



Norton Notice



The Newsletter of the
Northern California Norton Owners Club

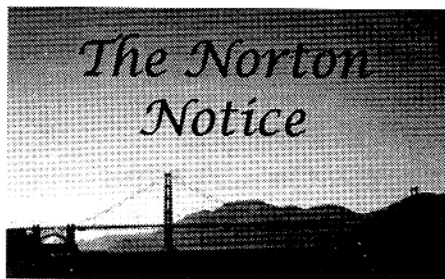
No. 205

June, 1995



DON'T MISS IT !!

June 11th: Santa Cruz and The South Coast Ride



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NORTON NOTICE

IMPORTANT (Please note the following fine print) The object of the Northern California Norton Owners Club is to promote, encourage and develop motorcycle 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 the use of these 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 author's view 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.

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 an 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 any format placed on a 3.5" floppy disc can be read by the editors clever Macintosh. You may also send articles directly to the editor via modem or fax at 415-595-3368. Set your telecom software to 8/n/1, use X or Z modem file transfer protocol, and just call up the editor most evenings (don't wait until the 20th...there is a long line then). The editor also has a fax at his office (415-593-4850). E-mail can be sent 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 \$60.00/year for a 1/4 page ad!!

Renewal dues are payable at the end of the individual's membership year, which is designated by the last number listed on the mailing label of the Norton Notice and the membership card.

All changes of address or questions about membership or the Notice, call the President.....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 organisations per the terms described on the Branch membership application form.

Upcoming Events

Club Rides Schedule

June 11

Santa Cruz & South Coast Ride
(see Page 6 for details)

July 30: Fred Twigg Ride

August 12th weekend: Dardanelle
(Unofficial Ride)

September 17: Old Timers Ride

October 15: Mt. Hamilton Ride

November 4(Sat): All-British Ride

November 12: Delta Ride

December: No rides scheduled

If rides are cancelled due to poor weather - plan on the ride taking place the following week - same time - same place. Check with Jim!

June 4: Silverado Concours d'Elegance, Napa (bikes will be there) info: 510-428-3355

June 18: AFM roadraces, Sears Point

June 23-25: West Coast Norton Rendezvous in Southern Oregon, Joint event w/NW Norton Owners. Ride w/ chase truck. Info: Alan Goldwater (408)475-7505

July 19-23: INOA Rally, Reading Center New York

Sept. 16: AHRMA Steamboat Springs, CO

Oct. 22: AHRMA MX, Hollister, CA

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.

June 8th

Prince of Wales

July 13th - Harry's Hofbrau (San Leandro)

August 10th - Connecticut Yankee

September 14th - Fremont Brewery

October 12th - Harry's Hofbrau (Mt. View)

November 9th - San Jose Venue

December ? - Xmas Party

Harry's Hofbrau: 399 West El Camino Real, Mountain View, CA., (415)964-8455; just north of Highway 85 on El Camino RI.

Harry's Hofbrau: 14900 E. 14Th St., San Leandro, CA

Prince of Wales Pub: 106 East 25th Ave., San Mateo, CA., (415)574-9723; off Highway 101 between Hwy 92 and Hillsdale Blvd. Next to San Mateo County Fairgrounds

Fremont Brewery: 3350 Stevenson Blvd., Fremont, CA., East of Hwy 880 near Paseo Padre.

Connecticut Yankee: 100 Connecticut St., San Francisco, CA., (415)552-4440; Vermont St. Turnoff of Hwy 101 North

Photography:

Alan Mueller

Scanning:
Steve Micheli
A.B.E. Dental, Belmont, CA

**Press Production and
Halftones:**
John and Carrie Follett:
White Oak Press, San Carlos, CA

Maya's Minutes..... by Maya Lai, President

Well, I hope that the ride on Mother's Day was a great one. Sorry I wasn't there to participate. I had a few calls about the date of the ride....so.... next year I suggest that we have this ride on a Saturday, not on Mother's Day.

I managed to get down to Hanford for the bike show. Kenny Armann was nice enough to drive me down with him. It rained a bit, and was a little cold, but there were a few nice bikes. A lot of Harley things were out and about. It was nice but the Clubman show was much nicer.

We have some new members in the club.

Walter Brooke, Mario Brunetti, Dale Baniel, Ron Cowan, George Kraus, Tom Kent, Mark Schulkamp, Don and Ron Massey, Joshua Niklas, Brian Ferrin, Frank Holden, and Alex Marzano. Welcome to the club guys! I would also like to say thank you to those of you that have rejoined the club.

Well, I guess I will be seeing you all at the next meeting!

Happy riding.

Maya

The Veep Speaks..... by Joe Edwards, V.P.

Well, the rains came and the rains came...now will they please leave so we can go out and play. The cloudy skies and a bad back kept me from making the Mother's Day Ride. I heard that a few members did make the trip. I spoke with Ride Marshall Jim Carton and he told me about 8 stout hearts did make the trip in and out of the rain.

Here we are in June and a lot of riding is in front of us. The Norton National is coming up in July. I know that we will have some folks making the trip. Also, it looks as though things are filling up for the August outing at the Dardanelle Resort. Those of you who have not made plans should make them before it is too late. I had a few phone calls with the Prez. She told me that we have been able to recover and resign a few lost souls who strayed from the Norcal group. Maya has been working very hard to back some members who dropped out for some reason or other...thanks...and hats off to Madame President. I talked with Alan Goldwater and it seems that he is on the mend and will be out and about very soon (without the dog).

By the way, Norton folks, we still have a supply of sweaters (M, L, XL). Thanks to Norton member from the state of New York, Mike Howard, we have 2 less watches. This now cuts our inventory to 2 watches (the price is just a mere \$25). We also have a supply of club patches and pins and a few red T-shirts. Give me a call if you would like to order them. Let me get back to Mike Howard for just a second. He is a member from the New York area and still stays in touch with the Norcal group. He has had a few ups and downs. He has lost most of the sight in one eye, has had surgery on his foot and all he seems to talk about is the NCNOC. He told me that he will be at the National event and will be riding....a real Norton member.

The next Norton meeting will be at the Prince of Wales on June 8th...let's fill the place up. Remember, this is your club...get out for the rides....get to the meetings and show your support.

Remember, there will always be a Santa Claus!

Minutes of the May Meeting

Well another rainy weekend has just concluded. I'm sure most of us are getting pretty tired of this lousy weather.

There was no official monthly meeting in May. The meeting was supposed to be a ride/meeting combination. The rain and unknown weather conditions messed up that plan. **HOWEVER!!**

A few brave souls decided "enough is enough" and dusted off their Nortons and went for a ride. We all met at around 9:00 AM at Denny's in Emeryville. Your editor and John Bria needed to eat, so we got off to a bit of a late start. At this point, the weather was very questionable. Some of us put foul weather gear on, some of us just dressed warm, some of us in Aerostich suits were ready for anything (we hoped).

Seven of us left Denny's at around 9:30. We each gave the lone 2-up rider (riding with John Padilla) a dollar for our bridge fare...great planning! We bombed up Highway 80, behind our fearless leader, Jim Carton, all the way to Cordelia Junction where we left the highway to go onto Suisun Valley Road. After a quick gas stop we met up with 2 or 3 more riders including Robert Newman. We then proceeded along Suisun Valley to Wooden Valley all the way to Monticello Dam at Lake Berryessa. This is a great road filled with tight twisties and long sweeping curves. Jim kept a nice, comfortable pace (a few wanted to ride faster...and did). Boy these Nortons love the cool, damp weather we have been having (just like the Isle across the sea).

After a brief stop at the dam, Jerry Kaplan joined us (you must watch those German plugs!!). We followed Jerry along Chiles Valley and Pope Valley Roads to the "Hubcap" stop at Aetna Springs. If ever your old cage needs a hubcap, you just might find it there. There was a slight delay as Jerry wrestled with the German plugs. And then it was on to

Middletown following Butts Canyon Road. Instead of stopping, we forged on down to Calistoga along Highway 29.

It was now 2:00 PM and it was time to stop for lunch at The Lord Derby Arms in Calistoga. Parked in the lot was an **all, and I mean, all** yellow Norton (see the photo in this issue). A bit much for my taste but "to each his own".

The waitress did her best, but the service was very slow...so quite a bit of bread and ale were downed (thanks Jerry). It must have been around 4:00 PM when we were ready to leave and guess what? It started to rain...just a little at first...then more....and then even more!!

We all split up at that point with people all heading home as quickly as possible. After donning what rain gear they had, we left Calistoga. I was with Leo, Jim, and Rich. We traveled down Silverado Trail to Napa and then on to Vallejo. It was raining real hard now. Leo and Rich cut off a little later heading towards Concord and Moraga...this just left Jim and me.

The traffic was just terrible, typical of a Sunday afternoon. We cut off of the freeway and took the city streets through Berkeley and Oakland. Jim cut off at San Leandro and I continued on to San Carlos.

The rain was coming down in buckets as I sloshed across the San Mateo Bridge. Through all this rain, I was amazed that I wasn't feeling that cold or wet...my Aerostich suit must have been working. When I got home, I took off the suit and found that I was DRY. There was a little moisture around the neck and on the inside of the legs. I certainly wouldn't want to test the suit in any worse weather.

All in all, it was great to get out and ride. I know all that went on the ride had a great time. My odometer reading was 270 miles...that's a good, long ride.....especially in the rain!!

Alan

Whazz Happ'nin

.....news of the NCNOC

Santa Cruz and South Coast Ride

This month's ride should be a great one if the weather decides to cooperate. The date will be Sunday, June 11th (at least it isn't Father's Day). The ride will begin at Alice's Restaurant (you all know where that is, I hope). We will leave at 10:00 AM. Jim has not decided, yet, where the ride will go, but much will depend on the weather and how dry the roads get. He will provide good maps. Let's all get those bikes all dusted off and get out there and ride. But, let's be careful!!

Take Hold of the Period from Sunrise to Sunset by Jerry Jolliff

As I sit here looking at the last Christmas picture of Duncan and Santa Claus, I want to share a paragraph plagiarized from an old issue of "Sailing Magazine".

"Every man is placed on Earth condemned to die, time and place of execution unknown....yesterday is gone, you missed your chance - carpe diem!!"

Duncan seized each day...so should we. If anyone learned anything over this it's "get your affairs in order, quit polishing your tank and get your knees in the breeze!!" 'Nuff said.

Editors Plea!!

As I sit here May 20th waiting for contributions to start flowing in, I have a few thoughts I would like to propose. I have mentioned this first one before...Name Tags! I just joined Cal BMW and lo and behold right after paying my \$20 dues, I got a welcome letter, a complete roster and a name tag. It is really wonderful to go to a meeting or a ride and place a name with the face. I may know many faces in the club, but I still have trouble

placing the correct names with them.

The second one concerns having Club Officers meetings. If we could have all the officers meet, say, 1 hour or 1/2 hour, before the regular Thursday meeting, we could get much of the mundane business out of the way before the actual meeting takes place. We could have much more enjoyable meetings and perhaps get more accomplished. It seems at the regular meetings not much is accomplished. The officers need to get their act together before discussing issues before the general membership.

Please give me your input on these issues. I welcome all cards and letters!!

Along these same lines, I still want this Notice to be "your" Notice. I can't do that if I get no contributions from the membership...I'm running out of ideas to fill in these 20 pages each month. All of you must have some ideas, some suggestions, some gripes...anything!

Lastly, I only have six more issue to edit (and I use that term lightly) and I still have not gotten any volunteers to take over this position next year. It is a very fulfilling job. Each month, it's like producing a part of you...it is very rewarding and creative. There must be someone out there, someone who knows more about motorcycles, who wants the challenge and the learning experience to help the club out next year. I would like the transition to be smooth!!

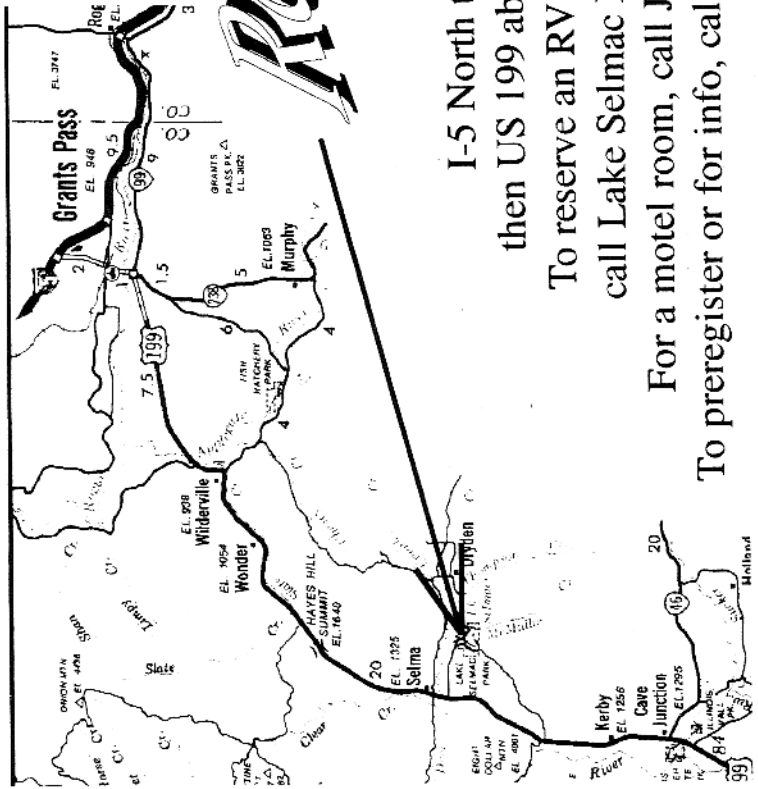
Please Note!

There will be no August issue of the Norton Notice due to vacation schedules. I will try to put a larger July/August issue to compensate. I hope to include the updated roster at that time, as well.

Norton Rendezvous

June 23-24-25

Lake Selmac Resort



I-5 North to Grants Pass, Oregon
then US 199 about 15 miles West to Selma
To reserve an RV site with full hookup,
call Lake Selmac Resort, (503)597-4989
For a motel room, call Junction Inn, (503) 592-3106
To preregister or for info, call Alan Goldwater (408) 475-7505

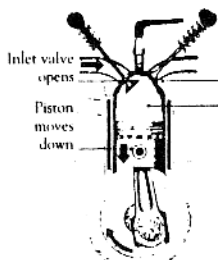
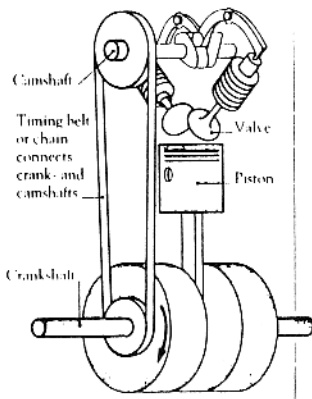
View from the Bridge..... by Alan Mueller

For those of you who are mechanically challenged, mechanically ignorant or just plain mechanically confused (like I am)....I am offering this brief explanation on how a four-stroke engine works. This information was taken from The Ultimate Motorcycle Book by Hugo Wilson!!

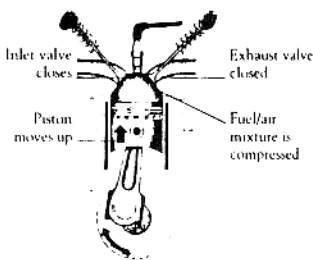
The Four-Stroke Engine

The basic principle of this efficient engine remains the same after 100 years of development. Fuel and air enter a sealed cylinder; the combustible gas mixture is compressed by the piston and ignited. The resultant explosion causes the gas to expand, forcing the piston down. The crankshaft converts the downward motion into circular motion. The sequence is induction, compression, power and exhaust.

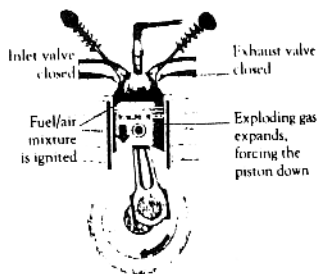
The diagram right, shows the basic relationship between the essential reciprocating components in an overhead camshaft engine. The camshaft drive pulleys must be geared to allow the camshaft to turn at half crankshaft speed



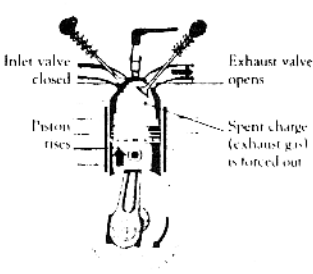
1. The induction stroke



2. The compression stroke



3. The power stroke



4. The exhaust stroke



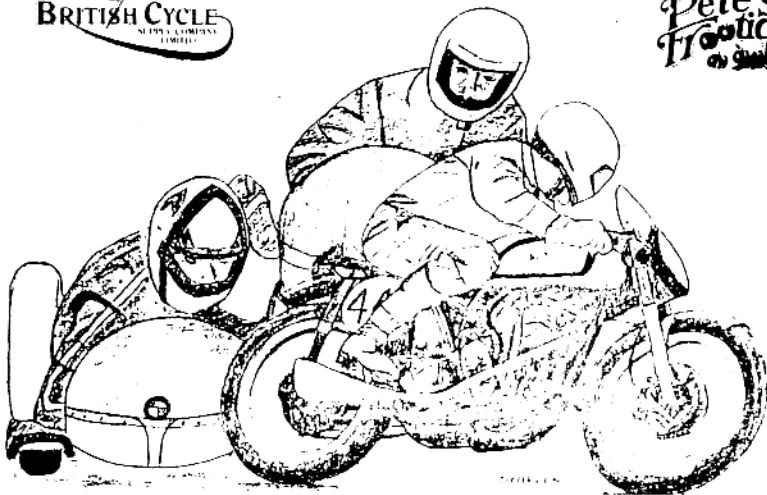
Fig. 10-14

British Cycle Supply Company

Atlantic Vintage TT

July 28, 29, 30 - 1995

Atlantic Motorsport Park, Shubenacadie, Nova Scotia, Canada



The Second Annual Vintage TT Features:

American/Canadian Challenge

North American Vintage Sidecar Championships

All Regular Vintage Classes

Swap Meet, Show & Shine, and Scenic Ride



Free Camping!!!

Enjoy Three Days of Vintage Motorcycles

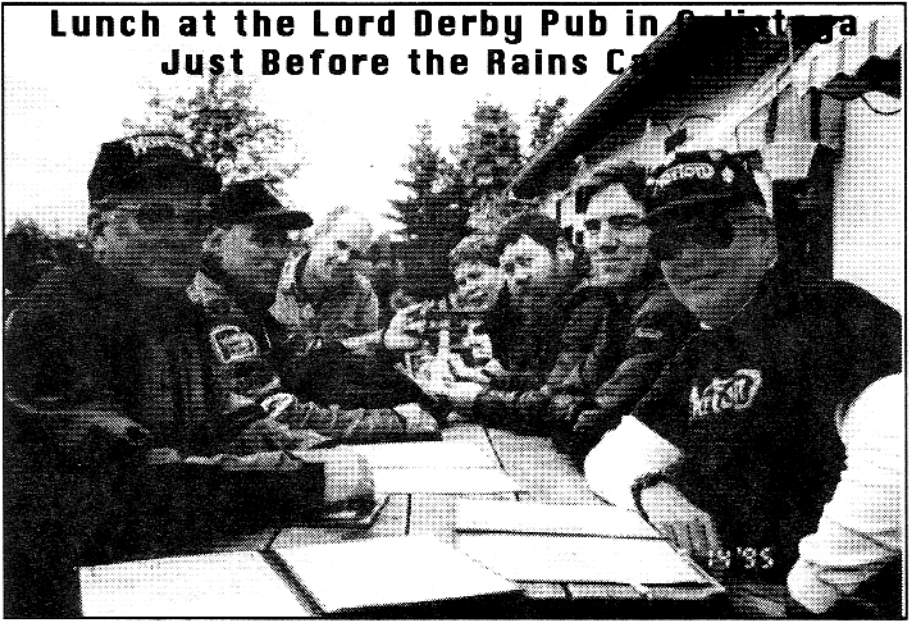
Admission \$15.00 Per Person, Children Twelve and Under - No Charge!!

For further information

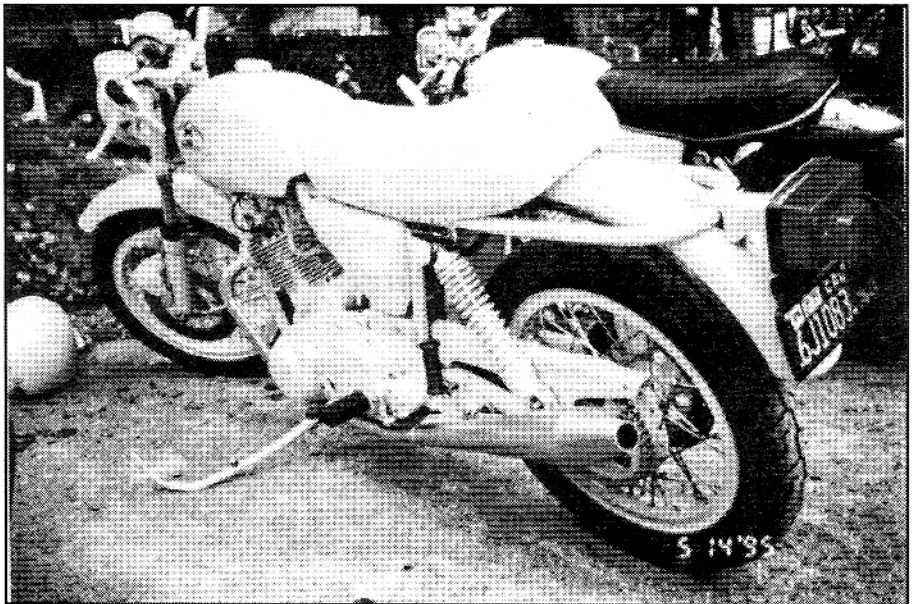
call (902)542-7478 or fax (902)542-7479

Or Contact Martin Singleton
C/O British Cycle Supply Company
P.O. Box 119, Wolfville, NS, Canada, B0P 1X0

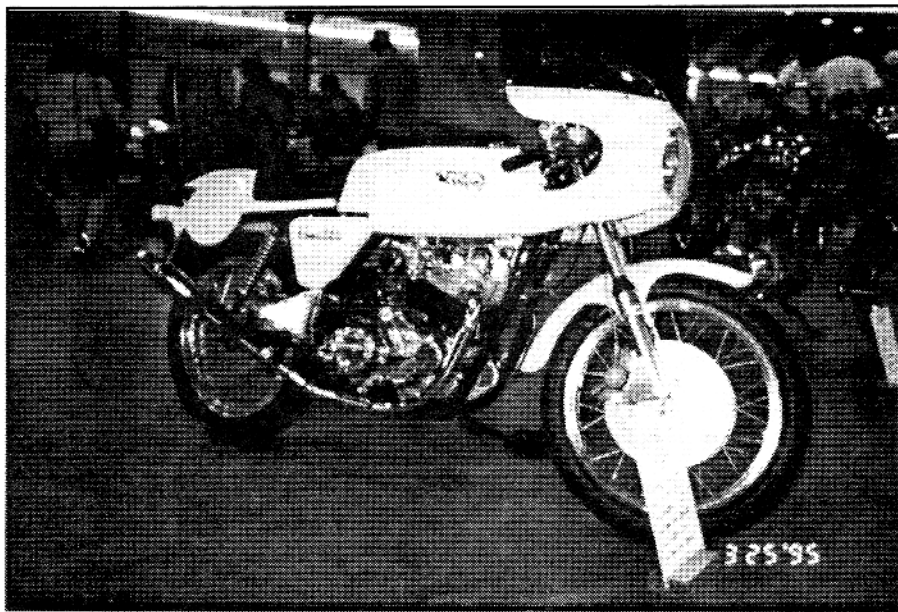
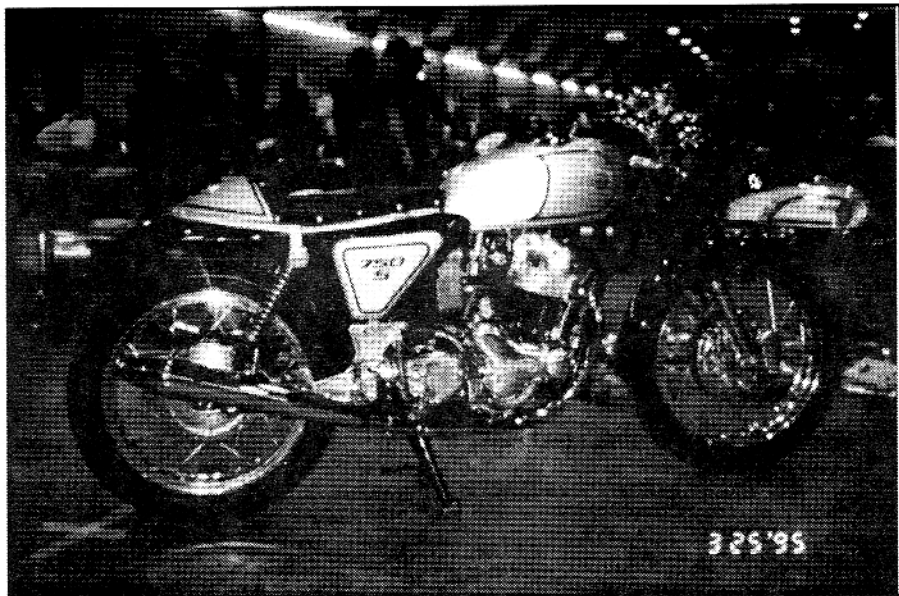
**Lunch at the Lord Derby Pub in Buntingford
Just Before the Rains Come**



I Have Never Seen So Much Yellow!!



The Clubman Show



This article is the fifth in a series of technical articles. This information is taken from the "Technical Digest, the First Five Years" compiled and edited by Jim Balliro.

SECTION C MISCELLANEOUS

1. Recommended Engine Lubricants

- Ambiant Temperature below 32 F: SAE 30
- Ambiant Temperature between 32-90F: SAE 40
- Ambiant Temperature above 90 F: SAE 50
- All must be HD Monograde oils meeting A.P.I. service SE or SD performance level.

2. 750 Commando Octane Requirements

- Std. Model.....97 Octane
- Std. Model with 240 main jet.....95 Octane
- Combat Model.....100 Octane
- Combat Model with 250 main jet & 26 degree
max. Ignition advance.....97 Octane

3. Combat Conversion Specifications - 750

- a. Cylinder head 063327 to yield C.R. 10:1
- b. Solid skirt Combat pistons 063348/9 (std.)
- c. Combat Valves - inlet 064034 exhaust 065115
- d. Shim or relieve valve seat or spacers to yield 0.050" (1.7 mm) clearance at full lift.
- e. Tappet locating plates 063092
- f. SS cam 063536

4. 850 Commando "Stage One" High Performance Modification

- a. The following components will require replacement or modification:
 1. Camshaft replacement to "SS" Sports specification (063536)
 2. Piston modification to Sport condition
 3. Cylinder Head Conversion to Full Flow High Compression condition.
 4. New Amal Velocity Stacks for Carburetors.
 5. Push rod modification.

- b. Piston modifications:

Conversion of the standard 850 piston 063838 to sports condition involves deepening the valve cutaway pockets in accordance with the dimensions given in figure 1.

The cutaways require re-matching to the amended conditions as shown to allow for the additional "valve drop" created by the use of the new camshaft 063536. The head diameter of both the inlet and exhaust valves should be measured - ensure head diameters do not exceed 1.490 in. (37.85mm) inlet, and 1.302 in. (33.07 mm) exhaust. This will avoid any possibility of subsequent "hook up" when using 063536 Camshaft in the higher RPM range.

Following modifications to both the pistons and the cylinder head, it is advisable to check the actual available "valve drop" by placing modelling clay (plasticine) into the valve clearance "cutaways" and rotating the crankshaft at least two complete revolutions. Measure the thickness of the modelling clay. A minimum clearance of 0.030"/0.040" (0.75mm/1.00mm) must be allowed when the inlet valve is closest to the piston at 3 degrees/5 degrees A.T.D.C.

c. Cylinder head modification:

The diagram (Fig 3) details the modifications that increase the compression ratio to 10:1, and to convert both inlet and exhaust ports to the shape to provide optimum power with felxibility.

A high degree of polish in the inlet and exhaust ports is essential. Consistent shape and port sectional area is far more important to gas flow than highly polished sidewalls.

Removal of excess material in the inlet and exhaust port areas should be undertaken using a rotary file, or similar equipment. Particular care must be taken not to damage valve seat inserts and valve seatings when blending the ports from within the combustion sphere area. The removal of material from the cylinder head gasket should be entrusted to specialists in the field, who have the equipment designed to maintain correct depth of cut with absolute flatness and truth during this operation.

d. Push rods:

In order to maintain correct rocker geometry following removal of material from the cylinder head gasket face both end caps are removed from each of the four push rods, and 0.037" (0.95mm) of metal is removed from each end of the push rod prior to placement of the end caps. Do not remove all the metal from one end only of the push rod as this may result in the end caps not re-seating properly, and partially resting onto the taper run-out of the push rod (see Fig. 2).

e. Ignition timing:

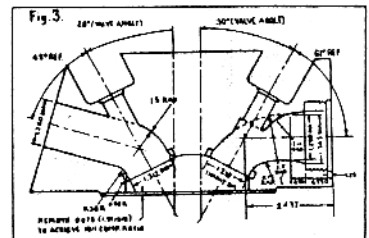
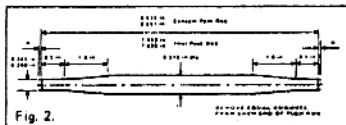
- Contact Breaker.....30° B.T.C. Max. advance @3000 rpm
- Electronic Ignition.....31° B.T.C. Max. advance @5000 rpm
- Inlet.....0.008" (0.2mm)
- Valve clearance 'SS' Camshaft Part #: 063536
- Exhaust.....0.010" (0.25mm)

f. Carburetors:

Standard 32mm carburetors are supplied with the machine give optimum performance utilizing Amal Bell Mouth Velocity Stacks.

NOTE: The fitting of oversized high tensile centerless ground bolts into sized and reamed crankcase boss and rear engine mounting bolt holes is advised to ensure maintainance of maximum rigidity of assembly.

On completion, it is emphacized that the engine should be run only on a minimum of 100 octane grade fuel, also due to increased efficiency and immediate response of the modified engine unit, great care must be not to over-rev the engine in the intermediate gears.



This section will be continued in next month's issue....editor

PURPLE HAZE

by Leo Sowers

"THE SEBRING TRIP FROM HELL"
PART TWO

Freak and his friends decided to go to the 12 hour endurance races at Sebring Florida. We continue our story after the crash on top of the vehicle bridge.

As Freak, Catwoman, and the Norton, started to tumble off the bridge, he heard the Porsche's engine fan hit the collapsed rear deck lid, followed by an expensive grinding sound from its gear box and lots of smoke. The Norton had just swatted and killed a \$20,000 German sports car.

Freak and Catwoman were still on the bike as it started to roll off the Porsche and fall sideways. Freak yelled for Catwoman to jump off just as he lost all control and the Norton fell on its side with the front wheel over the side of the bridge. Freak jumped sideways to the center of the bridge but Catwoman was trapped under the bike. Then the Porsche started to roll backwards. Luckily the car's rear wheel wedged up against the Norton's rear tire and stopped. Catwoman was still trapped under the bike and now the car! She started screaming, as Freak ran up to the Porsche and told the driver to "Stop this @\$%*&^ car!". He stopped the car, then Freak with the aid of several other people was able to right the Norton and get Catwoman free. Miraculously she was not burned or injured. Other than the welded up clutch, and some spilled gas, the Norton was also undamaged. Unfortunately, the same could not be said about the Porsche. Evidently the its engine and transmission were not designed to be hammered by a Norton with two passengers. It had suffered some serious body and mechanical damage.

Now, I must explain that Florida is a "no-fault" insurance state. That means that your insurance pays for the damage incurred to your vehicle in all accidents, even if you did not cause the mishap. In other words, the Porsche owner's insurance company had to pay for repairs, even though the owner did not cause the accident. The owner of the Porsche must have known this. After Catwoman was freed, he got out of his car, viewed the damage, took one look at Freak, and burst into tears. The last time anyone saw him, he was walking away crying and muttering, "my baby, my baby....".

Freak knew that it was time to

disappear. He righted the Norton, put it in neutral, loaded Catwoman on board, rolled down the ramp, nudged it into first, fired it up and road away. He rode it slowly to the area where we had parked, with the clutch still welded solid. Freak removed the primary cover to inspect the clutch. He was not able to totally disassemble it because he had not packed his clutch spring compression tool. This meant he had to go back to campus, 120 miles away, to get the tool. It was now 11:30AM and the race was about to start.

Freak and I knew that Bob wouldn't let him borrow his bike. That left my little 160cc Honda. Freak looked at me, then the Honda. He stared at it for a long time. Then he took a deep breath and said, "How do I start it and what's the shift pattern?"

I told him what he needed to know and reminded him that it could only cruise between 50 and 55mph. When Freak heard that he let out a howl and said, "Hell man, it will take me three hours just to get back to the dorms!". I asked him if Catwoman was going with him. His reply was, "If I don't come back she's yours." I knew he wasn't serious and walked off to see the start of the race. It was noon.

Freak returned at 7:00PM that night. He gave me the keys to the Honda and growled, "At least I didn't see anyone I know while riding this THING!". He borrowed a lantern from a nearby camper and set about replacing the old clutch plates with a new set he'd brought from campus. Freak always kept a tool chest full of spare Norton parts. He completed the clutch replacement, got cleaned up and road tested the bike. Freak finally finished at 11:00PM and saw exactly one hour of the 12 hour endurance race.

We got back to campus at about 3:00AM. We put the bikes away and as we were walking back to the dorms Freak told me, "This was one of the worst days of my life!". I asked him if it was because he had accident and the Norton broke? He said, "Nope". I asked him if it was because he missed most of the race? He said, "Nope". I asked him if it was because he didn't get to spend much time with Catwoman? Again his reply was "Nope".

Frustrated, I yelled, "Then why was this one of the worst days of your life?!" Freak stopped walking, looked me straight in the eye and yelled back, "Because I spent the whole *&#\$% day either riding with, or on, a damned Honda!"

The End

The Boyer Ignition Theory

It goes something like this:

- Two magnets on a special-made arbor/rotor to replace the original cam. They rotate past two small pickup coils on a 'stator' plate that replaces the points.
- This action causes a pulsed current to be induced in these pickup coils, the voltage being proportional to engine speed.
- Static ignition timing is set by adjusting the relative position of the coils to the magnets, and I believe Boyer has marked the stator to enable setting the timing at the full advance point.
- The black box amplifies the pulsed signal from these coils, does some wave-shaping, and uses the signal to pulse a power transistor. Two things of significance follow:

1. Since the pickup coil signal increases with engine speed, Boyer uses this phenomenon to fake out an ignition advance curve, I expect with some rudimentary multiple-diode clamping and additional waveshaping. The curve must be temperature-stabilized, to compensate for variance of the diodes' junction potential.

2. The shaped and modified coil-signal, having turned on (saturated) the Boyer's power/output transistor, causes it to pull current down through the ignition coils, which are connected in series. Current flow through the ignition coils ramps up in proportion to their inductance.

- When the pulse from the pickup coils falls off, the current flow through the output transistor is interrupted (ie: transistor goes into cutoff), and a spark from the ignition coils results.

The actual detail may be that the output

transistor is initially saturated, until forced into cutoff by the signal from the pickup coils in some configurations, but this should give you an idea of the overall circuit topology. However, the real challenge is not in the circuit design, but in the mechanical design: that is, making the whole thing tolerant to our bikes' vibrations!

A while back someone asked why it was that one should not leave a Boyer turned on while the engine is stopped. This is because while the engine is running, the maximum current through the ignition coils (and hence the output transistor) is limited by the coils' impedance (primarily their inductance). With the engine stopped and ignition on, the current can build up further, and is now limited only by the (lower) resistance of the ignition coils. This may cause the fuse to blow, or worse the internal power transistor to blow.

It was noted that Boyer introduced a new product a while back (about \$50) that has a similar 'black box', but retains the points. It works much the same way, except that the points pulse the output transistor, instead of the output of an amplifier. This newer black box also has a couple of LEDs on it to indicate 'power on', and 'points open and closed', to help with setting timing.

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NOC Member Profile

by John Covell

Name: Margie Siegel*Age:* 43*City Resident:* Oakland*Marital status:* None*Occupation:* Legal researcher (2/3); motorcycle journalist (1/3) for Ironworks Magazine, Motorcycle Collector, American Roadracing, AMA Magazine, and Hot Bike.*NOC Member since:* 1985*How first became involved with NOC:* "I used to hang around TT Motors. I bought a 400 Suzuki from John Gallivan, and continued to hang around there. I bought a 500 Guzzi from Britalia Motors, Santa Cruz, and decided that the Guzzi didn't have enough punch and wanted a bigger bike; got inveigled to buy this Norton."*Club offices held (years):* Vice-President/
Rides Coordinator 1987-89*Norton(s) owned, described:* '75
Commando 850*Other makes of motorcycle:* '86 Moto
Guzzi 650*What first interested you in the Norton?*
"Needed something with more punch than the Guzzi. My height limits the number of bikes I can ride, and the Norton is one of the few big (high capacity) bikes I can get my feet down to the ground on."*Other hobbies/interests of note?* Robert Briscoe, sailing, baking bread, causing trouble.*Favorite motorcycling road/ride:* The Bell Line outside Sydney, Australia*If you could redesign the Norton, what one thing would you most want to change? How and why?* "The Norton's problem is not the design but the execution: quality control. They should have made the bike on modern equipment with close tolerances."*Favorite/most embarrassing episode on a Norton?* "I have favorite moments just about every time I take the bike out. It is a cheering motorcycle."

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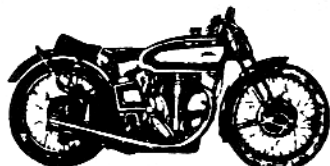
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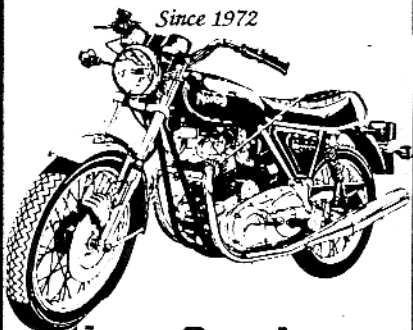
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