



APRIL 2012



TIRE TRACKS **THE ELECTRONIC VERSION**

Greetings Waynesboro-Staunton Region members. This month we feature some shots from our March 18 meeting. Some folks predict that some day electric cars will out-number gasoline vehicles. We were fortunate to learn about what it takes to convert a vehicle at this meeting. Is there an all electric car in your future?

Stu Allen



NEXT MEETING : Saturday April 21, 1:30 PM Founders Day at Sanzone's Italian Restaurant, 2897 Stuarts Draft Highway (Route 340), Stuarts Draft. Pictures of the "Old Days" presented by Willis Clemmer & Owen Harner



TIRE TRACKS

**The Official Publication of the
Waynesboro-Staunton Region**



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President's Message

April is here. Typically I would have put an exclamation point at the end of the previous sentence, but there were so many April-like days this winter I've lost my springtime enthusiasm! (Oops there's that exclamation point.) One thing I haven't lost my enthusiasm for is the car show season getting back into full swing...and April definitely marks the beginning of "old car driving season". And this season an old friend returns to the highway.

Are you ready? Battery charged, oil changed, tires aired-up, transmission repaired? Whoa... where'd that last one come from? Well, from June of 2010 to be exact. You see, it was 21 months ago that our 1956 Studebaker Power Hawk blew a transmission seal on its way to a car show in Ohio. Just shy of Durbin, WV the car seemed to go into neutral and we rolled to the side of the road. I got out and peered beneath it to see bright red transmission fluid cascading from the area where the transmission meets the bell-housing. Using some spare quarts of fluid from the trunk and some purchased at a nearby gas station, Ann and I limped the Hawk back to Monterey where we called for a rollback to take it to Staunton.

That July I began the quest to find a local transmission shop capable (and willing) to take on a 54 year-old Borg-Warner built Flight-O-Matic transmission. Of course I started by asking fellow W-S Region members where to take it. After compiling a list of local shops, I began visiting them to see about getting the transmission serviced. One after another I had to cross every one of them off the list. The reasons were varied, but most centered about these shops no longer having a mechanic who really knew the old automatics. Some had passed away and some had retired. Most of the garages were strictly "remove & replace" shops. In other words, they did no rebuilding of their own...they simply removed your broken transmission and replaced it with a factory re-built unit. That's fine for a modern vehicle, but not an antique. I even had a list of

mechanics elsewhere in Virginia who might be able to assist, but after talking to folks who had used them I decided not to go down that path.

Then in the fall of 2011 I caught a break as Jack Drago's '56 Ford's automatic had a six-cat fight going up Afton Mountain. (See the November 2011 *Tire Tracks* for more on this incident.) How in the world could Jack's misfortune be a break for me? Well, Jack's Ford-O-Matic is also a Borg-Warner built automatic transmission! So now there were two of us on the hunt for the same skilled person. Two heads are better than one (or at least mine). Jack began working a list of contacts he had been given, and one of those contacts called him back with the name of a guy who had re-built a friend's 57 T-Bird's automatic. Jack and I were in this fellow's shop south of Harrisonburg in November. He said he could fix our cars, but it would be some time before he could work them in. After 4 more months of waiting he called and told me to bring in the Hawk. On March 15th I trailered the Stude to the shop, and on March 19th picked it up and drove it home. The car shifts fine and, most importantly, is no longer gushing fluid. Now Jack is waiting for his phone call to bring the Vicky in.

Yes, it's springtime...the swallows have returned to Capistrano, the buzzards to Hinckley, Ohio and a Hawk to the highways of the Shenandoah Valley.

Hope to see everyone at our April Founders Day meeting on Saturday the 21st at 1:30 PM at Sanzone's Italian Restaurant in Stuarts Draft. Owen Harner and Willis Clemmer will be presenting a slide show on the automotive history of our W-S Region. As always, let's bring out those old cars and trucks!



Bob Ridle

Waynesboro-Staunton Region's March 18 Meeting at Texas Steakhouse

Members were treated to great old car weather for our meeting on Sunday, March 18. With temperatures in the 70's, several members brought out their antique cars to enjoy the sunshine. As we gathered at Staunton's Texas Steakhouse, we were greeted by a stock-appearing Ford Ranger pickup that is the pride and joy of our guest speaker for the day—David Waterman.



David, a retired physics teacher, volunteers at the Shenandoah Valley Governors School where 200 gifted and talented 11th and 12th grade students from all over the county participate in programs in math, science and technology or arts and humanities. It turns out that one of the student programs at the school involves building and maintaining electric cars that participate in electric car competitions around the country. After David was asked to help with the program and transported one of the two school electric cars to a competitive event, he decided to build an electric vehicle of his own.

David's presentation walked us through the steps required to convert the Ranger pickup mentioned above into a pure electric vehicle with appearance and performance similar to original. I can't retell the entire story here, but some pictures may give you some idea of what is involved in the conversion. After removing the gasoline engine, gas tank, radiator and exhaust system (none of these were required in the converted truck) he tackled the challenge of packaging the 48 lithium ion cells that made up the battery pack. His design uses three battery boxes, one behind the rear axle, one where the gas tank used to be and one where the exhaust system was.



One of three battery boxes

Once the battery cells were installed, the electric motor was mounted in the engine compartment, bolted to the bell housing and 5-speed manual transmission. The motor, 9" in diameter and 16" long weighs 150 pounds and fits nicely where the 2.3 liter 4-cylinder gas engine used to be.



Electric motor bolted to drive train

The motor is regulated by a controller mounted on a shelf just above the motor. It is programmed using a laptop and an Ethernet cable.



Motor Controller

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Lithium ion cells are expensive and each cell is monitored using a battery management system (BMS). Wires from each cell are connected to the data collection system and then to a computer that monitors the voltage at each cell and also controls the charging system. The BMS and charger are both mounted behind the seat.



Battery Management System and Charger

A display screen mounted in the cab provides information from the BMS including each cell's voltage, overall voltage, current and "state of charge" that is like your fuel gauge.



BMS Display Screen

The Ford power steering pump is powered by the front output shaft of the motor. The power brakes are powered by an electric vacuum pump. The 12 volt systems are powered by the Ford battery, which is charged by a DC-DC converter.



Power Steering Pump

Spare Tire



David points out some features of the electric truck

After the presentation, David provided several members with rides demonstrating that the truck performs very well and if one didn't notice the lack of engine noise, you might not know it was all electric. Charging the system requires 20 hours using 110 volts and should take about 7 hours using 240 volts. Range on a full charge is around 80 to 100 miles and David calculates the cost to be about \$.03 to \$.04/mile. Battery life is estimated to be 200,000—400,000 miles. His investment for all of the system components exceeded \$27,000 + the cost of the used truck but bypassing gasoline stations with \$4.00/gallon gas is **PRICELESS**.

If you would like more information on electric car conversions, call David at (540) 886-1713 or e-mail him at drwaterman@comcast.net. He is happy to share information and his enthusiasm with all of you. The Region thanks David Waterman for a most interesting and entertaining presentation.

2012 SENTIMENTAL TOUR Update

The Sentimental Tour is now only 2 months away. We currently have 143 cars registered and continue to get calls asking if we still have openings. Tour routes are being finalized and if any of you would like to pre-run a route for us to check our tour directions, please call or e-mail me. A fresh set of eyes following route directions often turn up improvements that will prevent problems for our guests who are unfamiliar with the valley.

We still need volunteers (29 signed up so far) so if you haven't signed up yet, give me a call. All help is greatly appreciated.

Stu Allen

2012 Calendar of Events

- APRIL** 11 W/S Board Meeting 7:00 pm
- 19-22 Southeastern Division National Spring Meet—Charlotte NC
- 21 W/S Meeting—Saturday 1:30 PM **Founders Day** at Sanzone’s Italian Restaurant, 2897 Stuarts Draft Highway (Route 340), Stuarts Draft. Pictures of the “**Old Days**” presented by Willis Clemmer & Owen Harner
- 29 Piedmont Region AACA Car Show behind Sams Club—Charlottesville— See our website
- MAY** 3-5 ODMA Meet, hosted by the Roanoke Valley Region AACA at Virginia Western Community College, Roanoke
- 9 W/S Board Meeting 7:00 pm
- 12 Waynesboro Motor Sports Show—Constitution Park in Waynesboro
- 20 W/S Meeting 1:30 PM at the Wood Grill, 1711 Reservoir Street in Harrisonburg—Possible Spring Driving Tour
- JUNE** 3-8 Sentimental Tour
- 13 W/S Board Meeting 7:00 pm
- 17 W/S Meeting—Location & Activity TBA

Founders Day April 18, 1950.



Don’t miss Founders Day—April 21, 2012 at Sanzones Italian Restaurant, Stuarts Draft

Tri-County Region Meetings- Dates vary—
Check their website.

Piedmont Region Meetings are the 4th Monday
at the Doubletree Hotel on Route 29
North in Charlottesville at 7pm.

FOR SALE: Settling estate. Must sell 1974 Chrysler New Yorker Brougham St Regis edition. White exterior, white vinyl top, white leather interior. 2 door hardtop. Loaded with options and all work (except the front power windows) New radial tires and original magnificent paint. This is truly an HPOF car. Driven only 200 miles in the past 10 years. Has 124,000 original miles and can be driven anywhere. Owner is ask-
ing only \$4950 and wants to sell ASAP. I’m selling it on behalf of the owner. Jack Drago (540)337-2120



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Tire Tracks

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From the Editor's Desk

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Minutes of the March 18, 2012 W/S Region Meeting

The March 18th Waynesboro-Staunton Region AACA meeting was held at the Texas Steakhouse in Staunton at 2pm and there were 38 members and 1 guest present. President Bob Ridle opened the meeting and welcomed everyone. Nelson Driver gave the blessing. After the meal, Mary Helen gave the Treasurer's report and the Sunshine Report. It was stated that William (Bill) Pettit of Louisa had passed away. He was a founding member of W-S Region.

Vice President Jack Drago reported on the Activities saying that the next meeting, Founders Day, would be at Sanzone's in Stuarts Draft on Saturday April 21st at 12pm. The program for this meeting, presented by Wills Clemmer and Owen Harner, would be on the early W-S Region members and their cars.

Nelson Driver reported that the ODMA Meet would be in Roanoke on May 3rd at the Tanglewood Holiday Inn. He has flyers for the meet or you can find them on line at www.local.aaca.org/odma.

Stu Allen reminded the members that Sentimental Tour registration forms for the members are available and he asked they get them in as soon as possible. He also, passed a sign-up sheet for volunteers. Stu stated that we need your help with the tour.

Mel Redmond reported the Waynesboro Motorsports Show would be on May 12th and applications are available on line at www.waynesboromotorsports.com.

Bob Ridle gave the following dates for shows: 1) Shenandoah Region's Apple Blossom Show on May 11-12, and 2) the Fredericksburg Region's Olde Town Show on June 2.

Shirley Farley won the 50/50 drawing.

The meeting was adjourned and an interesting program was presented by David Waterman on his all electric truck. He converted a Ford Ranger pickup to a total electric truck with the use of WarpNine electric motor and 48 Lithium iron batteries.

Respectfully submitted,

Robbie Gray, Sec.



APRIL BIRTHDAYS

Sue Baugher

Nancy Coiner

Anna Craun

Brandy Gebhardt

Barbara Graves

Tom Kempton

Bob Kuykendall

Bernice Lyman

Ben McDonald

Janet Meyer

Linda Royer

Janice Shanholtzer

Diana Simpson

Raymond Swadley

Shirley Wampler

George Weller

Benny Whitesell

Nancy Whitesell

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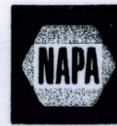
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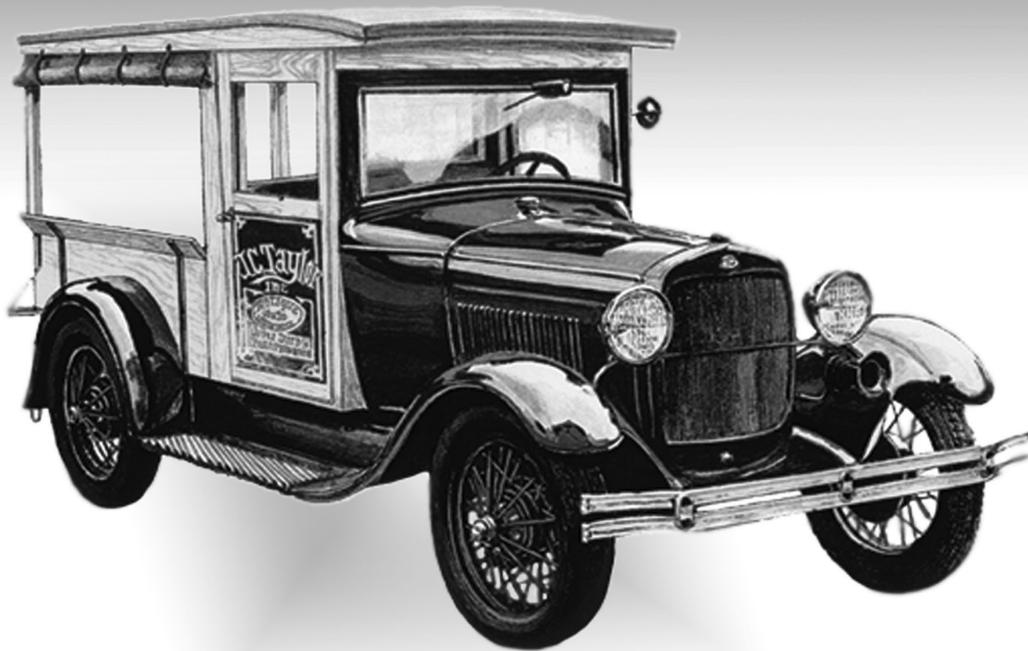
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