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Can your wallet  
handle the load?

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 **BRIDGESTONE**

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Our thanks to Aunt V's Farm for allowing us to photograph (but not ride) Misty, the Manzanita Miniature horse.

# Can your wallet handle the load



Bridgestone recently published its fourth comprehensive fuel economy guide for large trucks. **Tires & Truck Fuel Economy – A New Perspective** looks at what we've learned over the past quarter-century of studying the relationship of tires to large truck fuel economy.

In the last edition of **Real Answers**, we began an in-depth look at some of the factors affecting fuel economy, starting with speed. In this issue, let's sit down, take a load off, and learn how weight consumes fuel.



### How much does load affect fuel economy?

It's the second biggest factor contributing to a tractor-trailer's fuel economy, following speed.

In the last issue, we learned how aerodynamics and speed affect fuel economy. Imagine an empty conventional long-nosed tractor pulling an empty trailer and how it uses its energy to push through the wind to achieve and then maintain a 70 mph speed.

Now consider that same truck hauling its legal maximum load. It's not difficult to imagine that same truck consuming more fuel pulling that considerable weight!

### But how much more?

If your tractor-trailer ran completely empty, so it weighed around 40,000 lb, you could save 15.5 percent in fuel.

### Nobody can afford to leave 10,000 lb of freight on the dock.

Exactly, but this illustration does prove one thing: maximum payload should always be your primary goal. The trick is to eliminate non-paying load from the truck. In other words, don't worry about freight that pays. The more weight you reduce that doesn't pay revenue, the more ways you can increase the amount of freight that does.

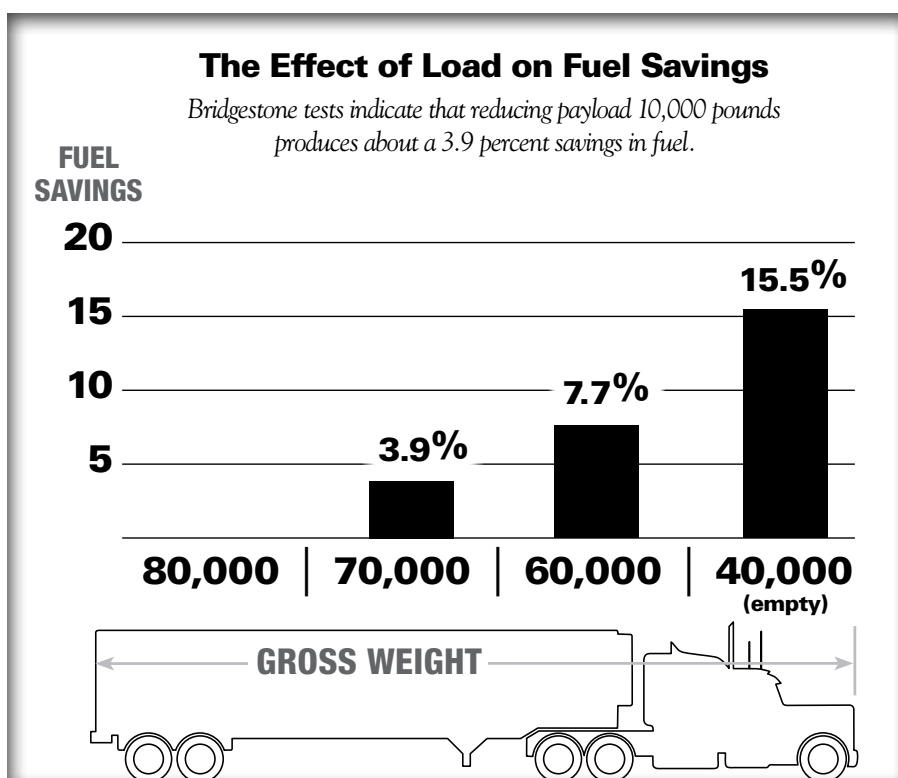
### Where do I begin?

Take a look at switching to lighter weight accessories. But use a calculator rather than a scale to measure savings. The key is to replace weight saved with revenue-producing freight. If you can't convert the weight savings into more payload, it probably isn't worth the time or hassle.

When you spec your next truck, replace heavy steel with lightweight aluminum and composite materials wherever it makes sense, but don't go so lightweight that vehicle durability is reduced. These help increase revenue-producing capacity without adding to the gross weight of the truck. Yes, this can get complicated.

### What about tires?

Bridgestone recommends fleets that typically "gross out" before they "cube out" consider Greatec wide base radials for the weight-saving benefits.



But the point of this business is to haul freight, not empty trailers.

Load 20,000 lb of freight into the empty trailer, so your rig tips the scales at 60,000 lb, total gross weight, and that produces about a 7.7 percent savings in fuel by comparison to the maximum.

Increase the freight to 30,000 lb, so you have a 70,000 lb, total gross weight, and you can expect to save approximately 3.9 percent in fuel. Again that's in comparison to running at the maximum legal limit.

Using 100 gallons of fuel a day as an example, that saves you almost four gallons.

*If you would like a free Greatec brochure mailed to you, visit [BridgestoneTrucktires.com](http://BridgestoneTrucktires.com) and click on the "Brochures & Catalogs" button, then "tire brochures." Or call 1-888-694-0469.*



Again, pull out the calculator rather than the scale to determine if the cost of buying special wheels and possibly retrofitting equipment justifies the expense. Every fleet is different.

If fuel economy is your goal – rather than reducing overall gross weight – you can easily get it back spec'ing fuel-efficient conventional tires, such as those approved for use on SmartWay<sup>SM</sup> certified tractors and trailers – Bridgestone M720 drive and R195F trailer radials.

However, if you find you can replace the payload, changing to wide base single tires may be something you need to test.

### Weight Savings with Wide Base Radials



**WIDE BASE**  
**181 lb per TIRE**



**LOW PROFILE**  
**250 lb per PAIR**

*Wide base tires can allow weight savings to be converted into revenue-producing payload and may be more fuel-efficient than ordinary dual assemblies.*

### How can they help?

When you switch from duals to Greatec, you shed the weight of the second wheel and tire on each axle end. Sure, you replace the dual assembly with a bigger Greatec and bigger wheel, but you can still drop a good amount of weight.

Take a look at this chart and see for yourself.

TIRE TYPE	TIRE WEIGHT	RIM TYPE	RIM WEIGHT	ASSEMBLY WEIGHT	# PER VEHICLE	WEIGHT/VEHICLE	WEIGHT DIFFERENCE
Greatec Drive	184	Aluminum	71	255	4	<b>1,964</b>	<b>—</b>
Greatec Trailer	165	Aluminum	71	236	4		
M726 EL	126	Steel	82	208	8	<b>3,136</b>	<b>1,172</b>
R195F	102	Steel	82	184	8		

### How does this help?

If you haul petroleum, for example, you could add an extra 191 gallons of gasoline or 152 additional gallons of fuel oil.

But we come back to the earlier question – can you make a profit? If your customers are taking all they can and you're returning to the terminal still loaded, who cares if you can carry extra fuel?

Some fleets have contracts with shippers for specific amounts, and even if you can pull more cargo, the shipper can't handle the additional inventory.

Yet, maybe you can win an extra contract or two because you can haul 1,964 lb more cargo than the other guy. Or haul 21 more panels of sheetrock. Or 136 gallons of milk.

The bottom line is, reducing weight to save fuel is not a good investment. Spending money that can be replaced by payload is a great one. **TA**



*Editor's note: If you didn't receive the special edition of Real Answers Magazine, Tires & Truck Fuel Economy – A New Perspective – or simply want another copy to pass along to a colleague, call 1-888-694-0469 or e-mail [realanswers@trucktires.com](mailto:realanswers@trucktires.com). In the last issue of this magazine, we learned speed is the number one contributor to fuel economy.*

*A special Bridgestone video, "What Drivers Can Do to Save Fuel," offers real-world tips on boosting fuel economy to your drivers. To order your video, call 1-888-694-0469 or e-mail [realanswers@trucktires.com](mailto:realanswers@trucktires.com). Specify VHS or DVD format.*

