



ROTORS

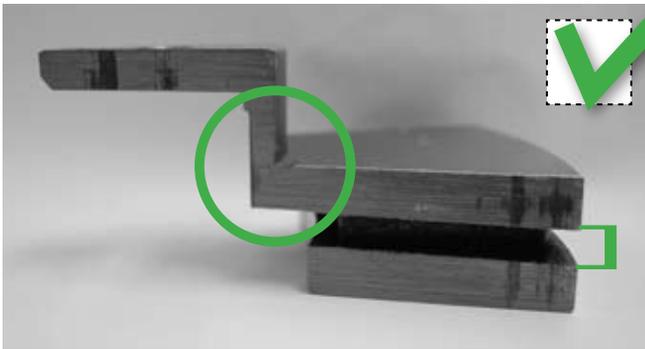
THE TRUTH

IN ROTOR ENGINEERING

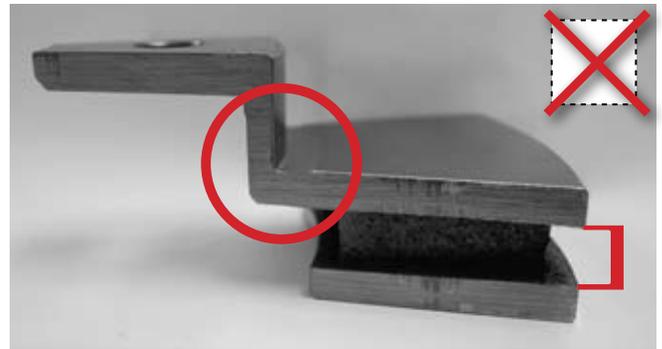
WARNING! WARNING! “LIGHTWEIGHT” ROTORS

Raybestos® brand engineers recently discovered that some rotor manufacturers have reduced the braking surface plate thickness of their rotors. This results in an expanded air gap and reduces the overall weight of the rotor.

RAYBESTOS® ROTOR



“LIGHTWEIGHT” ROTOR



Less mass changes a rotors heat resistance – this is a problem!

THE CLAIM

Noisy brakes are caused by brake pads and hardware.

“Lightweight” rotors run cooler.

THE TRUTH

Tests have proven that some “lightweight” rotor companies have reduced the mass of their rotors between 7 - 24%. A reduction in overall mass could inhibit heat dissipation which can cause the material strength to weaken and potentially cause cracking. This can cause brake noise in addition to performance and possibly safety related issues.

THINK ABOUT THIS...

REDUCED MASS = HOTTER ROTORS AND WEAKENED MATERIAL.

Tests have proven that increased air gap, reduced vane size and thinner plate thickness changes the mass of the rotor and has a negative effect on its ability to conduct heat away from the brakes.

Raybestos® Brakes are proven to be longer lasting, quieter and follows Original Equipment design for superior performance and a strong history of customer satisfaction.



THE TRUTH ABOUT "LIGHTWEIGHT" ROTORS

The diagram and chart below show the results of a downhill dynamometer simulation conducted at Affinia's Research and Development Center in Winchester, Ky. Simulating a half ton pickup with a GVW of 6500 pounds pulling a trailer weighing 8000 pounds, the brakes were used to control the vehicle at 45 miles per hour as the vehicle traveled downhill on a 4 – 6% grade and then uphill continuously through a five minute cycle.

During testing, the "lightweight" rotor ran 16% hotter than the Raybestos® rotor. This resulted in increased brake fade, excessive lateral runout (warpage), pedal pulsation, uneven friction wear, material transfer and the extreme rotor cracking shown in the photo below.

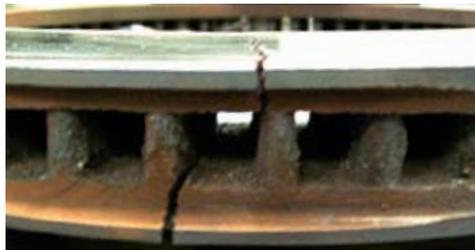
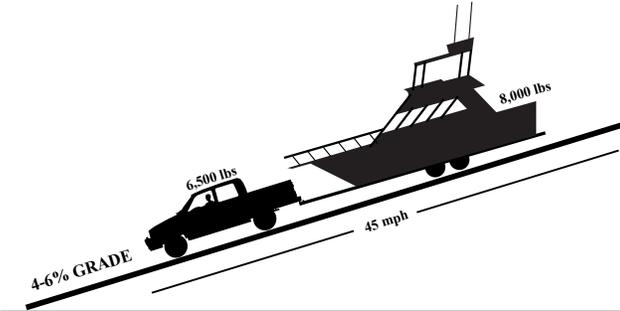
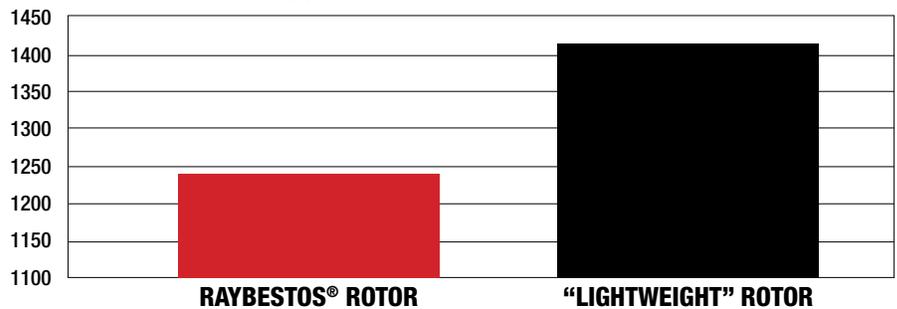


Figure A

FINAL ROTOR TEMP (F) AFTER 5 MINUTE DRAG



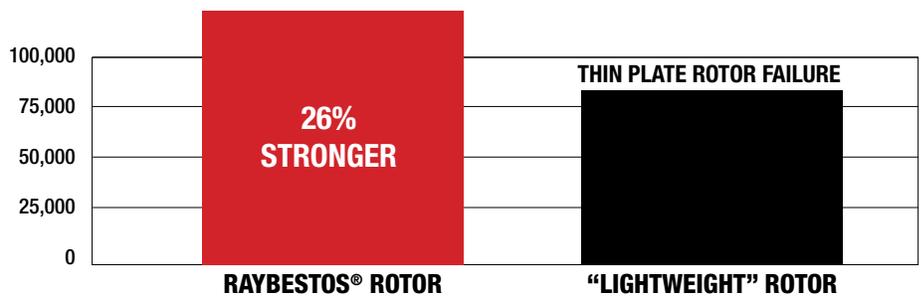
CAN YOUR ROTORS HANDLE THE HEAT?

Raybestos® brand Product Engineers conducted a tensile strength test of the "lightweight" rotor to gauge overall structural integrity. This test proved that the "lightweight" rotor is 26% weaker than the Raybestos® rotor.

The picture below shows a cracked collar sustained during the tensile strength test. This resulted in a product failure.



TENSILE STRENGTH TEST IN lbs



ARE YOUR ROTORS STRONG ENOUGH?

Raybestos® Brakes are proven to be longer lasting, quieter and follows Original Equipment design for superior performance and a strong history of customer satisfaction.

