16. Remove oil pump and drive.

17. Verify numbers on main and rod caps. **Important: If these get mixed up on reassembly, the engine <u>will not run.</u>**

18. **INSTRUCTOR'S INITIALS_____**

19. Rotate engine 90 degrees so the pistons are parallel to the ground.

20. Rotate the crankshaft so #1 piston is at BDC (Bottom Dead Center). **Note: Each person will remove and reinstall one piston. (Steps 21-22).**

21. Remove the rod nuts and rod cap from the first piston assembly. Install removal guides on the bolts. Push the piston out of the cylinder. Reinstall the cap and nuts on the rod with numbers lined up. Note condition of the piston, rings, and bearings of each assembly. Bring to instructor for initials and to discuss condition.

22. **INSTRUCTOR'S INITIALS_____Piston #_____**

23. Each team member is to repeat steps 21-22.

24. Each team member is to measure their respective piston and record the readings on their specification sheet. When finished wrap the piston with paper and store.

25. Each team member is to measure their respective connecting rod journal and enter the readings on their specification sheet.

26. Each team member is to measure their respective cylinder for size, and taper, and enter readings on their specification sheet.

27. **INSTRUCTOR'S INITIALS_____** Have your readings for steps 24-26 ready when getting initials.

Because only one head has been removed care must be taken when removing the timing chain. This is due to the fact that, on some engines, if the cam is rotated with the chain removed, pistons could contact and damage the valves on the head which is still in place.

28. Rotate crankshaft so #1 piston is at TDC (Top Dead Center)

29. Remove harmonic balancer/vibration damper **<u>as per demonstration.</u>**

30. Remove timing cover.

31. Check timing marks and remove camshaft sprocket and timing chain. **Important: Do NOT rotate camshaft or crankshaft.**

32. **INSTRUCTOR'S INITIALS _____ Disassembly is now complete.**