

## Local Mechanic Brews Alcohol In Backyard!

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With a yield of 1 gallon of ethanol for every 12 pounds of sugar this was enough to make about 70 gallons of alcohol. The yeast to create fuel alcohol is bred for high temperature resistance and alcohol tolerance. While household yeast dies at 6% alcohol, fuel yeast makes it to 20%. Similarly, while household yeast dies at 80 degrees, fuel yeast can stand temperatures up to 100 degrees. Tom finally found a company that was willing to sell a small amount of fuel yeast to a private individual. Armed with all the basics, he dumped the sugar, yeast, and water (from his own well) into the fermentation tanks where for the next three days Tom's 3 trillion new "co-workers" went to work.

With the fermentation complete, the liquid was pumped from the tanks into the still and heated to about 200 degrees, which is enough to turn the alcohol to steam but leave behind the water and solids. The alcohol steam rose into the tube of the still's column, where it condensed and drained into a cooling tank. A still this size can produce about 2 gallons of 90%-pure alcohol per hour. (The old moonshine stills produced alcohol that was about 70% pure. They would put the alcohol through the still again to make it stronger, and would put an "X" on the jug each time it went through. This explains the "XXXX" on the jugs of cartoon moonshiners- the shine had been distilled 4 times!)



Drops began falling from the column, the drops became a dribble, and the dribble soon turned into a stream of 190-proof replacement for fossil fuel. Tom's first run wasn't cheap (he had waited more than 2 years and paid over \$750 per gallon) but he had proven that the concept worked. Soon, this home-brewed fuel will be a reliable and inexpensive fuel source for our two courtesy shuttles. "It won't make a dent in the country's gas prices right now, but it's inexpensive, renewable, almost totally clean, and doesn't depend on a huge conglomerate for production" Tom said. "It's a small step, but each small step makes a difference." Drops become dribbles become streams...

## What Does It Mean To Step Lightly?

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buy carbon credits, individuals can buy "carbon offsets" to make up for their carbon production. The funds from these offsets go to projects such as tree planting or alternative power that reduce carbon output.

Carbon programs differs drastically. Some programs send little to the target projects, fund bad projects, or are just scams. The effectiveness also varies depending on where the money is spent. It's just as valuable to reduce carbon halfway around the world as here in America, and your money may also go farther overseas. It may cost \$75 to remove a ton of carbon here, but that \$75 might remove 37.5 tons in China. This is one reason that 85% of all carbon reduction projects are in developing countries. Conservation projects may also be viable carbon reduction projects. For instance, ocean algae counts for half of all carbon-reducing photosynthesis worldwide, so preserving ocean environments for algae growth can be a critical mitigation project.

Carbon offsets have been likened to kicking a person but paying for hospitals while you do it. This is a little cynical, but it makes a good point. Carbon offsets are only helpful for the carbon we can't eliminate, not what we are unwilling to eliminate. The most effective way to eliminate carbon is to quit producing it, but we have to understand our carbon footprint before we can make any rational steps to changing it.



## Dumping The Guzzler The Trade-Offs On Your Trade-Ins

Today, the average price for regular unleaded gasoline hovers at \$4.00 per gallon. Everyone's thinking about dumping their guzzler and jumping into a pocket rocket, but does it really make sense to trade in your 6 MPG monster for a 60 MPG squeaker? Just as it wouldn't be wise to refinance a house if you don't plan to be there long enough to pay the closing costs, it might not make financial sense to trade in Carzilla if you expect to cover the change through fuel savings alone. It's important to consider all the costs involved with a trade-in before making any commitment.

If you mainly use your beast for runs to the store, you might not drive enough for mileage to matter. You might need a large car for family or business reasons, or power for towing or recreation. Even if none of these apply to you, there still may be reasons not to trade.



Demand for big cars is dropping and their prices are falling as well. SUV owners have had an 8% depreciation in just the past six months (a drop that usually takes a year), while hybrid buyers are paying premiums. This means low prices for an SUV trade-ins, even if it is newer and in good condition. For example, a 2005 Hummer H2 has dropped over \$36,000 in just three years. If your car isn't paid off you might be "upside down" on your auto loan, owing more than it's worth. In that case you'll be covering the difference in your loan plus the cost of the new car!

Here's some numbers for an example. An SUV like Ford's Explorer gets about 16 mpg, while a hybrid like a Toyota Prius

averages about 47mpg. Drivers average 15,000 miles per year, so assuming \$4.25 gas an Explorer costs about \$3,984 per year for fuel while a Prius costs about \$1,356. A \$2,628 fuel difference is pretty attractive, but it's only part of the story. If a 2005 Explorer has a resale value of \$9,831 and a 2008 Prius has a cost of \$23,589, then it will take 63 months to pay back the difference through gas savings alone. If you want to run the comparison between your own car and one you're considering, go to <http://www.edmunds.com/calculators/gas-guzzler.html> to see a calculator that will help.

Finally, there's the opportunity cost of the money itself. Today's average car payment is about \$400 per month for 5 years. Remember that \$2,628 fuel cost difference between the Explorer and the Prius? It adds up to a savings of \$13,140 over 5 years. Nothing to sneeze at, but if you take that \$400 per month and invest it at 6.5% compounded monthly for the same 5 years you would have \$28,269.59, which would buy an awful lot of gas.

Unless you have a large trade-in value for your current car or you were ready to change anyway, it probably makes the most sense to keep your car for now. If you drive a mechanically sound car and maintain it well it will have reasonable mileage and minimal environmental impact. If you can make it last until the full-electric vehicles come out, that would be a better time to change. Just as SUV owners are getting stuck with their cars now, you don't want to be stuck trying to sell a Prius with \$15,000 of payments left on it when everyone else wants electrics!

## Profile Details By Mark

Fanatical. Obsessive. Compulsive. These are qualities to look for in an auto detailer, and they perfectly describe Mark Haffey of "Details by Mark". He and his team consider themselves craftsmen and artists. "88% of the companies in this field are fly-by-night



production shops," but Mark concentrates on quality, delivering only 2 cars a day on average. He recently redid a car that had been detailed by another shop, and it took 7 1/2 hours just to polish out the swirls in the paint. "You'll spend money, but it's worth it," he says. "Quality service maintains the quality of your vehicle."

Mark's team concentrates on rejuvenating a car, returning it to its original showroom finish. They make sure that it's not "dressed up" with extra chemicals to make it look clean. "Those kinds of dressings pollute the car and detract from the original look. Our greatest compliments are when a client says their car doesn't look detailed or it looks honest, meaning it looks clean instead of made-up."

Many people think of auto detailing as a luxury service, but Mark says "Most of our work is the more basic cars that people want to take care of." Some of their services include mold and mildew repair, vintage and specialty car detailing, and upholstery and leather repair. "Many of our clients have their cars detailed before selling them, which can add over \$1000 to the sale price."

If you're ready for Mark's obsessive care, call him at 503-231-4945!

## Spotlight Chris Waterbury

Although there aren't any gearheads in his family of artists and engineers, Chris Waterbury, 35, has been taking things like lawnmowers apart since he was a baby, so working on cars comes naturally to him. Studying video production in Arizona taught him about the low pay and long hours of videographers so he quickly earned his associate's degree in auto technology.



He moved on to a Master Mechanic certification with an L1 Advanced Engine rating, which requires re-certification testing every 5 years. His professional experience has ranged from his first job at a Quik-Lube to Pep Boys to a 76 gas station to his job for the past 9 years with Tom Dwyer Automotive. Instead of specializing on a single type of car he has spent his career so far as a master diagnostician, solving the tough problems on a wide range of cars. "I like working at Tom Dwyer because it's always something different", Chris says. "You never know what type of car you'll be working on, or what problem will crop up. I'd go crazy working at a dealership on the same make of car every time. I like thinking on the fly, and dealerships are too much like assembly lines." He's worked on high-end cars including Rolls Royces, Porsches, and the strangest car he's ever worked on, a 1976 Bricklin (a gull-wing, mostly Ford product brought to us by the same fine people that brought us the Yugo).

Chris spends his spare time hiking, camping, and travelling the West Coast with his wife Melanie, son Ze, and daughter Maya. He and Melanie are avid collectors of toys, art (by their friends), vintage clothing (they used to own vintage clothing stores in LA and Sellwood), records, and movies.

### Can't Get Enough? Do You Have To Have MORE? WE HAVE WHAT YOU NEED!

The online version of our newsletter has more of everything you love. Longer articles, color pictures, audio, video, and new features you can't get anywhere else! Here's just a few of the things you'll find if you spend a little of your summer at...

## www.TomDwyer.com

- Client Videos-** Our Clients Speak Out
- Willamette Week "Best Of Portland"-** Readers Vote Tom Dwyer Automotive #1
- Client Profile-** "Details By Mark" Obsessive Auto Detailing
- Carbon Neutral Update-** Passing The Million Pound Milestone
- Technician Spotlight-** Chris Waterbury
- Sellwood Bridge Update-** Creeping Closer To A Solution
- Community Events Calendar-** Happenin's 'Round Town
- Ian's Car Care Corner-** Bird Bomb Triage
- Drew's Kitchen-** Summertime Pasta Salad
- KPOJ Audio-** Difficulties With Homeland Security
- Summer Cartoon-** See You In The Funny Pages
- Websurfing With Tom-** Our Picks Of The Web

### Summertime Pasta Salad

- |                          |                                      |
|--------------------------|--------------------------------------|
| 12 oz Rotini Pasta       | 1 tbsp Fresh Dill, finely chopped    |
| 12 oz Spinach Tortellini | 2 doz Grape Tomatoes, sliced in half |
| 1 tsp salt               | 10 oz Cheddar Cheese, shredded       |
| 1/2 tsp pepper           | 3 tbsp Olive Oil                     |
| 1/4 cup Olives, chopped  | 1 tsp Fresh Dill, finely chopped     |

- 1) In a large saucepan, cook the rotini and tortellini for 10 minutes, or until desired tenderness. Drain noodles.
- 2) In a small bowl, toss the sliced tomatoes with the salt and pepper. While the pasta is still warm, toss it with the tomatoes, cheese, olive oil, olives, and dill.
- 3) Serve warm. Serves 6. Each serving has about 610 calories.



## Tom's Tidbits

You're probably noticing changes to our newsletter. We send 3000 copies every quarter which is a lot of trees and money, so we're shifting to an all-electronic version. We'll still print a few, but we'll email unless you request otherwise.

This format means longer columns and new features, like our Community Events calendar. Future possibilities include features about our clients, columns about alternative energies, or the future of cars. And, of course, many more pictures!

**We'd like you to be part of this new format!** If you have any events for the Community Calendar, ideas for new sections, features, or articles, please tell us! Or just send us your stories, rants, artwork, or feedback. We look forward to hearing from you!

Make a great day,



## Summer Coupons

### \$20 off- 3,000-Mile Interval Service with Tire Rotation and Balancing

Normally \$59.95. For domestic & Japanese passenger vehicles, 5 quarts standard oil, add-ons charge for synthetic oil. Coupon must be presented at time of appointment, not combinable with other offers. Coupon Code 1-SUM08

### \$40 off- Fuel Injector and Throttle Body Service

Normally \$79.95. Coupon must be presented at time of appointment, not combinable with other offers. Coupon Code 2-SUM08

### \$20 off- Tire Alignment

Normally \$97.95. Coupon must be presented at time of appointment, not combinable with other offers. Coupon Code 3-SUM08

### \$30 Off- Set of 4 Shocks or Struts Installed

Coupon must be presented at time of appointment, not combinable with other offers. Coupon Code 4-SUM08

### \$25 Off- "Check Engine Light" Scanning and Diagnosis

Coupon must be presented at time of appointment, not combinable with other offers. Coupon Code 5-SUM08

### FREE 1-Day Car Rental

With minimum purchase of \$275 service. Must schedule in advance. Coupon must be presented at time of appointment, not combinable with other offers. Coupon Code 6-SUM08

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## The Countdown Has Begun!

Starting this Fall, we will be changing to an

### ALL EMAIL FORMAT FOR THE NEWSLETTER!

**We will only send a hardcopy if you specifically request it, so if you want to continue to receive a printed version, WE HAVE TO HEAR FROM YOU!**

Please either contact us at

**TomDwyer@TomDwyer.com  
or 503-230-2300**



## Thanks for your business!

Thank you to all of our clients and friends who have graciously supported and referred TDASI over the years. Our business is built upon the positive comments and referrals from people like you. Recommending us to others is the highest compliment we can receive. Referrals are critical to our survival and long-term growth.

We strive for 100% client satisfaction, so please take the time to complete the survey left in your vehicle after each visit. This information is helpful for us to improve and continue to provide impeccable automotive service.

From all of us, thank you for your trust and continued support!

## Office Hours

Office and Shop- 7am-6pm, Mon-Fri Office only- 10am-1pm Sat

### The Tom Dwyer Team

**Technicians-** David Coquet, Ian Clayton, David Gettmann, Calvin Hamilton, Michael Launder, James Magner, Cory Otterson, Tricia Sorver, Jim Watkins, Chris Waterbury

**General Manager-** Ken Bartz

**Service Advisors-** Steve Bergdorf, Clint Stockfleth, & Drew Pearson

**Bookkeeper-** DeeAnn Wheaton

**Network Administrator-** Eric Dwyer

**Marketing-** Charles Letherwood

**Shop Expediter-** Jeff Anderson

**Owner-** Tom Dwyer



## Local Mechanic Brews Alcohol In Backyard! Dwyer, Unrepentant, Swears "I'll Do It Again!"

No, this isn't about Tom Dwyer being carted off for moonshining. Two years ago, he was looking into doing alcohol conversions on cars. The first problem was fuel alcohol for testing, but the minimum amount available for purchase was a railroad tanker car. Undeterred, Tom decided that he would have to make it himself.

After obtaining an ATF license and watching David Blume's video "Alcohol Can Be a Gas" for the alcohol production basics, Tom found a still manufacturer and made arrangements to build the system in his neighbor's barn. After 18 months, six hundred-gallon barrels (1 cooling tank and 5 fermenting tanks) stood next to a nine-foot tall still. The equipment was ready, but now it needed something to go in it.

The material to be fermented is made of a base material like sugar, mixed with yeast and water. Tom found



someone who had 850 pounds of water-damaged sugar he wanted to donate, so employing the "free is good" philosophy, Tom wisely used pure sugar for the test run. With a yield of 1 gallon of ethanol for every 12 pounds of

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## What Does It Mean To Step Lightly? Understanding Your Carbon Footprint

We're told to reduce our carbon output to stop global warming, but it's hard to understand how to go about cutting back without first understanding what our carbon footprint is.

A "carbon footprint" is the amount of carbon produced by any activity. The footprint is positive if it adds carbon or negative if it absorbs carbon. For instance, driving increases your carbon footprint because you are emitting carbon from combustion, but planting a tree reduces your carbon footprint because it absorbs carbon through photosynthesis.

Sometimes it's hard to measure exactly where an activity begins or ends. Carbon is produced when your car is built, shipped, and disposed of. So is the carbon footprint the amount from just driving, or the amount from the car's whole life cycle? Since every activity produces carbon it's

impossible to reduce production to absolute zero, but we can get near zero (carbon neutral) by balancing carbon production with cuts in other areas.

Carbon "credits" and "offsets" are two concepts that started as an argument between environmentalists saying government should limit carbon production and fine polluters, and businesses advocating a self-policing policy with voluntary reductions. The two sides came together to create the "cap and trade" system. The government determines the total amount of carbon being produced, estimates the contribution of each producer, caps production, and slowly lowers the cap. Companies that reduce their carbon output faster than required gain "carbon credits". Companies that don't meet the goals choose to pay a tax or buy carbon credits from the greener companies. Thus, the total carbon production is cut but businesses determine how to cut it. Just as companies

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