



Norton Notice

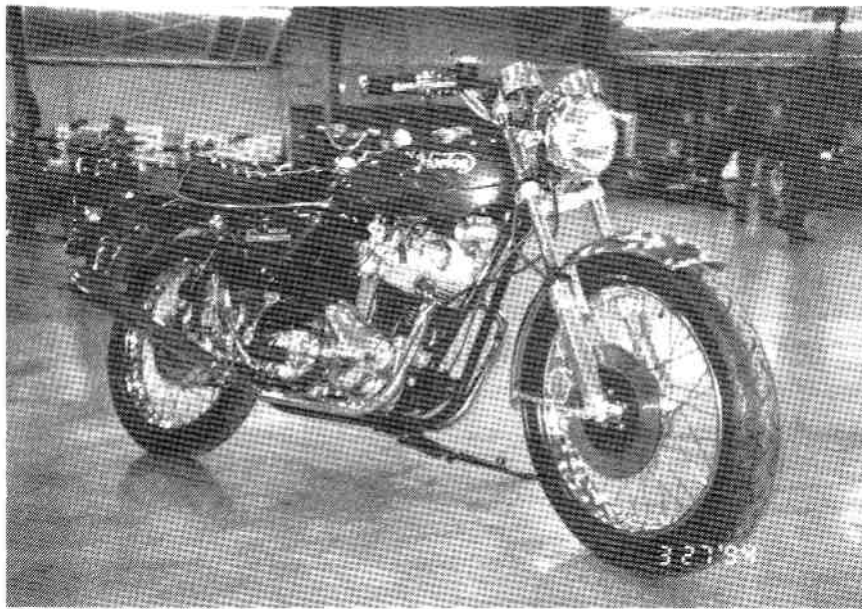


The Newsletter of the
Northern California Norton Owners Club

No. 193

May, 1994

Leo Sowers "Purple" Norton!!



Adventures of "The Purple Haze"- Page 8



is published by the Northern California Norton Owners Club. Its purpose is to inform and entertain members regarding all aspects of the Norton motorcycle, including history, technical advice, and preservation of the marque.

The *NORTON NOTICE* is a reflection of the readership, who are encouraged to submit any article, technical tip, photograph (original or otherwise) as long as it is in good taste, so that other Norton enthusiasts may enjoy it. (Good taste is somewhat optional, but hey- this is a group of bikers we're talking about here... that's why we have an editor.)

The deadline for items to be submitted for publication is the 20th of each month. The *NORTON NOTICE* welcomes contributions submitted electronically. Material in MS Word or Aldus Pagemaker on a Macintosh 3.5" disc is ideal. You may also send it directly to the editor via X modem at the telephone number listed for the Editor; set your telecom software for 8n/1, use the **X or Z MODEM** file transfer protocol, and just ring up the Editor who is home most evenings. Also E-mail can be received by using INTERNET to norton2@aol.com.

Membership in the Northern California Norton Owners Club is available for \$20.00 per year. Membership dues are payable to the Branch Treasurer.

Advertising rates are \$60/year for a 1/4 page ad!

Renewal dues are payable at the end of the individual's membership year, that month being designated by the last number of the individual's membership number as listed on the mailing label of the *NORTON NOTICE* and the membership card.

All changes of address should go to the Branch Treasurer- not the NOTICE editor.

The Northern California Norton Owners Club is affiliated with both the Norton Owners Club of England and the International Norton Owners Association. Interested persons can join these two organizations per the terms described on the Branch membership application form.

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IMPORTANT (Please take note of the following fine print):

The object of the Northern California Norton Owners Club is to promote, encourage and develop motorcycling activities. The Club's members are owners of Norton motorcycles and they often submit for publication in the *NORTON NOTICE* technical tips pertaining to motorcycles of the Norton marque. Technical tips so published have been reviewed for technical content and are believed to be both acceptable and workable, but no guarantee is made or implied that they will work correctly; nor is any liability assumed by either the Norton Owners Club or the members for any problems resulting from use of these technical tips. The club also assumes no responsibility for the acts or omissions of its members in connection with Club activities. *NORTON NOTICE* articles or other materials express the authors' views only and not necessarily the official policy of the Norton owners Club or its Northern California Branch. The editor reserves the right to accept, reject or alter all editorial and advertising material submitted for publication. Advertising published does not imply endorsement of products, goods or services. Now you know

Upcoming Events

Club Rides Schedule

The ride schedule for 1994

May 15: Jim's North Bay Ride
(Napa, Berryessa Lake area)

June 11: (Saturday) Fred Twigg Ride
July 16: (Saturday) Santa Cruz Ride
July 30: over night to Minden, Nevada
August 12, 13, 14: unofficial ride at the Dardenelles
September 11: (Sunday) Old Timer's Ride
October 16: (Sunday) Mt. Hamilton Ride
November 5: (Saturday) Northern California All-British Ride/ 5th annual Don Danmeier 50th Birthday Party
December ?: No ride scheduled



Activities at a glance.....

May 8: Santa Cruz 11th Annual Rally of European Motorcycles
May 20 - 22: AMA Superbike Race, Laguna Seca
June 5: Norton Day at Alice's Restaurant
June 12: Northern California Motorcycle Festival. Laguna Seca (formerly Casa de Fruta). For information call (408)972-8063
June 22-25: I.N.O.A. 19th Annual Rally, Rapid City, South Dakota
July 29-31: CMA/AMCRA Atlantic Vintage TT, Halifax, Nova Scotia
August 19-21: AMA Superbike Race at Sears Point

As I am informed of events, I will include them in the Notice....editor

Meeting Schedule

The Club meets on the second Thursday of each month. The meetings are SUPPOSED to start at 8:00 PM. If you get tired of bench racing, bring a newspaper to read.

May 12th Fremont Brewery

June 9th - Prince of Wales
July 14th - Harry's Hofbrau
August 11th - The Connecticut Yankee
September 8th - Fremont Brewery
October 13th - Prince of Wales
November 10th - Harry's Hofbrau
December ? - To be announced

Harry's Hofbrau: 399 West El Camino Real, Mountain View, CA., (415)964-8455 just north of Highway 85 on El Camino Real
Prince of Wales Pub: 106 East 25th Avenue, San Mateo, CA., (415)574-9723 — Off Highway 101 between Highway 92 and Hillsdale Blvd. Next to San Mateo County Fairgrounds.

Fremont Brewery: Note new name! 3350 Stevenson Blvd., Fremont, CA., — East of Highway 880 near Paseo Padre.

Connecticut Yankee: 100 Connecticut St, San Francisco, CA. (415)552-4440. Vermont St. turnoff off of Highway 101 North



Graphics Contributions

Photography:

Gerald Mauricio, Hugh Hefner
Steve Coburn, Alan Mueller

Press Production and Halftones:

John & Carrie Follett:
White Oak Press, San Carlos, CA

Maya's Minutes

by Maya Lai, President

The meeting at the Connecticut Yankee was a full house. My apologies for the management there. There was a slight misunderstanding. We congratulated Joe Edwards on getting married to Shelly. (sly dog you....) We welcomed new member Mark Robbins into the club. I thanked Mike Burnham for being one of the judge at the Clubman show.

We discussed Norton Day up at Alices. It will be June 5th. I talked with Art up there at Alices, and he says they will be more than happy to help us. I will change their menu to suit our needs. I'm working on that. I will be asking for volunteers for the event. I would like to see this be a wonderful turn out. Art said

they could put (Norton Day with the date) on their t-shirts with the Nortons on them. **If anyone would like to help, please call me....(408) 241-1812.**

**Pipes Up**

by Duncan Ferguson, V. P.

Norton Day at Alice's

Restaurant is going to happen. After much ground work by Jerry J., it appears there will be a Norton Day on Sunday, June 5th.

Joe Edwards, Alan Goldwater and I met with Barry, the manager of Alice's, on Sunday the 17th of April to set guide lines for Norton Day. We will be allowed to display the Club Banner. There will be a section of the parking lot set aside for Norton parking.

Alice's will set up a BBQ, have cold beer available and also will supply live music on site. The only thing that Barry has asked is please "no flyers" advertising

Norton Day in Woodside.

This is a good chance for the NCNOC to be seen and heard from *in a good light*. **See you there!**

What a great turn out for the April meeting at the new venue in San Francisco. There were 30+ members present.

The May meeting will be in Fremont at The Fremont Brewery, previously known as Brew Pub on the Green. Weather permitting the meeting will be held on the patio.

Keep it in the wind - but remember to watch that mirror. Joe and I counted five different police cars between Alice's and Highway 101. **Pipes up!**

Minutes of the April Meeting

The meeting was called to order by President Maya Lai at 8:20 pm. The meeting this month was held at a new venue, The Connecticut Yankee in San Francisco. There was an excellent turnout of around 34 members which seemed to throw the restaurant owners for a loop. After awhile they came around, however, and everyone had a great meal.

A new member, Mark Robbins, was introduced by Maya.

The Clubman's Show last month was fun and a success, however, not many watches were sold.

Congratulations were given to Joe Edwards who got married on St. Pats day up at Tahoe and then had a fantastic reception in April back here on the Peninsula.

Lynne Miller gave a brief report on the Easter Morning Ride. He went over a bit of the history and explained what the problems were in the past. As most people found out, at the last minute the officials changed their minds and allowed the ride to proceed. They charged each bike \$5.00 to go up the hill which is well worth the great experience of joining so many bikers on a beautiful morning. There were anywhere from 295 to 395 bikes depending on who was counting. There will be a write up about the ride in one of the local biker rags. Next year will be the 20th annual ride, so plan on attending. Thanks to Lynne for keeping this tradition alive.

There will be a concourse in Silverado on June 5th. This year it will include motorcycles. They must be older than 1959 to be included and they must run.

It was decided to try to get June 5th for the Norton Day up at Alice's Restaurant. More information will follow.

It was suggested that we check the legality of using the park for the Old Timers Ride now that everyone is getting so picky.

Jim Carton gave a report on the North Bay Ride on May 15th. It will meet at Denny's at 9:00 am. Details are to be found further along in the Notice.

Someone asked why the president of the Norton club rode to the meeting on a Harley.

John Bria discussed the necessity of selling the watches. He also asked for a show of hands to give him an idea of what we need to order in the way of T-shirts, sweat shirts, golf shirt, etc... I think he now has a better idea of what the club wants. A fund was started to raise some money to send T-shirts to the remaining workers in the Norton factory back in Merre Olde England.

Happy Birthday was sung to yours truly who is now another year older and grayer.

There was a discussion about using bulk mail now that the Notice weighs more than the \$.29 allows.

The meeting was officially closed at 9:30 so that Ken Armann could give a tech-talk about clutch plates. A very informative discussion followed.

Respectfully submitted,

Alan Mueller, editor and secretary

Whazz Happ'nin

...regional news of the NCNOC

East Bay Report

by Duncan Ferguson

Harley's, Harley's and more Harley's, Joe Edwards and I went to Vallejo for the Easy Rider's Regional Bike and Tattoo Show - more chrome, more leather and more tats then could be counted. When we arrived there were only approximately 100 - 200 bikes in the parking lot. Two hours later as we left there were well over 1000 Harleys. The Easy Rider people were taking pictures of the nicest bikes in the lot and had to stop and takes pictures of the only non-Harleys in the lot.

On the ride home, we stopped in San Francisco at the world famous Buena Vista - thanks for the Irish Coffee, Joel!

Five AM. and my Norton don't appear in the same time zone so I missed the Easter Morning ride up Mt. Tam. Sorry about that.

I did ride down to the Coleman Ave. venue for the Blessing of the Bikes. Glad to report that mine was not the only Norton present. A very pretty BSA took the trophy for the best British bike. It was a good event with many clubs present. It wasn't rowdy thanks partly to the CHP and San Jose P.D.

Spring is upon us! The ride through Niles Canyon, Palomaras Canyon is at it's prettiest. The Sunol Lounge and the Florence offer a great BBQ on Sundays from 3pm to 8pm - both have live music and cold beer. See you there!

Peninsula Snooze

by Jerry Jolliff

Well it's Nortime again to write this rag and have I got news for you. I've been in the automotive aftermarket for a long time and I don't endorse everything that drops off the parts truck. But I'll tell ya upfront "split-fire" spark plugs make a difference in the way your Norton performs. I can feel the difference and you will also. Forgit platinum, copper, current barriers (ribs) resistors, load your pockets with duckets, go down to a vender that advertises

with the "Notice" and have them order you a set. You will love um. Following is a personal view on drive sprocket ratios by Jim Balliro (technical digest). For those of you who are thinking of changing theirs. First, however, I want to thank Maya for bringing snacks to our last meting... great idea!! It looks as though Norton Day at Alices is a go. Excellent! Party on, Wayne!! For those of you who are into Norton watching you need a Norton watch to watch, get it? Got it!! And remember, the air is free...so get out in it!

Drive Socket Ratios

by Jim Balliro

- 19 teeth = maximum acceleration on a N50, but will over-rev in fourth gear (stock on North American N50)
- 20 teeth = Good for N50.. rapid performance on an 850 (stock on North American 850)
- 21 teeth = Maximum for stock 750 and suitable for a strong 850 (stock on Euro 750)
- 22 teeth = Must own CB or Fuzzbuster to use (stock on Euro 850)

Jim's North Bay Ride

by Jim Carton

The May ride will meet at 9 am (and hopefully leave shortly after) at Denny's Restaurant on Powell St. in Emeryville. The ride will take us to Lake Berryessa, Calistoga, St. Helena, Rutherford, Yountville and Sonoma.

This is one of the best rides in the Bay Area so don't miss it. This is a long ride (the longer the better, right?) Hence the early start. So eat breakfast first or get to Denny's early. We will be stopping sometime in the afternoon for a bite at the English Pub up there on Highway 29 in St. Helena. Any North Bay riders could meet us say at 10 am at the Suisun Valley Rd exit on the west side of the freeway if they didn't want to start in Emeryville. Just do it! **This is motorcycling at it's finest.**

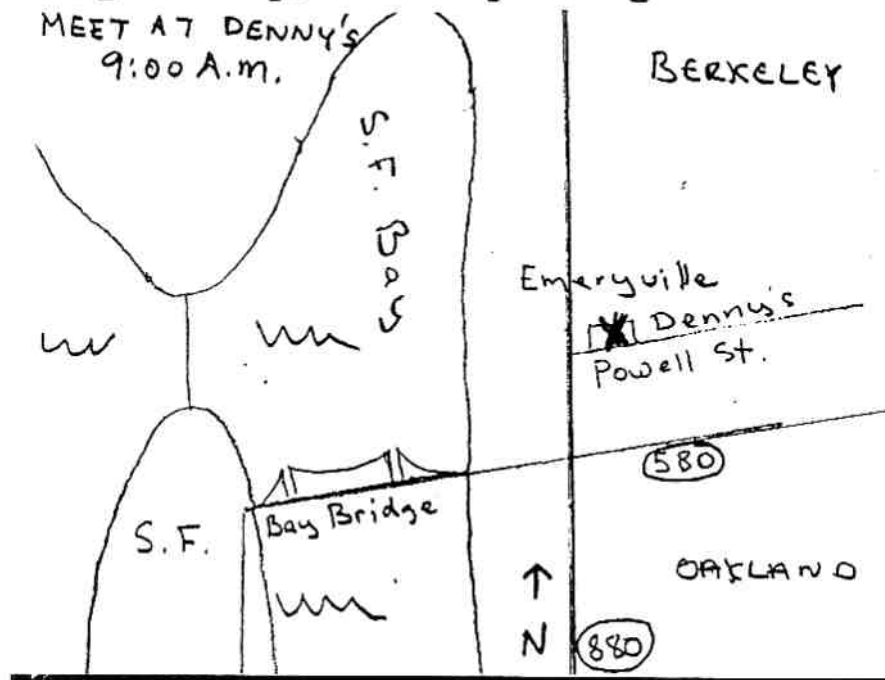
Where we meet 

Selling Watches at Clubman Show!



May 15th, North Bay Ride....

MEET AT DENNY'S
9:00 A.M.



View from the BRIDGE

.....
 Leo Sowers has written a series of very interesting articles that I would like to include in this spot for the next few months. Thanks Leo !!

PURPLE HAZE

"Three Days of the Norton"

All of us have stories. Some from Grade School, High School, College or later. When people look at my 1974 Norton and ask why I had it painted 1971 Norton Purple, I just smile and remember "Freak". Freak and I spent four years together in College and Graduate School putting miles on motorcycles. I had two Japanese bikes and one Norton during those four years. Freak had one 1971 Norton during those four years and he put approximately 100,000 miles on that bike during that time. He brought his Norton to College with him in 1971. It was brand new and the most beautiful motorcycle I had ever seen. It was painted Norton Purple.

We had many riding adventures during those four years, luckily none of them were tragic. Although looking back today, 20 years later, I'm sure Freak and I used up eight of our nine lives. To put it bluntly we had a lot more testosterone than common sense.

This story is called the "Three Days of the Norton" and it took place in June 1973. We got out of College, for the summer, in June. The school was in Florida and my parents lived in Virginia, Freak's lived in New Jersey. We decided that we would ride our bikes to Virginia (800 miles) and after resting overnight Freak would drive up to New Jersey.

I had a 450cc Honda with tall gearing for the highway. So, I could cruise at the speed limit of 70 mph. Freak hated Japanese bikes. He told me in no uncertain words that he was "going home" and I'd

better find a way to keep up and keep "that #S%#@ trash bike" together. What I haven't explained here is that Freak was one hell of a self taught mechanic, and his Norton was HEAVILY modified. He had small riser handle bars, a narrow low chopper style seat, highway pegs and a small sissy bar. This allowed him to put a large backpack on the seat behind him, place his feet on the highway pegs, and lean back against the backpack. In this "lazy boy recliner" position he would typically drive straight through from Florida to New Jersey (1200 miles) nonstop in 24 hours!

The Norton's "snort" was also HEAVILY modified. Freak's bike had 10.5 compression ratio Dunstall pistons, a Dunstall racing cam, ported heads, a Dunstall exhaust system, a Barnett clutch, and a 24 tooth countershaft sprocket. What this added up to was a Norton that wouldn't run smoothly below 4000 RPM. So, that's the speed that Freak drove it on the Interstate, which translated to 80 - 85 MPH! My little Honda was in for a real rough 800 mile sprint to Virginia.

The day before we were to leave (or try to blow up Leo's Honda) another guy at school, called Mark, asked if he could ride with us. Mark was going to the same area of New Jersey as Freak.

We talked to Freak. He said OK, but he had this funny smile on his face. He knew that Mark only had a little 350cc two stroke Kawasaki. The next afternoon, after our last exam, the "Three Days of the Norton" began.

We got on to I-95, headed North, at about 3:00 PM. Freak immediately dialed the big Norton up to 80 mph and started to leave us as it started to rain.

(to be continued)

Some article titles coming up:

*Freak makes the Norton capable of eluding Police!

*Freak burns down the Norton!

**"Crazy Joe" tries to drive Freak's Norton!

Nuts & Bolts & Odds & Ends

The Norton Notice Meets the Norton Factory!!

At the Clubman's Show the editor got a chance to meet Dave Evans who is the Assistant Head Mechanic at the Norton factory in England. He was very interesting to talk to but was not much more informed about the future of Norton than we are. He was aware of the Canadian group led by Skalbania. In fact Skalbania's daughter, Rozanda, lives near the factory and is actually running what is left of the organization. Dave told us that there are about 20 employees there now and he wonders how the company is paying them seeing as that they are not producing any product at the moment.

He is here in the U.S. to work with the rotary engine in other capacities such as boats, home built airplanes, etc..

Dave worked on the last successful racing team at Norton. They won the British TT in 1989 and also the F1 championship in 1990. They were sponsored by JPS who dropped financial help in 1992. Dave promises to keep in touch with me if he hears any new developments coming out of England.

A Letter!

Thanks for the March Norton Notice, which I discovered in my pile of accumulated mail when I returned from Daytona and the Keys. I want to congratulate you on the excellent job you are doing - keep up the good work!

One comment and suggestion: I noticed a very familiar cartoon on page 4. Unless I am mistaken, that was done by David Asahima of the San Diego Norton Club back in the mid-1980's, and accompanied Art Sirota's "Norton Garden". They were both published in our 1986 April Fools issue of the Norton Rag which Dave called the "Norton Nag". I assume you must have found a copy. In any case, most authors and cartoonists, etc. appreciate getting credit when their work is "borrowed". As far as I know, Dave would have no objections, but I do feel that he, and the Norton Rag should get credit.

Ride well,
Steve Coburn

Sorry about that Steve. I'm libel to find all kinds of things. I probably won't know where they came from, either. If this happens, let me know! ...editor

Northern California Motorcycle Festival

The 5th annual Northern California Motorcycle Festival at a new location, Laguna Seca,

Monterey. This festival used to be at The Casa de Fruta. Greg Scheid and Associates present the 5th annual edition of this festival. It will be held at the Laguna Seca Raceway and Recreation Area in beautiful Monterey. In 1993 there were over three thousand motorcyclists attending the show. This year they are expecting over four thousand motorcyclists looking for new and used parts and accessories. For registration call Greg Scheid and Associates, 124H Blossom Hill Rd. #438, San Jose, CA. 95123 or for more information call (408)972-8063.

11th Annual Rally of European Motorcycles !!

All riders are welcome to join them Sunday, May 8th at the Santa Cruz Fairgrounds. The address is on Highway 152 in Watsonville, CA. This years rally will be an ENDURO style road course with a choice of a long or short course featuring the backroads of Santa Cruz County. A 50/50 raffle and door prize giveaway will be held following the ride. An afternoon BBQ lunch will also be available at an additional cost.

Registration and check in begins at 9:00 am, cut-off time to start is 11:00am. Awards will be at 2:00pm. The cost is \$9.00 or \$7.00 if pre-registered. For further information call Gerry Reynolds at (408)424-5265 or Mario Saviano, evenings at (408)3394-7346.

The National Norton Rally !!

Lou Caputo called the Norton hotline (INOA - (404)969-8795) and the dates for the National Rally are June 22-26 near Rapid City, SD. Final plans not firmed up but club members might like these dates for planning. He said he was going to try and go.

The hotline might be a good way for you to get some up-to-date news on what's happening. The number will be changing soon according to the message but the phone company should supply the new number.

A Good Contact from Rick Cording!

I wanted to pass on a good contact to any of the Peninsula club members who are searching for a good welder. I have used Brian Stearns of Advanced Welding, Mt. View (415)967-5583 to weld up a fender and a chain guard for my Velo. Both pieces came out beautifully. In addition, Brian is an active motorcyclist, BMW restorer, and useful contact with other restoration tradesmen.

WANNA BUY A WATCH ?

- **N.C.N.O.C. Members \$ 35.00 + tax**
(that's \$ 38.00 in round numbers)

- **All Others \$ 40.00 + tax**
(that's \$ 43.50 in round numbers)
– For the mathematically challenged, joining the club would only cost \$14.50 and you'd get a full year of our newsletters !

WHAT A DEAL !!!!

The Northern California Norton Owners Club has decided to have some Norton watches made up. They have a black band, a 1 1/4" yellow bezel with the Norton name in a green ball. We will be selling them by mail, at club meetings, and at the Clubman's show. The price is \$40 plus tax. We're rounding it to \$43.50. N.C.N.O.C. members get them for \$35 plus tax (or \$38).

For the mathematically impaired, that gets a years membership cost down to \$14.50 which also gets you 12 copies of one of the best newsletters in the country. If you'd like to order one, send a check payable to **N.C.N.O.C** to me at **1801 Howard Avenue, San Carlos, CA 94070**. We'll absorb the mailing cost. We'll start shipping right after the Clubman's show.

P.S. There is also a smaller dial version that we may order if there is enough interest. It's bezel is 15/16".

All Tuned Up and Ready to Ride !!



**Nortona '94 -Flagler Beach, Florida
(Steve Coburn photo)**



Easter Morning Ride by Lou Caputo

When I arrived at the Berkeley BART Station about 4:00 AM, there were already about 25 people there. It was a mild morning and by 4:15 another 10 or so wandered in to the parking lot. We left for the San Rafael Bridge with Bruce from So. Cal and I in the lead, trying to set a reasonable pace as we have done in past years. Once on the freeway, cruising at about 65, we were passed by numerous riders and at the toll booths Bruce asked my how we had wound up in the middle of the pack. I wasn't sure but I wondered where the CHP were as we had just rumbled through one of their easy pickins' territory, a stretch of road with numerous overpasses where speeders just fall into their laps. Everyone waited for all to pass through the booths and as the last of the riders were passing through I started a lazy pace across the bridge. It took awhile for the headlights to catch up to me and by that time I was in cruising mode, again at 65. Whoosh! The first squid passed me at about 100, and he was followed by 3 or 4 more, all hunched over on their tanks. Hmm, this was not in the script. Once on 101 heading for Tam Junction a group of about 6 took off at about 75 and started disappearing down the road. They were joined by a CHP who came screaming by me, all lights on. I don't think anyone was stopped though.

The crowd at Tam Junction kept growing and so did the police presence. At some point one of the cruisers opened up with an announcement, "The owner of this property [a service station] has not given permission for you to use it and wants you to leave. Those of you are the side of the street are illegally parked. You have 5 minutes to leave." Too bad this guy was an asshole; I don't think anybody wanted to contest his demand, but his tone was offensive. Riders suited up and left. I stayed across the street for awhile and listened to this jerk hassle a recently arrived group which had not heard the original announcement.

Anybody know where the Sunday Morning Ride starts these days? I thought it was from the same service station.

The Park Rangers had set up a stop partway up the mountain to collect the newly installed \$5 "parking fee". Riders had to move uphill to get to the checkpoint and it took awhile for everyone to pass through. I suggested to one of the rangers that next year they ought to try for level ground as it appeared that a number of riders were having trouble with hot engines/clutches. It took 20-30 min. to get everyone through.

Up at the top close to 400 bikes parked, and riders had a chance to gaze over the fog

below us. It appeared to me, as the sky grew lighter, that the percentage of Brit. bikes was significantly less this year than it has been in the past. Still, it was great to see so many Nortons and Triumphs! Yes, and BSAs too! But no Broughs, Vincents, REs, and I think only one Ariel. But then it was dark and I may have missed them.

I headed for breakfast with the Norton Club in Sausalito. I talked to Lynne Miller who was the Norton rep who tried to organize the ride this year. He thinks the million dollar bond requirement (later changed) was an attempt on the part of the state to gather in some revenue, an attempt to make the park system pay its own way. Apparently the supervising ranger decided at the last minute that this was an unreasonable request and changed to the "parking fee". Note: Marshall feels that the original bond requirement was due to gate damage and some vandalism from last year's event. In any event this new fee was collected from anyone who passed through, and that included some cars. I'll be interested to see if the fee remains. The ranger responsible for all this, BTW, seemed to be pro bikers and was quite pleasant. Good omen for next year.

Apparently two riders went down on the way down, one falling off the roadside (into the abyss?). Don't know injuries, but this is a first for the event which has had a spotless past. I spent time at Sears after breakfast until, that is, my eyelids began to droop. 2 hours of sleep just hadn't been enough for me and I limped home after lunch.

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I am including a reprint of this article from the February 3, 1994 issue of Motorcycle Consumer News. I feel there is a lot of interest in motor oils and this article might help clear up a few misconceptions....editor

Relative Viscosity Retention Comparisons Among Five Brands of Automotive and Motorcycle Oils

by John C. Woolum, Ph.D.
Professor of Physics

California State University, Los Angeles

The central dogma of motorcycle oil manufacturers and distributors has always been that motorcycles put different demands on their lubricants than do automobiles. In particular, they point to the facts that motorcycles run at higher temperatures and use the same oil in their transmissions as in their engines. The transmission gears supposedly put extreme pressures on the oil molecules, thus causing the long oil polymers to break down. High temperatures can have the same basic effect, as well as additional effects such as the increase in oxidation products.

When the size of the oil polymer decreases ("cut up by the transmission gears," as at least one manufacturer claims), the oil thins. In other words, its viscosity decreases, as well as its ability to lubricate properly. For example, what started out as a 40-weight oil could effectively become a 30-weight oil, or even a 20-weight, after prolonged use. What this means, effectively, is that if the claims of the motorcycle oil producers are valid, they can easily be verified through measurement of viscosity changes on various oils as they are used in different applications.

Measuring the viscosity drop in oils did not seem like too difficult a task, especially since measuring viscosity of solutions of large molecules is a common practice in many biophysics laboratories - mine included. My lab had all the correct equipment - in fact viscometers that I normally used for solutions of DNA and proteins were originally designed for oil measurements.

Setting the Stage: Viscosity is a measure of the friction between two layers of a liquid sliding relative to one another. It is usually measured in *poise*, or grams per centimeter per second (g/cm sec). The basic principle of many viscometers is to measure the time required for a known amount of a liquid to pass through a capillary tube under gravitational force. The time taken will depend on the viscosity and the density of the liquid. The more viscous or less dense the liquid, the longer the time it will take to flow through the

capillary.

Therefore in reality, this kind of viscometer does not measure viscosity directly, but rather the ratio of the viscosity to the density of the liquid is being tested. This ratio is called the *kinematic viscosity*, and the common unit for expressing it is in *stokes* or *poise cm³/gram*.

The viscometer used for my experiments was an Ostwald-type, Cannon-Fenske 200, designed to measure kinematic viscosities in the range of 10 to 100 centistokes (a centistoke is one-hundredth of a stoke). The oils being measured had kinematic viscosities between about 10 and 25 centistokes.

For the test samples, I decided to use two types of oils designed specifically for motorcycles and three types of fairly standard automotive oil.

The automotive oils were Castrol GTX 10W40 (petroleum based, \$1.24/qt.), Castrol Syntec 10W40 (synthetic, \$3.99/qt.) and Mobil 1 15W50 (synthetic, \$3.48/qt.). The motorcycle oils were Spectro 4 10W40 (petroleum based, \$4.99/qt.) and Honda HP4 10W40 (petroleum/synthetic blend, \$5.99/qt.).

Each of these oils was run in the same motorcycle - a 1984 Honda V65 Sabre - under as near to identical conditions as possible. The oils were sampled for testing at 0, 800 and 1500 miles each.

As temperature has a strong effect on viscosity, I had to make certain it was carefully controlled for the experiments. Using a laboratory temperature control chamber, all measurements were made at 99 degrees Celsius (error factor of plus or minus 0.5 degrees), which is about 210 degrees Fahrenheit. This is the most common temperature used for oil viscosity measurements. It usually took about 15 minutes for each sample to achieve equilibrium within the chamber.

Each oil's kinematic viscosity was compared with its own kinematic viscosity at 0 miles to establish the viscosity ratio. In addition, measurements were made of each oil's density at each stage of the tests. The densities were found to change by less than 1 percent, which is about the limit of the accuracy of the measurements. Therefore, a ratio of the times taken for the oils to pass through the viscometer effectively gives the ratio of their actual viscosities, since the densities cancel out.

What this means in layman's terms then, is that the ratio established for each oil at the end of each test is a percentage of the amount of original viscosity retained at this point. For example, the Castrol GTX sample at 800 miles

Continued on the next page  

.....continued from page 13

showed a relative viscosity of 0.722, meaning it retained 72.2 percent of its original viscosity. Or, if you want to look at it the other way, the Castrol had lost 27.8 percent of its viscosity after 800 miles of use in the motorcycle.

Just for comparison sake, I also tested the viscosity drop of the Castrol GTX after use in a 1987 Honda Accord automobile. At 3600 miles of use, the Castrol GTX showed a relative viscosity of 91.8 percent.

As the Mobil #1 had retained so much of its viscosity after the 1500 mile test, it was the only oil I allowed to run longer in the motorcycle. After 2500 miles, the Mobil #1 recorded a relative viscosity of 79.1 percent.

Also, it is worthy of note that from a testing standpoint, the two most similar oils were the Castrol GTX automotive oil and the Spectro 4 motorcycle oil. By similar, I mean

that they tested as having about the same absolute kinematic viscosity and density right out of the container. So starting out as equals, the Castrol maintained its viscosity several percentage points higher than the Spectro under the same use in the same motorcycle - yet the Spectro costs about four times the price of the Castrol.

One possibility of error would be that the conditions to which the oils were subjected were different. In all cases, the distances were comprised of approximately 70 percent city riding and 30 percent freeway riding. The range in temperatures and the average ambient temperature during the test was about the same.

If anything, the average ambient temperature was higher during the operation of the motorcycle with the Mobil #1 oil, which should have put it at a disadvantage, yet it scored the highest overall in the viscosity retention tests.

Of course the motorcycle did age somewhat during the testing period, which took place over a year-long span. It registered about 4000 miles at the beginning of these tests and about 14,000 at the end. The order in which the oils were tested was: 1) Castrol, 2) Spectro, 3) Mobil and 4) Honda.

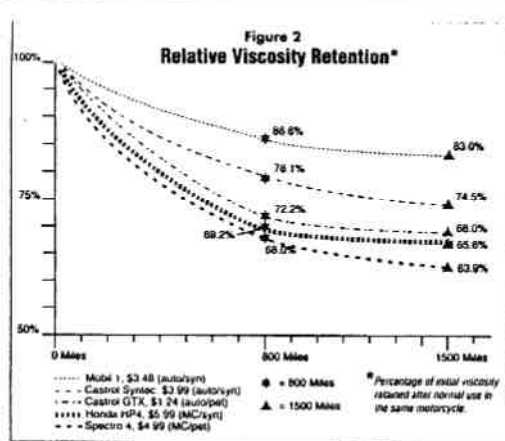
The motorcycle oil producers have suggested that other criteria, such as the amount of wear metals and contaminants, might be unacceptable when using automotive oil in a motorcycle. To test this theory, I sent a sample of the Castrol GTX at 1500 miles to the Spectro-tech, Inc, for a complete oil analysis. Their findings were that all contaminants (water, dirt, coolant and sludge) were normal.

Spectro-tech also reported that all wear elements (antimony, titanium, silver, copper, lead, tin, aluminium, nickel, chromium, cadmium, sodium and boron) were normal except for iron, which was reported as "mildly above normal" at 51 parts per million.

Spectro-tech lists acceptable levels for all of the above listed metals except iron, for which they state, "values vary greatly with systems and parts," so it is not clear what exactly is meant by "mildly above normal."

Perhaps it was in comparison to cars with 1500 miles on the oil. Also, this could have been due to cam wear, since the early Honda V-4s were known for excessive cam and rocker arm wear.

In any case, again I could find nothing to support the argument that automotive oils were somehow less effective than motor cycle-specific lubricants when used in a



motorcycle.

Bottom Line: It would appear from this data, then, that there is no validity to the constantly-used argument that motorcycle-specific oils provide superior lubrication to automotive oils when used in a motorcycle. If the viscosity drop is the only criterion, then there is certainly no reason to spend the extra money on oil specifically designed for motorcycles. There does, however, appear to be a legitimate argument for using synthetic and synthetic-blend oils over the petroleum based products.

If you like this type of reprint article or if you have any comments about the content, let me know....editor!!

In Search of the Perfect Norton

By Robert Newman

SUBJECT: ERGONOMICS, PART 2

Last time, I promised specific information on Norton ergonomics so let's consider seats. Allowing a few exceptions, Nortons were fitted with dual-seats. Why? There were no laws against solo saddles. The answer lies, once again, with the marketing office who had determined the largest potential market to be young, male, first time buyers. Thus it became mandatory to include the girlfriend. Secondly, English bikes supplied to the home market were intended not only for sport, but also for simple transportation. Lastly, some riders will protest that they couldn't shift their riding position without a dual seat. This last bit is more of a testimony to overall bad ergonomics than to any real need for a dual seat.

At the time of transition from the original fastback Commando to the "S" model and subsequent Roadster, Norton needed to come up with a new dual seat later known as the Roadster seat. As usual, the marketing department, saw another opportunity to save money and pounced right on it. The resulting product was a candidate for the title of Worst Motorcycle Seat Ever.

To appreciate this humorless joke of a seat, first look at the profile of an early Roadster. On page 68 of , Norton Twins, is a profile shot of an early Roadster. Notice how the front half of the seat actually tilts backward. Wait until you sit on it. The low density collapses thereby exaggerating the effect which unbelievably becomes worse when the lousy fiber glass seat pan splits right across at the load bearing area. Now turn back to page 65 in , Norton Twins,

and in the lower picture is seen a Roadster seat on an "S" model. The seat pan is obviously split in half even though the author does not mention it. Riding this bike is a constant effort to keep from falling backward, not to mention the lower back strain.

Do not try to repair this seat even if you have a liking for the imitation tuck and roll pattern on top. A new Roadster seat from the dealer will make a huge improvement.

Incidentally, the marketing office did save enough to hire a long-needed staff member - a full time drool-up adjuster.

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NOC Member Profile

Name: Brad Green

Age: 36

City Resident: Hayward

Marital: Single (but steady)

Occupation: Electronic technician

NOC Member since: 1981

How first became involved with NOC: "A guy I bought a Norton from gave me Harvey Loucks's Norton club card."

Club offices held (years): Recorder 1991, Vice-President/Rides Coordinator 1992-93

Norton(s) owned, described: Combat Hot Rod; '72 Commando short-stroke

Other makes of motorcycle: Yamaha 500 single; '72 Triumph T150

What first interested you in the Norton? "It was a Triumph guy. In '81 I was looking for a bike to drive to Daytona, saw a flea market ad ..."

Other hobbies/interests of note? Guitar, basketball.

Favorite motorcycling road/ride: On the Hawaiian island of Oahu, there's a back road out of a little town called Waihi.

If you could redesign the Norton, what one thing would you most want to change? How and why? Cam timing and valve

gear: use a bevel or belt drive on the cams, go to 8-valve heads.

Favorite/most embarrassing episode on a Norton? "I've been in the club for 14 years and only my ass ever appeared in the Norton Notice!" [Check it out—N.N. Sept. 1991, page 8. But also see page 14 for Brad's better side, which is not his memory!—Ed.]



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Brad's
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FOR SALE: Nortons! '75 Interstate. '74 850, '69 750, all disassembled from frame, Dunstall & roadrace fairings, seats, many extras. \$4500, all or nothing...serious inquiries only. Call Denis ((408)335-4863 (7/94)

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front and 3.00 rear rims X18, Grimeca brakes, Kosman rotors, QD rear sprockets and gearing, complete spare lower end + spacers, too much to list. \$6000. Call Lee Steinmetz, day (510)845-0992, eves (510)548-6019 (5/94)

WANTED: Rear brake assembly with rim for MK III. Will trade 2 roadster tanks (glass), MK II seat. Call Mike Shackelford, Klamath Falls, Ore. (503)884-8108. (5/94)

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