



Ethanol/E10 – Back to the Future, With Care

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Did you know that Henry Ford's first car ran on pure ethanol - not the Model-T's that our grandparents drove - but the "Quadricycle" of 1896? Of course, in those days, engines were far simpler and would run on just about any hydrocarbon. Now engines are incredibly complex - and we're going back to ethanol, at least in part, in order to save the environment and ourselves.

What Is It and Why Are We Changing?

Government mandates to reduce carbon monoxide admissions have resulted in the oil companies diluting gasoline with other substances that oxygenate the exhaust. For many years, the additive was MTBE - methyl tertiary-butyl ether - but that is a carcinogen.

So "E10" was created - 10% ethanol and 90% gasoline. Ethanol is made from corn. It is not a carcinogen, is made in the USA and is better for the environment. Everybody wins - almost. Ethanol is basically a solvent. It will dissolve varnish, sludge and other assorted crud inside your fuel system. It cleans while it works its way through the power plant. It also dissolves rubber and certain resins, like the fiberglass that older fuel tanks are made of. Images of gallons of E10 fuel sloshing around outside the fuel tank, which is now a mass of goeey gunk, is certainly a cause for panic.

Engines manufactured within the last 15 years have neither rubber hoses nor fiberglass fuel tanks. And someone with a 20-year old engine would have replaced the rubber

hoses three or four times over 20 years. But the fuel tank is another matter. While E10 won't dissolve it overnight, the tank has to go. Steel or plastic -- no fiberglass, no aluminum. The expense will be significant, so maybe here is your excuse for a new boat!

The Real Problem

First, you had better replace your standard fuel filters with "10-micron water separator filters designed for ethanol." Use those words when you order. The new filters fit exactly where the old ones went. Order plenty of them, because until E10 is finished cleaning the gunk out of your fuel system a little bit at a time, you'll be changing those filters a couple of times a summer. Eventually, the system will be cleaned of years of crud and everything will return to normal - except for the new problem: water

E10 absorbs ten times more water than MTBE. This gets carried with your fuel into the engine where, hopefully, it gets burned away. If it sits in an aluminum fuel tank, it can cause corrosion and now there are little bits of metal moving through the system - clogging the fuel filters and damaging injectors, carburetors, etc. And if the water/E10 ratio gets too high, the water pulls the ethanol out of the E10 - leaving plain ol' gasoline on top (with slightly less octane than the E10 combine) and water and ethanol sinking below. The lower octane isn't good and no ethanol is burned with the gasoline - not good for the engine nor the environment. If enough water/ethanol

collects in the fuel tank, it will eventually reach the engine. Neither water nor pure ethanol is good for an engine.

What to Do?

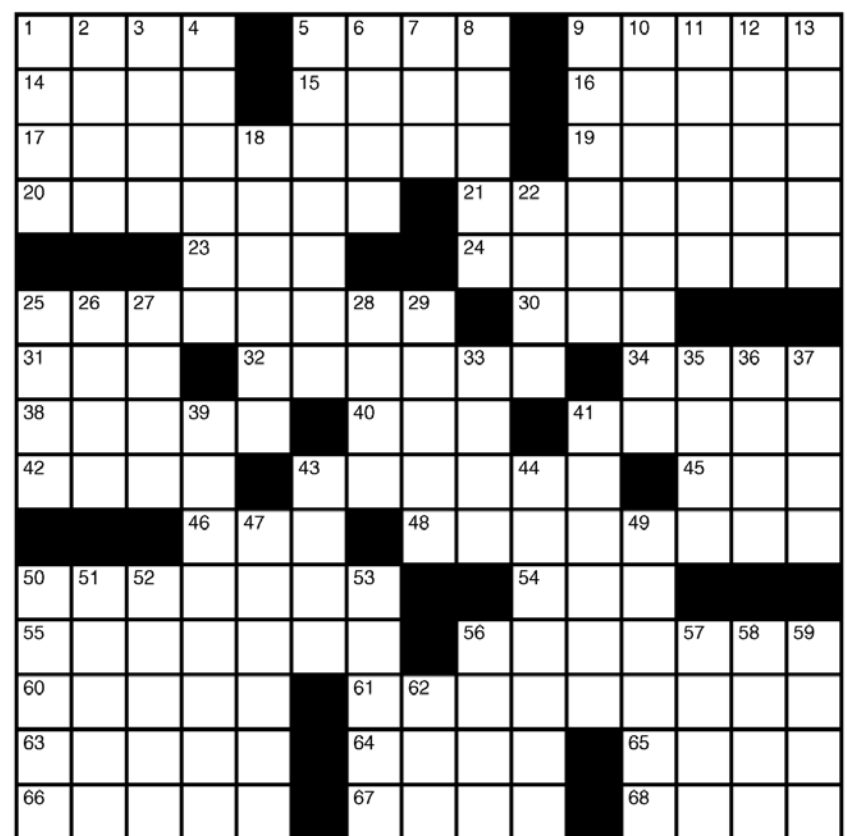
Well, use a marina that pumps lots of gas. You don't want to put his problem in your tank. Two, you'd better be using your boat more since this water build-up and separation risk is amplified by fuel just sitting there. (Here is a perfect excuse for not mowing the lawn!) Three, in direct contrast to the "old days," when

you lay her up for the winter, take the fuel out (work with your dock master on this one.) Lastly, use a "non-alcohol-based additive" to preserve the fuel, such as Starbrite's Startron or Gold Eagle's Sta-Bil.

A clean environment is worth it.

If you are interested in being part of USCG Forces, email me at USCGAUX2006@aol.com or go direct to MaryJo Cruickshank, who is in charge of new members matters, at FSO-PS@emcg.us and we will help you "get in this thing..."

CROSSWORD



ACROSS

- 1 Alda sitcom
- 5 Poetic eyes
- 9 Indian tea
- 14 __ vera
- 15 Flask
- 16 Tanklike creature, briefly
- 17 With 21A, 34A, and 55A, signature line by 42A
- 19 Ship's payload
- 20 Spartan
- 21 See 17A
- 23 Pollution patrol grp.
- 24 Voiced sounds
- 25 42A's stock-in-trade
- 30 Bird's bill
- 31 Mil. address
- 32 Bounces back
- 34 See 17A
- 38 Perch
- 40 Bossy remark
- 41 Comic starter?
- 42 With 48A, game-show hostess
- 43 German
- 45 Balin or Claire
- 46 Black goo
- 48 See 42A
- 50 Excised surgically

DOWN

- 1 Yucatan people
- 2 Baseball family name
- 3 Old French coins
- 4 Impassioned
- 5 Bowl over
- 6 Sacred service
- 7 Scrooge expletive
- 8 Oodles
- 9 Mysterious
- 10 Easily rattled
- 11 Alluring woman
- 12 Anxiety
- 13 Hypothetical legal cases
- 18 Gunshot
- 22 Many millennia
- 25 Amazon estuary

- 26 Au courant
- 27 Roger Rabbit feature
- 28 Dub
- 29 Search thoroughly
- 33 Movie pooch
- 35 Writer Murdoch
- 36 Boxer Benvenuti
- 37 Zen paradox
- 39 Prenuptial step
- 41 Duke of the Dodgers
- 43 Low card
- 44 Indecent
- 47 Under ideal circumstances
- 49 Japan
- 50 Old World lizard
- 51 Tree trunks
- 52 Theater areas
- 53 French actor Alain
- 56 Terrible tsar?
- 57 Japanese golfer Isao
- 58 Nickel or dime
- 59 Swiss artist
- 62 Resembling: suff.

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February 2007 – Moriches Inlet

The Time Offsets mentioned in the column are as follows:

Day	Tidal Time Offsets from Moriches Inlet:		USCG Station		Potunk Point	Mastic Beach	Smith Pt Bridge
	High	Low	High	Low	High	Low	High
January Wed 31	05:16 AM / 3.14	11:40 AM / -0.18	05:45 PM / 2.68	11:35 PM / -0.10			
February							
Thu 01	06:02 AM / 3.20	12:25 PM / -0.24	06:31 PM / 2.77				
Fri 02		12:22 AM / -0.13	06:44 AM / 3.20	01:06 PM / -0.26		07:13 PM / 2.81	
Sat 03		01:06 AM / -0.13	07:24 AM / 3.15	01:44 PM / -0.25		07:54 PM / 2.81	
Sun 04		01:46 AM / -0.09	08:03 AM / 3.04	02:19 PM / -0.19		08:35 PM / 2.79	
Mon 05		02:24 AM / -0.01	08:41 AM / 2.89	02:51 PM / -0.09		09:15 PM / 2.74	
Tue 06		03:01 AM / 0.10	09:19 AM / 2.72	03:21 PM / 0.03		09:55 PM / 2.69	
Wed 07		03:39 AM / 0.24	09:58 AM / 2.53	03:50 PM / 0.17		10:34 PM / 2.64	
Thu 08		04:20 AM / 0.38	10:39 AM / 2.36	04:20 PM / 0.31		11:13 PM / 2.60	
Fri 09		05:09 AM / 0.51	11:23 AM / 2.21	04:58 PM / 0.45		11:56 PM / 2.58	
Sat 10		06:14 AM / 0.59	12:11 PM / 2.11	05:56 PM / 0.55			
Sun 11	12:44 AM / 2.57	07:25 AM / 0.58	01:07 PM / 2.05	07:15 PM / 0.56			
Mon 12	01:41 AM / 2.61	08:29 AM / 0.47	02:12 PM / 2.07	08:24 PM / 0.46			
Tue 13	02:45 AM / 2.72	09:24 AM / 0.30	03:19 PM / 2.20	09:22 PM / 0.29			