

building the hot holden six by snarlyjohn@gmail.com

addenda - tips for beginners

Welcome to the addenda, the bit at the end where I stick all the bits that don't fit anywhere else. To kick it off here are a few general tips for beginners. Over the years I've noticed people tend to make the same mistakes over and over again - and don't worry, I've done my share of dumb shit too. So here is a short list of things to watch out for. As already noted it's aimed at the beginner but the experienced guys might find it entertaining and recognize a thing or two that might have tripped them up in the early days.

1. **Don't Do or Change Anything Unnecessarily** - life is too short to be wasting time on trivial issues. Don't try to solve non-existent problems.
2. **Don't Assume that the Factory Engineers Are Idiots** - and that you know better than them. They aren't, and you don't.
3. **Beware the Law of Unintended Consequences** - it's quite likely that your solution to Problem *a* just created Problems *x*, *y* and *z*. This is all the more likely if the original problem was trivial anyway.
4. **Don't Do Things to an Unnecessary Degree** - your engine won't care if there is a cc or two difference between chamber or port volumes, or if the rotating assembly is or isn't balanced to within a 1/4 gram. Obsessive compulsive disorder doesn't make power, the right parts combination, well machined, well built and well tuned makes power.
5. **Don't Assume that Aftermarket Parts are Always Better** than factory parts. Sometimes they aren't. Sometimes they aren't any good for anything. Always remember that the primary function of any aftermarket part is to earn money for its maker.
6. **The Engine Doesn't Care** how much money you have spent on it. Just blown 15 grand on a 202? Doesn't necessarily mean it's going to make power or not break.
7. **The Engine Doesn't Care** how many hours you've spent on it. Just because you've spent 200 hours on porting doesn't necessarily mean it's going to make power.
8. **Structural Integrity is Everything** - a 400hp 202 ceases to be useful .0002 seconds after a rod bolt has broken.
9. **Beware of General Consensus** - just because 10 different people told you to do X doesn't make it right. Mostly they're just repeating baseless things they've heard anyway.
10. **When In Doubt Refer to the Laws of Physics** - not the drunk at the pub that had a 200mph HR back in '76. Everything that happens in an engine is subject to the laws of physics, everything can be calculated, confirmed or debunked.
11. **Always Do Your Sums** - if it doesn't work out with a pencil and calculator then it's not gonna work on the dyno either. Guesswork is for amateurs.
12. **Don't Keep Building Your Dad's (or grandads) Engines** - Dad might get all teary when he tells you about the 186 with the two barrel Holley he had when he was 19. Truth is it was a piece of shit then and if you build it now it will still be a piece of shit.
13. **Learn How To Tune** - a well tuned but mediocre engine will beat a poorly tuned engine with potentially more performance. Potential horsepower aren't worth the paper they're written on. This is critically important, but also keep in mind Tip #4; you don't have to break out the jet box every time a cloud passes over.
14. **Keep Your Streetcar Quiet** - enthusiasts might like the sound of a loud, healthy engine, but to everyone else you just look like a dickhead. Keep it quiet, have fun and stay under the radar. And don't get me started on those cock-smokers with their straight-piped Harleys...
15. **Don't Believe in Magic** - some people would associate something special with high performance engine development - romance, magic, art (as in the "black art" of ...) whatever. It's all horseshit of course. Horsepower is nothing more than plain old physics and mathematics.
16. **Prioritise** - pick the low-hanging fruit first and apply effort where it's needed most. Don't sweat over carburetors if the inlet port only does 110cfm.
17. **I Wish this Wasn't True** but it is - there are a lot of "tools" amongst the car enthusiast community. More than in the general public at large, I suspect. Never take advice from a tool and avoid them where possible. The corollary to this is that there are the nicest, most knowledgeable people here as well. These generally make a lot less noise than the tools.
18. **Feedback is Important** - most experienced engine guys have a mental database containing everything they know of that does or doesn't work on a variety of engines. Every time you ask someone's advice, whether in person, by phone, email or web forum, take the time to reply with the results of that advice. The feedback is valuable and adds to the database. Build your own mental database.

19. **Attempts to Do Things Cheaply** almost always turn out to save no money. And usually they take much much longer. I'm still proving this theory nearly every day.
20. **Don't Invest Too Much Time** or money or "trick of the month" stuff in your first couple of engines. Make them cheap and basic builds that let you learn the fundamentals of building and tuning reliable, leak-free engines. Once you've got this down pat you can start on the 10,000rpm racers.
21. **The One True Speed Secret** - to quote one of the great technical writers, the late Gordon Jennings: "There is only one Speed Secret: know what you are doing and do it thoroughly... the rest is mere mathematics, surgery and wrench twirling."

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