

# PLIER MARKS ON ENGINE CYLINDER FINS

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It seems to me that when a guy bought an engine at the hobby shop he would stop at the hardware store on the way home and buy a pair of channel lock pliers with which to work on the engine. How else can you

explain all the pliered engines I have run across through the years? Half A engines seem to come in with this affliction more than the larger ones probably due to their small size and construction. Some manufacturers sent wrenches in the box with the engine and who knows what happened to them. Then there was the Cox fiasco early on where you slipped the slotted end of the wrench the factory supplied across the two exhaust ports and tried to loosen the cylinder. Upon doing so you promptly ruined the piston/cylinder fit, and the engine. The soft 12L14 steel cylinder that nearly all engines are made of, would deform into the thin intake port nearby. For as smart a man as Leroy Cox was, I never understood how this got into production. Later on they thickened up the cylinder wall which helped to some extent, but did not completely solve the problem. Finally in the eighties Cox machined two flats across the top cylinder fin and provided a wrench to fit it. Lets see, that only took from 1952 to 1984 to figure out. Wasps, Atwoods, Baby Spitfires, Wen Macs, et al, suffer the problem of the notorious pliers man. That hard working man who has the small leather pliers carrying case on his belt is highly suspect in this matter. That ever present tool makes him a kind of McGyver ready to fix any problem that crops up. I get to take the bends and nicks out of the cylinders on the lathe as best as possible.

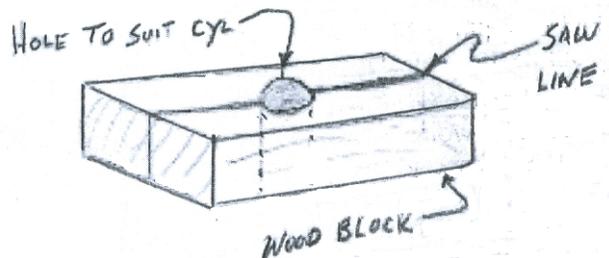
So how does one unscrew a stuck cylinder in an old engine without a special wrench? Take a firm piece of wood stock about as thick as the cylinder is tall and 4 to 6 inches long and as wide as 3 times the cylinder dia. I like the hardwood handle of an old steel brush myself. Now drill or jig saw a round hole in the middle of it that matches the O. D. of the cylinder. Saw the piece lengthwise cutting through the middle of the hole from end to end. Place the engine upside down in the hole with

the piston at bottom dead center and place it in a vise. Tighten the vise just enough to keep the engine from turning in the wood when you try to unscrew it. If the thing won't come loose then remove it from the vise and with jersey gloves on, heat up the aluminum crankcase where the cylinder is threaded into it. I use

a Bernz-o-matic propane torch and find it works very well. The amount of heat to be applied varies, and one should start out gently and apply increments of heat until the cylinder breaks loose. A rag over the engine also helps the process in tough cases. It saves bruises on the hands from sharp projections of the engine. After it breaks loose if it is difficult to unscrew then immediately get some lacquer thinner into the threads as this will remedy the problem. Afterwards clean up the gum and varnish in the engine with thinner and an acid brush.

I have cigar boxes full of these wood tools for all the various engines I work on. I keep three of them for the Wasp, Wen Mac and Atwood engines as they are the most heavily used. Give this easy tool a try and put the pliers away.

Lastly, a noted engine expert in the leading model magazine states to use Marvel Mystery Oil as the premier after run oil in model engines. I myself and a few others strongly disagree with this practice. I tried MMO, Singer, 3 in 1 and others and found that in my engine collection that sets on the shelf for years at a time, they all varnished up and had to be taken apart and cleaned and re-oiled. I am not alone in stating that Shaler Rislone oil additive from the auto supply is the very best followed by ATF and pneumatic tool oil. This fellow also states that Coleman lantern fuel, 60 octane naphtha, is the best fuel for your old ignition engine. I don't hold with that either in talking with Petroleum engineers.



SAW CUT WILL GIVE JUST ENOUGH HOLE SIZE REDUCTION TO GRIP THE CYLINDER SHIM WITH LAYER OF RAG.