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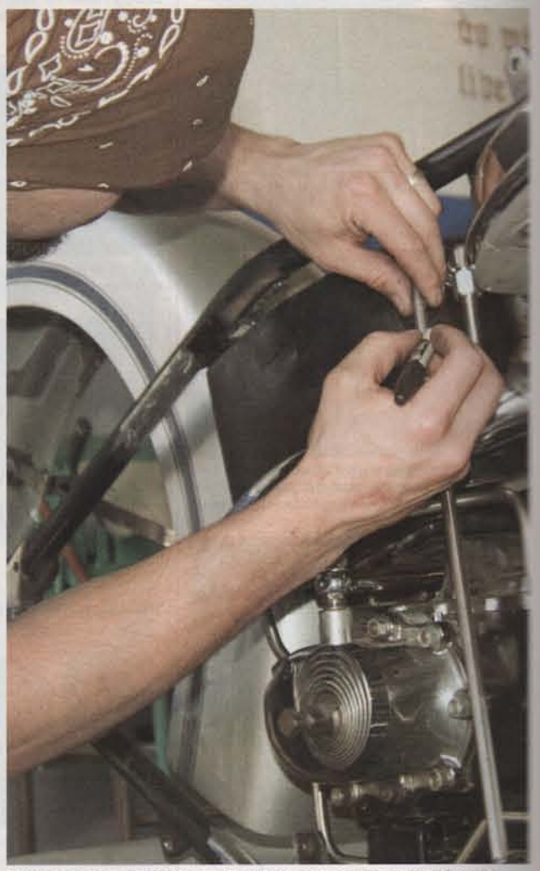
Customizing Secrets: What's Old Is New

One of those sayings "What's old is new" seems to have worked its way into the rebuild of Kim Peterson's (editor of *In The Wind* magazine) 1946 Raider knuckle/pan. Between magazine deadlines and show schedules, things have been a little too hectic to spend much time on the bike. Finally, we're back to the task of updating the old with something new, but with an old look, which seems to be very popular these days. This phase of the build involved coming up with an upgraded version of an old-style oil line.

The last time this bike was pictured on these pages was our 25th Anniversary issue (June 1996). At that time, it had hose clamped rubber oil lines that routed around and behind exhaust pipes where they could have been damaged or burned by being too close to all that heat. This time, we decided to use a bulletproof kind of oil line that would eliminate any and all problems. When done properly, stainless steel hard lines will give you a lifetime of service without any worries of cracking, burning, rusting, or just about any type of damage associated with other types of flexible lines. Early O.E.M. Harley oil lines were a mild steel hard tubing similar to this type, but reproduction parts wouldn't work on the Pan. Even though it has an early Harley oil tank, the bike has a custom frame and has a later model oil pump with fittings in completely different locations.

Joe Sabol at JS Custom is doing the fabrication, but to make sense of this plumbing nightmare, we went to see Mark Bohlen at Bent Custom & Performance. You may have seen his work on Discovery Channel's *American Hot Rod* with Boyd Coddington, or *Monster Garage* with Jesse James. To start off, we converted all the oil fittings to AN thread with a 37-degree flare. Mark then bent 3/8-inch stainless steel tubing to clear our exhaust and to line up with the new AN fittings. This tubing is harder than plain steel, so a tubing bender with mandrel rollers must be used to prevent kinking

Mark's first step was to install aircraft-grade, 90-degree, -4 AN to 3/8 NPT elbow fittings in the oil tank and straight -4 AN to 3/8 NPT in the oil pump. The AN type of fitting uses a 37-degree flare; it is standard in the aircraft industry.



Mark then took a length of 3/8 stainless steel tubing, positioned it next to the oil tank fitting and marked his first bend.

Comparing this tube to the vent tube he had installed previously, he eyeballed the amount of bend he would need.

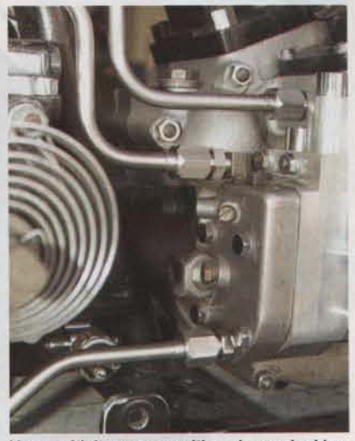
He uses a high-quality mandrel-type tube bender to keep from kinking the tubing.

Mark's second bend is to position the tube next to the oil tank while keeping it behind the exhaust pipe. Knowing just where to bend the tubing and how much to bend it, comes from a lot of experience.

Once the tubing has been formed, a flare nut is slipped over the end and the tube is inserted into a flare-forming die in a Conrac flaring machine. This machine puts a precision flare on the end of the tube.

Once Mark has the tube finished, he fits both ends to each of their corresponding fittings before threading the flare nuts on. This way there is no stress or binding on the line.

The flare nuts are tightened down and the job is finished.



You couldn't come up with a cleaner-looking set of oil lines.

on the inside radius of the bends.

Then Mark uses a Conrac flaring machine from the aircraft industry to make the 37-degree flares. This is an important part of the process because the hard stainless steel can split or crack, losing its seal on the flare if the correct tools are not used. Follow along with these pictures and see if you like our old-fashioned look and let us know if we came across with "What's old is new."

Oil lines just like these can also be made for an Evo or Twin Cam motors.

—John Sullivan and Joe Sabol

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