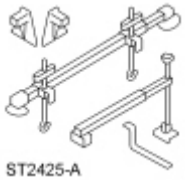
# Oil Pan

**Special Tool(s)**

| | |
|---|---|
|  ST1603-A | Lifting Bracket, Engine (2 required) 303-D087 (D93P-6001-A1) or equivalent |
|  ST2176-B | Support Bar, Engine 303-F070 |
|  ST2425-A | Support Bar, Engine 303-F072 |

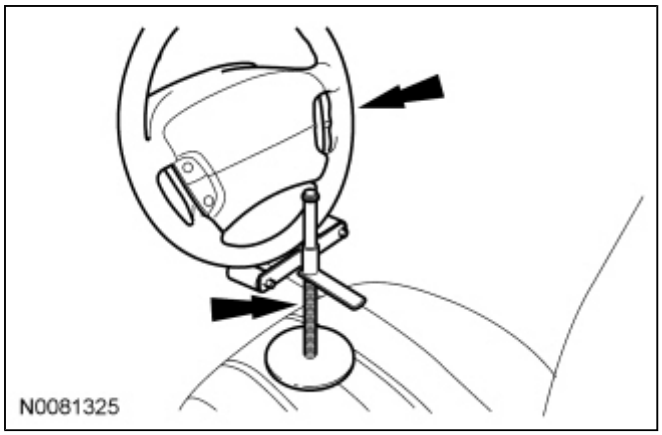
**Material**

| Item | Specification |
|---|---|
| Motorcraft® Metal Surface Prep ZC-31-A | — |
| Motorcraft® SAE 5W-50 Full Synthetic Motor Oil XO-5W50-QGT or equivalent | WSS-M2C931-B |
| Silicone Gasket and Sealant TA-30 | WSE-M4G323-A4 |
| Silicone Gasket Remover ZC-30 | — |

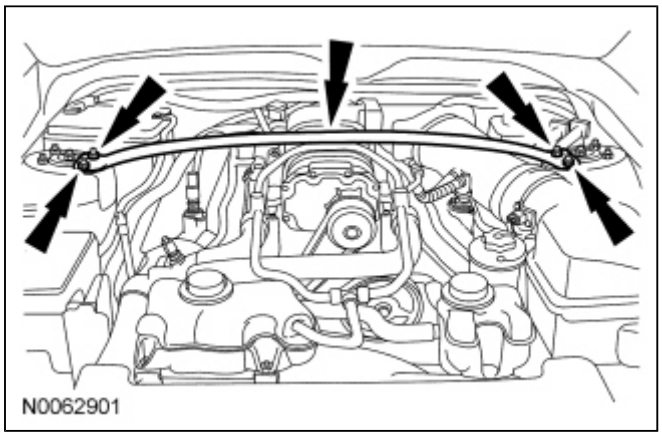
**Removal**

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02 .
2. Remove the 2 dash boot nuts.
3. **NOTE:** Use a steering wheel holding device (such as Hunter® 28-75-1 or equivalent).

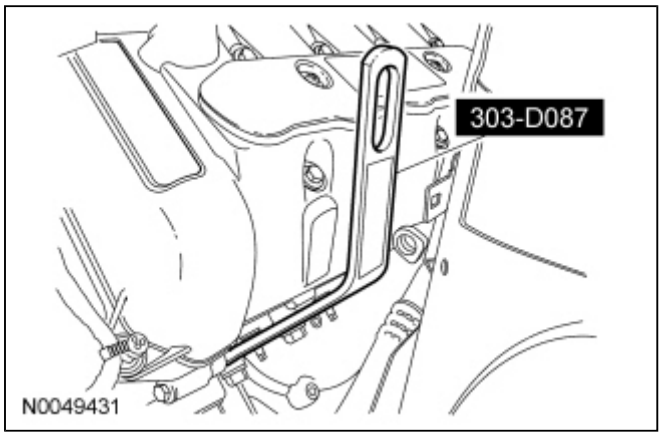
   Using a suitable holding device, hold the steering wheel in the straight-ahead position.



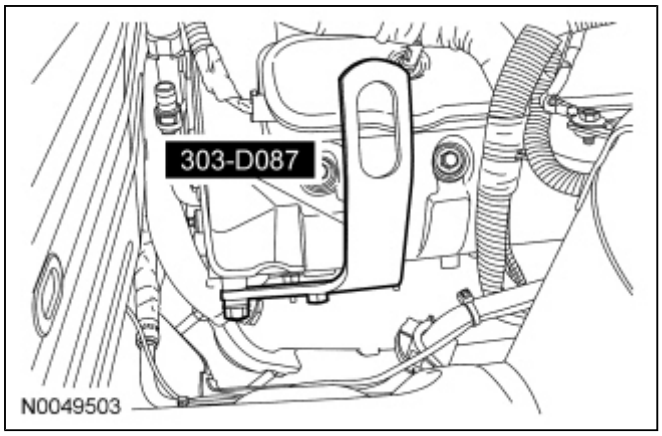

4. Remove the 4 nuts and the strut tower cross brace.




5. Remove the battery and tray. For additional information, refer to Section 414-01 .
6. Remove the Air Cleaner (ACL) outlet pipe. For additional information, refer to Section 303-12 .
7. Install the Engine Lifting Bracket.



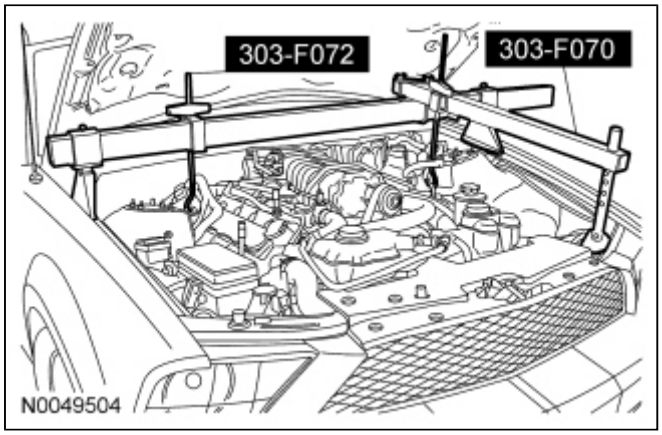

8. Install the Engine Lifting Bracket.




9. Remove the LH and RH engine support insulator nuts.

10. **NOTE:** The heavy duty Engine Support Bar (303-F070) must be used with the draw screws from the light duty Engine Support Bar (303-F072). This will provide enough clearance between the Supercharger (SC) and the Engine Support Bar, and enough clearance between the draw screw and the vehicle hood.

    Install the Engine Support Bars and raise the engine.



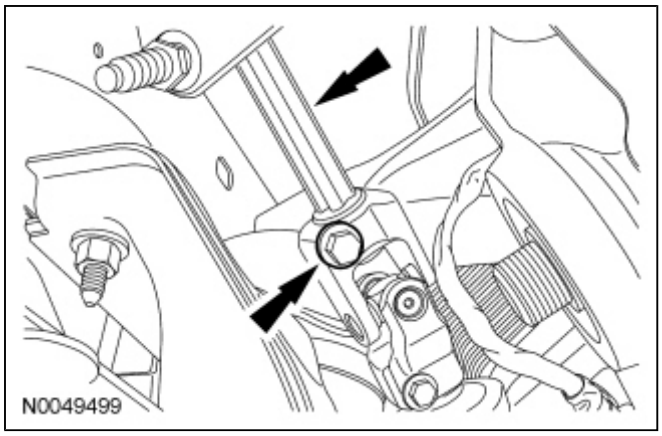

11. Drain the engine oil.
    - Tighten the drain plug to 26 Nm (19 lb-ft).

12. Remove the 4 nuts and the subframe cross brace.

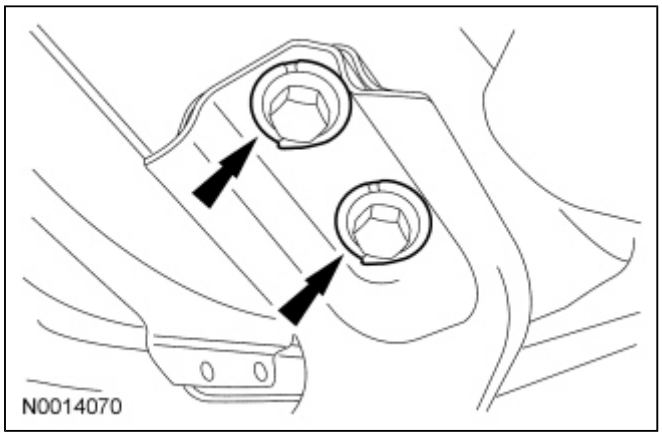
13. Position a suitable adjustable jackstand under the subframe.

14. ***NOTICE:*** **Do not allow the steering wheel to rotate while the steering column intermediate shaft is disconnected or damage to the clockspring can result. If there is evidence that the wheel has rotated, the clockspring must be removed and recentered. For additional information, refer to Section 501-20B .**

    Remove the upper bolt from the intermediate steering shaft.




15. Mark the position of the 4 subframe nuts and 4 subframe bolts for referencing during assembly.




16. Remove the 4 subframe nuts and 4 subframe bolts.
17. Using the adjustable jackstand, lower the subframe 50 mm (1.96 in).
18. Detach the 2 wiring harness retainers from the oil pan.
19. Detach the wiring harness retainer from the oil pan stud bolt.
20. Remove the nut and the wire harness retainer bracket from the oil pan stud bolt.
21. Remove the 14 bolts, 2 stud bolts and the oil pan.
    - Discard the gasket.

**Installation**

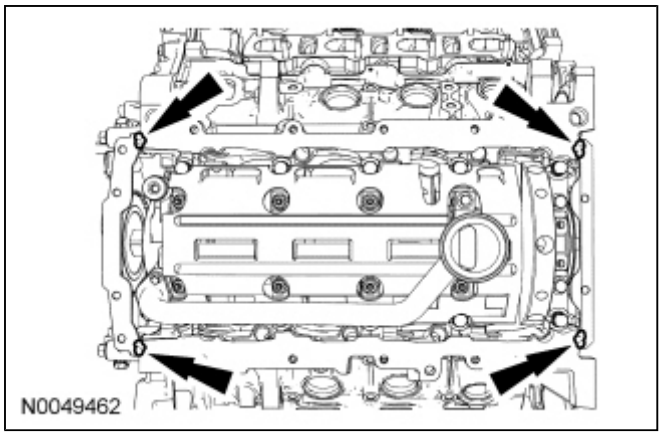
1. ***NOTICE:*** **Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges which make leak paths. Use a plastic scraping tool to remove all traces of old sealant.**

   **NOTE:** Clean the sealing surfaces with silicone gasket remover and metal surface prep. Follow the directions on the packaging. Failure to follow this procedure can cause future oil leakage.

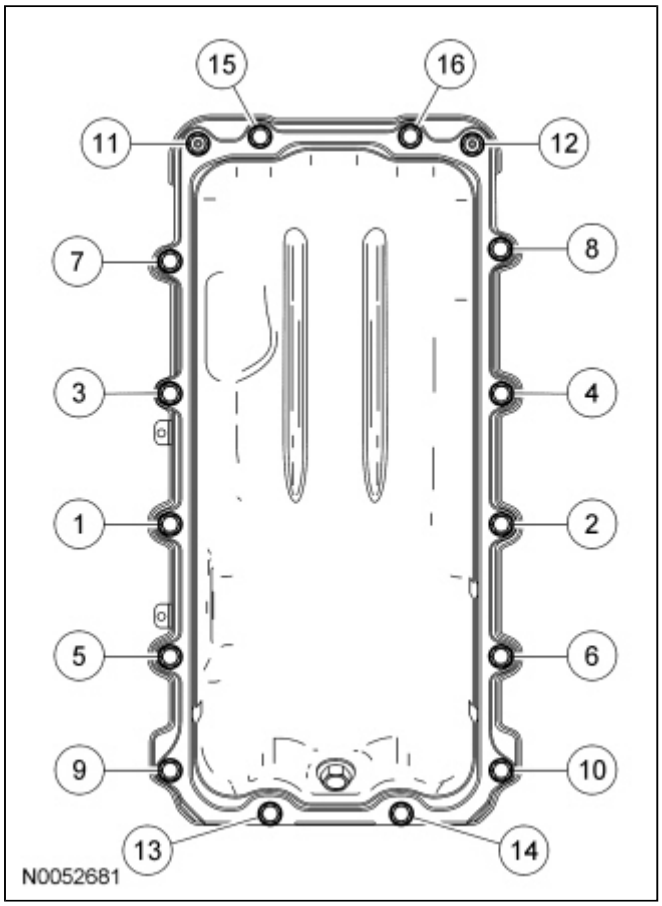
   Clean and inspect the mating surfaces of the engine block and oil pan.

2. ***NOTICE:*** **If not secured within 4 minutes, the sealant must be removed and the sealing area cleaned. To clean the sealing area, use silicone gasket remover and metal surface prep. Follow the directions on the packaging. Failure to follow this procedure can cause future oil leakage.**

   Apply silicone gasket and sealant at the engine front cover-to-cylinder block sealing joints and the crankshaft rear seal retainer plate-to-cylinder block sealing joints.




3. Using a new gasket, install the oil pan, 14 bolts and 2 stud bolts.
    - Tighten in the sequence shown to 25 Nm (18 lb-ft).




4. Install the wire harness retainer bracket on the oil pan stud bolt and install the nut.
    - Tighten to 10 Nm (89 lb-in).

5. Attach the wiring harness retainer to the oil pan stud bolt.

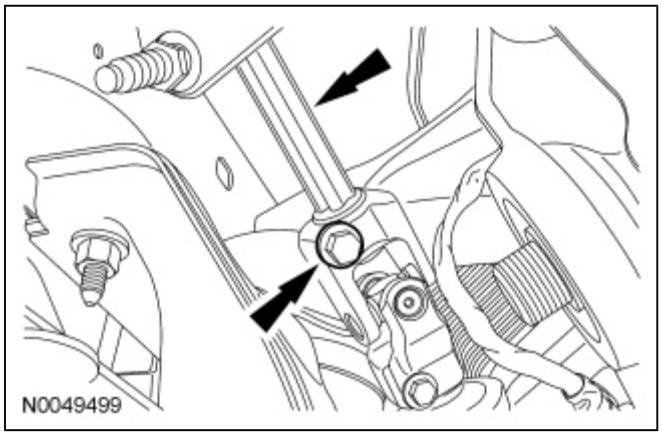
6. Attach the 2 wiring harness retainers to the oil pan.

7. Using the adjustable jackstand, raise the subframe.
    - Install the steering intermediate shaft into the steering coupler.

8. ***NOTICE:*** **Do not allow the steering wheel to rotate while the steering column intermediate shaft is disconnected or damage to the clockspring can result. If there is evidence that the wheel has rotated, the clockspring must be removed and recentered. For additional information, refer to Section 501-20B .**

Position the intermediate steering shaft and install the upper bolt.

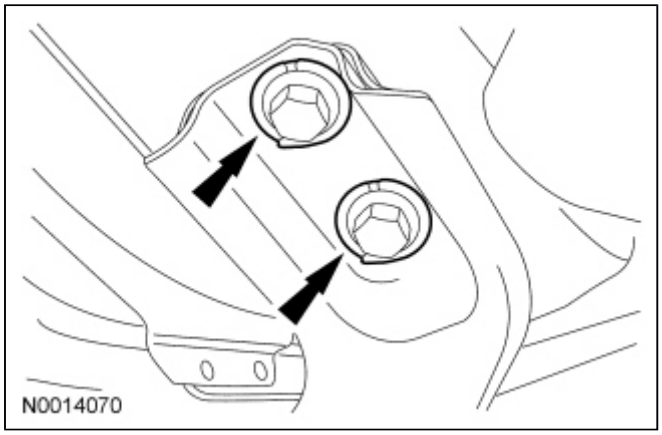
- Tighten to 47 Nm (35 lb-ft).




9. **NOTE:** Do not tighten the subframe nuts and bolts at this time.

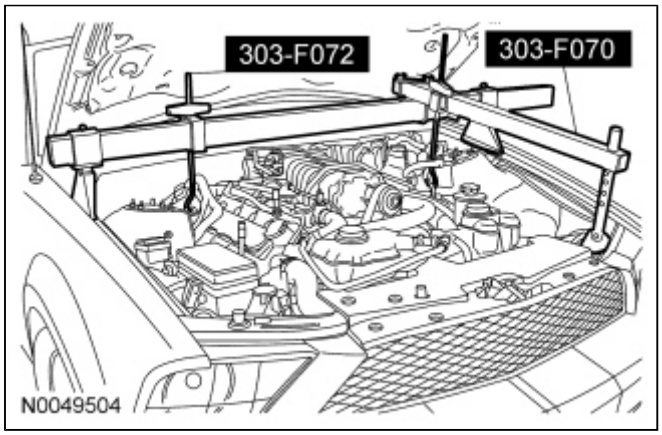
   Install the 4 subframe nuts and 4 subframe bolts.

10. Align the subframe nuts and bolts with the reference marks made during removal.
    - Tighten the nuts to 115 Nm (85 lb-ft).
    - Tighten the bolts to 115 Nm (85 lb-ft).




11. Install the subframe cross brace and the 4 nuts.
    - Tighten to 48 Nm (35 lb-ft).

12. Using the Engine Support Bars, lower the engine onto the engine support insulators.

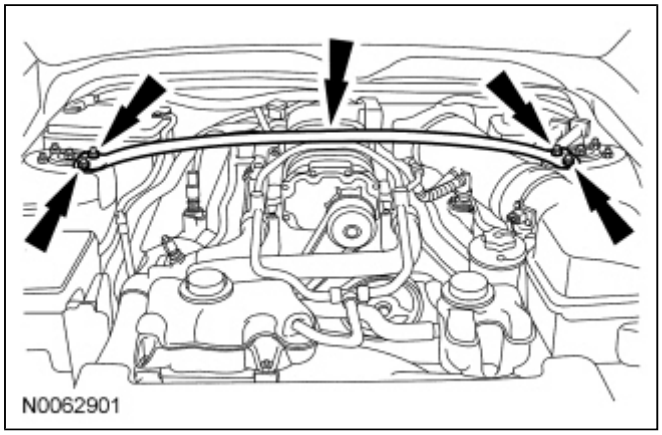



13. Install the LH and RH engine support insulator nuts.
    - Tighten to 63 Nm (46 lb-ft).

14. Install the ACL outlet pipe. For additional information, refer to Section 303-12 .

15. Install the battery and tray. For additional information, refer to Section 414-01 .

16. Install the strut tower cross brace and the 4 nuts.
    - Tighten to 35 Nm (26 lb-ft).




17. Fill the engine with clean engine oil.

18. Install the dash boot and the 2 nuts.
    - Tighten to 9 Nm (80 lb-in).