



FACT SHEET

AFV Automotive Recycling



As of 2015, there were nearly 23 million cars and light-duty trucks powered by propane, natural gas, biodiesel, ethanol, hydrogen, and electric on U.S. roads. These alternative fuel vehicles (AFVs) are as safe as conventional vehicles but they are different, meaning additional education and training is needed. It is important that automotive recyclers understand the vehicles and their differences so they can work with them safely.

Identification

Before recycling a vehicle, determine if it is an AFV by:

- Noting vehicle badging and nonstandard dash indicators;
- Checking inside fuel doors for nonstandard fuel ports;
- Looking for specialized components such as orange cables under the hood or pressurized fuel tanks that can be in different locations.

Securing the Vehicle

Size up the vehicle to determine hazards:

- Be aware of leaking fuel or battery acid, which can ignite and/or cause an explosion;
- If fuel is leaking or escaping, shut off fuel source, if possible;
- Monitor air for flammable vapors;
- Some alternative fuels are odorless, colorless, and tasteless. Special flame detectors should be used to monitor for flames.

Make sure the vehicle is immobilized. If necessary:

- Set parking brake;
- Chock vehicle wheel(s).

Dismantling

When salvaging a vehicle, know the correct steps.

- Before dismantling:
 - Isolate the fuel system by removing the vehicle's 12-volt battery;
 - Remove all vehicle fuel—keeping in mind that there may be multiple fuel tanks containing different types of fuels, some of which are stored at high pressure;
 - On an electric vehicle, remove the high voltage battery service disconnect.
- When removing components:
 - DO NOT disconnect fuel lines before fuel pressure is fully released;

- DO NOT puncture or cut fuel tanks;
- DO NOT cut the ORANGE cables, high-voltage battery pack, or fuel cell stack;
- DO NOT cut through the vehicle below the floor line where high-voltage lines or fuel lines are typically located;
- When using a forklift, take care not to damage or puncture high-voltage lines, batteries, fuel tanks and other high-voltage or fuel system components.
- Remember that the high-voltage battery in an EV *always* contains power.

Safety

As with conventional fuels, when working with AFVs there are important safety considerations. Fuels used in alternative fuel vehicles have properties different from gasoline and diesel:

- Some alternative fuels react adversely to water;
- Fuels such as hydrogen and natural gas are asphyxiates. Make sure the work area is well ventilated;
- Propane is heavier than air, and a leak can cause propane to pool in low lying areas;
- Fuels such as propane, liquefied natural gas, and hydrogen can cause instant frostbite;
- Breathing battery electrolyte vapors can cause severe respiratory problems;
- ALWAYS assume an electric drive vehicle has power and that high-voltage exists.

Use proper personal protective clothing and equipment when working with alternative fuel vehicles:

- High-voltage gloves for electric vehicles, standard work gloves for other alternative fuel vehicles;
- Eye protection;
- Boots;
- Flame detector for odorless, colorless, and/or tasteless alternative fuels.

For More Information:

[Coalition training session info here]

REGARDLESS OF YOUR ROLE IN AUTOMOTIVE RECYCLING, SAFETY IS EVERYONE'S JOB!



National Alternative Fuels
Training Consortium

A Program of

 West Virginia University

<http://www.naftc.wvu.edu/cleancitiesprojects>
<https://cleancities.energy.gov>

National Alternative Fuels Training Consortium
Ridgeview Business Park, 1100 Frederick Lane, Morgantown, WV 26508
304-293-7882

Acknowledgment: This material is based upon work supported by the U.S. Department of Energy Clean Cities Program under Award Numbers DE-BE0001696 and DE-EE0007015.