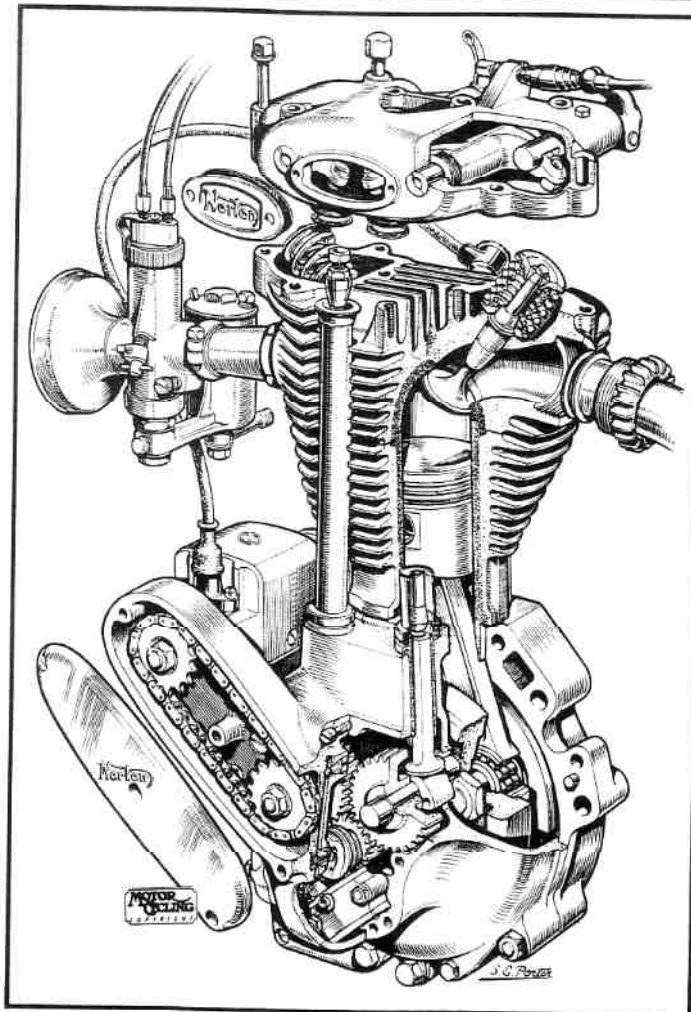


Norton Notice

THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH

NO. 105

JAN., 1987





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 Grace Program.



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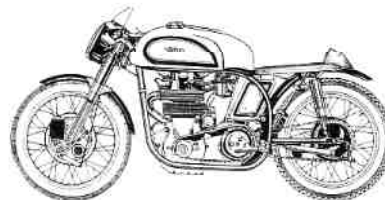
Margie Siegal
625 Fairmount Ave
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(415)654-1933



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 Max 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!



	<u>DATE</u>	<u>DAY</u>	<u>EVENT</u>	
N	Jan. 8	Thurs.	Branch meeting at Margie Siegal's, 625 Fairmount Ave., Oakland. See map page 4 7:30 P.M.	N
O	Jan. 18	Sun.	Branch ride: Diablo Devil Run. Start at TT Motors, Berkeley, 10:00 A.M. Ride to Mt. Diablo. See article p. 4.	O
R	Feb. 6-8	Fri-Sun.	Great American Bike Show, Cow Palace, S.F.	R
T	Feb. 12	Thurs.	Branch meeting. Place TBA.	T
O	Feb. 15	Sun.	Branch ride: South Bay ride. Details to follow.	O
N	Mar. 12	Thurs.	Branch meeting. Place TBA.	N
	Mar. 15	Sun.	Branch ride: Oakville Grade. Details to follow.	
	Mar. 29	Sun.	Swapmeet at San Mateo County Fairgrounds. \$3.00 adm. + \$2.00 parking. Sponsored by Western Riders Inc.	



THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH

Twistgrip Twaddle

The Club's recent Holiday Party/Annual General Meeting at the *Clack Deamon* in Palo Alto was an occasion for unforeseen events, primary among which was the surprise election of myself to the presidency of the Branch. That wasn't what I had in mind when I walked in there that evening! However, past president Scot Marburger felt the need to step aside after three years in the chair, and there was a distinct shortage of volunteers for the job; I was less successful than everyone else at fading into the woodwork at the crucial moment. I suppose I ought to have bought a round following my seemingly unanimous call to duty, but I'd discovered as I was coming through the door that I had left my wallet at home and my attention was now on hoping that it wasn't a bad omen for '87 for the club.

For those members who weren't in attendance that night, here are the rest of the results: Margie Siegal of Oakland will be our Vice-President/Rides Coordinator for the year; she will have the task of scouting out ride marshalls for the monthly Club Rides, on a rotational volunteer basis, and I am pleased to report that she apparently already has the next four or five lined up. We'll also be looking to her able assistance in planning such major spring and summer events as the Morro Bay overnighter, the Annual Rally, and perhaps a Sierra weekender. Margie knows everybody, so you're all up for grabs.

Our new Secretary-Treasurer is Alan Goldwater of Santa Cruz, who has been custodian of the mailing list for much of the past year already, so I expect the functions of Membership Secretary and Treasurer will be as happily married under Alan this year as the engine and chassis of his famous Norton-Indian have been in years past.

Editorship of the *Norton Notice* remains in the able hands of Lou Caputo, who assembles our worthy magazine each month in his home in Albany. I for one am very glad to have Lou at the helm. The *Notice* has never looked better. The post of Recording Secretary stays with Tim Colburn for another year, and let's hope Tim leaves Menlo Park to attend more meetings this year than he did in 1986. Hey, Tim, it's no fun when you're not there!

Suran Meissner has taken over the duties of Paraphernalia Coordinator, so you'll be sending off to Santa Cruz for your pins, T-shirts and whatnot for the next year. Hope it doesn't prevent her from riding her Norton to the meetings too often. Harry Bunting will continue as Custodian of Tools, in charge of the loan-out program, so contact him in Mountain View if you need some unusual implement to do your overhaul.

That's our line-up for 1987, and I am confident all will work harmoniously to keep the Club operational. Scot assures me that my job is actually the easiest—I have only to make sure everyone else is staying on the ball! Well, I always wanted to be an executive. I guess the buck stops here for the next twelve months.

Which brings me to explaining the title of this column, a monthly one with luck. We all know that as the twistgrip turns, so goes the motorcycle—but only to the extent that the rest of the machine is in good working order. Thus, I have been chosen to govern the Branch's activities for the coming year, but the Club will only be as successful as there is enthusiastic participation from the rest of the officers and members of the Northern California Branch. That's you, Dear Reader. Please come to meetings, join us on rides, and give us the benefit of your bright ideas for what the Club should be doing. It's been said many times but it bears repeating: It's your Club. Make the best of it. I and the other officers are here to help, and we are honored by your confidence.

The "twaddle" part signifies my belief that what's vital to this Club is not all this verbiage, however necessary that may be for housekeeping purposes. What's primary is *Riding Nortons*. Throttle, not twaddle! So get your bikes out on the road, come along to the rides and meetings, and join us!

Nortonly yours,

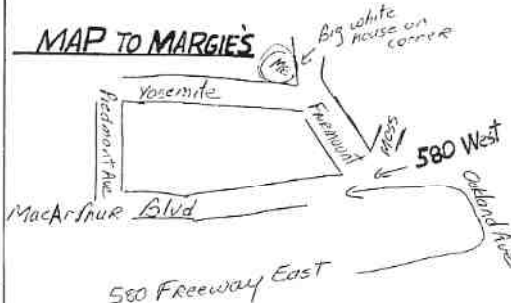
John
John Covell
1987 President

On the cover: Norton's famed E52 500cc single in production from 1926-1963 with the exception of the 1939-1945 war years.

JOIN THE RIDES THEY'RE FUN!!!

JANUARY RIDE--DIABLO DEVIL RUN

January will see us meeting at TT Motors in Berkeley at 10:00 a.m. for a ride over Mt. Diablo. We'll wind our way up Wildcat Canyon to Bear Creek and on to Lafayette. There we'll pick up Rt. 24 to 680 and the Ygnacio Valley Road. A turn south on Walnut brings us to North Gate Road and the start of the climb to Diablo's summit. There is a small charge to enter the park (about \$2) but the view should be more than worth it, and the road in and out certainly is. We'll continue out the south end of the park to Blackhawk Rd. and on to Tassajara. Depending on the condition of the road (right, Lewis?) we'll either go east to Tassajara Camino or south on Dougherty. Either way, the plan is to end up at Togo's on Santa Rita Road for lunch. We'll swap lies for a bit and then disperse, hopefully with enough daylight for all to make it home before dark.



WELCOME NEW MEMBERS

Ken Baca	Alameda, CA
Joe Lesh	Eureka, CA
Rick Pearson	Citrus Heights, CA
Norm Kelley	S.F., CA





EDITOR'S NOTES



****The Swap and Show at the San Mateo County Fairgrounds on Dec. 7 was and wasn't. A number of sellers showed up to make available (read unload) precious spares but the "show", if anywhere, was in the parking lot where I saw quite a few Nortons and some choice looking Italian stallions. Other European bike owners brought their mounts too and for once the Jap bikes were almost matched in number. For pure European, however, there's nothing quite like a Marshall get-together, and it may be that the East Bay still holds the trump card when it comes to putting on a "show".

I walk away with some magazines which a thoughtful John Gallivan had carted over for those of us who read when it's too cold to wrench on winter evenings. Phil Radford clutched his wallet throughout Dave Crader's lengthy explanation of why no Norton owner should be without at least one Ducati. John Covell jumped up and down in glee waving the Aug. '75 issue of CYCLE WORLD which neither he nor I had been able to find for several months. Corey Levenson had polished his P-11 once again and offered it for sale with a Norton calendar (nice picture of the bike there) attached. Sure is a nice-looking restoration.

Sellers seemed for the most part very disorganized. Most seemed to have loaded trucks or vans haphazardly and then unloaded at the show haphazardly, thus compounding the haphazardness. The exceptions were the Harley folk who seem to realize that a sensible display with labeling and some organization makes sales more likely. Unfortunately there is probably no way to encourage the extra effort it would take to get people to be more organized. Anyone who has been to a flea market recognizes the value of being able to see items laid out-- I'm surprised that few of the sellers showed this awareness.

As I was leaving the swap I overheard two guys commenting that "We just spent \$5.00 for THAT?" and it rankled me a bit. First, \$5.00 is cheap these days. Second, these events are few and far between and I for one am grateful that someone is willing to organize and run them. That the show/swap was not a spectacular is the fault only of Bay Area European bike owners who don't care enough.

On the positive side one club member remarked to me "Yeah, I ride my Norton whenever I can. I think people like to see them, and I enjoy showing them off." And that's the attitude which will ensure that the classic scene in the Bay Area stays alive and grows.

****On the insurance front, a recent letter to CLASSIC BIKE (Nov.) from Oregonian Carl Best offered the prospect of a Broad Form Named Operator Policy (BFNO), a plan whereby the insured is covered to drive any vehicle, and so I wrote to find out the details of that plan. Alas, the company involved is not licensed to write in California. Readers in Oregon and Washington, however, can contact Bonneville Insurance Co., Center Plaza West #40, 12655 SW Center St., Beaverton, OR 97005 (1-503-643-5701) for info. From Carl's letter the following:

The basic price for this policy is \$45/mo, with substantial penalties for poor driving records. They also expect you to list a primary vehicle; they charge 40% more than the base price if it is a pre-1972 machine.

The search continues

****Art writes: Even though a lot of the information I am going to relate is contained on the inside front cover of each NORTON NOTICE, and even though much of it has been discussed in past issues of the NORTON NOTICE, I still get a lot of members calling me up because they are not clear on certain things. So here goes. Pay attention and get it straight. All (personal) ads are sent in to the Editor, not the membership secretary. All new AND renewal memberships must be accompanied by a completed N.O.C. membership form. Don't forget to sign and date the form on the bottom. Checks for the annual \$25 dues should be made payable to the Norton Owners Club, NOT to Art Sirota.

[Or Alan, for that matter]

**** JPN fans: Whilst browsing through some files recently I came upon a letter from Robert Strange, who, in 1977, was President of the Norton Triumph Corporation with an office in Anaheim. He states that while very little information is available for this bike, to their "best recollection there were approximately 120 brought into the U.S. out of a total build of something in the neighborhood of 200 units. They would all have been built in the same year which would be shown on the vehicle identification plate attached to your bike." According to Bacon's NORTON TWINS, the magic year is 1974. According to Dick Rutter, the magic point of attachment is to the wide frame tube immediately under the seat.

****Address update for a Norton/Triumph repair and service shop in So. Cal.: Supertwins (Chris Scott, Prop.), 4051 Laurel Canyon Blvd., North Hollywood, CA 91607. 818-508-5474.

****Due to the wizardry of modern electronics we have been able to increase the size of the type in the NOTICE. This will apply primarily to the text which I type but if I have enough time I'll try and get to some of the reprints as well. Readers who have been squinting for years will no doubt rejoice for two reasons: 1- less eyestrain means healthier living and 2- it will be possible to read through the Editor's section faster. With a little bit of luck I'll be able to figure out how to put fancy boxes around important messages, thus reducing even further your need to read every word to see if you've won one of our fabulous trips to exotic hotspots of the world.

Love

MXIII OWNERS ALERT!

Barton (and I) has agreed to whip up some answers for those of you with MXIII worries. Send questions to the Editor and I will forward them to Barton and publish the replies in the NOTICE. This is your chance to learn how to get that electric start to work every time.



WANT ADS

£



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

FOR SALE

1. One pair Amal 932 Concentrics with manifolds and cables. \$20.
2. One pair Japanese Dunstall replica silencers, used one season. \$45.
3. One Roadster MKIII seat, no tears. \$25.
4. One MKIII swingarm. \$35.
5. Pre-MKIII switch clusters, one left, one right. \$25./each.
6. One Roadster luggage rack, ugly but works. \$10.
7. One MKIII black airbox with filter, exc. \$5.
8. One rusty disc. \$5.
9. One wide MKIII handlebar. \$2.
10. One wide pre-ES handlebar. \$2.
11. Several long clutch cables, some new, some used. \$2./each.
12. One rear brake shoe--snapped the spring hub off the other side. Free.
13. One MKIII rear fender, fair. \$15.
14. One MKIII head steady. \$25.
15. Two calliper bodies, need seals and pistons. \$15./each.

Nathan Meyer
1328 Spruce St.
Berkeley, CA
(415)843-8612

WANTED

650 Triumph for restoration project. Any model, running or not, prefer assembled. Get that unfinished Project out of your garage.

Jeff Jones
517 Glen View Ave.
Oakland
(415)763-1788

WANTED

Morris Mag (cast) wheels for Norton Commando. I need a set of front and rear wheels complete with disc brake setup (for rear).

John Paliwoda
P.O.Box 4303
North Hollywood, CA 91607
(818)986-3079 Daily

FOR SALE

1972 Norton Commando 750. Needs minor repairs and parts. Good engine, runs, rides OK. \$700. or make offer.

Matt Bauer
663-8013
(415)663-8755
(message)

FOR SALE

750 Commando. Dunstall tank, seat, fairing, front and rear discs, clip ons, rearsets, many updated parts. Just had major service done. Fast, clean, handles great. Needs slight cosmetic to be perfect. \$1500/B.O.

Call Tom (408)725-0913
18840 Newsom Ave.
Cupertino, CA 95014

P.S. Does anyone know where to get a belt (inner, for 2 belt model) for a Norton Druin supercharger? Call Tom.

FOR SALE

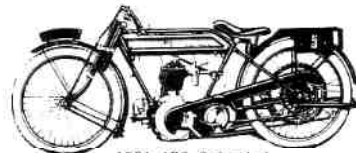
750 Commando. Fresh motor (cam, pistons, main bearings), Fox gas shocks, rearsets, new disc front end, cherry paint, SS pipes, many updated parts, very fast. \$1500/B.O.

Call Eric (408)725-0913

WANTED

Rearsets and fairing for '72 Commando

Rick Pearson
6341 Port Gibson Ct.
Citrus Heights, CA 95621
(916)722-7677 (eves)
(916)783-4387 (days)



1921 17C Colonial



The MANX

IN A SENSE, the design and development of Norton's famous "Manx" engine is a study in human personalities. The engine was designed, in 1927, by one Walter Moore, who was then Norton's chief design engineer. He did his work well: the engine, a long-stroke, overhead camshaft single, was reliable and produced enough power to bring forth a Norton win that year at the Isle of Man. Even in 1927, of course, the Norton racing engine was not exactly a daring design, but it was a very competent piece of work, and that is what one needs to get the job done more often than not. However, the real story of the Norton racing single begins where Moore stopped: with the entrance of the immortal Joe Craig on the scene. This determined Irishman never departed much from the original design, but he breathed life into it for years after it should have been a lost cause. It was, obviously, a losing battle in the long run, but an interesting one for all of that.

Joe Craig assumed responsibility for Norton's racing efforts in 1927, and by 1938 he had brought the big single along to the form we know today. Originally the engine had a single overhead camshaft; in 1938 a few more gears were added up in the cam box and it became a "double-knocker." The 79mm x 100mm bore and stroke dimensions were unchanged, as were the bevel-gears and lower-shaft drive to the cambox. Later, the bore and stroke would be altered, with additional detail modifications here and there, but Joe Craig apparently felt that the basic design was all a race puffer could ask.

Let us examine the Manx (a name acquired in 1948) engine's architecture. It is notable for having a very deep crankcase, which gives support far up on the cylinder. The crankcase is in halves split on the vertical centerline, and is made of light alloy, with a small sump cavity at the bottom but fitting the flywheels quite closely around most of their diameter. A small box cast into the timing-side case houses the lower shaft's lower bevels, a combined pressure-feed and sump-scavenging oil pump and reduction gears for the magneto drive. Remarkable strength and rigidity are features of the crankcase, as indeed they should be: for the Manx engine delivers power in a series of relatively wide-spaced, mighty bangs.

The cylinder that spigots into this crankcase has a cast-in iron liner, and extremely deep fins. These fins are more or less square, viewed from above, on the upper end of the cylinder, and this was done to insure that cooling air would reach at least the tips of the fins even though flow is partially blocked by the front wheel. In later years, after fairings came into vogue, it would have been possible to add proper ducting and shorten the fins, but because private owners could not be depended upon to provide the right ducts, the long fins were retained. Incidentally, owners are warned not to trim the fins because this will cause distortion of the bore. If the fins are changed, you must rebore to remove the resulting distortion.

In original form the Manx engine had separate flywheels and mainshafts as well as a detachable crankpin, but in the course of development the output climbed to the point where the mainshafts would

occasionally separate themselves from the flywheels when the owner had nothing of the sort in mind. Consequently, there was a change to mainshafts forged in one piece with the flywheels. However, because roller bearings are used at the connecting rod's crankpin end, the rods are in one piece and the crankpin is a separate piece. The rod is, by the way, a beautiful bit of work, polished all over and very massive, and when Tony Murphy, who owns the Manx we probed through in researching for this article, was trying to have a replacement made in this country, he was told that the metal used in the rod is quite soft.

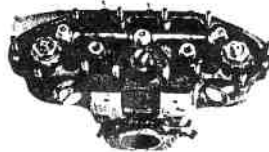
The Manx piston is very strong — and very, very heavy. It is a slipper-type piston, with a curved web connecting the thrust faces and lending support to the piston-pin bosses. Late versions of the Manx engine have two rings, one oil-scraper; the other a thin compression ring, and both are shorter and lighter than earlier three-ring pistons.

Actually, it is up at the cylinder head where most of the development work has been done. The first head had a cast-in bronze skull, into which the valve seats were cut. Subsequently, a change was made to an all-aluminum head, with shrunk-in valve seats. No important changes have been made in the rest of the head layout since the move to double overhead camshafts. These are driven by a series of 5 spur gears from the bevel gears at the upper end of the tower shaft. Each cam is a separate piece, mounted on a spindle and regged to a spur gear. A series of holes in the gear hub and in the cam give a vernier adjustment for setting the valve timing. There are 11 holes in the cam, and 12 in the spur gear. A similar arrangement prevails where the upper bevel gears drive the spur-gear train across the head, so the cam timing can be very finely adjusted.

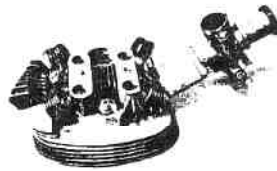
Although the intake valve is solid, the exhaust valve is made with both stem and head hollow, and filled with metallic sodium. When the engine is running, the sodium melts and, in sloshing around as



Jennings and Murphy discuss Murphy's Manx.

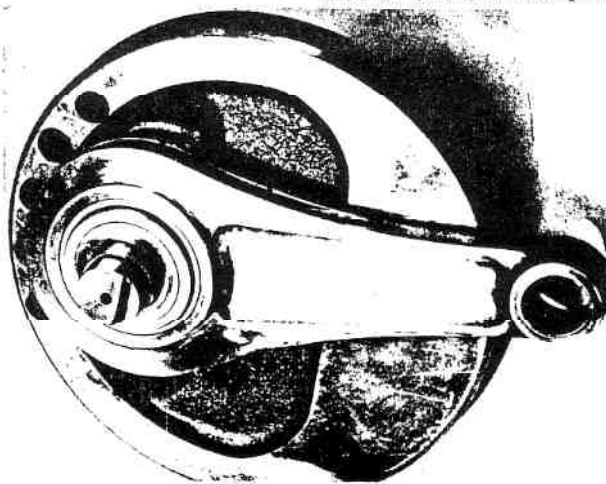


Cambox with cover removed to expose the outtrigger plate which supports the two idler gears as well as the cambox bevel shaft. Outer races for the actual camshaft bearings are in the cover. Exhaust "pusher" is shown in full open position while the intake, on the right, is fully closed.



Cylinder head with cambox removed to show massive lining and sturdy cambox pedestals; locating studs assure correct alignment of cambox. Vertical fins at front of head direct air flow onto exhaust valve.

Drop forged flywheels and connecting rod.



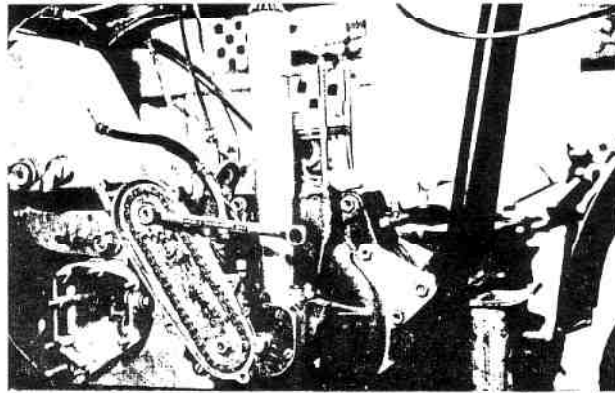


the valve moves, transfers heat from the head up to the stem and from there into the guide and the cylinder head. This is important. In such a big combustion chamber, detonation is hard to suppress, and the hot-spot created by an over-hot valve would initiate a great fit of pinging. In this connection, we could point out that even though the Manx engine has a nominally hemispherical combustion chamber, there are flats and concavities in the piston and combustion chamber that form large squish areas and have the effect of making the combustion area more compact. These efforts toward combustion control have paid dividends, for in the latest form of the engine, the compression ratio is 11:1 and there is no detonation when using a premium-grade gasoline.

In normal service, and apart from the damage that can be caused by over-revving, the weakest point in the Manx engine is its valve springs. These are of the hair-pin variety, and are mounted completely exposed. True-blue Manx mechanics will always have a special pair of pliers to use in replacing these springs without lifting the cambox. The springs are, however, not exposed for easy replacement. Rather, it is to allow cooling air to reach the hard-worked springs. One might wonder how the valve guides get oil, with so much empty space around their upper ends. This is provided for by small pipes, which feed oil directly into the guides. Another problem is that of lubricating the somewhat exposed tappets, which have their lower ends banging down in the air. In this case, the oil comes from the cam box, and seeps past the cylindrical tappet. The tappet is virtually a press-fit in the tappet bore when the engine is cold, but loosens at running temperature. No effort is made to catch oil that gets past the tappet — and plenty does. It simply runs down onto the valve stem and springs, and is carried away in the air stream. Experienced Manx types, Murphy tells us, warp plastic foam around the head to catch as much of this oil as possible, and that helps the situation somewhat. Even so, between the exposed tappets, and pressure-fed oil to exposed valve stems, the Manx engine flings a lot of oil about no matter what one does about it.

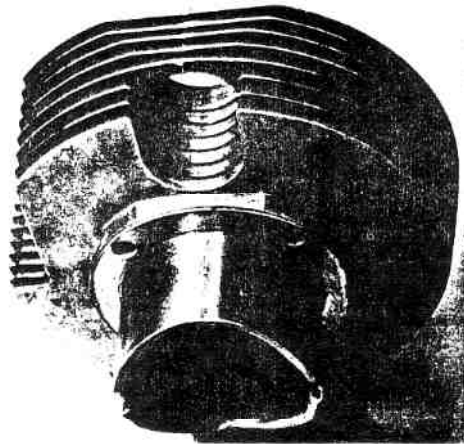
From the beginning of development of the Manx engine, plenty of attention was given to the "tuning" of intake and exhaust tract lengths, and it is this, as much as anything else, that accounts for the 50 bhp extracted from the engine in its final form. Unfortunately, in pulling this single up to the 100 bhp/liter output level, it was necessary to tune a trifle too finely for comfort. The Manx engine is a monster of fussiness, always ready to drop "off the cam" if the revs get down a bit. In fact, there is such a fit of "megaphoning" at just about 3500 rpm that the engine will not pull any higher unless you pull in the clutch. The trick is to slip the clutch until you gather enough speed to let in the clutch fully and have more than 4500 rpm in hand. Actually, the usable speed range is from 5000 to 7500 rpm, and that is really not enough when you add the handicap of a 4-speed transmission.

Over the years, the Manx engine's piston stroke came down from the original



It is not necessary to remove the bevel tower to carry out maintenance on the top end. Wrench in position shown will keep tension on the magneto drive chain, eliminating slack while timing the ignition.

Ring compressors are not required to start this cylinder over the piston; side cutaways and liberal chamfer make the task easy. The rings which appear to be gaskets are actually metal shims used to adjust the compression ratio and squish gap; the hole in fins is for bevel tower.



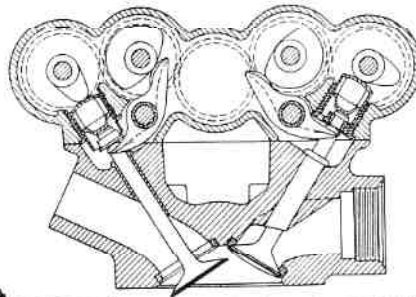
100mm, or 3.94", to 3.38" in the last version sold to the public just before production on the model was suspended. There is evidence that Joe Craig did not like this short-stroke trend very much. In an interview, he stated that in his opinion, the 100mm-stroke engine was really quite all right, as a lot of victories had been gained with it. However, the time came when even Joe Craig must have felt the pinch of the newer Italian "multis," for the racing Norton did undergo several reductions in stroke. More power must in the end come from more revolutions per minute, and as even in the "square" configuration, with a bore of 3.39" and the 3.38 stroke, piston speed was over 4000 feet per minute at the power peak of only 7200 rpm.

Officially, the factory withdrew from

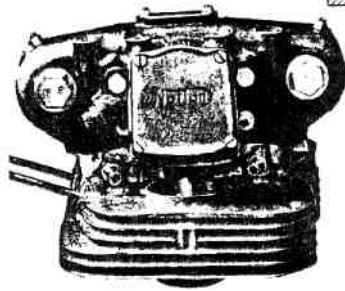
racing in 1956, but there was a lot going on behind the scenes. For one thing, there was a water-cooled "four" that actually made it into partially-finished castings. But, most of the work was directed at making the old single do the job. Stroke-shortening schemes were tried in abundance. A 90mm x 78mm (bore and stroke) engine gave excellent results, and this encouraged a try at even shorter stroke engines, which brought about some interesting problems. The Manx engine's built-up shaft did not lend itself to drastic stroke shortening, as the crankpin would begin to overlap the mainshafts. To get around this, some really off-beat layouts were tried, and a couple of examples are illustrated.

Getting the stroke down and crank speeds up presented Norton with a valve-

(Continued on page 10)



The desmodromic cambox required five gears, since opening and closing cams were on separate shafts. Levers operated by the closing cam pushed up on valve collars to close the valve.

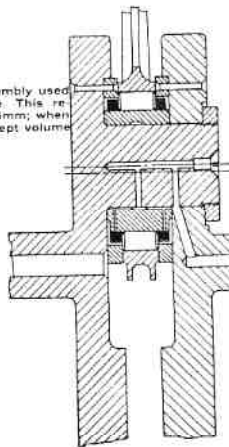


"Desmo" cambox looked fairly standard apart from the absence of valve springs.

One ultra-short crankshaft assembly used an eccentric inner race sleeve. This reduced the 78mm stroke to 73.6mm; when used with a 93mm bore the swept volume was 499cc.



Hollow, sodium filled exhaust valve. Large intake valve with its smaller diameter solid stem. The very heavy, very expensive forged aluminum piston. Skirt arrangement permits short strong wriston.



gear problem. That big pair of valves was reluctant to follow the cams at elevated speeds, and this resulted in a desmodromic head for the Manx engine. Desmodromic valve actuation, for those who do not know, is the type that has positive, mechanical opening and closing of the valves; no springs are used. Initially, the "desmo" Manx had the same valve timing as was used with the normal return-spring layout, but later the opening and closing times were increased. When this was done, reflected inertia from the valves, through the valve gear, overloaded the towershaft couplings and broke them. The problem was overcome by substituting a splined coupling system, with external splines on the bevel gear shafts, and an internally-splined sleeve between them. This proved

so effective that it was incorporated in the standard racing engines from 1959 onward. The desmo cylinder head, although promising, was abandoned.

Still another interesting cylinder head that was tried, and abandoned, was one with a rotary intake/exhaust valve. This followed the "Cross" pattern, with a barrel-shaped rotating member across the top of the cylinder head. Passages cast into the rotary member let the mixture into, and exhaust products from, the cylinder. It is interesting, and instructive, to note that after a considerable amount of development work, power output from the rotary-valve engine was brought up to equal that of the normal poppet-valve layout. Output never did exceed that available with poppet valves, and the rotary valve required

copious lubrication, which caused an oiling problem in the cylinder. For that reason, the whole idea was dropped.

Somewhere at Norton, tucked away in a back room, is a bike that would have seen action had not the factory withdrawn from active participation. It had a very short-stroke version of the old single, with an external flywheel, and the engine was mounted horizontally. In this machine, the engine ran "backward," because the primary drive was through gears rather than a chain. The transmission was in-unit with the crankcase. Curiously, the famous "Featherbed" frame was replaced by a backbone-type frame with single large-diameter tube holding everything together.

In 1962, everything came to a halt in Norton's racing department. Production on the Manx has halted, and from that time on, only a few spares (and not really enough of those) were made. Even so, the Norton Manx, in both 350cc and 500cc form, remained the favorite of private entrants and these machines, now all getting well along in years, are still the mainstay of England's short-circuit races.

Tony Murphy, who owns one of the last Manx 500s built, gave us the reason for this in recounting his experiences. Even though a bit down on power as compared to things like the MV or Gilera fours, the Manx is available; the others are not. Also, if you give proper notice to the tachometer, and do not try to use too many revs, the Manx will be exceedingly reliable. Finally, and most important, the Manx is still the best-handling motorcycle in the world. The only criticism we have ever heard leveled at the Manx's handling is that it is too good. No matter how hard it is pushed, it will not do anything untidy to warn its rider that he is near the limit; the Manx does everything just right until the limit of tire adhesion is reached, at which point it deposits its rider on the hard, hard ground and slithers away on its side.

Where the Manx could be improved, according to Murphy (and we are inclined to agree) is in the engine department. Even though each engine has, at the time of leaving the "assembly line," pumped out 50 bhp on the factory's dyno, none of those in this country have shown that much on our dynamometers. A couple, very carefully set up, have given 46-48 bhp; never more. This contrasts strangely with the gussied-up pushrod-type singles running in our flat-track races, which get about 52 bhp. Hand the Manx engine over to these same tuners and after a season of experimenting they would probably have it cranking out 60 bhp, and running fairly reliably at 8000-8500 rpm. The outlook for a full season of trouble-free running would not be so good, but the power would be there.

At this writing, there is at least one such Manx "hot-rod" being developed, and as road racing (other than AMA-sanctioned; the Manx is barred from their races) becomes more popular, there is promise of more to come. It may be that the Manx will reach the peak of its career now, long after the factory has given up. There is a shortage of spares, and this may force people to experiment with precisely the sort of non-standard replacements that could add substantially to the engine's power output. •



HELMET LAW ALERT

Well, fellow motorcyclists, they're at it again: Assemblyman R. Floyd (Dem., Hawthorne) introduced mandatory helmet law legislation, in the California Assembly, on Tuesday, December 2. Because of his tactics of appealing for support from his fellow legislators, using the transparent excuse of the prohibitive cost to California Taxpayers to pay for maintaining braindead, unhelmeted survivors of serious motorcycle accidents, he stands a good chance of getting this legislation enacted. Motorcyclists, whether you wear a helmet or not, should Mr. Floyd prevail, an important portion of your rights (probably constitutional) is going to be compromised.

Mr. Floyd has decided that, because he believes in helmet use, everyone should do likewise. Unfortunately, for us, because he is a California Assemblyman, he is in a position to get what he wants. Instead of concentrating his efforts on dealing with the overwhelming cause of motorcyclists' fatalities and serious injuries, i.e., inattentive automobile drivers colliding with motorcyclists, Mr. Floyd has decided to penalize motorcyclists by forcing them, by law, to wear a helmet, whether it affects their chances to be involved in an accident, or not!

California motorcyclists, over the years, have defeated similar helmet law legislation, time and time again. Unfortunately, with the simplistic pro-safety-for-safety's sake stance of this session of legislators, we are in for a very difficult struggle. Since 1976, twenty-seven states have either repealed or modified their ill-conceived mandatory helmet laws, mostly because of concerned motorcyclists' lobbying efforts. It is inconceivable, that against this revisionist tide, Assemblyman Floyd is attempting to further regulate us, a rather substantial 700,000 motorcycling minority, but he is!

If you followed the mandatory seat belt use legislation controversy, you may have concluded by now, that, because of Californians' apathy, we are now saddled with a generally ignored statute, which only breeds police harassment. There is only one way to defeat this latest unfair, unwanted, ill-conceived, and selfish mandatory helmet use legislation — WRITE, WIRE, TELEPHONE, VISIT, or COMMUNICATE SOMEHOW with your elected California State Representative regarding this abridgement of your Rights! Be forceful and direct, but profanity and threats will do no good, and will probably adversely affect the one person who can ultimately make a difference by casting a NO vote, when that time comes. I would suggest contacting Mr. Floyd, but he is probably beyond being favorably influenced, even if all 700,000 California motorcyclists expressed their views negatively on this issue.

Let's join together and defeat this attack on our motorcycling rights, whether you wear a helmet or not. If you believe in wearing one, can you remember the last time anyone told you that it was against the law to wear it? How would you feel if the tables were turned? LET THOSE WHO RIDE, DECIDE! Is that so much to ask?

As soon as possible, Call, write, or visit your elected California Legislator — Since this bill was introduced in the Assembly, contact your Assembly Representative, first. You will find their local office telephone number and location in your residence area telephone directory, under: State Government Offices "Assembly". The initial, and most significant hearings on this issue, will most likely take place before the Assembly Transportation Committee (probably in January, 1987). If the bill is rejected, at this Committee level, it will die and go no further (unless it is reintroduced), so logically, if you direct your comments to the:

Chairman of the Transportation Committee,
California State Assembly, Room 3194,
State Capitol,
Sacramento, CA 95814

(916) 445-7278

...you will probably be contacting

the most influential audience possible.

Motorcyclists, it's time to stand up for your dwindling Rights, if you don't, you will be forced to wear a helmet, whether you want to or not. What's next? Will they attempt to ban motorcycles altogether, because riding them is 6 times as dangerous as being strapped in a car? Outlaw ATVs? That's being considered already, by the Feds. Yes, all of the above can happen here, but only if you, the motorcycling public, allow it to happen.

OPPOSE ASSEMBLY BILL 36!

A concerned Northern motorcycle enthusiast,



John Pallwoda
P.O. Box 4301
N. Hollywood, CA 91607

(818) 986-3079

**OPPOSE
AB 36**



THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH

The Sunday Morning Ride-- Part Two

This is the conclusion to the article begun last issue. The ride has been recorded on video and is available through magazines. Better yet, ride on over and enjoy watching (and riding) it in person.

The run has ended at several different locations over the years (for a while it was a restaurant right across the road from the Constable's house) but now it stops at the Inverness Coffee House, on the western shore of Tomales Bay, adjacent to the Point Reyes National Seashore. The restaurant has a nice covered patio, and unless the weather is very bad, the riders usually order breakfast, then step out and drink coffee and talk at the outside tables.

The restaurant owners are delighted at the heavy business on what would be a slow morning, and they have pots of steaming coffee at the ready and the grill pre-warmed. Ham, bacon, omelettes, steaming pancakes and melted butter are served up as the ride is re-hashed over hot coffee and the small incidents that make each Sunday different are recalled. Since Inverness is often just north of the fog belt, riders who have been riding nearly blind a few minutes before often find themselves sitting in the warm sun tossing bits of toast to chattering bluejays.

Although the Coast Highway has been popular with cyclists ever since there have been cyclists around, the Sunday Morning Ride as such originated with a young English Vincent enthusiast, Peter Adams, in the early 1950s.

"I lived in Mill Valley then," Adams, now a field representative for Hap Jones Distributing Co., recalls, "and I had a good friend out in Inverness."

On Sunday mornings, Adams would ride out to see his friend, and soon a small group of riding pals, mostly expatriate Britons, were joining on the run.

"We all used to hang out at the British-style pub in San Francisco," Adams recalled a few years ago. "I sort of became the leader. It was a small invitation-only sort of thing. In those days, an English-type cyclist was very rare. There was the big rowdy image problem, and most of the riders around had Harleys."

Members of the group jokingly referred to themselves as the Point Reyes Cafe Racer's Society and turned out religiously each week on their BSA Gold Stars, Nortons and Vincents.

Not surprisingly, the machinery found on the ride is a sort of index of performance motorcycles. In the beginning, because most of the riders were British, and English machines were all that was available, save for the dread Harleys, the British machines had a near monopoly. But when the Honda invasion started in the early '60s and the advantages of a lighter, better braked bike on a twisty road became apparent, the Japanese bikes began a takeover which is now almost complete.

It was about 1980 that Adams stopped going on the ride. "I had a motorcycle shop of my own," he said (he sold Hondas), "and I had less time off. Also I was afraid someone might get hurt and people would say, 'Oh, that's Pete Adams' ride.'"

But if Adams stopped participating there were plenty of others who were happy to keep up what was becoming a tradition. And some of the original group meanwhile formally organized into the American Federation of Motorcyclists, San Francisco Chapter, and began racing for real at Northern California road courses.

Since the ride is essentially a non-structured happening, a formal history is difficult to compile. But there are legends which are told and retold over another cup of coffee and which have become a sort of folklore of the ride.

There were the several times, each now legendary, when the unmuffled roar of racing Manx Nortons were heard along the highway. Pete Adams took his along at least once, and one Bob Knott, now a porpoise trainer at Marine World, had the dubious honor of putting his Manx under the front bumper of a Chrysler one foggy morning.

And since we're on exotic motorcycles, there's a chap who occasionally arrives of a full dress Harley 74 and really gets it on, trailing showers of sparks as he scrapes off bits of his underside on the corners.

Then there is the farmer whose pasture gate was right at the end of a long straight with an abrupt left turn. After his gate was destroyed a couple of times by riders using his "slip road" he began opening the gate each Saturday night and closing it again Sunday noon.

I am probably the only rider who ever put his bike literally into the fork of a tree. It was a rainy morning, and I had spent a previous day talking to an Englishman who told me over and over about how fast you could go in the rain if you tried. I didn't see how the Bultaco got into the tree because I was too busy sliding under a barbed wire fence and off a cliff into a creek, but when the other riders pulled me out, one friend said, "When I came around the corner



and saw that motor in the tree, I thought, 'Oh, God, what am I going to tell his wife?'"

Several riders have missed one of the many corners just past Stinson Beach and put various types of motorcycles various distances out into the mud and/or water, depending on the tide. One poor chap missed the turnoff to Inverness several years ago, sped through a yard and off into 8 feet of water in a canal at the foot of Tomales Bay.

(Continued on page 13)



TECH TIPS

AEROBIC MOTORCYCLE EXERCISE

The catchword in exercise today is aerobics. It has been scientifically determined that, in order to shed poundage and tone the heart, one must raise the pulse an appreciable amount and keep it raised for a period of twenty minutes. Many attempts at exercise, while good at toning local muscle groups, do not raise the pulse sufficiently. The following activities engaged in by the average Norton rider are not aerobic for this reason:

- a. Exercising jaws at pubs and coffeehouses.
- b. Riding on freeway near speed limit (cop ahead). Frustration raises blood pressure, not pulse. Ditto riding in traffic jams.
- c. Polishing motorcycle, even for a concours event.

The following activities raise the pulse sufficiently, but not for a long enough time period:

- a. Narrowly missing obstacle in road.
- b. Being stopped by cop.
- c. Walking to where bike was parked and finding it gone.

However, do not despair! By following the above guidelines, it is possible to get all of your exercise around your bikes and thus be able to cancel that expensive health club membership. This will give you more money to spend on possibly useful parts, basket cases, and paraphernalia.

Pacing is excellent aerobic exercise. Done properly, a minor repair project can give the Norton owner many opportunities:

1. Pace back and forth while trying to figure out why that simple minor repair resulted in a non-functional machine.
2. Pace back and forth while waiting for your turn at the parts counter.
3. Pace back and forth while waiting for the shop to fix your bike.
4. Pace back and forth while trying to figure out how to pay the repair bill.

If you watch aerobic dancers, you will notice they spend much of their time jumping up and down (Elevation of heart rate due to watching aerobic dancers of your favorite sex dressed in skintight leotards is not sufficient to be aerobic exercise in itself). Jumping up and down is, of course, what you do to get your bike started and, if prolonged for a sufficient time, wonderful exercise. Try starting a BSA Gold Star or a Vincent with a broken compression release.

Pushing a motorcycle is aerobic if, again, done long enough. Make a practice of going off on rides without checking your gas tank. In a very short time, you will be fit enough to sneer at the bicycle riders hanging around Alice's Restaurant, especially if you swap your Interstate tank for a small fiberglass Hi-rider tank.

Whether or not riding too fast on twisty roads is aerobic is a matter of debate. Come on the next club ride, but remember to check your pulse at stops. It may be possible that Norton riding is better for your heart rate than BMW riding (or Brand X riding), giving an additional impetus to leaving that phlegmatic German at home.

Margie Siegal

THE NORTON NEVER BREAKS VALVES.

Sunday Morning Ride (Continued)

That story didn't end until after breakfast, when he and some friends got lin into the bike and finally hauled it out, much to the delight of the two little old ladies who lived in the house.

Occasionally a photographer will station himself along the road to take photographs of the speeding bikes. About a year ago one did this at the little town of Olema, where a downhill road curves into the Coast Highway from the right. The turn is banked and the highway rises over the banking, making a large hump in the road.

This particular morning a chap named Jerry came zooming up to this spot, saw the photographer, and decided to give him a great picture.

"I could see there was one coming," he said later, "so I just tucked it in fourth and went sailing about 20 ft. like a TP rider."

It wasn't until Jerry's Yamaha 180 was airborne that he noticed the three squad cars and two police bikes parked by the side of the road.

"The cop was pretty decent about it," Jerry said later. "I asked him why they didn't just put the heat on until no one would come on the ride anymore, and he said, 'Well, you guys are out here pretty early in the morning, and as long as we don't get too many complaints, we don't want to kill it.'"

Which all the riders thought was an extremely sensible attitude, and many cups of coffee were raised in friendly toast to that patrolman that day. ●



RIDE REPORT

MT. HAMILTON RIDE

More than a dozen hardy Norton riders assembled at Howard Johnson's place in San Jose for the assault on Mt. Hamilton (Nov. 23 ride). While the ride had been billed as a "freeze ride", temperatures throughout the day couldn't have been more agreeable. As we wound our way toward the dome, San Jose unfolded beneath us with only a slight haze covering the hills and valleys. We had the top of the mountain to ourselves. An occasional car wandered by -- not at all like last Spring's ride there when the parking lot was full. The observatory was closed-- that may explain it-- but it also means that almost any sunny Fall/Winter Sunday would make our route a great choice for the solo rider who wants to get away from it all for a few hours.

Party poopers Jan Barton and Mike Garcia motored back down the hill in an inexplicably ill-advised move to complete (or, worse yet, start) some projects at home. The rest of us fired up and set out again.

We stopped at the Junction, a burger house/bar on the way to Livermore, and had a bite to eat. I recorded a first-- a chewy hamburger AND bun. But the Bud was reliably tasty and nobody could beat the sunshine and good chatter. As we left it occurred to me that nobody, not even Scot, had recorded any broken parts. Dave Cronin, ignoring offers of a match, DID have to stop a gas leak, and Eric Mills WAS seen fiddling with tools in HJ's parking lot but under the circumstances we may consider these actions merely minor adjustment. In fact, John Crowell's electric starter was working, and Tom Dabel's Atlas started without a push!

The scoot to Livermore was delightful, with only a bit of gravel on the road. While it IS a bumpy stretch, it's also a good suspension test. Those of you with questions about the handling limitations of your setup will find this section of road a challenge.

We stopped once again to regroup and then split to go our various ways. Gene and Phil swapped bikes in an effort to compare vibration quotients for their pre-Commando twins. Phil never did take his helmet off while we were resting; it may have been that his hands were shaking too much to undo the latch.

Don Danmeier, by virtue of his no-show status, loses the "Long Distance Rider(s) Award" to Anne and Eric Mills who made it from Antioch.

"Most Likely To Suffer Permanent Back Damage Award" to Wayne Seymour for bringing his immaculate JPN from Santa Cruz.

One novel aspect of this ride was that most of the bikes were Nortons. That's right, healthy sounding, ride 'em hard Nortons, most nicely polished, most with no major leaks. After a summer full of Beemer-dominated Norton Club overnights I was amazed that the club could assemble such a healthy quota of Britain's Best. Alas, yours truly was guilty of bringing his Duc, but only to keep the battery charged, fellas. It passed the suspension test with flying colors.

NORTON

With about 120 miles logged for the day, we rolled into the East Bay and settled down to watch the 4th quarter of the Niners' game. Two hours later the engine was still pleasantly warm-- a fading memory of yet another exhilarating Norton Club ride.

Low

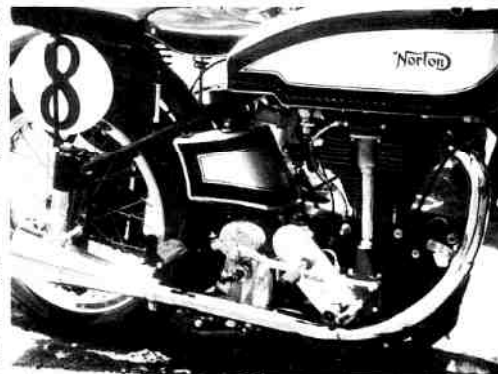
RIDE REPORT

A small but distinguished band of Norton club members assembled at Alice's on Dec. 14 for a romp through San Mateo and Santa Clara counties. Over coffee the group decided to shelve the scheduled trip to Los Gatos in view of the foggy conditions. Instead, we chatted for awhile and, after receiving a report of sunshine on the coast, decided to try route 1. Harvey and Tim took off to watch the 49ers win another one and Wayne pointed south to Santa Cruz. He continues to dazzle onlookers with his JPN.

After noting the lack of Jap riders at Alice's (Don't they like fog?) Don, John, and I set off for a leisurely spin west. And sure enough-- within a few miles we had emerged from the damp stuff and were greeted by clear roads and sunny skies. We stopped along the way to admire the surf and comment on the huge number of surfers at El Granada. My Interstate was missing badly at 2,000rpm but I solved the problem by running from the Pacifica area stoplights at 4,000-6,000 which made those takeoffs all the more interesting. Don split for Novato, John for S.F., and I lurched toward the East Bay.

It WAS chilly but I think everyone stayed warm and it felt good to be on the road for more than just a commute. Those of you who were scared off by the weather report didn't miss a great ride but you did miss a meeting where five out of six bikes were Nortons. Bench another one up for the Norton Club.

Low



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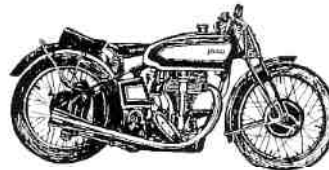
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