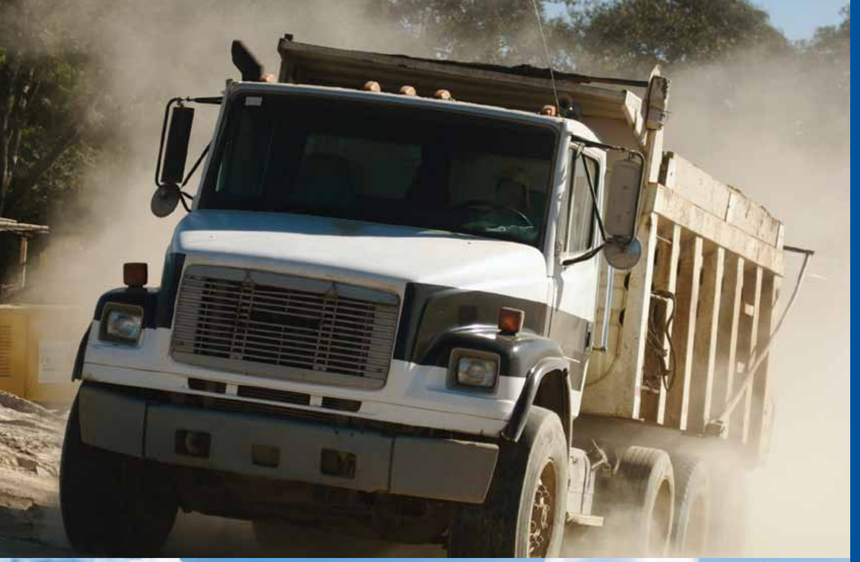

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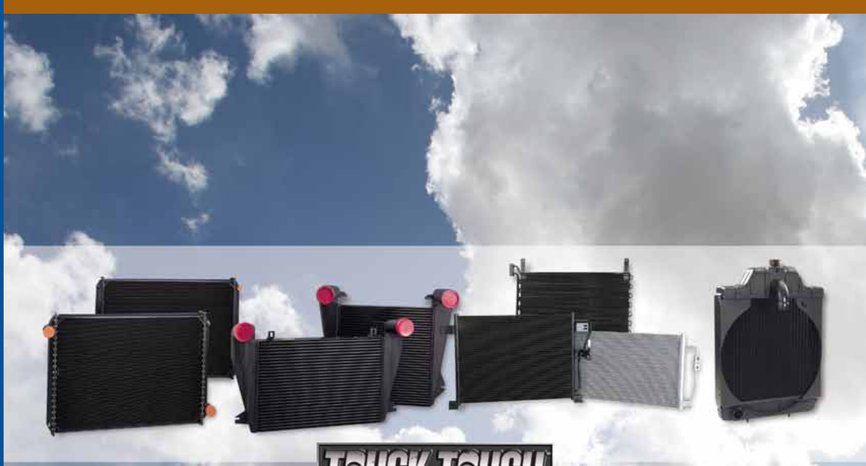

TRUCK TOUGH

Heavy Duty Products

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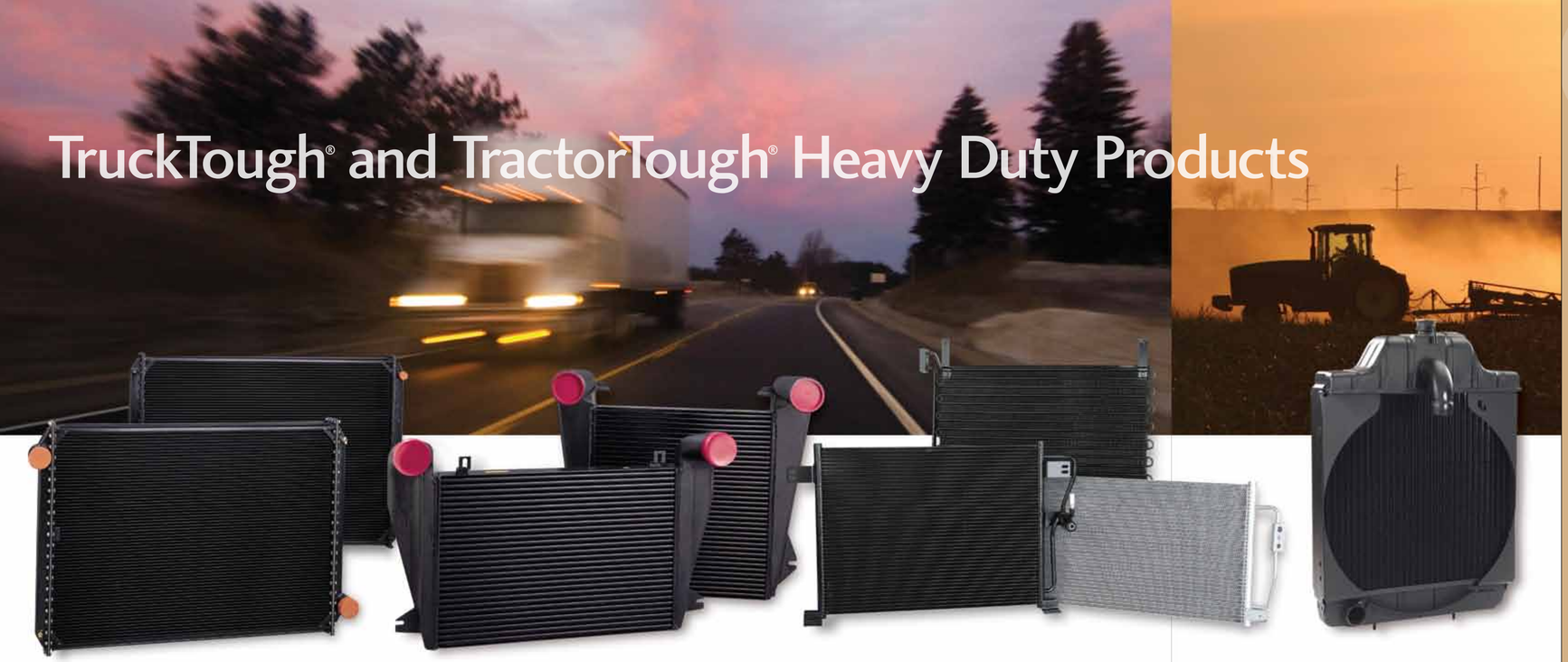
TruckTough® and TractorTough® Heavy Duty Products



TruckTough® Complete Truck and Bus Radiators

are ready to install and are available for the most popular heavy truck models on the road. Our bolt-on, soldered and PTA radiators offer superior thermal and durability performance, and are designed to fit right the first time. Truck Tough® provides coverage on nearly 200 models including:

- Freightliner
- Ford
- Kenworth
- Peterbilt
- Bluebird and Carpenter bus applications
- International/Navistar truck and school bus radiators
- Mack
- Volvo

TruckTough® Charge Air Coolers

cover the industry's most popular models for most major manufacturers. Brazed aluminum construction provides quality and performance that meets or exceeds OE specifications. We build our Charge Air Coolers with all-new parts—no re-cores or rebuilt units, and we don't have core charges.

- Our patented Ultra-Seal® products eliminate tube-to-manifold and header-to-manifold failure modes
- Our one-piece manifold design eliminates tank-to-header weld and associated weld cracking
- Leak-free design
- High-quality products with excellent thermal and durability performance

TruckTough® A/C Condensers

are built to keep even the hottest, hardest working trucks cool. Nearly 60 popular models provide coverage for more than 1,200 applications. Beefed-up brackets provides extra support on vital connections.

- All-aluminum construction with OE design
- 100% fit and leak tested

TractorTough™ Agricultural Radiators

are engineered to deliver superior performance and durability in the toughest of conditions so you can increase your productivity, reduce downtime and extend the life of your agricultural equipment. We offer both flat fin and serpentine cores, copper/brass construction and OE drop-in fit.

Nearly 50 models cover more than 300 applications, including:

- Allis Chalmers
- International Harvester
- John Deere
- Case
- Ford
- Massey Ferguson

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Q&A

How do Charge Air Coolers work?
Charge Air Coolers (CACs) are heat transfer units designed to cool the extremely hot (400°-500° F) compressed air from the turbo charger before it enters the engine combustion chamber through the intake manifold. These units are also referred to as "air-to-air" coolers or "intercoolers."

What causes Charge Air Coolers to fail?
Expansion and contraction of the core due to changes in temperature and pressure can cause leaks from cracks that form at the seams where the cast aluminum manifolds are joined to the tube and fin core of the CAC. When a CAC fails, the result is a loss of turbo boost, which negatively impacts fuel MPG and horsepower.

Can Charge Air Cooler cracks be repaired?
Sometimes small cracks can be Tig welded if they're found before a catastrophic failure occurs. However, on older trucks that may be out of warranty, aluminum castings often become fatigued, and severe cracks too large to be welded can develop. Fatigue failure usually requires CAC replacement.

How does the quality and cost differ in the industry?
Some of our competitors rebuild their CACs by taking old manifolds and cleaning them, then attaching them to a new core. But TruckTough® CACs are built with all new components. Many of our competitors also invoice customers for a manifold core return charge. Since TruckTough® CACs have all new components, there are never any core return charges or hassles to deal with.

What do I need to look up the right radiator part?
If an OEM part number is available, refer to the OEM part number reference guide in our current online or printed catalogs. If a cross reference is found, verify size, connections, etc. from the catalog. If the OEM number is not available, or a cross reference is not available, then:

- Determine the make, model and year if possible.
- Ask for the "between-the-headers" dimensions. The header is the brass plate to which the tank is mounted.
- Turn to the applicable make and model section in the catalog.
- In most cases, the location of the outlet (the lowest hose connection) will identify the radiator.
- In some cases, more questions may be necessary such as:
  - Does the unit have an oil cooler?
  - Is it a down-flow radiator? (Note: A down-flow radiator mounts in the vehicle so that one tank is on the top and one on the bottom. Outlet measurements are from left to right, and left and right side is viewed from the driver's seat.)
  - Is it a cross-flow radiator? (A cross-flow radiator has tanks on each side when mounted. In our quick reference, a cross-flow radiator lists the outlet as up from the bottom.)
  - Is it a high-flow or a low-flow radiator? (Note: High-flow radiators have inlet and outlet connections of 2" or greater. Low-flow units have a small diameter inlet and outlet such as 1" or 1 ¼".)

Always verify your information by reviewing all the size and location information in the catalog. Dimensions in the catalog are OEM sizes. While an aftermarket replacement may vary slightly in size, they're built for an easy fit to the frame.

- Same or next-day delivery where available
- Coast-to-coast national warranty
- National Heavy Duty Tech Support Hotline: **1-800-799-7237**

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