Teardown
tearing down an engine

- to tear down , teardown - to disassemble , disassembly

- " We got this Toyota engine we're gonna ***do*** a ***teardown on*** . "

- First we are ***pulling off*** (taking off) manifolds

- If it's hard to take off we should spray some ***penetrating lube*** on it

- Lube such as WD-40 makes it a lot easier for bolts to ***come off***

- We're gonna ***knock off*** the pulley real quick

- We start with the ***outside accessories*** and we ***work our way in*** .

- This hole place is two deep so our socket / bit didn't ***fit in*** [fɪr-in]

- Some ***wires cross over*** we pull 'em out and ***set*** 'em ***aside*** .

- I'm gonna ***tip*** the engine ***over*** and let the water come out .

- This nice engine stand allows you to ***flip*** the engine ***over*** by yourself and ***come back*** again .

- The problem is it's a ***bit wiggly***

- The pulley is actually ***hard*** to ***get off*** , I tried an electric impact - didn't work .

- An ***air impact*** doesn't work either …

- Literally by sort of ***lifting myself off*** the ground I was able to get enough force to break the pulley bolt loose.

- When I got that pulley bolt ***all the way out*** the pulley didn't want to come off itself .

- There was temptation to use a ***pry bar*** to ***get*** that pulley ***off*** but a pry bar would just start ***cracking*** the thing .

- I had to use a puller to pull the pulley off safely .

- A puller is just a beam with a centre bolt that ***pushes*** and a couple of other bolts that hold on the pulley .

- I have a piece of paper around and I'm actually writing down all the gaskets and stuff .

- So we later ***order for*** it .

- I ***put*** the pulley bolt ***back in*** .

- You don't wanna ***pull apart*** any of these 10 mm heads (bolts)

- You need to ***go through*** a specific ***sequence*** .

- A ***hard line*** (pipe) that feeds the engine with oil .

- Normally the cam will sort of ***pop off*** from the spring pressure

- The engine head ***bolts*** are ***set*** deep and the torque is pretty high so I have to use a ***breaking bar*** and a spline drive .

- We start by loosening them a ***quarter turn*** .

- When it's done for the time's sake put the spline drive on an impact and ***zip*** those suckers ***out***

- The gasket looks like it was ***sealing up*** well .

- Also remove the ***knock sensor*** (detonation sensor).

- Oil level sensor - has a little ***plastic float*** that floats in the oil and If oil level is too low the float goes down and hits a little sensor that sends a signal to the ECU .

- The ***bolts*** are pretty ***tight*** on the ***girdle*** .

- This whole girdle ***ties*** the bottom of the block ***together*** and ***adds*** more ***rigidity*** to the block .

- Before I take the pistons out I wanna use a piece of Scotch-Brite to take these

carbon deposits off

- Because those carbon deposits will stop the piston or make it much harder for the piston to ***exit*** the ***bore*** . They can also mess up the rings which you may want to reuse when reassembling the engine .

- Another Pro-Tip is uscrew the round bolts a half way and knock them with a ***Dead-Blow*** (mallet) .

- What it'll do is ***get*** the cap ***off*** of the rod .

- Make sure you get your hand underneath and go ahead and ***push*** the piston ***off*** the bottom .

- ***Check the wear*** on the side skirts of the pistons .

- This wear is pretty normal for a 20 years old engine that's ***seen*** 90 0r 100 000 miles on it .

- Before taking the crank off I spin it and see ***how well it spins*** .

- It will give a little bit of indication if the ***block*** is ***twisted*** or anything .

- We break the crank cap bolts loose with ***a quarter of a turn*** . And we're taking the rest ***all the way out .***

- Pro-Tip , I put the bolts back sort of half way and ***wiggle*** the main cap to get 'em off . Sometimes main caps are ***wedged*** so they're hard to get off

- There is a lot reinforcement and ***ribbing*** on the bottom part of the block .