9060B Excavator
Service Manual No. 7-65272

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Reprinted

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Bur 7-52711

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Service Manual No. 7-65272

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Section

1001

SAFETY, GENERAL INFORMATION AND TORQUE SPECIFICATIONS

CASE CORPORATION

Rac 7-62010

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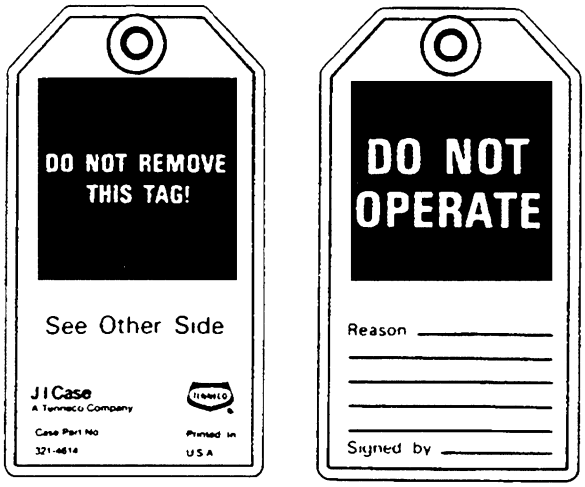
SAFETY

This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death. SB001

To prevent injury always follow the Warning, Caution and Danger notes in this section and throughout the manual.

Put the warning tag shown below on the key for the keyswitch when servicing or repairing the machine. One warning tag is supplied with each machine. Additional tags Part Number 331-4614 are available from your service parts supplier.



1001-01

WARNING: *Read the operator's manual to familiarize yourself with the correct control functions.* 46-27

WARNING: *Operate the machine and equipment controls from the seat position only. Any other method could result in serious injury.* 48-55

WARNING: *This is a one man machine, no riders allowed.* 35-8

WARNING: *Before starting engine, study Operator's Manual safety messages. Read all safety signs on machine. Clear the area of other persons. Learn and practice safe use of controls before operating.*
It is your responsibility to understand and follow manufacturers instructions on machine operation, service and to observe pertinent laws and regulations. Operator's and Service Manuals may be obtained from your Case dealer. SA055

WARNING: *If you wear clothing that is too loose or do not use the correct safety equipment for your job, you can be injured. Always wear clothing that will not catch on objects. Extra safety equipment that can be required includes hard hat, safety shoes, ear protection, eye or face protection, heavy gloves and reflector clothing.* 45-3A

WARNING: *When working in the area of the fan belt with the engine running, avoid loose clothing if possible, and use extreme caution.* 35-4

WARNING: *When doing checks and tests on the equipment hydraulics, follow the procedures as they are written. DO NOT change the procedure.* 47-44

WARNING: *When putting the hydraulic cylinders on this machine through the necessary cycles to check operation or to remove air from a circuit, make sure all people are out of the way.* 47-45

WARNING: *Use insulated gloves or mittens when working with hot parts.* 47-41A

CAUTION: *Lower all attachments to the ground or use stands to safely support the attachments before you do any maintenance or service.* 49-11

CAUTION: *Pin sized and smaller streams of hydraulic oil under pressure can penetrate the skin and result in serious infection. If hydraulic oil under pressure does penetrate the skin, seek medical treatment immediately. Maintain all hoses and tubes in good condition. Make sure all connections are tight. Make a replacement of any tube or hose that is damaged or thought to be damaged. DO NOT use your hand to check for leaks, use a piece of cardboard or wood.* 40-6A

CAUTION: *When removing hardened pins such as a pivot pin, or a hardened shaft, use a soft head (brass or bronze) hammer or use a driver made from brass or bronze and a steel head hammer.* 46-17

CAUTION: *When using a hammer to remove and install pivot pins or separate parts using compressed air or using a grinder, wear eye protection that completely encloses the eyes (approved goggles or other approved eye protectors).* 46-13

CAUTION: *Use suitable floor (service) jacks or chain hoist to raise wheels or tracks off the floor. Always block machine in place with suitable safety stands.* 40-7A

CAUTION: *When servicing or repairing the machine, keep the shop floor and operator's compartment and steps free of oil, water, grease, tools, etc. Use an oil absorbing material and/or shop cloths as required. Use safe practices at all times.* 40-8

CAUTION: *Some components of this machine are very heavy. Use suitable lifting equipment or additional help as instructed in this Service Manual.* 40-10

DANGER: *Engine exhaust fumes can cause death. If it is necessary to start the engine in a closed place, remove the exhaust fumes from the area with an exhaust pipe extension. Open the doors and get outside air into the area.* 48-56

WARNING: *When the battery electrolyte is frozen, the battery can explode if (1), you try to charge the battery, or (2), you try to jump start and run the engine. To prevent the battery electrolyte from freezing, try to keep the battery at full charge. If you do not follow these instructions, you or others in the area can be injured.* SA033

GENERAL INFORMATION

CLEANING

Clean all metal parts except bearings, in a suitable cleaning solvent or by steam cleaning. Do not use caustic soda for steam cleaning. After cleaning, dry and put oil on all parts. Clean oil passages with compressed air. Clean bearings in a suitable cleaning solvent, dry the bearings completely and put oil on the bearings.

INSPECTION

Check all parts when the parts are disassembled. Replace all parts that have wear or damage. Small scoring or grooves can be removed with a hone or crocus cloth. Complete a visual inspection for indications of wear, pitting and the replacement of parts necessary to prevent early failures.

BEARINGS

Check bearings for easy action. If bearings have a loose fit or rough action replace the bearing. Wash bearings with a suitable cleaning solvent and permit to air dry. DO NOT DRY BEARINGS WITH COMPRESSED AIR.

NEEDLE BEARINGS

Before you press needle bearings in a bore always remove any metal protrusions in the bore or edge of the bore. Before you press bearings into position put petroleum jelly on the inside and outside diameter of the bearings.

GEARS

Check all gears for wear and damage. Replace gears that have wear or damage.

OIL SEALS, O-RINGS AND GASKETS

Always install new oil seals, O-rings and gaskets. Put petroleum jelly on seals and O-rings.

SHAFTS

Check all shafts that have wear or damage. Check the bearing and oil seal surfaces of the shafts for damage.

SERVICE PARTS

Always install genuine Case service parts. When ordering refer to the Parts Catalog for the correct part number of the genuine Case replacement items. Failures due to the use of other than genuine Case replacement parts are not covered by warranty.

LUBRICATION

Only use the oils and lubricants specified in the Operator's or Service Manuals. Failures due to the use of non-specified oils and lubricants are not covered by warranty.

Section 2000

ENGINE

CASE CORPORATION

Rac 7-65380

Printed in U.S.A.
November 1995

ENGINE

Removal

NOTE: *Make sure engine is cool before starting removal procedures.*

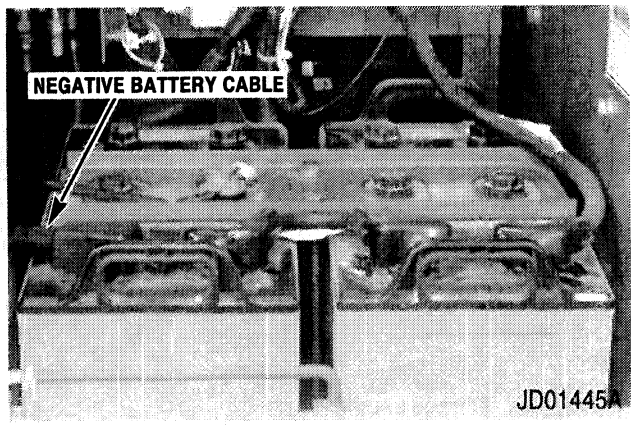
STEP 1

Remove the hydraulic pump (see Section 8002).

STEP 2

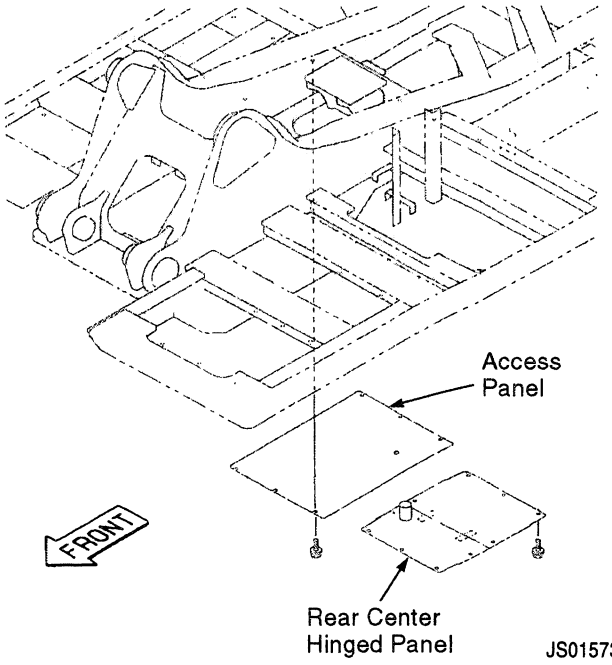
Remove the radiator, oil cooler, and the cooling system reservoir (see Section 2001).

STEP 3



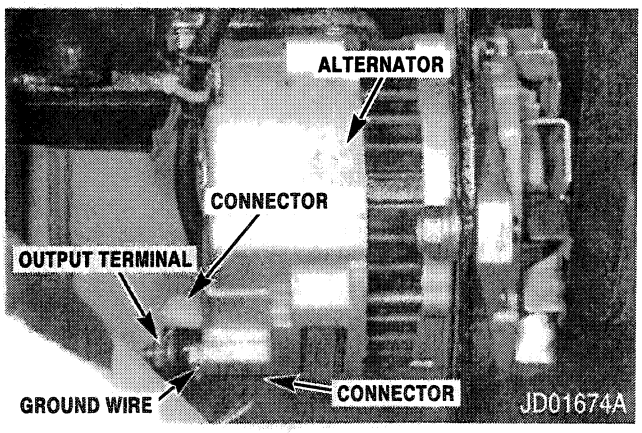
Open the left side access doors. Disconnect the negative battery cable from the battery.

STEP 4



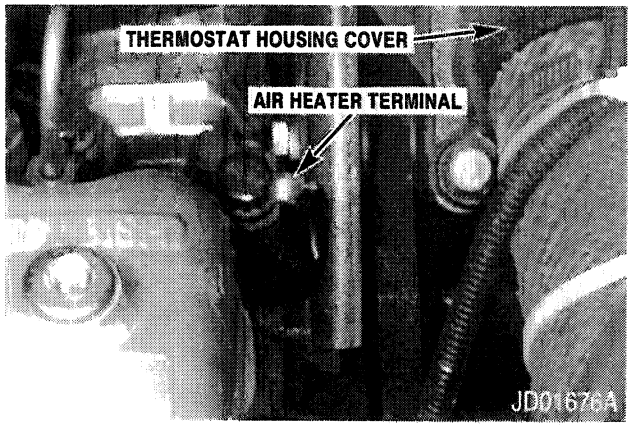
Remove the bottom right rear access panel. Remove the five cap screws securing the rear center hinged panel below the engine. Swing the panel down for access to the engine two left mounts.

STEP 5



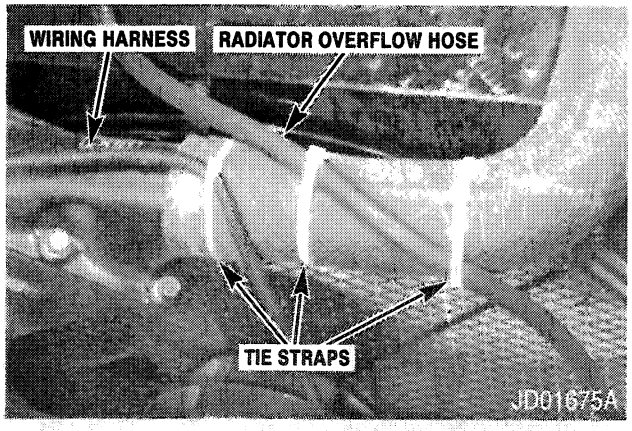
Tag and disconnect the two wiring harness connectors and the ground wire from the alternator. Tag and disconnect the wiring harness wire connected to the alternator output terminal.

STEP 6



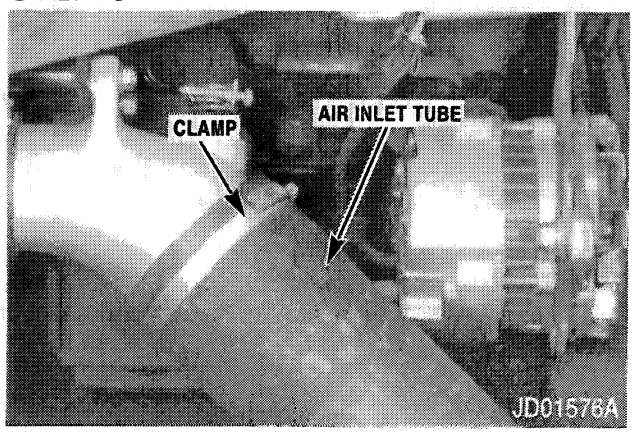
Tag and disconnect the wiring harness wire from the air heater terminal.

STEP 7



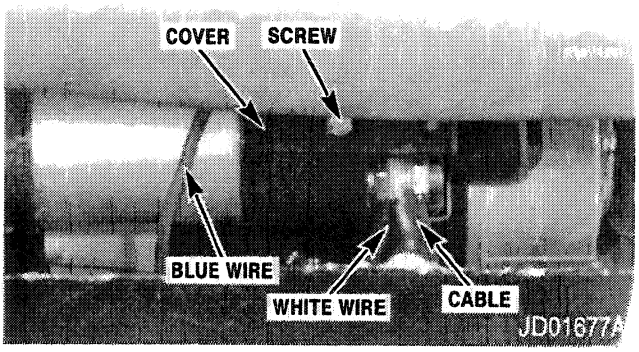
Cut, remove, and discard the three tie straps holding the wiring harness and the radiator overflow hose to the radiator hose.

STEP 8



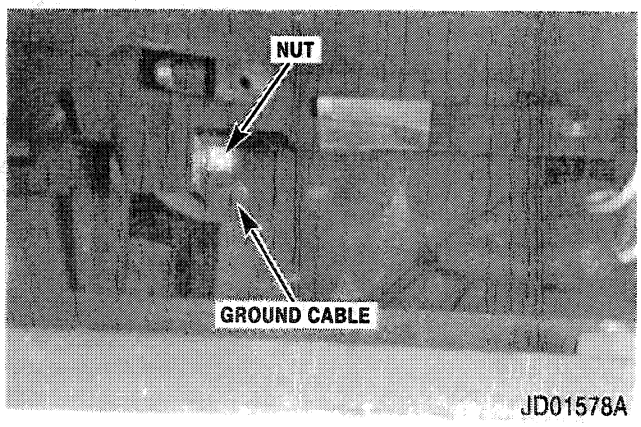
Loosen the clamp securing the air inlet tube to the turbocharger. Disconnect the air inlet tube.

STEP 9



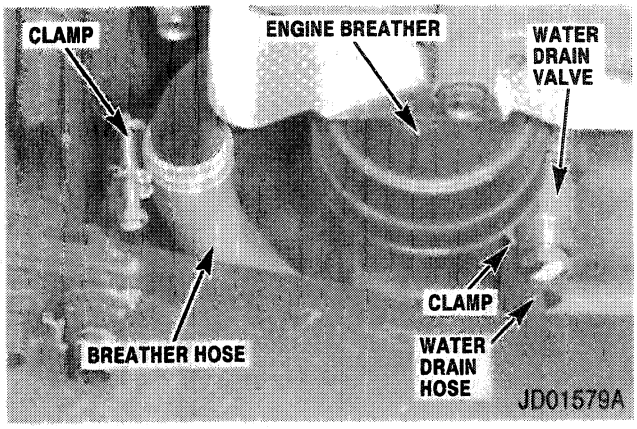
Remove the screw, flat washer, and lock washer and remove the cover. Tag and disconnect the wiring harness blue wire from the starter assembly terminal. Tag and disconnect the wiring harness white wire and the cable from the starter assembly.

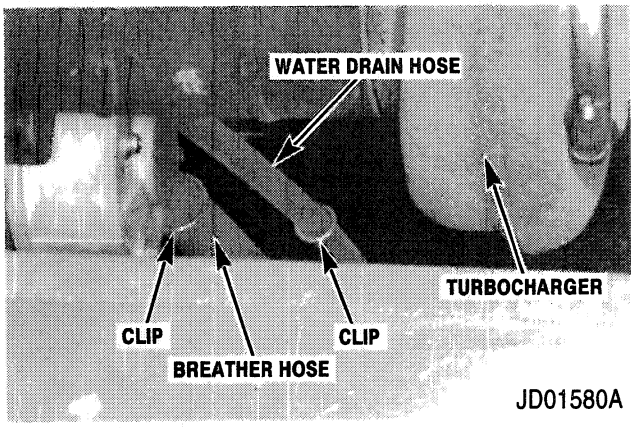
STEP 10



Remove the nut and lock washer. Disconnect the ground cable from the engine.

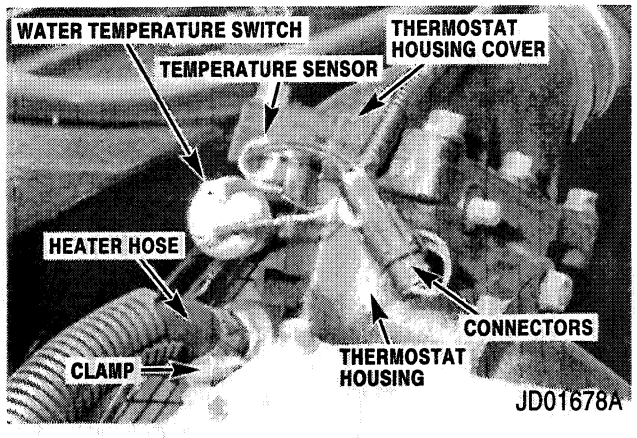
STEP 11





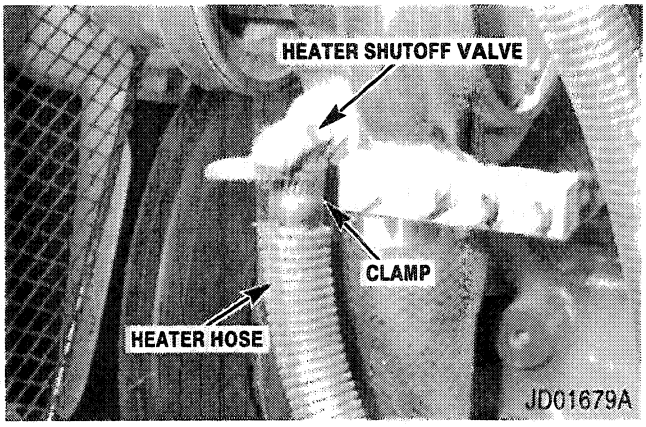
Loosen the clamp securing the breather hose and disconnect the breather hose. Using pliers, remove the clamp from the water drain hose connected to the water drain valve. Disconnect the water drain hose. Pull the hoses from the clips installed on the engine.

STEP 12



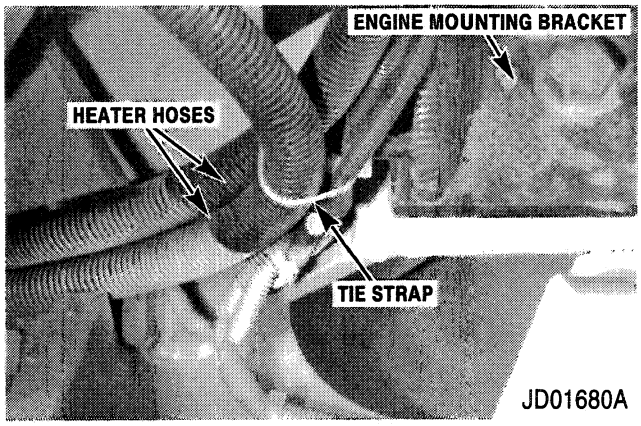
Disconnect the temperature sensor connector from the wiring harness connector. Tag and disconnect the wiring harness two wires from the water temperature switch. Loosen the clamp and disconnect the heater hose from the fitting installed in the thermostat housing.

STEP 13



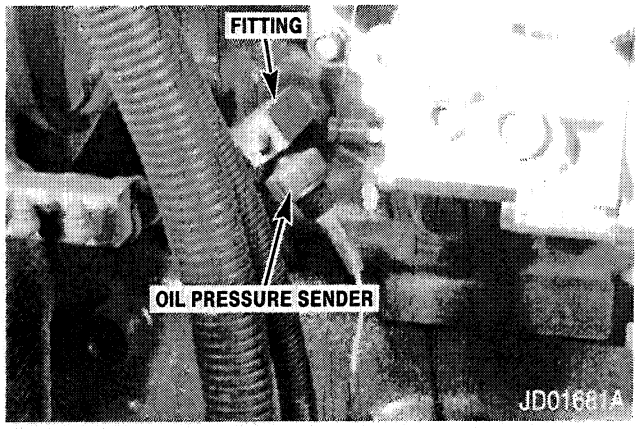
Loosen the clamp securing the heater hose to the heater shutoff valve. Disconnect the hose from the heater shutoff valve.

STEP 14



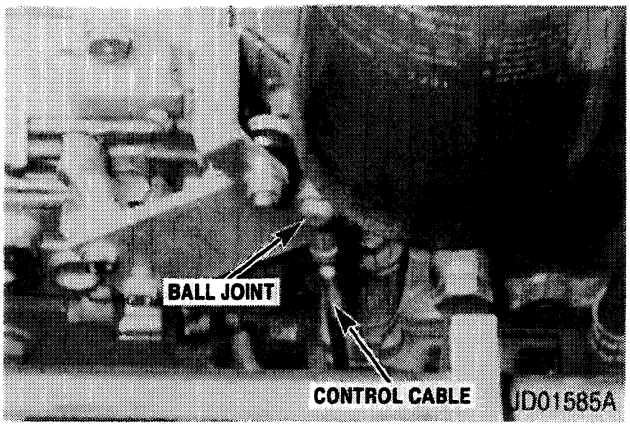
Cut, remove, and discard the tie strap holding the two heater hoses and the wiring harness to the engine mounting bracket.

STEP 15



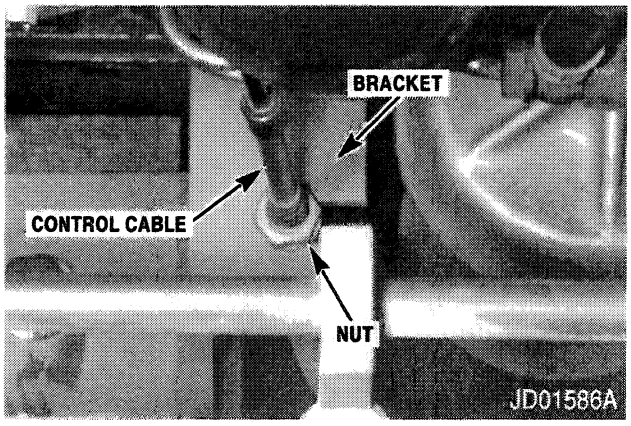
Tag and disconnect the wiring harness wire connected to the oil pressure sender.

STEP 16



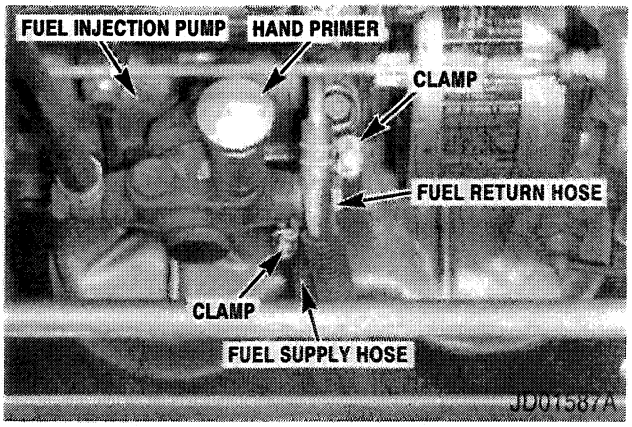
Remove the nut and lock washer securing the control cable ball joint to the fuel injection pump throttle bracket. Disconnect the ball joint.

STEP 17



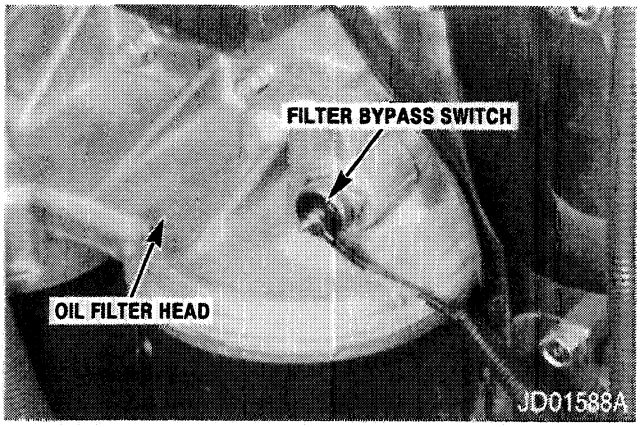
Loosen the two nuts securing the control cable to the bracket. Remove the control cable from the bracket.

STEP 18



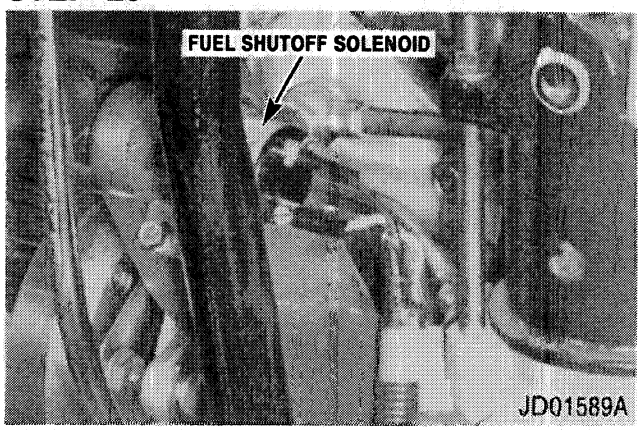
Tag the fuel supply hose and the fuel return hose. Loosen the two clamps and disconnect the hoses.

STEP 19



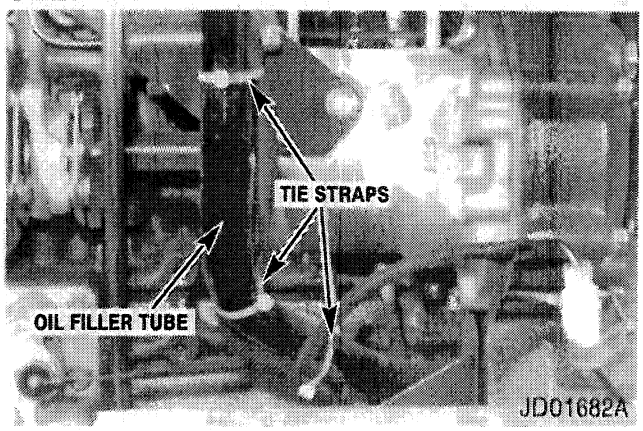
Tag and disconnect the wiring harness wire connected to the filter bypass switch.

STEP 20



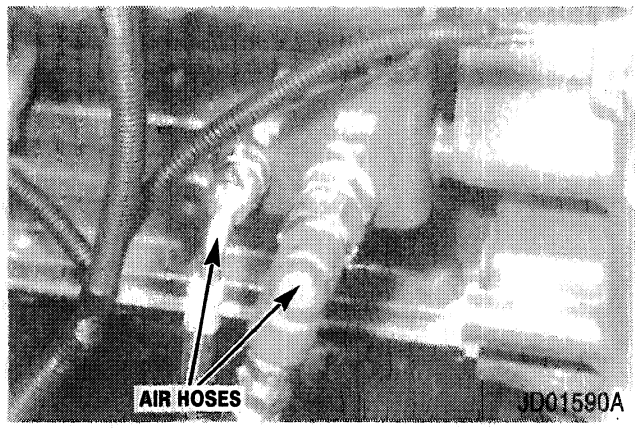
Tag and disconnect the wiring harness two wires connected to the fuel shutoff solenoid.

STEP 21



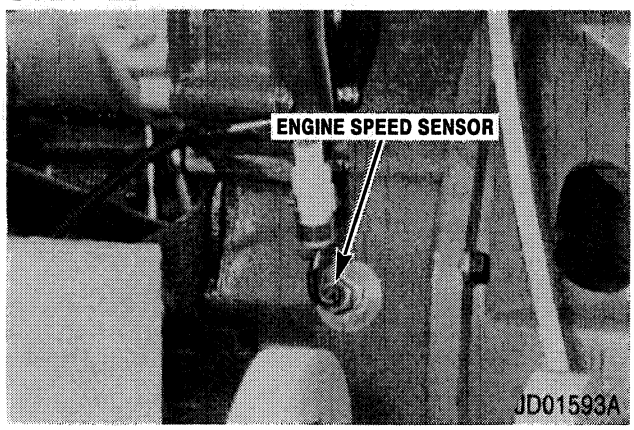
Cut, remove, and discard the three tie straps securing the wiring harness to the oil filler tube.

STEP 22



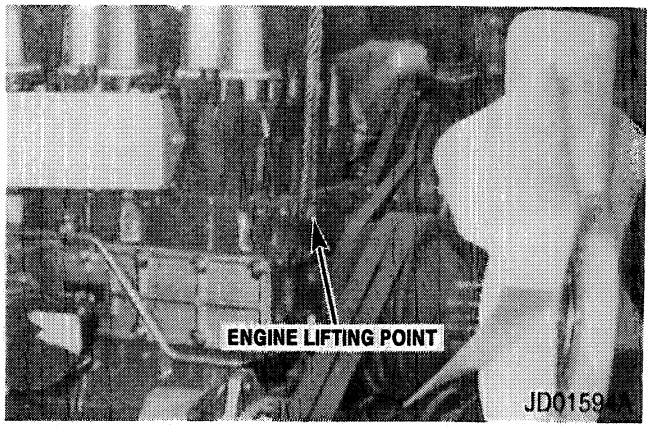
Tag and disconnect the two air hoses.

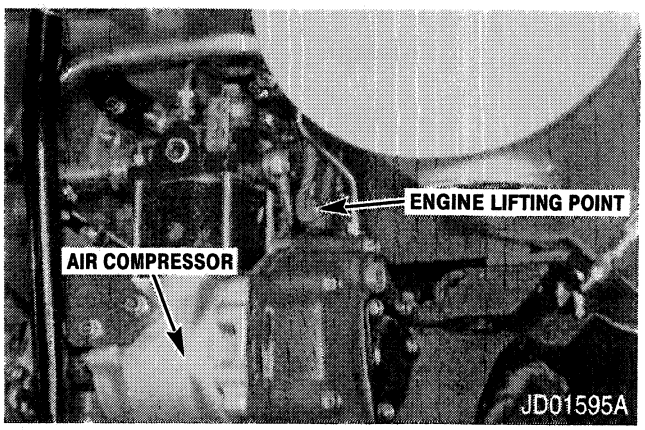
STEP 23



Disconnect the wiring harness connector from the engine speed sensor.

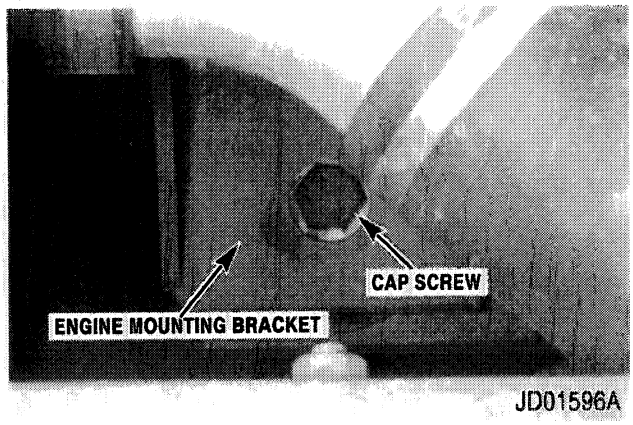
STEP 24

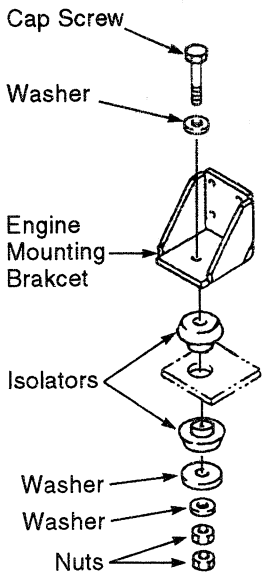




Connect suitable lifting equipment to the engine at the two lifting points. The weight of the engine is 2249 pounds (1020 kg).

STEP 25





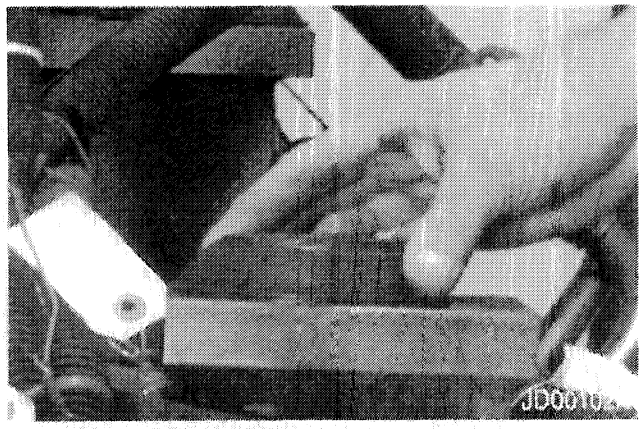
Remove the two nuts, three washers, rubber isolator, and cap screw. Repeat this step for the remaining three engine mounts.

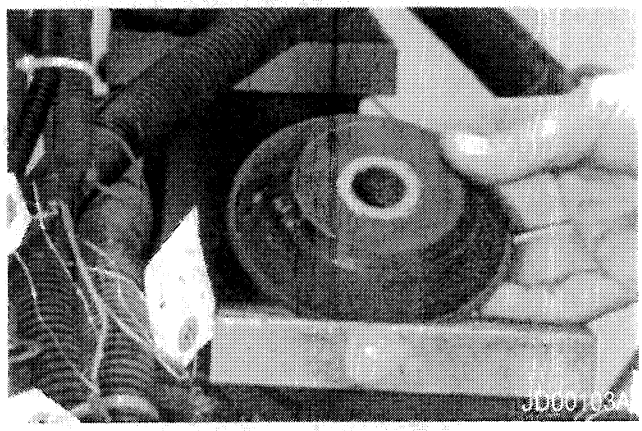
STEP 26

NOTE: *When raising the engine from the machine check and make sure all wires and hoses have been disconnected and will not interfere with the removal of the engine.*

Raise the engine from the mounts. Move the engine rearward and away from the machine.

STEP 27

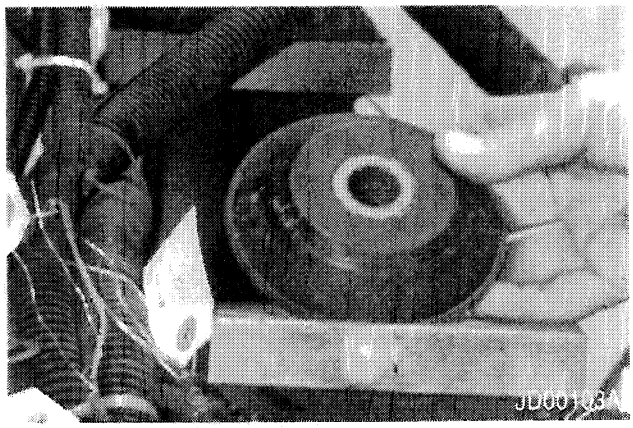


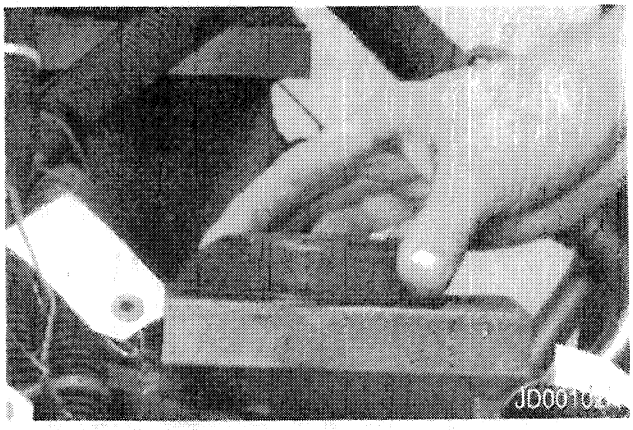


Remove the rubber engine isolators from the four engine mounts.

Installation

STEP 1



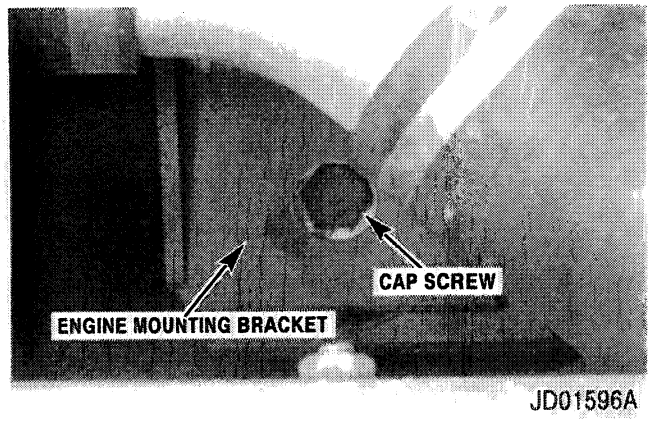


Inspect the rubber engine isolators for cracks, deterioration, or damage. Replace the isolators if cracked, deteriorated, or damaged. Install the rubber engine isolators on the four engine mounts.

STEP 2

Connect suitable lifting equipment to the engine. The weight of the engine is 2249 pounds (1020 kg). Move the engine into position and lower onto the engine mounts.

STEP 3



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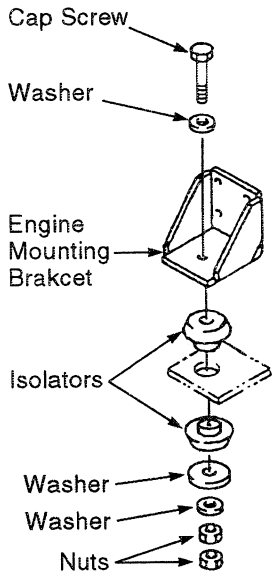


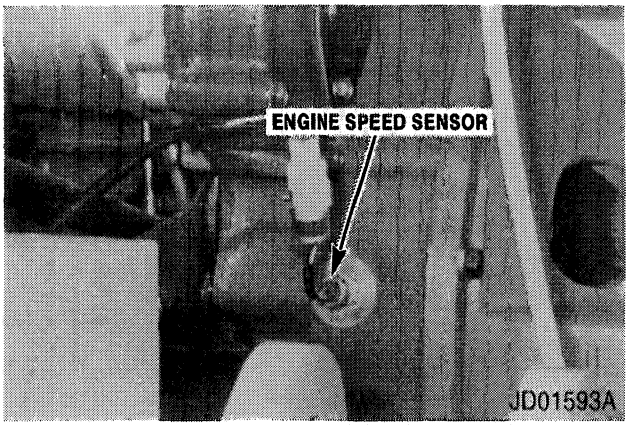
JS01597A

Apply Loctite 262 to the threads of the cap screw. Install the rubber isolator, cap screw, three washers, and one nut. Tighten the cap screw to 215 to 245 lb-ft (290 to 335 Nm). Install the second nut and tighten securely against the first nut. Repeat this step for the remaining three engine mounts.

STEP 4

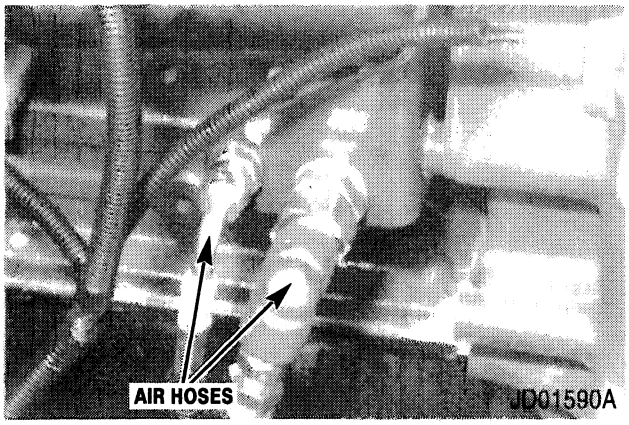
Disconnect the lifting equipment from the engine lifting points.

STEP 5



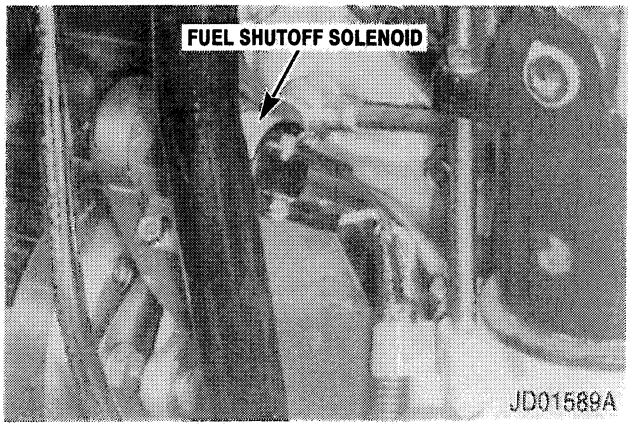
Connect the wiring harness connector to the engine speed sensor.

STEP 6



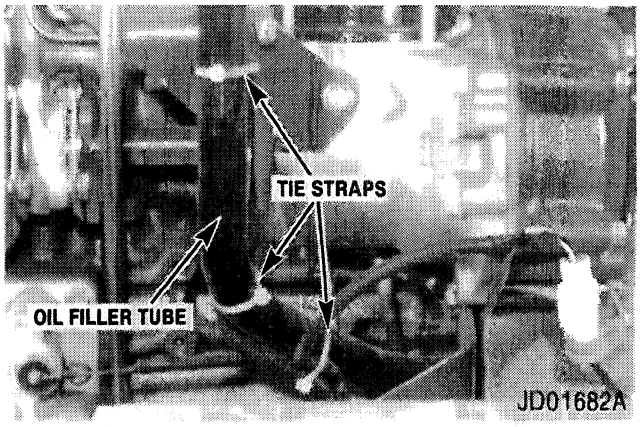
Connect the two air hoses following the tags installed during removal. Remove and discard the tags.

STEP 7



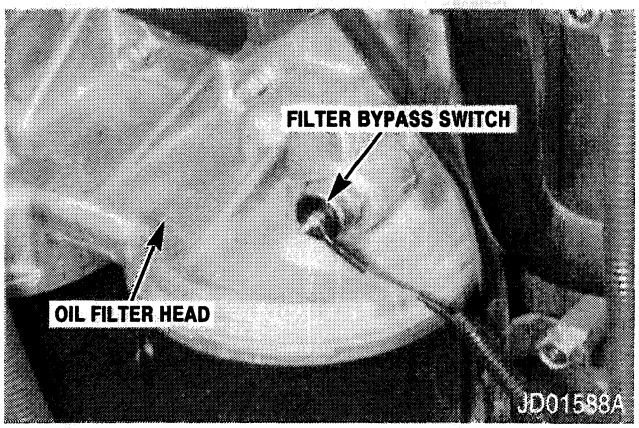
Connect the wiring harness two wires to the fuel shutoff solenoid following the tags installed during removal. Remove and discard the tags.

STEP 8



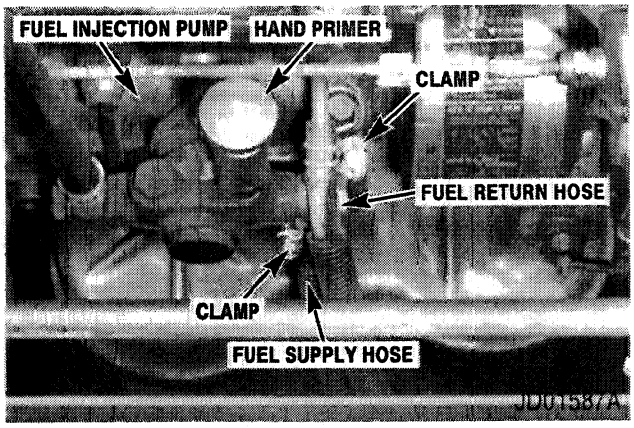
Install three new tie straps to secure the wiring harness to the oil filler tube.

STEP 9



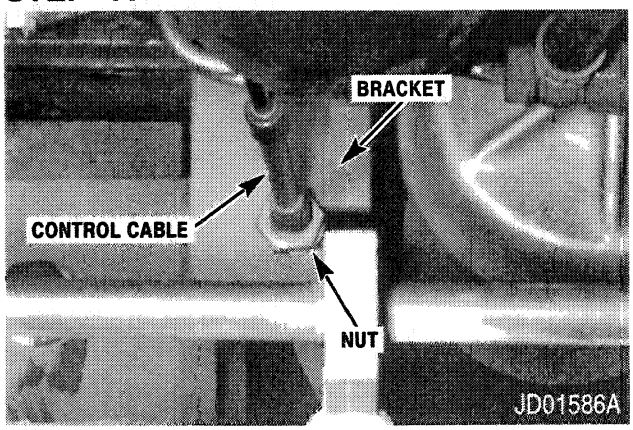
Connect the wiring harness wire to the filter bypass switch following the tag installed during removal. Remove and discard the tag.

STEP 10



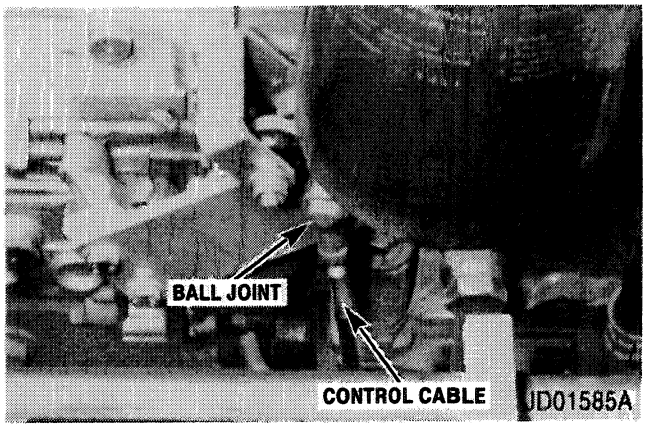
Install a clamp on the fuel return hose and the fuel supply hose. Connect the fuel return hose and the fuel supply hose to the fittings following the tags installed during removal. Position the clamps on the hoses and tighten the clamps to secure the hoses. Remove and discard the tags.

STEP 11



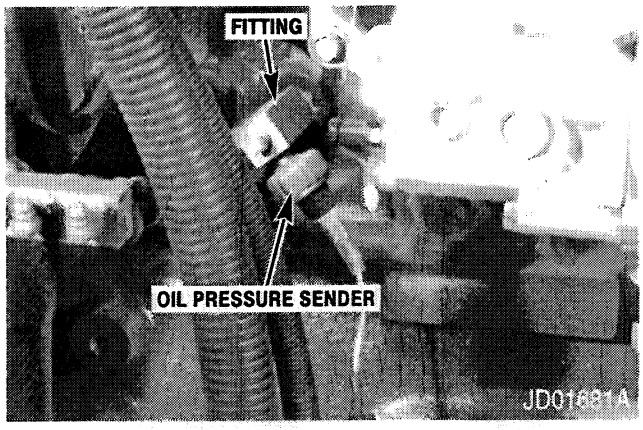
Install the control cable on the bracket and tighten the two nuts to secure the control cable.

STEP 12



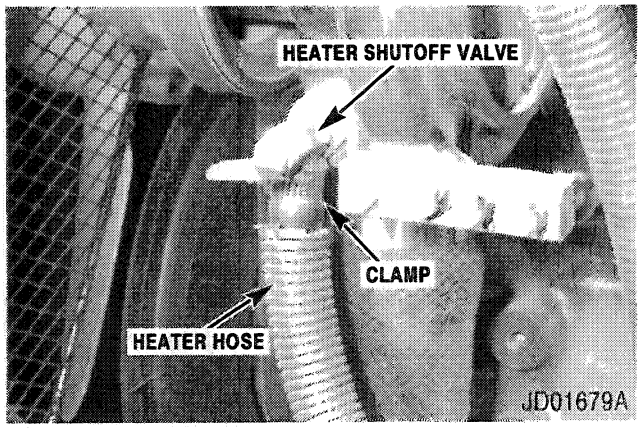
Connect the control cable ball joint to the fuel injection pump throttle bracket. Install the lock washer and nut to secure the ball joint.

STEP 13



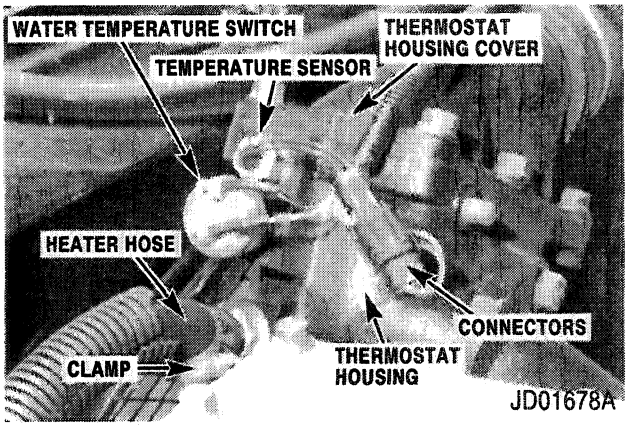
Connect the wiring harness wire to the oil pressure sender following the tag installed during removal. Remove and discard the tag.

STEP 14



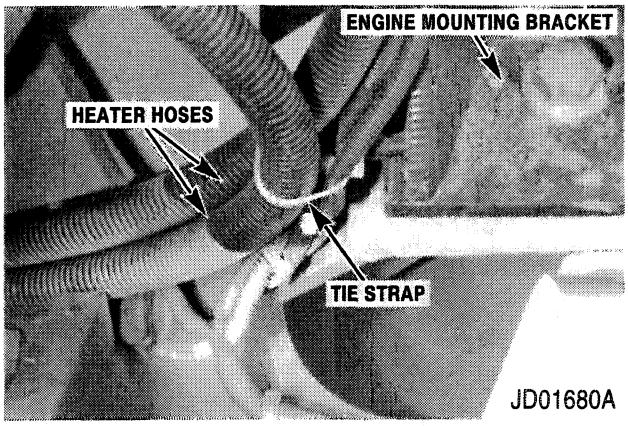
Install the clamp on the heater hose. Connect the hose to the heater shutoff valve and tighten the clamp to secure the hose.

STEP 15



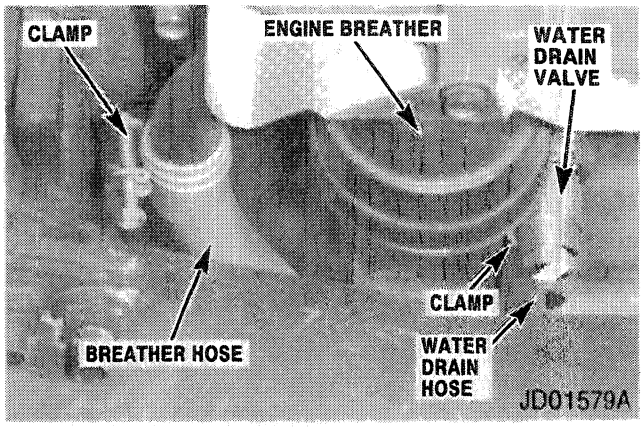
Install the clamp on the heater hose. Connect the heater hose to the fitting installed in the thermostat housing. Tighten the clamp to secure the heater hose. Connect the wiring harness two wires to the water temperature switch following the tags installed during removal. Connect the temperature sensor connector to the wiring harness connector.

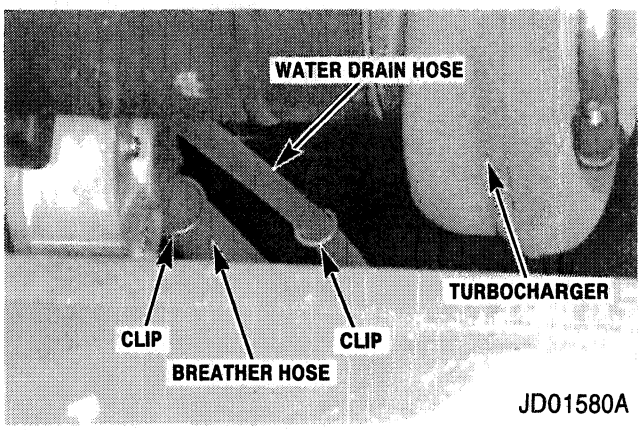
STEP 16



Install a new tie strap to secure two heater hoses and the wiring harness to the engine mounting bracket.

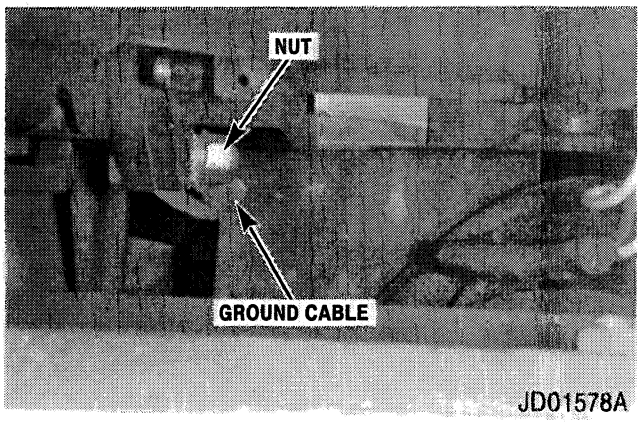
STEP 17





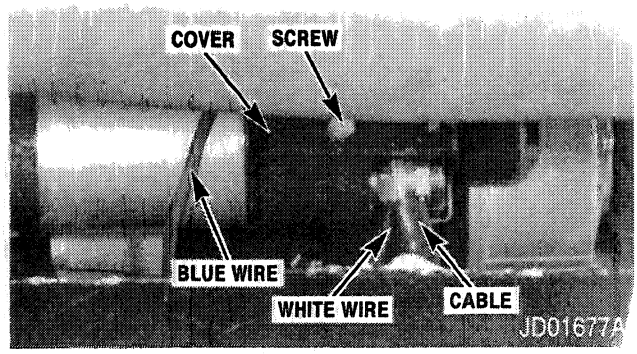
Route the water drain hose and the breather hose through the clips installed in the engine. Using pliers, install the clamp on the water drain hose and connect the water drain hose to the water drain valve. Install the clamp on the breather hose. Connect the breather hose and tighten the clamp.

STEP 18



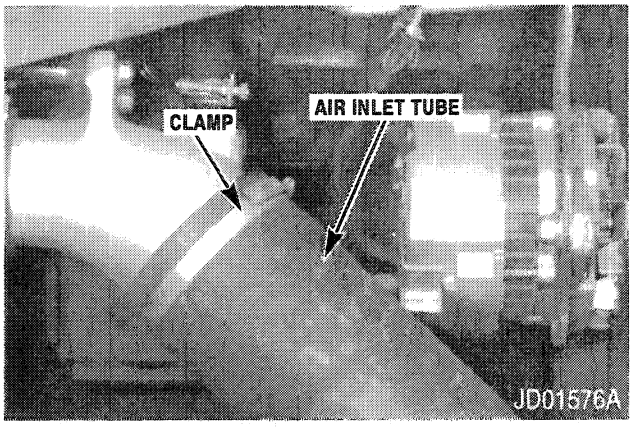
Connect the ground cable to the engine flywheel housing and install the lock washer and nut.

STEP 19



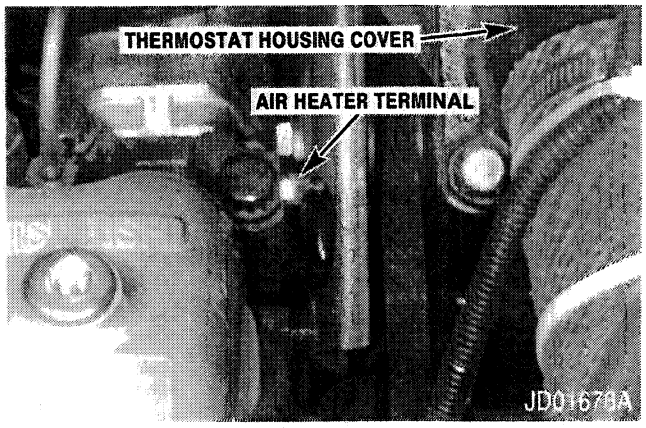
Connect the wiring harness white wire and the cable to the large terminal of the starter assembly following the tags installed during removal. Connect the wiring harness blue wire to the starter assembly following the tag installed during removal. Install the cover on the starter assembly and secure using the flat washer, lock washer, and screw. Remove the tags from the wiring harness wires and cable and discard the tags.

STEP 20



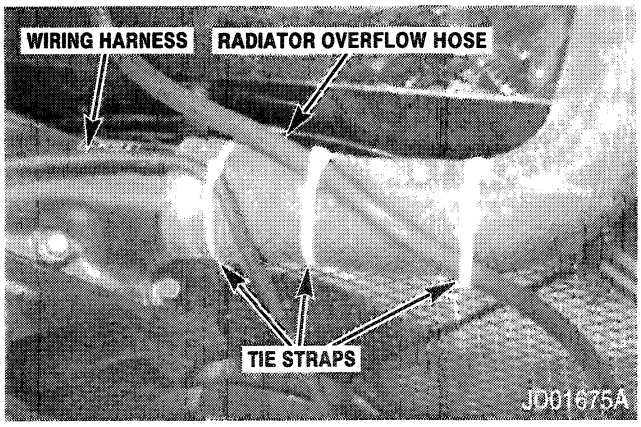
Connect the air inlet tube to the turbocharger. Tighten the clamp to secure the tube.

STEP 21



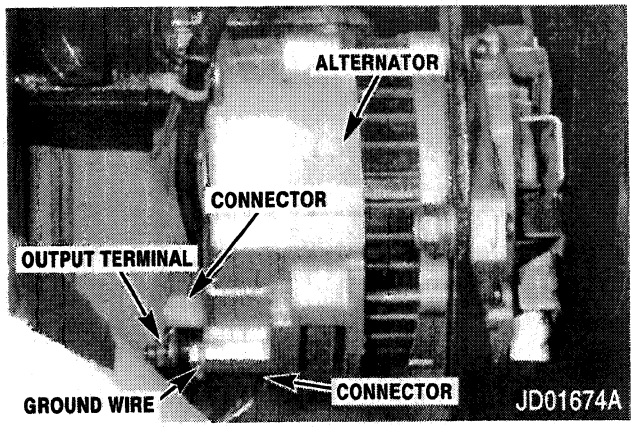
Connect the wiring harness wire to the air heater terminal following the tag installed during removal. Remove and discard the tag.

STEP 22



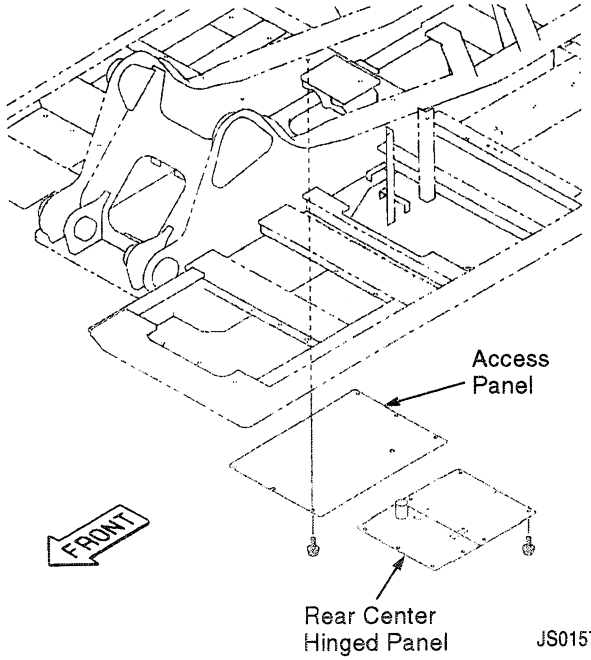
Install three new tie straps to secure the wiring harness and the radiator overflow hose to the radiator hose.

STEP 23



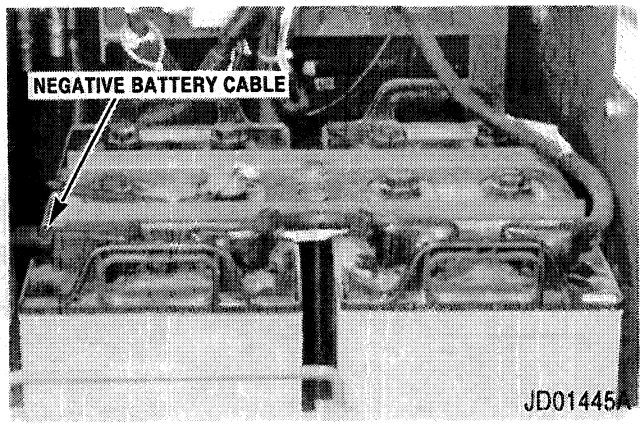
Connect the wiring harness wire to the alternator output terminal following the tag installed during removal. Connect the wiring harness ground wire and the two connectors to the alternator following the tags installed during removal. Remove and discard the tags.

STEP 24



Swing the rear center hinged panel below the engine up. Secure the hinged panel using five cap screws. Install the bottom right rear access panel.

STEP 25



Connect the negative battery cable to the battery.

STEP 26

Install the radiator, oil cooler, and the cooling system reservoir. Service the radiator coolant. (See Section 2001.)

STEP 27

Install the hydraulic pump. (See Section 8002.)

ENGINE

Removal

NOTE: *Make sure engine is cool before starting removal procedures.*

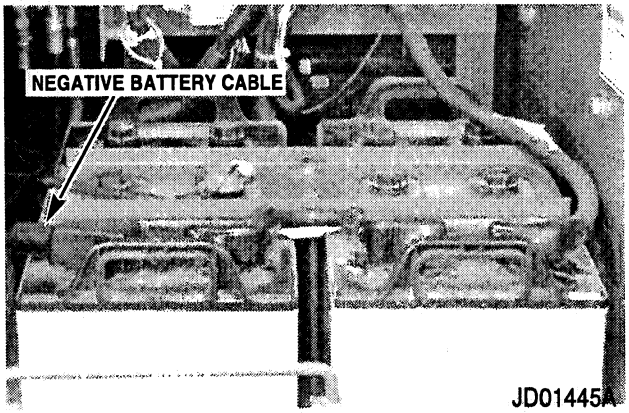
STEP 1

Remove the hydraulic pump (see Section 8002).

STEP 2

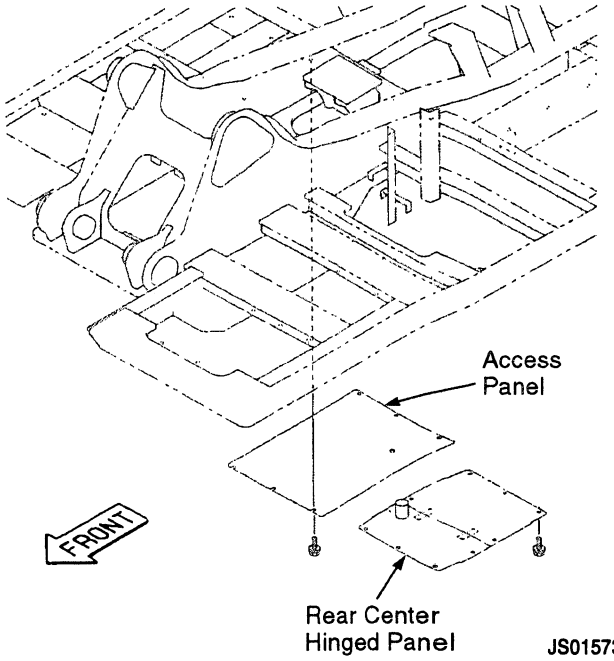
Remove the radiator and the cooling system reservoir (see Section 2001).

STEP 3



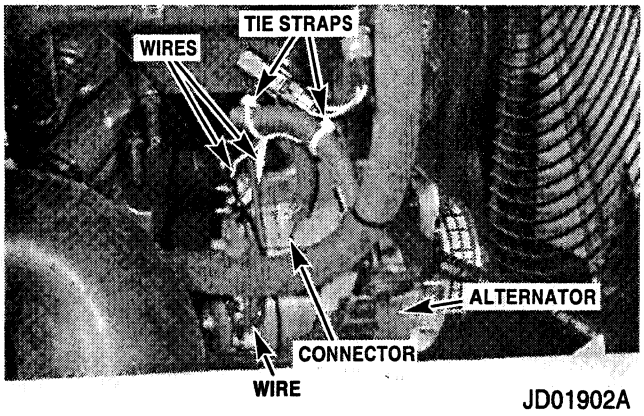
Open the left side access doors. Disconnect the negative battery cable from the battery.

STEP 4



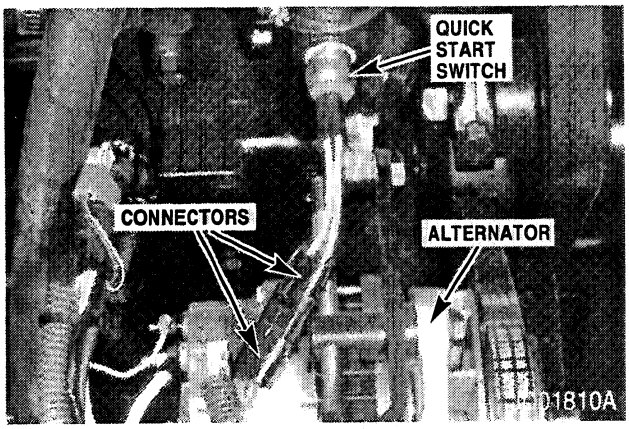
Remove the bottom right rear access panel. Remove the five cap screws securing the rear center hinged panel below the engine. Swing the panel down for access to the engine two left mounts.

STEP 5



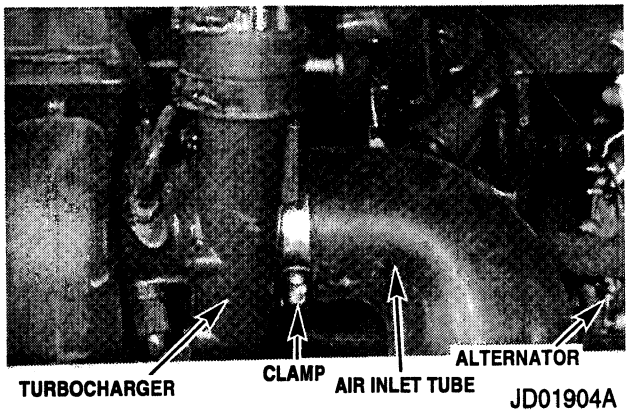
Tag and disconnect the wiring harness three wires and the connector from the alternator. Cut, remove and discard the two tie straps.

STEP 6



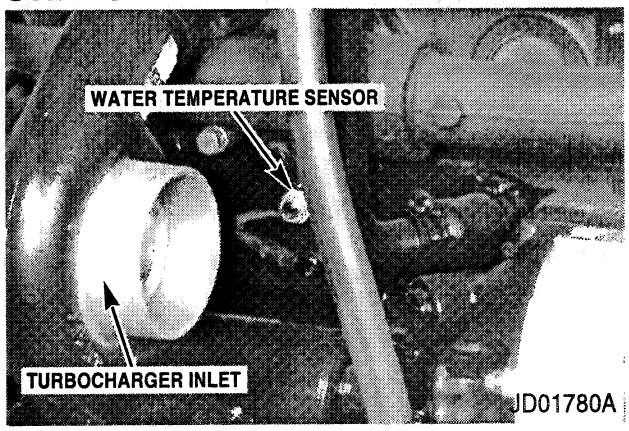
Tag and disconnect the wiring harness connector from the quick start switch connector.

STEP 7



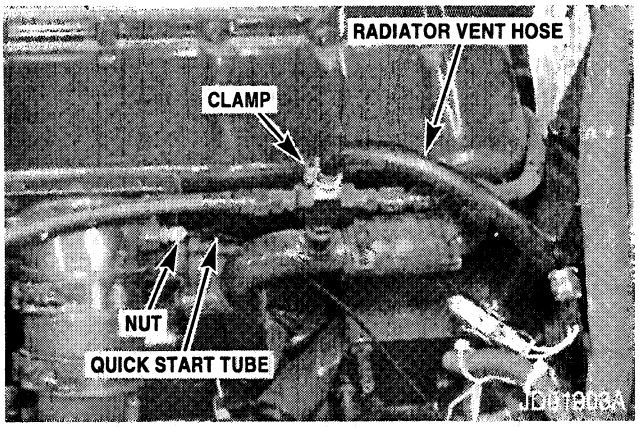
Loosen the two clamps securing the air inlet tube to the turbocharger and the outlet tube of the air cleaner. Disconnect and remove the air inlet tube.

STEP 8



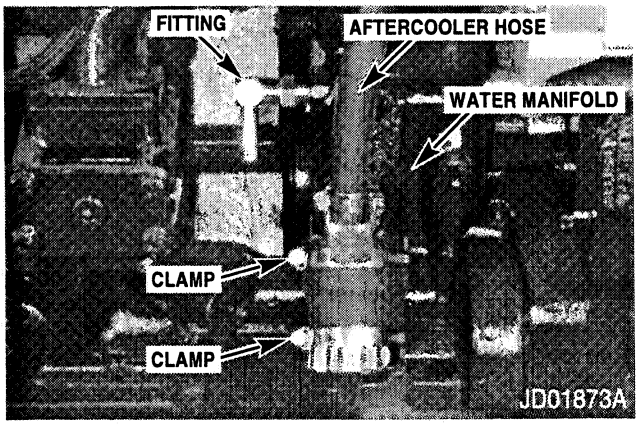
Tag and disconnect the wiring harness connector from the water temperature sensor connector.

STEP 9



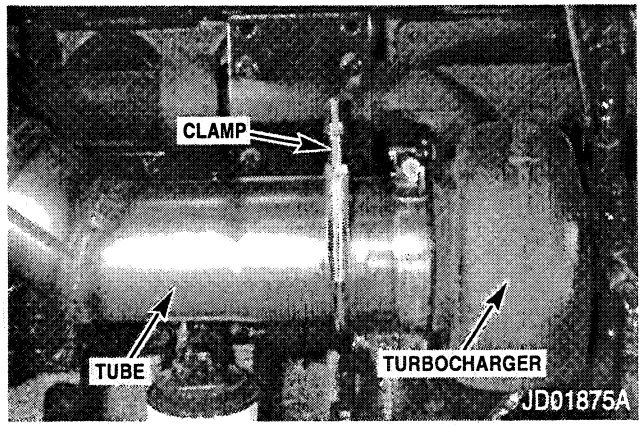
Loosen the nut securing the quick start tube to the fitting in the intake manifold. Disconnect the tube from the fitting. If necessary, loosen the clamp and remove the radiator vent hose from the machine.

STEP 10



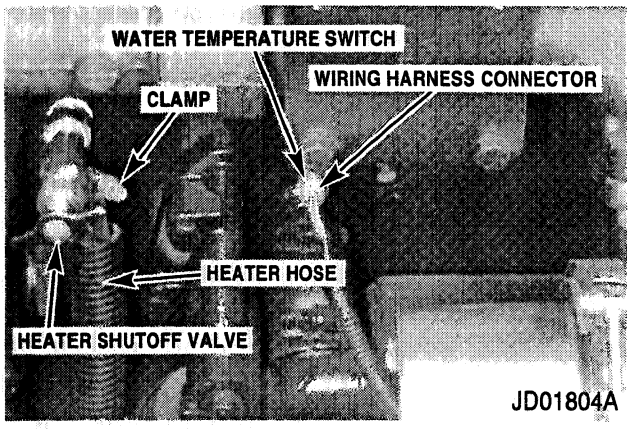
Loosen the clamp and disconnect the radiator bottom hose from the engine water manifold. Remove the hose. If necessary, loosen the clamp and disconnect and remove the aftercooler hose. Loosen the clamp on the heater hose. Disconnect the heater hose from the fitting installed in the engine water manifold.

STEP 11



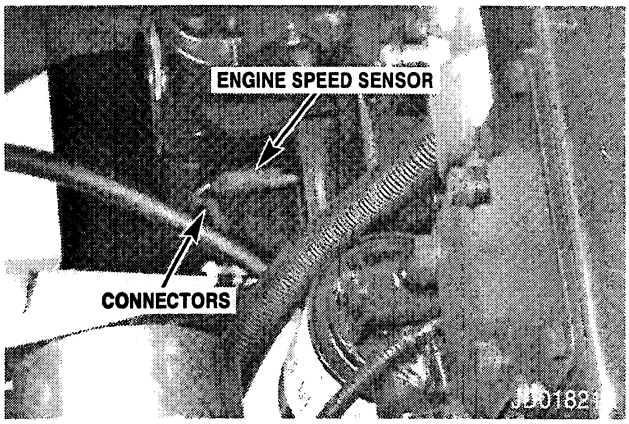
Loosen the clamp securing the tube to the turbocharger. Remove the tube.

STEP 12



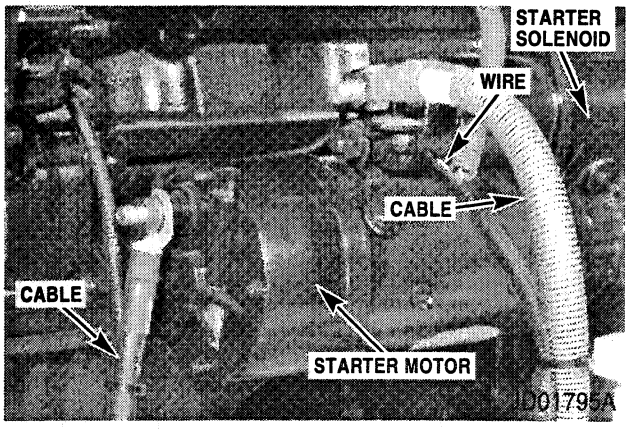
Install identification tags on the heater hose and the wiring harness connector. Loosen the clamp and disconnect the heater hose from the heater shutoff valve. Disconnect the wiring harness connector from the water temperature switch.

STEP 13



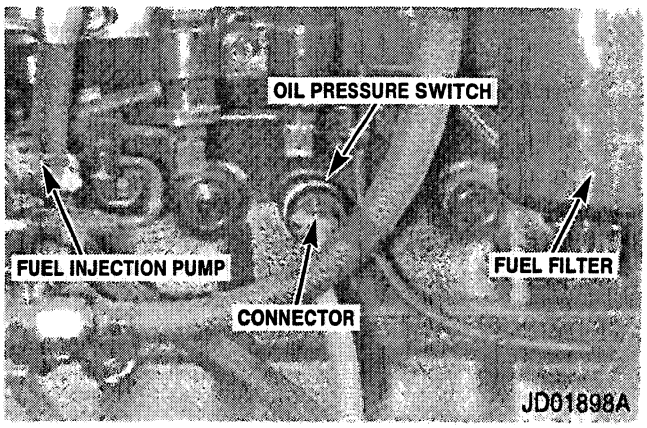
Tag and disconnect the engine speed sensor connector from the wiring harness connector.

STEP 14



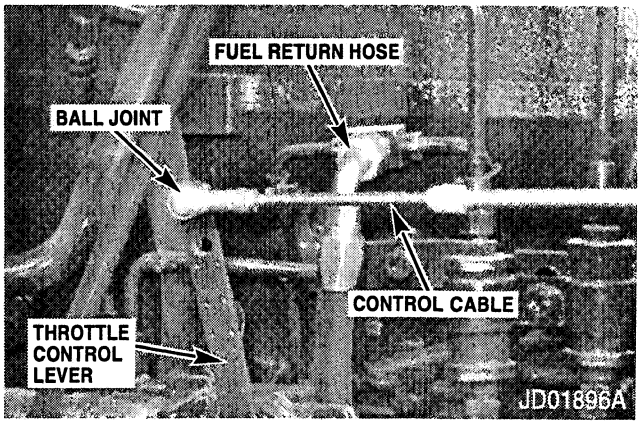
Tag and disconnect the cable and the wiring harness wire from the starter solenoid. Tag and disconnect the cable from the rear terminal of the starter motor.

STEP 15



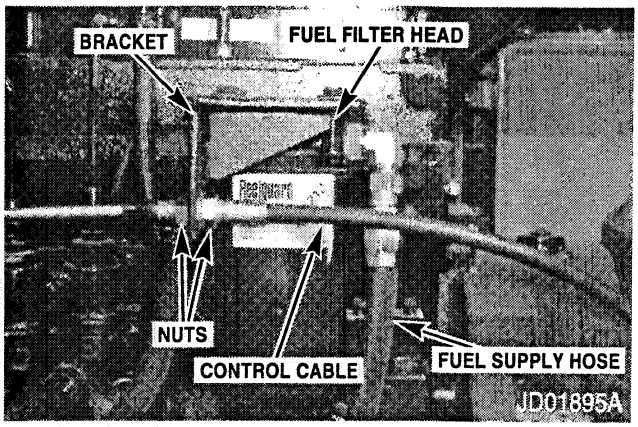
Tag and disconnect the wiring harness connector from the oil pressure switch.

STEP 16



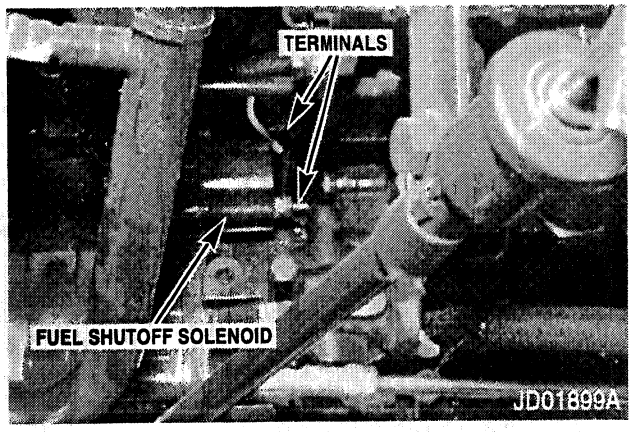
Remove the nut and lock washer securing the control cable ball joint to the fuel injection pump throttle control lever. Disconnect the ball joint. Tag and disconnect the fuel return hose from the engine fuel return line.

STEP 17



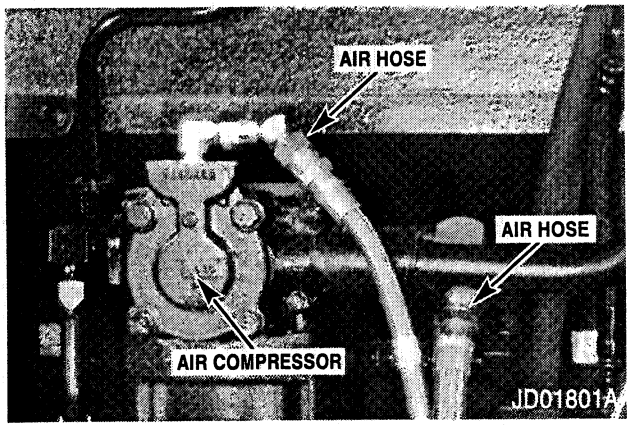
Loosen the two nuts securing the control cable to the bracket. Remove the control cable from the bracket. Tag and disconnect the fuel supply hose from the fuel filter head.

STEP 18



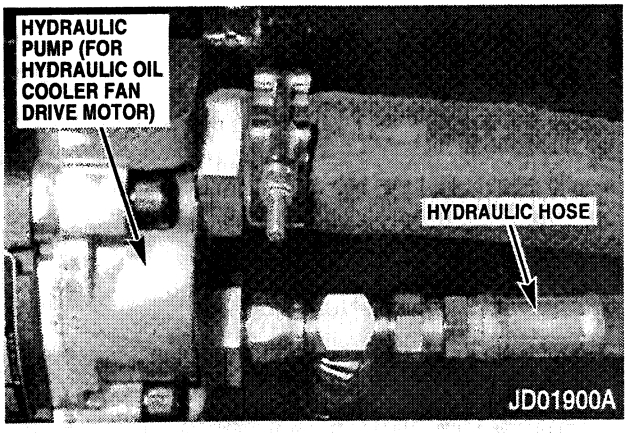
Tag and disconnect the wiring harness two wires connected to the fuel shutoff solenoid terminals.

STEP 19



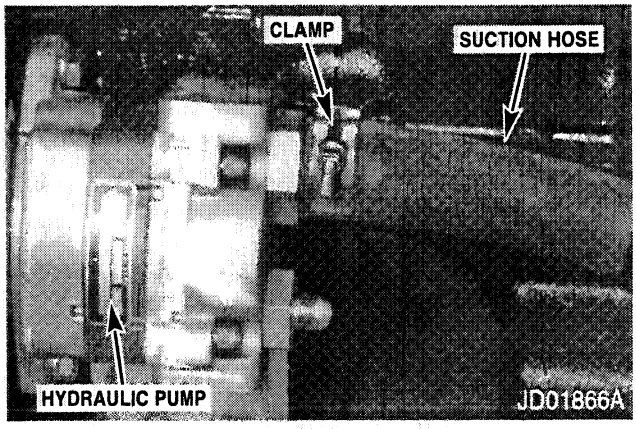
Tag and disconnect the two air hoses from the air compressor.

STEP 20



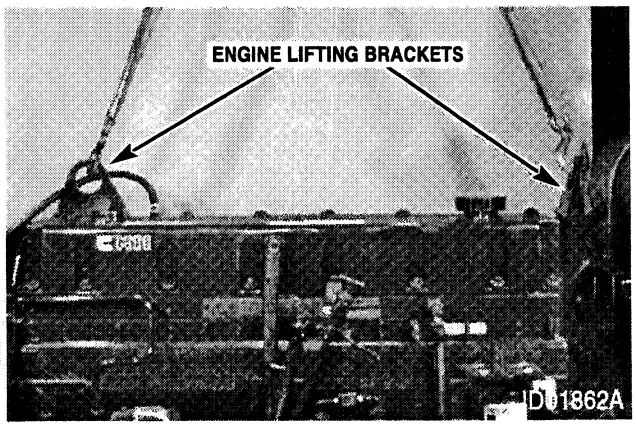
Tag and identify the hydraulic hose connected to the hydraulic pump for the hydraulic oil cooler fan drive motor. Disconnect the hydraulic hose from the hydraulic pump. Plug the hose and cap the fitting to prevent entry of contaminants into the hydraulic system.

STEP 21



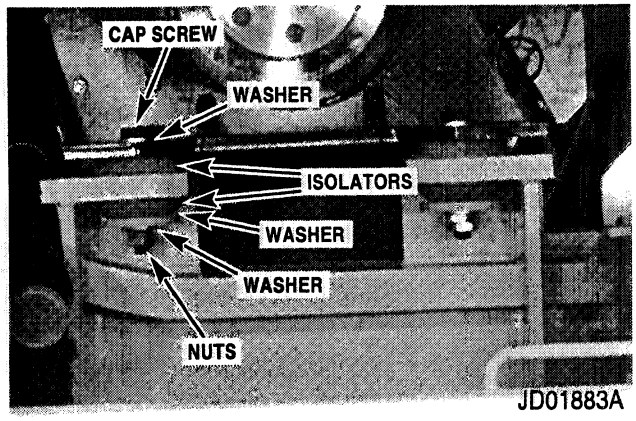
Loosen the clamp and disconnect the suction hose from the hydraulic pump. Remove the suction hose from the machine. Plug the hose and cap the fitting to prevent entry of contaminants into the hydraulic system.

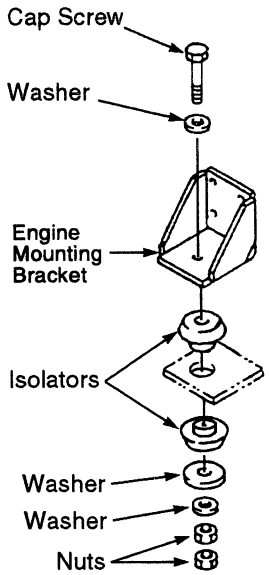
STEP 22



Connect suitable lifting equipment to the engine at the two engine lifting brackets. The weight of the engine is 2249 pounds (1020 kg).

STEP 23





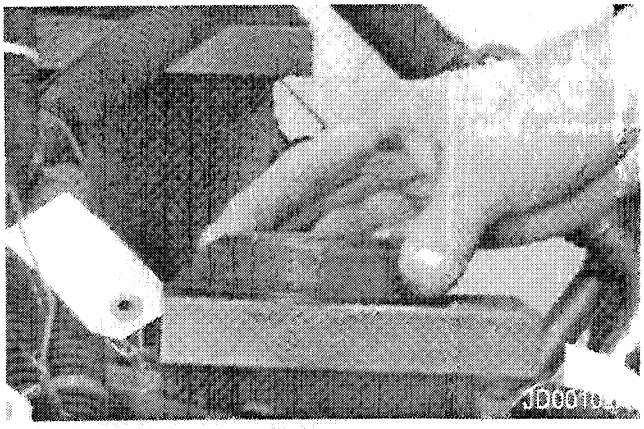
Remove the two nuts, three washers, rubber isolator, and cap screw. Repate this step for the remaining three engine mounts.

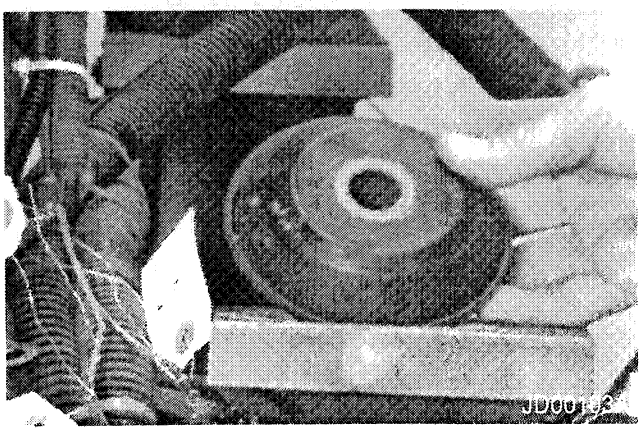
STEP 24

NOTE: *When raising the engine from the machine check and make sure all wires and hoses have been disconnected and will not interfere with the removal of the engine.*

Raise the engine from the mounts. Move the engine rearward and away from the machine.

STEP 25





Remove the rubber engine isolators from the four engine mounts.

Suggest:

If the above button click is invalid.

Please download this document

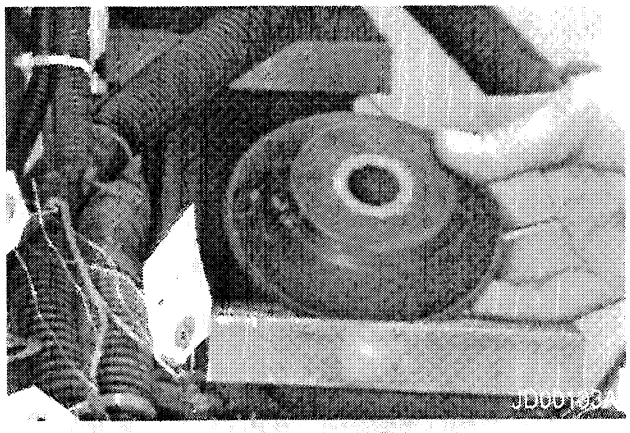
first, and then click the above link

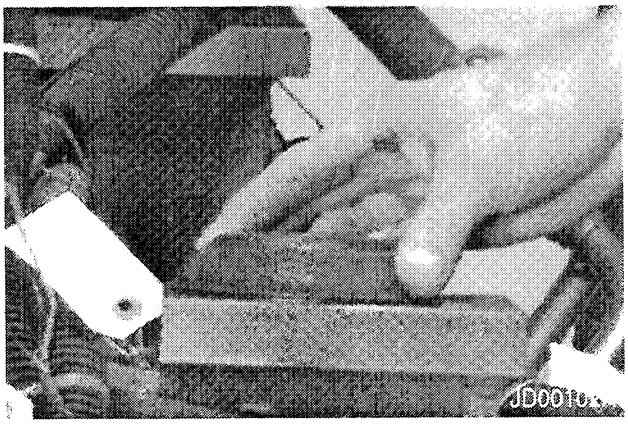
to download the complete manual.

Thank you so much for reading

Installation

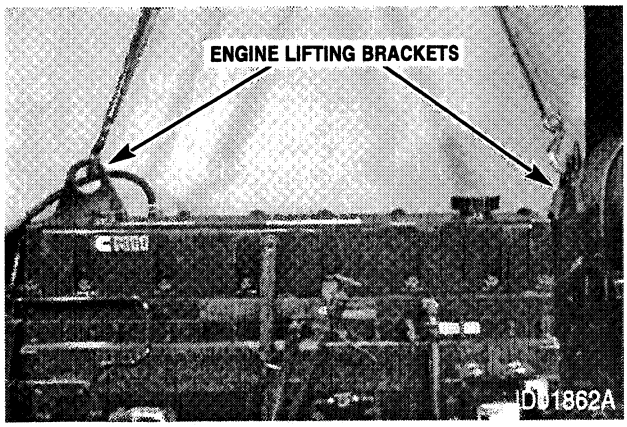
STEP 1





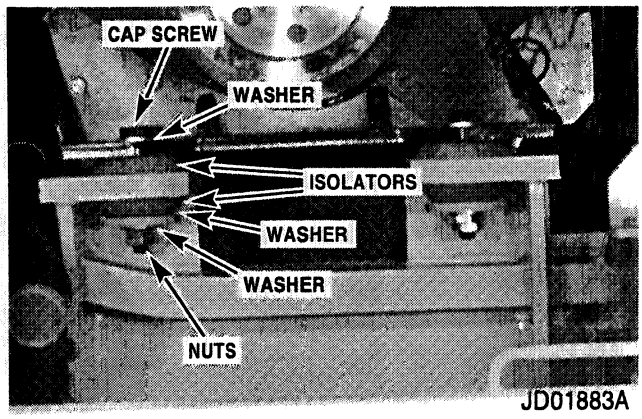
Inspect the rubber engine isolators for cracks, deformation, or damage. Replace the isolators if cracked, deteriorated, or damaged. Install the rubber engine isolators on the four engine mounts.

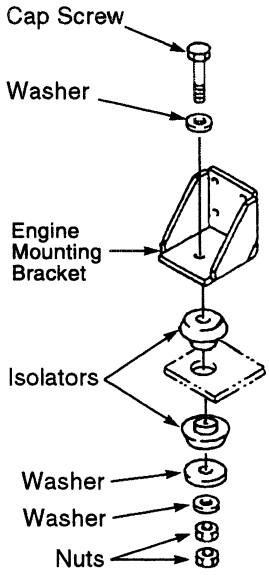
STEP 2



Connect suitable lifting equipment to the engine at the two engine lifting brackets. The weight of the engine is 2249 pounds (1020 kg). Move the engine into position and lower onto the engine mounts.

STEP 3





Apply Loctite 262 to the threads of the cap screws. Install the rubber isolator, cap screw, three washers, and one nut. Tighten the cap screw to 215 to 245 lb-ft (290 to 335 Nm). Install the second nut and tighten securely against the first nut. Repeat this step for the remaining three engine mounts.

STEP 4

Disconnect the lifting equipment from the engine lifting brackets.