

Detailing Model Trucks

PART VII

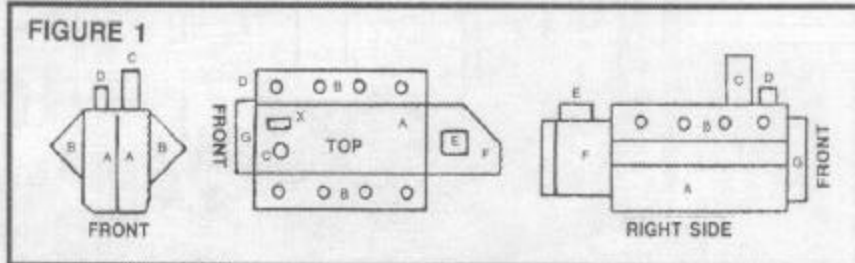
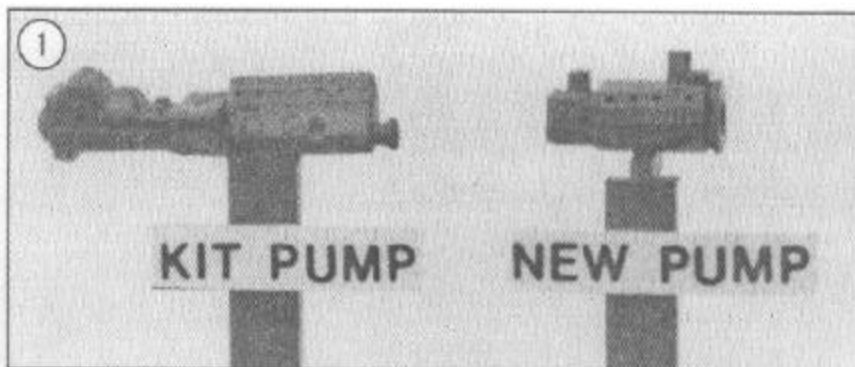
Detailing the 3208 Caterpillar diesel

by KEN SMITH

This time around, I chose to build and detail the 3208 Caterpillar diesel engine from AMT/Ertl's Ford LNT Snow Plow kit No.6635. Most of the parts in this kit are correct, but a few minor modifications were needed to make the engine more accurate in scale. For example, **Photo 1** shows the comparison between the kit-supplied fuel injection pump and the correct pump, which has to be scratchbuilt.

Fuel System. The building steps for the new fuel injection pump are as follows. Referring to **Figure 1**, cement two pieces of .080-inch x 3/16W-inch x 5/16L-inch plastic strips together to make AA. For B, cut a piece of 1/16 square plastic strip corner to corner 5/16-inch in length. Cement each B to each A as shown in **Figure 1**. Part C is a 1/16-inch x 1/8-inch piece of solid round plastic and D is 1/16-inch square plastic strip. Cement both C & D to the pump as shown.

For part F, use 1/8-inch square plastic



rod. The right side of F is 1/8-inch long and the left side is 3/16-inch in length. Part E is a piece of 1/16-inch square plastic strip, 1/16-inch long. Part G is a piece of 1/8-inch round plastic tubing, again 1/16-inch in length. Cement E, F and G to the pump as shown.

Now assemble the engine block halves, cylinder heads, exhaust manifolds, engine front cover, fuel filter, air compressor bracket, oil pan and starter according to the instruction sheet. Assemble only the listed parts.

Using **Photo 2** as a reference, cement the new fuel pump to the engine front cover as shown. Also cement the air intake manifold with the PCV valve as shown. The PCV valve must go to the left side of the engine because a fuel/water separator will be installed on the right side of the engine later.

To build an accurate scale 3208 Caterpillar engine, the Ford lettering should be removed from the valve covers. Use 600-grit sandpaper and remove all the lettering from the valve covers and then cement the covers to the cylinder heads.

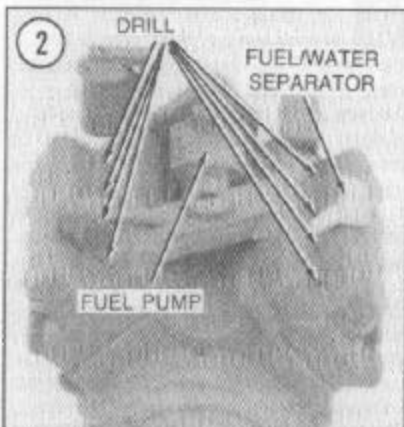
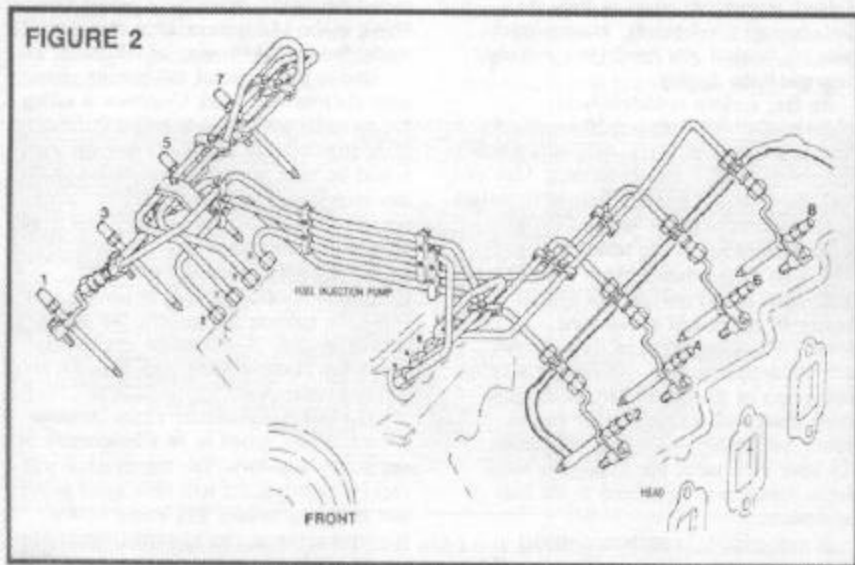
Refer to **Photo 2** and scratchbuild the

fuel/water separator shown mounted on the right cylinder head. Cut a piece of .010-inch plastic sheet 3/32-inch x 1/4-inch to be used as the mounting bracket for the separator. The bracket is cemented to the right cylinder head only, not to the valve cover. Make a slight bend in the bracket as shown.

The separator housing needs to be made from clear plastic. I used a spare front turn signal lens from an ERTL truck kit. The separator is 1/8-inch high x 3/32-inch wide x 1/8-inch long. Cement the separator to the mounting bracket and then cut a piece of .010-inch plastic sheet 1/8-inch x 3/32-inch and cement it to the back of the housing.

The final part to be scratchbuilt is a L-shaped bracket which is cemented to the rear inside corner of the right cylinder head. The bracket is .040-inch plastic sheet with 1/16-inch flats on the L-portions of the bracket. Fabricate and install it as shown in **Photo 3**.

Fuel System Installation. For the fuel injection lines, use 30 gauge wire. Refer to **Photo 2** and drill the engine cylinder heads and the fuel pump as shown. Next, install the fuel injection lines in the following sequence: 2, 6, 3, 1, 8, 4, 7, 5 (see **Photo 3** and **Figure 2**). This installation sequence insures proper routing and stacking of the fuel injection wire.



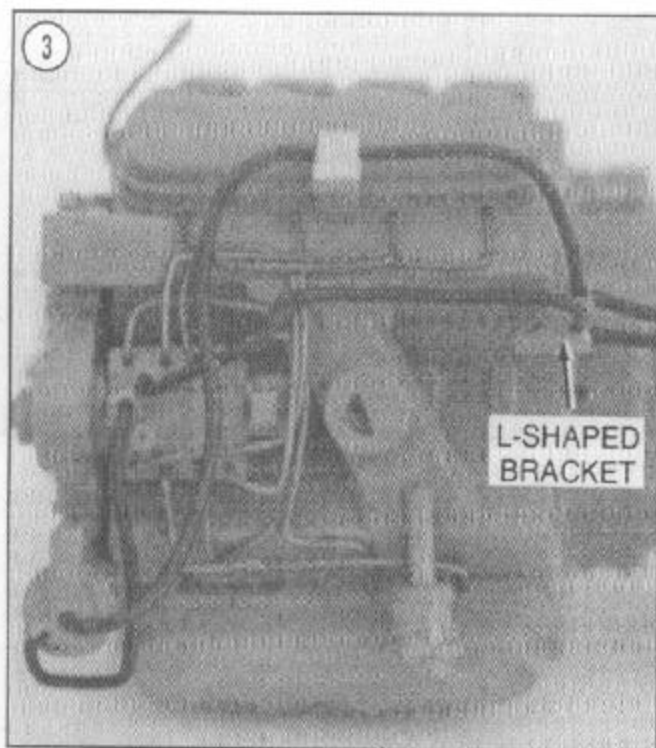
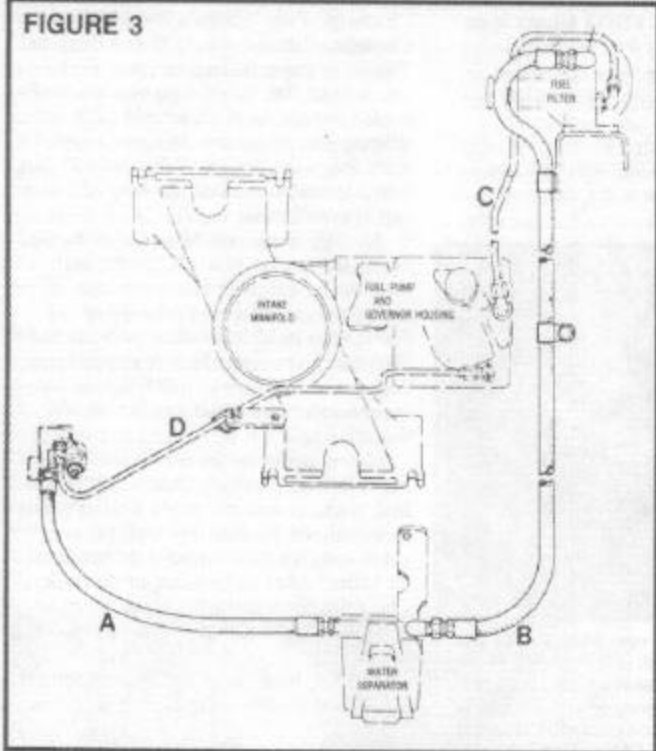


FIGURE 3

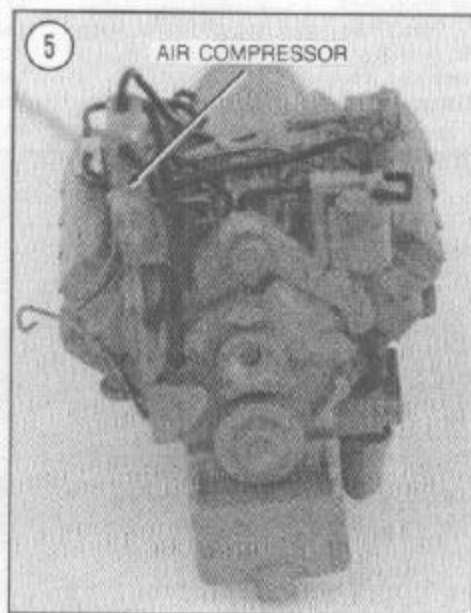
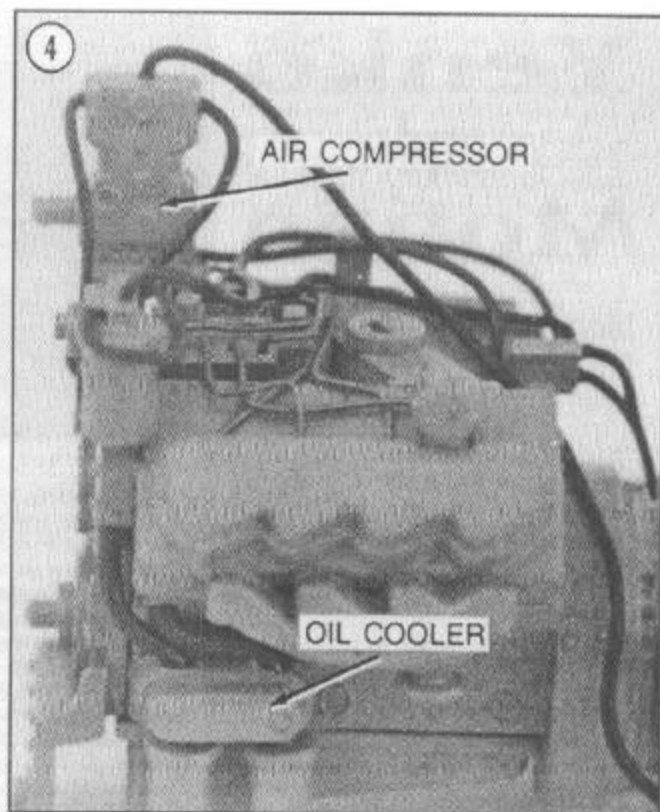


In Figure 3, Lines A and B are the main fuel supply lines to the separator and engine-mounted fuel filter. Line C goes from the fuel filter to the fuel pump. Line D is the fuel return line from the fuel pump to the L-shaped bracket. The two lines routed from the rear of the bracket go to the truck-mounted fuel tanks. The top line is the main fuel supply line from the fuel tank and the bottom line is the fuel return line.

Oil Lines. Refer to Photo 4 for the location and routing of the oil cooler lines. Using a 1/16-inch bit, drill the engine front cover, left front corner of the engine block (just below the cylinder head), and the top of

the oil cooler housing. Cement two 1/16-inch wires to the top of the oil cooler housing first, then cement the housing to the engine block per the instruction sheet. Trim and cement the two wires to the locations shown in Photo 4. Cement the two engine oil filters underneath the oil cooler.

Air Compressor. Refer to Photos 4 and 5. Using 22-gauge wire, route the compressor cooling lines and air line as shown. The line from the top rear of the compressor goes to the front center of the compressor bracket. The line from the top front of the compressor goes down to the front of the engine front cover as shown in Photo 5.



Make sure these two lines are tucked in close to the front of the engine so the fan belts will clear them. The line from the top center of the compressor goes to the truck-mounted air tanks.

Next, complete the engine by installing the remaining accessories: starter, fan belts, fan blade, etc.

On the right front corner of the engine block is a small molded-in circle. Install the engine oil dipstick in the center of the circle.

Painting. The 3208 Caterpillar engine can be painted gloss yellow, gloss white or gloss red.

Part 8 will concern scratchbuilding working lift cylinders and safety supports for cabover type trucks.