2004 Cadillac XLR: Service Bulletin: Fluid Leak at Rear Axle

Drivetrain - Rear Differential Fluid Leak

Bulletin No.: 03-04-20-006

Date: November 18, 2003

TECHNICAL

Subject:
Fluid Leak at Rear Axle (Replace Left Differential Side Cover 0-Ring and Left Axle Shaft Seal, Add Sealant to Side Cover Flange)

Models:
2004 Cadillac XLR
1997-2004 Chevrolet Corvette

Condition
Some customers may comment on fluid leaking from the rear axle.

Correction

Verify that the fluid leak is rear axle fluid, not transmission fluid. Replace the left differential side cover 0-ring and left axle shaft seal. Engineering has recommended that sealant be applied to the side cover prior to installation. Use the appropriate service procedure and part numbers listed below.

Service Procedure (Corvette)

1. Raise and support the vehicle.

2. Remove the left rear tire and wheel assembly.

3. Install J 33432-A Transverse Spring Compressor to the rear transverse spring and compress the spring.

4. Disconnect the electrical connector from the left wheel speed sensor.

5. Disconnect the electronic suspension control (ESC) position sensor link, if equipped.

6. Disconnect the shock absorber solenoid electrical connector, if equipped.

7. Remove the outer tie rod end nut.

8. Disconnect the outer tie rod end stud from the rear suspension knuckle.

9. Disconnect the park brake cable from the park brake apply lever and bracket.

10. Remove the bolts securing the upper control arms to the frame.

11. Remove the spindle nut retaining the rear wheel axle shaft to the hub.

12. Rotate the suspension knuckle until the axle shaft clears the hub.

13. Release and remove the rear wheel axle shaft from the differential.

14. Remove the left muffler.

15. Drain the rear differential fluid.

16. Remove the retaining bolts and the damper/tuned absorber from the

differential.

17. Loosen the nut retaining the transmission to the transmission LH mounting stud.

18. Install a second nut onto the stud.

19. Remove the stud from the differential cover.

20. Clean any dirt or debris from around the differential cover.

21. Remove the bolts retaining the differential cover.

22. Remove the differential cover from the differential.

23. Remove and discard the 0-ring seal and the axle seal from the differential cover.

24. Clean the 0-ring sealing surface on the differential cover and the differential housing.

25. Install new 0-ring, P/N 89047953, to the differential cover.

26. Apply a continuous 3 mm (0.125 in) bead of sealant, P/N 1052942 (Canadian P/N 10953466), or equivalent, to the cover flange.

27. Apply sealant around the bolt holes. Keep sealant away from the 0-ring.

28. Install the differential cover to the differential.

29. Install the differential cover retaining bolts.

Tighten

Tighten the bolts to 28 N.m (20 lb ft).

30. Clean the excess sealant from the left cover/housing splitline.

31. Using two nuts installed on the stud, install the transmission mounting stud to the differential cover.

Tighten

Tighten the stud to 42 N.m (31 lb ft).

32. Remove the second nut from the transmission mounting stud.

33. Tighten the nut retaining the transmission to the transmission LH mounting stud.

Tighten

Tighten the nut to 50 N.m (37 lb ft).

34. Install the damper/tuned absorber and bolts to the differential.

Tighten

Tighten the bolts to 25 N.m (18 lb ft).

35. Install the new axle seal, PN 88996703, into the differential cover using J 46405.

36. Install the left muffler.

37. Install the rear wheel axle shaft to the differential.

38. Install the spindle nut retaining the rear wheel axle shaft to the hub.

Tighten

Tighten the spindle nuts to 160 N.m (118 lb ft).

39. Install the bolts securing the upper control arms to the frame.

Tighten

Tighten the upper control arm bolts to 110 N.m (81 lb ft).

40. Connect the park brake cable to the park brake apply lever and bracket.

41. Connect the outer tie rod end stud to the rear suspension knuckle.

42. Install the outer tie rod end nut.

Tighten

^ Tighten the outer tie rod end nut to 20 N.m (15 lb ft) to seat the outer tie rod stud.

^ Turn the nut additional 160 degrees.

^ Check the outer tie rod end nut for a minimum torque of 45 N.m (33 lb ft).

43. Connect the shock absorber solenoid electrical connector, if equipped.

44. Connect the electronic suspension control (ESC) position sensor link, if equipped.

45. Connect the electrical connector to the left wheel speed sensor.

46. Remove J 33432-A Transverse Spring Compressor from the rear transverse spring.

47. Install the left rear tire and wheel assembly.

48. Refill the rear differential fluid.

49. Lower the vehicle.

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