MESILLA VALLEY TRANSPORTATION SOLUTIONS
CERTIFIED
Fuel Economy Experts

Test Report

MVT SOLUTIONS CERTIFIED™ FUEL ECONOMY TEST

October 2025

Aperia TECHNOLOGIES ®

Cold Tire Pressure (psi)	120	110	100	90
Gal/1000 miles	-0.62	-0.37	0.00 Baseline	-1.19
Percent	-0.60%	-0.36%	0.00% Baseline	-1.16%

1.0: INTRODUCTION

Mesilla Valley Transportation Solutions (MVTS) certifies the fuel savings from this product are as described in this report.

Note: this report was designed for carriers and provides information relevant to their needs. Therefore, the format varies from traditional fuel economy and technical reports. The Test Summary provides the reader a quick synopsis of the product's fuel savings. Following the Test Summary is the body of the report and further details on the subjects. This fuel economy test was performed using MVTS proprietary fuel economy test methods. These test methods were developed from race car engineering and advanced vehicle test methods, which Mesilla Valley Transportation (fleet) has relied on since 2012 to identify substantial fuel savings. The MVTS methods provide highly accurate and reliable answers on real-world fuel savings in comparison to other test methods, which enables carriers to make the best decisions for their company.

Contact MVTS with any questions regarding this test.

Note: blue text indicates a link to a topic. Click to follow. Alt + ← returns the reader to the initial location.

2.0: TEST SUMMARY

MVTS performed fuel economy testing using the Aperia Technologies Halo Tire Inflator. The test was a tire pressure sweep at 120 psi, 110 psi, 100 psi and 90 psi 'cold' pressures on all 18 wheel positions. The purpose was to quantify the effect of tire pressure on fuel economy by controlling the cold (*i.e.*, start) setpoint pressure, which the Aperia Tire Inflator does. Although the tire pressures increased during testing to the 'hot' pressure, MVTS was able to simulate the results of starting at lower cold pressures by reducing the hot pressure in sequential test runs. This is important since the Halo Tire Inflator has the ability to maintain desired set tire pressures and inflate tires with its internal pump while driving.

Testing found that:

- Under-inflated and over-inflated tire pressures both resulted in a loss in fuel economy
- 90 psi cold pressure versus 100 psi cold pressure resulted in a loss in fuel economy of -1.19 gal/1000 miles (1.16%), meaning that a cold pressure of 100 psi would provide a fuel savings of 1.19 gal/1000 miles (1.16%) compared to 90 psi.
- 120 psi cold pressure versus 100 psi cold pressure resulted in a loss in fuel economy of -0.62 gal/1000 miles (-0.60%), meaning that a cold pressure of 100 psi would provide a fuel savings of 0.62 gal/1000 miles (0.60%) compared to 120 psi.
- Overall, 100 psi cold pressure produced the optimal fuel economy in the test conditions.

Testing was conducted on a 9-mile test track at 65 miles per hour with a gross vehicle weight (GVW) of approximately 66,000 lbs. Vehicles were modern 6×4 sleepers with 53-ft. Great Dane dry van trailers and dual tires. Test results are shown below in Table 1.

Table 1: Fuel Economy Test Results

Cold Pressure (psi)	Fuel Economy Improvement		
	Gal/1000 miles	MPG	Percent
120	**-0.62**	-0.06	-0.60%
110	**-0.37**	-0.04	-0.36%
★ 100 (Baseline)	**0.00**	0.00	0.00%
90	**-1.19**	-0.11	-1.16%

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3.0: TEST PROCEDURE

The two (2) vehicles ran simultaneously at 65 MPH on the 9-mile circle track near Pecos, Texas (Figure 16, page 35). The vehicles were one (1) minute apart, avoiding any aerodynamic influence on each other during testing. The vehicles were termed “Compare” vehicle and “Test” vehicle. The Compare vehicle did not include installed tire inflation technologies and its tire pressures were not altered throughout testing. The Test vehicle had the Aperia Halo Tire Inflator installed on each wheel end, tractor and trailer. The pumping system was deactivated to maintain simulated underinflated and overinflated tire pressure conditions as found in typical fleet operations.

The test procedure may appear similar to the SAE J1321 method traditionally used in the trucking industry; however, the MVTS methods are a much more advanced and precise form of on-road and track testing. The vehicles are equipped with sensors and data recording systems that collect data on fuel consumption, aerodynamics, rolling resistance, driver behavior and many other variables that affect fuel consumption. The data is analyzed using MVTS proprietary methods, which provide very accurate answers on fuel savings. Additionally, the test results can be scientifically translated to a carrier’s real-world daily operations and long-term savings, which is a feature unique to these methods. Overall, the MVTS test methods are a much more advanced and reliable tool for predicting fuel savings than the trucking industry has used previously.

3.1: TEST AND COMPARE VEHICLES

The Test vehicle was a 2026 Kenworth T680 with a Cummins X15 400EX engine (400 hp, 1,750 lb·ft) and an Eaton Endurant HD EEO-17F112C transmission. The Compare vehicle was a 2026 Peterbilt 579 EPIQ with a Cummins X15 400EX engine (400 hp, 1,750 lb·ft) and an Eaton Endurant HD EEO-17F112C transmission. These are identically spec’d PACCAR tractors aside from brand badging. Both were pulling 53-ft. Great Dane dry van trailers and were ballasted to a gross vehicle weight (GVW) of approximately 66,000 lbs. Both trucks were also equipped with Ex-Guard grill guards, which were previously tested and did not show any negative influence on fuel consumption.

Trucks and trailers used dual tires (see Appendix for tire and vehicle info). Tire pressures were initially set at 120 psi cold for the Test vehicle and 100 psi cold for the Compare vehicle in the morning, prior to incurring any effect of daytime heat. The tires of the Test vehicle were bled incrementally during the tests, as described in sections 3.3 and 3.4. The tire pressure measurements before and after each run are shown in section 8.2.

Vehicles were thoroughly inspected and received regular maintenance prior to testing. It should also be noted, for the reader’s peace of mind, that Mesilla Valley Transportation (MVT) and MVT Solutions are 100% confident in the reliable condition of the test vehicles and MVT relies on the same test results for their purchase decisions.

Figure 1: Test Vehicle

Figure 2: Compare Vehicle

3.2: TEST RUN SEQUENCE

Test runs were conducted in the order shown in Table 2 below. The 120 psi pressure test from Run 1 was set as described in the morning prior to testing. The subsequent runs were obtained by subtracting (*i.e.*, bleeding) 10.0 psi from the hot pressure at the end of each test run.

Table 2: Test Run Sequence

Run	Test Name	Start	End
1	120 psi	8:38 AM	10:33 AM
2	110 psi	11:00 AM	12:39 PM
3	100 psi (Baseline)	1:05 PM	2:44 PM
4	90 psi	3:18 PM	4:57 PM

3.3: RUN 1, 120 PSI COLD

Prior to Run 1, tire pressures on the Test vehicle were set to 120.0 psi in the morning before the effect of daytime heat (*i.e.*, cold) using a digital tire gauge. The Halo Tire Inflator was deactivated to ensure further pumping did not occur. The Halo was used to monitor and record tire pressures during testing.

The Compare vehicle tire pressures were set to 100.0 psi and were not changed throughout the day aside from pressure measurements at the end of each run.

The vehicles completed 14 laps for Run 1, which is two (2) more than subsequent runs. These additional laps during Run 1 were to warm up the tires and vehicles.

Figure 3: Test Vehicle with Aperia Halo Installed on Tractor and Trailer

Figure 4: Aperia Halo Installed on Drive Axle Hub

3.4: RUNS 2 TO 4, 110 TO 90 PSI COLD

Prior to Run 2, tires pressures on the Test vehicle were bled by 10.0 psi from the hot pressures measured. This simulated a run at 110 psi cold whereby, instead of starting from 110 psi cold, the same condition was achieved by removing 10.0 psi of tire pressure.

Run 3 followed a similar procedure to simulate 100 psi cold by bleeding 10.0 psi.

Run 4 followed a similar procedure to simulate 90 psi cold.

The measured tire pressure values can be found in the Appendix.

Note: the hot tire pressures measured during testing were higher than the cold pressures due to driving and daytime heat. MVTS used data from the Compare vehicle's tire pressures to correct for this factor.

Figure 5: Measuring and Bleeding Tire Pressure at Conclusion of Test Run

4.0: VEHICLE FUEL ECONOMY TEST EQUIPMENT

MVT Solutions fuel economy testing utilizes a data acquisition system and sensors specifically for this testing. This style of testing is derived from race car engineering where reliable sensor data is critical to understanding vehicle modifications.

MVTS test sensors include:

- Data acquisition system (records sensor data)
- Fuel flow meter (accurate to 0.2%)
- Fuel temperature sensor
- Tire temperature sensor (infrared, mounted on left-front drive tire)
- Ground/road temperature sensor (infrared, mounted ahead of left-front drive tire)
- Wind speed air pressure sensor (truck hood)
- Wind direction sensor (truck hood)
- Ambient air temperature sensor (truck hood)
- Ambient air pressure sensor (truck cab)
- High-precision GPS (latitude, longitude, altitude, time)

Figure 6: Aerodynamic Sensors

Figure 7: Data Acquisition System

Figure 8: Fuel Flow Meter

Figure 9: Tire Temp. Sensor

Click this link to see a video of MVTS sensors and testing: How We Test.

5.0: TEST RESULTS

The test results comparing the effect of tire pressure on fuel economy are shown in Table 3 and in Figure 10 and Figure 11.

The Test vehicle achieved the best fuel economy during Run 3, when the cold tire pressure was 100 psi. Therefore, Run 3 was used as the Baseline and the comparisons for Run 1, 2 and 4 show the loss in fuel economy caused by their deviation from 100 psi cold.

Comparing Run 1 and 3 showed that a tire pressure of 120 psi cold caused a -0.62 gal/1000 miles (-0.60%) loss in fuel economy versus a tire pressure of 100 psi cold.

Comparing Runs 2 and 3 showed that a tire pressure of 110 psi cold caused a -0.37 gal/1000 miles (-0.36%) loss in fuel economy versus a tire pressure of 100 psi cold.

Comparing Runs 4 and 3 showed that a tire pressure of 90 psi cold caused a -1.19 gal/1000 miles (-1.16%) loss in fuel economy versus a tire pressure of 100 psi cold.

Table 3: Test Results with Accuracy

Cold Pressure (psi)	Fuel Economy Improvement					
	Gal/1000 miles		MPG		Percent	
120	**-0.62**	+/- 0.55	-0.06	+/- 0.05	-0.60%	+/- 0.54%
110	**-0.37**	+/- 0.50	-0.04	+/- 0.05	-0.36%	+/- 0.49%
★ 100 (Baseline)	**0.00**	+/- 0.50	0.00	+/- 0.05	0.00%	+/- 0.48%
90	**-1.19**	+/- 0.52	-0.11	+/- 0.05	-1.16%	+/- 0.51%

These results are shown graphically as gal/1000 miles in Figure 10 and as a percent in Figure 11.

Figure 10: Test Results (gal/1000 miles)

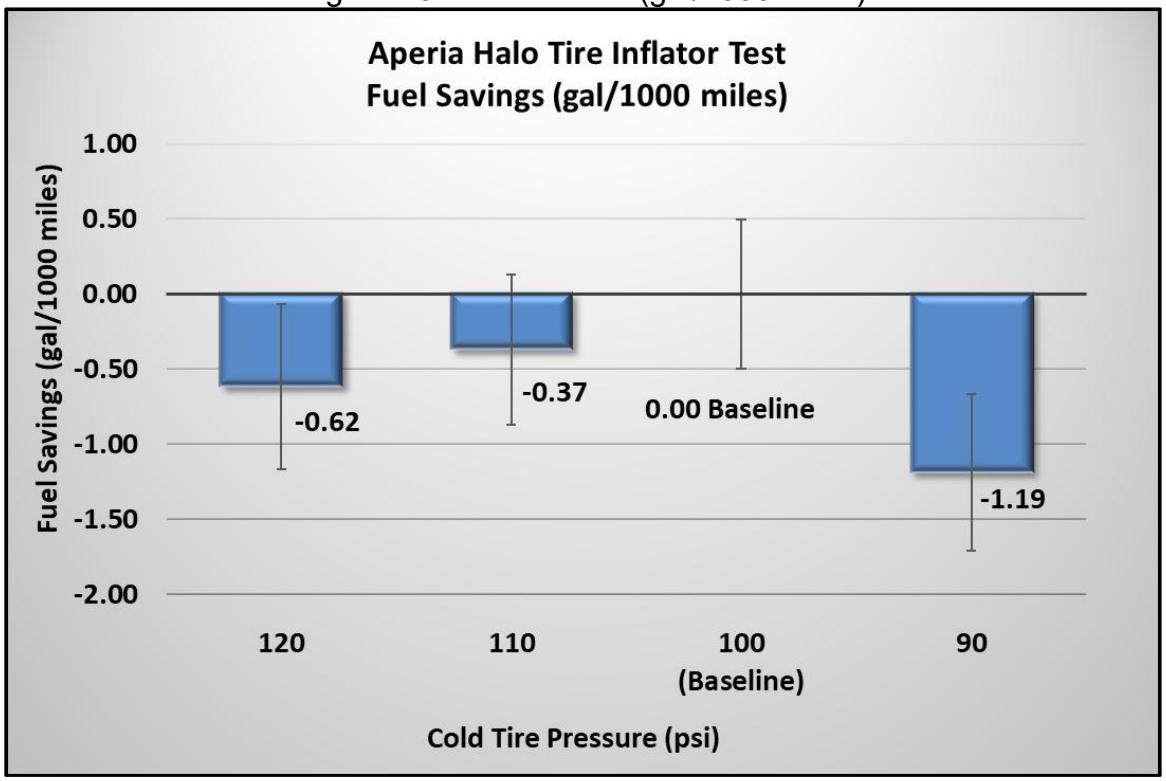
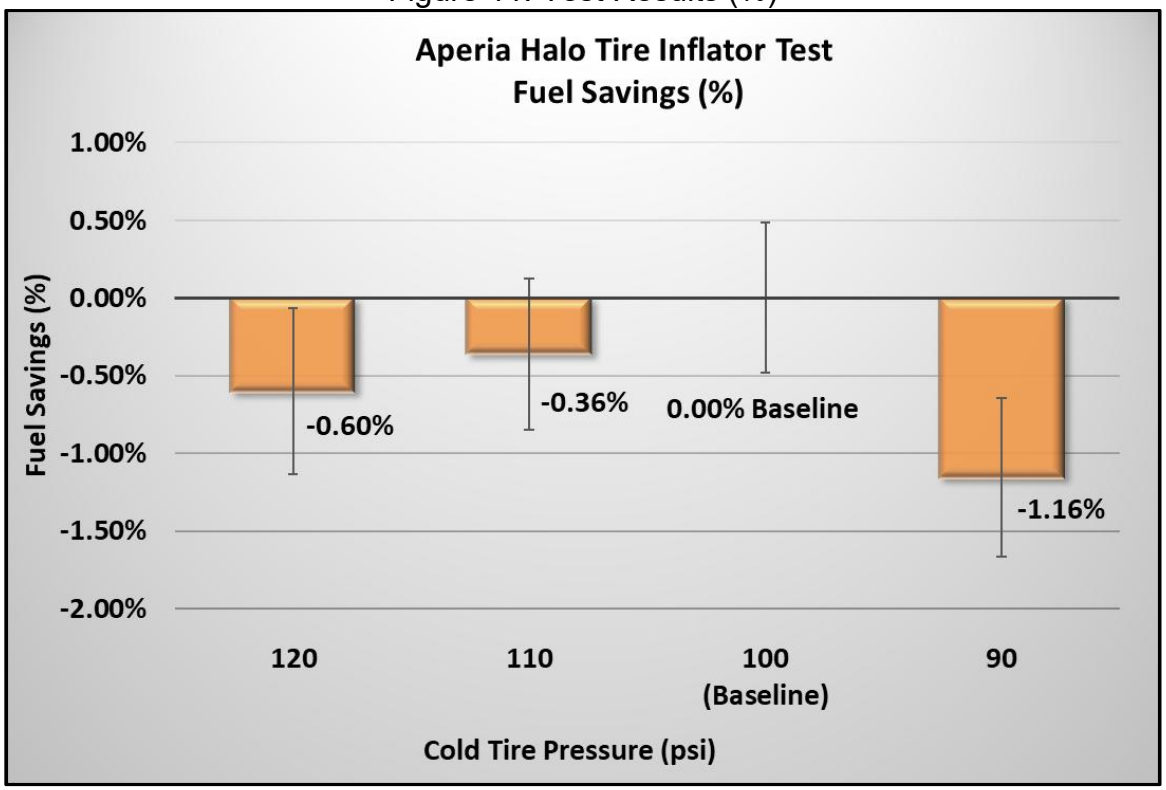


Figure 11: Test Results (%)



5.1: UNITS OF MEASUREMENT

The reader may not be familiar with units of gal/1000 miles (gallons per 1000 miles) since it is not traditionally used in the trucking industry. The following paragraphs briefly explain the reasons for these units and how they help carriers better calculate fuel savings.

Units of gal/1000 miles more reliably calculate fuel savings when compared to other units such as miles-per-gallon (MPG) and percent (%). Those units are prone to error from changing variables such as vehicle baseline fuel economy, load, driver behavior and duty cycle. For example, gal/1000 miles values are not affected by load for a wheel product. Any empty Class-8 unit at 34,000 lbs. will save the same fuel in gal/1000 miles as one loaded to 80,000 lbs. However, when viewed in percent (%) or MPG the values change with load. This causes a carrier to experience varied results in real-world operation and have difficulty predicting the financial benefits of the product unless units of gal/1000 miles are used.

Units of gal/1000 miles are the most reliable units of measurement for fuel savings from wheel products due to their scientific and mathematical relationship to fuel consumption. Further detail is beyond the scope of this report and the reader is encouraged to contact MVT Solutions if more information is desired.

5.2: MEASUREMENT ACCURACY

Accuracy (*i.e.*, 'margin of error') is shown in two locations: in the Accuracy columns of Table 3 on page 11 and as the 'error bars' in Figure 10 and Figure 11 on page 12. The error bars are the small solid lines at the end of each bar.

Accuracy ranged from ±0.50 gal/1000 miles to ±0.55 gal/1000 miles (Table 3) and can be considered very good for full vehicle fuel economy tests. Accuracy in percent values will not be discussed individually since it is linearly related to gal/1000 miles and follows a very similar pattern and conclusions. The results are considered reliable by MVTS.

5.3: WEATHER CONDITIONS SUMMARY

Ambient temperature during testing ranged from 52°F to 88°F with winds ranging from 0 to 13 MPH. Weather data was acquired from a local Weather Underground weather station and complete data can be found in the Appendix.

The reader should be aware that MVTS methods include instantaneous and constant weather data acquisition on each vehicle, and this testing has minimal dependency on external weather data collection. MVTS test data accounts for changes in wind, temperature and other pertinent variables instantaneously.

6.0: SAVINGS CALCULATIONS

Below is a brief outline of how to use the test results to calculate savings. These calculations focus on the savings that will occur if carriers use the Aperia Halo Tire Inflator to maintain the proper Baseline tire pressure of 100 psi cold versus decreasing to 90 psi cold. Other pressures tested follow the same calculation formulas.

For more detail or assistance, contact MVT Solutions.

6.1: FUEL SAVINGS CALCULATIONS, MAINTAINING TIRE PRESSURE WITH APERIA HALO

Fuel savings resulting from this test can be calculated as follows:

$$Fuel\ Savings\ \left(\frac{gal}{year}\right) = (Test\ result) \times \frac{(Thousands\ of\ miles\ travelled\ per\ year)}{1000}$$

The test result must be in units of gal/1000 miles (*i.e.*, not percent or MPG).

Example: where the Aperia Halo provides fuel savings of 1.19 gal/1000 miles[1] by maintaining the tire pressure at the Baseline of 100 psi cold instead of 90 psi cold and the vehicle travels 125,000 miles annually,

$$Fuel\ Savings = (1.19\ gal/1000\ miles) \times \frac{(125{,}000\ miles/year)}{1000} = 148\ gal/year$$

Therefore, the Aperia Halo Tire Inflator would save 148 gallons of fuel per year for a vehicle travelling 125,000 miles annually by maintaining its tire pressure at the Baseline of 100 psi cold as opposed to 90 psi cold.

[1] For the sake of providing positive savings values to compare the benefits of 100-psi cold pressure, the test result sign was changed.

6.2: Financial Savings Calculations, Maintaining Tire Pressure with Aperia Halo

Financial calculations can be made by multiplying the fuel saved by the fuel price:

$$Savings\ (\$/year) = (Fuel\ Savings) \times (Price\ of\ Fuel)$$

Example: using the example above and the U.S. average retail price of diesel fuel in 2024, $3.760[2] /gal,

$$Savings\ (\$/year) = \left(148\ \frac{gal}{year}\right) \times \left(\frac{\$3.760}{gal}\right) = \$556\ /year$$

Therefore, the Aperia Halo would save $556 per year in fuel for a vehicle traveling 125,000 miles annually by maintaining its tire pressure at the Baseline of 100 psi instead of 90 psi.

6.3: CO_2 Reduction Calculations, Maintaining Tire Pressure with Aperia Halo

Carbon dioxide (CO_2) is directly related to diesel fuel consumption in the amount of 10,180 grams of CO_2 per gallon of diesel consumed (0.01018 metric tons of CO_2 per gallon of diesel)[3]. Therefore, the same value applies to the amount of fuel saved and correlates to a reduction in CO_2.

$$CO_2\ Reduction\ (metric\ tons) = (Fuel\ Savings) \times\ (0.01018\ metric\ tons)$$

Where:

- Fuel savings must be measured in gallons.
- 0.01018 metric tons is the amount of CO_2 resulting from one gallon of diesel fuel.

Example: using a fuel savings of 148 gallons per year,

$$CO_2\ Reduction\ (metric\ tons) = (148) \times (0.0108)$$ = 1.51 metric tons CO_2

Therefore, the Aperia Halo Tire Inflator would save 1.51 metric tons of CO_2 per year for a vehicle traveling 125,000 miles annually by maintaining its tire pressure at the Baseline of 100 psi instead of 90 psi. This would equate to 1,510 metric tons of CO_2 for a 1000-truck fleet.

[2] Source: https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMD_EPD2DXL0_PTE_NUS_DPG&f=W

[3] Source: https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references

6.4: Equivalent Tree Absorption, Maintaining Tire Pressure with Aperia Halo

The environmental benefits of this technology can also be expressed in terms of how many trees would be needed to absorb a similar amount of CO_2 from the atmosphere.

$$CO_2\ Absorption\ (trees)\ = (CO_2\ Reduction) \times \frac{(2200\ lbs./metric\ ton)}{(48\ lbs./tree)}$$

Where:

- CO_2 reduction must be measured in metric tons.
- 2200 lbs. is the number of lbs. per metric ton.
- 48 lbs. is the approximate amount of CO_2 that a mature tree absorbs per year[4].

Example: using a CO_2 reduction of 1.51 metric tons per year,

$$CO_2\ Absorption\ (trees)\ = 1.51 \times \frac{2200}{48} = 69 \text{ trees}$$

Therefore, by maintaining the tire pressure at the Baseline of 100 psi instead of 90 psi on a vehicle traveling 125,000 miles annually, the Aperia Halo saves the same amount of CO_2 as 69 trees could absorb in a year, which would equate to 69,000 trees for a 1000-truck fleet.

[4] Source: https://www.usda.gov/about-usda/news/blog/power-one-tree-very-air-we-breathe

7.0: CONCLUSION

MVTS testing showed that the Aperia Halo Tire Inflator could produce measurable fuel savings by maintaining tire pressures as desired by the fleet. During the MVTS test, a Baseline tire pressure of 100 psi cold showed a fuel savings of 1.19 gal/1000 miles[5] (1.16%) compared to 90 psi cold pressure. A fuel savings of 0.62 gal/1000 miles (0.60%) was measured with a pressure of 100 psi cold compared to 120 psi cold. These results indicated that both high pressures and low pressures result in a loss in fuel economy compared to 100 psi cold in the tested conditions.

Financially, the fuel efficiency of Aperia Halo Tire Inflator would equate to a savings in fuel of $556 per power unit per year by maintaining the Baseline tire pressure. For a 1000-truck fleet, this would equate to $0.556M in annual profit. Environmentally, this would decrease CO_2 emissions by 1.51 metric tons per power unit per year, equivalent to what 69 trees could absorb. For a 1000-truck fleet, this would equate to 1,510 metric tons of CO_2 and 69,000 trees. These are substantial savings.

Note: all savings listed were achieved with Halo Tire Inflators installed on the tractor and trailer.

Note: values will depend on product cost, trailer ratio, price of fuel and many other variables. Contact MVTS for inquiries, questions or assistance in calculating.

[5] Note that a negative value was used in the body of the report due to the direction of comparison. 100 psi showed a fuel savings over all other pressures.

8.0: APPENDIX

8.1: TEST VEHICLE DETAILS

Figure 12: Truck and Trailer Info, Test Vehicle

Test Date	Thursday October 23, 2025		
Vehicle Provider	Fleet		
Test Location	Pecos, TX		
Test Route	9-mile track		
TRUCK ID:	**Veh. C**		
Brand	Kenworth		
Date of Manufacture (MY)	2026		
Model	T680		
Engine	Cummins X15 400EX (400 hp, 1,750 lb-ft)		
VIN	1XKYD49X8TJ210086		
Mileage (miles):	1,717		
Transmission	Eaton Endurant HD EEO-17F112C		
Front Drive Axle	Meritor MT-40-14X3 HE		
Rear Drive Axle	Meritor MT-40-14X3 HE		
Rear Gear	2.64:1		
Wheelbase (inches)	228		
Fifth Wheel Location	4/8		
Fuel Load	Full		
Fuel Type & Batch	No. 2 diesel		
Axle Weights (S,D,T) (lbs)	11,120	27,400	27,620
Total weight	66,140		
TRAILER ID:	**T-1**		
Brand	Great Dane		
VIN	1GR1A0624SL709032		
Date of Manufacture (MY)	2025		
Type	dry van		
Size	53-ft		
King Pin Location	36 inches		
Tandem Setting	40-feet California spec		
Cab to Trailer Gap (inches)	51		
Aero Trailer Gap (inches)	23		
Add-ons	Side Skirts		

Figure 13: Wheel and Tire Configuration, Test Vehicle

Truck Veh. C

LF		Front Axle		RF
Michelin X Line Energy Z+		Type		Michelin X Line Energy Z+
295/75R22.5		Size		295/75R22.5
17		Tread Depth (32nds)		17
		Pressure (psi)		
Aluminum		Wheel Type		Aluminum

LF-Outer Drive	LF-Inner Drive	Drive Axle	RF-Inner Drive	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+	Type	Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5	Size	295/75R22.5	295/75R22.5
20	20	Tread Depth (32nds)	20	20
		Pressure (psi)		
Aluminum	Aluminum	Wheel Type	Aluminum	Aluminum

LR-Outer Drive	LR-Inner Drive	Drive Axle	RR-Inner Drive	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+	Type	Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5	Size	295/75R22.5	295/75R22.5
20	20	Tread Depth (32nds)	20	20
		Pressure (psi)		
Aluminum	Aluminum	Wheel Type	Aluminum	Aluminum

Trailer T-1

LF-Outer Trailer	LF-Inner Trailer	Tandem Front	RF-Inner Trailer	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia	Type	Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5	Size	295/75R22.5	295/75R22.5
10	10	Tread Depth (32nds)	10	10
		Pressure (psi)		
Steel	Steel	Wheel Type	Steel	Steel

LR-Outer Trailer	LR-Inner Trailer	Tandem Rear	RR-Inner Trailer	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia	Type	Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5	Size	295/75R22.5	295/75R22.5
10	10	Tread Depth (32nds)	10	10
		Pressure (psi)		
Steel	Steel	Wheel Type	Steel	Steel

Note: Figure 13 shows the tire pressures of the Test vehicle as blank since they were changed for each run. For the measured tire pressures at each wheel position for each run, see Tire Pressure Data.

Figure 14: Truck and Trailer Info, Compare Vehicle

Test Date	Thursday October 23, 2025		
Vehicle Provider	Fleet		
Test Location	Pecos, TX		
Test Venue/Route	9-mile track		
TRUCK ID:	**Veh. B**		
Brand	Peterbilt		
Date of Manufacture (MY)	2026		
Model	579 EPIQ		
Engine	Cummins X15 400EX (400 hp, 1,750 lb-ft)		
VIN	1XPBD49X4TD781380		
Mileage (miles):	56,220		
Transmission	Eaton Endurant HD EEO-17F112C		
Front Drive Axle	Meritor MT-40-14X HE		
Rear Drive Axle	Meritor MT-40-14X HE		
Rear Gear	2.64:1		
Wheelbase (inches)	234		
Fifth Wheel Location	6/6		
Fuel Load	Full		
Fuel Type & Batch	No. 2 diesel		
Axle Weights (S,D,T) (lbs)	11,180	27,520	27,620
Total weight	66,320		
TRAILER ID:	**T-2**		
Brand	Great Dane		
VIN	1GR1A0621SL700011		
Date of Manufacture (MY)	2025		
Type	dry van		
Size	53-ft		
King Pin Location	36 inches		
Tandem Setting	40-feet California spec		
Cab to Trailer Gap (inches)	53		
Aero Trailer Gap (inches)	27		
Add-ons	Side Skirts		

Figure 15: Wheel and Tire Info, Compare Vehicle

Truck Veh. B

LF		Front Axle		RF
Michelin X Line Energy Z+		Type		Michelin X Line Energy Z+
295/75R22.5		Size		295/75R22.5
14		Tread Depth (32nds)		14
100		Pressure (psi)		100
Aluminum		Wheel Type		Aluminum

LF-Outer Drive	LF-Inner Drive	Drive Axle	RF-Inner Drive	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+	Type	Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5	Size	295/75R22.5	295/75R22.5
15	16	Tread Depth (32nds)	14	16
100	100	Pressure (psi)	100	100
Aluminum	Aluminum	Wheel Type	Aluminum	Aluminum

LR-Outer Drive	LR-Inner Drive	Drive Axle	RR-Inner Drive	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+	Type	Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5	Size	295/75R22.5	295/75R22.5
15	14	Tread Depth (32nds)	15	16
100	100	Pressure (psi)	100	100
Aluminum	Aluminum	Wheel Type	Aluminum	Aluminum

Trailer T-2

LF-Outer Trailer	LF-Inner Trailer	Tandem Front	RF-Inner Trailer	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia	Type	Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5	Size	295/75R22.5	295/75R22.5
10	10	Tread Depth (32nds)	10	10
100	100	Pressure (psi)	100	100
Steel	Steel	Wheel Type	Steel	Steel

LR-Outer Trailer	LR-Inner Trailer	Tandem Rear	RR-Inner Trailer	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia	Type	Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5	Size	295/75R22.5	295/75R22.5
10	10	Tread Depth (32nds)	10	10
100	100	Pressure (psi)	100	100
Steel	Steel	Wheel Type	Steel	Steel

Note: Figure 15 shows the tire pressures of the Compare vehicle as 100 psi since that was the cold pressure set in the morning. For the measured tire pressures at each wheel position before and after each run, see Tire Pressure Data.

8.2: TIRE PRESSURE DATA

The pressures of all tires on both the Compare and Test vehicles were measured several times. On the Compare vehicle the tire pressures were measured at the beginning of the test and then after each run. On the Test vehicle the tire pressures were measured at the beginning of the test, twice between each test (once before the pressures were bled and once after) and then once after the final run. The results are shown in the data tables and comparison tables in sections 8.2a to 8.2d.

The data tables in the subsections below show the pressure measurements as follows:

- Measured Warm-up (psi): for Run 1, the tire pressure after the tire was set to its initial value; for Runs 2 to 4, the tire pressure immediately after the previous run.
- Pressure (psi) Bled To: the tire pressure after the tire was bled. For the Compare vehicle this is the same as Measured Warm-up since its tires were not bled.
- Pressure (psi) End: tire pressure after the run. This is the same as the Measured Warm-up for the following run.

To save space, the values for dual tires are averaged together in these tables.

The comparison tables in the sections below compare the tire pressure measurements for each run. The left side of each comparison table compares the tire pressures between the Compare and Test vehicles at each wheel position (this uses the averages of the pressures measured before and after the run). This is calculated as follows, where TTP is the pressure of the tire at a given wheel position on the Test vehicle and CTP is the pressure of the tire at the same wheel position on the Compare vehicle:

$$Pressure\ Difference = \frac{Post\ Run\ TTP + Pre\ Run\ TTP}{2} - \frac{Post\ Run\ CTP + Pre\ Run\ CTP}{2}$$

The bottom-left side of each table shows the average pressure difference and the minimum and maximum pressure differences. The minimum and maximum values relate to individual wheel positions; for example, in Run 1 the wheel position with the lowest pressure difference was the left rear drive tire at 20.7 psi, so the table shows 20.7 psi as the minimum pressure difference for that run.

The right side of each table shows how much the tire pressures at each wheel position on the Test vehicle increased during the run compared to how much the tire pressures at those wheel positions on the Compare vehicle increased. This is calculated as follows:

$$Comparative\ Increase = (Post\ Run\ TTP - Pre\ Run\ TTP) - (Post\ Run\ CTP - Pre\ Run\ CTP)$$

The bottom-right side of each table shows the average pressure increase and the minimum and maximum pressure increases. The minimum and maximum values relate to individual wheel positions; for example, in Run 1 the wheel positions with the lowest pressure increase were the front right drive tire and the front trailer tires, all at 2.3 psi. Therefore the table shows 2.3 psi as the minimum pressure increase for that run.

8.2a: TIRE PRESSURES, RUN 1

The tire pressure comparison is approximately 20 psi for Run 1 since the Test vehicle started at 120.0 psi cold pressure whereas the Compare vehicle started Run 1 at 100.0 psi.

Table 4: Tire Pressure Comparisons, Run 1

Average Tire Pressure Comparison (Test Vehicle - Compare Vehicle)						Tire Pressure Growth Comparison (End Pressure - Start Pressure) of (Test Veh - Compare Veh)					
21.9		Steers (psi)		22.4		3.8		Steers (psi)		4.8	
21.1		Drives-Front (psi)		21.4		2.6		Drives-Front (psi)		2.3	
20.7		Drives-Rear (psi)		21.7		3.2		Drives-Rear (psi)		4.0	
20.9		Trailer-Front (psi)		21.1		2.3		Trailer-Front (psi)		2.3	
21.0		Trailer-Rear (psi)		21.5		2.9		Trailer-Rear (psi)		2.4	
21.4		Average Pressure Variance (psi)				3.0		Average Pressure Variance (psi)			
20.7		Minimum Pressure Variance (psi)				2.3		Minimum Pressure Variance (psi)			
22.4		Maximum Pressure Variance (psi)				4.8		Maximum Pressure Variance (psi)			

Table 5: Tire Pressure Data for Test Vehicle, Run 1

Veh C: Aperia 120 psi (Test Vehicle)						
			Truck	Veh. C		
LF:		Wheel	**Front Axle Tires**	Wheel		RF: Same
Michelin X Line Energy Z+		Aluminum	Type	Aluminum		Michelin X Line Energy Z+
295/75R22.5			Size			295/75R22.5
17			Tread Depth (32nds)			17
120.0			Measured Warm-up (psi)			120.0
120.0			Pressure (psi) Bled to			120.0
137.4			Pressure (psi) End			136.4
128.7			**Pressure (psi) Avg.**			**128.2**
LF-Outer Drive:	LF-Inner Drive:		**Drive Axle Tires**		RF-Inner Drive:	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+	Aluminum	Type	Aluminum	Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
20	20		Tread Depth (32nds)		20	20
120.0	120.0		Measured Warm-up (psi)		120.0	120.0
120.0	120.0		Pressure (psi) Bled to		120.0	120.0
130.7	134.9		Pressure (psi) End		132.8	132.5
126.4			**Pressure (psi) Avg.**		**126.3**	
LR-Outer Drive:	LR-Inner Drive:		**Drive Axle Tires**		RR-Inner Drive:	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+	Aluminum	Type	Aluminum	Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
20	20		Tread Depth (32nds)		20	20
120.0	120.0		Measured Warm-up (psi)		120.0	120.0
120.0	120.0		Pressure (psi) Bled to		120.0	120.0
131.8	135.1		Pressure (psi) End		134.7	132.8
126.7			**Pressure (psi) Avg.**		**126.9**	
			Trailer	T-1		
LF-Outer Trailer:	LF-Inner Trailer:		**Tandem Front**		RF-Inner Trailer:	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia	Steel	Type	Steel	Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10		Tread Depth (32nds)		10	10
120.0	120.0		Measured Warm-up (psi)		120.0	120.0
120.0	120.0		Pressure (psi) Bled to		120.0	120.0
130.9	132.8		Pressure (psi) End		132.2	132.9
125.9			**Pressure (psi) Avg.**		**126.3**	
LR-Outer Trailer:	LR-Inner Trailer:		**Tandem Rear**		RR-Inner Trailer:	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia	Steel	Type	Steel	Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10		Tread Depth (32nds)		10	10
120.0	120.0		Measured Warm-up (psi)		120.0	120.0
120.0	120.0		Pressure (psi) Bled to		120.0	120.0
131.5	133.6		Pressure (psi) End		133.9	133.9
126.3			**Pressure (psi) Avg.**		**127.0**	

Table 6: Tire Pressure Data for Compare Vehicle, Run 1

Veh B: Compare Vehicle						
			Truck	Veh. B		
LF:		Wheel	Front Axle Tires	Wheel		RF:
Michelin X Line Energy Z+			Type			Michelin X Line Energy Z+
295/75R22.5			Size			295/75R22.5
14		Aluminum	Tread Depth (32nds)	Aluminum		14
100.0			Measured Warm-up (psi)			100.0
100.0			Pressure (psi) Bled to			100.0
113.6			Pressure (psi) End			111.6
106.8			**Pressure (psi) Avg.**			**105.8**
LF-Outer Drive:	LF-Inner Drive:		**Drive Axle Tires**		RF-Inner Drive:	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
15	16	Aluminum	Tread Depth (32nds)	Aluminum	14	16
100.0	100.0		Measured Warm-up (psi)		100.0	100.0
100.0	100.0		Pressure (psi) Bled to		100.0	100.0
110.2	111.0		Pressure (psi) End		110.4	109.3
105.3			**Pressure (psi) Avg.**		**104.9**	
LR-Outer Drive:	LR-Inner Drive:		**Drive Axle Tires**		RR-Inner Drive:	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
15	14	Aluminum	Tread Depth (32nds)	Aluminum	15	16
100.0	100.0		Measured Warm-up (psi)		100.0	100.0
100.0	100.0		Pressure (psi) Bled to		100.0	100.0
110.2	110.9		Pressure (psi) End		109.8	111.0
105.3			**Pressure (psi) Avg.**		**105.2**	
			Trailer	T-2		
LF-Outer Trailer:	LF-Inner Trailer:		**Tandem Front**		RF-Inner Trailer:	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
100.0	100.0		Measured Warm-up (psi)		100.0	100.0
100.0	100.0		Pressure (psi) Bled to		100.0	100.0
109.6	110.7		Pressure (psi) End		110.3	110.6
105.1			**Pressure (psi) Avg.**		**105.2**	
LR-Outer Trailer:	LR-Inner Trailer:		**Tandem Rear**		RR-Inner Trailer:	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
100.0	100.0		Measured Warm-up (psi)		100.0	100.0
100.0	100.0		Pressure (psi) Bled to		100.0	100.0
109.7	111.3		Pressure (psi) End		111.5	110.4
105.3			**Pressure (psi) Avg.**		**105.5**	

8.2b: TIRE PRESSURES, RUN 2

Table 7: Tire Pressure Comparisons, Run 2

Average Tire Pressure Comparison (Test Vehicle - Compare Vehicle)						Tire Pressure Growth Comparison (End Pressure - Start Pressure) of (Test Veh - Compare Veh)					
14.9		Steers (psi)		16.1		2.2		Steers (psi)		2.5	
13.2		Drives-Front (psi)		14.0		1.8		Drives-Front (psi)		2.6	
13.4		Drives-Rear (psi)		14.4		1.4		Drives-Rear (psi)		1.0	
12.3		Trailer-Front (psi)		13.3		1.1		Trailer-Front (psi)		2.3	
12.8		Trailer-Rear (psi)		14.1		1.6		Trailer-Rear (psi)		2.1	
13.8		Average Pressure Variance (psi)				1.9		Average Pressure Variance (psi)			
12.3		Minimum Pressure Variance (psi)				1.0		Minimum Pressure Variance (psi)			
16.1		Maximum Pressure Variance (psi)				2.6		Maximum Pressure Variance (psi)			

Table 8: Tire Pressure Data for Test Vehicle, Run 2

Veh C: Aperia 110 psi (Test Vehicle)						
			Truck	Veh. C		
LF:		Wheel	Front Axle Tires	Wheel		RF: Same
Michelin X Line Energy Z+			Type			Michelin X Line Energy Z+
295/75R22.5			Size			295/75R22.5
17		Aluminum	Tread Depth (32nds)	Aluminum		17
137.4			Measured Warm-up (psi)			136.4
127.4			Pressure (psi) Bled to			126.4
131.8			Pressure (psi) End			132.2
129.6			**Pressure (psi) Avg.**			**129.3**
LF-Outer Drive:	LF-Inner Drive:		**Drive Axle Tires**		RF-Inner Drive:	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
20	20	Aluminum	Tread Depth (32nds)	Aluminum	20	20
130.7	134.9		Measured Warm-up (psi)		132.8	132.5
120.7	124.9		Pressure (psi) Bled to		122.8	122.5
125.7	129.0		Pressure (psi) End		128.1	128.6
125.1			**Pressure (psi) Avg.**		**125.5**	
LR-Outer Drive:	LR-Inner Drive:		**Drive Axle Tires**		RR-Inner Drive:	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
20	20	Aluminum	Tread Depth (32nds)	Aluminum	20	20
131.8	135.1		Measured Warm-up (psi)		134.7	132.8
121.8	125.1		Pressure (psi) Bled to		124.7	122.8
126.4	129.1		Pressure (psi) End		129.9	128.3
125.6			**Pressure (psi) Avg.**		**126.4**	
			Trailer	T-1		
LF-Outer Trailer:	LF-Inner Trailer:		**Tandem Front**		RF-Inner Trailer:	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
130.9	132.8		Measured Warm-up (psi)		132.2	132.9
120.9	122.8		Pressure (psi) Bled to		122.2	122.9
125.4	126.4		Pressure (psi) End		127.6	128.1
123.9			**Pressure (psi) Avg.**		**125.2**	
LR-Outer Trailer:	LR-Inner Trailer:		**Tandem Rear**		RR-Inner Trailer:	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
131.5	133.6		Measured Warm-up (psi)		133.9	133.9
121.5	123.6		Pressure (psi) Bled to		123.9	123.9
126.5	128.1		Pressure (psi) End		129.1	128.9
124.9			**Pressure (psi) Avg.**		**126.5**	

Table 9: Tire Pressure Data for Compare Vehicle, Run 2

Veh B: Compare Vehicle						
			Truck	Veh. B		
LF:		Wheel	Front Axle Tires	Wheel		RF:
Michelin X Line Energy Z+			Type			Michelin X Line Energy Z+
295/75R22.5			Size			295/75R22.5
14		Aluminum	Tread Depth (32nds)	Aluminum		14
113.6			Measured Warm-up (psi)			111.6
113.6			Pressure (psi) Bled to			111.6
115.8			Pressure (psi) End			114.9
114.7			**Pressure (psi) Avg.**			**113.3**
LF-Outer Drive:	LF-Inner Drive:		**Drive Axle Tires**		RF-Inner Drive:	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
15	16	Aluminum	Tread Depth (32nds)	Aluminum	14	16
110.2	111.0		Measured Warm-up (psi)		110.4	109.3
110.2	111.0		Pressure (psi) Bled to		110.4	109.3
112.9	113.5		Pressure (psi) End		113.5	112.8
111.9			**Pressure (psi) Avg.**		**111.5**	
LR-Outer Drive:	LR-Inner Drive:		**Drive Axle Tires**		RR-Inner Drive:	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
15	14	Aluminum	Tread Depth (32nds)	Aluminum	15	16
110.2	110.9		Measured Warm-up (psi)		109.8	111.0
110.2	110.9		Pressure (psi) Bled to		109.8	111.0
113.1	114.6		Pressure (psi) End		114.2	113.1
112.2			**Pressure (psi) Avg.**		**112.0**	
			Trailer	T-2		
LF-Outer Trailer:	LF-Inner Trailer:		**Tandem Front**		RF-Inner Trailer:	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
109.6	110.7		Measured Warm-up (psi)		110.3	110.6
109.6	110.7		Pressure (psi) Bled to		110.3	110.6
112.6	113.5		Pressure (psi) End		113.3	113.5
111.6			**Pressure (psi) Avg.**		**111.9**	
LR-Outer Trailer:	LR-Inner Trailer:		**Tandem Rear**		RR-Inner Trailer:	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
109.7	111.3		Measured Warm-up (psi)		111.5	110.4
109.7	111.3		Pressure (psi) Bled to		111.5	110.4
112.9	114.5		Pressure (psi) End		114.5	112.9
112.1			**Pressure (psi) Avg.**		**112.3**	

8.2c: TIRE PRESSURES, RUN 3

Table 10: Tire Pressure Comparisons, Run 3

Average Tire Pressure Comparison (Test Vehicle - Compare Vehicle)						Tire Pressure Growth Comparison (End Pressure - Start Pressure) of (Test Veh - Compare Veh)					
6.3		Steers (psi)		8.2		0.6		Steers (psi)		1.9	
4.8		Drives-Front (psi)		5.8		1.4		Drives-Front (psi)		1.1	
4.4		Drives-Rear (psi)		5.9		1.1		Drives-Rear (psi)		0.8	
3.1		Trailer-Front (psi)		4.8		0.5		Trailer-Front (psi)		0.7	
4.1		Trailer-Rear (psi)		6.0		0.8		Trailer-Rear (psi)		1.3	
5.4		Average Pressure Variance (psi)				1.0		Average Pressure Variance (psi)			
3.1		Minimum Pressure Variance (psi)				0.5		Minimum Pressure Variance (psi)			
8.2		Maximum Pressure Variance (psi)				1.9		Maximum Pressure Variance (psi)			

Table 11: Tire Pressure Data for Test Vehicle, Run 3

Veh C: Aperia 100 psi (Test Vehicle)						
			Truck	Veh. C		
LF:		Wheel	Front Axle Tires	Wheel		RF: Same
Michelin X Line Energy Z+			Type			Michelin X Line Energy Z+
295/75R22.5			Size			295/75R22.5
17		Aluminum	Tread Depth (32nds)	Aluminum		17
131.8			Measured Warm-up (psi)			132.2
121.8			Pressure (psi) Bled to			122.2
124.1			Pressure (psi) End			125.7
123.0			**Pressure (psi) Avg.**			**124.0**
LF-Outer Drive:	LF-Inner Drive:		**Drive Axle Tires**		RF-Inner Drive:	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
20	20	Aluminum	Tread Depth (32nds)	Aluminum	20	20
125.7	129.0		Measured Warm-up (psi)		128.1	128.6
115.7	119.0		Pressure (psi) Bled to		118.1	118.6
118.3	121.3		Pressure (psi) End		120.9	121.2
118.6			**Pressure (psi) Avg.**		**119.7**	
LR-Outer Drive:	LR-Inner Drive:		**Drive Axle Tires**		RR-Inner Drive:	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
20	20	Aluminum	Tread Depth (32nds)	Aluminum	20	20
126.4	129.1		Measured Warm-up (psi)		129.9	128.3
116.4	119.1		Pressure (psi) Bled to		119.9	118.3
118.7	121.9		Pressure (psi) End		122.3	120.6
119.0			**Pressure (psi) Avg.**		**120.3**	
			Trailer	T-1		
LF-Outer Trailer:	LF-Inner Trailer:		**Tandem Front**		RF-Inner Trailer:	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
125.4	126.4		Measured Warm-up (psi)		127.6	128.1
115.4	116.4		Pressure (psi) Bled to		117.6	118.1
117.7	118.7		Pressure (psi) End		119.7	120.4
117.1			**Pressure (psi) Avg.**		**119.0**	
LR-Outer Trailer:	LR-Inner Trailer:		**Tandem Rear**		RR-Inner Trailer:	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
126.5	128.1		Measured Warm-up (psi)		129.1	128.9
116.5	118.1		Pressure (psi) Bled to		119.1	118.9
118.9	120.6		Pressure (psi) End		121.8	121.3
118.5			**Pressure (psi) Avg.**		**120.3**	

Table 12: Tire Pressure Data for Compare Vehicle, Run 3

Veh B: Compare Vehicle							
				Truck	Veh. B		
LF:		Wheel	Front Axle Tires	Wheel			RF:
Michelin X Line Energy Z+			Type				Michelin X Line Energy Z+
295/75R22.5			Size				295/75R22.5
14		Aluminum	Tread Depth (32nds)	Aluminum			14
115.8			Measured Warm-up (psi)				114.9
115.8			Pressure (psi) Bled to				114.9
117.5			Pressure (psi) End				116.5
116.7			**Pressure (psi) Avg.**				**115.7**
LF-Outer Drive:	LF-Inner Drive:		**Drive Axle Tires**			RF-Inner Drive:	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type			Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size			295/75R22.5	295/75R22.5
15	16	Aluminum	Tread Depth (32nds)	Aluminum		14	16
112.9	113.5		Measured Warm-up (psi)			113.5	112.8
112.9	113.5		Pressure (psi) Bled to			113.5	112.8
114.0	114.6		Pressure (psi) End			115.1	114.1
113.8			**Pressure (psi) Avg.**			**113.9**	
LR-Outer Drive:	LR-Inner Drive:		**Drive Axle Tires**			RR-Inner Drive:	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type			Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size			295/75R22.5	295/75R22.5
15	14	Aluminum	Tread Depth (32nds)	Aluminum		15	16
113.1	114.6		Measured Warm-up (psi)			114.2	113.1
113.1	114.6		Pressure (psi) Bled to			114.2	113.1
114.6	116.2		Pressure (psi) End			115.7	114.4
114.6			**Pressure (psi) Avg.**			**114.4**	
				Trailer	T-2		
LF-Outer Trailer:	LF-Inner Trailer:		**Tandem Front**			RF-Inner Trailer:	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type			Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size			295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel		10	10
112.6	113.5		Measured Warm-up (psi)			113.3	113.5
112.6	113.5		Pressure (psi) Bled to			113.3	113.5
114.4	115.2		Pressure (psi) End			114.8	114.8
113.9			**Pressure (psi) Avg.**			**114.1**	
LR-Outer Trailer:	LR-Inner Trailer:		**Tandem Rear**			RR-Inner Trailer:	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type			Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size			295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel		10	10
112.9	114.5		Measured Warm-up (psi)			114.5	112.9
112.9	114.5		Pressure (psi) Bled to			114.5	112.9
114.6	115.7		Pressure (psi) End			115.7	114.2
114.4			**Pressure (psi) Avg.**			**114.3**	

8.2d: TIRE PRESSURES, RUN 4

Table 13: Tire Pressure Comparisons, Run 4

Average Tire Pressure Comparison (Test Vehicle - Compare Vehicle)						Tire Pressure Growth Comparison (End Pressure - Start Pressure) of (Test Veh - Compare Veh)					
-13.0		Steers (psi)		-9.5		0.8		Steers (psi)		2.6	
-12.6		Drives-Front (psi)		-12.1		3.3		Drives-Front (psi)		3.0	
-13.2		Drives-Rear (psi)		-12.1		3.5		Drives-Rear (psi)		3.2	
-14.1		Trailer-Front (psi)		-13.2		4.9		Trailer-Front (psi)		3.2	
-13.4		Trailer-Rear (psi)		-12.1		3.8		Trailer-Rear (psi)		3.1	
-12.5		Average Pressure Variance (psi)				3.1		Average Pressure Variance (psi)			
-14.1		Minimum Pressure Variance (psi)				0.8		Minimum Pressure Variance (psi)			
-9.5		Maximum Pressure Variance (psi)				4.9		Maximum Pressure Variance (psi)			

Table 14: Tire Pressure Data for Test Vehicle, Run 4

Veh C: Aperia 90 psi (Test Vehicle)						
			Truck	Veh. C		
LF:		Wheel	Front Axle Tires	Wheel		RF: Same
Michelin X Line Energy Z+			Type			Michelin X Line Energy Z+
295/75R22.5			Size			295/75R22.5
17		Aluminum	Tread Depth (32nds)	Aluminum		17
124.1			Measured Warm-up (psi)			125.7
104.1			Pressure (psi) Bled to			105.7
107.1			Pressure (psi) End			110.7
105.6			**Pressure (psi) Avg.**			**108.2**
LF-Outer Drive:	LF-Inner Drive:		**Drive Axle Tires**		RF-Inner Drive:	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
20	20	Aluminum	Tread Depth (32nds)	Aluminum	20	20
118.3	121.3		Measured Warm-up (psi)		120.9	121.2
98.3	101.3		Pressure (psi) Bled to		100.9	101.2
105.8	105.9		Pressure (psi) End		106.1	106.1
102.8			**Pressure (psi) Avg.**		**103.6**	
LR-Outer Drive:	LR-Inner Drive:		**Drive Axle Tires**		RR-Inner Drive:	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
20	20	Aluminum	Tread Depth (32nds)	Aluminum	20	20
118.7	121.9		Measured Warm-up (psi)		122.3	120.6
98.7	101.9		Pressure (psi) Bled to		102.3	100.6
105.8	106.2		Pressure (psi) End		106.8	106.4
103.2			**Pressure (psi) Avg.**		**104.0**	
			Trailer	T-1		
LF-Outer Trailer:	LF-Inner Trailer:		**Tandem Front**		RF-Inner Trailer:	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
117.7	118.7		Measured Warm-up (psi)		119.7	120.4
97.7	98.7		Pressure (psi) Bled to		99.7	100.4
104.9	104.6		Pressure (psi) End		105.1	104.8
101.5			**Pressure (psi) Avg.**		**102.5**	
LR-Outer Trailer:	LR-Inner Trailer:		**Tandem Rear**		RR-Inner Trailer:	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
118.9	120.6		Measured Warm-up (psi)		121.8	121.3
98.9	100.6		Pressure (psi) Bled to		101.8	101.3
105.2	105.1		Pressure (psi) End		105.7	105.7
102.5			**Pressure (psi) Avg.**		**103.6**	

Table 15: Tire Pressure Data for Compare Vehicle, Run 4

Veh B: Compare Vehicle						
			Truck	Veh. B		
LF:		Wheel	Front Axle Tires	Wheel		RF:
Michelin X Line Energy Z+			Type			Michelin X Line Energy Z+
295/75R22.5			Size			295/75R22.5
14		Aluminum	Tread Depth (32nds)	Aluminum		14
117.5			Measured Warm-up (psi)			116.5
117.5			Pressure (psi) Bled to			116.5
119.7			Pressure (psi) End			118.9
118.6			**Pressure (psi) Avg.**			**117.7**
LF-Outer Drive:	LF-Inner Drive:		**Drive Axle Tires**		RF-Inner Drive:	RF-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
15	16	Aluminum	Tread Depth (32nds)	Aluminum	14	16
114.0	114.6		Measured Warm-up (psi)		115.1	114.1
114.0	114.6		Pressure (psi) Bled to		115.1	114.1
116.7	116.5		Pressure (psi) End		117.1	116.2
115.5			**Pressure (psi) Avg.**		**115.6**	
LR-Outer Drive:	LR-Inner Drive:		**Drive Axle Tires**		RR-Inner Drive:	RR-Outer Drive
Michelin X Line Energy D+	Michelin X Line Energy D+		Type		Michelin X Line Energy D+	Michelin X Line Energy D+
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
15	14	Aluminum	Tread Depth (32nds)	Aluminum	15	16
114.6	116.2		Measured Warm-up (psi)		115.7	114.4
114.6	116.2		Pressure (psi) Bled to		115.7	114.4
116.8	117.8		Pressure (psi) End		117.7	116.5
116.4			**Pressure (psi) Avg.**		**116.1**	
			Trailer	T-2		
LF-Outer Trailer:	LF-Inner Trailer:		**Tandem Front**		RF-Inner Trailer:	RF-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
114.4	115.2		Measured Warm-up (psi)		114.8	114.8
114.4	115.2		Pressure (psi) Bled to		114.8	114.8
116.1	116.4		Pressure (psi) End		116.5	116.5
115.5			**Pressure (psi) Avg.**		**115.7**	
LR-Outer Trailer:	LR-Inner Trailer:		**Tandem Rear**		RR-Inner Trailer:	RR-Outer Trailer
Bridgestone R123 Ecopia	Bridgestone R123 Ecopia		Type		Bridgestone R123 Ecopia	Bridgestone R123 Ecopia
295/75R22.5	295/75R22.5		Size		295/75R22.5	295/75R22.5
10	10	Steel	Tread Depth (32nds)	Steel	10	10
114.6	115.7		Measured Warm-up (psi)		115.7	114.2
114.6	115.7		Pressure (psi) Bled to		115.7	114.2
116.2	117.0		Pressure (psi) End		116.8	116.1
115.9			**Pressure (psi) Avg.**		**115.7**	

8.3: TEST ROUTE

Testing took place on a 9-mile circle track in Pecos, Texas. The vehicles made the circuits in a clockwise direction using the middle lane (of 3).

Figure 16: Pecos Test Track

8.4: WEATHER CONDITIONS

Weather was fair during the testing. Winds ranged from 0 to 13 MPH. Weather data was acquired from a local Weather Underground weather station.[6]

The reader should be aware that MVTS methods include instantaneous and constant weather data acquisition on each vehicle, and this testing has minimal dependency on external weather data collection. MVTS test data accounts for changes in wind, temperature and other pertinent variables instantaneously.

Note: darkened rows pertain to test times.

Table 16: Weather Data, October 23, 2025

Time	Temperature	Dew Point	Humidity	Wind	Wind Speed	Wind Gust	Pressure	Precip.	Condition
11:15 PM	61.0 °F	31 °F	32 %	CALM	0.0 mph	0 mph	27.31 in	0.0 in	Fair
12:15 AM	56.0 °F	32 °F	40 %	CALM	0.0 mph	0 mph	27.32 in	0.0 in	Fair
12:55 AM	58.0 °F	31 °F	37 %	CALM	0.0 mph	0 mph	27.31 in	0.0 in	Fair
1:55 AM	54.0 °F	31 °F	42 %	CALM	0.0 mph	0 mph	27.30 in	0.0 in	Fair
2:55 AM	54.0 °F	34 °F	47 %	NNE	3.0 mph	0 mph	27.29 in	0.0 in	Fair
3:55 AM	53.0 °F	34 °F	48 %	CALM	0.0 mph	0 mph	27.28 in	0.0 in	Fair
4:55 AM	52.0 °F	32 °F	47 %	WNW	6.0 mph	0 mph	27.29 in	0.0 in	Fair
5:55 AM	53.0 °F	36 °F	52 %	CALM	0.0 mph	0 mph	27.30 in	0.0 in	Fair
6:55 AM	53.0 °F	38 °F	56 %	WSW	3.0 mph	0 mph	27.31 in	0.0 in	Fair
7:55 AM	52.0 °F	35 °F	53 %	CALM	0.0 mph	0 mph	27.31 in	0.0 in	Fair
8:55 AM	59.0 °F	43 °F	55 %	WNW	3.0 mph	0 mph	27.34 in	0.0 in	Fair
9:55 AM	65.0 °F	49 °F	57 %	NW	10.0 mph	0 mph	27.36 in	0.0 in	Fair
10:55 AM	70.0 °F	50 °F	49 %	NNW	8.0 mph	0 mph	27.34 in	0.0 in	Fair
11:55 AM	75.0 °F	51 °F	42 %	NNW	13.0 mph	0 mph	27.34 in	0.0 in	Fair
12:55 PM	78.0 °F	46 °F	32 %	NE	9.0 mph	0 mph	27.29 in	0.0 in	Fair
1:55 PM	82.0 °F	43 °F	25 %	E	3.0 mph	0 mph	27.26 in	0.0 in	Fair
2:55 PM	85.0 °F	41 °F	21 %	CALM	0.0 mph	0 mph	27.23 in	0.0 in	Fair
3:55 PM	88.0 °F	45 °F	23 %	CALM	0.0 mph	0 mph	27.20 in	0.0 in	Fair
4:55 PM	86.0 °F	45 °F	24 %	WNW	3.0 mph	0 mph	27.18 in	0.0 in	Fair
5:55 PM	85.0 °F	46 °F	26 %	NW	7.0 mph	0 mph	27.19 in	0.0 in	Fair
6:55 PM	83.0 °F	52 °F	34 %	NNW	15.0 mph	18 mph	27.20 in	0.0 in	Thunder
7:55 PM	67.0 °F	59 °F	76 %	NNE	12.0 mph	21 mph	27.27 in	0.0 in	Thunder in the Vicinity
8:55 PM	67.0 °F	60 °F	79 %	NNE	7.0 mph	0 mph	27.29 in	0.0 in	Fair
9:55 PM	66.0 °F	60 °F	81 %	E	12.0 mph	16 mph	27.26 in	0.0 in	Mostly Cloudy
10:55 PM	65.0 °F	61 °F	86 %	S	12.0 mph	0 mph	27.32 in	0.0 in	Thunder in the Vicinity

[6] Source: https://www.wunderground.com/history/daily/us/tx/pecos/KPEQ/date/2025-10-23

8.5: PRODUCT DETAILS

- Aperia Halo Tire Inflator
- Aperia Technologies
- 245 S Railroad Ave, San Mateo, CA United States 94401
- aperiatech.com

8.6: TEST PERSONNEL (ON-SITE)

8.6a: MVT SOLUTIONS

- Daryl Bear, Lead Engineer & COO
- Arturo Via, Engineering Technician
- John Rintelen, Driver and Shop Foreman
- Robert Herrera, Driver and Shop Technician
- Nick Randall, Shop Technician

8.6b: APERIA TECHNOLOGIES

- Ralph Dimenna, Chief Commercial Officer
- Brandon Haws, Product Operations Manager

8.7: MVT SOLUTIONS CONTACT INFO

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