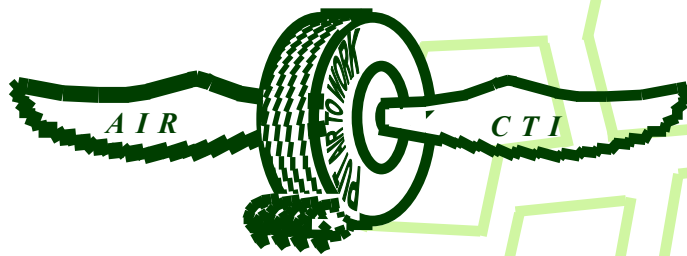




## The Facts on CTI Truck Savings:

Every army uses Central Tyre Inflation to aid mobility. The US army has over 25,000 CTI equipped vehicles. They estimate that CTI allows access to an extra 10% of the North American continent. The USA and Canadian Forestry Services started testing CTI in the 80's. Below are results from scientific tests, most done by government departments and Universities, from all over the world.

- Tractive gains of 39% on gravel roads, (Feric)
- 34% traction improvement on sandy road USDA Forest Service
- 17% improvement on wet clay road USDA FS
- 42% increased traction on loose gravel surface USDA FS
- 34% increase in traction on sandy road, Forest Sciences Lab, Alabama
- 17% increase in traction on clay road, Forest Sciences Lab Alabama
- Drawbar pull increased 31% on freshly packed snow, and 37% on icy road, USDA Carr Creek Results
- Drawbar pull increased from 13,000 lbs to 20,000 lbs. Feric
- 39% increase in drawbar pull FERIC
- Significant improvement in traction. Saskatchewan Road Maintenance
- "Traction increases of 60% solely through reduction in tyre pressures." Dana Spicer
- Low pressure tyres had better traction on push out roads, frozen roads, and adverse grades. USDA Louisiana tests
- Tyre wear improves when the correct tyre pressures are used: (All tyre companies).
  - Reductions of tyre wear and punctures NATC
  - Decrease in drive tyre wear of 90% FERIC
  - 47.5% reduction in drive tyre costs. FERIC
  - 15% less tyre wear NATC
  - Tyre costs reduction of approximately 25% Finemores
  - Don't carry a spare with CTI Finemores
- Rate of wear 25% less FERIC 1993
- Tyres lasted almost twice as long. Feric
- Both over pressure and under pressure tyres will incur accelerated wear. Pirelli
- Lower tyre pressures bend and flex around rocks and sharp items, significantly reducing punctures and stone damage:
  - 12 nails and screws which the system had coped with. Finemores
  - Drive tyres experienced no flats in 22 months of testing FERIC
  - CTI equipped truck required 11.3 fewer tyres annually. FERIC
  - Significantly fewer rock penetrations FERIC
  - CTI tyres had 1 to 5 cuts, compared to 8 to 19 cuts FERIC
  - A low pressure tyre is less susceptible to chipping, scaling, stone retention and drilling to the belts." Dana Spicer
  - No case rejects compared to industry average of 30% FERIC
  - No tyre failure AFDA Boise
  - Reduced flats from 5 to 7 per week to 0 in 10 weeks Olympic National Forest
  - Most blow outs caused by improper tyre pressure Bandag and all tyre manufacturers.
  - Tyre replacement was reduced 75% on trailers. Saskatchewan Peat Test
  - Running tyres at 20% under inflation can reduce tyre life by up to 50% Goodyear and Michelin
  - Rocks became wedged between duals during high pressure operation, causing tyre damage and truck delays. This was not a factor with low pressure. USDA Louisiana tests.
- On hard surfaces, higher pressures have lower rolling resistance, but on softer surfaces, rolling resistance is less with lower tyre pressures.
  - 45% reduction in trailer rolling resistance in sugar sand USDA FS Carr Creek
  - Rolling Resistance on soft ground reduced to less than half. University of Hamburg



## The Facts on CTI Truck Savings:

- Reduced tyre pressure enhances mobility by flotation and traction." Dana Spicer
- Reduces the bow wave effect. Dana Spicer.

Impact loads from hitting bumps and pot holes is significantly lower with lower tyre pressures, also lowering fatigue causing vibration.

- Truck maintenance were 8 times higher for high pressure trucks NATC
- Components were impacted 2 to 10 times more, as demonstrated with accelerometers NATC
- Reduced damage to truck components by as much as 87% NATC
- Average number of repairs was 3.0 per month, compared to 4.3 with high pressure tyres. FERIC
- 9.3 hours per month compared to 12.6 FERIC
- 91% less time spent repairing chassis damage. FERIC
- Monthly repair time reduced by 26% FERIC
- In 1990 dollars, CTI drive tyre savings were \$987.50, combined with maintenance savings, added up to \$2772 per year FERIC
- Trailer repair costs reduced. No major problems with broken springs, cracked frames, etc., that were common before. Saskatchewan Peat Test
- The only trailer axles which have not recorded beam failures, are those with CTI Finemores
- Truck component damage reduced by as much as 85% with CTI Nevada Automotive Testing Labs

The added traction, road healing ability, and the softer ride has many additional advantages:

- CTI permitted several days hauling otherwise not possible AFDA Boicse tests
- Truck ride and operator comfort improved AFDA Boise
- Ride comfort greatly improved NATC

- No washboarding (corrugations) Olympic Forest Tests
- When truck got stuck with high pressure, lowered tyres to 45 psi and drove away Forest Service Lab Oklahoma
- 30 psi truck operated 2 gears higher FSL Oklahoma
- Wheel hop at spin out was eliminated FERIC
- High pressure buses fishtailed, low pressure buses didn't. Saskatchewan School Bus Test
- CTI substantially reduces the possibility of Jack-knives. Finemores
- High pressure drivers experienced high anxiety. Saskatchewan Bus test
- Less mud thrown, more traction, and less wheel spin, Saskatchewan Bus
- Reduced Round Trip times. Sas. Peat.
- Downtime reduced at plant, because of more reliable transport. Sas. Peat Test
- Better ride, improved stability with tip-pers, Saskatchewan Road Maintenance
- Low Pressure Tyres improved compaction of cold mixture road fill. Saskatchewan Road Maintenance
- Off highway unloaded phase reduced from 45 minutes to 35 minutes FERIC
- Driver's chronic back pain was greatly reduced by the softer ride. FERIC
- Reduced tyre pressures, when empty, substantially reduce vehicle noise. Finemores
- Since fitting CTI, our current lost time injury is double our previous record. Finemores
- Operating on 16% inclines around Nakusp, BC;
  - Cycle times improved by 3%
  - Assist vehicle costs were eliminated.
  - Reduced risk to operators and equipment
  - \$1.88 per meter expected savings, down from \$8.98 to \$7.10 per cubic meter FERIC 2001 Logging Symposium
  - Over inflated tyres can decrease tyre life by 17% Hendrickson
  - Accurate tyre inflation increases safety,



## **The Facts on CTI Truck Savings:**

and improves ride and handling, while reducing wear and fuel consumption.

Clipsal

- "Skip Waste's tyre life increases from 11,000 k's to 25,000 k's. VDO
- Big savings from being able to drive on a puncture, saving costly downtime. VDO
- "52 out of 132 participants of the 2003 Paris to Dakar race used CTI. Syegon
- First 11 cars overall had CTI. Syegon
- Winner of 2001 and 2002 Tunisia rally's had CTI Syegon

Think of the unseen costs:

- Checking tyre pressures costs time,
- Waiting for tyre changes cost time.
- Working when others can't, pays the bills.
- Waiting to be pulled out costs time, and reduces the number of trips.
- Blow outs and lost tyre treads wipe out mud guards, lights, etc.
- Better handling, makes the vehicle safer.
- Trucks cost money all of the time, specially when they aren't working.

AIR CTI has hundreds of customers, and the feed back from them reinforces all of the above. Our own experience with all of the above proves to me that any truck operating off highways is losing money by not having and using Central Tyre Inflation. Almost every weekend, we are out testing CTI in the real world. Traction gains let us go places where other's need four wheel drive in two wheel drive. And ride quality is just so much better. Once you have CTI, you'll never have a vehicle without it.

And, of course, AIR CTI is the best CTI at an affordable price.

All of the proceeding Scientific Tests are on file at AIR CTI, and are available to read if you wish.

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