REMOVAL

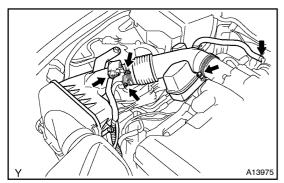
- 1. REMOVE ENGINE UNDER COVER
- 2. DRAIN ENGINE COOLANT
- 3. DRAIN ENGINE OIL
- 4. **REMOVE ENGINE COVER**

Remove the 4 nuts and engine cover.

- 5. REMOVE AIR CLEANER INLET
- 6. DISCONNECT RADIATOR UPPER AND LOWER HOSES FROM ENGINE

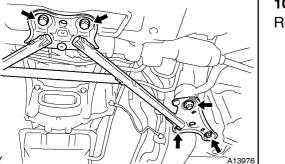
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7. DISCONNECT ACCELERATOR CABLE FROM EN-GINE

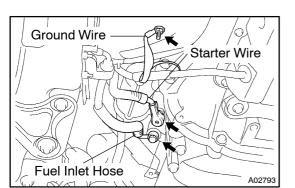




- (a) Disconnect the air flow meter connector.
- (b) Disconnect the engine wire clamp from the air cleaner case.
- (c) Disconnect the PCV hose from the No. 2 cylinder head cover.
- (d) Loosen the 2 hose clamp bolts, remove the intake air resonator from the throttle body.
- 9. REMOVE DRIVE BELT (See page CH-1)

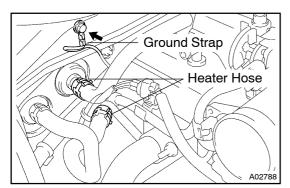


10. REMOVE FRONT SUSPENSION MEMBER BRACE Remove the 8 bolts and brace.

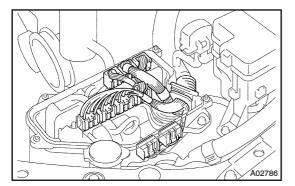


- 11. DISCONNECT WIRES, CABLE, STRAP, CONNEC-TORS, HOSES AND CLAMPS
- (a) Disconnect the ground wire from the floor.
- (b) Disconnect the starter wire from the terminal and manifold stay.
- (c) Disconnect the fuel inlet hose from the fuel pipe support.

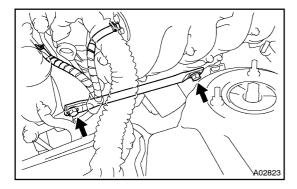
LEXUS IS300/IS200 SUP (RM870E)

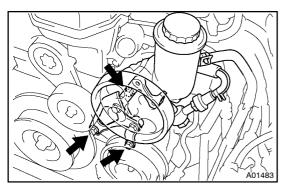


- (d) Disconnect the ground strap from the dash panel.
- (e) Disconnect the heater hose from the heater pipe.
- (f) Disconnect the heater hose from the water bypass pipe.
- (g) Disconnect the vacuum hose from the brake booster.
- (h) Disconnect the 2 oxygen sensors connector.
 - (1) Disconnect the wire clamp from the body.
 - (2) Disconnect the bank 1 sensor 1 connector.
 - (3) Disconnect the bank 1 sensor 2 connector.
- (i) Remove the nut, and disconnect the alternator wire.
- (j) Disconnect the alternator connector.
- (k) Disconnect the ground cable from the bracket on the cylinder block.
- (I) Disconnect the engine wire clamp from the wire clip of alternator.
- (m) Disconnect the igniter connector.
- (n) Disconnect the 2 engine wire clamps from the clamp brackets.



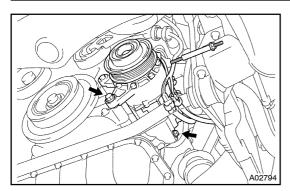
- 12. DISCONNECT ENGINE WIRE FROM ENGINE ECU BOX
- (a) Remove the ECU hood and ECU cover.
- (b) Disconnect the 3 ECU connectors.
- (c) Disconnect the 4 wire harness connectors.
- (d) Disconnect the 2 junction connectors.
- (e) Disconnect the grommet and engine wire from the ECU box.
- 13. DISCONNECT PS PUMP AND A/C COMPRESSOR WITHOUT DISCONNECTING HOSES
- (a) Remove the 2 bolts and pump rear stay.

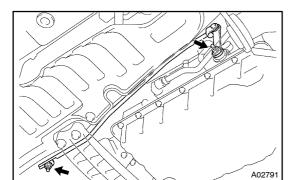


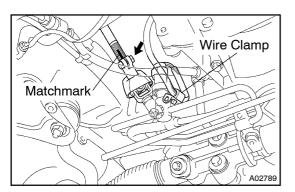


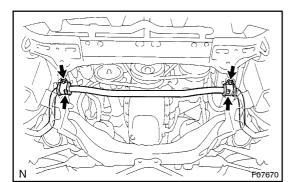
(b) Remove the 3 bolts and plate washer, and disconnect the vane pump assembly from the engine.

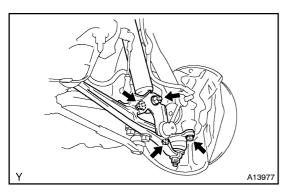
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(c) Loosen the nut.

- (d) Using a torx socket (E10), remove the stud bolt and nut.
- (e) Disconnect the PPS solenoid valve connector.
- (f) Disconnect the A/C compressor connector.
- (g) Remove the 2 bolts, and disconnect the compressor from the engine.

HINT:

Put aside the vane pump and compressor, and suspend it securely.

REMOVE PROPELLER SHAFT (See page PR-3) REMOVE TRANSMISSION CONTROL ROD Remove the 2 nuts and control rod.

16. REMOVE FRONT AND CENTER EXHAUST PIPES (See page EM-99)

17. DISCONNECT SLIDING YOKE

- (a) Check the steering wheel at the straight-ahead position, and place matchmarks on the sliding yoke and intermediate shaft.
- (b) Remove the bolt, disconnect the sliding yoke from the steering intermediate shaft.
- (c) Disconnect the PS pressure switch connector and wire clamp.

18. REMOVE STABILIZER BAR

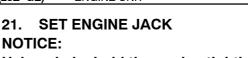
- (a) Remove the 2 nuts from the stabilizer bar links.
- (b) Remove the 4 bolts and 2 stabilizer bar brackets, 2 bushings.

19. DISCONNECT SHOCK ABSORBER

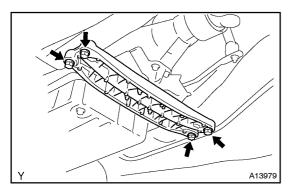
Remove the bolt and nut, disconnect the shock absorber from the shock absorber bracket.

- 20. DISCONNECT LOWER ARM
- (a) Remove the nut, disconnect the height level sensor from the lower arm.
- (b) Remove the 2 bolts, disconnect the lower arm from the steering knuckle.

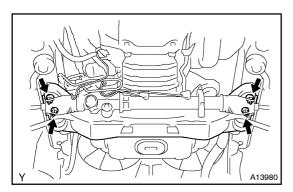
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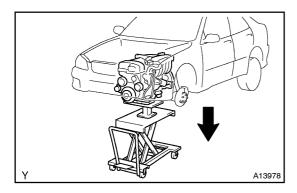
Using chain, hold the engine tightly.



22. DISCONNECT REAR ENGINE MOUNTING Remove the 4 bolts and rear engine mounting.



23. DISCONNECT SUSPENSION MEMBER Remove the 4 bolts and disconnect the suspension member from the body.

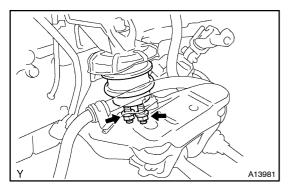


24. REMOVE ENGINE AND TRANSMISSION ASSEMBLY

(a) Remove the engine out of vehicle slowly and carefully. **NOTICE:**

Make sure the engine is clear of all wiring, hoses and cables.

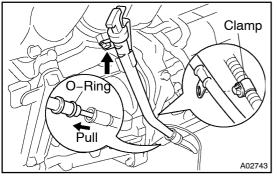
(b) Using a engine sliding device, and place the engine and transaxle assembly onto the stand.



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25. REMOVE SUSPENSION MEMBER FROM ENGINE

Remove the 4 nuts and suspension member with the steering gear housing from the engine.



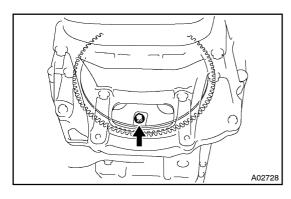
Case Clamp

26. REMOVE OIL DIPSTICK AND GUIDE FOR A/T

- (a) Disconnect the engine wire clamp from the dipstick guide.
- (b) Remove the bolt.
- (c) Pull out the dipstick guide and dipstick from the dipstick tube.
- (d) Remove the O-ring from the dipstick guide.

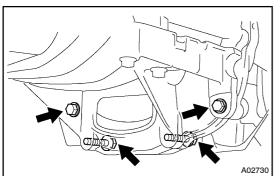
27. REMOVE EXHAUST MANIFOLD

- (a) Remove the case clamp.
- (b) Disconnect the oxygen sensor (bank 2 sensor 1) connector.
- (c) Remove the 8 nuts, exhaust manifold and 2 gaskets.
- 28. REMOVE OIL COOLER HOSES AND OIL COOLER PIPES FOR A/T
- (a) Disconnect the 2 oil cooler hoses for A/T.
- (b) Remove the 2 bolts and pipe clamps.
- (c) Loosen the 2 union nuts.
- (d) Remove the 2 oil cooler hoses and 2 oil cooler pipes.

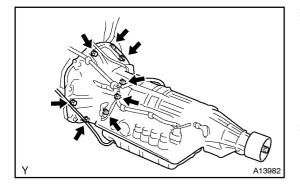


29. REMOVE TORQUE CONVERTER CLUTCH BOLTS

- (a) Remove the hole plug.
- (b) Turn the crankshaft pulley bolt to gain access to each bolt.
- (c) Hold the crankshaft pulley bolt with a wrench, and remove the 6 bolts.



- 30. REMOVE 4 BOLTS HOLDING NO. 1 OIL PAN TO TRANSMISSION
- 31. REMOVE STARTER
- (a) Disconnect the starter connector.
- (b) Remove the 2 bolts, clamp bracket and starter.



32. DISCONNECT ENGINE WIRE FROM TRANSMISSION

- (a) Disconnect the speed sensor connector.
- (b) Disconnect the PNP switch connector.
- (c) Disconnect the solenoid connector.
- (d) Disconnect the direct clutch speed sensor connector.
- (e) Disconnect the engine wire from the 3 wire clamps.
- 33. REMOVE TRANSMISSION FROM ENGINE
- (a) Remove the 5 bolts and ground wire.
- (b) Remove the transmission together with the torque converter clutch from the engine.
- 34. REMOVE DRIVE PLATE

Remove the 8 bolts, rear plate, drive plate and front spacer.