

ISOLATION PAD REPLACEMENT

by John Shotwell

Our '78 Royale rode like a truck when we got it, but we didn't know any better - until we learned about the "ISOLATION PADS". So we set about replacing (or should I say 'adding') the pads between the coach's frame and its body. In investigating our problem, we thought there were three different areas to consider (at least on our '78):

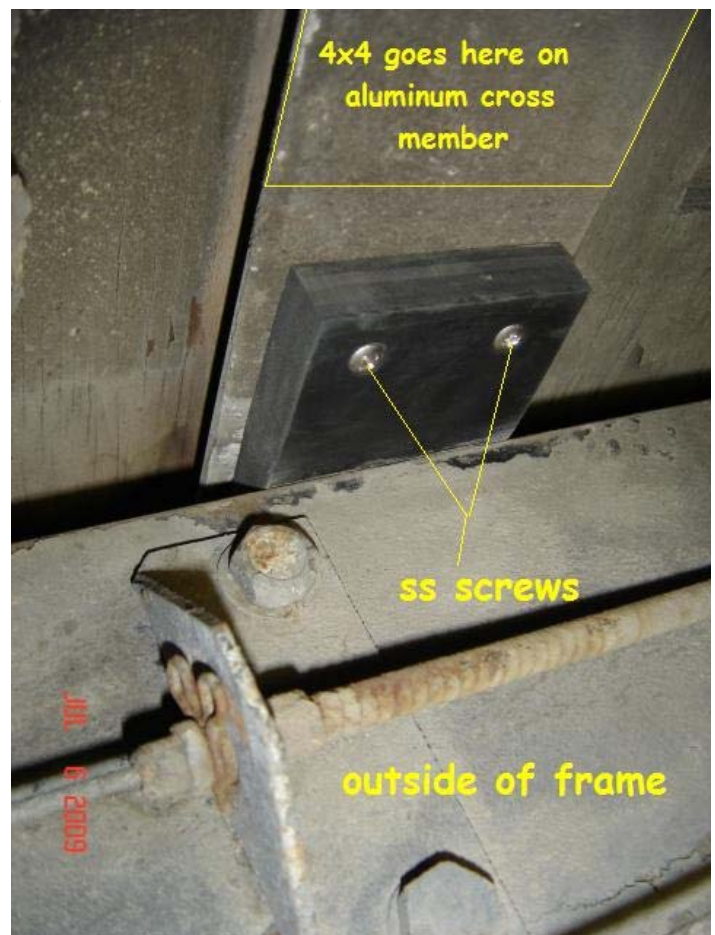
1. The pads between the body and frame rails, about 10 down each side;
2. The four pads, two on each side of the frame, sandwiched between what I call a 'U' bracket (secured to, and hanging from, the body) and an upside down 'J' bracket (that's bolted to the frame);
3. And the four 'donut assemblies', one at each corner of the coach.

Our '78 had individual pads on the frame rails from the factory - the earlier coaches had a long strip of 'padding' down each side. The '78's pads were about 1/4" thick; some of the coach's had thicker, but individual, pads depending on the year.

1. The consensus seemed to be to replace the '78 pads with the thicker (about 5/8") replacement pads. We got ours from Bert & Faye Curtis. Their set included the four thinner pads used in #2 above. Some of the other available sets do not (but maybe do as of this writing). I guess the advantage to using the thicker pads is increased engine hatch clearance, increased area between the frame and body for wires, tubes, etc., and, more padding just gives a nicer, quieter ride.

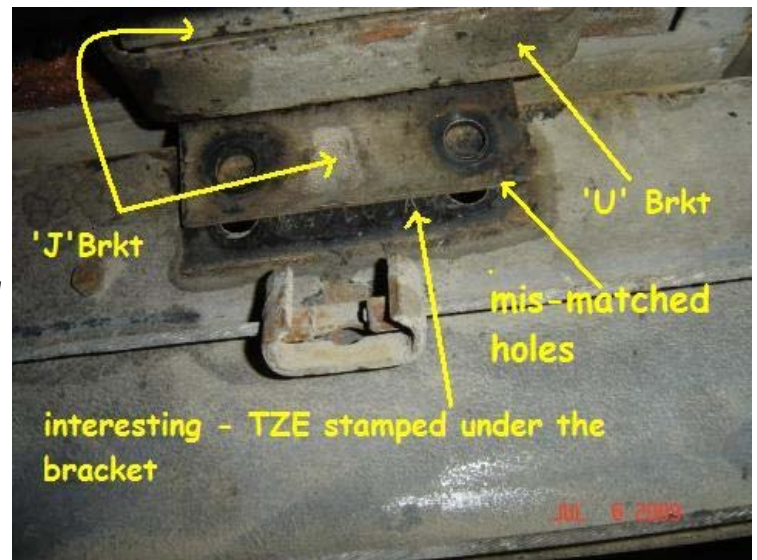
When we started to do ours, we only had FOUR of the original pads (of the 20) between the body and frame - all the rest were long gone.

To install the 20 side pads, I took a 6" piece of 4x4, stood it on end, and starting at one end of the coach, put it right on each aluminum 'cross strap', as far out as I could on the body - so one edge of the vertical 4x4 was touching the body where it curves down - sort of right behind the 'rocker panel', if you will (pic). I then put a bottle jack on the bottom end of the 4x4, and slowly lifted the body until I could slide a new pad between it and the frame. I then secured each pad with two SS #10 screws through the pad into the aluminum strap. I figured if the 'glue' GM used didn't last, new glue wasn't going to either. Then I did the next one down that same side until that side was done.



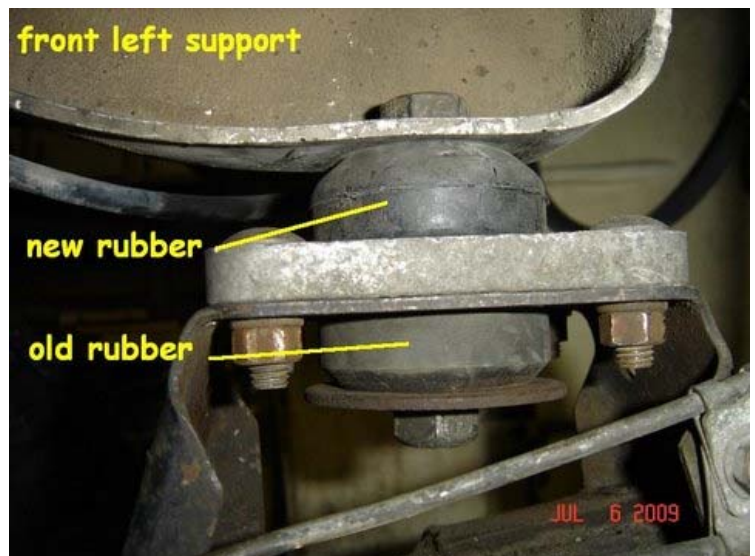
2. So, now you're asking 'but didn't the four 'U & J' brackets on the sides of the coach have to be loose to be able to separate the body and frame?'. Yes, but that is where I ran into trouble. After I had Kroil'ed the &*%\$ out of the 'U' bracket bolt nuts for over a week, the bolts still turned, even with the jack and 4x4 providing an upward force on the body. Because we have a center kitchen, one set of 'U' bracket bolts was under the refrig - I wasn't about to pull that out. So instead, I unbolted the four upside down 'J' brackets from the frame rail, and slid them out, leaving the 'U' bracket still attached to the body. That way, I didn't have to mess with the coach interior at all.

As you can see from the pics, after the body was on all of the new side pads, and the four new, thinner pads (in the Curtis' set) were in place between the 'U' and 'J' brackets, the 'J' bracket holes no longer lined up with the old matching holes in the frame rail. So, I could either try to elongate the frame holes, or I could have four new 'J' brackets made at a local welding shop, but with an inch longer part that mounted against the frame rail. That's what I did. Cost me \$30. I then slipped the new 'J' bracket in place in the 'U' bracket, with its new pad in place, marked the frame holes, and drilled matching holes in the new bracket. That solved that.



3. I also thought I should loosen the four corner assemblies that hold the 'donut' mounts. Herein lies what I disagreed with what some others were saying. I couldn't understand that if you lifted the body enough for the new, thicker pads, why wouldn't you have to lift the four corners also. What? Is the body or frame just going to 'bend' to take up the increased space? I didn't think so. Maybe it's not a big deal, but I didn't like it (end of rant).

One of the attached pics shows how the 'donut' and sub-mount is attached to the body. It has a large bolt through the center of the whole assembly. That bolt has to come out. Because we have the two side 'couches' in the rear that face each other (and their backs fold into the middle space



to form a bed), we were able to access the large bolt head of each of the two rear 'donut' assemblies; my wife held a socket with a breaker bar on the head, inside the coach, and I took the nut off. The bolt heads were there in plain sight, just above where the tail end starts to curve under.

I then took out the four carriage head bolts securing the aluminum 'sub-mount' plate to the body. Each CH bolt is splined under the head and that keeps the bolt from turning in the aluminum plate. Just take the four nuts off the bolts and you can finagle the whole thing out of the coach.

The other pics should be self-explanatory. One shows the box of parts I got from Auto-Zone. You need four boxes because one box only has the one rubber part you use for the 'donut' thing. You might find them cheaper somewhere else. The thickness of the new (top) rubber is about 3/8" more than the old (top) rubber, so that takes up the new gap that is formed by using the thicker pads along the body sides (original pads = 1/4"; new pads = 5/8"; difference of 3/8"). I left the old (bottom) rubber piece (in the original 'donut' assembly; looks like a hockey puck) in place as it doesn't have any body weight on it; it just acts as a 'rebound' rubber piece, I think.



NOTE: If you go this route with the four corner 'donut' assemblies, a bit of info. There's a metal tube spacer that the BIG center bolt (15/16" head, and mentioned above) goes through in the old 'donut' mount (you can't see the tube until you take the mount apart) because it's part of (molded into) the upper 'donut', the one I replaced with the part from AZ. So I just cut a piece of 1/2" water pipe to the new length and added it to the new rubber 'donut'. It's one of those "you have to be there" things.

The other item you have to consider during this exercise is the entrance door step. If you have one, especially a Ragusa, you must loosen the holding bolts, or you could crack the step castings.



This all sounds rather confusing, but I hope it answers some of the questions. The difference in ride and noise level, squeaks, etc. was amazing - to me, well worth the effort. If you need more explanations or pics, please let me know. And I'd really like to see how some of our suppliers do a pad replacement job in a couple of hours. But then, they have to make money, I don't. This took me two days to do ours, but then again, I usually like to do things my way :-)

We have a pit in our building - but it only helped with seeing the new pads from underneath after they were in place. I did all of the installations while laying on the floor under the side or the end of the coach, or in the wheel well, not in the pit. This is just the way we did ours; maybe it will help you with yours.

John

