

Parts Cleaning and when NOT to use a Bead Blaster.

When working on our old Model A Fords, often a lot of time is spent cleaning the parts after a component has been disassembled for repair or restoration. When doing engine work in the “Old Days”, we would use solvents such as kerosene or even gasoline (which is absolutely not recommended) to wash off all the old grease and grime. This was a dirty and time consuming job but often there was not a better way, especially for the amateur mechanic working out of his garage. Today however, the hobbyist may have a much better equipped work shop with some of the latest tools to help with the task at hand. One such piece of equipment is a Bead Blaster.

In recent years, bead blasters, and the larger air compressors necessary for their operation, have become more affordable. Bead blasters save a lot of time and work very well for cleaning a lot of different types of parts but there are some components that definitely should NOT be bead blasted. A good general rule is “Any surface that is exposed to any lubricant SHOULD NOT be blasted with glass beads or any other type of abrasive media”. This would not only include engine components, but the housings and internal parts of the transmission and differential. The reason for this is that it is almost impossible to remove all the old glass beads and the new lubricating oil will loosen these residual beads and they will get mixed in with the oil. Glass beads are very hard and abrasive and will cause bearings and other finely machined surfaces to wear premature and fail. I have seen several engines ruined when they were assembled with parts that had been cleaned using a bead blaster.

Recently, when putting together several of the new Burtz Engines, some owners thought they were doing me a big favor by bringing me used parts, such as the oil pan and front and side covers, that they had cleaned and painted and were ready for assembly. This was fine and much appreciated except when a bead blaster had been used to clean the parts. I then had to spend a lot of extra time washing and scrubbing the bead blasted parts to be as sure as I could that all the old beads had been removed and were not stuck in the pores of the cast iron or caught in some old residual grime that had not been completely removed.

One particularly difficult part to clean is the oil pan dipper tray. There are three baffles that are spot welded to the underside of the tray. The flanges of the baffles do not perfectly conform to the shape of the tray which results in small voids between the tray and baffles. Thru the years, sludge and old oil residue will fill these voids and when the tray is blasted, glass beads will be trapped and imbedded in this old crud only to be released back into the clean oil once the engine is completed and running. Once the part has been bead blasted, it is virtually impossible to perfectly clean all the trapped beads out of these voids. To be sure these voids are absolutely clean if a dipper tray has been bead blasted, the spot welds have to be drilled out and the baffles removed from the tray. After the areas where the baffles fit to the tray have all been thoroughly cleaned, the baffles can then be re-welded to the tray. This is a time consuming but necessary process.

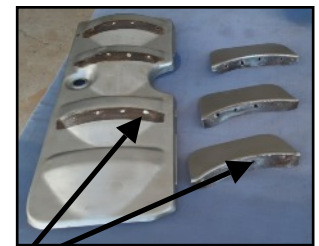
Another popular part to bead blast is the intake manifold. The inside passages in the manifold are rough and also will often have accumulated a coating of old dried up fuel that the beads can become imbedded in. Fuel in the incoming mixture can pick up these trapped beads and when they go thru the engine they can score the pistons and cylinder walls. No matter how hard you try, you cannot be completely sure that all the old beads have been removed from the inside passages of a manifold.

So, how do you clean these types of parts? For the hobbyist, soaking parts in solvent is a good place to start. Old paint can be removed using paint remover and a motorized wire wheel is also a great tool. Rusty parts can be soaked in a rust dissolving solution such as Evapo Rust or Rust 911. The final clean for any part should be a good scrubbing using soap and hot water. This will leave the surface clean and free of oil and solvent and the part will then be ready to paint or assemble into the engine.

To summarize, using a bead blaster to clean parts such as bumper brackets and similar chassis or body components is fine but DO NOT glass bead any part that will be exposed to fuel or lubricating oil. Remember, as Henry always said, “Cleanliness is next to Fordliness”.



This part may look clean, but it isn't.



Residual glass beads are trapped under baffles.



Cleaned parts with baffles re-welded.

Tech Tip

Removing the Dipper Tray from the Oil Pan

I use an old headlight bar as a lever to remove the dipper tray from the oil pan. I find the 28-29 headlight bar works best but the 30-31 will also do the job. With the pan on the floor, just hook the end of the headlight bar under the tray in the opening for the oil pump. Use your foot to hold down the other side of the pan and a sharp downward push on the bar and the tray will pop right out.