

2022 CHEVROLET CORVETTE SERVICE MANUAL

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Wheel Alignment Measurement

Steering and vibration complaints are not always the result of improper alignment. One possible cause is wheel and tire imbalance. Another possibility is tire lead due to worn or improperly manufactured tires. Lead/pull is defined as follows: At a constant highway speed on a typical straight road, lead/pull is the amount of effort required at the steering wheel to maintain the vehicle's straight path. Lead is the vehicle deviation from a straight path on a level road without pressure on the steering wheel. Determine if the vehicle has a tire lead problem. Radial Tire Lead/Pull Correction

Before performing any adjustment affecting wheel alignment, perform the following inspections in order to ensure correct alignment readings:

- Inspect for visible damage to the suspension components and replace as necessary.
- Inspect the tires for the proper inflation. Vehicle Certification, Tire Placard, Anti-Theft, and Service Parts ID Label
- Inspect for irregular tire wear. Tire Diagnosis - Irregular or Premature Wear
- Inspect for runout of the wheels and the tires, correct any conditions as necessary.
- - Tire Diagnosis - Waddle Complaint
 - Wheel Mounting Surface Check
- Inspect the wheel bearings for backlash and excessive play. Wheel Bearings Diagnosis
- Inspect the ball joints for looseness or wear.
- Inspect the tie rods for looseness or wear.
- - Steering Linkage Inner Tie Rod Inspection
 - Steering Linkage Outer Tie Rod Inspection
- Inspect the control arms, stabilizer shaft and stabilizer links for looseness or wear.
- Inspect the steering gear for looseness at the frame. Fastener Specifications
- Inspect the struts/shock absorbers for wear, leaks, and any noticeable noises. Suspension Strut and Shock Absorber Testing - On Vehicle
- Inspect the vehicle trim height. Trim Height Inspection
- Inspect the steering wheel for excessive drag or poor return due to stiff or rusted linkage or suspension components. Memory Steer
- Inspect the fuel level. The fuel tank should be full or the vehicle should have a compensating load added.

Give consideration to excess loads, such as tool boxes, sample cases, etc. If normally carried in the vehicle, these items should remain in the vehicle during alignment adjustments. Give consideration also to the condition of the equipment being used for the alignment. Follow the equipment manufacturer's instructions.

Satisfactory vehicle operation may occur over a wide range of alignment settings. However, if the setting exceeds the service allowable specifications, correct the alignment to the service preferred specifications. Wheel Alignment Specifications

Perform the following steps in order to measure the front and rear alignment angles:

1. Place the vehicle on an appropriate alignment rack.
2. Chock the wheels.

3. Place the vehicle in the neutral service mode. Neutral Service Mode
4. Install the alignment equipment according to the manufacturer's instructions.
5. Jounce the front and the rear bumpers 3 times prior to checking the wheel alignment.
6. Measure the caster.
7. Measure the alignment angles and record the "before" readings and compare them to the specifications. Wheel Alignment Specifications
8. Adjust the alignment angles to specification in the following order for a proper alignment:
 1. Adjust the rear caster and camber. Rear Caster and Camber Adjustment
 2. Adjust the rear toe. Rear Toe Adjustment
 3. Adjust the front caster and camber. Front Caster and Camber Adjustment
 4. Adjust the front toe. Wheel Alignment - Steering Wheel Angle and/or Front Toe Adjustment
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 1. Adjust the rear caster and camber. Rear Caster and Camber Adjustment
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 3. Adjust the front caster and camber. Front Caster and Camber Adjustment
 4. Adjust the front toe. Wheel Alignment - Steering Wheel Angle and/or Front Toe Adjustment
10. Record the "after" readings.
11. Place the vehicle in park.
12. Remove the wheel chocks.
13. Remove the alignment equipment.
14. Remove the vehicle from the alignment rack.