

Norton Notice

THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH

NO. 110

JUNE 1987



**WHO IS THIS MAN AND
WHY IS HE SMILING?**

SEE DETAILS PAGE 10

**NORTON OWNERS
CLUB**



THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH



Norton Notice

is published by the Northern California Branch of the 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.

NORTON NOTICE is a reflection of its 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. For Branch members who cannot attend club meetings or club rides, the NORTON NOTICE affords an opportunity to share experiences and information with the membership of the Branch, and to bring the Branch members closer together.

The deadline for items to be submitted for publication is the 15th of each month.

Membership in the Northern California Branch of the Norton Owners Club is available for \$25.00 per year.

Membership dues are payable to the Branch Secretary/Treasurer.

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 located on the mailing label of the NORTON NOTICE or the membership card. For example, 745/2 denotes member 745 with dues expiring on the 1st of February.

All changes of address should go to the Branch Secretary/Treasurer, not the NOTICE Editor.

Subscription to the NORTON NOTICE only is available for \$15.00 per year. This does not include membership in the Northern California Branch of the Norton Owners Club, nor does it afford any of the rights or privileges of membership in the NOC.

Membership in the Northern California Branch of the Norton Owners Club entitles a member to monthly issues of the NORTON NOTICE and bi-monthly issues of ROADHOLDER magazine, which is sent directly from England, keeping members informed of Norton owners' activities worldwide. Membership provides voting privileges at all NOC and Branch meetings, and allows one to purchase Norton spares directly from England, at significant savings, through the NOC Spares Program.

**THE NORTON NEVER
BREAKS VALVES.**

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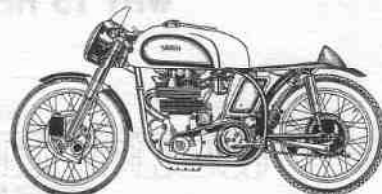
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NORTON OWNERS CLUB

Important!

(Please take note of the following fine print.)

The object of the Northern California Branch of the Norton Owners Club is to promote, encourage and develop all motor-cycling 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 authors 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 material 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.



1963 catalog drawing of Manx 30M and 40M



UPCOMING EVENTS

NOTICE: IN THE EVENT OF RAIN ON THE DAY OF A CLUB RIDE, THE RIDE IS AUTOMATICALLY POSTPONED ONE WEEK. ALSO, RIDERS SHOULD HAVE PLENTY OF OIL AND GASOLINE BY THE SCHEDULED DEPARTURE TIME AND ALL PERSONAL PROBLEMS TAKEN OF. IN OTHER WORDS . . . FULL TANKS AND EMPTY BLADDERS!



DATE	DAY	EVENT
**June 11	Thurs.	*Branch meeting, Prince of Wales Pub, 106 E. 25th Ave., San Mateo, 7:30 P.M.

**June 21	Sun.	*Branch Ride--Don's JUNE SWOON. Meet at Zim's, Sir Francis Drake Blvd., Greenbrae, 9:00 A.M. See map this issue.
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**June 28	Sun.	*AFM races at Sears Point.
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**July 4,5	Sat./Sun	*Fourth of July Norton Club Barbecue in Santa Cruz. Meet at Alan's anytime on Sat.; directions to where we'll be will be posted there. This is an overnighter so bring sleeping bag and toothbrush. Map and additional details next issue.
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**July 9	Thurs.	*No Branch meeting. This normally scheduled date will be part of the July 4th gathering at Alan's.
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**July 11,12	Sat./Sun.	*Laguna Seca
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**July 21-26		*INOA Rally, Durango, CO.
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**July 31- Aug. 2	Fri.- Sun.	*Euro/West-1 Motorcycle Rally, Sisters, OR. Sponsored by Oregon State Motoguzzi Nat'l Owners Club. Pre-reg address and info: OR State MGNOC, P.O. Box 22102, Milw., OR 97222.
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**Aug. 13	Thurs.	*Branch meeting at the Class Reunion.
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**Aug. 22/23	Sat./Sun.	*Annual Club Rally, Grover Hot Springs (tentative).
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JUNE

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JULY

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AUGUST

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THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH

TWISTGRIP TWADDLE

The presidential desk has been busy since last month; and I haven't much relief, either. I want first to thank those of you who responded to my request for input on the U.K.-No. Cal. membership problem, and else where in this issue you will find a draft of a proposed solution. I hasten to stress that at this time it is only a proposal: I am still anxious to hear from all members who have opinions on the subject. A majority of those present at the May meeting assented to the proposal, and it will undergo at least one more vote before it might be implemented--so let's hear from you, or kindly do not complain later that you were not consulted. On the positive side, I believe the proposed solution will clearly benefit both the Branch and the Club, as well as giving the Northern California Norton owners a choice that's better than "fish or cut bait." Please read it carefully.

Relating to this topic, and mentioned at the May meeting, was that this Branch does not have a Public Relations Officer ("PRO") as the Club does in Britain. It may well be that a good PRO could, by masterminding publicity, help a lot to increase Branch membership. For example, he or she would attend motorcycling events, meets, rallies, etc., flying the NOC colors and handing out information brochures and application forms to interested persons; work to get mentions in publications; and generally trumpet the Club. But the job wants a special kind of personality. It could be that good PROs are born, not made. However that may be, if you think you might have what it takes to do the job and you'd like to have a greater Club involvement, get in touch with me, by letter or, better, by attending the next meeting and pulling my coat to your qualifications. Could be the start of something big!

Which brings me to a broader matter: Club offices are, as you probably know, elective each December at the Annual General Meeting of the Club. Although it may from time to time be necessary to appoint someone to fill an empty position--such as when we suddenly perceive a "hole" in the organizational structure (e.g., PRO)--all Branch officers are subject to being turned out at the end of the year. (Does this remind you of Rose Bird? It should.) In the past, the practice was to take nominations at the November meeting, to be voted on in December. It hasn't worked out very well, one reason being that members don't necessarily attend the November meeting to nominate their officer-candidates. I refuse to believe that the members do not care, and suspect rather that they're not reminded timely enough. To alleviate this problem, and in view of the fact that we have adopted a rotational schedule for meeting-venues in deference to the demographic of Club membership, I have proposed to the Branch Committee that nominations be taken at the four monthly meetings next preceding the December one--that is, at the August through November meetings in San Francisco, Oakland, San Mateo and Palo Alto. Even a member who can make only one of those meetings would get to have a say. All nominations will be noted by the Recording Secretary or, in his absence, by the Secretary or other officer present, to be voted upon in December. Without meaning to disparage present company (ahem!), these last-minute campaigns must stop. To that

end, I encourage any member interested in becoming a Branch officer to communicate with the current holder of the office of interest: find out whether the officer plans retiring (as, for instance, our Editor may do). Smooth turnovers would benefit the Branch mightily. This may not be the Army, but don't lose the opportunity to be all you can be. (Sorry.)

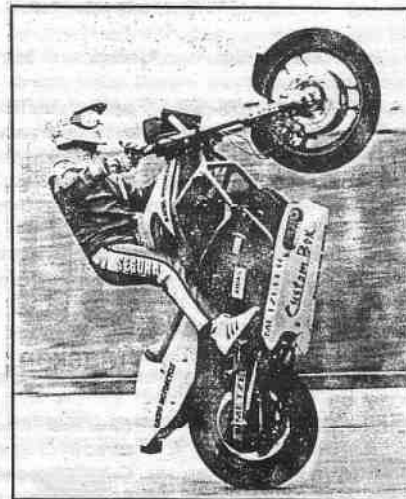
One more possibility for a new officer: the Branch Committee are considering creating a post of Technical Coordinator, i.e., someone to handle technical inquiries, find answers as necessary, and arrange demonstrations of routine maintenance and repair operations for monthly meetings, on the premise that many members, myself included, are blissfully ignorant of some of the basics. Could be this gets combined with "PRO" functions as, for example, in the form of a raffle at a meeting and the winner gets his Isolastics adjusted while the novices look on for instruction. There are numerous possibilities, and I hope to be able to announce an appointment soon (subject, of course, to confirmation in December).

This has gone a bit long, but one final note. Someone made the excellent suggestion at the last meeting that the Branch might easily have occasional meetings other than the monthlies; these could be informal gatherings, say, at Alice's on a Sunday morning, or somewhere else interesting to ride to on a Sunday (weather permitting). Sound interesting? Send in your suggestions--we'll have some fun yet!

Cheers,

John
Prez.

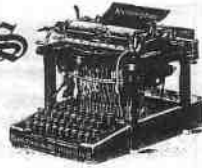
[See page 8 for text of proposal]



The Prez demonstrates front tire saving technique at 127.3 mph. The tire reportedly still had useable tread after 150,000 miles but John says the riding position tired him quickly.



EDITOR'S NOTES



Hi folks,

News from England is that Haynes has updated their workshop manual for Norton twins. Les Harris reviewed the original 1974 text and then added and altered where his experience told him something else was better. The Haynes number is 187 but I don't know where you can buy it yet.

**** Also from England comes word that the Ford Motor Co. is using the Norton rotary engine in an advanced research project to power a development vehicle about the size of an Escort. The Norton engine, at half the weight of Mazda's rotary, has a decided advantage in powering tomorrow's lighter cars.

***** Margie has been researching the Grover site for this year's Annual Rally and will be first on the phone when eligibility for reservations opens (two months prior to desired date). The area around Markleeville is marvelous for biking as many of you know and those of us who went there last year for an overnighter had a great time. As soon as the date firms up I'll let you know-- at the moment the target date is August 22/23.

***** Thanks to Bob Marshall who sent in last month's cover. Longtime readers of the NOTICE will have noticed that this is its second appearance, but it's such a fine example I thought I'd run it again. If YOU have any black and whites send them in as we always need photos.

***** The May 10 AFM roadrace at Sears was a bit of a disaster for those running British iron in the 750 Twins class. Robin Tullie spent two hours rebuilding his transmission in the hot sun (third gear had some chunks missing) only to have an oil line break during the race. Eric Swortzfigure went down hard after being bumped but was OK. Pat Ryan, fast flyer on one of those Japanese exotics, came off of Paul Gallivan's old Triumph when he slid on some oil deposited by a downed rider in turn 11. Norton riders Lee Steinmetz and Ken Whitney finished the shortened race in good form but had to be disappointed at the reduced number of laps. The Norton riders are an exciting bunch to watch-- Robin is all over his bike, Eric rides his like a kid flogging his Diamondback, Lee is just

plain fast, and Ken, well Ken was running his first raceday and did it all just like they told him at Riders School. He even turned in respectable lap times. I'll be bringing you an interview with Ken in the near future and, perhaps, some first-hand accounts of life on the track at Sears. I'll be aboard a Triumph 500 in Vintage. Those Commandos are just too damn fast for me. John Gallivan is trying to set up a 500 as well but I have already claimed last place so I can pick up any trick bits he drops along the way. Then, next season

***** The USNOA rally in Durango is just around the corner for those of you with wanderlust. Already many have said they'll be there including yours truly who plans to take the slow route mit kid as passenger. I checked an almanac for July temperatures and a map for the most scenic route but Mike Rettie tells me he knows the best way so I'll be conferring with him. The Phoenix chapter of the USNOA has extended an invitation to all Norton riders to join them. They plan on leaving from Phoenix or Tucson on Sunday, July 19, and riding to Hannigan's Meadow (250 miles) for an overnight stay. From there to Durango it's 350 miles and that leg will be tackled (sorry) on Monday. Info: John Ebert, Phoenix, (602)873-2330.

I'm looking forward to exploring the area around Durango. The AMA in their June, '87 AMERICAN MOTORCYCLIST published an article about touring in Colorado and it sounds like there's lots to see and do. If anyone is interested in buddying up for the ride there give me a call and I'll act as a clearinghouse for messages. More on the trip next month.

***** There have been a few changes to the paraphernalia collection as Suran reorganizes things. For the moment I have indicated the current status of items in stock. When things firm up I'll redo the section on page 6. The Commando Service Notes in particular are a bargain-- Alan found a great place for reprints and the Notes look good.

Lou

P.S. Does anybody know the whereabouts of David Blewett? If so, have him contact Alan.

SEND RENEWALS TO ALAN



WANT ADS



ALL ADS WILL RUN FOR TWO MONTHS UNLESS YOU RESUBMIT THEM IN WRITING TO THE EDITOR.

New parts for sale:

1. Commando oil filters, \$4 each
2. ~~Commando cam chain, \$5 SOLD~~
3. Commando steel clutch plates, set of four, \$20
4. Commando shift lever with rubber, \$12
5. ~~Commando Ferodo disc brake pad set, \$7.50~~
6. Commando warning light assmilator, #062054, \$5
7. Commando primary chain, \$30
8. Forged aluminum clip-ons for Roadholder or other 35mm fork tubes, \$50
9. 20 tooth Commando countershaft sprocket, \$15
10. Atlas/Dommie fork top nuts (chromed steel), \$12 pair
11. Early Commando chrome fork slider extensions, #060350 (2 3/4" long), \$20 pr.
12. Lucas tail light lens and base assembly for Atlas/Dommie, \$15

Used parts for sale:

1. '69-'74 Commando rectifiers, \$4 each
2. Commando 750 swing arm, \$15
3. ~~bronze each drive gearbox for chromometric instruments (pre Commando), \$20 SOLD~~
4. ~~two early Commando or pre Commando iron fender stays, painted black, set bent, good condition, 12" center height, \$5 pair SOLD~~
5. ~~two pairs Commando Roadster pipes, \$60~~
6. pair of Atlas 1 3/8" O.D. exhaust pipes with 1 5/8" sleeves where mufflers attach, a few small dents but the chrome is good, \$15
7. ~~Atlas rear fender in excellent shape (no cracks, no dents, no extra holes), good chrome, \$60- SOLD~~

Shipping is not included in any of the above prices.

Gene Austin
985 E. Grant Pl.
San Mateo, CA 94402



WE NEED YOUR BIKES

FOR SALE

1972 Norton Commando. One owner, '69 Fastback 4 gal. tank, seat, and fender set, R.T. Quaife 5-speed gearbox. Needle bearing swingarm, Koni's, ported, polished, balanced big valves, light pushrods and rockers, Webco springs, alloy collars and keepers, production racer (isolastic) top motor mount, rearsets, alloy rims, quartz headlight, many, many spares. Excellent cond. Best reasonable offer.

Mike Hersh
(408)338-4021 (home)
(408)438-2100 Ext 2100
(work)

or
Wayne Seymour
(408)458-9069

FOR SALE:

Low mileage Norton special consisting of all-time featherbed chassis with Commando powertrain, suspension, and brakes as seen on page 4 of the August '86 Norton Notice. Has pumped up Combat engine with flowed head, big inlet valves, dual 34mm Mikunis, Megacycle cam, Williams exhaust system, Boyer ignition, etc. Bike has Akront aluminum rims, drilled front disc with drum in rear, rearsets, Dunlop K391 Sport Elites, solo seat, full lighting, and much stainless steel hardware. Very clean and not a scratch in the Inron paint. \$1600 firm. Write for more information or send \$1.00 for picture (refundable)

Gene Austin
985 E. Grant Pl.
San Mateo, CA 94402



Robin enjoys a break in the action by reading a bit from his favorite book.



LETTERS

5/11/87

Dear Lou,

Thanks for doing a fine job of cleaning up the map for our May 5th ride. I think it printed very nicely in the mag. You did make one small mistake in showing road 22a as road 22b, but this was no big deal as it only slightly confused one rider and we were able to connect with him anyway. I also made a mistake in listing my shop phone instead of my house phone and of course, my shop phone only had a recorded business message which did absolutely no good for anyone trying to get ride info. My apologies to anyone we might have let fall through the cracks. I'll know better next time.

The following is a brief ride report: Dateline, May 5, 1987, Six male NOCCER'S and one female pillion rider swept through the back roads of Yolo, Colusa, and Lake counties. The surprisingly light turnout may have been caused by too many calendar conflicts for this busy time of the year. Most riders in attendance came from in and around the Sacramento Valley, with our illustrious leader, John Covell, being the only San Francisco rider present and possibly the best prepared, according to Steve ? of Vacaville, who broke a clutch cable going into Clear Lake and was able to use John's spare. It pays to ride together. Another illustration of this occurred after a long stretch of riding revealed an unknown leak through a reserve petcock, causing one of us to sputter to a halt out of petrol. No problem, a slight detour off the intended course brought us to another town offering fuel and another NOCCER who managed to miss meeting up with the beginning of our ride. A rather fortunate coincidence. I hope there wasn't anyone else out there trying to meet up with us who couldn't. All in all, it proved to be an exciting outing, with good scenery, excellent riding conditions, and camaraderie to spare.

Regards,
Jerry Kaplan



Send renewals to Alan
NORTON OWNERS CLUB

[PROPOSED]
RESOLUTION
OF THE BRANCH COMMITTEE
OF THE NORTON OWNERS CLUB
(NORTHERN CALIFORNIA BRANCH)

WHEREAS this Branch is a properly constituted Branch of the Norton Owners Club ("Club") fully subscribing to the objects of the Club; and
WHEREAS the benefits of Club membership and association are recognized by the members of this Committee; and
WHEREAS it is desirable that new memberships be given every encouragement; and
WHEREAS membership dues at the current level of \$25 per year are insufficient to cover both Club subscription and Branch operating costs; and
WHEREAS the amount of the Club subscription is fixed by the Executive Committee in the United Kingdom without reference to this Branch Committee or the operating costs of this Branch or international currency rates of exchange; and
WHEREAS this Committee deems unacceptable any reduction in the level of service provided by this Branch to its members; and
WHEREAS the Rules of the Club provide that interested persons may subscribe to the Club magazine alone and that such subscription is not a category of membership in the Club; and
WHEREAS interested persons who cannot presently afford Full Branch Membership should be encouraged to associate with the Club and this Branch.

NOW BE IT THEREFORE RESOLVED by this Committee

that:-

1. Effective July 1987 the dues for Full Branch Membership (Club and Branch) shall be \$30 per year;
2. The amount of Club subscription remitted to the Club in the United Kingdom shall remain as heretofore determined by the Executive Committee thereof (currently £9.50 per year);
3. The amount charged non-members for a subscription to the Branch magazine, the Norton Notice, shall remain \$15 per year, which subscription alone does not without more entitle the subscriber to the attributes, privileges and benefits of membership in the Club;
4. Such non-member subscribers shall be designated as "Associates of the Norton Owners Club" and be welcome at Branch meetings and functions, with the objective that they be encouraged to apply for Full Branch Membership when and as their circumstances allow; and
5. This Resolution shall be published in the Norton Notice next appearing.

DONE BY THE BRANCH COMMITTEE ON _____, 1987.

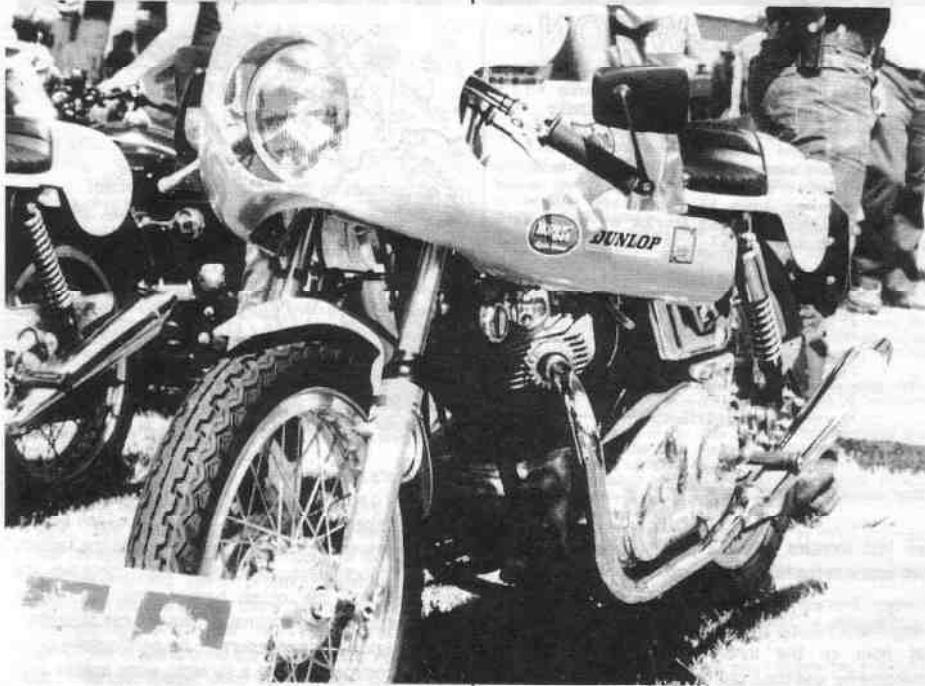


WELCOME NEW MEMBERS

- | | |
|---------------|-------------|
| Michael Mills | Mark Porter |
| John Koch | Jack Halton |
| Peter Martin | Bob White |

Bob Byrnes





ART'S NORTON SPECIAL

by

ART SIROTA

I purchased this machine in December of 1985. I had read about Gene Austin building a Norton special that looked slow and ordinary but was really a hot road-burner. I had it in mind to do the opposite.

I drove up to Berkeley in response to an ad for a 1972 Combat Commando Roadster. The first thing that struck me about the bike was the obscene amount of rust encrusting every part. The owner had let it sit outside for about two years. The bike wouldn't fire up, and we settled on a price of \$500.

Once in my garage, I charged the old battery, and it started on the first kick. I rode it for two weeks and then did a complete strip-down (on the bike, that is!). The head was stamped with a "C", so I knew it was a genuine Combat. The engine/frame/gearbox numbers all matched and there were no fins chipped off the head or barrels. I promptly sold all the cycle parts like fenders, seat, tank, etc. for a total of \$400. So the engine/power

unit and frame cost me \$100. I then proceeded to spend gobs of money on it in an effort to make it the absolute best cafe racer that I could.

I had a friend who lives in Sacramento deliver the engine parts to Hall-Burdette, and I instructed them to fit new Superblend main bearings, valves, guides, etc. The cylinder walls were within factory specs for standard pistons, but one of them was badly scored, so I had them bored out to accept +020" Combat pistons. At that time, original Combat SS camshafts were not available from any of the firms I usually deal with in England, so Bob over at Hall-Burdette talked me into fitting a Norris SS camshaft.

I sent off to Fair Spares from a Production Racer front disc brake, P.R. fairing, seat, tailsection, front fender, top isolastic engine mount, and new wheels with alloy rims and stainless spokes. I decided to use stainless fittings wherever possible. The frame was painted with four coats of DuPont Imron. Updated parts included MKIII isolastics, Boyer electronic ignition, Halogen light, and stainless overhead oil line. The alloy tank was only £98 and came complete with locking gas cap.

After fitting a new wiring harness, new electrical components, new Girling rear shocks, and

THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH



Art's Norton Special (Cont.)

rebuilding the swingarm, carbs, speedo, tach, and gearbox I felt like at last the bike was ready for a test run. Oh yes, I remembered to add new oil!

The bike sounded really great. The Norris camshaft did not clatter and the powerband was perfect. There were no oil leaks (Really!). The P.R. isolastic top engine mount seemed to give the bike rock-steady handling. The stainless rearsets from Fair Spares work great and fit perfectly.

So it's not a genuine Production Racer. It has no racing history. But it is an exciting bike to look at and to ride.

(Ed's note: The bike was on display at Tulare and it certainly did look impressive. The workmanship is first-rate and I personally found the aesthetics to be far more appealing than most Nortons I've seen around, including that rather stunning one that appeared at Tulare last year. Congratulations on a job well done. We will attempt to convince Art that this bike would make a great donation as a club fundraiser. Hello, Art? Art?)

TECH TALK (Cont.)

Phil: Endfloat.

Harvey: Yeah, there is a little of that.

Phil: The crank can have up to 0.020" endfloat. And your shims aren't thicker than 0.020".

Harvey: Yeah, but you should shim your main bearings, your superblends, when you put the inner races of those on-- you should use some big calipers to measure your crank and also put the crankcase together and measure the inside there. So that you put shims on to limit the float. That makes them quieter and not wear as much. That's something Gary Broeder told me that's very important. When he was putting them together, racing, and running street bikes, he would shim up the cranks to eliminate the endplay. Maybe up to 0.010". But the factory has sometimes up to 0.030-0.040" endplay. They're pretty sloppy. Have you seen that, Lee?

Lee: Actually I've checked them and it feels like a whole lot but when you put a dial indicator on the end of it it's only 0.025"-- actually I've never seen one more than 0.025". It's usually around 0.020". The MKIIIs they recommend from 0.010"-0.025". I think is the spec. On the MKIIIs it was 0.005"-0.020" I think.

Harvey: So maybe they aren't as bad as I thought.

Lee: It feels like a whole lot. You grab the end of the crank and it just goes clunk, clunk.

Phil: When you've got superblends?

Lee: Yes, with superblends.

Harvey: Well still, when you heat up the aluminum crankcase is going to expand more than the steel crank does and so whatever clearance you have is going to get worse. And more at operating temperatures.

Alan: The function of the endthrust bearings is to keep the crank from bending out. When you get downthrust on the throws, it tries to spread the crankcase out and so you've got to have endthrust bearings in that crank because it actually pushes on both ends at once. If you've got too much clearance there the crank's going to be flexing all around. So you want that to be tight; your crank will live a lot longer.

Harvey: I don't know what the effect is. Gary Broeder said it

really makes them run quieter. And they run longer by getting the endplay down to 0.005" or so. So I don't know how important it is but I've tried to do that. The hardest problem is getting off the inner race of the superblends. That's difficult.

Lee: How many times have you seen superblends go bad?

Harvey: Once in my whole life.

Lee: Yeah, I've only seen them go bad once.

Harvey: They're incredible. The one that I saw that went bad was the one that Tom Terry and Eric Swortsfigure ran in the Sears Point four-hour about five years ago and it started to go bad during that race. That was it. And the stator actually started rubbing against the rotor. But they finished the race. They're amazingly good especially compared to the early ones. Actually the real early ones, the '69-'70 weren't bad, but '71 and '72 were some bad years.

Lee: In '72 they had just the plain roller bearings, the Combats, and those weren't supposed to work too well.

Burton: That was one of the things that hurt Norton's reputation. Apparently rollers aren't made to take any kind of side thrust.

Harvey: Well, what they used in '72 was straight cylindrical rollers, and when the crank flexed like under full acceleration and high rpms there was a big force put on these, first on one end, then on the other, and it exceeded what the material could take. The hard facing and the chrome started breaking down and those bearings went bad. There was such an endforce put on them. When they went to the FAG superblends those bearings, the rollers aren't straight, there's a slight barrel shape to them, and as the inner and outer race move like this a little bit they don't put a big endforce on the rollers at all. The rollers just sort of move and they get to a different point on this barrel shape and it moves in a radius there. That's why they last forever. And you can have

Continued on page 12



THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH

even more power from them. But the straight rollers that were used in '72 and really earlier--but they had the balls on one side which helped out-- with that high performance engine just didn't last at all.

[Conversation interrupted by Burton who claws air in an attempt to "remove the cobwebs."]

Phil: Talking about bearings that one in the tranny ought to be checked too. That's on the layshaft. That has a high mortality rate.

Scot: That's a good point. I've got an observation on that roller bearing replacement though. Every bike that I've ever put that roller bearing replacement in, the kickstarter wants to come back and kick me in the shin when I accelerate hard in first gear.

Phil: That might be your bushing in the kickstart's too tight.

Scot: I've replaced that bushing each time with a new one as well. Now, is that a bushing that needs to be reamed in place?

Phil: Not usually, but it depends on who made the bushing.

Scot: What about the endfloat that you find on the layshaft?

Phil: Yeah, you do. You suddenly find that you have a lot there. I've seen shims behind the layshaft first gear to eliminate that.

Scot: Almost as much as half the roller width if you go with the roller replacement can be taken up with endfloat and it seems to me that's going to let the layshaft flex a little more and let it cock a bit inside that layshaft bushing in the end of the kickstart post. I've done it on three bikes now and they've all had the same problem. And it's an area that hardly gets any lubrication as well because it's high in the transmission-- the layshaft bush, which is in the outer cover.

Phil: No, it's below the oil line. Actually you have a hole in the kickstart shaft that allows oil to go in behind it.

Harvey: The layshaft's at the bottom, the mainshaft's at the top. You're just getting reversed there, Scot. You're all bass backwards again.

Scot: I'm working too hard, Harvey.

Lee: I've only run into that problem a few times.

Phil: I've run into boxes that have cracked and also when I bought a job-lot from Harvey. I had to throw about half of them away because they were cracked and broken.

Harvey: Really?

Phil: I once bought a bike which wasn't running when I bought it and it was all dirty-- this wasn't one I bought from you, Harvey-- and I stripped it all down and when I cleaned the grime off the outside of the tranny it had the longest weld I'd ever seen around

the case, right from between the bearings, all the way around the back side up to the joint. Somebody had arc welded it. I took it apart and it was just gouged out where the layshaft bearing fits. Completely shot, everything just fell out. What happens is the bearing goes out and the layshaft snaps.

Scot: We were talking earlier about how there's no cush in the earlier drivetrains and I've got a '70 Commando and I broke a mainshaft in it once primarily because there's just no cush there. Any torque in the bike was being taken up by the mainshaft and as it comes into the transmission it's a constant diameter until it comes to the first set of splines and right at that point they use a very sharp tool to make sure they get a very quick transition, it creates a notch, and it just starts cracking there.

Lee: Yeah, there's no radius there. And the same with the layshaft where they break. If they were to radius it there I think they would have less problems.

[Ashtray sails across room narrowly missing potted begonia hanging in front of window.]

Scot: Fortunately with the mainshaft when it breaks no power goes into the box. It just sits there and spins and you don't get this catastrophic blowup. With the layshaft everybody knows it sends the gears to the bottom of the case.

Harvey: You all know that you can pull the layshaft stuff out, the gears and all, and put your tranny together in fourth gear and still ride home, right?

Burton: Were we going to jump to transmissions?

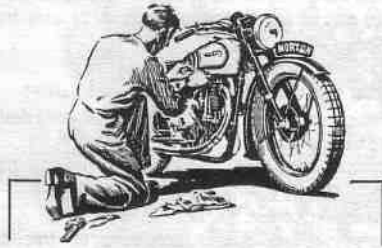
Harvey: I have a few more comments about clutches. Barnett ain't all that bad. I think if you use solid Barnett, completely, there's no gray zone, between disengaged and engaged.

Phil: Didn't they change the specs on their plates?

Lee: Well yes, they used to have the cork plates. The new plates aren't that cork composition. I think they work great. It's the old cork plates that everybody was having trouble with because they were real grabby. You let out the clutch and it's like there's no slippage; it's either in or out. And the way I've gotten by that is using half and half-- half of the Barnett plates with the cork composition and half of the early fiber plates and I've had real good results with that. But the late model Barnett plates I find work real well.

Harvey: With 'Ol Reliable' I had trouble with the bronze plates. Every two or three thousand miles I'd have to take the damn thing apart and sand and clean them all up, clean out the primary and put it all back together. And I'm really lazy; I don't like to do that. And I thought, well shucks, these Barnett plates are supposed to work out okay. So I put a full set in and I ran about seven or eight thousand miles and I needed

Continued on page 13



TECH TIPS

to rebuild my tranny because all kinds of things had loosened up. And I had to replace a bearing or two. And I thought, "That's no good." So I put two of the Barnetts in and the rest the bronze plates. I did that and it never slipped. I had a little bit of slippage between disengage and engage, it just wasn't on or off like the Barnetts. And that was the last time I ever had to clean my clutch plates. I did the same thing on my 940 and that held up beautifully. The 940 produced so much power that the standard bronze plates just wouldn't hold up at all. I think I used three Barnetts in the 940, but it never slipped. The clutch finally blew up but that was because of the guy driving it.

Burton: I still think the stock factory system of plates work well. You need to change the primary oil often. When you take that stuff out you can see that it's singed. It just gets nasty. I find I can get 5-7,000 miles before I have to pull the case and clean the plates.

Scot: I think a lot of that depends on how you run the bike, too.

Burton: That's it. If you do a lot of short hops...

Scot: I was in traffic most of the time and with the stock bronze plates I was in there every thousand mile cleaning that crap out. And I also found I had a very stiff clutch pull and what I started to go into was the thicknesses of all the various clutch plates. You find that the solid fiber plates are thicker than any of the bronze or the little cork dot plates and if you use those along with the early Barnett plates which incidentally had an aluminum center instead of the steel they have now you'll do two things: you'll have a thicker clutch pack which means that you operate at a different place on the diaphragm spring which makes the lever feel easier and fortunately it applies less pressure on the clutch plates. But that's okay since you've got some Barnett plates in there anyway with higher friction material. So you have an easier clutch at the lever to work with. And you also have one that

won't slip. But you also have one that has all soft material bearing on your clutch hub and you'll find that you'll never wear out a clutch hub but what you will do is cause points on the splines of the clutch plates as they wear out. But you can find used clutch plates at a swap meet, four for a dollar, nobody wants the fiber ones anyways, and they do last forever. But with the old Barnett ones the aluminum wears the points and you throw them away.

Harvey: The fiber ones you do need to groove radially, though.

Lee: A lot of the later ones came grooved.

Scot: And something else about the bronze plates: they had an eccentric circle milled into the surface of the bronze plate which sort of ran to the inside of the plate on one side and all the way out to the edge on the other side and that was supposed to carry away the oil.

Burton: I do think Scot's point on riding is important. If you do a lot of stop-start, riding the clutch, dragging the clutch, and all the various tricks you have to do in traffic, where it's going to gum up....

Scot: Well the Norton gearbox is tall enough that you really need to slip that clutch for about 20' to get started, if you're going to have a decent start and not worry about stalling it or

running into the guy in front of you. So if you are doing any commuting or street riding a combination of those plates will work out well for you. If you use motor oil in there you'll also find that they gum up more frequently. You'll also find that if you drop the level--I think the factory recommends 7oz in your primary-- down to 5oz you'll still have plenty to lube your primary chain but it won't be lapping up into the clutch basket quite as much and it'll last a little longer. And I like to use MTF in my primary. It seems to work out better. I'll never use ATF again. I wiped out two primary chains doing that. And they aren't cheap. One complaint I have against the Barnett plates though is that they're hot. When you park the bike they sort of fuse themselves to the adjacent plates so in the morning before you start the bike you need to pull the clutch lever in and kick it through to break the clutch plates loose.

Harvey: That's sort of standard operating practice.

Scot: I never had to do that with the bronze plates.

Harvey: With bronze you don't, that's true.

Phil: I still do that; it's just habit.

Burton: On the MKIII in the workshop manual it calls for locking tabs on the alternator. The first time I took my bike apart it didn't have any. It's an over-the-counter item and I recommend having them.

Scot: One thing on lock tabs I will recommend is that the adjusting screw in the center of the clutch basket

Continued on page 14



THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH

that pushes on the actuation rod typically comes with just the screw and nut. I like to run a spring washer under there just for that extra assurance that that thing isn't going to back off, come loose in the primary, and get screwed around in there. I can't say that I've ever had that happen and come loose without it but it's certainly never happened since I put that in there either. A stainless steel spring washer seems to fit right in there and won't cause any problems with play.

Burton: Another things about cleaning clutch plates: when I take mine out I always take a cue-tip with a little acetone or xylol or whatever I happen to have around and clean out the grooves in the inner and outer basket because way back at the back of the inner basket the scunge clogs up in there and I'm sure it kind of glues the first plate to the back plate on the inner basket. So I'd get those nice and clean. It seems to make a lot of difference in how smooth the clutch travels.

Harvey: You guys notice that the earlier Commando clutch baskets had that big, thick plate back there held in place with only two little pins? Those broke so frequently. But it floated around and never seemed to cause much trouble. Did you ever have any trouble with floating around?

Burton: No, but that's another thing like the piston skirts breaking that people talk about.

Scot: You always wonder what happened to the pins after they break....

Harvey: I ruined four carbide drills drilling out a quarter inch hole through... that clutch hub is so fucking hard, not the hub but the basket on the inside, it's hard to believe. I had to drill through that thing and then I epoxied in some quarter inch pins in an early Commando I had to get plates centered up. I thought, "Now it's really going to run good." But it didn't seem to make a bit of difference. It seems to find it's own center or something.

Scot: Well it's like another clutch plate in there so....

Harvey: I guess....

Scot: I know on several occasions I've experimented with thicknesses of clutch packs and I've thrown in an extra steel plate or taken out one and traded it for the other.... you know, as long as you've got the right thickness in there it doesn't matter if it's steel or bronze. They're either going to slip against each other or be pinned together by their splines.

Phil: You know when you've got a thicker set of plates, doesn't that alter where the crossover point is when you pull the lever in?

Scot: Right.

Phil: Well, what does a thicker one do?

Scot: Instead of being hard at first and easy

afterward.... you say it sort of goes over center... you sort of start of at center and it's easy from the start.

Phil: When you're thicker....

Scot: When you have a thicker clutch basket.

Phil: Sometimes I have a problem where I don't even hit the center.

Scot: It just gets harder the whole time you pull it....

Phil: The lever hits the handlebar and I still haven't gone over center.

Harvey: Your plates are worn or thin or your adjustment's too loose. The plates do wear.

Lee: Especially with the four plate clutch.

Harvey: That's right.

Burton: With respect to the adjustment... when you use the factory adjustment on the clutch plates they say find the point at which the diaphragm just begins to move and then back off full turn... I always find that to be beyond belief because one full turn is a lot.

Harvey: That's right, I use a quarter.

Lee: I use a quarter too.

Harvey: I never did understand why they said that.

Scot: I can feel the thing tighten up and I can see it move and that's where I back off.

Harvey: I think they were just too worried about slippage, if it was too tight. In fact, the whole basket does grow a little with heat and does diminish that clearance a little bit but I've found a quarter turn works great.

Burton: And then, at least on the MKIII with the automatic tensioning, there are a couple of points that I've found through trial and error. One is if you buy new tensioner bodies you've got to look because the little nylon plungers that the spring rides on are already inside there-- they're supposed to be loose in the package, but they don't necessarily come that way-- and it comes from the factory kind of oily. If you don't look you might wind up with more than one of those things in there and then it definitely doesn't work right. Or, they're in upside down. And the other thing is those little nylon things do wear unevenly. So you want to try them and see how the fit is in the body because they get cocked otherwise and worn flat on one side and then the spring doesn't travel evenly on the-- whatever that plunger's proper name is-- I think it says plunger in the parts manual. Anyway, the tensioner I found works very well. If your primary chain isn't stretched and you've got everything in there in the right order the factory tensioner plan is a good one.



[At this point the group is tired and agrees to meet at a future date.]

