

Checklist: Ethanol Blends

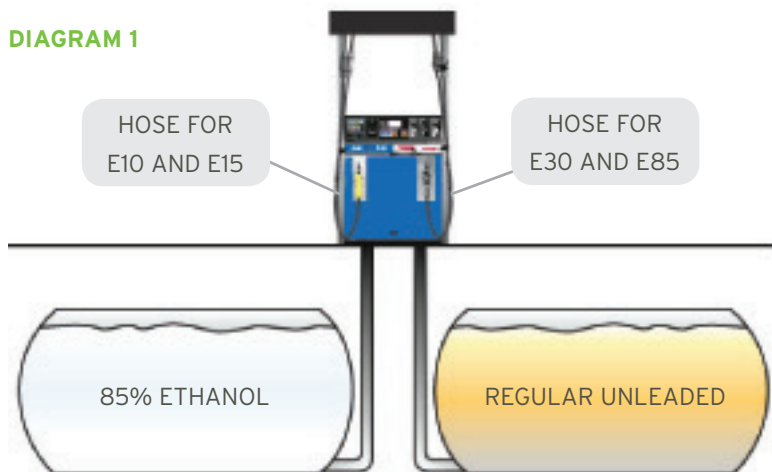
Thinking about installing or converting your existing equipment to dispense E15, E30, E85 or other blends of ethanol? Follow this checklist and we'll walk you through the process.

GENERAL INFORMATION

PROJECT TYPE			
EQUIPMENT CONVERSION	IF YES →		TANK MANUFACTURE DATE
STATION REMODEL			PIPING INSTALL YEAR
NEW CONSTRUCTION			TYPE OF PIPING
NUMBER OF UNDERGROUND TANKS ON SITE			
HIGH-LEVEL ETHANOL STORAGE TANK			
TANK MATERIAL		TANK DESIGN	
STEEL		DOUBLE-WALL	
FIBERGLASS		SINGLE-WALL	
If you intend on using an existing single-wall fiberglass tank, it is CRITICAL that a determination is made as to the ability of the tank to store high level blends of ethanol. Should the use of a single wall tank be planned, please contact your tank manufacturer or supplier.			
LEAK DETECTION SYSTEM			
COMPATIBLE WITH HIGH LEVEL BLENDS OF ETHANOL			

We encourage the use of one tank holding unleaded gasoline and the use of another tank holding E85. Blending these two products at the dispenser result in E10, E15, E30, and E85. We do not encourage the storage of denatured ethanol in an underground storage tank. Rather, use E85 as the ethanol blending component. See Diagram 1.

DIAGRAM 1



PRIOR TO STARTING PROJECT

- 1. NOTIFY YOUR LICENSED INSTALLER AND THE STATE UNDERGROUND STORAGE TANK PROGRAM** of your intent to dispense E-blends such as E15, E30, and E85. Your installer should determine if the age, composition and condition of your tank and piping are safe for high level blend ethanol use. For assistance, contact the Growth Energy Market Development Team at marketdevelopment@growthenergy.org or www.EthanolRetailer.com.
- 2. NOTIFY YOUR TANK INSURER** to advise them that you are interested in dispensing high level blends of ethanol and to make certain that your existing insurance will be transferred to this new product.
- 3. NOTIFY YOUR LOCAL FIRE MARSHAL, FIRE CHIEF, BUILDING CODE ENFORCEMENT PROFESSIONAL, WEIGHTS AND MEASURES,** or other applicable local government official(s) to make them aware of your plans to dispense high level blends of ethanol.

- 4. E10 AND E15 MUST BE SOLD FROM A DEDICATED HOSE.**
Other blends of ethanol such as E30 and E85 **MUST** be sold from another dedicated hose with proper labeling. Do not sell E10 and E15 from the same hose that will be dispensing E30, E85 or other level blends of ethanol. See Diagram 2.

- 5. TANK CLEANING.** In the case of a conversion of an existing tank, the tank must be cleaned of all water and sediment. Ensure no water is present to protect the quality of your ethanol-blended fuels and your customers' vehicles. There are several methods of tank cleaning, including:



DIAGRAM 2. E10 and E15 can be sold from same hose with proper labeling..

- **SUCK OUT** - The suck out is performed using a DOT-approved vacuum truck and, as the name implies, draws most of the product out of the vessel. The expectation is that most if not all of the contamination and sludge will be removed. The tank is then refilled with fresh product and, in some cases, an algaecide is added.
- **BOTTOM SNAKE** - This method inserts a flexible hose into one end of the vessel and forces it to snake across the bottom. As it moves, a suction pump draws any sludge, water or product it encounters out of the tank and through a simple filter. Everything that makes it through the filter is drummed for disposal, including both undesirable components and good product.
- **FUEL POLISHING** - A third alternative, fuel polishing, is similar to the bottom snake, but offers the benefit of returning the good product to the tank. In this approach, the fuel is drawn out of the tank with either a snake or rigid stinger. It passes through two or more different mesh filters and a water separator. A fuel-conditioning magnet may be employed along with an algaecide injector. The cleaned and filtered product is then returned to the tank through another opening.
- **CUT AND ENTER** - The last resort is the cut and enter. When all else fails, men enter the tank with pressure washers. If the vessel is a UST, the pad must be cut, a portion of the cover must be removed prior to reaching the vessel, then the tank is cut open for entry. Various forms of linings may be installed to ensure compatibility with high level blends of ethanol.

ON SITE CHECK-LIST

	Ensure all visible fittings and connections at the top of the tank are tight (no vapors escape and no water enters).
	Ensure the sump and spill containment covers will prevent water from entering the system.
	Use ONLY 1-micron dispenser filter or a comparable E85-specific filter with E85 blends. Do NOT use 10-micron gasoline or 30-micron diesel filters. Cim-Tek is a popular brand of alcohol-compatible filters which are available at most petroleum equipment suppliers.
	Use ONLY an alcohol-compatible hose with E85. Goodyear Tire and Rubber produces such hose and it is available at most petroleum equipment suppliers. We encourage that E30 and E85 product dispensers use a YELLOW hose.
	Use ONLY steel or nickel-plated swivels, connectors and nozzles with E30 and E85. Do NOT use aluminum gasoline nozzles. Proper fittings and other external hardware are available at most petroleum equipment suppliers.
	Identify the E85 fill port and paint the access cover according to API RP 1637. 
	Calibrate the dispenser liquid meter at time of conversion or new installation and two weeks later to verify meter accuracy with E85. More frequent calibration (API RP 1626) may be required to ensure the retailer is receiving proper compensation for the sale.
	Nozzle talkers identifying E-blends are also available from Growth Energy. Consider using hangtags, pump toppers and other signage to educate your customers. Price sign inserts, marquee signage, curbside signs and other decals and materials are all available from Growth Energy at EthanolRetailer.com
	Tank should be filled to 80% of capacity and kept as full as possible for 7 to 10 days.
	Conduct a precision test of the tank system (0.1 gallon/hour leak rate) with ATG system within seven days after tank is filled to confirm the integrity of the system and that the leak detection equipment is operating properly. Report any "fail" results immediately.
	Ensure no water is allowed to contaminate your fueling system. If water is suspected or detected, track down its source and fix the problem immediately. The best way to guard against contamination is to properly clean and maintain the fueling system. Confirm no leaks exist in tank fill cap and containment reservoir before beginning your E85 operation. Water-detecting pastes, suitable for E85, may be available in the near future.
	If product seems to pump slowly, check and replace filters. Persistently clogged filters could indicate moisture or another source of contamination.

LABELS AND LOGOS

ETHANOL LOGOS. As with any product, it is important to maintain a consistent image to consumers and especially so as a new product such as mid-level blends of ethanol are introduced. We **STRONGLY ENCOURAGE** the use of the following labels on your dispenser to identify each form of mid-level blend ethanol you may be selling.

Growth Energy strongly encourages the use of these labels



Growth Energy offers this imagery for nozzle talkers, pump toppers, store banners and pump decals as part of its American Ethanol Station Kit. Go to **EthanolRetailer.com/store** and then click on "American Ethanol Station Kit" for more information.

This is a federally mandated label that is **REQUIRED** to be posted on your dispenser when selling E85.



All labels and other imaging materials are available from Growth Energy. Learn more at **EthanolRetailer.com/store**.