

# Impulse EV16 Muffler Emission Test Results

**Emission Gas Analyser:** Bosch

**Vehicle:** 1991 Toyota Hilux Utility  
**Engine:** 2.4 litre Diesel 4 cylinder  
**Peak RPM:** 4700  
**Exhaust System:** 2" OEM into 2 1/2"  
**Catalytic Converter:** NONE  
**Fuel:** Diesel



## **BEFORE – NO Catalytic Converter**

Date: 19-6-07

RPM: 1400

RPM: 2700

CO	0.012 %	0.071 %
HC	1 ppm	-1 ppm
NOx	120 ppm	267 ppm
O <sub>2</sub>	15.84 %	2.70 %
CO <sub>2</sub>	3.60 %	13.35 %

## **AFTER Test #1 – with 4 x Impulse EV16 Mufflers only**

4 x Impulse EV16 Mufflers (2 1/2" x 3" long) fitted to standard exhaust system with NO other modifications.

Date: 19-6-07

RPM: 1400

RPM: 2700

CO	0.006 %	0.016 %
HC	-1 ppm	-0 ppm
NOx	115 ppm	106 ppm
O <sub>2</sub>	16.17 %	15.43 %
CO <sub>2</sub>	3.32 %	3.83 %

- 78% lower Carbon Monoxide (CO) emissions
- 60% lower Nitrogen Oxide (NOx) emissions
- No change to near zero Hydrocarbon (HC) emissions
- Substantially reduced particulate emissions (smoke) to the point it was not visible

## **AFTER Test #2 – with Impulse EV8 Muffler and Catalytic Converter**

Impulse EV8 Muffler (2 1/2" x 6" long) fitted in front of the Catalytic Converter with NO other modifications.

Date: 19-6-07

RPM: 1400

RPM: 2700

CO	0.011 %	0.019 %
HC	0 ppm	1 ppm
NOx	141 ppm	128 ppm
O <sub>2</sub>	16.20 %	15.65 %
CO <sub>2</sub>	3.47 %	3.86 %

- 73% lower Carbon Monoxide (CO) emissions
- 52% lower Nitrogen Oxide (NOx) emissions
- No change to near zero Hydrocarbon (HC) emissions
- Reduced particulate emissions (smoke) but was still visible

**Toxic Emissions** – Carbon Monoxide (CO), Nitrogen Oxide (NOx) and Hydrocarbon (HC)

**Harmless Emissions** – Carbon Dioxide (CO<sub>2</sub>) and Oxygen (O<sub>2</sub>)