MESILLA VALLEY TRANSPORTATION SOLUTIONS CERTIFIED
Fuel Economy Experts

MVT SOLUTIONS CERTIFIED™ FUEL ECONOMY TEST
SEPTEMBER 2020

TRANSTEX EDGE ELITE AERO™ SYSTEM

TRANSTEX EDGE TOPKIT+™

5.11 gal/1000 miles	**0.40** MPG	**4.44%**

EDGE ELITE AERO™ SYSTEM

12.09 gal/1000 miles	**1.02** MPG	**10.49%**

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 providing information relevant to their needs. Therefore, the format varies from traditional fuel economy and technical reports. The report Summary provides the reader a quick synopsis of the product's fuel savings. Following the 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 the 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 the product or test. As part of an MVTS Certified™ test, MVTS supports product inquiries, which we encourage carriers to utilize.

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

2.0: TEST SUMMARY

The EDGE TopKit+ showed fuel savings of **5.11 gal/1000 miles (4.44%)**. EDGE Elite Aero System showed a fuel savings of **12.09 gal/1000 miles (10.49%)**. The TopKit+ includes fairings at the rear of the trailer on the sides and top, plus EDGE Flap aerodynamic mud flaps. The EDGE Elite Aero System includes the TopKit+ system plus E-2330T trailer skirts. Tests were conducted on a modern Class-8 truck with a 53-foot dry van trailer. Results are shown below in Table 1. **Note:** the TopKit+ is an improved version of the original TopKit system, which includes changes to the fairing shapes and the addition of aerodynamic mud flaps.

Table 1: Fuel Economy Test Results

	Fuel Economy Improvement		
	Gal/1000 miles	MPG	Percent
EDGE TopKit+	**5.11**	0.40	4.44%
EDGE Elite Aero System	**12.09**	1.02	10.49%

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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. The vehicles were 1-minute apart, avoiding any aerodynamic influence on either vehicle during testing. The vehicles were termed “Compare Vehicle” and “Test Vehicle”. The Compare Vehicle remained unchanged throughout testing; it was used solely for comparison. The Test Vehicle had modifications made during the test (*i.e.* Transtex technologies installed).

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 VEHICLES

Test vehicles were 2019 International LT 625 with Cummins X15 15-Liter engines and Eaton Endurant 12-speed AMT. Trailers were 2020 Hyundai 53-foot Dry Van. Gross Vehicle Weight (GVW) was 45,000 lbs. Both trucks were equipped with Ex-Guard grill guards, which were previously tested and showed no negative influence on fuel consumption. The Compare vehicle remained unchanged throughout all tests. The Test vehicle configuration was changed between test runs. Trucks and trailers used dual tires. Tire pressures were set at 110 psi in the morning, prior to incurring any effect of daytime heat. Vehicle info can be found in the Appendix.

Vehicles were thoroughly inspected and received regular maintenance prior to testing. It should also be noted, for the reader’s piece of mind, Mesilla Valley Transportation (MVT) and MVT Solutions are 100% confident in the reliable condition of the test vehicles. MVT fleet uses the same vehicle data and test procedures for their own internal purchase decisions.

Figure 1: Test Vehicle where Transtex Technologies were Installed

Figure 2: Compare Vehicle (No changes)

3.2: RUN 3: EDGE TOPKIT+

The initial run (Run 3) consisted of the test trailer being equipped with the EDGE TopKit+ (Figure 3). This system consisted of fairings at the rear of the trailer on the sides (A) and top (B), plus EDGE Flap aerodynamic mud flaps (C). The TopKit+ is an updated version of the original TopKit. Changes include new fairing contours on the sides and top (Figure 4 and Figure 5). **Note:** silver foil tape is not part of normal installs, it was used during testing due to multiple installs of the fairings.

Figure 3: EDGE TopKit+

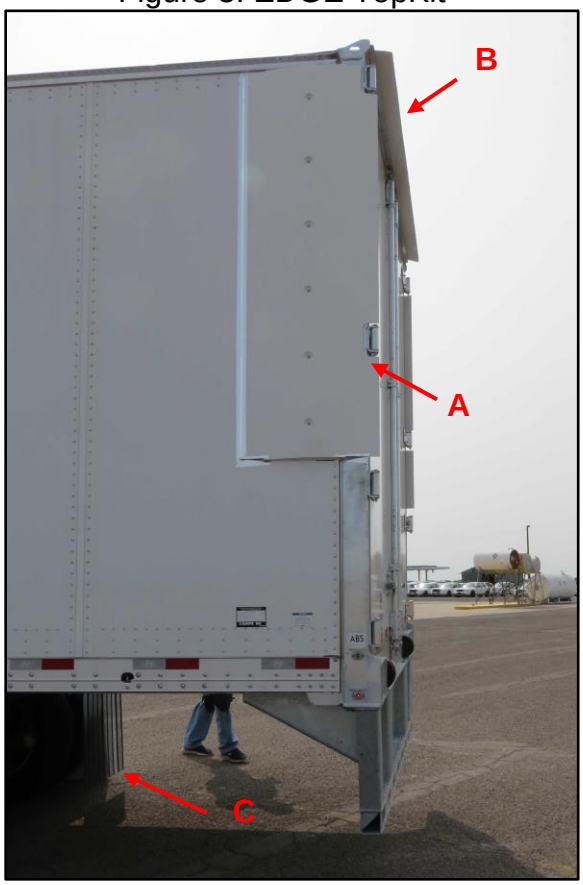


Figure 4: TopKit+ Side Fairing (Bottom view)

Figure 5: TopKit+ Side Fairing Rear View

3.3: Run 6: EDGE Elite Aero System

Runs were completed between the MVTS Certified runs for research and development purposes. Therefore, Run 6 was the next Certified run and consisted of adding Transtex E-2330T skirts (D), which were 23 feet in length and 30 inches in height. Run 6 also included adding EDGE TopKit+ again for the complete Transtex package (Figure 6).

Figure 6: EDGE Elite Aero System

3.4: Run 7: Baseline (No Aerodynamic Technologies)

Run 7 consisted of removing all trailer aerodynamics to provide a Baseline (Figure 7). Both Run 3 and Run 6 were compared to Run 7 to quantify fuel savings of EDGE TopKit+ and also the test of EDGE Elite Aero System.

Figure 7: Baseline Trailer Configuration

Table 2 below shows the test run order and times.

Table 2: September 12-13 Test Runs

Run	Run Description	Start	End
3	EDGE TopKit+	2:35 PM	4:15 PM
6	EDGE Elite Aero System	8:09 PM	9:54 PM
7	Baseline	10:39 PM	12:24 AM

3.5: 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)

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

Figure 8: Aerodynamic Sensors

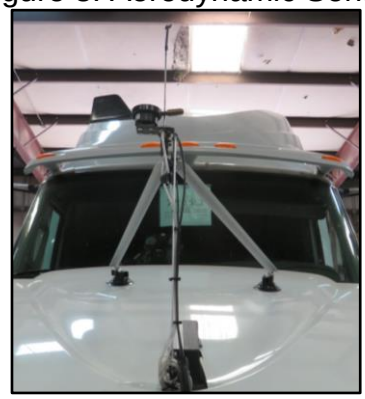
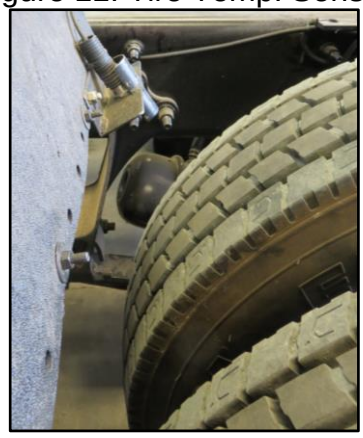


Figure 9: Data Acquisition System

Figure 10: Fuel Flow Meter

Figure 11: Tire Temp. Sensor



4.0: TEST RESULTS

EDGE TopKit+ showed fuel savings of 5.11 gal/1000 miles (4.44%) and the **EDGE Elite Aero System showed savings of 12.09 gal/1000 miles (10.49%).** These are substantial fuel savings for both a trailer rear kit and a rear kit combined with skirts. It should be noted that the E-2330T trailer skirts reached to approximately 7 inches from the trailer wheels while the tandem was at the 40-foot mark. This would prevent the tandem from being moved forward to adjust for axle weights. The EDGE TopKit+ also had some minor clearance issues at the top of the door lock rods where they latch into the trailer frame. This clearance issue could be easily fixed with a small cut out of the top Transtex panel where the lock rods are located. EDGE TopKit+ was a brand new technology at the time of testing and the MVTS test was its first installation on a trailer. Therefore, minor clearance issues could be expected and will likely be remedied quickly by the Transtex team.

Table 3: Test Results with Accuracy

	Fuel Economy Improvement		
	Gal/1000 miles	MPG	Percent
EDGE TopKit+	**5.11**	0.40	4.44%
Accuracy	**+/- 0.36**	+/- 0.03	+/- 0.31%
EDGE Elite Aero System	**12.09**	1.02	10.49%
Accuracy	**+/- 0.50**	+/- 0.04	+/- 0.43%

These results are shown graphically in gal/1000 miles below in Figure 12 and as a percent in Figure 13.

Figure 12: Fuel Savings (gal/1000 miles)

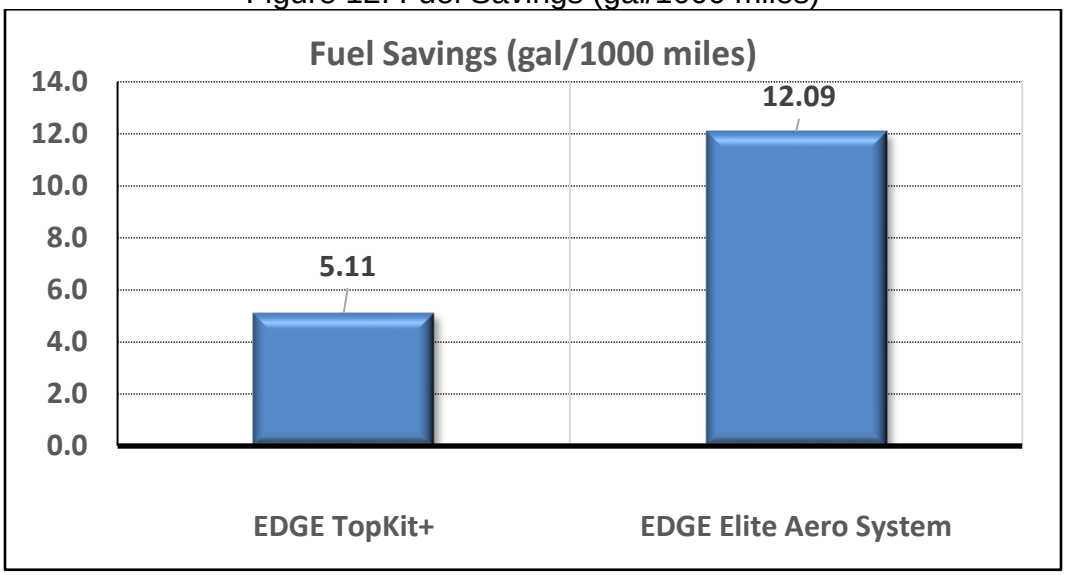
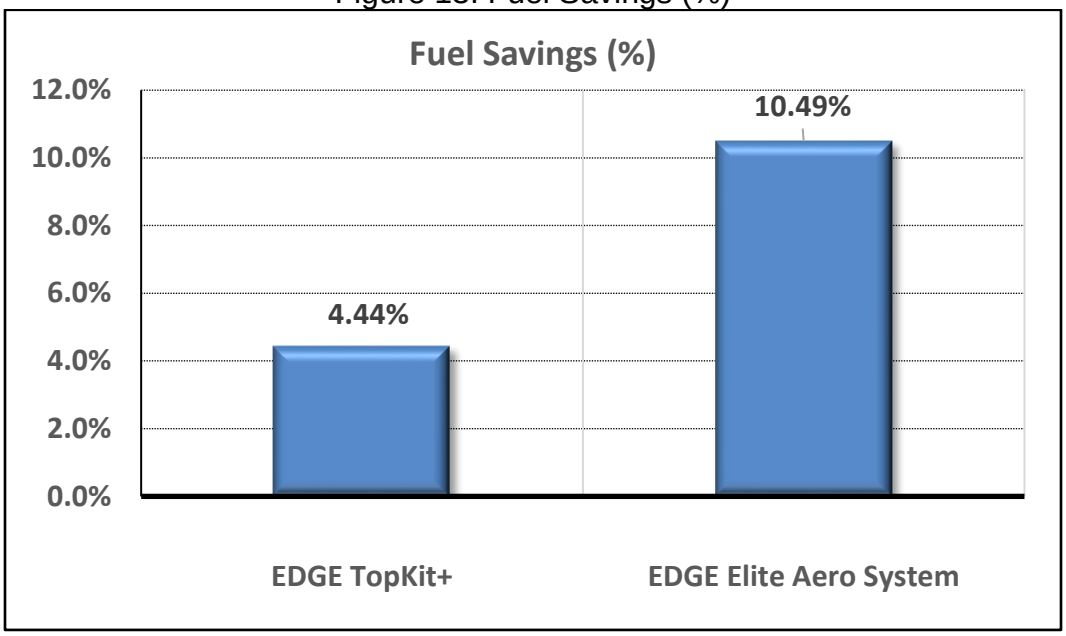


Figure 13: Fuel Savings (%)



4.1: 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 an aerodynamic 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 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 aerodynamic fuel savings 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.

4.2: WEATHER CONDITIONS SUMMARY

Temperatures ranged from 58°F to 84°F. Winds ranged from 0-12 mph and gusts were omitted from the test results based on consistency of test data. It should be noted that the MVTS test methods account for these variables and their effects on fuel savings. Therefore, the range in climate conditions did not impede the test results shown in this report. Complete weather data can be found in the Appendix.

4.3: MEASUREMENT ACCURACY

The accuracy of fuel economy measurements is critical in determining the trustworthiness of test results. Historically, this has been a major difficulty in the trucking industry with fuel economy testing, which has led to confusion and misleading results. The MVTS test methods overcome this issue by achieving better accuracy, which is one of the ways it provides more reliable test results.

Accuracy for all the tests was calculated using a 95% confidence interval, a common standard for testing measurement. 95% confidence interval indicates that if the test was repeated 100 times, values would fall within the range in 95 out of the 100 tests (*i.e.* the reader would be 95% confident the value would be within that range).

Figure 14 below, shows the statistical bell curves of the EDGE TopKit+. The Baseline run and the EDGE TopKit+ run clearly show two separate bell curves, indicating the test had valid accuracy and results were reliable. The graph shows the arrow pointing to the left illustrating less fuel used (fuel saved). The distance between the peaks of the bell curves is the test result average, which was a fuel savings of 5.11 gal/1000 miles. Minimum and maximum values were calculated as the test result plus or minus the accuracy values (5.11 +/- 0.36), which were 4.75 and 5.47 gal/1000 miles.

Figure 14: EDGE TopKit+ Fuel Consumption Bell Curve

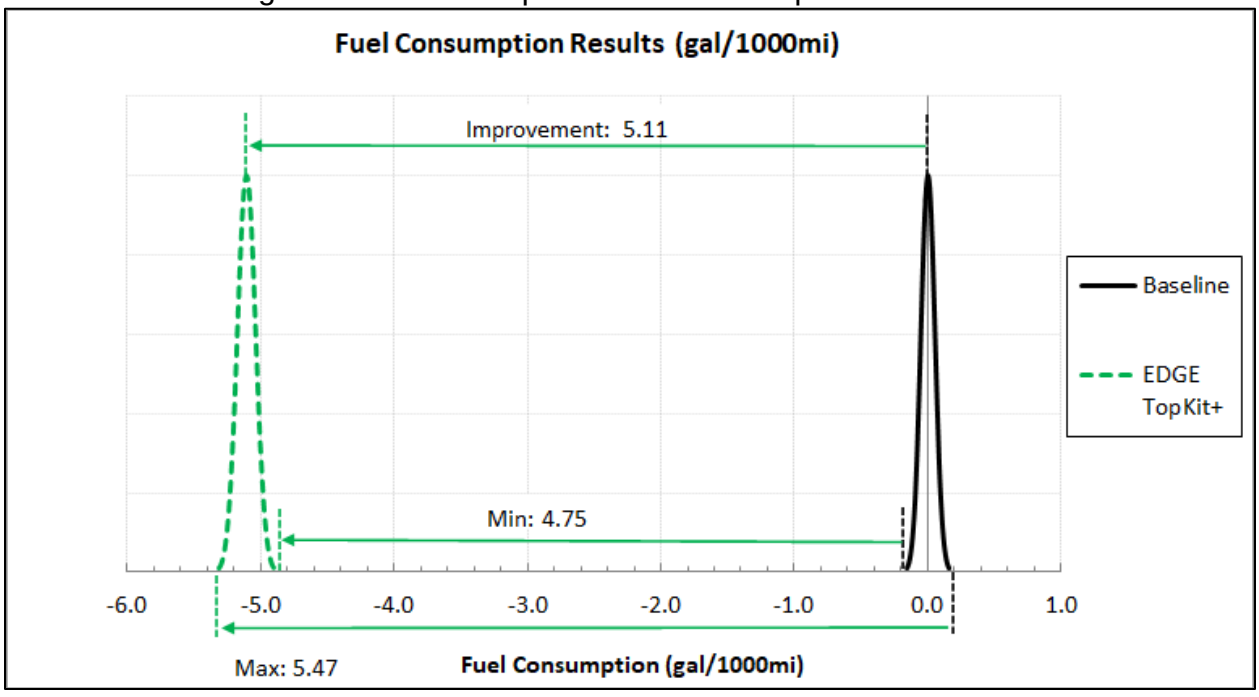
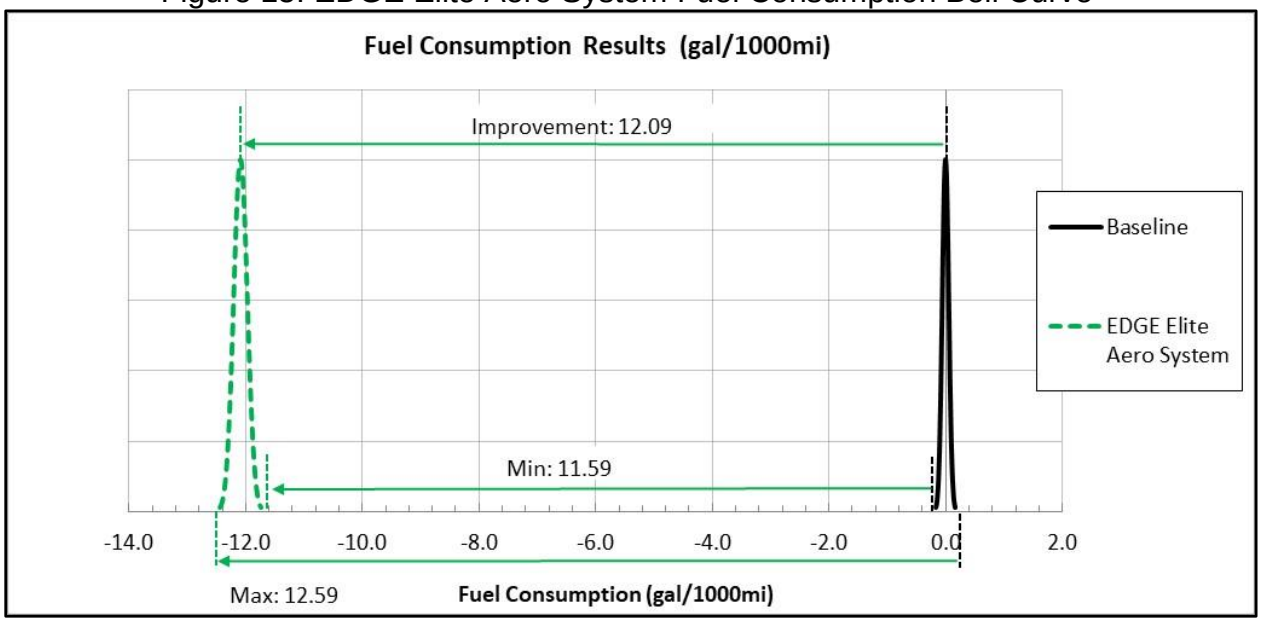


Figure 15 below, shows the statistical bell curves of EDGE Elite Aero System. The Baseline test and EDGE Elite Aero System test clearly show two separate bell curves, indicating the test had valid accuracy and results were reliable. The graph shows the arrow pointing to the left illustrating less fuel used (fuel saved). The distance between the peaks of the bell curves is the test result average, which was a fuel savings of 12.09 gal/1000 miles. Minimum and maximum values were calculated as the test result plus or minus the accuracy values (12.09 +/- 0.50), which were 11.59 and 12.59 gal/1000 miles.

Figure 15: EDGE Elite Aero System Fuel Consumption Bell Curve



5.0: SAVINGS CALCULATIONS

Below is a brief outline of how to use the test results to calculate savings. For more detail or assistance contact MVT Solutions.

5.1: FUEL SAVINGS CALCULATIONS (EDGE TOPKIT+)

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

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

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

Example: EDGE TopKit+ fuel savings of 5.11 gal/1000 miles and 125,000 miles travelled annually:

$$Fuel\ Savings = (5.11\ gal/1000\ miles)x\ \frac{(125{,}000\ miles/year)}{1000} = 639\ gal/year$$

Therefore, the EDGE TopKit+ would save 639 gallons of fuel per year for this vehicle travelling 125,000 miles.

5.2: FINANCIAL SAVINGS CALCULATIONS (EDGE TOPKIT+)

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

$$Savings\ (\$/year) = (Fuel\ Savings)\ x\ (Price\ of\ fuel)$$

Example: Using the example above and U.S. average retail price of diesel fuel in 2019, $3.056[1] /gal

$Savings\ (\$/year) = \left(639\ \frac{gal}{year}\right)\ x\ \left(\frac{\$3.056}{gal}\right) = \$1{,}953\ /year$ in fuel savings

Therefore, the EDGE TopKit+ would save $1,953 per year in fuel for the vehicle travelling 125,000 miles.

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

5.3: PAYBACK AND RETURN-ON-INVESTMENT (EDGE TOPKIT+)

Buyers of fuel economy technologies are highly interested in saving money. For a technology supplier to be successful, their technology must save their potential customers money and many fleets consider the number of months required for the technology to pay for itself as a buying qualification, which is referred to as 'payback' in trucking or sometimes ROI.

$$Payback\ (months) = \frac{(Product\ cost)}{(Savings\ (\$/year)}\ x\ (12\ months/year)$$

Example @$700 Product cost, 2:1 trailer to tractor ratio: **Note**: the Product Cost is fictitious and used only for example purposes. Contact a Transtex sales representative or trailer OEM for pricing.

$$Payback\ (months) = \frac{(Product\ Cost)}{(Savings\ (\$/year)}\ x\ (12\ months/year)$$

$$Payback\ (months) = \frac{2x\ (\$700)}{(\$1{,}953\ /year)}\ x\ \left(12\frac{months}{year}\right) = 8.6\ months$$

Note: '2x' is used in the Product Cost to account for a 2:1 trailer ratio.

Therefore, with a Product Cost of $700 and 2:1 trailer ratio, the EDGE TopKit+ would pay for itself (*i.e.* payback or ROI) in 8.6 months.

5.4: TECHNOLOGY PROFIT (EDGE TOPKIT+)

Since saving money is the end goal, calculating profit is another important factor. **Note**: these calculations will consider fuel and purchase price only and not maintenance.

$$Profit\ (\$) = (Savings) - (Cost)$$

Example @$700 Product cost, 2:1 trailer ratio: Using annual values from above and a 5 year trailer life.

$Profit\ (\$) = (\$1{,}953) - \frac{2x\ (\$700)}{5\ year}$ = $1,673 saved per year, per vehicle.

If this were translated to a 1000-truck fleet, the profits would be $1.673M annual.

Therefore, the EDGE TopKit+ would add $1,673 in annual profit per vehicle with 125,000 miles in travel. For a fleet of 1000 vehicles, this would equate to $1.673M.

5.5: FUEL SAVINGS CALCULATIONS (EDGE ELITE AERO SYSTEM)

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

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

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

Example: EDGE Elite Aero System fuel savings of 12.09 gal/1000 miles and 125,000 miles travelled annually:

$$Fuel\ Savings = (12.09\ gal/1000\ miles)x\frac{(125{,}000\ miles/year)}{1000} = 1{,}511\ gal/year$$

Therefore, EDGE Elite Aero System would save 1,511 gallons of fuel per year for this vehicle travelling 125,000 miles.

5.6: FINANCIAL SAVINGS CALCULATIONS (EDGE ELITE AERO SYSTEM)

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

$$Savings\ (\$/year) = (Fuel\ Savings)\ x\ (Price\ of\ fuel)$$

Example: Using the example above and U.S. average retail price of diesel fuel in 2019, $3.056[2] /gal

$Savings\ (\$/year) = \left(1{,}511\ \frac{gal}{year}\right)\ x\ \left(\frac{\$3.056}{gal}\right) = \$4{,}618\ /year$ in fuel savings

Therefore, EDGE Elite Aero System would save $4,618 per year in fuel for the vehicle travelling 125,000 miles.

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

5.7: PAYBACK AND ROI (EDGE ELITE AERO SYSTEM)

Buyers of fuel economy technologies are highly interested in saving money. For a technology supplier to be successful, their technology must save their potential customers money and many fleets consider the number of months required for the technology to pay for itself as a buying qualification, which is referred to as 'payback' in trucking or sometimes ROI.

$$Payback\ (months) = \frac{(Product\ cost)}{(Savings\ (\$/year)}\ x\ (12\ months/year)$$

Example @$1500 Product cost, 2:1 trailer to tractor ratio: **Note**: the Product Cost is an example value only. Contact a Transtex sales representative or trailer OEM for pricing.

$$Payback\ (months) = \frac{(Product\ Cost)}{(Savings\ (\$/year)}\ x\ (12\ months/year)$$

$$Payback\ (months) = \frac{2x\ (\$1{,}500)}{(\$4{,}618\ /year)}\ x\ \left(12\ \frac{months}{year}\right) = 7.8\ months$$

Note: '2x' is used in the Product Cost to account for a 2:1 trailer ratio.

Therefore, with a Product Cost of $1,500 and 2:1 trailer ratio, EDGE Elite Aero System would pay for itself (*i.e.* payback or ROI) in 7.8 months.

5.8: TECHNOLOGY PROFIT (EDGE ELITE AERO SYSTEM)

Since saving money is the end goal, calculating profit is another important factor. **Note**: these calculations will consider fuel and purchase price only and not maintenance, or tire life. An assumption will be made for this example that both brands have equal tire life.

$$Profit\ (\$) = (Savings) - (Cost)$$

Example @$1,500 Product cost, 2:1 trailer ratio: Using annual values from above and a 5 year trailer life.

$Profit\ (\$) = (\$4{,}618) - \frac{2x\ (\$1{,}500)}{5\ year}$ = $4,018 saved per year, per vehicle.

If this were translated to a 1000-truck fleet, the profits would be $4.018M annual.

Therefore, the EDGE Elite Aero System would add $4,018 in profit per vehicle with 125,000 miles in travel. For a fleet of 1000 vehicles, this would equate to $4.018M.

6.0: CONCLUSION

MVTS testing proved the fuel savings of both the EDGE TopKit+ and EDGE Elite Aero System with answers that were clear and precise.

The EDGE TopKit+ showed fuel savings of **5.11 gal/1000 miles (4.44%)**. EDGE Elite Aero System showed fuel savings of **12.09 gal/1000 miles (10.49%)**. These are exceptional fuel savings values that would interest any fleet concerned with fuel economy improvements and profit.

The EDGE TopKit+ was a new technology and will require some fitment to clear the trailer door lock rods at the top. The E-2330T trailer skirts extend within 7 inches of the trailer tires while the tandem was set at the 40-foot California spec, therefore preventing the ability to move the tandem forward for potential axle load requirements. The lock rod interference could be easily fixed; however, the trailer skirt and wheel interference could only be avoided by either shortening the skirt or moving it forward. Each trailer skirt modification could affect fuel savings.

Financially, the Transtex products show substantial value. Using an example price of $700 for EDGE TopKit+, the annual profit for 125,000 miles travelled and a 2:1 trailer to tractor ratio, would be $1,673 per power unit. For the EDGE Elite Aero System this would equate to $4,018 per power unit. For a 1000-truck fleet, these would equate to $1.673M and $4.018M respectively in annual profit. These are substantial savings. **Note:** values will depend on product cost, trailer ratio, price of fuel, and many other variables. Contact MVTS for questions or assistance in calculating.

The test values shown can be used to estimate a carrier's savings in real-world operations. More precision can be obtained by using a carrier's vehicle and duty cycle information. Contact MVT Solutions for assistance or more information.

7.0: APPENDIX

7.1: MODIFIED (I.E. TEST) TRUCK/TRAILER VEHICLE DETAILS

Figure 16: Vehicle Info, Test Vehicle

Date	September 12, 2020				
Company	Mesilla Valley Transportation Solutions				
Location	Pecos, Texas				
Test Route	Pecos 9-mile Test Track				
TRUCK ID:	**Veh. A**				
Brand	International				
Year	2019				
Model	LT 625				
Engine	Cummins X15				
VIN	3HSDZAPR4KN562972				
Mileage (miles):	3,329				
Transmission	Eaton Endurant 12-speed AMT				
Rear Gear	2.79 : 1				
Fuel Load	Full at start of test				
Fuel Type & Batch	No. 2 Diesel				
Axle Weights	11,800		16,860		14,980
Total weight	43,640				
Photo/Video/Audio folder name:					
TRAILER ID:	**T-1**				
Model	Hyundai				
VIN	3H3C532C6MR248009				
Year	2020				
Size	53-foot				
Trailer Type	Dry Van				
Trailer Gap (inches)	35 inches from cab extender to trailer				
Add-ons	Transtex trailer aerodynamic kit(s)				

Figure 17: Tire Info, Test Vehicle

		Truck	**Veh. A**		
LF:		**Front Axle Tires**			RF: Same
Michelin X Line Energy Z		Type			Michelin X Line Energy Z
275/80R22.5		Size			275/80R22.5
19/32		Tread Depth (32nds)			18/32
110		Pressure (psi)			110
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
275/80R22.5	275/80R22.5	Size		275/80R22.5	275/80R22.5
23/32	23/32	Tread Depth (32nds)		23/32	23/32
110	110	Pressure (psi)		110	110
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
275/80R22.5	275/80R22.5	Size		275/80R22.5	275/80R22.5
23/32	23/32	Tread Depth (32nds)		23/32	23/32
110	110	Pressure (psi)		110	110
		Trailer	**T-1**		
LF-Outer Trailer:	LF-Inner Trailer:	**Tandem Front**		RF-Inner Trailer	RF-Outer Trailer
General HT	General HT	Type		General HT	General HT
295/75R22.5	295/75R22.5	Size		295/75R22.5	295/75R22.5
13/32	13/32	Tread Depth (32nds)		13/32	13/32
110	110	Pressure (psi)		110	110
LR-Outer Trailer:	LR-Inner Trailer:	**Tandem Rear**		RR-Inner Trailer	RR-Outer Trailer
General HT	General HT	Type		General HT	General HT
295/75R22.5	295/75R22.5	Size		295/75R22.5	295/75R22.5
13/32	13/32	Tread Depth (32nds)		13/32	13/32
110	110	Pressure (psi)		110	110

7.2: COMPARE TRUCK/TRAILER VEHICLE DETAILS

Figure 18: Vehicle Info, Compare Vehicle

Date	September 12, 2020				
Company	Mesilla Valley Transportation Solutions				
Location	Pecos, Texas				
Test Route	Pecos 9-mile Test Track				
TRUCK ID:	**Veh. B**				
Brand	International				
Year	2019				
Model	LT 625				
Engine	Cummins X15				
VIN	3HSDZAPR3KN562087				
Mileage (miles):	3,329				
Transmission	Eaton Endurant 12-speed AMT				
Rear Gear	2.79 : 1				
Fuel Load	Full at start of test				
Fuel Type & Batch	No. 2 Diesel				
Axle Weights	11,040		17,620		14,980
Total weight	43,640				
Photo/Video/Audio folder name:					
TRAILER ID:	**V511326**				
Model	Stoughton				
VIN	1DW1A5328LSA43051				
Year	2019				
Size	53' Dry Van				
Trailer Gap (inches)	35" from cab extender to trailer				
Add-ons	GreenWing skirts				

Figure 19: Tire Info, Compare Vehicle

		Truck	**Veh. B**		
LF:		**Front Axle Tires**			RF: Same
Michelin X Line Energy		Type			Michelin X Line Energy
275/80R22.5		Size			275/80R22.5
18/32		Tread Depth (32nds)			18/32
110		Pressure (psi)			110
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
275/80R22.5	275/80R22.5	Size		275/80R22.5	275/80R22.5
23/32	23/32	Tread Depth (32nds)		23/32	23/32
110	110	Pressure (psi)		110	110
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
275/80R22.5	275/80R22.5	Size		275/80R22.5	275/80R22.5
23/32	23/32	Tread Depth (32nds)		23/32	23/32
110	110	Pressure (psi)		110	110
		Trailer	**V511326**		
LF-Outer Trailer:	LF-Inner Trailer:	**Tandem Front**		RF-Inner Trailer	RF-Outer Trailer
Michelin X Line Energy	Michelin X Line Energy	Type		Michelin X Line Energy	Michelin X Line Energy
275/80R22.5	275/80R22.5	Size		275/80R22.5	275/80R22.5
13/32	13/32	Tread Depth (32nds)		13/32	13/32
110	110	Pressure (psi)		110	110
LR-Outer Trailer:	LR-Inner Trailer:	**Tandem Rear**		RR-Inner Trailer	RR-Outer Trailer
Michelin X Line Energy	Michelin X Line Energy	Type		Michelin X Line Energy	Michelin X Line Energy
275/80R22.5	275/80R22.5	Size		275/80R22.5	275/80R22.5
13/32	13/32	Tread Depth (32nds)		13/32	13/32
110	110	Pressure (psi)		110	110

7.3: TEST ROUTE

Pecos, Texas 9-mile circle track. Counter-clockwise direction, middle lane (of 3).

Figure 20: Pecos Test Track

7.4: WEATHER CONDITIONS

Weather during testing was mild with moderate wind. Weather data was acquired from a local Weather Underground weather station. Source shown below.

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 4: Weather Data, Sept 12, 2020

Time	Temperature	Dew Point	Humidity	Wind	Wind Speed	Wind Gust	Pressure	Precip.	Condition
12:53 AM	62 F	59 F	90%	SW	3 mph	0 mph	27.10 in	0.0 in	Partly Cloudy
1:00 AM	63 F	60 F	90%	S	3 mph	0 mph	27.10 in	0.0 in	Mostly Cloudy
1:43 AM	63 F	59 F	87%	S	5 mph	0 mph	27.10 in	0.0 in	Fair
1:53 AM	63 F	59 F	87%	S	3 mph	0 mph	27.10 in	0.0 in	Fair
2:53 AM	63 F	59 F	87%	S	5 mph	0 mph	27.09 in	0.0 in	Fair
3:53 AM	61 F	59 F	93%	SE	6 mph	0 mph	27.08 in	0.0 in	Fair
4:53 AM	61 F	59 F	93%	S	5 mph	0 mph	27.07 in	0.0 in	Fair
5:53 AM	61 F	59 F	93%	SE	3 mph	0 mph	27.07 in	0.0 in	Fair
6:53 AM	58 F	58 F	100%	CALM	0 mph	0 mph	27.08 in	0.0 in	Fair
7:53 AM	60 F	59 F	96%	SSE	5 mph	0 mph	27.08 in	0.0 in	Fair
8:53 AM	61 F	60 F	97%	CALM	0 mph	0 mph	27.08 in	0.0 in	Fair
9:53 AM	64 F	61 F	90%	CALM	0 mph	0 mph	27.09 in	0.0 in	Fair
10:53 AM	68 F	62 F	81%	S	7 mph	0 mph	27.10 in	0.0 in	Fair
11:53 AM	73 F	62 F	68%	SSW	8 mph	0 mph	27.09 in	0.0 in	Fair
12:53 PM	77 F	61 F	58%	VAR	3 mph	0 mph	27.07 in	0.0 in	Fair
1:53 PM	80 F	61 F	52%	CALM	0 mph	0 mph	27.06 in	0.0 in	Fair
2:53 PM	81 F	60 F	49%	VAR	3 mph	0 mph	27.03 in	0.0 in	Fair
3:53 PM	83 F	59 F	44%	W	3 mph	0 mph	27.01 in	0.0 in	Fair
4:53 PM	84 F	59 F	43%	CALM	0 mph	0 mph	27.01 in	0.0 in	Fair
5:53 PM	83 F	58 F	42%	SE	8 mph	0 mph	27.00 in	0.0 in	Fair
6:53 PM	82 F	62 F	51%	SE	12 mph	0 mph	27.01 in	0.0 in	Fair
7:53 PM	79 F	63 F	58%	SE	10 mph	0 mph	27.01 in	0.0 in	Fair
8:53 PM	75 F	63 F	66%	SE	7 mph	0 mph	27.02 in	0.0 in	Fair
9:53 PM	74 F	64 F	71%	SSE	5 mph	0 mph	27.05 in	0.0 in	Fair
10:53 PM	73 F	64 F	73%	CALM	0 mph	0 mph	27.06 in	0.0 in	Fair
11:53 PM	72 F	65 F	78%	SE	6 mph	0 mph	27.08 in	0.0 in	Mostly Cloudy

Source: https://www.wunderground.com/history/daily/us/tx/midland/KMAF/date/2020-9-12

7.5: Product Details

- EDGE TopKit+
- EDGE Elite Aero System

7.6: Test Personnel

7.6a: MVT Solutions

- Daryl Bear, Lead Engineer & COO
- Drew Cassidy, Test Engineer

7.6b: Drivers

- Allan Dahringer
- John Rintelin
- Carlos Aragon
- Jack Burchell

7.6c: Transtex LLC

- Mathieu Boivin, Founder & CEO
- Pierre-Yves Lacroix, Engineering Director

7.7: MVT Solutions Contact Info

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