



SHREENIWAS INNOVATIONS PVT.LTD.

Survey No. 143/4, Belgaon Dhaga Road, Dange Mala,
At Post-Vilholi, Tal Dist. Nashik – 422010.

Study Report on Bio Mileager Petrol and Diesel Saver



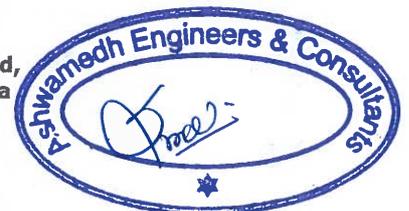
Conducted by



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1. Introduction

Shreeniwas Innovations Pvt. Ltd. was formed in the year 2010 with a lot of research and hard work starting from 2003. Mr. Deepak Rane is a nature lover, hence he was interested in doing something that would save the environment from pollution. He took the help of Ayurveda and under his father, Mr. Prakash Rane's guidance started working on the development of Bio Additives and clean Biofuel production. The immense research of 3 years helped Mr. Rane to invent the basic formulation of Petrol and Diesel additives that saved the fuel up to 40% and also increased the life of engines and other parts related to it. The perfect formula was invented after multiple experiments and it was ready to be introduced in the market in the year 2009. Mr. Rane still continues doing research daily to manufacture more products for conserving our economical fuel for the country's growth. He wants to set a global trademark in every country's economic fuel conservation and reduce the carbon footprint by boosting 'Green Foot Print' globally. The company now serves Auto and Industrial Lubricating oils and greases. Today, they have dealers and distributor network throughout Maharashtra and Goa. Also, they have their distributors in many other states of India.

In 2013, Mr. Rane invented the manufacturing process of Biofuel with the help of waste plastic. This process turns waste plastic into Biofuel as well as is highly preferred to be used by the consumers and large scale industries.



The motto is to transform the earth in to better future with cleaner and greener fresher air and a world free from carbon effects and global warming. For achieving this motto, the Company has launched a new product under category of Bio Mileager additives "Petrol Saver" and Diesel Saver.

1.1. Bio Mileager Petrol Saver

Bio Mileager Petrol Saver is a multifunctional additive with unique detergent and dispersant formula for all petrol engines. It is a 100% herbal petrol additive. This additive increases lubricity that significantly reduces engine wear and tear. In addition, the detergency and water co-solvency properties of this formula ensure that cleanliness is maintained in the fuel system, in turn contributing to lower maintenance costs. It actively works towards reducing the harmful emissions of carbon dioxide (CO₂), nitrogen oxides (NO_x), particulate matter (PM), unburned hydrocarbons (UHCs) and carbon monoxide (CO).

Feature of the product

- ✓ Eco-friendly, 100% herbal multi functional bio additive for petrol vehicles.
- ✓ Improved efficiency during the combustion process of petrol which leads to more mileage.
- ✓ Enables engine to perform at its peak capacity.
- ✓ Increases fuel average of the engine by 30 to 60% guaranteed.
- ✓ Provides smoother ignition and running performance.
- ✓ Reduces harmful emissions.
- ✓ Prolongs the life of the engine.



- ✓ Reduces maintenance costs.
- ✓ Protects the fuel system from corrosion.
- ✓ Smooth drive without knocking noise, backfire, delay time chain, etc.
- ✓ Totally prevents corrosion in fuel tank and cleans fuel supply in carburetor.

Petrol Saver will be used in all types of petrol vehicles, two-wheelers, three-wheelers and four-wheelers. While using of this product, take precautions are to be taken to avoid continuous skin contact of the product. 2 ml of this product is to be added to 1 L petrol. It is available in multiple pack size.

1.2. Bio Mileager Diesel Saver:

Bio Mileager Diesel Saver is a multifunctional additive with unique detergent and dispersant formula for all diesel engines. It is a premium diesel fuel additive, with outstanding clean-up and keep-clean properties. It is the most convenient to use by adding to the fuel tank in the recommended proportion.

Feature of the product

- ✓ Increases fuel average of the engine by 25 to 30% guaranteed.
- ✓ Cleans carbon deposits of injector and maintains proper spray pattern.
- ✓ Maintains peak engine performance and gives fuel economy.
- ✓ Removes piston ring deposits.
- ✓ Reduces visible smoke and harmful emissions.
- ✓ Prolongs injector and fuel filter life.
- ✓ Protects against rust and corrosion.



- ✓ Improves cold stability, reduces idling noise and missing.
- ✓ It gives extended life to injector, injection pumps and prevents wear and tear.
- ✓ Decreases consumption of fuel.
- ✓ Increases the pickup of the vehicle.
- ✓ Increase the life cycle of the vehicle.

Diesel Saver will be recommended for all types of equipment, cars, jeeps, LCVs, trucks, buses and off highway equipment. While using this product, take precautions are to be taken to avoid continuous skin contact of the product. 2 ml of this product is to be added to 1 L diesel. It is available in multiple pack size.

For the verification of all claimed features, Shreeniwas Innovation Pvt. Ltd. has carried out one case study through Ashwamedh Engineers and Consultants.

Ashwamedh Engineers and Consultants (AEC) was established in May 1986. The company is engaged in providing Environmental pollution testing, Food and agriculture testing and Consultancy Services with affiliates established all over India and overseas. AEC has steadily achieved growth up to such an extent that it has become India's foremost analytical laboratory with several branch offices. The well-equipped laboratory and office set up of about 28000 sq.ft is at Nashik, Maharashtra. The strength of the organization is the years of hard work, dedication and contribution made by the staff who are experts in their respective fields and they produce innovative ideas for the growth of the organization.



Ashwamedh Engineers & Consultants **Laboratory Services Division**

AEC has made itself capable of testing water, waste water, air, noise monitoring, hazardous and non-hazardous waste testing, fuel, food and agriculture testing. The state-of-art Laboratory set-up of AEC for Chemical, Biological and Mechanical Testing is at Nashik. The Laboratory is accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL) in accordance with ISO/IEC 17025:2017 in the Chemical, Biological and Mechanical Testing disciplines (Certificate number: TC-5509). The Laboratory is recognized by the Ministry of Environment, Forests & Climate Change (MoEF&CC), Govt. of India (GoI), New Delhi under Environment (Protection) Act, 1986. AEC is also ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certified organization.

The Laboratory is recognized by Bureau of Indian Standards for Packaged Drinking Water and Packaged Natural Mineral Water testing, also recognised by Agricultural and Processed Food Products Export Development Authority (APEDA), Export Inspection Council (EIC), Food Safety & Standards Authority of India (FSSAI) for food testing and also approved by Agricultural Marketing (AGMARK) and State Agriculture Department.



2. Objectives of the study

AEC has been engaged by Shreeniwas Innovations Pvt. Ltd. for case study on Bio Mileager Petrol and Diesel Saver.

The main objectives were:

- Carrying out inspection for vehicle on road mileage before and after use of additives.
- Carrying out vehicle noise monitoring before and after use of additives and vehicle emission monitoring by flue gas analyser before and after use of additives.



3. Methodology

AEC has carried out case study on different two-wheeler and four-wheeler vehicles before and after use of Bio Mileager Petrol and Diesel Saver for the parameters noise, vehicle emissions and mileage. For this study two different two-wheeler vehicles have been selected. One was Passion Pro (four stroke) and second is Moped Aviator (without four stroke) for petrol saver and Four-wheeler TATA Indica was selected for diesel saver.

For noise level measurement AEC has used calibrated Noise Level Meter. Noise level measurements were done before and after use of Bio Mileager Petrol and Diesel Saver of selected two-wheeler. Noise levels before and after use of additive are tabulated in table no.1.

Flue gas analyser Testo 340 was used for vehicle emission monitoring for the parameters Oxygen, Sulphur dioxide, Carbon monoxide, Carbon dioxide and Oxides of Nitrogen. The reading of vehicle emissions before and after use of additive in selected vehicles are tabulated in table no. 2.

For mileage calculation first fuel tanks of all selected vehicles were emptied and air was passed through the tanks. The empty fuel tank was filled with 1 L petrol in each two-wheeler and 3 L diesel in four-wheeler. The meter reading was noted as initial reading (A) after running the vehicle at 40 km/h speed till the fuel was finished and the final readings (B) was noted.



The mileage of each vehicle was calculated with the following formula:

$$\text{Mileage km/h} = \text{Initial reading (A) (km/h)} - \text{Final Reading (B) (km/h)}$$

Same procedure has been carried out for mileage calculation after use of Bio Mileager Petrol and Diesel Saver. The fuel tank was filled with 1 L petrol and 2 mL of Bio Mileage Petrol Saver was added in each two-wheeler. Four-wheeler fuel tank was filled with 3 L diesel and 6 mL Bio Mileage Diesel Saver was added. The meter reading as initial reading (A) was noted after running the vehicle at 40 km/h speed till the fuel was finished. Final readings (B) were noted. The mileage of each vehicle was calculated with the above mentioned formula and all the results tabulated.



4. Results

4.1. Noise Level Measurement

Noise level measurements were carried out of each selected two-wheeler and four-wheeler vehicle before and after use of Bio Mileager Petrol and Diesel Saver. Results are mentioned in below table.

Table 1: Noise level measurement of two-wheeler

Sr. No.	Vehicle	Result Noise level dB (A) Fast Response	
		Before use of Bio Mileager Petrol Saver (Date: 10.02.2022)	After use of Bio Mileager Petrol Saver (Date: 16.02.2022)
1.	Passion	71.9	60.8
2.	Aviator	62.1	50.2

Graph 1: Noise level measurement of two-wheeler

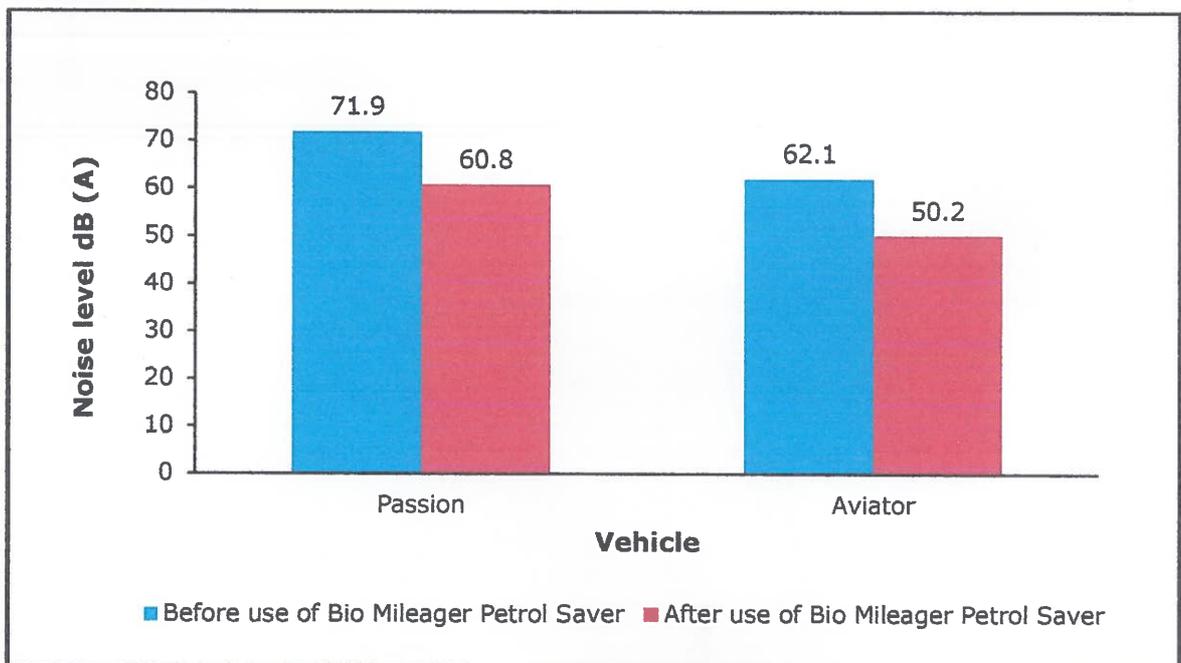
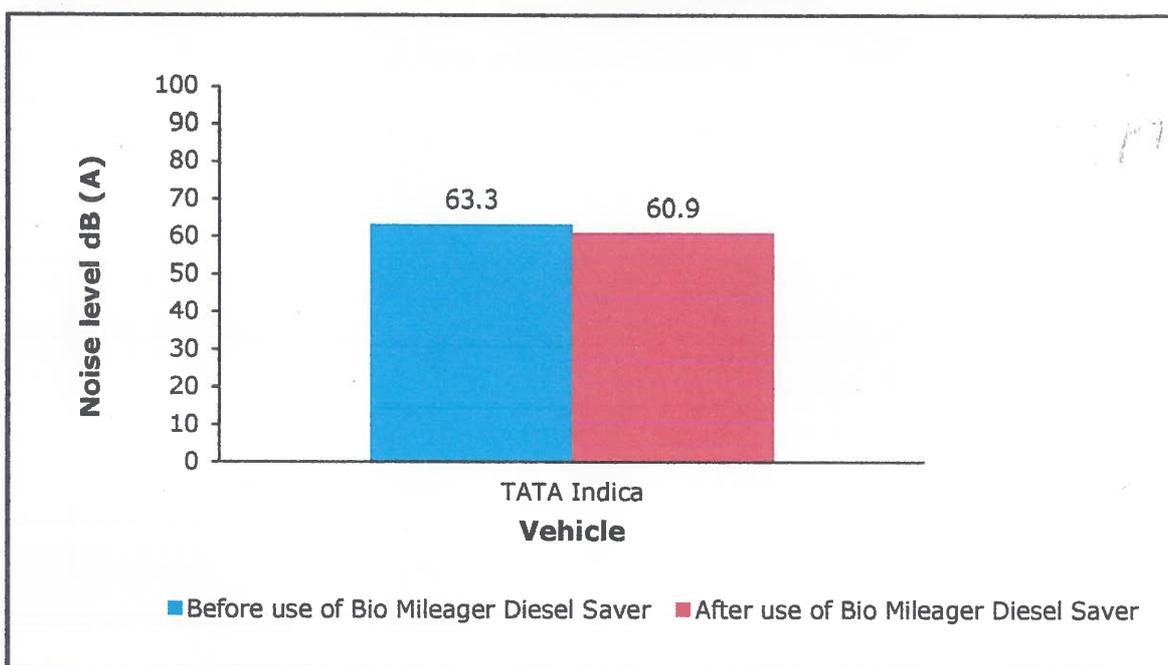




Table 2: Noise level measurement of four-wheeler

Sr. No.	Vehicle	Result Noise level dB (A) Fast Response	
		Before use of Bio Mileager Diesel Saver (Date: 10.02.2022)	After use of Bio Mileager Diesel Saver (Date: 16.02.2022)
1.	TATA Indica	63.3	60.9

Graph 2: Noise level measurement of four-wheeler





Photograph: Showing Noise level measurement



Noise monitoring of Passion before using of Bio Mileage Petrol Saver



Noise monitoring of Passion after using of Bio Mileage Petrol Saver



Noise monitoring of Aviator before using of Bio Mileage Petrol Saver



Noise monitoring of Aviator after using of Bio Mileage Petrol Saver



Noise monitoring of TATA Indica before using of Bio Mileage Diesel Saver



Noise monitoring of TATA Indica after using of Bio Mileage Diesel Saver



4.2. Emission Monitoring

Vehicle emission monitoring was carried out by Flue Gas Analyser (Testo 340) for the parameters Oxygen, Sulphur dioxide, Carbon monoxide, Carbon dioxide and Oxides of Nitrogen and the results tabulated before and after use of additive in selected vehicles.

Table 3: Emission Monitoring Results of two-wheeler (Passion)

Sr. No.	Parameters	Unit	Result	
			Before use of Bio Mileager Petrol Saver (Date: 10.02.2022)	After use of Bio Mileager Petrol Saver (Date: 16.02.2022)
1.	Oxygen (O ₂)	%	18.78	20.31
2.	Sulphur dioxide (SO ₂)	ppm	124	0
3.	Carbon monoxide (CO)	ppm	11946	8462
4.	Carbon dioxide (CO ₂)	ppm	0.74	0.34
5.	Oxides of Nitrogen (NO _x)	ppm	0	0

Table 4: Emission Monitoring Results of two-wheeler (Aviator)

Sr. No.	Parameters	Unit	Result	
			Before use of Bio Mileager Petrol Saver (Date: 10.02.2022)	After use of Bio Mileager Petrol Saver (Date: 16.02.2022)
1.	Oxygen (O ₂)	%	16.75	20.34
2.	Sulphur dioxide (SO ₂)	ppm	141	0
3.	Carbon monoxide (CO)	ppm	22626	13415
4.	Carbon dioxide (CO ₂)	ppm	1.44	0.89



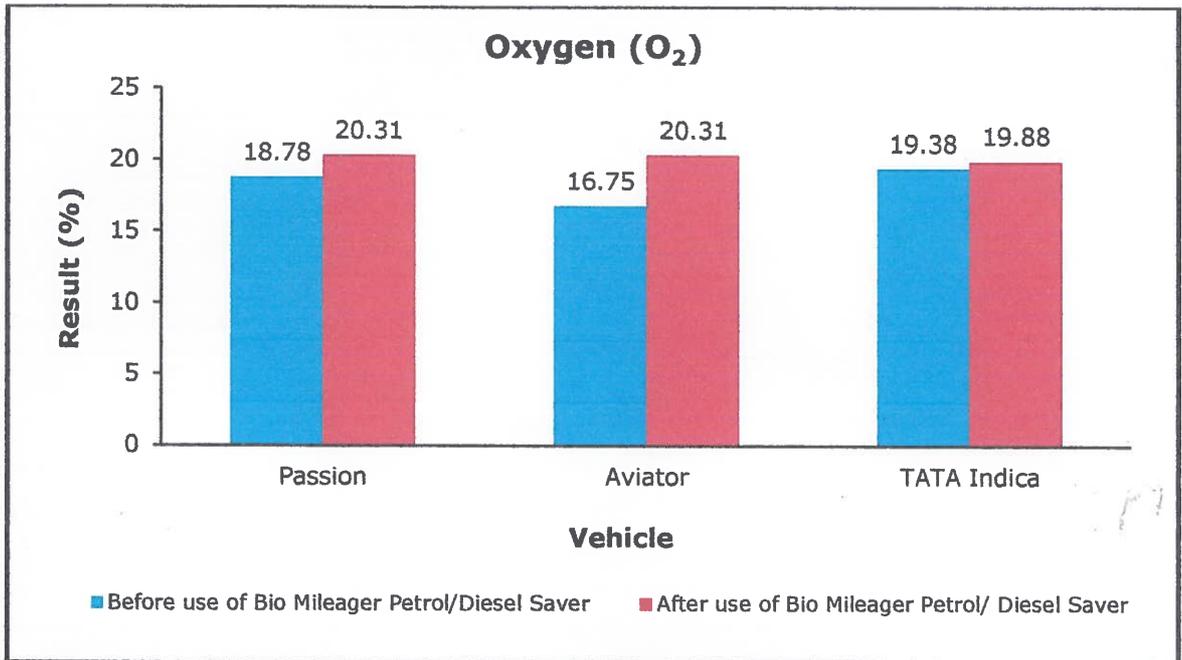
Sr. No.	Parameters	Unit	Result	
			Before use of Bio Mileager Petrol Saver (Date: 10.02.2022)	After use of Bio Mileager Petrol Saver (Date: 16.02.2022)
5.	Oxides of Nitrogen (NO _x)	ppm	1	0

Table 5: Emission Monitoring Results of four-wheeler (TATA Indica)

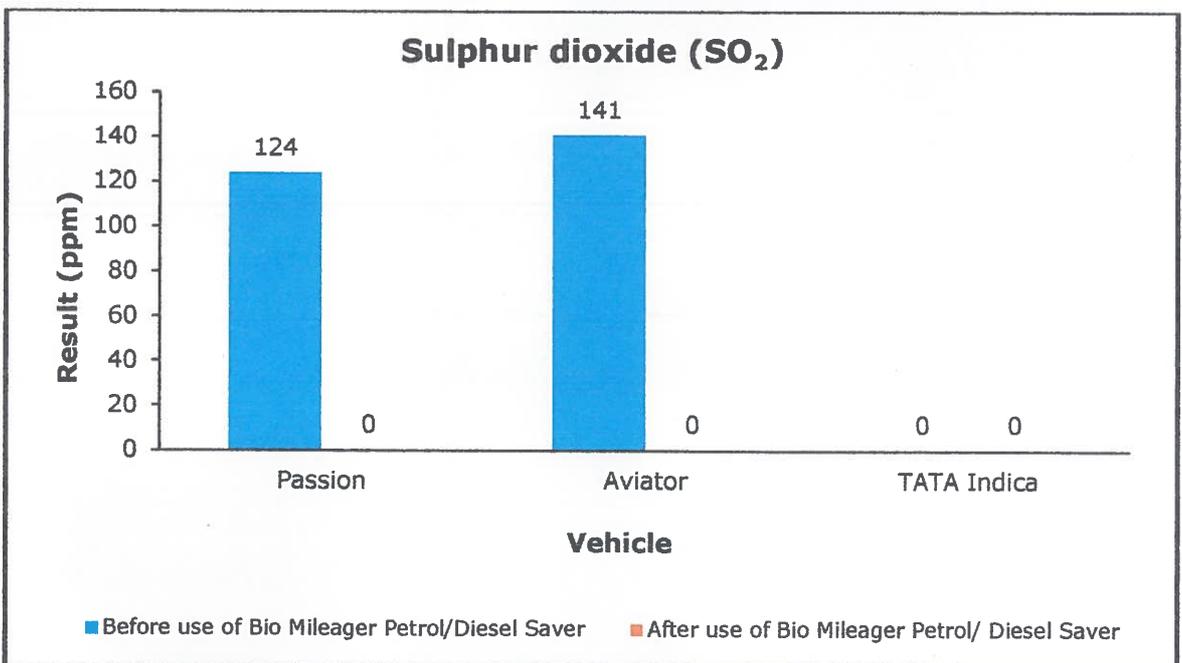
Sr. No.	Parameters	Unit	Result	
			Before use of Bio Mileager Diesel Saver (Date: 10.02.2022)	After use of Bio Mileager Diesel Saver (Date: 16.02.2022)
1.	Oxygen (O ₂)	%	19.38	19.88
2.	Sulphur dioxide (SO ₂)	ppm	0	0
3.	Carbon monoxide (CO)	ppm	532	432
4.	Carbon dioxide (CO ₂)	ppm	1.20	0.80
5.	Oxides of Nitrogen (NO _x)	ppm	31	22



Graph 3: Emission monitoring for the parameter Oxygen

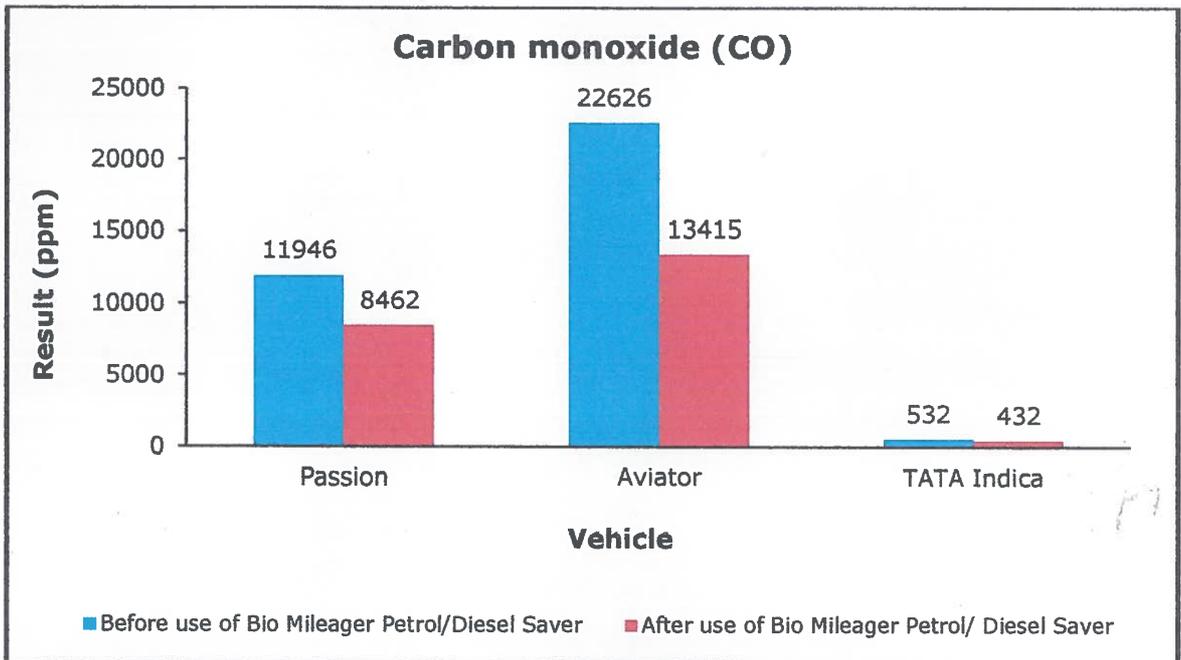


Graph 4: Emission monitoring for the parameter Sulphur dioxide (SO₂)

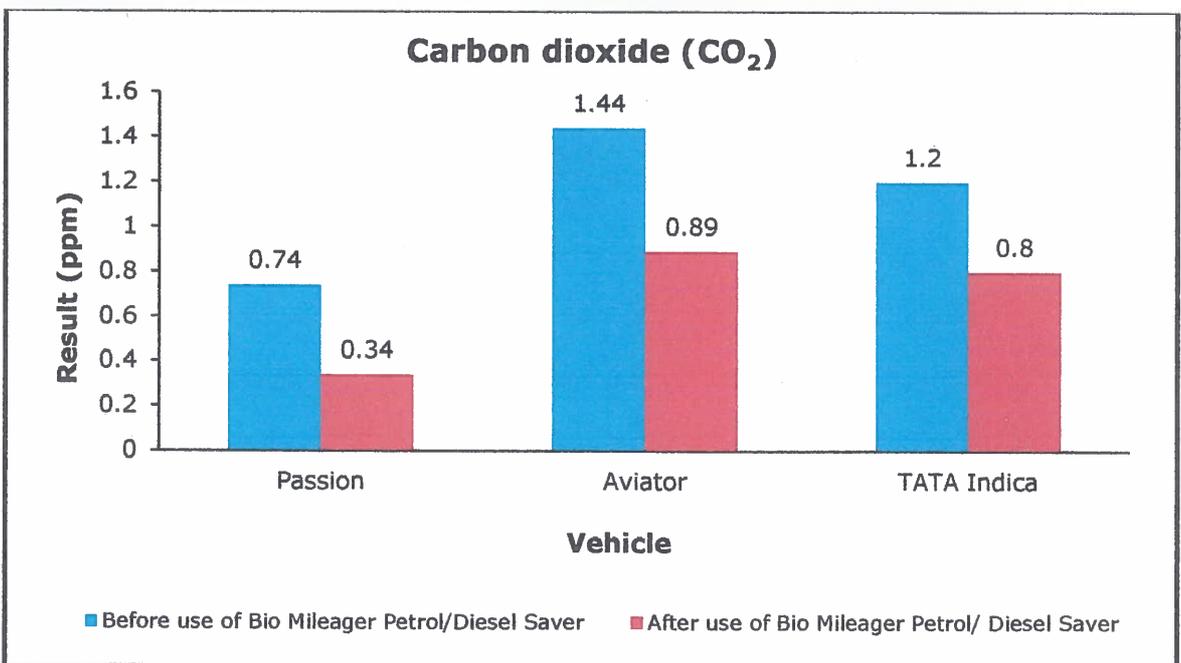




Graph 5: Emission monitoring for the parameter Carbon monoxide (CO)

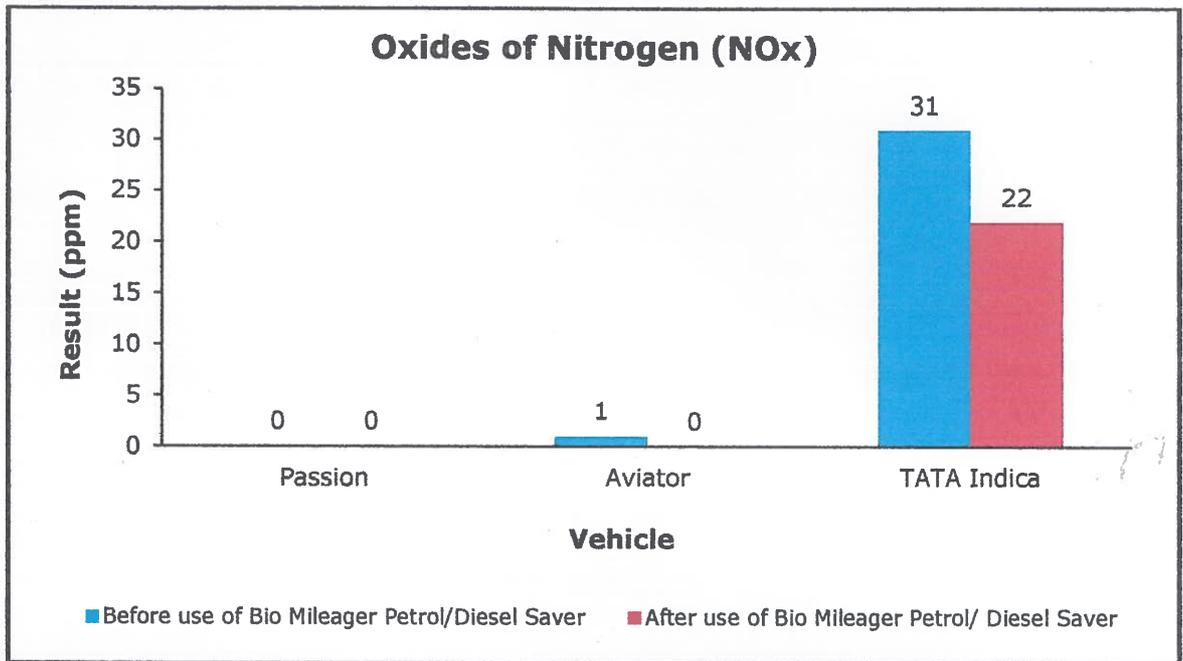


Graph 6: Emission monitoring for the parameter Carbon dioxide (CO₂)





Graph 7: Emission monitoring for the parameter Oxides of Nitrogen (NO_x)





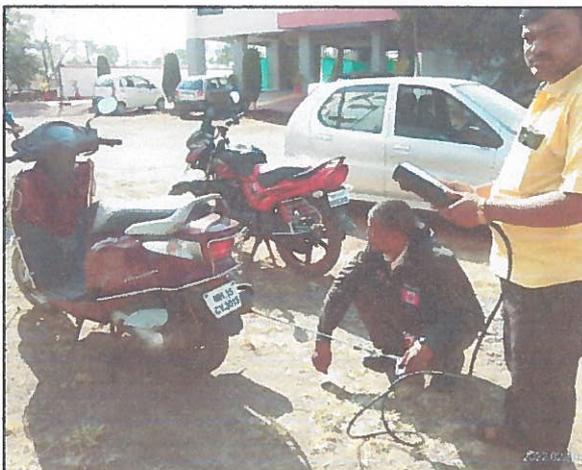
Photograph: Showing Emission monitoring



Emission monitoring of Passion before using of Bio Mileage Petrol Saver



Emission monitoring of Passion after using of Bio Mileage Petrol Saver



Emission monitoring of Aviator before using of Bio Mileage Petrol Saver



Emission monitoring of Aviator after using of Bio Mileage Petrol Saver



Emission monitoring of TATA Indica before using of Bio Mileage Diesel Saver



Emission monitoring of TATA Indica after using of Bio Mileage Diesel Saver



4.3. Mileage of vehicle

Mileage of selected vehicles were calculated before and after use of Bio Mileager Petrol and Diesel Saver by the running of vehicle 40 km/h speed. Results are tabulated in the below table.

Table 6: Mileage calculation of two-wheeler (Passion)

Trial	Before use of Bio Mileager Petrol Saver			After use of Bio Mileager Petrol Saver		
	Initial reading (A)	Final reading (B)	Mileage (km/h) (B-A)	Initial reading (A)	Final reading (B)	Mileage (km/h) (B-A)
Trial No.1	875.8	924	48.2	972.8	1046.8	74
Trial No.2	924	972.8	48.8	1046.8	1125.5	78.7

Table 7: Mileage calculation of two-wheeler (Aviator)

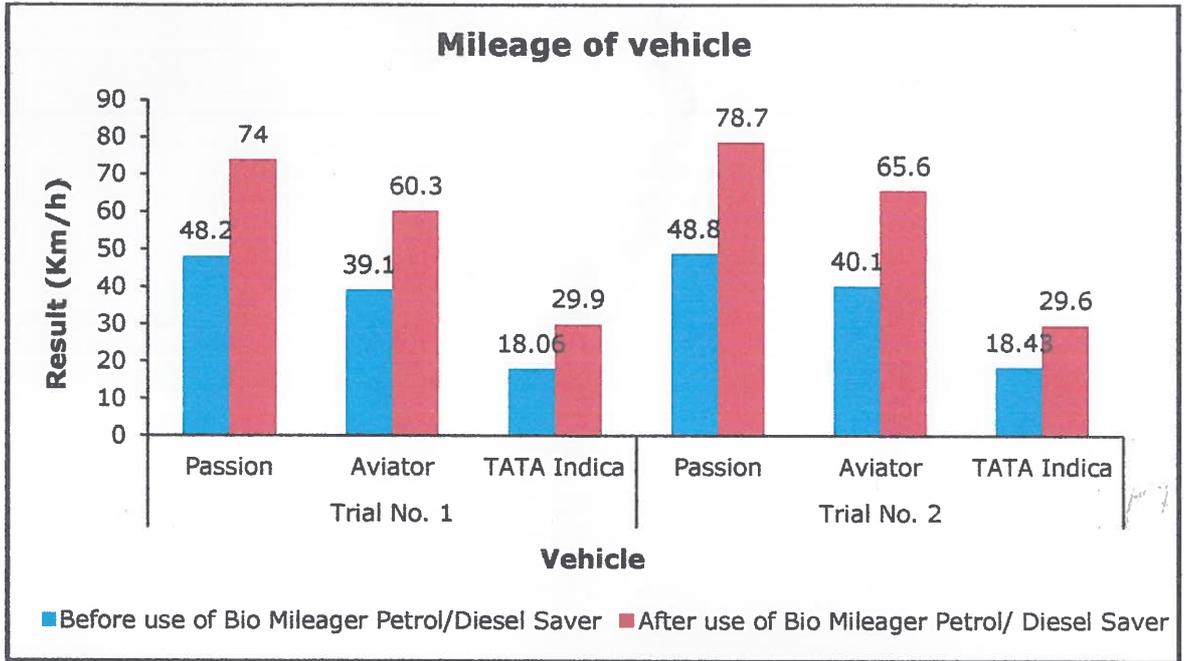
Trial	Before use of Bio Mileager Petrol Saver			After use of Bio Mileager Petrol Saver		
	Initial reading (A)	Final reading (B)	Mileage (km/h) (B-A)	Initial reading (A)	Final reading (B)	Mileage (km/h) (B-A)
Trial No.1	28339.2	28378.3	39.1	28433.3	28493.6	60.3
Trial No.2	28378.3	28418.4	40.1	28493.6	28559.2	65.6

Table 8: Mileage calculation of four-wheeler (TATA Indica)

Trial	Before use of Bio Mileager Diesel Saver				After use of Bio Mileager Diesel Saver			
	Initial reading (A)	Final reading (B)	Mileage (3 L) (km/h) (B-A)	Mileage (1 L) (km/h)	Initial reading (A)	Final reading (B)	Mileage (3 L) (km/h) (B-A)	Mileage (1 L) (km/h)
Trial No.1	1620.9	1675.1	54.2	18.06	1736.6	1826.3	89.7	29.9
Trial No.2	1675.1	1730.4	55.3	18.43	1826.3	1914.1	87.8	29.6



Graph 8: Mileage of vehicle





Photograph: Showing meter reading for mileage calculation



Trial 1: Initial reading of Passion before using of Bio Mileage Petrol Saver



Trial 1: Final reading of Passion after using of Bio Mileage Petrol Saver



Trial 2: Initial reading of Passion before using of Bio Mileage Petrol Saver



Trial 2: Final reading of after before using of Bio Mileage Petrol Saver



Trial 1: Initial reading of Aviator before using of Bio Mileage Petrol Saver



Trial 1: Final reading of Aviator after using of Bio Mileage Petrol Saver



Trial 2: Initial reading of Aviator before using of Bio Mileage Petrol Saver



Trial 2: Final reading of Aviator after using of Bio Mileage Petrol Saver



Trial 1: Initial reading of TATA Indica before using of Bio Mileage Diesel Saver



Trial 1: Final reading of TATA Indica after using of Bio Mileage Diesel Saver



Trial 2: Initial reading of TATA Indica before using of Bio Mileage Petrol Saver



Trial 2: Final reading of TATA Indica after using of Bio Mileage Petrol Saver



5. Conclusion

On the basis of study carried out on Bio Mileager Petrol and Diesel Saver on two-wheeler and four-wheeler following calculations were drawn. For two-wheeler one Honda Passion was selected which was a four stroke vehicle and second one was Honda Aviator which was without four stoke vehicle and for four-wheeler, TATA Indica was selected.

Noise level measurement was done before and after using of Bio Mileager Petrol and Diesel saver on selected vehicles and noise levels were observed before use of Bio Mileager for Passion was 71.9 dB, Aviator was 62.1 dB and TATA Indica was 63.3 dB and after use of Bio Mileager noise level was observed for Passion was 60.8 dB, Aviator was 50.2 dB and TATA Indica was 60.9 dB. The reduction of noise level was observed for Passion as 11.1 dB, of Aviator as 11.9 dB and of TATA Indica as 2.4 of dB.

Emission monitoring of all selected vehicles was done by flue gas analyser for the parameters Oxygen, Sulphur dioxide, Carbon monoxide, Carbon dioxide and Oxides of Nitrogen. Oxygen (O₂) emission before use of Bio Mileager for Passion it was 18.78%, for Aviator it was 16.75% and for TATA Indica it was 19.38% and after using Bio Mileager it was increased for Passion as 20.31%, for Aviator as 20.34% and for TATA Indica as 19.88%.

Sulphur dioxide (SO₂) emissions before using of Bio Mileager for Passion was 124 ppm and for Aviator it was 141 ppm. After using of Bio Mileager it was decreased for Passion as 0 ppm and for Aviator as 0 ppm.

Carbon monoxide (CO) emissions before using of Bio Mileager for Passion was 11946 ppm for Aviator it was 22626 ppm and for TATA Indica it was 532 ppm and after using Bio Mileager it was decreased for Passion as 8462 ppm, for Aviator it was 13415 ppm and for TATA Indica it was 432 ppm.



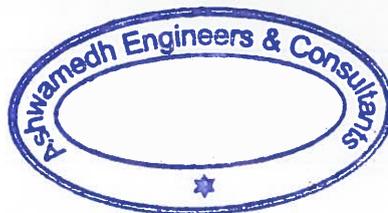
Carbon dioxide (CO₂) emissions before using of Bio Mileager for Passion was 0.74 ppm, for Aviator it was 1.44 ppm and for TATA Indica it was 1.20 ppm and after using of Bio Mileager it was decreased for Passion as 0.34 ppm, for Aviator it was 0.89 ppm and for TATA Indica it was 0.80 ppm.

Oxides of Nitrogen (NO_x) emissions before using of Bio Mileager for Aviator was 1 ppm and for TATA Indica it was 31 ppm and after using of Bio Mileager it was decreased for Aviator as 31 ppm and for TATA Indica it was 22 ppm.

Mileage of selected vehicle was also calculated in two trials. In trial no. 1 mileage of Passion was 48.2 km/h, Aviator was 39.1 km/h and TATA Indica was 54.2 km/h. After using of Bio Mileager it was increased for Passion as 74 km/h, Aviator it was 60.3 km/h and for TATA Indica it was 89.7 km/h. In trial no. 2 mileage of Passion was 48.8 km/h, Aviator was 40.1 km/h and TATA Indica was 55.3 km/h after using of Bio Mileager it was increased for Passion as 78.7 km/h, Aviator it was 65.6 km/h and for TATA Indica it was 87.8 km/h.

FOR ASHWAMEDH ENGINEERS & CONSULTANTS


Santosh Mali
Environmental Officer



*****End of Report*****