2014 Corvette: GM TechLink: Steering Pull at Highway Speeds

Subject: Steering Pull at Highway Speeds
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On some 2014 Corvettes, the steering may pull to the right while driving at highway speeds. (Fig. 6)

Fig. 6

TIP: If the vehicle drives straight ahead without pulling, but the steering wheel is off-angle, refer to the appropriate Service Information for a steering wheel angle condition.

Be sure to document “Before” and “After” wheel alignment measurements whenever an alignment is performed.

Diagnosis should follow these steps:

1) If the pull is minor, but still correctable, verify the condition by lightly

holding the steering wheel while driving the vehicle in a straight line at 60-65 mph (97-105 km/h). Document the direction of the pull and rate the condition by describing the amount of pull on a scale of 1–10. Do this evaluation in both left and right sloping lanes as the vehicle will follow the road crown/camber. If the vehicle follows the road crown/camber, this is normal operation and the vehicle is performing to design intent. No repairs are necessary.

2) Do a left to right front wheel/tire assembly swap and evaluate the vehicle again. Document the results. If the pull direction is opposite, refer to the Radial Tire Lead/Pull Correction procedure in the appropriate Service Information to isolate the tire causing the condition. Otherwise, continue to the next step if the pull in the same direction is still present.

3) Put the vehicle on an alignment rack. Record the “Before” measurements and modify the wheel alignment to counteract the pull condition. A vehicle will typically pull to the side with more positive camber. If the vehicle is pulling to the right, increase camber on the left, or decrease camber on the right. Stay within the current wheel alignment specifications in the Service Information. If, after exhausting standard Vehicle Leads/Pulls diagnostics and the above steps, a pull to the right condition still exists, adjust the front cross-camber by up to 1.0 degree. (This is currently outside the specifications noted in the Service Information.) Evaluate the vehicle for pull on both left and right sloping road crown/camber road surfaces.

4) If cross-camber is not causing the right pull condition by being near the negative limit noted in the Service Information and the condition still exists, increase caster on the right and/or decrease caster on the left. Stay within the current wheel alignment specifications in the Service Information. If necessary, use cross-caster down to, or as far negative as, -1.0 degree (which is currently outside the specifications noted in the Service Information). Split the left and right caster about the current nominal caster values in the Service Information by increasing one side of the vehicle by the same amount decreased on the other side. Again, try to remain within the wheel alignment specifications noted in the Service Information. Evaluate the vehicle for pull

in both left and right sloping road crown/camber road conditions and verify normal operation. Record the “After” wheel alignment measurements to include with the “Before” measurements in the warranty claim.

- Thanks to Matt Bierlein

Online URL:
https://www.corvetteactioncenter.com/tech/knowledgebase/article/2014-corvette-gm-techlink-steering-pull-at-highway-speeds-1029.html