

## Where To Go For An Antique Radiator

If you're restoring an old tractor, car or truck, finding an authentic radiator might be one of your biggest challenges. Brassworks, a California company, can provide a new radiator or restore an old one. Either way, you'll have an authentic radiator better than the original. The key is to have the original radiator for the company artisans to work with, and that is especially true of tractor radiators.

Lee Chamberlain, owner, Brassworks, says, "We find that tractors have incredibly tight tolerances, more than trucks and cars, even more than planes. If we have the original, we can test and shape the replacement to fit the dimensional mounting points as well as available space front to back."

Brassworks prides itself on making old radiators better, using seamless copper tubing that is a better conductor than old seamed copper. They also offer improved designs, such as with Model A radiators. Where Ford used 6 fins per inch, Brassworks will do the same, but recommends 10 fins per inch for active driving. Another option is a higher pressure cap neck installed out of sight and beneath the hood. The original is blocked off, but left in place. The authentic look is retained, but the boiling point is raised for a cooler engine, especially important for slow driving during parades or long, steep inclines.

Brassworks produces round tube, tube and disc, cartridge and a variety of honeycomb cores. The company has patterns from the early 1900's through the 1960's. If a pattern doesn't exist, the company can use existing

parts or sketches to reproduce a dimensionally accurate core.

In addition to crafting the core, the company polishes, renews and replaces brass and other components. If dies aren't available for replacement parts, alternatives are suggested. One-of-a-kind, custom reproductions are expensive, warns Chamberlain, but can be done.

"Where there is a will, there is a way, but in custom jobs there may need to be a will with an inheritance to pay for it," he says with a laugh. "We can make anything, but the worst situation is an expensive radiator and a low value car or tractor."

He gives the example of a 1917 Allen car that is worth \$8,000, but to redo its radiator would cost \$20,000 because of dies and tooling.

"I've seen a totally refurbished tractor worth \$5,000 or less with a radiator that cost \$1,000," says Chamberlain. "I will often suggest that a customer go to swap meets to find something to use rather than make one from scratch."

In addition to radiators, Brassworks makes stone guards, brass headlamps, and special orders like custom radiator necks and caps. They have more than 130 stone guard patterns. Each stone guard is hand formed from cold roll steel, triple chrome-plated or nickel-plated.

Because of their expertise, the company often does short runs of a unique nature. A manufacturer of cooling systems for trains wanted a production run of 50 cooling sys-



**Brasswork is the place to go to find a radiator for an old tractor, car or truck. They sell new radiators and restore old ones.**

tems. A performance Jeep conversion company wanted better cooling systems.

"We aren't afraid of short runs," says Chamberlain. "While everyone wants to get bigger and focused, we look at things and ask if we can build 6 of these."

Brassworks has broad capabilities in its own right, but also works with others to get the job done. If nickel coating is desired, they have a vendor that specializes.

"We are always trying to connect with skilled craftsman and other companies," says Chamberlain.

With expanded interest in restorations, Chamberlain warns that low-cost imitation

reproductions are showing up in the marketplace. Before accepting an inferior or inaccurate replacement, Chamberlain suggests calling to discuss restoration needs. Brassworks tries to tailor each job to the customer's budget and standards.

"If we can't do it, we will tell you who to get in touch with," he says. "We are always looking for ways to lower the cost and expand the market by working with others."

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## Bypass Centrifuge Extends Engine Life

When FARM SHOW first wrote about Dieselcraft bypass centrifuges 4 years ago (Vol. 31, No. 3), they were in high demand for processing vegetable oil and waste oil for burning in diesel engines. But they're also the best way out there to keep engine oil clean.

Centrifuges remove moisture and particles from engine oil. Early units were gravity-fed and had to be mounted above the engine, a problem in today's tightly packed engine compartments.

"We needed a massive drain hole back into the engine," recalls John Nightingale, Dieselcraft Fluid Engineering. "What we needed was air pressure to push the oil back into the engine."

Nightingale attached a small compressor to the centrifuge. This allows the unit to be mounted anywhere under the hood. Air pressure can push the oil up to 3 ft. vertically

or up to 7 ft. horizontally.

"You can mount it down on the frame rail if necessary," says Nightingale. "All you need is a 6 by 6 by 6-in. space."

Other factors that are building interest in the centrifuge include the increasing cost of oil changes and the difficulty of filtering new, longer lasting, synthetic oils. "Changing oil in a big front-end loader may have to be done every 250 hrs. at a cost of \$1,500," says Nightingale. "We ran tests on one and demonstrated that by switching to synthetic oil and our centrifuge, the loader could go at least 750 hrs. without changing oil or filters." Though synthetic oil lasts longer as an effective lubricant, it also prevents the natural clumping of dirt and other particles by molecular attraction necessary for optimal filtering. While carbon particles of 0.1 microns or less may not affect lubrication, they can build up on cylinder walls and

other places and affect additive anti-wear effectiveness.

Without centrifugal action, it's hard to clean carbon and other particles out of synthetic oil. The best filters only extract down to 7 microns, and regular oil filters only catch particles 25 microns and larger.

"Those small particles can only be removed by a centrifuge," says Nightingale. "Our centrifuges remove particles as small as 1/10 of one micron."

Dieselcraft offers a unit, the OC-25, for cars, pickups and smaller engines. It's priced at \$599. A larger unit, the Magnum Model 180 AP, is recommended for engines with 100-gal. sumps and larger. It is priced at \$699.

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**Dieselcraft bypass centrifuges come with a small compressor that allows them to be mounted any place under the hood.**

## Fast New Way To Fix Damaged Threads

By Jim Ruen, Contributing Editor

If you've ever had to split a nut to take it off a bolt with damaged threads, you'll like these new Thread Chaser tools that make thread repair easy.

Manufacturer Jim Whaley sent a set of his new thread-fixing tools to FARM SHOW to try out. After taking a hammer to the threads on a 3/8-in. bolt, we slipped on the appropriate Thread Chaser. With the bolt head in a vise, the hinged die simply wrapped around the bolt and the T-bar handle quickly restored the threads. The trapped nut was easily removed.

For really difficult situations Chase 'em Back Tools recommends using lubricant or cutting oil. The Thread Chasers work equally well on rusted and corroded threads. They can also be used to clean concrete or surplus material from galvanized anchor bolts.

The Thread Chasers are made of tempered

steel, heat treated and anodized to prevent breaking or chipping. The 6-sided thread chasers come in a variety of sets or can be ordered individually.

The Repair Kit with 3/8-in. socket adapter and T-bar received by FARM SHOW included 21 common metric and English sizes and thread counts. Thread Chasers ranged from 1/4 in., 20 and 28 count to 1/2 in., 20 count and 6 mm, 1.0 count to 12 mm, 1.75 count sizes. Industrial size Thread Chasers are available in sizes as large as 4 in., 8 count.

Additional sets include wheel stud and spindle sets and specialized kits for industrial, construction and well drilling needs. Wheel sets include a unilug system for right hand threads on newer vehicles and a set for "ball and seat" lugs of older vehicles with both right and left threads.

"We continue to introduce new sets and are



**Thread Chaser tool comes with a hinged die that wraps around the damaged bolt. A T-bar handle is used to quickly restore the threads.**

considering developing sets geared specifically to agriculture," says Whaley.

Prices vary by size and type of kit. The 21-piece Repair Kit evaluated by FARM SHOW is priced at \$225. Individual Thread Chasers vary from \$12.95 for a single 1/4 in., 20 count to \$397.50 for the single 4 in.,

8 count industrial size.

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