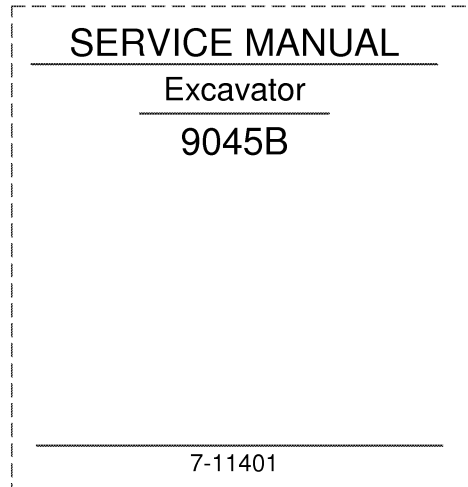


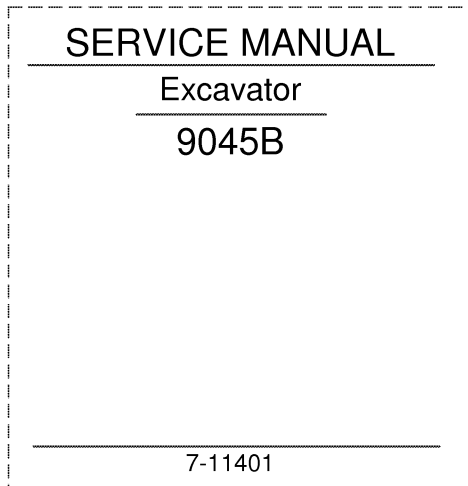
1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4



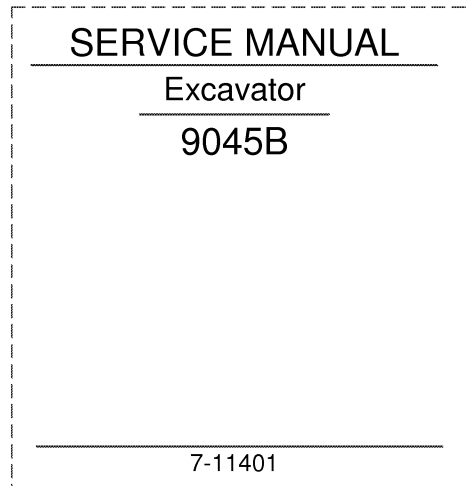
1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4



1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4



1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4

# 9045B Excavator Service Manual 7-11401

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April 1999,

# 9045B Excavator Service Manual 7-11401

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**NOTE:** Case Corporation reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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# Section 1001

**SAFETY, GENERAL INFORMATION  
AND TORQUE SPECIFICATIONS**

## SAFETY

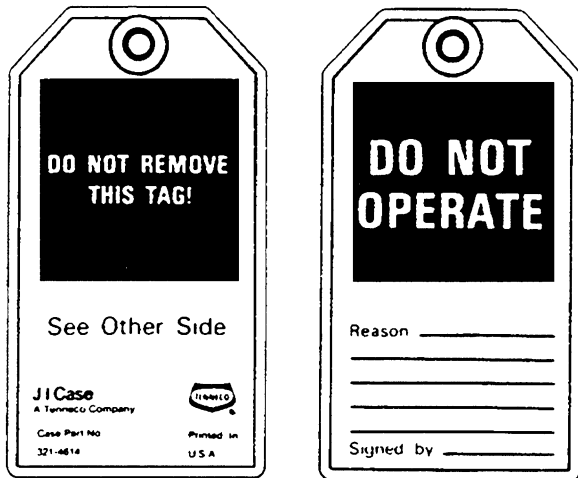


*This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death.*

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

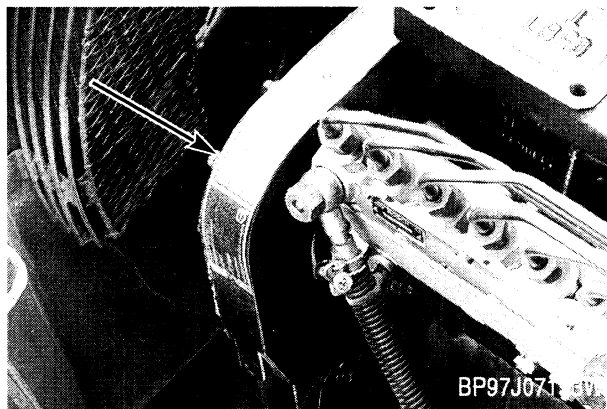
Always install genuine Case service parts. When ordering refer to the Parts Catalog for the correct part number of the genuine Case replacement items. Failures due to the use of other than genuine Case replacement parts are not covered by warranty.

### 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.

## MODEL AND PIN NUMBERS

When ordering parts or when requesting information or assistance, always give the identification numbers of your machine. Write the model and PIN numbers of your machine on the lines below.



Machine Model Number \_\_\_\_\_

Machine PIN Number \_\_\_\_\_

Engine Serial Number \_\_\_\_\_

# Section 2000

## ENGINE

**CASE CORPORATION**  
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Bur 7-11260

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Printed in U.S.A.  
June, 1998

**2000**

## ENGINE

### Removal

**NOTE:** Allow the machine to cool before starting any maintenance work.

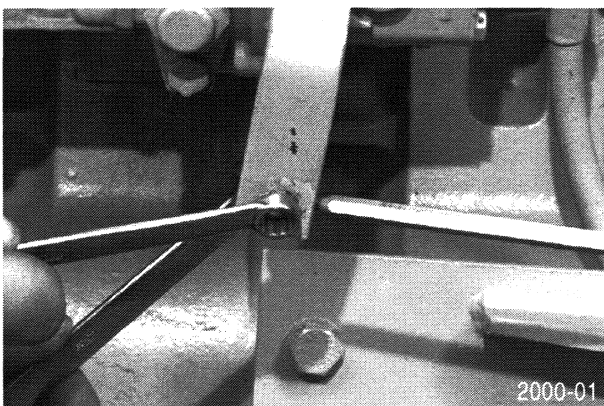
#### STEP 1

Remove the hydraulic pump. (See Section 8002.)

#### STEP 2

Remove the radiator and oil cooler. (See Section 2001.)

#### STEP 3



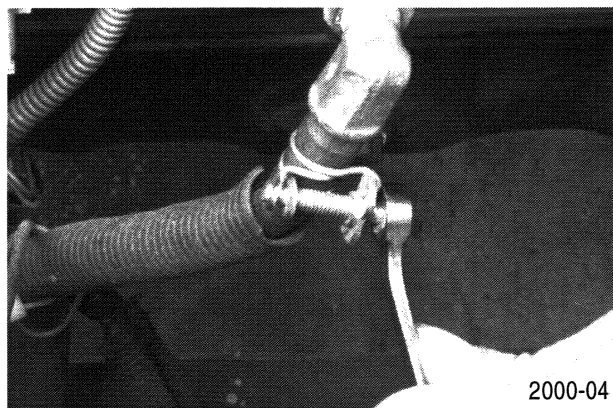
Loosen and disconnect throttle cable at fuel injection pump throttle bracket.

#### STEP 4



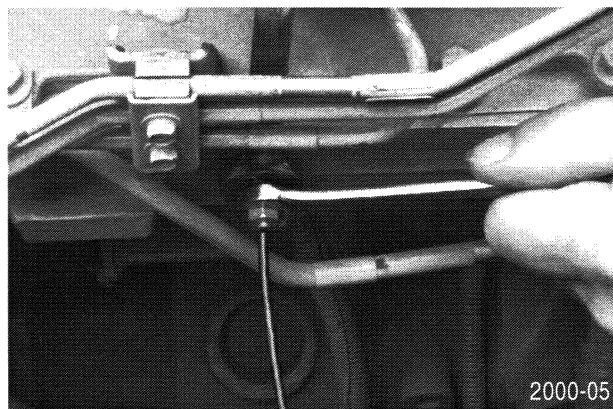
Loosen two nuts on throttle cable at bracket. Remove throttle cable from bracket.

#### STEP 5



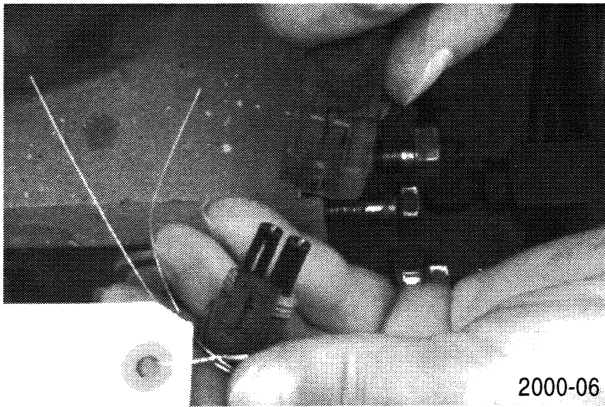
Loosen clamp securing fuel hose to fuel inlet on engine. Disconnect hose from barb fitting. Plug hose and cap barb fitting.

#### STEP 6

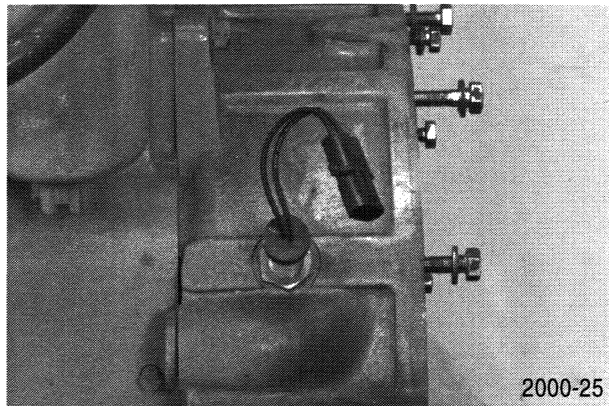


Loosen nut securing quick start kit hose to fitting in intake manifold. Disconnect hose from fitting.

**STEP 7**



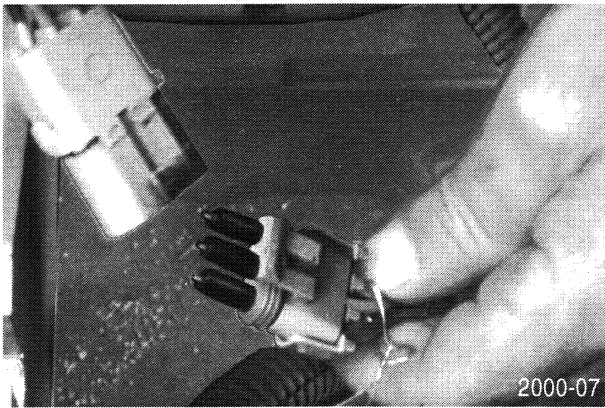
2000-06



2000-25

Tag and disconnect connector connected to RPM sensor installed in flywheel housing.

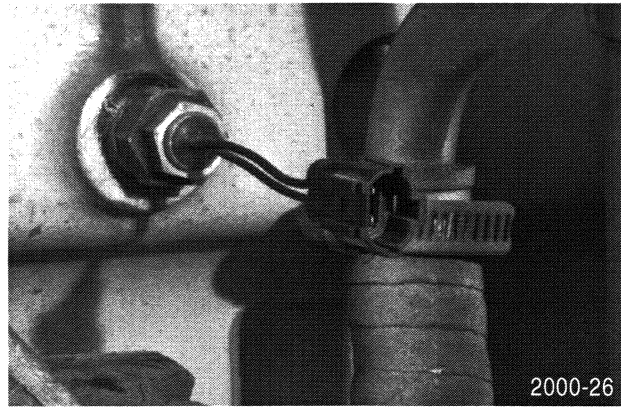
**STEP 8**



2000-07

Tag and disconnect connector at stop motor connected to fuel injection pump fuel shutoff lever.

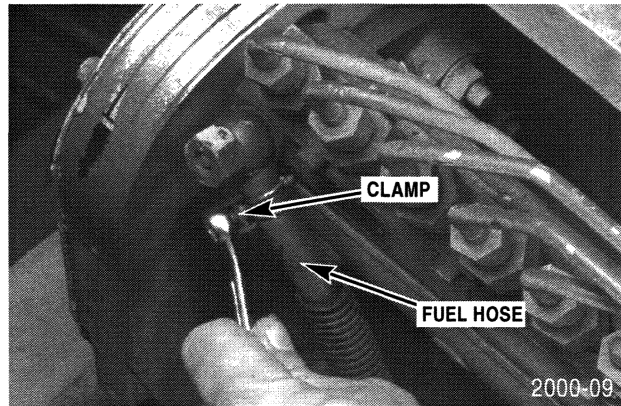
**STEP 9**



2000-26

Tag and disconnect wire connected to engine water temperature switch.

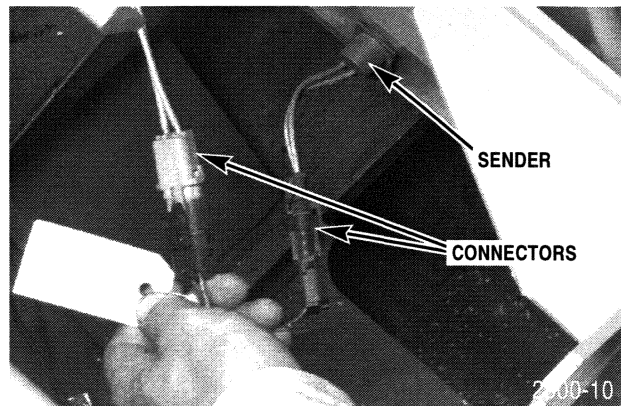
**STEP 10**



2000-09

Loosen hose clamp and disconnect fuel hose from fuel injection pump. Plug hose and cap fuel injection pump port.

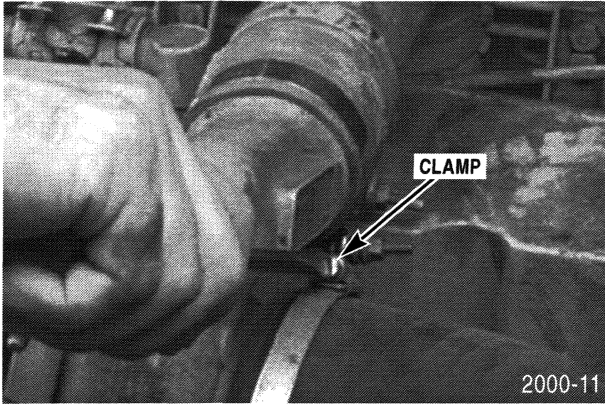
**STEP 11**



2000-10

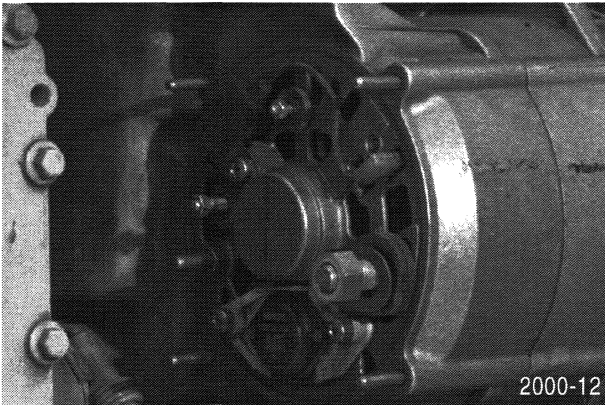
Tag and disconnect connectors for lockout switch and oil pressure sender.

**STEP 12**



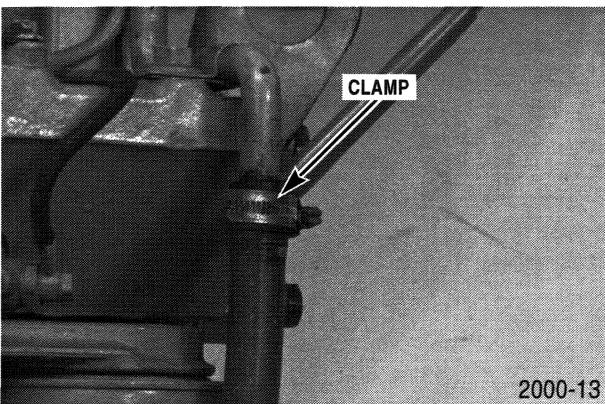
Loosen two clamps securing turbocharger hose to engine and air cleaner outlet. Remove turbocharger hose and two clamps.

**STEP 13**



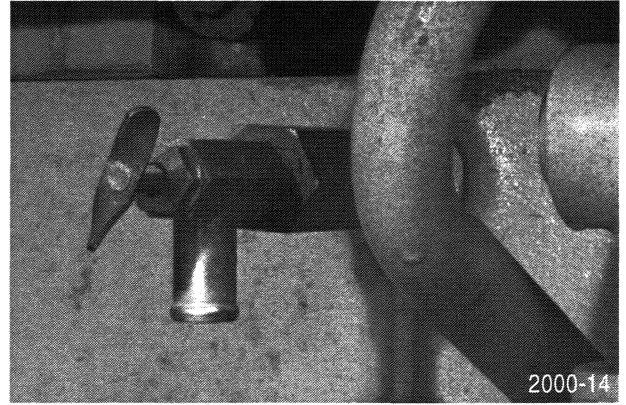
Tag and disconnect wires from alternator.

**STEP 14**



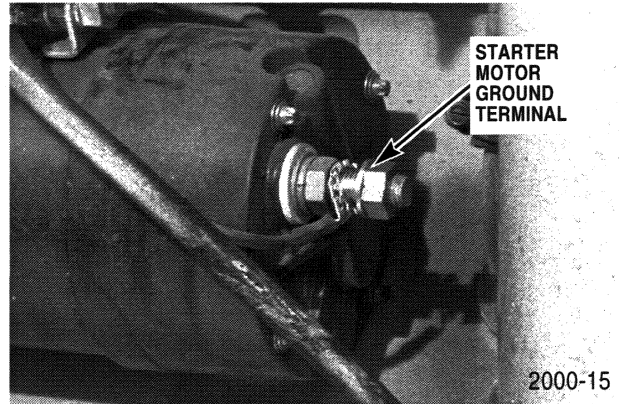
Loosen clamp on heater hose. Disconnect heater hose from engine.

**STEP 15**



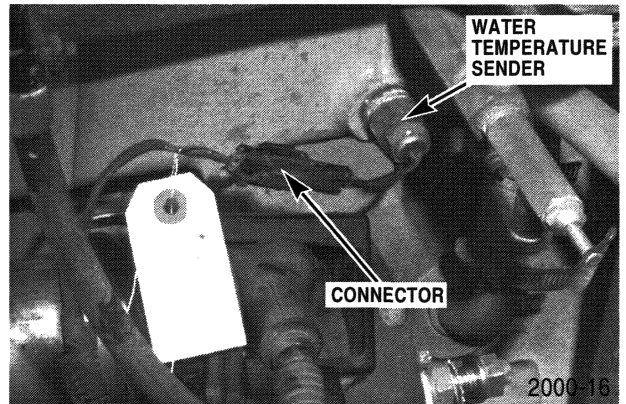
Loosen clamp on heater hose connected to shutoff valve. Disconnect heater hose from shutoff valve.

**STEP 16**



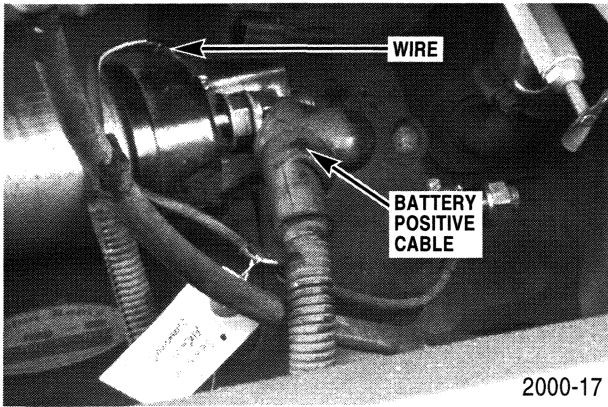
Disconnect ground cable from starter motor ground terminal.

**STEP 17**



Tag and disconnect connector connected to water temperature sender.

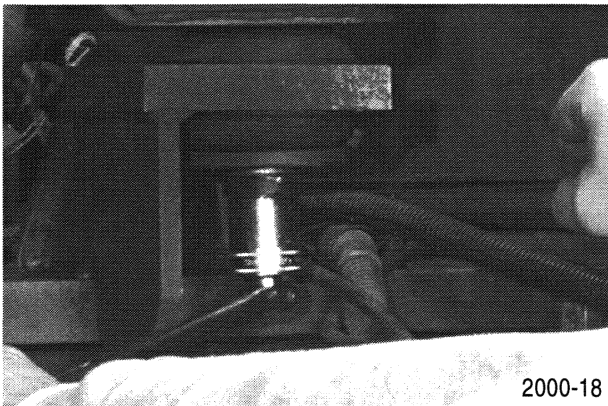
**STEP 18**



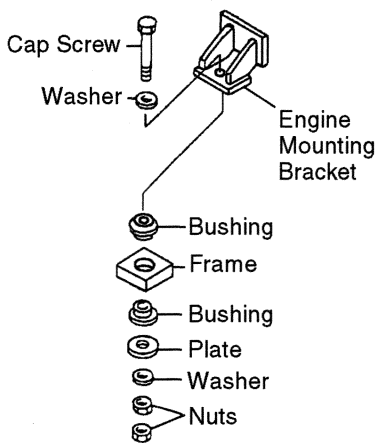
2000-17

Tag and disconnect wire and battery positive cable from starter solenoid.

**STEP 19**



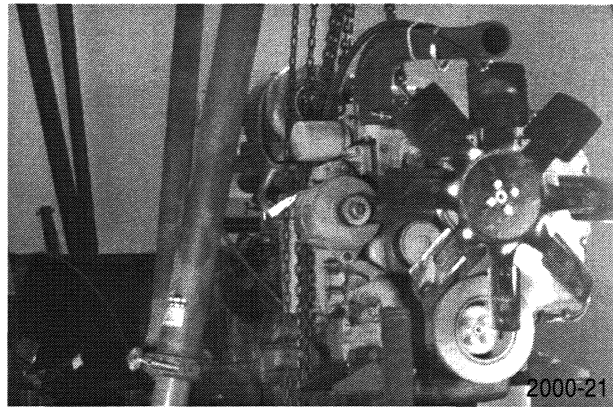
2000-18



2000-20

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

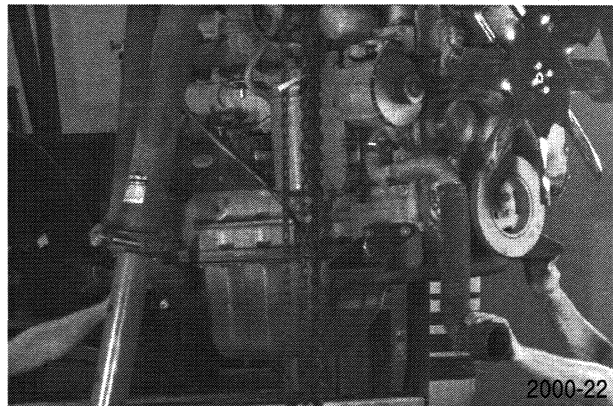
**STEP 20**



2000-21

Connect suitable lifting equipment to engine. The weight of the engine is 827 pounds (375 Kg).

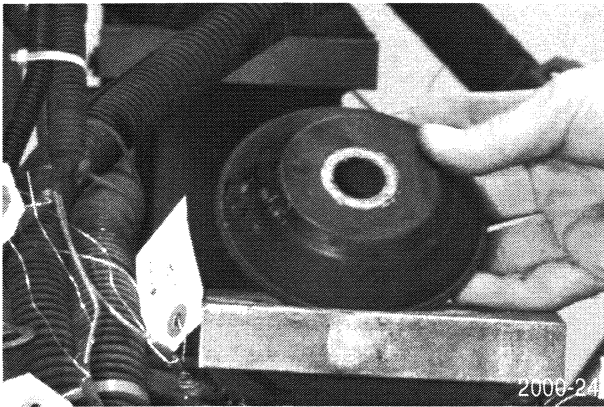
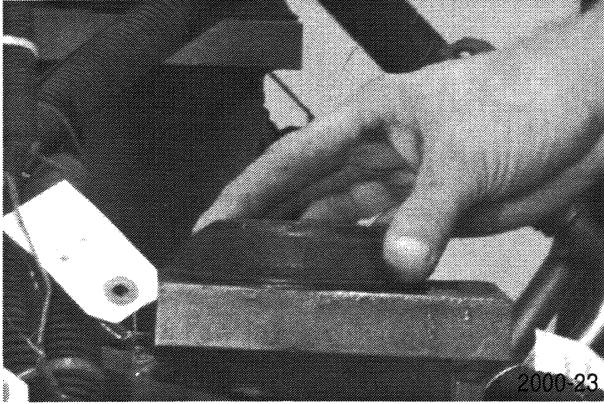
**STEP 21**



2000-22

Raise engine from mounts. Move engine forward and away from machine.

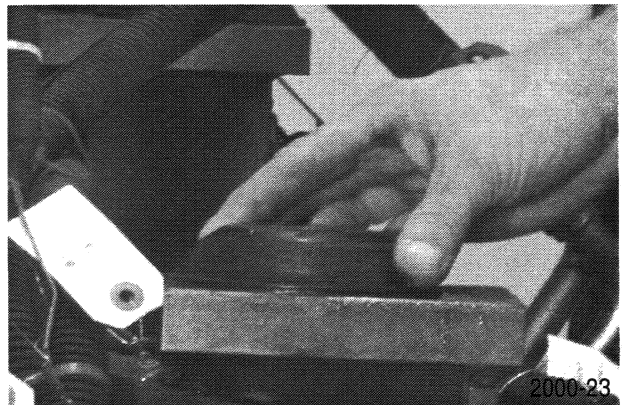
**STEP 22**



Remove rubber motor insulators from four engine mounts.

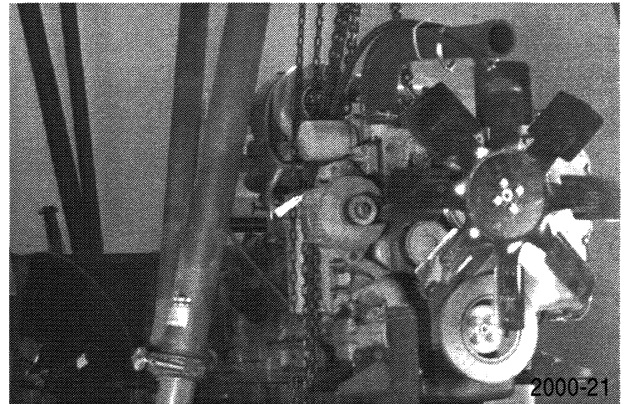
**Installation**

**STEP 1**



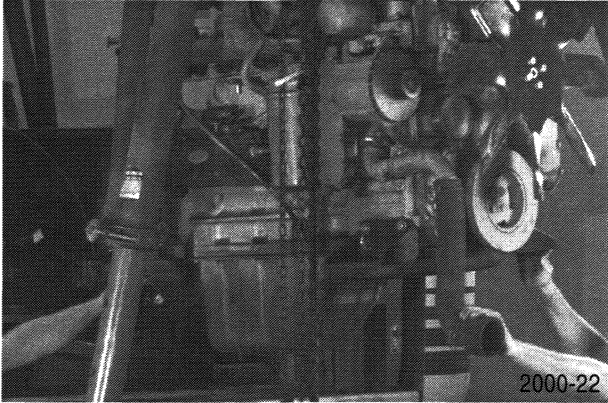
Inspect rubber motor insulators for cracks, deterioration, or damage. Replace insulators if cracked, deteriorated, or damaged. Install rubber motor insulators on the four engine mounts.

**STEP 2**



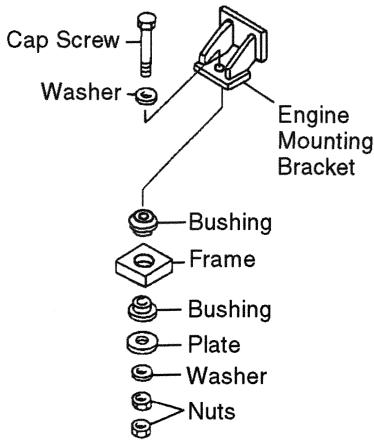
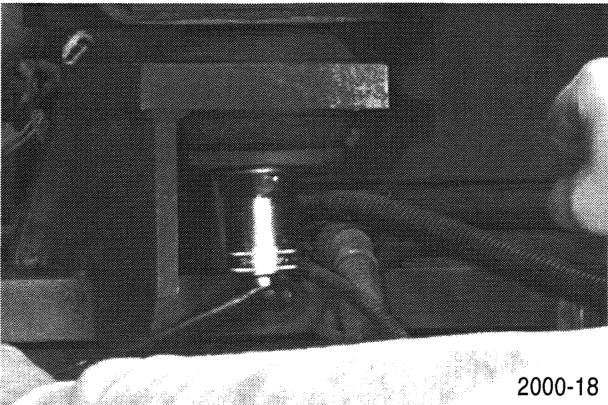
Connect suitable lifting equipment to the engine.

**STEP 3**



Move engine into position and lower onto the engine mounts.

**STEP 4**



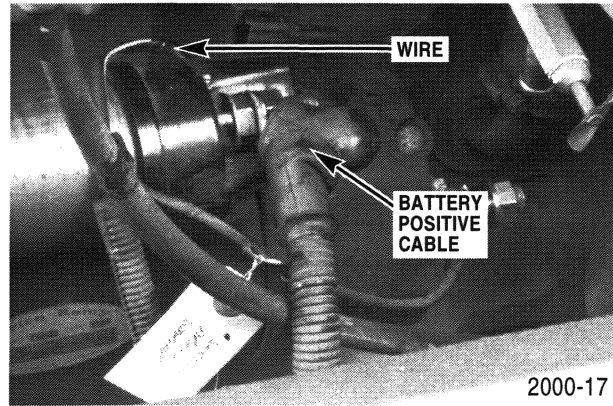
2000-20

Apply Loctite 262 to threads of cap screw. Install nut, two washers, plate, rubber bushing and cap screw. Tighten the cap screw to 195 to 231 lb-ft (264 to 313 Nm). Install the second nut and tighten securely against the first nut. Repeat this step for the remaining three engine mounts.

**STEP 5**

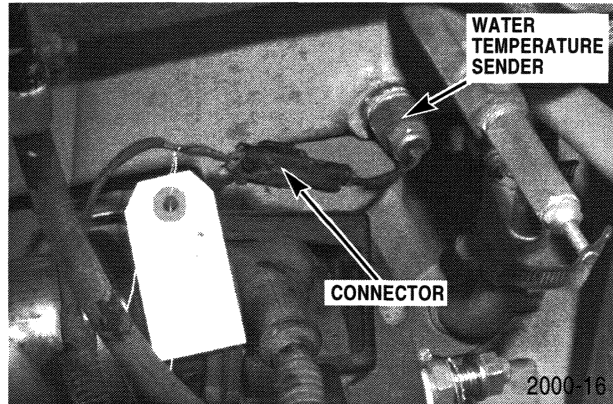
Disconnect lifting equipment from engine.

**STEP 6**



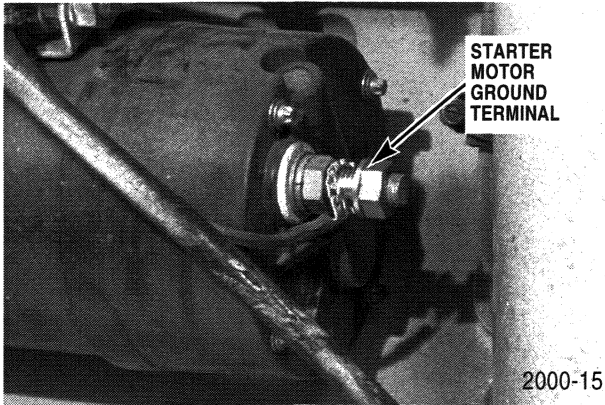
Connect wire and battery positive cable to starter solenoid. Remove tags.

**STEP 7**



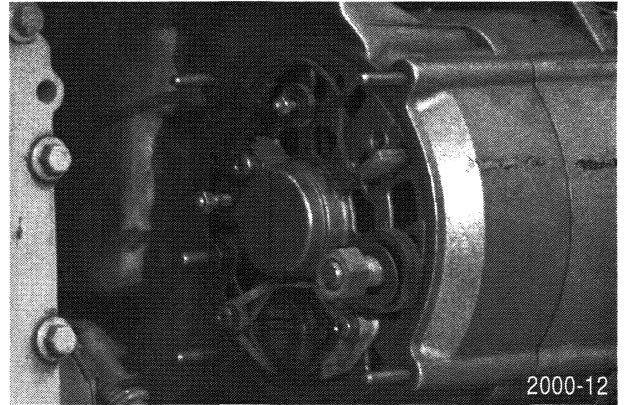
Connect the connector to water temperature sender. Remove tag.

**STEP 8**



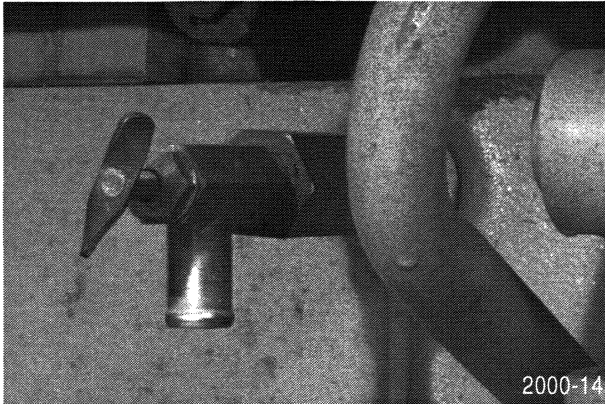
Connect ground cable to starter motor ground terminal.

**STEP 11**



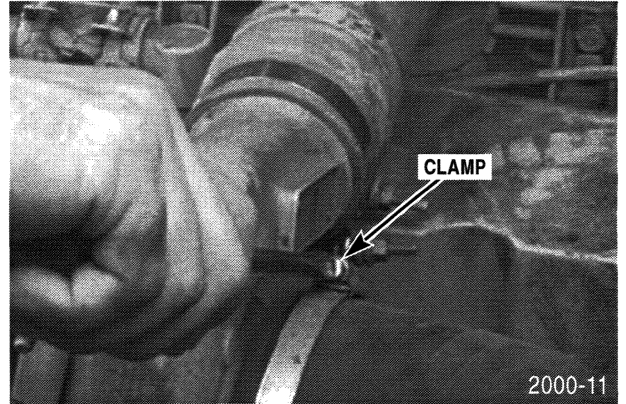
Connect wires to alternator. Remove tags.

**STEP 9**



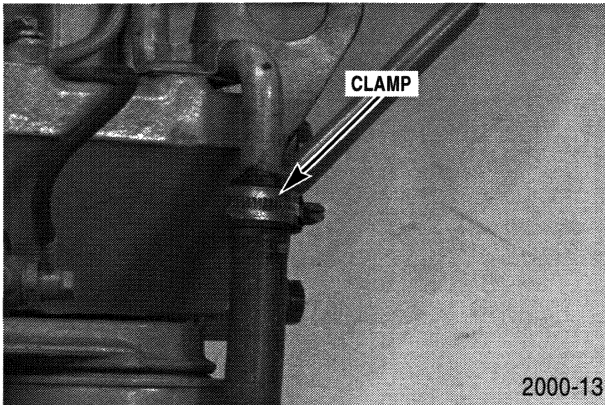
Connect heater hose to shutoff valve. Tighten clamp.

**STEP 12**



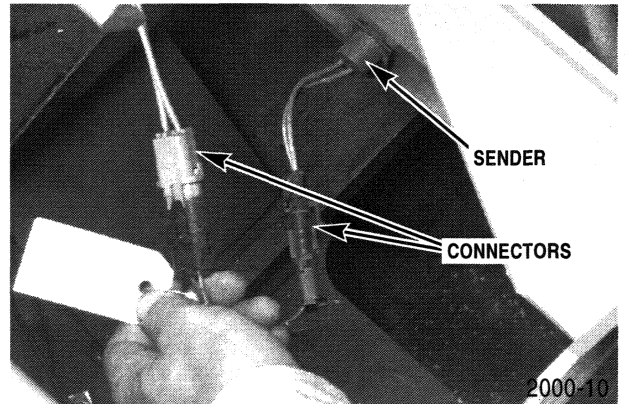
Install turbocharger hose with two clamps on engine and air cleaner outlet. Tighten two clamps.

**STEP 10**



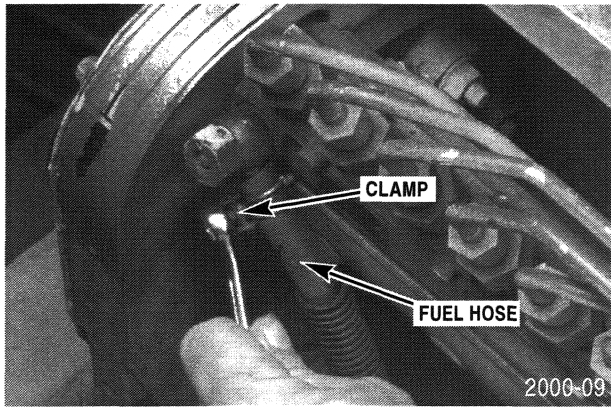
Connect heater hose to engine. Tighten clamp.

**STEP 13**



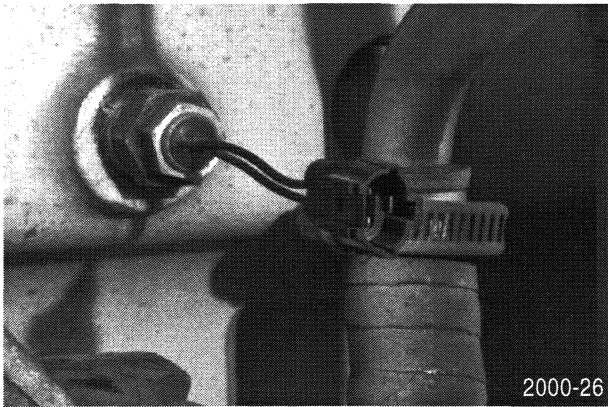
Connect the connectors for water lockout switch and oil pressure sender. Remove tags.

**STEP 14**



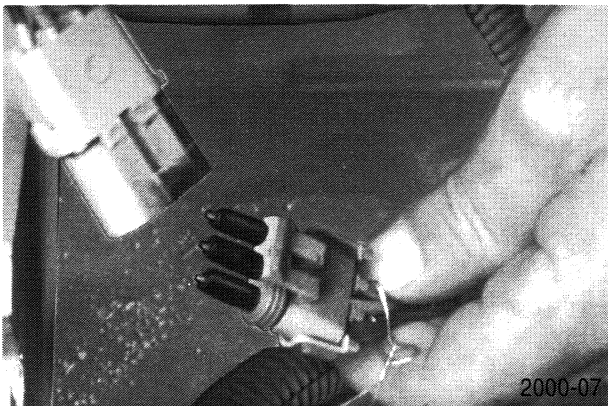
Remove plug from hose and cap from fuel injection pump port. Connect fuel hose to fuel injection pump and tighten hose clamp.

**STEP 15**



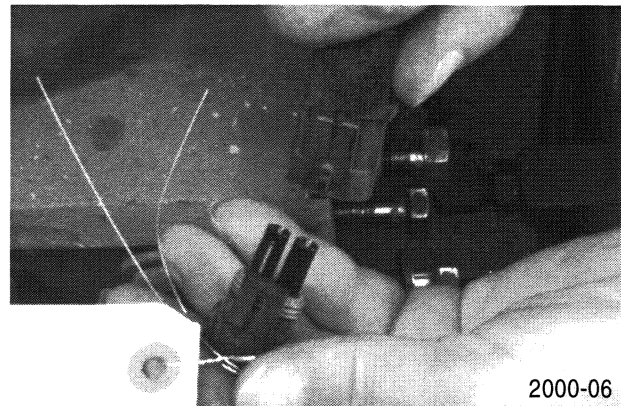
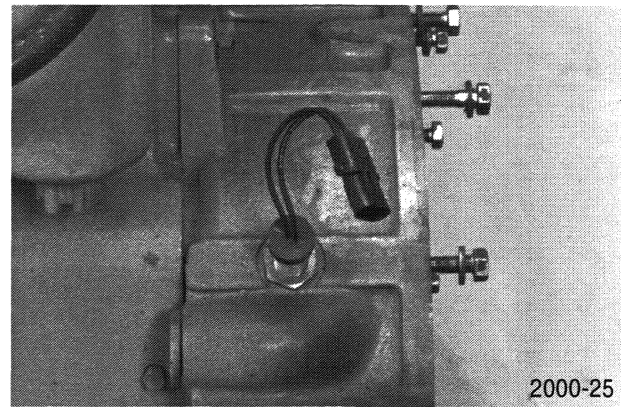
Connect wire to engine water temperature switch. Remove tag.

**STEP 16**



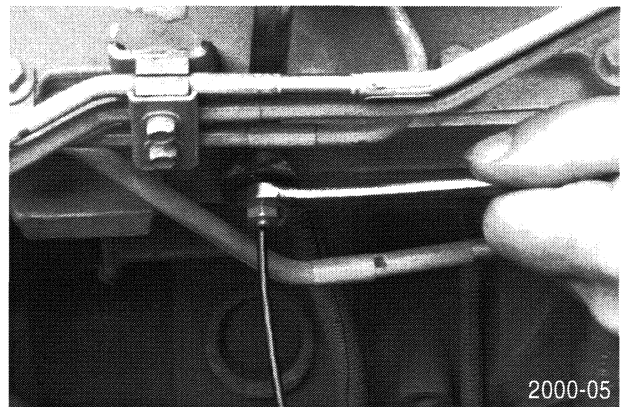
Connect the connector at stop motor to fuel injection pump shutoff lever. Remove tag.

**STEP 17**



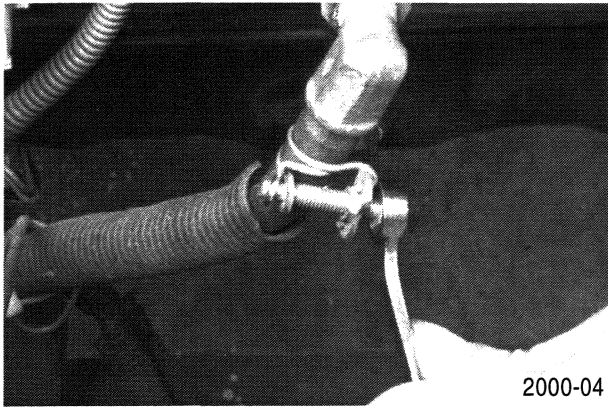
Connect the connector to RPM sensor installed in flywheel housing. Remove tag.

**STEP 18**



Connect quick start kit hose to fitting in intake manifold. Tighten nut to secure.

**STEP 19**



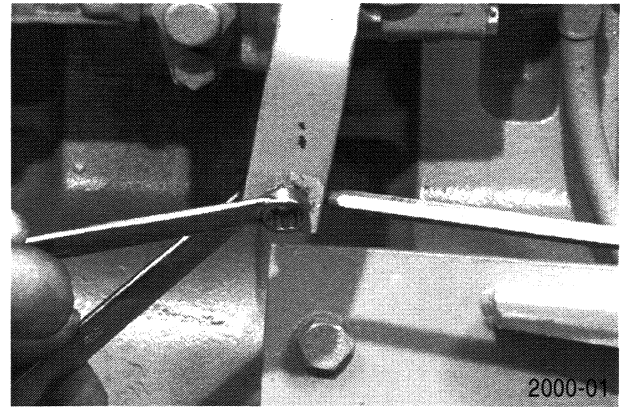
Remove plug from hose and cap from barb fitting. Connect fuel hose to barb fitting of the fuel inlet on the engine. Tighten the clamp to secure.

**STEP 20**



Install the throttle cable on the bracket. Tighten the two nuts.

**STEP 21**



Connect throttle cable to fuel injection pump throttle bracket. Tighten cable.

**STEP 22**

Install the radiator and oil cooler. (See Section 2001.)

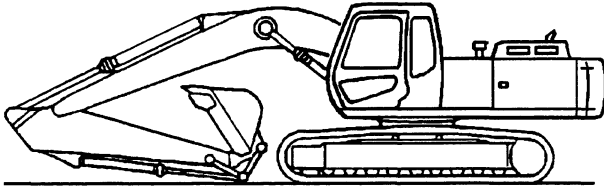
**STEP 23**

Install the hydraulic pump. (See Section 8002.)

## OIL COOLER AND RADIATOR

### Oil Cooler Removal

#### STEP 1



UA-01

Park the machine on a level surface. Lower the attachment to the ground.

#### STEP 2

Turn the starter switch to the OFF position to stop the engine.

#### STEP 3

Turn the starter switch to the ON position. Check that the CONTROLS LOCK symbol is not displayed on the systems display panel.

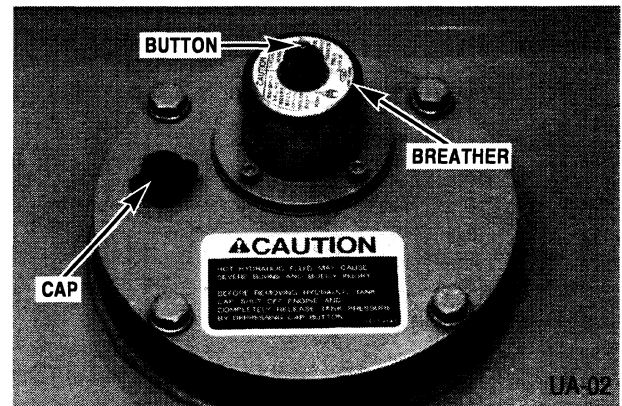
#### STEP 4

Operate the swing and attachments control levers back and forth, left and right ten times, to release hydraulic system pressure.

#### STEP 5

Turn the starter switch to the OFF position.

#### STEP 6



At the top of the hydraulic reservoir, remove the cap from the breather. Push down on the button to release the air pressure in the hydraulic reservoir. Install the cap on the breather.

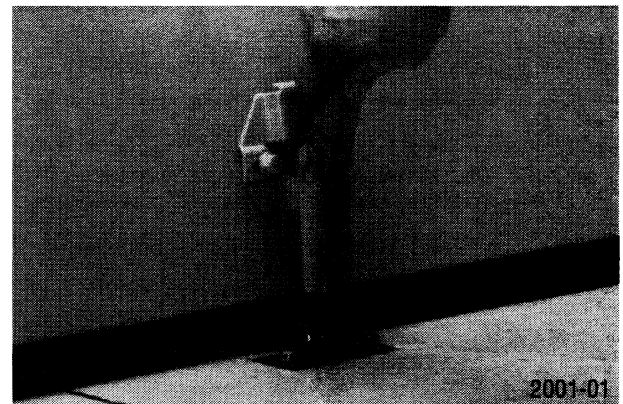
**WARNING:** Before doing any maintenance on the hydraulic system, make sure that all hydraulic pressure has been released by operating the control levers several times and the hydraulic reservoir air pressure has been released. Failure to do so could cause serious injury.

CSM120

#### STEP 7

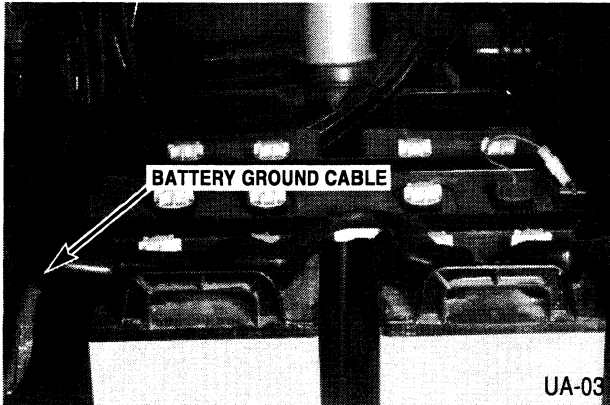
To prevent loss of hydraulic oil when disconnecting the hydraulic lines, connect a vacuum pump to the hydraulic reservoir. (See Section 8000.)

#### STEP 8



Raise the engine hood and lock in raised position. Open left side rear access door and lock in open position.

### STEP 9

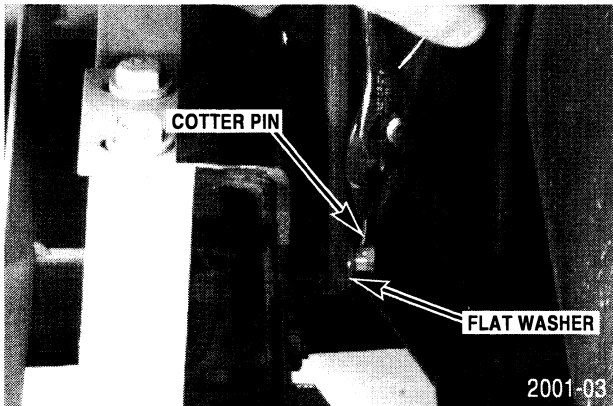


Open the left side front access door and lock in open position. Disconnect the battery ground (-) cable.

### STEP 10

Attach lifting straps to the hood.

### STEP 11



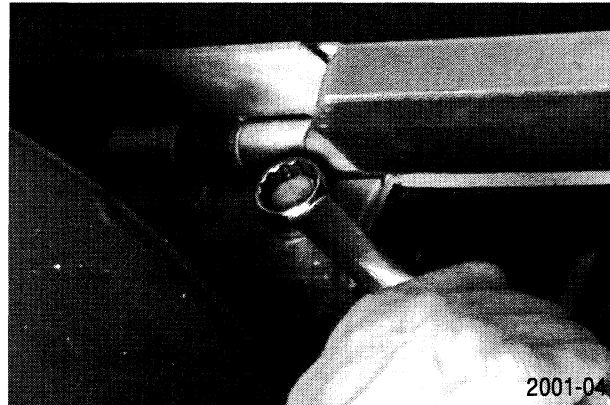
Remove the cotter pin and flat washer from the hood security side strut located in the right rear of the engine compartment.

### STEP 12

**NOTE:** *Two people are required for this step.*

With the hood held open, remove the hood security side strut.

### STEP 13

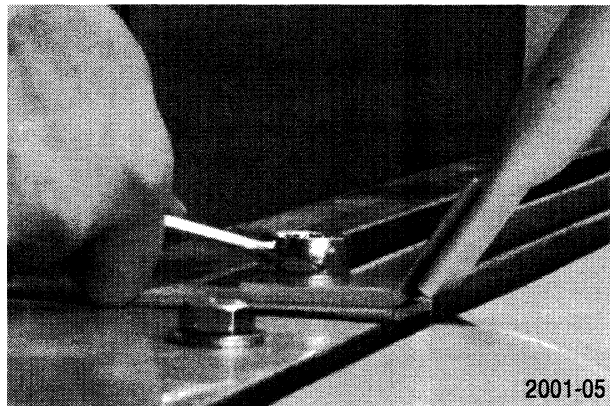


Remove the six cap screws and flat washers securing the hood hinges.

### STEP 14

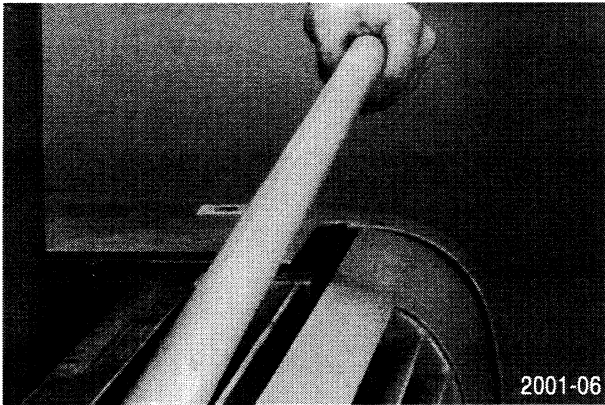
Remove the hood.

### STEP 15



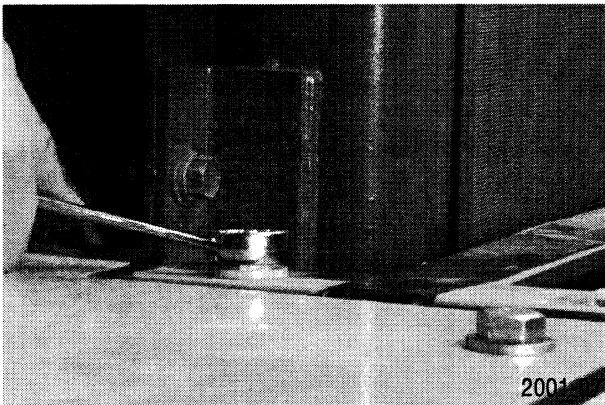
Remove the three cap screws and lock washers from the security hand rail.

**STEP 16**



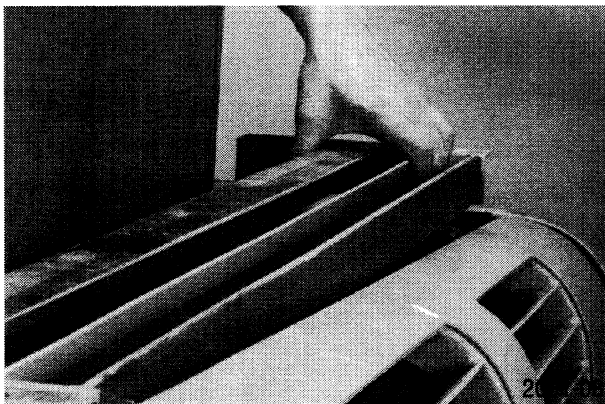
Remove the hand rail.

**STEP 17**



Remove the two cap screws and lock washers from the radiator/oil cooler compartment guard rail.

**STEP 18**



Remove the radiator/oil cooler compartment guard rail.

**STEP 19**

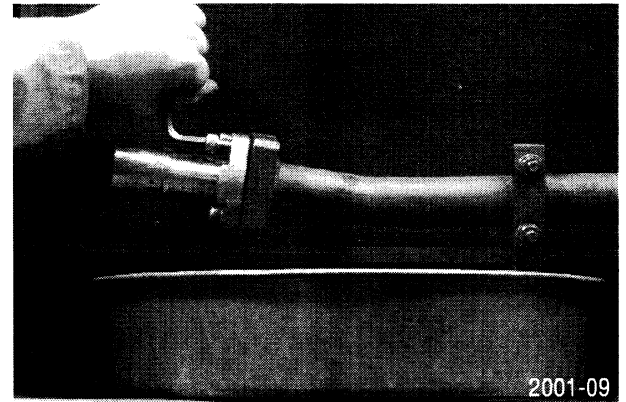
Establish a vacuum on the hydraulic system.

**NOTE:** Refer to Section 8000, *Cleaning and Flushing Hydraulic System*, for procedures to connect a vacuum pump to the hydraulic reservoir.

**STEP 20**

Place a drain pan beneath the hydraulic oil cooler connections.

**STEP 21**

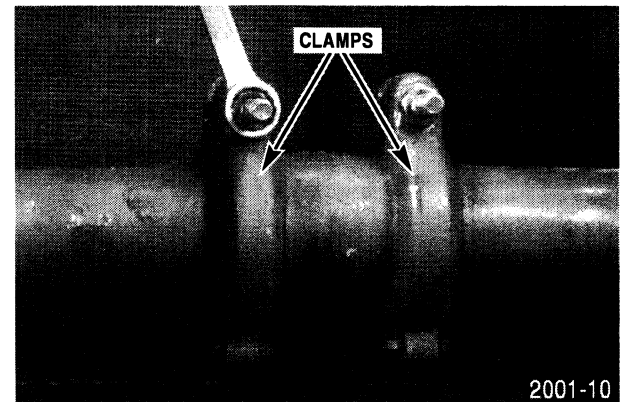


Remove the four socket head cap screws from each oil cooler hydraulic line connection. Discard O-rings.

**STEP 22**

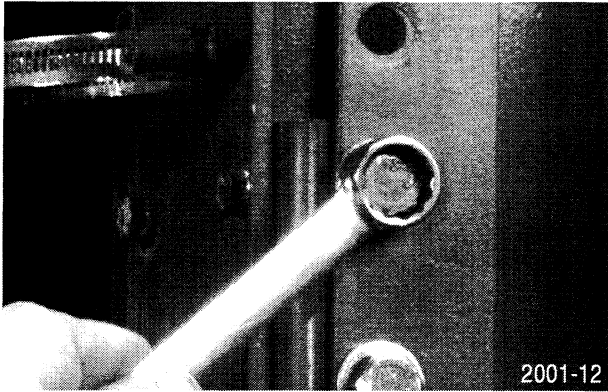
Install plugs in the disconnected hydraulic lines.

**STEP 23**



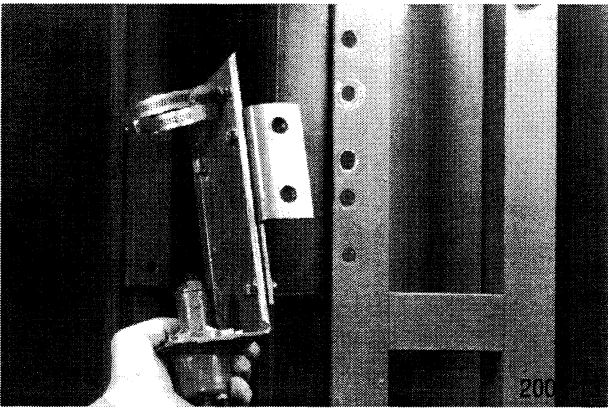
Separate the hydraulic line from the oil cooler by removing the two clamps that secure the line to the oil cooler elbow.

**STEP 24**



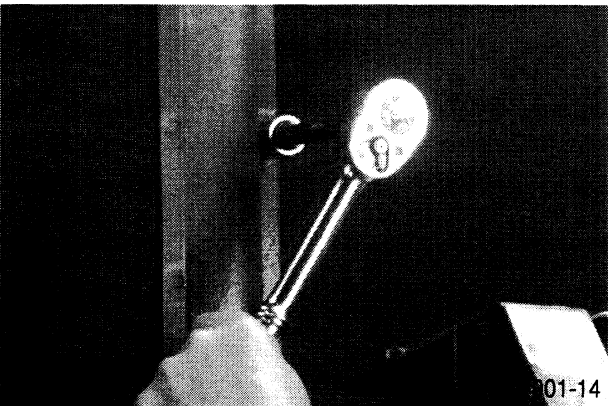
Remove the two cap screws and lock washers from the quick start bracket.

**STEP 25**



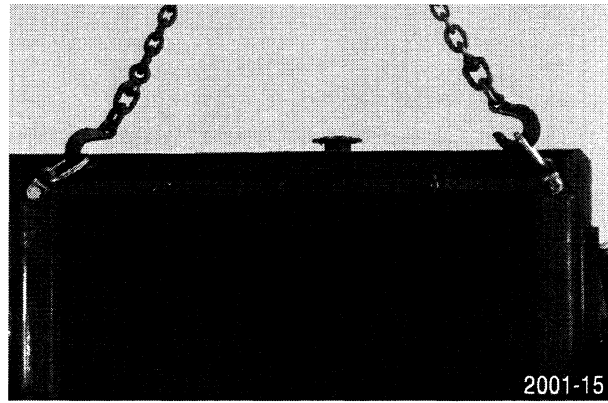
Remove the quick start bracket assembly.

**STEP 26**



Remove the five cap screws, lock washers and flat washers from the radiator/oil cooler frame (three cap screws in the rear, two in the front).

**STEP 27**

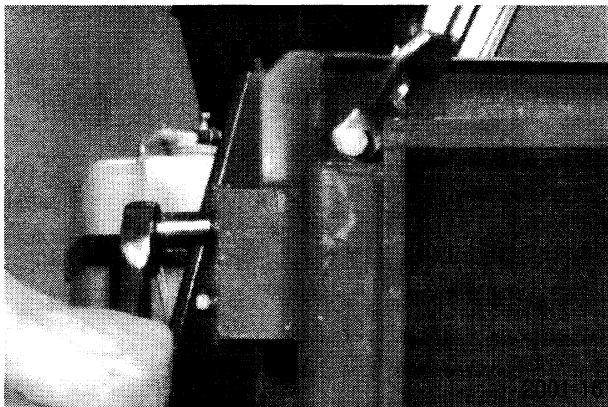


Install lifting eyes in the oil cooler tabs.

**STEP 28**

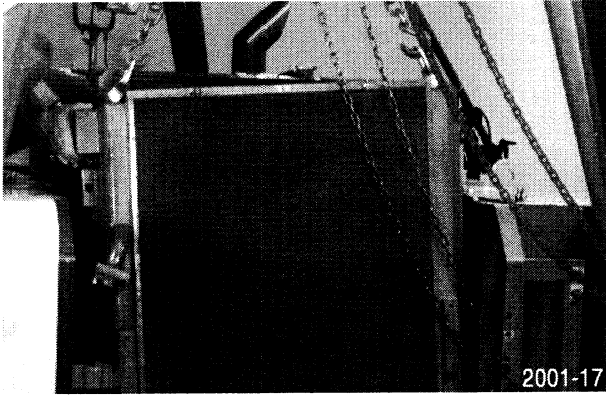
Attach and secure the lifting device (chain) to the oil cooler.

**STEP 29**



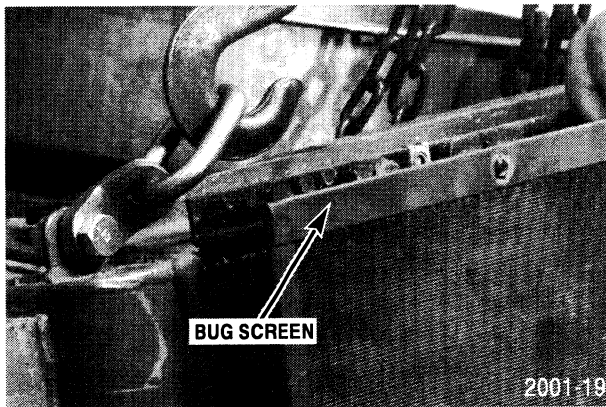
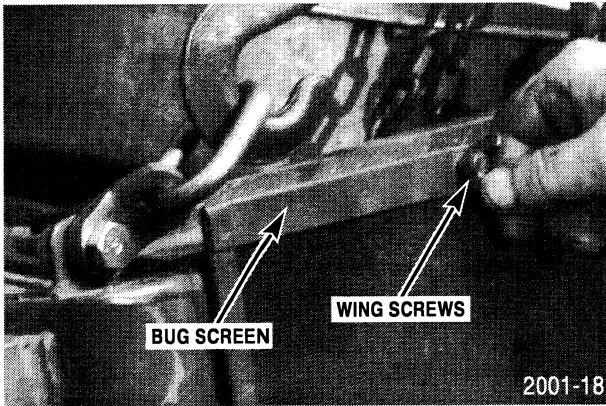
Remove the four cap screws, lock washers and flat washers from the oil cooler strap hinges.

**STEP 30**



Lift the oil cooler out of the compartment and swing it clear of the machine. Place the oil cooler on suitable supports.

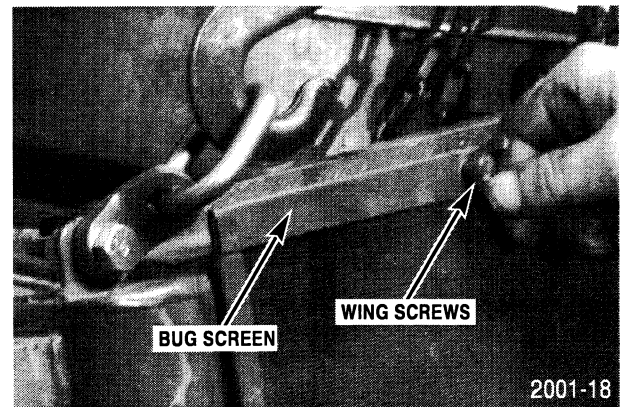
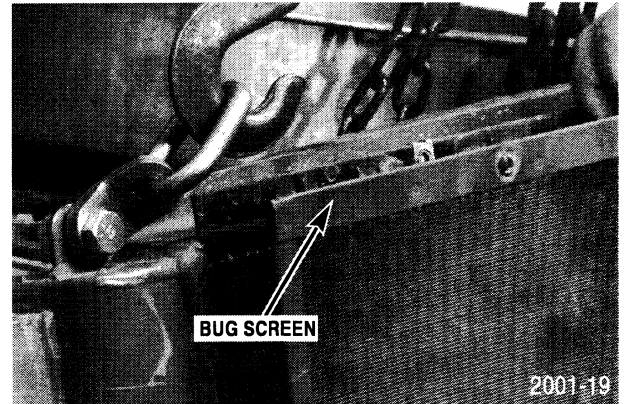
**STEP 31**



Remove the two wing screws from the oil cooler bug screen and lift the screen out.

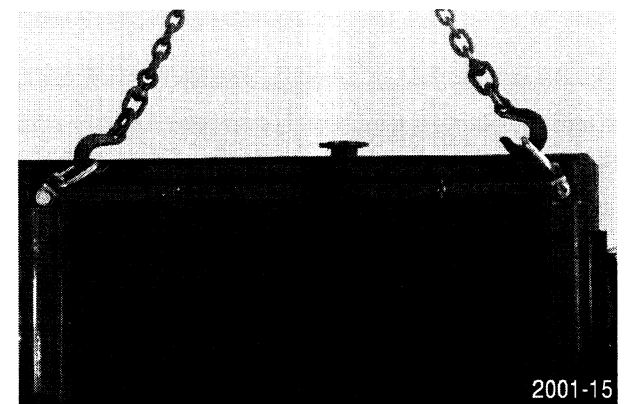
**Installation**

**STEP 1**



Place the oil cooler bug screen in position and install the two wing screws.

**STEP 2**



Install lifting eyes in the oil cooler tabs if not already installed. Attach and secure the lifting device (chain) to the eyes in the oil cooler tabs.



**Suggest:**

**If the above button click is invalid.**

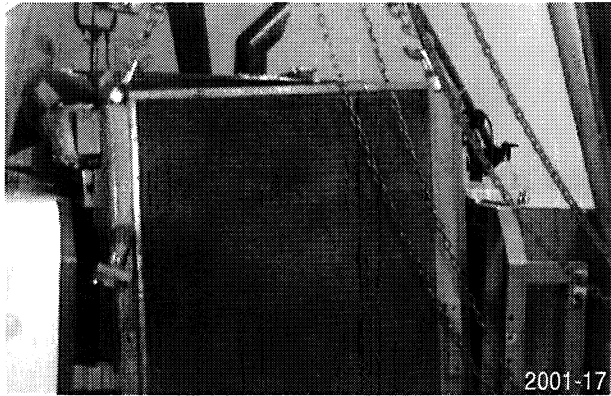
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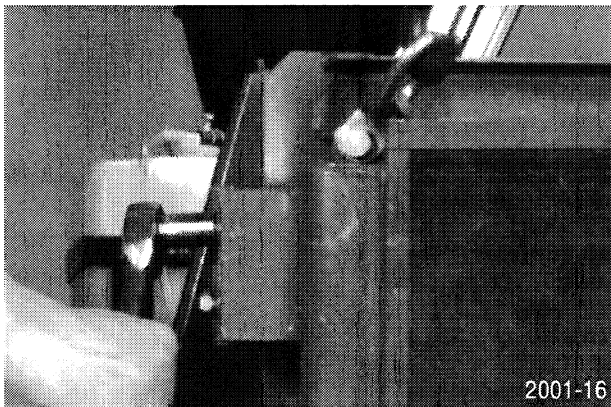
**Thank you so much for reading**

**STEP 3**



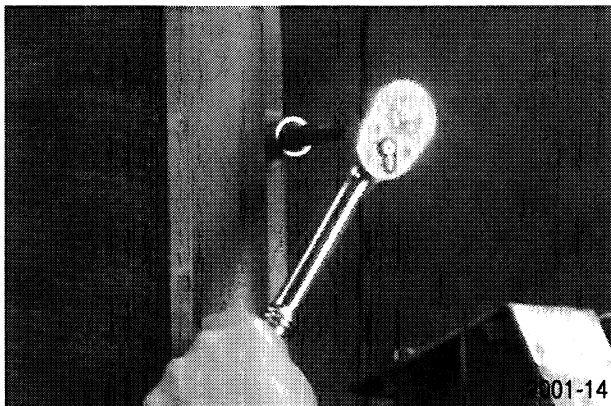
Raise the oil cooler and move into position in the oil cooler compartment. Lower the oil cooler into place in the oil cooler compartment.

**STEP 4**



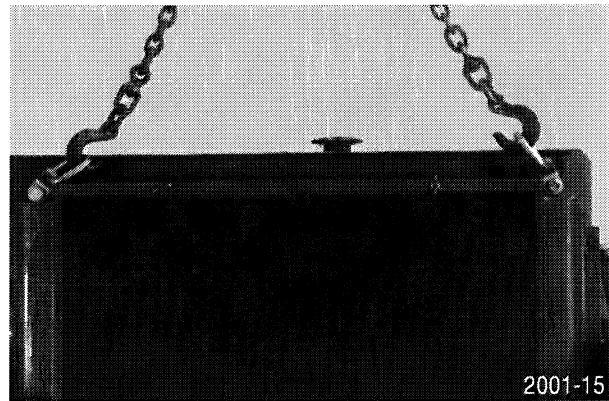
Install the four cap screws, lock washers and flat washers in the oil cooler strap hinges.

**STEP 5**



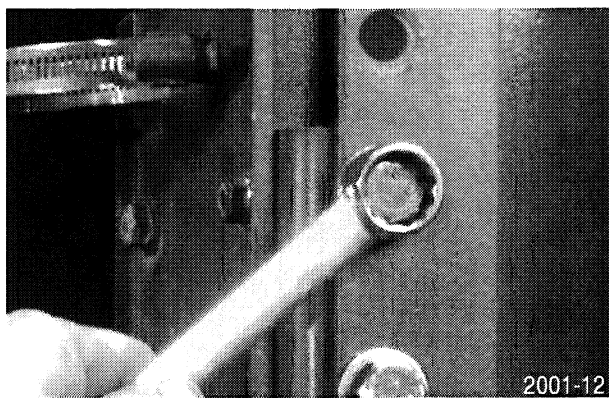
Install the five cap screws, lock washers and flat washers in the radiator/oil cooler frame (three cap screws in the rear, two in the front).

**STEP 6**



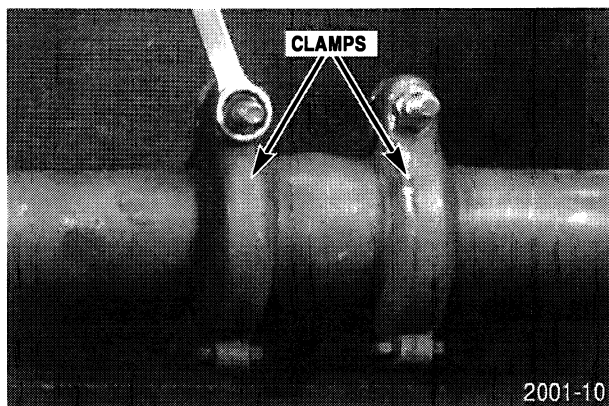
Remove the lifting device (chains) from the oil cooler. Remove the lifting eyes from the oil cooler tabs.

**STEP 7**



Position the quick start bracket and install with two cap screws and lock washers.

**STEP 8**



Attach the hydraulic line to the oil cooler by installing the two clamps on the oil cooler elbow.

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