MEMP USA
MOBILE EMISSIONS & MAINTENANCE PRODUCTS

ECO SYSTEM
Inline Fuel Device (IFD) · U.S. patented · CARB Executive Orders

Fuel Economy Test Protocol: Gasoline Vehicles

How we measure the ECO System on your own vehicles, before and after installation

This protocol gives your fleet a fair, repeatable way to measure the change in fuel economy from the ECO System Inline Fuel Device (IFD) on your own vehicles. It uses a consistent odometer-and-fill-up method, so before and after results are directly comparable.

STEP 1	STEP 2	STEP 3
Prepare	**Set the baseline**	**Install and re-test**
Select test vehicles and record their details.	Use 2+ months of fuel records or a road test.	MEMP installs ECO; repeat the same test and compare.

1. Before installation

1. Select the test vehicle(s) and record their details on the **Vehicle Profile & Installation Form**.
2. Establish each vehicle's baseline fuel economy (Section 2).
3. Note any vehicle condition or access issue that could affect installation or results.

2. Baseline fuel economy

Option A: Historical fuel records (preferred)

Provide at least **2 months** of fuel and mileage records for each test vehicle (fuel-card or telematics data) and attach them to the Vehicle Profile form.

Option B: Controlled road test

If records are not available, run the test below and record it on the **Road Test Form**.

1. Fill the tank at a chosen station and pump. After the automatic shut-off, add three more clicks. Record the odometer, reset the trip meter and note the test conditions (weather, temperature, tire pressure, load) on the form.
2. Drive at least **120 miles** of freeway at a steady **65 mph** (60 miles out, 60 back). Note the distance from the station to the freeway.
3. Return to the same station and pump and refill the same way. Record gallons added, odometer and trip meter.
4. **MPG = miles driven ÷ gallons added.** Miles driven = ending odometer − starting odometer (check against the trip meter). Send the completed form to MEMP.

3. Installation and post-install test

1. A qualified technician approved by MEMP installs the ECO System on each test vehicle.
2. Repeat the baseline method exactly: same route, station, pump, driver and conditions where possible. For Option A, track fuel records over a period of equal length.
3. MEMP compiles the before-and-after results into a written report for your fleet.

> **For the most reliable results:** Use the same driver and tire pressure, similar weather, and consistent A/C and idle use.
>
> **Questions or to schedule your test:** Kevin Kuykendall, MEMP, LLC · 214-886-5733 · kevink@mempusa.com

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Vehicle Profile & Installation Form

Complete one form for up to four test vehicles. Emissions readings are optional for gasoline vehicles.

	VEHICLE 1	VEHICLE 2	VEHICLE 3	VEHICLE 4
Unit / VIN (last 6)				
Make				
Model				
Year				
Engine (size / type)				
Odometer				
Baseline MPG				

Baseline method (check one): ☐ Historical fuel records (2+ months) ☐ Road test

Emissions readings (5-gas analyzer), optional

	VEHICLE 1		VEHICLE 2		VEHICLE 3		VEHICLE 4	
	Before	**After**	**Before**	**After**	**Before**	**After**	**Before**	**After**
Hydrocarbons (HC)								
Carbon monoxide (CO)								
Carbon dioxide (CO_2)								
Nitrogen oxides (NOx)								

Installation

Installation plan	
Issues / notes	
Scheduled install date	
Fleet contact / phone	

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Fuel Consumption Log

One log per vehicle. Record every fill-up during the baseline and test periods.

Vehicle		**Start odometer**	
Start date		**Baseline MPG**	

DATE	ODOMETER	GALLONS	COST ($)	MPG	INITIALS

MPG = miles since last fill ÷ gallons added. Fill to the first automatic shut-off at the same station each time.

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Road Test Form

Use for Option B. Run Test 1 before installation and Test 2 after, on the same route and pump.

Make / model		**Year**	
Unit / VIN		**Technician**	
Station / pump #		**Miles to freeway**	

Road Test 1: Baseline (before install)

Date / time		**Odometer start**		**Odometer end**	
Trip meter		**Miles driven**		**Gallons**	
MPG		**Avg. speed**		**Load / weight**	
HC (optional)		**CO (optional)**		**CO_2 / NOx**	
Conditions	Weather: Temp: Tires (psi): Road:				

Road Test 2: After install

Date / time		**Odometer start**		**Odometer end**	
Trip meter		**Miles driven**		**Gallons**	
MPG		**Avg. speed**		**Load / weight**	
HC (optional)		**CO (optional)**		**CO_2 / NOx**	
Conditions	Weather: Temp: Tires (psi): Road:				

Result: MPG change = (Test 2 MPG − Test 1 MPG) ÷ Test 1 MPG = _____ %