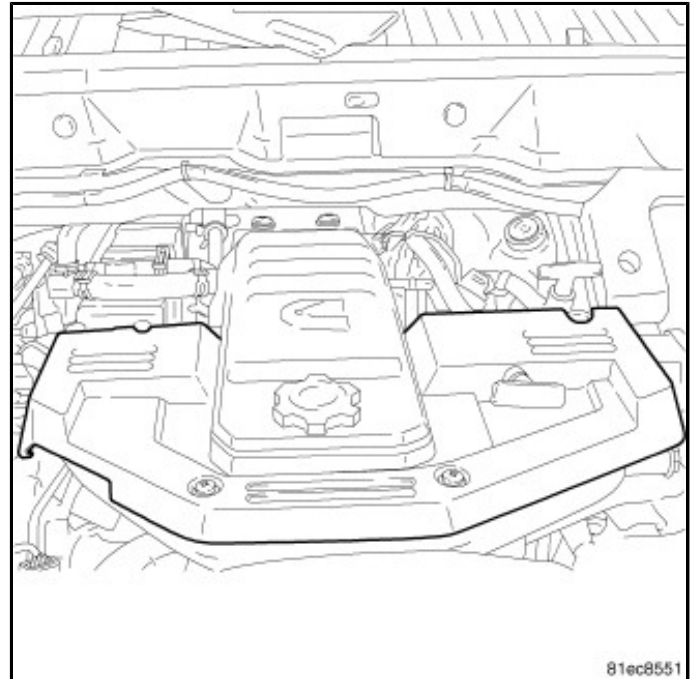
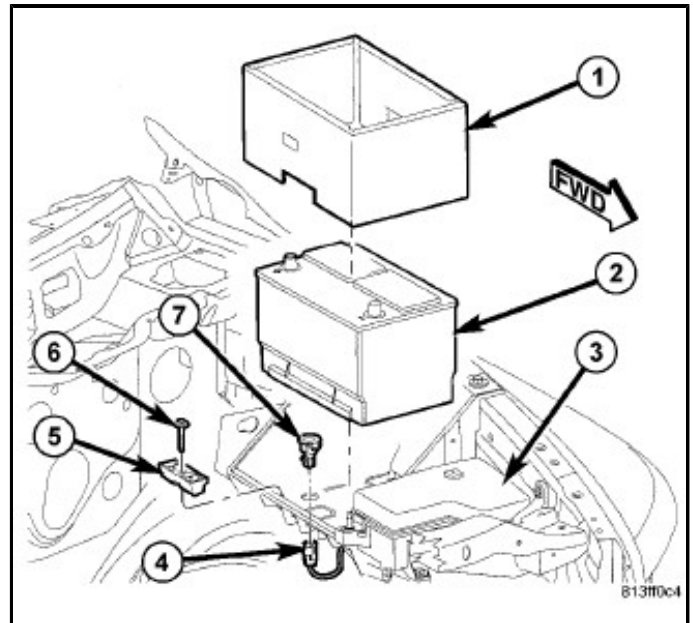


CAMSHAFT

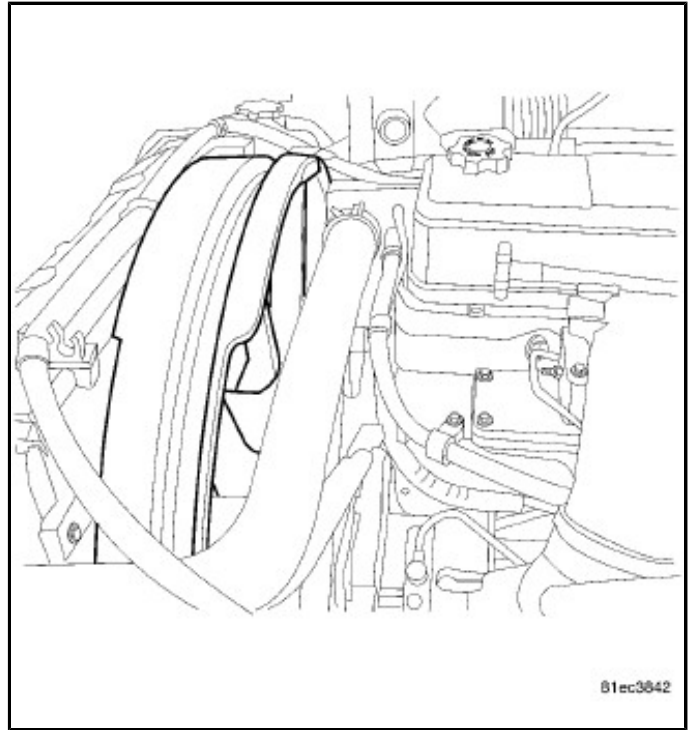
1. Remove the engine cover.



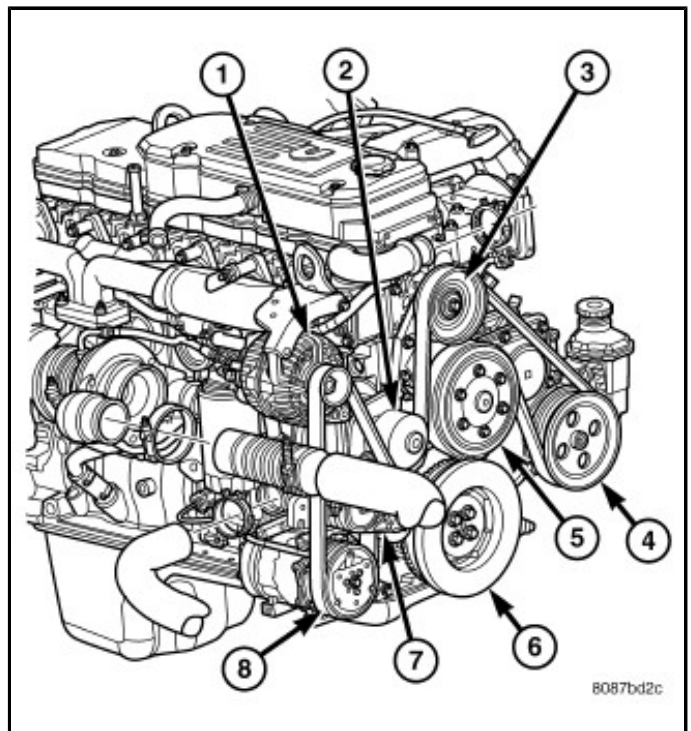
2. Disconnect both battery negative cables.
3. Recover A/C refrigerant (if A/C equipped) (Refer to 24 - Heating and Air Conditioning/Plumbing - Standard Procedure).
4. Raise vehicle on hoist.
5. Drain engine coolant into container suitable for re-use (Refer to 07 - Cooling - Standard Procedure).



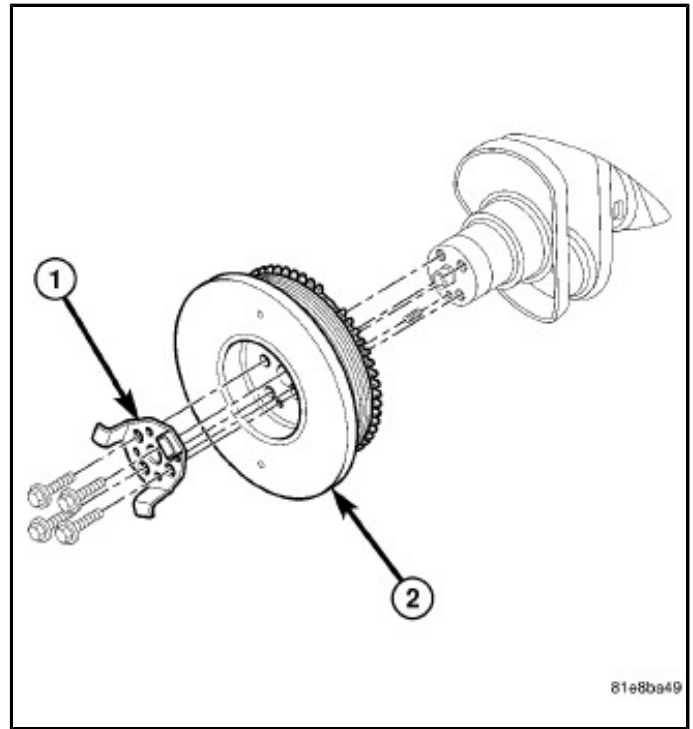
6. Lower vehicle.
7. Remove radiator upper hose.
8. Remove viscous fan/drive/shroud assembly (Refer to 07 - Cooling/Engine/FAN, Cooling - Removal).
9. Disconnect the coolant recovery bottle hose from the radiator filler neck.
10. Disconnect lower radiator hose from radiator outlet.
11. **Automatic Transmission models:** Disconnect transmission oil cooler lines from front of radiator using Special Tool [6931](#) , or equivalent, (unless equipped with finger-release disconnect).



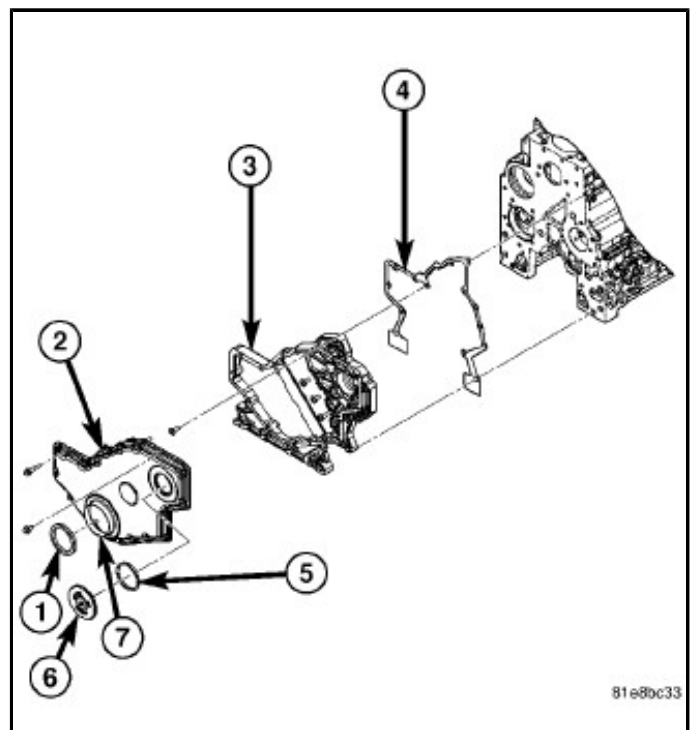
12. Remove radiator mounting screws and lift radiator out of engine compartment.
13. Remove upper radiator support panel.
14. If A/C equipped, disconnect A/C condenser refrigerant lines.
15. Disconnect charge air cooler piping from the cooler inlet and outlet.
16. Remove the two charge air cooler mounting bolts.
17. Remove charge air cooler (and A/C condenser if equipped) from vehicle.
18. Remove accessory drive belt (Refer to 07 - Cooling/Accessory Drive/BELT, Serpentine - Removal).



19. Remove accessory drive belt tensioner.
20. Remove the fan support/hub assembly.
21. Remove crankshaft damper. (Refer to 09 - Engine/
Engine Block/DAMPER, Vibration - Removal)

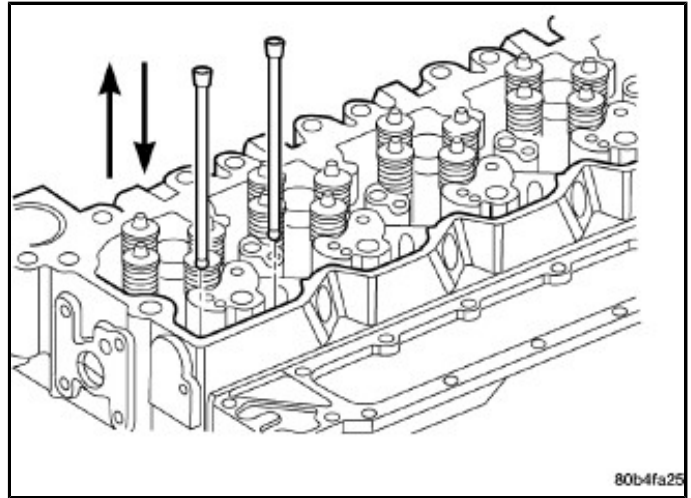


22. Remove the gear cover-to-housing bolts and gently pry the cover away from the housing, taking care not to mar the sealing surfaces. Remove dust seal with cover.
23. Using Special Tool [7471B](#) Crankshaft Barring Tool, rotate the crankshaft to align the timing marks on the crankshaft and the camshaft gears.



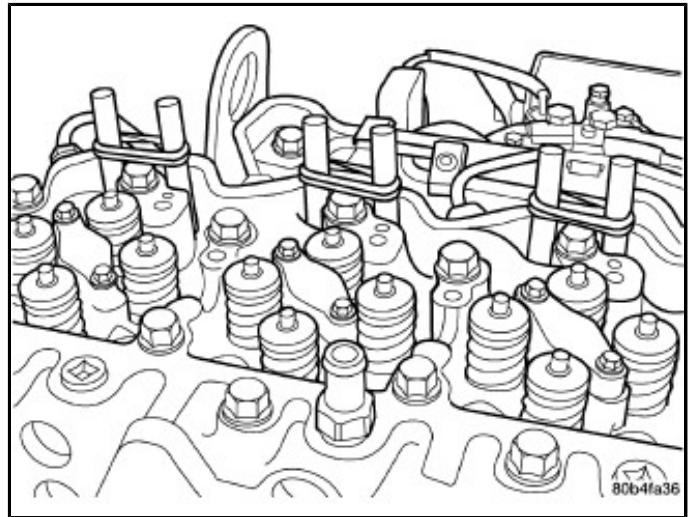
25. Remove the rocker arms, cross heads, and push rods. Mark each component so they can be installed in their original positions.

NOTE: The # 5 cylinder intake and the # 6 cylinder intake and exhaust pushrods are removed by lifting them up and through the provided cowl panel access holes. Remove the rubber plugs to expose these relief holes.



26. Raise the tappets as follows, using the wooden dowel rods provided with the Miller Tool Kit [8502](#) .

- a Insert the slotted end of the dowel rod into the tappet. **The dowel rods for the rear two cylinders will have to be cut for cowl panel clearance.** Press firmly to ensure that it is seated in the tappet.
- b Raise the dowel rod to bring the tappet to the top of its travel, and wrap a rubber band around the dowel rods to prevent the tappets from dropping into the crankcase.
- c Repeat this procedure for the remaining cylinders.



27. Verify that the camshaft timing marks are aligned with the crankshaft mark.

28. Remove the bolts from the thrust plate.

29. Remove engine mount through bolts.

30. Install engine support fixture special tool [8534B](#) , and **steel bracket/wing nut special tool [8534B](#)** .

31. Raise engine enough to allow camshaft removal.

32. Remove the camshaft, gear and thrust plate.

