



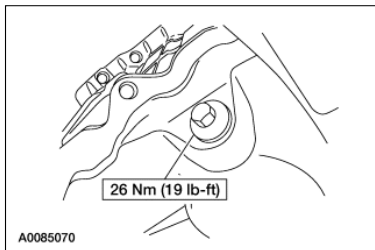
**Oil Pan, Oil Pump, Oil Pump Screen and Pickup Tube**[Printable View \(885 KB\)](#)**Special Tool(s)**

 ST1831-A	Lifting Eyes 303-D050 (D81L-6000-D) or equivalent
 ST2363-A	3 Bar Engine Support Kit 303-290A

**Material**

Item	Specification
Metal Surface Cleaner F4AZ-19A536-RA	WSE-M5B392-A
SAE 5W-30 Super Premium Motor Oil XO-5W30-QSP or equivalent	WSS-M2C205-A

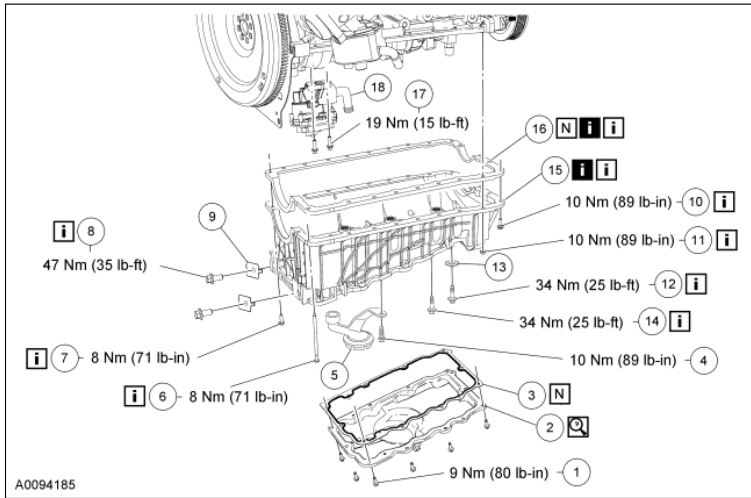
1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to [Section 100-00](#).
2. Disconnect the negative battery cable. For additional information, refer to [Section 414-00](#).
3. If removing the lower block cradle, remove the starter motor. For additional information, refer to [Section 303-04A](#).
4. Remove the air cleaner outlet tube. For additional information, refer to [Section 303-04A](#).
5. Drain the engine oil.



6. Remove the parts in the order indicated in the following illustration and table.

**To remove individual parts, only carry out the listed steps:**

Part	Steps
Oil pan	1-3
Oil pump pickup tube	1-5
Lower block cradle	7-16
Oil pump	1-18



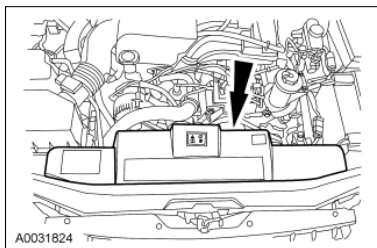
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Item	Part Number	Description
1	E802185	Oil pan bolt (12 required)
2	6675	Oil pan
3	6710-A	Oil pan gasket
4	W500214	Oil pump pickup tube bolt
5	6617	Oil pump pickup tube
6	E804588	Lower block cradle bolt Installation Note
7	W709198-S437	Lower block cradle bolt Installation Note
8	E802185	Bell housing-to-lower block cradle bolt (2 req'd) Installation Note
9	6C629	Bell housing-to-lower block cradle spacer (2 req'd)
10	W503275	Lower block cradle bolt (20 req'd) Installation Note
11	E822125	Lower block cradle nut (2 req'd) Installation Note
12	W702323	Lower block cradle bolt (2 req'd) Installation Note
13	6734	Washer (2 req'd)
14	W702323	Lower block cradle bolt (6 req'd) Installation Note
15	6F092	Lower block cradle (4x2 vehicles) Removal Note Installation Note
15	6F092	Lower block cradle (4x4 vehicles) Removal Note Installation Note
16	6710	Lower block cradle gasket Removal Note Installation Note
17	W708582	Oil pump bolt
18	6600	Oil pump

7. To install, reverse the removal procedure.
8. Fill the engine with clean engine oil.

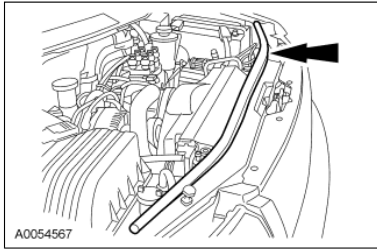
**Item 15: Lower Block Cradle (4x2 vehicles) Removal Note**

1. Remove the upper air deflector.



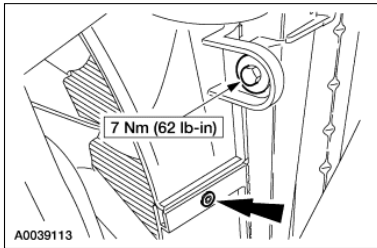
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2. Remove the weatherstrip.

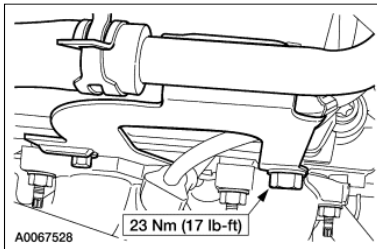


3. **NOTE:** Not all vehicles will have screws installed in the radiator fan shroud.

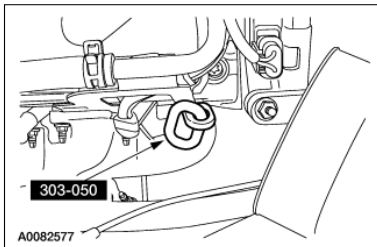
Remove and discard the screws. Remove the bolts and the fan shroud.



4. Remove the bolt.

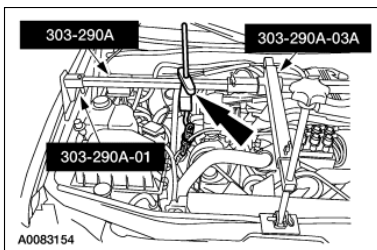


5. Install the RH lifting eye using the previously removed bolt.



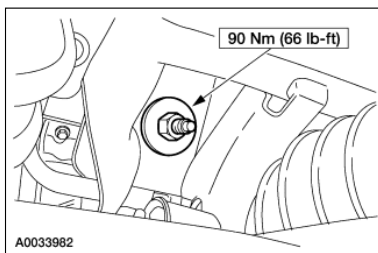
6. **NOTE:** This is not a typical setup. Only the right side of the motor will be raised.

Install the special tools.



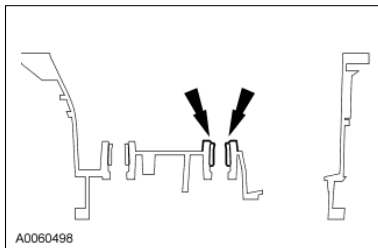
7. **NOTE:** RH side shown, LH side similar.

Remove the motor mount nuts.



8. Raise the engine.
9. **CAUTION:** Failure to back off the set screws can result in damage to the lower block cradle.

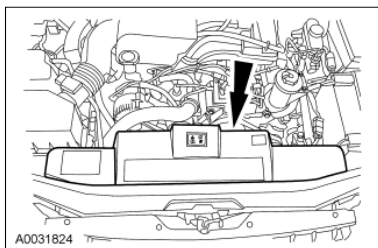
Back the set screws off until they are below the lower block cradle boss.



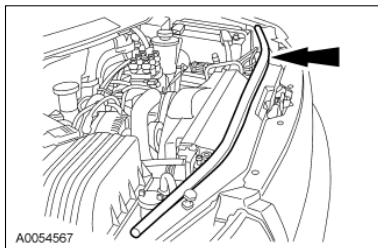
10. Remove the lower block cradle.

**Item 15: Lower Block Cradle (4x4 vehicles) Removal Note**

1. Remove the upper air deflector.

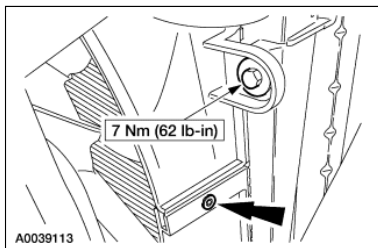


2. Remove the weatherstrip.

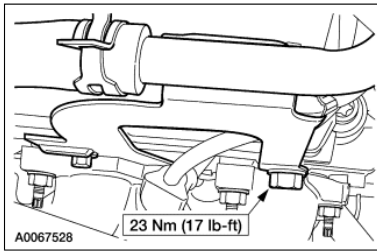


3. **NOTE:** Not all vehicles will have screws installed in the radiator fan shroud.

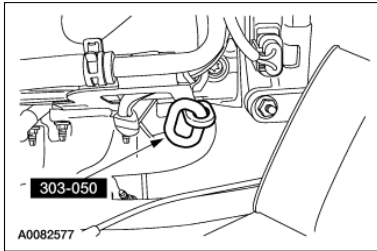
Remove and discard the screws. Remove the bolts and the fan shroud.



4. Remove the bolt.

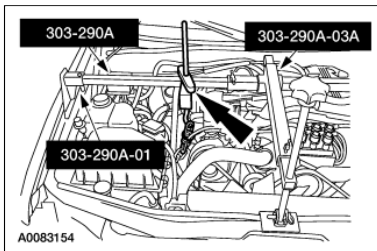


5. Install the RH lifting eye using the previously removed bolt.

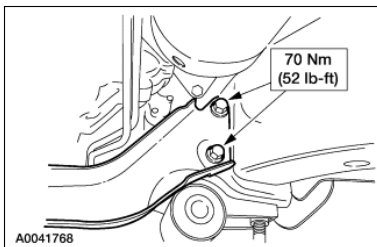


6. **NOTE:** This is not a typical setup. Only the right side of the motor will be raised.

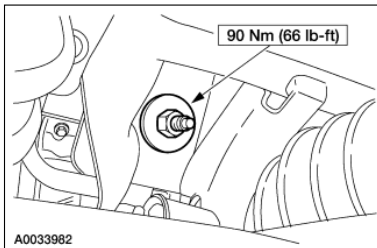
Install the special tools.



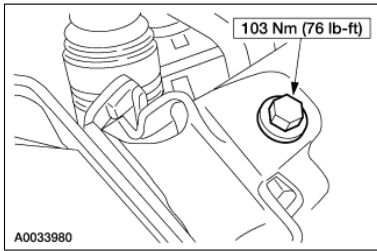
7. Remove the four bolts and the crossmember.



8. Remove the RH motor mount nut.



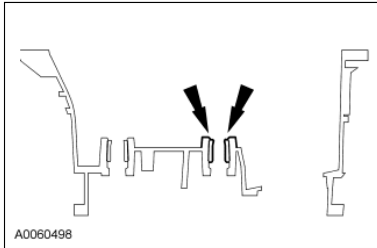
9. Remove the LH side through bolt and nut.



10. Raise the engine.

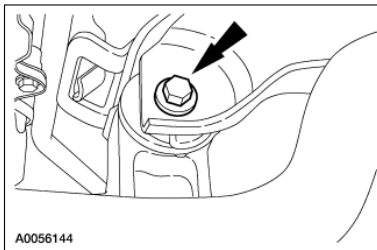
11. **CAUTION:** Failure to back off the set screws can result in damage to the lower block cradle.

Back the set screws off until they are below the lower block cradle boss.

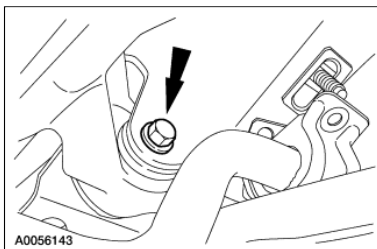


12. **NOTE:** Use a floor jack to support the front axle assembly.

Remove the bolt from the right side of the axle housing. Discard the nut and bolt.

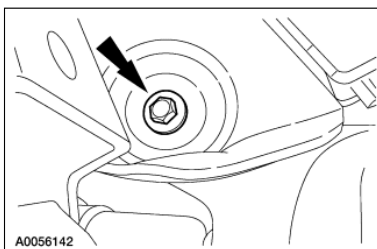


13. Remove the LH side lower axle housing bolt and nut. Discard the bolt and nut.



14. Remove the LH side upper axle housing axle bolt and nut. Discard the bolt and nut.

- Lower the axle.

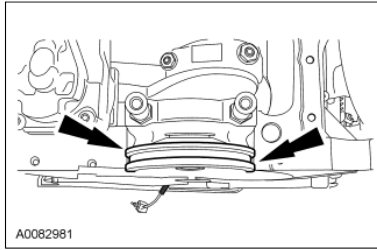


15. Remove the lower block cradle.

**Item 16: Lower Block Cradle Gasket Removal Note**

1. **NOTE:** Gasket material as well as silicone sealant may be present in the cavities in the main bearing cap. This material must be removed completely prior to assembly.

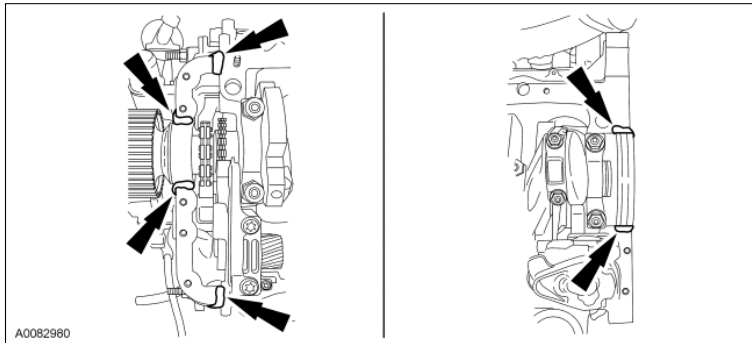
Clean the sealant from the cavities on the rear main bearing cap.



**Item 16: Lower Block Cradle Gasket Installation Note**

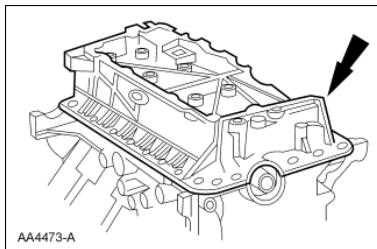
- NOTE:** If the block cradle gasket is not secured within four minutes of the sealant application, the sealant must be removed and the sealing area cleaned with metal surface cleaner. Allow the silicone to dry until there is no sign of wetness, or four minutes, whichever is longer. Failure to follow this procedure can cause future oil leakage.

Apply silicone in the six places shown.

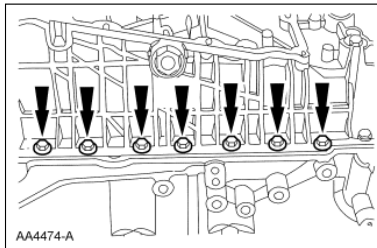


**Item Numbers 6-15: Lower Block Cradle, Bolts and Nuts Installation Note**

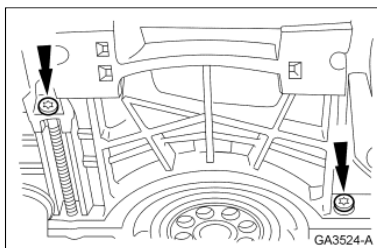
- Position the lower block cradle and gasket assembly.



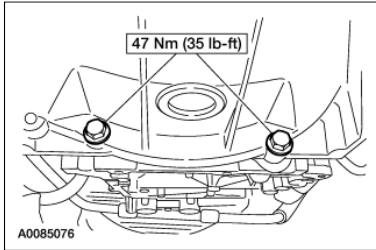
- Install and hand-tighten the outer bolts and nuts.



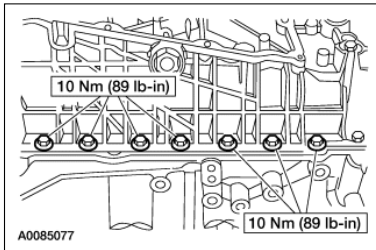
- Install and hand-tighten the rear lower block cradle bolts.



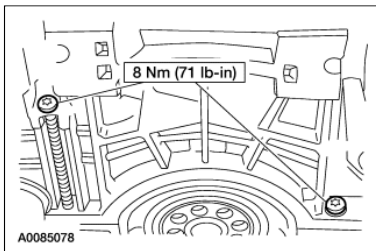
4. Install the two rear lower block cradle-to-bell housing bolts.



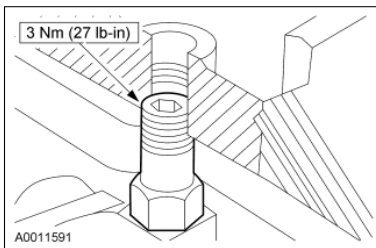
5. Tighten the outer bolts.



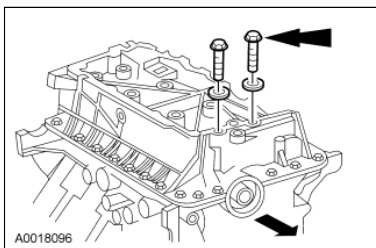
6. Tighten the rear lower block cradle bolts.



7. Tighten the eight inserts.

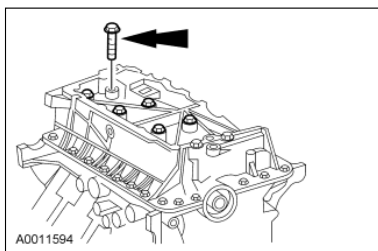


8. Install the two silver covered bolts and new washer seals. Hand-tighten them at this time.



9. Install and hand-tighten the six remaining bolts.





10. Tighten the lower block cradle bolts in two stages:
- Stage 1: Tighten to 15 Nm (11 lb-ft).
  - Stage 2: Tighten to 34 Nm (25 lb-ft).

