies	The scan tool displays Regenerative Braking Axle Torque Request
Regenerative Braking, Stability or Traction Control Disable History 1		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 1
Regenerative Braking, Stability or Traction Control Disable History 2		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 2
Regenerative Braking, Stability or Traction Control Disable History 3		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 3
Regenerative Braking, Stability or Traction Control Disable History 4		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 4
Regenerative Braking, Stability or Traction Control Disable History 5		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 5
Regenerative Braking, Stability or Traction Control Disable History 6		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 6
Regenerative Braking, Stability or Traction Control Disable History 7		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 7
Regenerative Braking, Stability or Traction Control Disable History 8		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 8
Regenerative Braking, Stability or Traction Control Disable History 9		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 9
Regenerative Braking, Stability or Traction Control Disable History 10		Varies	The scan tool displays Regenerative Braking, Stability or Traction Control Disabling ECU History 10

Parameter	System State	Expected Value	Description
Requested Torque		Varies	The scan tool displays 0%–100% depending on the how much torque is requested.
Right Front Brake Pressure		Varies	The scan tool displays the right front wheel pressure.
Right Front Inlet Solenoid Valve Feedback		Inactive	The scan tool displays Inactive or Active. Active is displayed when the right front inlet solenoid valve is commanded ON.
Right Front Outlet Solenoid Valve Feedback		Inactive	The scan tool displays Inactive or Active. Active is displayed when the right front outlet solenoid valve is commanded ON.
Right Front Wheel Speed		0 km/h (0 MPH)	The scan tool displays km/h (MPH) depending on the current speed of the right front wheel speed sensor.
Right Park Brake Actuator Force		Varies	Scan tool displays the Right Park Brake Actuator force
Right Park Brake Actuator Status		Released, Applied, Malfunction, Service Release, Releasing, Applying, Unknown	Scan tool displays the Right Park Brake Actuator Status
Right Park Brake Actuator Voltage		Varies	Scan tool displays the Right Park Brake Actuator voltage
Right Rear Brake Pressure		Varies	The scan tool displays the right rear wheel pressure.
Right Rear Inlet Solenoid Valve Feedback		Inactive	The scan tool displays Inactive or Active. Active is displayed when the right rear inlet solenoid valve is commanded ON.
Right Rear Outlet Solenoid Valve Feedback		Inactive	The scan tool displays Inactive or Active. Active is displayed when the right rear outlet solenoid valve is commanded ON.
Right Rear Wheel Speed		0 km/h (0 MPH)	The scan tool displays km/h (MPH) depending on the current speed of the right rear wheel speed sensor.
Roller Test Stand Mode		Active/Inactive	The scan tool displays dyno mode status
Secondary Isolation Solenoid Valve Feedback		Active/Inactive	The scan tool displays Inactive or Active. Active is displayed when the isolation solenoid valve is commanded ON.
Secondary Prime Solenoid Valve Feedback		Active/Inactive	The scan tool displays Inactive or Active. Active is displayed when the prime solenoid valve is commanded ON.
Shutdown Mode		Active/Inactive	The scan tool displays if in shutdown mode
Stop Lamp Signal		Not Requested/ Requested	The scan tool displays Brake Lights Requested
Steering Wheel Angle	Steering wheel in straight position	-5° to +5°,°	The scan tool displays °. This is the current position of the steering angle sensor.
	Steering wheel turned left until stop	450°–550°,°	
	Steering wheel turned right until stop	550 to 450°,°	
System Voltage	°	11–14 V	The scan tool displays V. This is the current battery voltage.
Traction Control Switch	Traction control switch released	Inactive	The scan tool displays Inactive or Active depending on the traction control switch status.
	Traction control switch pressed	Active	
Traction Control System		OK	The scan tool displays OK or Malfunction. Malfunction is displayed if there is a traction control malfunction.

Parameter	System State	Expected Value	Description
Trailer Brake Automatic Control State		Normal, Active, Temporarily Limited, Permanently Failed, Communication Failed, Off, No Signal	Trailer Brake Autonomous Control Status Autonomous Control Feedback State
Trailer Brake Control		Disabled, Inactive, Normal Brake Mode, High Brake Mode, Manual Apply Brake Mode, Brake in Autonomous Mode, Undefined	The Scan tool displays Trailer Braking Arbitration State
Trailer Brake Control Output Circuit		Indeterminate, Voltage too High, Voltage too Low, Okay	The Scan tool displays Trailer Brake Control Output State
Trailer Brake Manual Apply Slider		Varies	Manual Apply Switch Voltage
Trailer Brake Power Control Module		De-Energized/Energized	Trailer Brake Control Status Energized
Trailer Brake Power Control Module Battery Voltage		Varies	The scan tool displays Trailer Brake Power Control Module Battery Voltage.
Trailer Brake Sensitivity		Varies	The scan tool displays Trailer Brake User Gain
Trailer Brake Sensitivity Switch Up Button		Active/Inactive	The scan tool displays Trailer Brake Control Switch User Gain Button States
Trailer Brake Type		Unknown, Electrical, Electrohydraulic	The scan tool displays Trailer Connection Status
Vehicle Stability System		OK	The scan tool displays OK or Malfunction. Malfunction is displayed if there is a stability control malfunction.
Vehicle Stability Enhancement System Signal			
Vehicle Stability Enhancement System Switch	Traction control switch released	Inactive	The scan tool displays Inactive or Active depending on the traction control switch status.
	Traction control switch pressed	Active	
Wheel Speed Signal		Okay/Malfunction	The scan tool displays Wheel Speed Signal Failure
Yaw Rate Signal		Varies	The scan tool displays 0-5 V depending on the vehicle's yaw rate.

Brake System Control Module Scan Tool Output Controls

Output Control	Description
Automated Brake Bleed	This is used in order to bleed ABS hydraulics.

Output Control	Description
Brake Hydraulics Test	This is used to check for leaks or air in the system
Brake System Hydraulic Corner Test	Commands brake hydraulic pressure to each corner.
Deactivate Brake Boost System	This is used to deactivate brake boost system before performing certain functions.
Left Park Brake Actuator	Commands the left park brake actuator ON or OFF.
Right Park Brake Actuator	Commands the right park brake actuator ON or OFF.
Rear Brake Caliper Piston Extend	Commands the caliper piston back into position after servicing the rear brakes,
Rear Brake Caliper Piston Retract	Retracts the caliper piston to service the rear brakes.
Trailer Brake Control Signal	Commands the trailer brakes on and off
Trailer Brake Duty Cycle	Controls the battery output voltage to the trailer brakes.
Trailer Brake Switch Indicator	Commands the Trailer Brake Switch Indicator on or off

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