Starting an Engine That Has Been Sitting for an Extended Period

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The following is just my humble opinion. I offer this FYI. Your milage may vary.

Over the last 15 yrs I have seen a number of people get into GMCing buying a GMC that has been sitting for a number of years. In several of those cases, they were able to get the GMC started, put it in gear and drove it home. Sometimes they didn't make it when the engine went bad. Sometimes they made it home, but within a short number of miles the engine went bad. I have a theory about engines that go bad after sitting for an extended period of time.

Gravity is an idle engine's worst enemy. Over long periods of idle time, gravity will pull oil off of everything that needs lubricant, into the pan leaving bearing surfaces, cam lobes and cylinder walls dry. So, when a person pulls the air cleaner off and squirts a little gas or starter fluid down the carb, and the engine starts right away, it may run for... who knows how long before oil can get to those surfaces. No oil and there is immediate metal to metal contact and excessive wear that takes place during the first few minutes of operation. Then it is only a matter of a short time before you have cylinder wall scoring, cam lobe and lifter scoring and rod and main bearing scoring. The rod and main bearing being the most critical, because that can leave you on the side of the road within a couple of hundred miles.

May I suggest the following to reduce or eliminate the inevitable. If the engine has not been running for extended periods, do the following.

Do not start or try to start or even turn the engine over without first doing this procedure.

- Drain and replace oil in the oil pan and oil cooler.
- Replace the oil filter, filling the oil filter with oil before spinning it on.
- Refill with 5w30 or 5w40 of your choice. (the 5 weight will flow to bearing surfaces quicker)
- Pull all spark plugs out and put a couple of squirts of the same oil into each cylinder.
- Leave the plugs out for now.
- Turn engine over by hand to line up timing marks with #1 cylinder at TDC compression.
- Pull the distributor out making note of where the rotor is pointing with engine at TDC compression and which way the rotor turns.
- Mark the distributor body location, remover the cap and mark the rotor so it can be removed and replaced.
- Pull both valve covers off.
- If the coach has A/C, getting the right side cylinder valve cover off may not be practical so you may have to skip this.
- Using an extender/adaptor where the distributor was, drive the oil pump with an electric drill until you can see oil coming out of the rocker arms....ALL OF THEM. On the Oldsmobile engine, drive the oil pump in the counterclockwise direction or same direction as the distributor normally turns. (drill in reverse) On the Cadillac engine drive the oil pump in the clockwise direction.
- Now you have fresh oil to all bearing surfaces.
- Using a squirt can, oil down the valve train on the heads and put the valve covers back on.
- Turn the engine over with the starter, with the plugs out, only long enough, until you can see oil pressure at the gauge. As soon as the gauge needle starts to move, stop turning over.
- Now you have oil on the cylinder walls. All that is left is oil to the cam lobes. To get oil to the cam, you must start the engine.
- Always manually turn an engine though a full cycle before attempting to start it. In our case, that means put a socket on the crankshaft bolt and pull the engine through two full turns.
- This is important because if there is a valve stuck or corrosion on a cylinder wall (both are very common problems), you will feel it and (hopefully) stop before any additional damage is done. If a valve is stuck open and a piston strikes it, the valve will need to be replaced and the piston may be damaged. If there is corrosion in a bore and the piston can be backed off it, often that bore can be cleaned up enough to remove the piston without damage to it.
- Turn engine over by hand and line up timing marks with #1 at TDC compression.
- Drop the distributor in with rotor pointed as noted earlier.
- Put plugs back in.
- Put the cap back on and put plug wires to proper cylinder (1,8,4,3,6,5,7,2) accept for the Cadillac engine. Which is 1,5,6,3,4,2,7,8.)
- Prepare to start the engine.
- Confirm that there is gas in the carb, and that there is spark, and you are at TDC compression.
- Squirt a little fuel down the carb primaries, put the air cleaner back on incase of a backfire.
- Turn the engine over to start and bring to 2000 RPM immediately.
- Run at 2000 RPM for a minimum of one minute to lube the cam and lifters. At 2k RPM, the rods will be throwing lots of oil on the cylinders and camshaft.
- There will be lots of smoke out the tail pipe from the oil you squirted into the cylinders earlier.
- Set the timing to factory specs.
- Now you can check all other things, like brakes, antifreeze, transmission fluid... etc...etc. and other essentials before you drive it home.

This procedure should significantly reduce the amount of start-up wear on long sitting engines, leading to normal engine life, taking you many trouble free miles.