

## **Jim Bounds of the Co-op talks about what's involved when they rebuild an engine.**

On Tuesday, 16 May 2006, an email on the GMC Listserv posed the following question.

Moonliner wrote: My theory was that it might be better to buy an old coach at a bargain price with a bad or worn out engine, drop the new engine in it sit would be useable and reliable <math>\diamond</math> Somehow, I think the cost of the engine would be the beginning of a long list of items that would need rework at the same time. Is the stock transmission rebuild the only option for the GMC?

Jim Bounds replied with the following text.

Hey guys, just Emailed someone this exact thing, here is the post about what it takes to install a professional motor in the GMC.

Of course there are other things you will need and please do not think of them as "extras"; they are important and needed. I will bring up as many as I can put down here:

- ◆ First you will need at a minimum a new oil pan. The Toronado pans are deeper and much different than the regular pans and thus are sought after for us as well as performance racers, it hold one quart more than other pans. An oil pan by itself is \$150. If the rest of the motor is OK upon breakdown, great—if not a long block is \$500. This is extremely cheap, I did this to keep the coaches on the road. Most people want \$1,000 and more for a good core. I offer to buy motors for \$400 and sell them for \$500—that is a 20% mark up, far less than most people would want for a reasonably rare motor.
- ◆ Next the radiator must be checked out. I mean the old motor died but was there a cause? You cannot expect to warrant any new motor if everything in the system is not checked. If there is any corrosion or anything with the radiator or if the previous owner cannot give a recent history of the radiator—it must be changed. If not, all bets are off on the motor. There are heat tabs on the motor and overheating is a major cause of motor failure. A radiator re-core here is \$400. I do not know what labor costs will be for the R&R, we charge 3-5 hours for the job.

Belts, hoses and clamps are suspect. If there is wear or damage, they must be replaced. All of this stuff must work along with a good motor, one failure means a complete failure. Everything could be fine, without seeing the coach, there is no telling.

Bolt-ons must be checked and replaced. A new water pump must be installed. No, the water pump is not on the long block when it comes in. I use only new Delco water pumps, you can specify something special if you like but I do not use "rebuilt" pumps, they are not reliable. The long block will come with a high volume oil pump but a Molodon, bolt-on, high-volume oil pick up tube will be installed before the oil pan is installed. This costs about \$40. The intake manifold does not come with the long block. We sand blast, inspect, then fill the exhaust crossover of the original intake with zinc alloy—this process usually runs about \$300. A Mr. Gasket 404 fiber intake gasket set is added (~\$19) to set in the intake. A "turkey tray" is not used. The oil pan, intake and valve covers will be mounted to the long block by the installer, this will have a 3-5 hour labor charge.

- ◆ Oil cooler and transmission line hoses are usually replaced. If they are new, fine but they must be reliable—one failure is catastrophic.
- ◆ Stuff like alternator, PS pump, AC compressor, fan clutch, etc. are also additional. We clean up, check then paint the pulleys and brackets as well. Work doing that usually runs 2-4 hours.
- ◆ The number one reason for motor failure is the carb., if it pukes fuel to the cylinders, it passes the rings, contaminates the oil and the lubricity is gone. If the carb looks old at all and usually even if it looks good, we have it remanufactured. We have a service for that, Dick Patterson does a great job too so that will need to be addressed, this usually runs about \$250 or so.
- ◆ The distributor is a delicate component and must be checked over, if spark control and advance is not working well—the performance will be off and can hurt the motor. Again, I rely on Dick Patterson for a totally reworked distributor and plug wire set up. This usually runs about \$350, call him.
- ◆ If the original motor had original exhaust manifolds, we usually change over to headers. The headers are \$390 plus shipping for the set, there will also be a charge for welding the collectors to the pipes of ~ \$90. If you insist on running manifolds, that's fine, the better gaskets we use run \$23. You would probably at least want them sand blasted, magnafluxed for cracks and decked. You will usually have ~ \$100 in all of that.
- ◆ The transmission will be on the ground the way we do it so if you do not know the condition or age of it, you must at least consider doing something to it. You are going to subject it to a fresh high torque motor and nothing happens until the transmission puts the power to the ground. We sell a transmission custom rebuilt for \$950 plus \$145 for an Allison styled torque converter. There will be a charge for swapping the differential to the new transmission of @ 2 hours.

Stuff like spark plugs (we use Delco RapidFire #7), fluids, diff to trans gasket, maybe motor mounts, if they are trash, and other things will be itemized on the invoice. So, you see \$4,000 for the long block is the start of a total complete repower. Actually, we will be forced to raise the \$4000 to \$4500 soon because of new issues we are addressing in the motor but I think we will still be able to be at \$4000 on yours. We charge 30 hours R&R for the motor and transmission so with all of the above my best guess is about \$7,000-\$7,500 here for the whole thing. Our labor rate here is \$75 per hour, I do not know what the labor rate is in Denver.

This is the real picture of what it takes to do a real motor replacement and do it right. There is no way someone can say forget considering the radiator, carb or anything else and warrant a motor. Usually, it is not the motor that fails if it is built properly, it is something bolted to it or something that is missed in the installation. It all works together to make it all work well. A motor replacement such as this should give you years of good reliable service, anything less cannot. There are cheaper ways to go, but ask most people, and they will tell you sometimes “cheaper” can get very expensive. After this motor is properly installed and documented stable, it will be covered nationwide for one year parts on the long block and 6 month for labor to repair anything having to do with the long block with unlimited mileage. For you that's great, you can have all of this done in Denver, fly out to pick it up and put it through the paces all the way home. If

anything comes out of the shakedown, there will be a Jasper dealer in NC we can turn to for a check out. This is the beauty of this program, you would not have to drive or tow the coach back to Denver—isn't that nice!

Turn around is @ 15 working days for Jasper to build my motor, a couple of days shipping and whatever time it takes for the R&R. If you want to do this, I ask for a \$4,000 initial draw to get the ball rolling.

If you have never been involved with a real motor repower before, all of this may be a bit overwhelming. But, please sit for a couple of minutes and add up all that is involved and you will see these are real numbers and this is a real picture of what it takes. I welcome you to compare these numbers to any other way to rebuild, professionally ,a motor for high torque at a low RPM with a meaningful warranty and installed properly.

You will find this a very good deal. We have 11 motors on the road with 0 failures. We have four currently in process with two being installed in the field as yours will be away from my Florida shop.

I feel this is the centerpiece in the program, you do not need to drag your coach to me and waste all of that tow money to get a specialized motor for your GMC. You're on the net and you have heard of the nightmares from people with car motors installed by people who really did not know the coach and what it takes to really install this motor properly. Larry has found a dealer about 50 miles from town with first-hand knowledge in working with the GMC. We are most fortunate in finding them and I will be talking with them today to see about getting them certified to install these motors.

This is a big deal, a very important and needed service for the GMC community. 33% more torque than a stock motor, comparable specs. to a fuel injected 454, these are very difficult things to build into a motor. Chuck Botts has independently proven we can do this—I do not say this, others do so I guess its all up to what you want. Please give me a call after you digest this and let me know if this is what you want for your coach and I'll pull the trigger and get things going.

Thanks and I'll talk to you then,

Jim Bounds

**DISCLAIMER:**

Information presented by GMCES is intended only to communicate thoughts, ideas, opinions and procedures to and from GMC owners; there is no attempt to replace or supersede recommendations from General Motors Corporation or any other component manufacturer. All opinions expressed are those of the authors and not GMCES. Mention of any product does not constitute endorsement by GMCES. Neither the authors nor GMC Eastern States assume any responsibility for what you choose to do to your coach.