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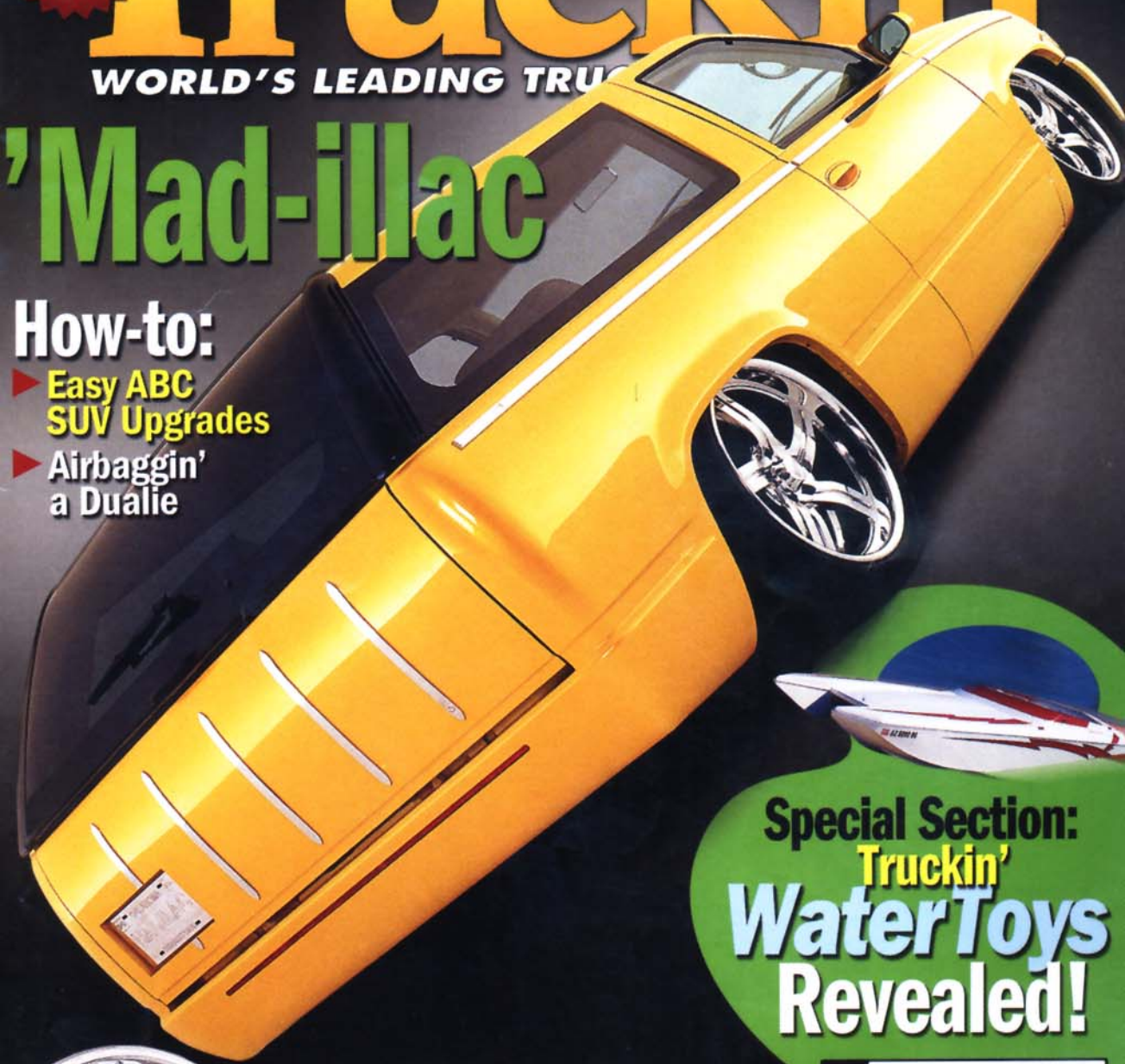
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We Interview: Boyd Coddington
of Boyd Coddington Wheels

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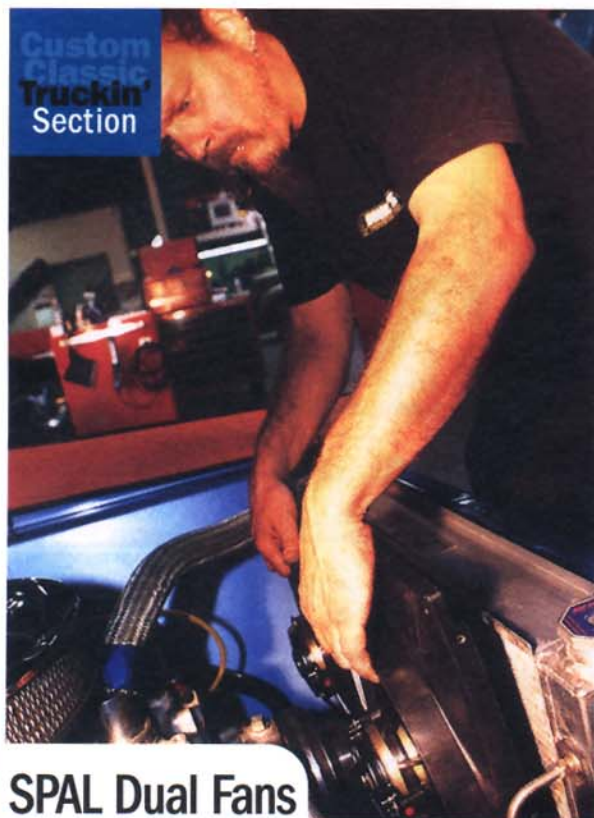
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JANUARY 2003 • VOLUME 29, NO. 1
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Section



SPAL Dual Fans

Keeping Your KOOOL

by Bob Ryder | PHOTOGRAPHY: BOB RYDER

How many times has it happened? You're stuck in traffic, or towing your weekend warrior toy up a steep grade and you look over to see your engine coolant temperature gauge pegged. Your stomach is in your throat, as you anticipate a radiator hose blowing or hearing the evil sound of detonation as the air/fuel mixture leans out, due to the intense heat. An inadequate cooling system can ruin your day or weekend, not to mention your wallet.

The radiator, water pump, fan, and fan shroud are the four major components of the cooling circuit that maintain a cool operating temperature of the engine and automatic transmission. The engine's coolant is circulated by the water pump through the engine's internal water jackets, then cooled as it passes through the radiator. As you are traveling at road speed, air flows through and between the multiple rows of radiator fins, cooling the fins and cooling the coolant being circulated through the radiator fins. The engine's fan helps draw air through the radiator during idle and slow cruising speeds. To help intensify and direct the airflow from the fan to the engine, a shroud encases the fan.

To help alleviate the cooling problems during towing and cruising, an auxiliary electric fan or fans are installed in front (to push the air) or behind (to pull the air) the radiator. The engine's fan only rotates when the engine is running. But by pushing or pulling the air through the rows of radiator fins during cruising speeds or when towing, the fans increase airflow velocity, which lowers the coolant temperature. Inadequate fan blade pitch can cause for not enough air to be pulled through the radiator. As the air flows through and between the radiator fins, it is cooling those fins, which transfer the lower temperature to the coolant being circulated through the radiator core. As the air passes through the fins, the coolant is getting cooled.

We decided to install a SPAL High-Performance Dual Fan unit, with a 185-degree thermostat controlled relay. Chris Jonas at Wheeler's Speed Shop will use his fabricating and installation skills to properly install the SPAL High-Performance Dual Fan unit. When installing electric cooling fans, it is important to cover as much surface area as possible. Always mount the fan as high up on the core as possible. We fabricated custom mounting brackets so as not to pierce through the radiator core and interfere with the fin pattern. The electrical relay was mounted on the inner fenderwell, and the two 30-amp fuse holders went on the radiator core support. The thermostat switch sensor is a 3/8-inch pipe thread. The switch sensor was mounted in the Edelbrock Performer intake manifold. To attach it, a 37/64-inch-diameter hole was drilled, and then a 3/8-inch-diameter tap was run down the hole. Chris installed a 185-degree sending unit, which comes on at 185 degrees and shuts off at 165 degrees. The SPAL Dual Fan unit can be wired to deactivate when the engine is shut off, or the fans can remain on after the engine is shut off until the engine temperature cools to 165 degrees. They then shut off automatically.

After the installation was completed, we went for a cruise. We were sitting in traffic as the engine temperature rose to 185 degrees, at which point, the SPAL Dual Fan unit switched on, drawing the air through the radiator fins. You could see the temperature drop and hold steady at 180 degrees. Knowing your engine is going to maintain its normal operating temperature, you can relax and enjoy your cruise during those hot summer days.

TR



1. SPAL Advanced Technologies Dual Fan units come with all the electrical connectors, the ending unit, the relay, the 30-amp fuse holder, and the fuse.



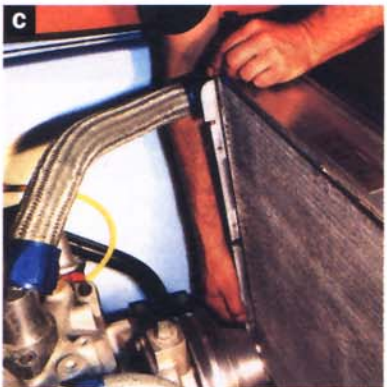
2. A&B After removing the fan shroud, Chris used a 1/2-inch wrench to remove the Flex-a-lite fan.



3. The SPAL Dual Fan unit was lowered for a test fit to determine the mounting locations.



4. A,B&C Chris fabricated four mounting brackets to secure the Dual Fan unit on the Fluidyne frame supports, rather than pierce through the aluminum radiator core.



5. A&B The custom-fabricated side mounting brackets were notched and drilled, then mounted to the SPAL Dual Fan shroud.



6. A&B With the side mounting brackets mounted onto the SPAL Dual Fan unit, Chris lowered and aligned everything, then temporarily secured the unit to the Fluidyne radiator core frame with vise grips. With the SPAL Dual Fan unit aligned and secured, it was then drilled.



7. The upper and lower mounting brackets were aligned and matted with the side mounting brackets, then secured.



8. A&B The SPAL Dual Fan relay switches were mounted on the lower portion of the fenderwell.



9. A drill bit measuring 37/64 inch was used to drill a hole in the Edelbrock Performer intake manifold for the SPAL thermostat sending unit.



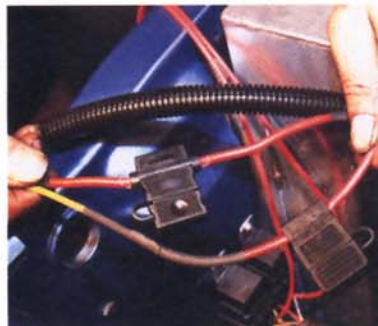
10. A&B A 3/8-inch-diameter pipe thread tap was used to thread the SPAL thermostat sending unit hole.



11. A&B The thermostat sending unit was then secured.



12. After the electrical wires were sized and cut, the ends were stripped and the connectors were crimped and connected.



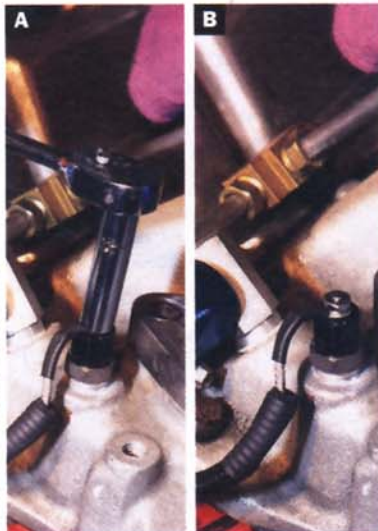
13. Both 30-amp fuses were installed inside of the individual fan fuse holders.



14. For a nice, neat installation, the SPAL Dual Fan electrical wire loom was encased inside some convoluted tubing.



15. The heat of the flame shrank the shrink tube around the convoluted tubing, which makes for a nice wire loom transition.



16. A&B The thermostat sending unit was connected to the gray wire, which activates the dual fan relays.



17. The two 30-amp fuses were installed into the fuse holders.



18. With everything wired, we were ready for some cool cruisin'.

sources

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