

MOTOR MOUNTS

ORIGINAL vs FLOAT-A-MOTOR

The question always arises as to which motor mounts provide the best vibration dampening for the Model A's four cylinder engine.

ORIGINAL MOTOR MOUNTS

The original Ford motor mounts were designed to cushion some of the engines vibrations by using rubber pads on both sides of the frame. See Figure 1.

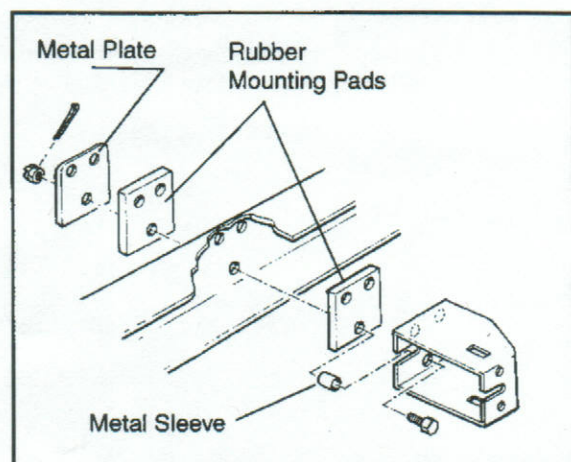


Figure 1. Original Motor Mount Assembly

The three mounting holes in the frame are much larger than the frame mounting bolts. Steel sleeves were inserted through the three frame holes and the two rubber pads on each side of the frame. The frame mounting bolts were then inserted from the inside of the motor mount, through the sleeves and the outside mounting plate. The sleeves stopped just short of protruding from the outside of the rubber pads. This allowed the mounting bolts to be tightened until the outside metal plate and the motor mount bottomed against the bolt sleeves. The nuts were tightened until the sleeves in the rubber pads bottomed against the motor mount on one side and the outside metal plate on the other side. This provided a full floating motor mount to the frame.

The reproduction rubber pads and metal sleeves that are being made today will not allow correct assembly for a full floating motor mount. The rubber pads are molded with a shoulder around the three holes. The intent was that the shoulders around the holes would push into the holes in the frame and hold the pads in place. Both rubber pads are made with this shoulder around the hole. The problem is:

- The holes in the frame are only thick enough to accommodate a shoulder from one rubber pad.
- The holes in the rubber pad, along with the shoulder, are too small to accept the steel sleeves.
- The holes and rubber shoulders on the rubber pads are way out of alignment with the holes in the frame.

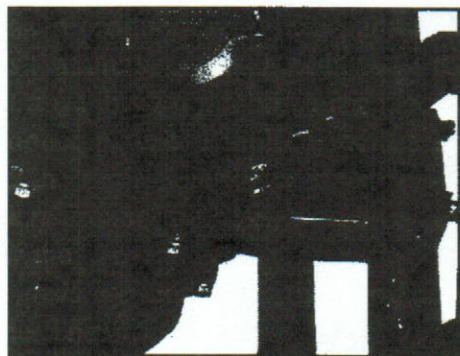


Figure 2. Original Motor Mount Installed

To make use of the rubber pads, the shoulder must be cut off both pads. The holes must be enlarged and repositioned to accept the steel sleeve. The bottom angle on the inside rubber pad must also be removed to allow the bolt holes in the rubber pad to align with the frame. The steel sleeves are made too long to allow the motor mount and outside metal plate to be tightened correctly against the rubber pads.

If the steel sleeves are omitted, it's not possible to get the correct floating action from the motor mounts.

With a lot of careful rework of the reproduction rubber pads and steel sleeves, fairly good results can be obtained with the installation of original motor mount kits. Ford's design on the original cars worked very well. Over the years, the rubber in these motor mounts has hardened and provide no more absorption of engine vibrations. These rubber components should be changed every 5 years.

FLOAT-A-MOTOR MOUNTS

The Float-A-Motor mounts are an after market product. They are a simple installation and use two rubber cushions to absorb engine vibrations. They require no rubber pad between the mounting bracket and frame. The rubber pad on the outside of the frame is used only for spacing and original look from the outside of the frame.

The only caution to be observed when mounting Float-A-Motors is the adjustment on the center bolt to bring the engine to the correct height. Referring to Figure 2, we can see that the original motor mount bracket is mounted directly under the top frame rail. Because the top of the motor mount is a flat plate, the lip on the flywheel housing that sits on the motor mount is at the same height. Most Float-A-Motor installations leave the

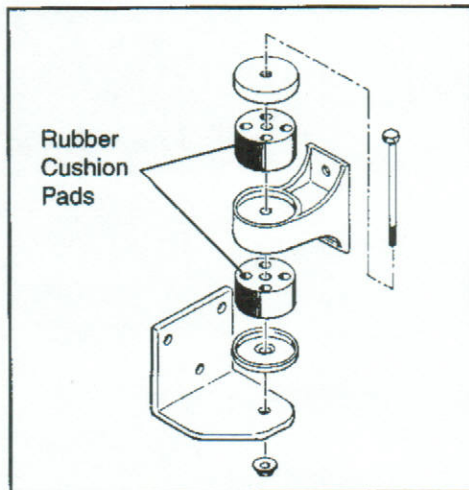


Figure 3. Float-A-Motor Assembly

rear of the engine sitting too high. It's important that the drive line be in straight alignment from the front of the engine to the differential. The entire drive line, including the engine, should be sitting at a 3 degree angle, slanted down at the rear. The front and rear motor mounts determine that angle and positioning. When replacing the stock motor mounts, the rear of the engine must be checked and adjusted to proper height.

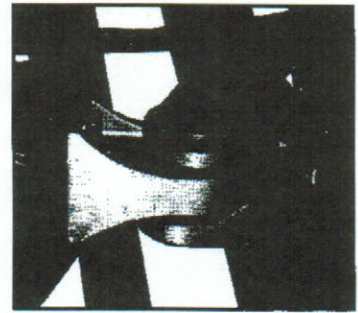


Figure 4.
Float-A-Motor Installed

Position the car on a level driveway or garage floor. Measure the distance from under the frame top rail (original motor mount position) to the ground. Then measure the distance from under the mounting lip on the flywheel housing to the ground. Tighten down on the Float-A-Motor center bolt to lower the engine (flywheel housing) to the same measurement as taken at the frame rail.

You are defeating the vibration absorption factor if you have to squeeze the rubber cushions down more than 1/8 inch. We have found that it usually requires cutting about 1/16" or more from the bottom cushion to bring the engine down to the correct height, without too much squeeze on the cushions. When the rear of the engine is too high, it also affects the front end caster.

COMPARATIVE RESULTS

Replacing the rubber pads in the original motor mounts usually requires the use of a special frame spreader (available from AC&R Products, Redding, CA.) to provide enough room to allow the engine and flywheel housing to fit between the two rear motor mounts. When the motor mounts with new rubber have been attached to the frame correctly, the results are excellent. Engine vibrations are at a minimum, providing the engine has been correctly balanced.

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Very good results have also been obtained when installing Float-A-Motor rear motor mounts. The biggest advantage we noticed with the Float-A-Motor mounts was the ease of removing and installing an engine for maintenance, or replacement of the rubber cushions. The engine is removed and reinstalled with much more ease with Float-A-Motor mounts installed.

When the two styles of motor mounts are installed correctly, it is difficult to determine any difference in engine vibration characteristics.

FRONT MOTOR MOUNTS

Tests have been conducted using several types of front motor mounts. The worst results were experienced using the 1932 style front motor mount (Figure 5). The results were the same when installed on 4 different Model A's. Vibrations increased significantly. It's believed the mounting is too rigid, even though it mounts on rubber cushions similar to the Float-A-Motor rear mounts.

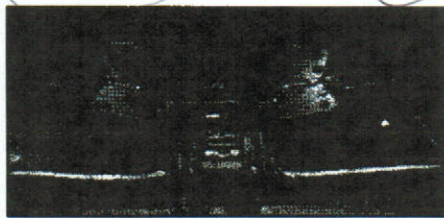


Figure 5. 1932 Style Front Motor Mount

After testing several spring-type front motor mounts, it was determined that the original style front motor mount with the two small independent coil springs provided the best suspension and reduced vibrations. See Figure 6.

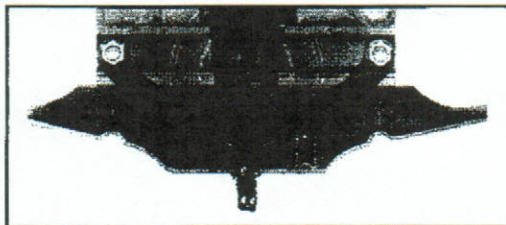
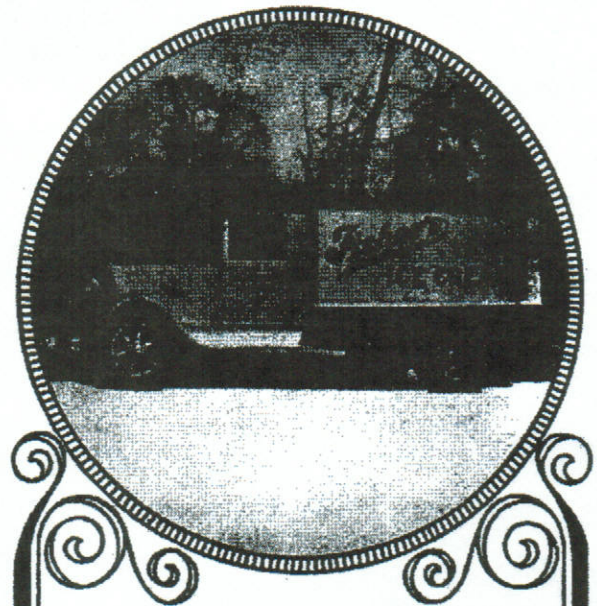


Figure 6. Original Front Motor Mount



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