



Abingdon RoughRider Review

March 2010

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Sunday March 28

Communing with Nature

Meet at Muir Woods parking lot at 10 AM for a short hike thru William Kent's gift to Californians. We will then motor over to Stinson Beach for a little sustenance, then take a circuitous route, testing our stamina and suspensions. Bring any old car.

The admission to Muir Woods is \$5 per car. However, the Greatest American Bargain is the \$10 for a lifetime pass to all American parks if you are 62 or older. It ain't gonna last forever. You can buy this pass at the entrance. You can also buy fine bargains at the visitor center (blatant plug for Linda's store)

Sunday April 10

Mt Hamilton run with the MG Owners Club
Details next month

*Don't forget -dues are due - \$25 cheap to yr treasurer-
Still a few holding back, or having forgotten- if you are getting a
printed copy, there's a red line under your name if my world class
accounting system says you are remiss! Also, if you don't wish to
continue membership please let me know*



Web site www.abingdonroughriders.org

We have about thirty of our 90+ members signed up to receive the newsletter on our web site and would like to have more.

Coming Events

Sunday March 28 –

Mt Tam Hike – an event for people who walk occasionally. This is a great time to go for a walk in the coastal redwoods of Muir Woods

Sunday April 10 –

Mt Hamilton run with the MG Owners Club – Details next month

May 7/8/9 –

Gold Country tour, see below

MGs By The Bay

**May 8, 10 am at the Danville Livery shopping center Highway 680 and Sycamore Valley Rd
flyer with directions coming soon**

June 12th –

Tour around Mt Diablo with Syd & Judy Saperstein in charge

July 12 – 16 GoF in Big Bear CA –

application has been in the last two newsletters or is on the web site

August 1 – Capitola run –

this is another version of the Sausage Run – more later

September Bolinas –

Susan Frank will welcome us, at a date to be decided, to “The Barn”

British Car Day Brisbane may be cancelled this year – stay tuned

October 1/2/3 –

Conclave – The Narrow Gauge Inn on Hwy 41 above Oakhurst and four miles from the Mariposa gate to Yosemite – write-up attached

November –

A tour of Sonoma with a stop at Dick & Rochelle Nyquist’s barn of cars

December –

Holiday Party at the Swackhamer’s in San Jose – more to come

Gold Country Tour

The destination of this year’s Gold Country Tour, May 7-9, is Nevada City . We will be staying at the National Hotel which was established in 1852. Ten rooms have been set aside for us. That is about all that were left as Mother’s Day is a busy time for them. So book early, we must release the unclaimed rooms April 5th. Prices range from \$81 to \$125 not including taxes. Phone (530) 265-4551 and tell them you are with the Abingdon Roughriders.

Saturday evening we will have a group dinner in the hotel dining room. The meal choices will be Prime Rib, Chicken Marsala or Poached Salmon in Dill Sauce. The price is \$25 per person, tax, tip and beverages not included. Please let me know your meal choices so that I may give then a head count.

**The Saturday driving tour is still under development as is the route to Nevada City . I will keep you posted.
Barry Swackhamer**

Kicking Tires at Chris Bonk's

Chris is one of our newest members, having trailered his dad's TC from Connecticut for "freshening" at his San Francisco Warehome. We volunteered him and friend Emi Takahara to show us around. The site of the west bay warehome is in the Hunters Point area, where a number of artisans, craftsmen and other eccentrics toil (just kidding Chris).

Chris is in the midst of disassembling the TC, which has been dormant since 1968. He initially thought he would just do some mechanical work and drive it with "patina". He was warned about the devilish gradualism that has affected several members, wherein you will only do so much and then get carried away.

Chris's "Jezzabel" which you saw in the last newsletter, was under wraps this day.

Turning out were Terry Sanders, Rick Storms, Norman Tuck, Jim Hill and Jeff and Colleen Stobbe, along with several other interested parties



The TC is being reduced to its components

One of the highlights was the Hudson Hornet Chris has been working on for his friend Ivan.

This is quite a famous car driven by Marshall Teague in the fifties. Chris has put disk brakes on the front in anticipation of another run at the Carrera Panamericana. Ivan, who is a member of the team at Phil Reilly's shop in Corte Madera, has run it before in this car but now it's in new hands..



Nice, really big flat head straight eight, dual carbs



Examining the perfect original door panel

Crackerjack Team

A group of us have taken on the completion of Bob Moore's TC. It's been jolly fun and we almost got it started on our second visit to Vacaville. Quite a few fixes were done – doors worked over by Bob Alley and visiting Aussie Kerry McDonagh, floor boards worked over and installed, carbs installed, dash attached, cables hooked up, electrical attachments done, etc.

Sumptuous vittles and encouragement were supplied by Bev.

It coughed and sputtered but we ran out of time and will surely have it going next time, barring the unforeseen. Keep good thoughts that the timing chain is on right!



Tom Thaanum, Rick Storms, Terry Sanders, Allan Chalmers, Bob Alley, Norman Tuck, Kerry McDonagh



Carburetor sorting by Norman, with supervision

For Sale

There are several redundant items from Bob Moore's restoration that are for sale to members.



Two axles with hubs. One is a new axle with new hub – right side. The other is a Phil Marino tapered axle with a used but with, excellent splines, hub – left side
Moss prices about \$320 for axle and hub set



Price on these \$100 for each set

One used bearing carrier with bearing – Moss price on

a new one \$370 – for this one \$150



Set of new .030 over four ring AE pistons with two compression, two oil rings and gudgeons. Moss price for both - \$280 – for these \$140

5.125 to 1 crown and pinion set. Used but looking quite good. N/A at Moss but \$1500 at Abingdon For you \$500.

Morris 4:55 ring & Pinion modified to TC with spacer ring and driveshaft extender \$500



Crane 3/4 race camshaft, slightly used \$100

Offers on any of these accepted. Contact yrs trly

TC Wiper Motor: What is the truth?

What is the proper wiper motor for the TC? I did a recent study to find out that there have been some facts blended with some misunderstandings, lending to confusion. So, what is the truth?

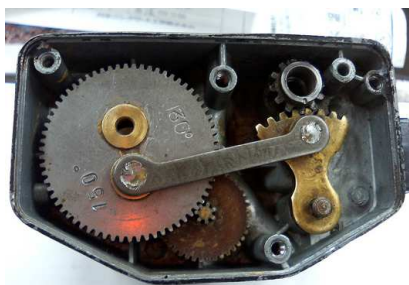
To start, there are 2 (broad based) categories of wiper motors in which there are specific subcategory part numbers for car applications. The 2 groups of motors are CWX and CW1. Visually, all motors look the same, other than the numbers.

The CWX category originated as a pre-war item and continued through the TC production well into the 60's. As defined in the Lucas manual itself, "CWX" was a universal mounting motor. It was produced with the longest spindle and fixing studs likely to be required and included a variety of packing washers. In short, one size fit all and excess bits would be discarded. There were 2 reported sightings of the CWX motor on TA's. Both had part # 730497. This part number is significant because it is also referenced as the proper motor for the TC by Mike Sherrell, page 204/205, and also the Lucas publication, No. CE468, Dec 1949 (TC Equipment). But wait, something is wrong. The CWX 730497 motor found on Ian Linton's TA 3120 has a 130 degree sweep. So were all of these motors 130 or did they change later to the required 150 degree for the TC? Overall, there was no reported data on the sweep for the 730497 motors. The second question that becomes obvious is why would MG use a universal mounted motor and throw away all the extra bits for a production run of 10,000? Or did CWX 730497 have just the right hardware for the TC as designated by the part # 730497? This remains an unknown. Despite what Sherrell and Lucas have recorded, was there a different motor used with the TC?

The first TC built, TC 0252, had wiper motor CW1 dated 1940, part # 733189, 150 degree sweep, and considered original to the car by Peter deBruyn, owner. This confirms what is often suspected. Early production used surplus parts to get the production going. This designation however, highlights a new category of CW1, which is top mounted and not universal. Next, there was a period of unknown as I did not receive any verifiable data on original motors until TC 2875. At this point it was confirmed that the TC wiper motor changed to CW1 75051 as seen with motor date of 2/47 matching the car production date. Additionally, there were repeated sighting of this same motor throughout the remainder of TC production. In fact, according to the Lucas parts manual, part number 75051, 150 sweep, was specific to the MG TC and TD 1946-52. So, there was a change earlier than previously thought.

There was also an interesting side note for TC 5087 born early 1948. It had a motor # CW1 730292, dated 10/47 and considered original to the car. This points to the fact that MG would use substitute parts to keep production going. This motor (also specific to a 46-47 Sunbeam/Talbot Tourer) was top mounted and had a 150 sweep and would only need to have the TC mounting hardware to make it work for a TC.

There will always be remaining questions. Can anyone confirm the sweep of the CWX 730497 motor? Does anyone have a pre-TC2875 motor considered to be original? Does anyone have a post TC 2875 CWX 730497 that is considered original their car and has like dates on the motor? I will thank in advance anyone that can help further. As always, I welcome comment. Doug@FromTheFrameUp.com



CW150



NOS CWX



Oil Information from Moss Motors

Thanks to Al Moss for passing this on. I've mentioned this before, but it is important!

There are four reasons why you should consider buying oil that was made specifically for the engine in your classic:

- Zinc Dialkyl-Dithio-Phosphate (ZDDP)
- Seal contraction or shrinkage
- Keeping contaminants in suspension
- Protection against corrosion and rust

We will consider each turn, starting with the most complex.

What is ZDDP?

Zinc Dialkyl-Dithio-Phosphate (ZDDP) is an oil supplement which has been, up until recently, the primary extreme pressure (EP) ingredient in all quality motor oils. It has been used for over 70 years.

How does it work?

ZDDP, when exposed to heat and pressure, forms a protective zinc-phosphate film on the surface of the metal. The exact nature of the process at the molecular level is still under investigation, but recent research suggests that large numbers of cross-links between the zinc atoms in the zinc-phosphorus molecules form, transforming a viscoelastic fluid of loosely interacting zinc-phosphorus molecules into a chemically connected network. This increases the strength of the film, and that significantly improves its capacity to accommodate and redistribute applied loads which in turn reduces wear on the underlying surface.

Because of the pressure required to trigger this event, ZDDP is particularly effective in protecting steel and cast iron surfaces. As soon as the pressure at the contact interface is reduced, the cross links break down and the film dissipates back into the oil solution.

Simply put, ZDDP prevents parts (the cam lobes and the lifters for example) from making contact, and this greatly reduces the tendency of parts to scuff and gall under heavy-loaded conditions. It's important to note that the wear protection properties are due only to the characteristics of the ZDDP molecule and not to zinc (Zn) or phosphorus (P) in the oil in other forms or from other sources. M:\Product Information\220-810\Docs\220-810_220-815_Supplemental Information.doc Created by Michael Grant on 2/13/2008 4:52:00 PM Revised by Michael Grant Page 2 of 4

Why do I suddenly need ZDDP?

Let's back up a minute and talk about oil classifications. The system in use today comes from the American Petroleum Institute (API). In this system, the prefix S or C identifies the basic category, S being

for gasoline engines, C being for diesel engines. The second letter corresponds to the grade, and SA and CA were the designations for the first two API oil grades. As new specifications were developed, a succession of letters was assigned, and 13 grades later, we are up to SM, the current grade for gasoline engines. Oil for diesel engines is up to CJ. Generally speaking, every change in specification since the 1930s represents improvements based on a better understanding of oil, lubrication, and the evolving needs of machinery. And generally speaking, the newer oil could safely be used in cars built to use an earlier specification. There are two exceptions. Engines built to use SA grade oil (a straight non-detergent mineral oil) could not use the SB grade oils. The second exception is more recent, and it applies to engines built through the mid 1980s. It is primarily due to the reduction of ZDDP.

With that background information, let us consider exactly why the loss of ZDDP creates problems for older engines, and why it is not a problem for modern engines. According to the SAE Tech Bulletin # 770087, operation of a flat tappet engine without adequate EP additives such as ZDDP quickly leads to lifter foot scuffing and cam lobe wear. Camshafts are typically only surface hardened leaving the core ductile for strength. According to the SAE Bulletin, once cam lobe wear reaches **0.0002**, "subsequent wear is usually rapid and catastrophic." Two ten-thousandths of an inch is one fifth the thickness of an average human hair. In order to make engines last in the absence of ZDDP, virtually all engines designed to run on gasoline in the last ten years utilize roller lifters. The sliding cam-to-cam-follower interface in a non-roller lifter engine requires a special EP additive, which has historically been the ZDDP.

Why can't I buy modern oil with ZDDP in it?

Up to 1988, the API specification for "SF" motor oil called for ZDDP concentrations of 0.15% by weight. Up to about 1993 the API grade "SG" oils contained in excess of 0.12% ZDDP by weight. However, these are now "obsolete" specifications, and ZDDP has been phased out gradually because it will damage the catalytic converter. The EPA has required the automobile manufacturers to design and use catalytic converters that last for 100,000 miles (2004), and that increases to 150,000 miles by 2009. To achieve these goals, automotive manufacturers have worked closely with the oil industry to develop oils that do not have substances that would shorten the service life of the catalyst. No matter how fresh an engine is, some oil is burned in the combustion chamber. If the motor oil has ZDDP in it, small amounts of zinc and phosphorus will show up in the exhaust system. These elements can coat the catalyst, reducing the amount of catalyst exposed to the exhaust gases, and that will increase emissions at the tailpipe. The ZDDP level in motor oil, which had declined since 1988, began to disappear in the mid 1990s as a result of the EPA mandate. This roughly coincides with the implementation of OBDII.

What about Racing Oil? Doesn't that have ZDDP?

There are still some racing oils that contain ZDDP, and they do offer some additional protection. The actual percentage of ZDDP in racing oil is based on the intended use of that oil, and it may not be the optimal concentration of 0.15% found in the API SF oils. There are also other factors to consider. Racing oils are optimized for short term severe duty, in contrast to oil that has been designed for operation on the street for months at a time. The additive package in racing oil does not have the same detergent characteristics which are part of the additive package in oil designed for extended service. This means racing oil may not neutralize acids and keep contaminants in suspension. Racing oil generally is not multi-viscosity, which is a key feature of oil designed for use in street cars over wide temperature ranges.

Don't oils for diesel engines still have ZDDP?

Yes, some do. However, diesel oils have three characteristics you need to consider; the detergent additives, viscosity, and the amount of ZDDP in the oil.

Detergents: A diesel engine needs oil with very high detergent capabilities in order to hold the large amount of combustion byproducts in suspension. High detergent oil has a lower surface tension and lower shear pressure rating. The bearing journal size-to-displacement ratio on a gasoline engine is designed around a lower detergent oil with a high shear pressure rating. Using a API CJ grade oil for a diesel engine in a gasoline engine can lead to higher bearing wear. Another problem with high detergent oil is that the additives that keep contaminants in suspension actually reduce the wear protection provided by the ZDDP, especially in a high-performance engine with high valve spring pressures.

Viscosity: Diesel engines have larger bearing clearances, and they run higher viscosity oils as a result. The viscosity rating of most diesel rated oils is actually higher than you would normally use in a gasoline engine, which runs at higher RPM. In some cases, using high viscosity oil can cause oil starvation in bearings at high RPM.

ZDDP: It can be difficult to determine exactly how much ZDDP is in a quart of API CJ oil. The amount of ZDDP in diesel oils was reduced in 2007, and in the long run it may be a moot point, because the best information we have indicates that new diesel oils in development will have further reduced levels of ZDDP.

What about GM's Engine Oil Supplement? Isn't that ZDDP?

GM's Engine Oil Supplement (EOS) did contain significant amounts of ZDDP, and it was the most concentrated ZDDP supplement available. It was intended to boost ZDDP levels of oils that already contained EP additives. It was available for over 20 years, until it was discontinued by GM in early 2007

(ed.note: I have purchased GM's EOS supplement recently – the only change in its formulation was how much GM was going to charge you!)

So what am I supposed to do now?

Classic car magazines, club newsletters, restorers, machine shops, and the forums on the web abound with information about oil and classic cars. Like all hot topics, there is a great deal of information out there, some good, some bad. The fact is that our vintage English cars have lubrication issues not found in modern engines. If your owner's manual calls for SF grade oil, or an earlier grade oil, the engine will need ZDDP. There are two approaches. One is to use oil formulated specifically for older cars - the 220-810 Collector's Choice Motor Oil from Hicks. Another approach is to use modern SM grade oil and add back in the ZDDP.

Ed.note: Moss Motors offers ZDDP and Collector's Choice, or you can find ZDDPlus on the internet. A small bottle, suitable for our crankcase is about \$10, or less for multiple purchases. It should be used on each oil change

Conclave Info

Our Activities Director, Linda, has come up with the **Narrow Gauge Inn**, a few miles further up Hwy 41 from Oakhurst. It looks like a winner - rooms are 4 @ \$120, 7 @ 140 and 13 @150. We can have the whole joint. Not available on the second weekend we chose, but it is on the first weekend in October - 1,2,3. The Mariposa gate is four miles up the hill.

Folks writing reviews thought the food especially good. The Inn also supplies a continental breakfast with the room. Check the website www.narrowgaugeinn.com

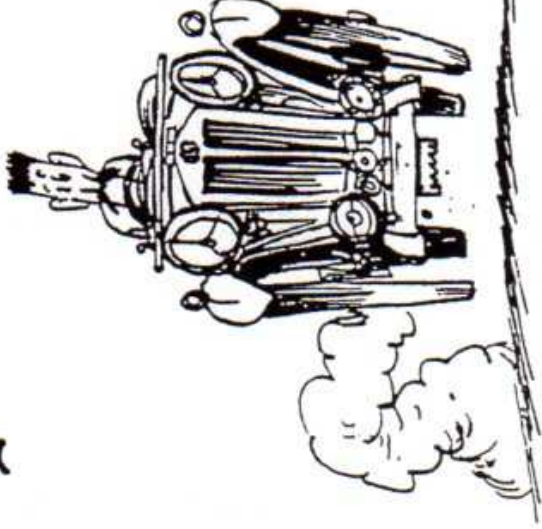
The Narrow Gauge railway is next door and they have a four mile run that folks could opt to do.

www.ymspr.com

This is the site of choice and there will be more info coming your way. Reservations will be made through your humble scribe and associate, so don't send off any checks yet.

Linda and I are taking a run up there next weekend and will report further.


ABINGDON



**ROUGH RIDER
• REVIEW •**

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First Class Mail

Dedicated to the perpetuation of the MG TC