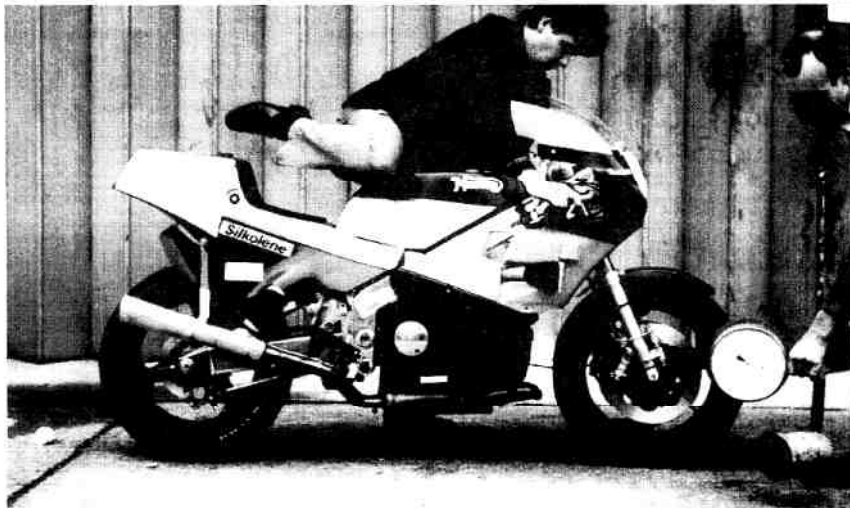


Norton Notice

THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH
NORTON OWNERS CLUB

NO. 114

OCT., 1987



AT THE FACTORY

Norton back on the track

NORTON have 'sneaked' back into racing.

A rotary engine super bike was run under full factory colours at an out of the way club meeting on Bank Holiday Monday.

The air-cooled Wankel — classified as 175cc by the ACU — was referred to only as a 'Norton' in the Darley Motor race programme after being entered directly for a trial outing well away from racing's centre stage.

Circuit champion Malcolm Heath overcame a poor start and intermittent mis-fire, caused by poor carburation, to finish third in the qualifier for the 1000cc race.

He was fighting to overcome similar problems in the final when a jammed gear change to tame a wild wheelie jammed the selector, forcing him out.

Heath will be campaigning the bike for the rest of the season in an attempt to de-bug the new racer in preparation for Norton's full-scale return to top flight racing next year.

A major sponsor is being sought to back the

factory effort, which could involve a team of up to four machines — both water and air cooled.

Go-ahead for Norton's return to racing, after an absence of well over a decade, has been given by Philippe LeRoux, the company's chairman and managing director.

At the Darley trackside on Monday he said: "We are not here racing today, we are just testing. The decision to go racing again is a risk, but people who do not take risks do not achieve anything. I do not want to see Norton remembered only for past achievements."

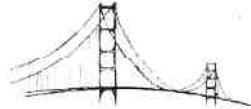
A power output of 115Hp and a top speed of 170mph are claimed for the racer which has been assembled in just six weeks. The engine and gearbox are the same as those used in the Interpol police patrol bike, while the rolling chassis has been developed by Spoonon Engineering.

The team will be testing again this week and plan to contest next weekend's Race of the Year at Mallory Park.

9/2/87 (MCN)



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 \$30.00 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 \$18.00 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.

ON THE COVER Thanks to Corey Levenson and MCN we have a photo and article about Norton's reentry into the world of racing.

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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 motorcycling activities. The Club's members are owners of Norton motorcycles, and they often submit for publication in the Norton Notice technical tips pertaining to motorcycles of the Norton marque. Technical tips so published have been reviewed for technical content and are believed to be both acceptable and workable, but no guarantee is made or implied that they will work correctly, nor is any liability assumed by either the Norton Owners Club or the 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 author's 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.

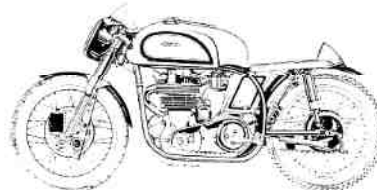


Photo: custom drawing of "Sax" (88 and 108)



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 |
|----------|--------|--|
| *Oct. 8 | Thurs. | **Branch meeting at Margie's, 625 Fairmount Ave., Oakland, 7:30PM. |
| *Oct. 11 | Sun. | *AFM races at Sears |
| *Oct. 18 | Sun. | *Dick Mann's Vintage Scrambles, etc., Sand Hill Ranch, Livermore. |
| *Oct. 25 | Sun. | *Branch Ride. Dave DeBella leads us through the East Bay hills. Meet at TT Motors, Berkeley, 10:00 AM. |
| *Nov. 12 | Thurs. | *Branch meeting at the Prince of Wales Pub, 106 E. 25 St., San Mateo, 7:30PM. Racer's Night. |
| *Nov. 22 | Sun. | *Branch Ride. Any volunteers, ideas? |

OCTOBER

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DECEMBER

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TAKING THE PLUNGE

-OR-

GETTING STARTED IN RACING

by Lou Caputo

PART ONE

A year ago I sat down and wrote the following:

"I think I'm a speeding ticket about to happen. The realization came to me today, a clear, fresh Sunday, as I attempted to amble through the backroads-- no particular place to go, no map, no time to be anywhere. I was giving my Bonneville a stretch and had decided early on that I would take it easy and just enjoy the scenery. But the bike felt taut, the road started to wind and before I knew it I was leaning forward and throttling through the turns. Then I'd remember, ease off, and the process would start all over again.

Yes, it's getting harder to hold those British twins to posted speeds. The handling is so smooth, the ride so predictable, and the roads around here so inviting that it seems a waste not to lean a little. But then there is the reality of the citation, the hassle of equipment violations, the nuisance of traffic school. In short, the inconvenience of it all. And of course there is always the chance of a spill or, worse yet, an "encounter" with a car. Such thoughts are never pleasant to contemplate but nevertheless constitute a constant threat to the rider. If you ride frequently it is foolish not to keep those possibilities in mind.

So I'll keep trying to enjoy the sights and weather but hopefully at a more leisurely pace. Trying to change to a slower pace involves a reexamination of the reason for riding. I ride because I like the feel and sound of a motorcycle and the openness of the countryside. My primary focus while riding is the road ahead-- the turns, the pavement surface, the traffic. Because of this focus I usually have a diminished appreciation of roadside features."

Since those words were written I have slowed down a bit but the urge to blast through turns now and again remains. But I think I've found a solution to all of this and it's called **RACING**.

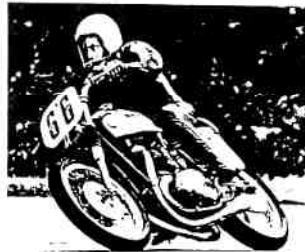
Those of us living in northern California are fortunate to have the AFM, the American Federation of Motorcyclists. This is an extremely well run operation presided over by Vance Breese which has

the distinction of being the oldest amateur racing organization in the U.S. When I first came to California in 1966 the AFM used an abandoned airstrip in Cotati. The production class featured Triumphs and BSAs and the new breed of Yamaha and Suzuki two-strokes. They ran sidecars too-- a class which appears rarely these days (There was only one sidecar at the recent AMA Camel Pro at Sears). It was no frills racing then, no slicks, no prize money, few spectators, and, as I remember it, 'go' in the rain. And probably no insurance.

The AFM eventually took up residence at Sears Point. For the past four or five years I've been trotting to Sears, hoping that some of the "old iron" would show up. These days slicks or high performance street tires are a must, manufacturers offer prize money, the slightest dampness cancels raceday, and insurance seems like THE number one concern. It is to the AFM officers' credit that they have been able to negotiate with both the new track management and the insurance company (s?) to the racers' benefit. The arrangement seems a tenuous agreement at best and the AFM is quick to remind riders of the need for following track and club rules so as not to endanger the club's racing efforts.

Slowly but surely more "vintage" bikes are showing up, complimenting the few Nortons and occasional Guzzis, Triumphs, and BSAs which appear. For those of us who prefer older bikes there probably never will be enough Nortons and Triumphs but their numbers are increasing and the racing is exciting.

Which brings me to the main point of this article (thought I'd never get there, didn't you?), how you can join this group, what it takes to race, and what benefits will result from taking the plunge.



THE EQUIPMENT:

First off, if you want to race a Japanese bike you're on your own. Moving on to Nortons, you'll want a 750 to race in the Twins-750 class. These guys go fast and compete against guys who oftentimes go faster on Ducatis. But, as Eric Swortsfigure, Lee Steinmetz, and Rob Tuluie (and others like Fred

(Continued p. 9)



EDITOR'S NOTES



Hi folks,

At the Sept. meeting at Zuka's, which is turning out to be a good spot for club meetings, Margie proposed that we invite local Norton racers to our November 12 meeting (Prince of Wales Pub, SM) to both hear about their exploits and encourage their efforts. All present agreed that this was a good idea and so movement is afoot to gather the group. There was some discussion that the club doesn't support these folks in any way and we're open to ideas as to how best show them that we appreciate their involvement in racing. The point was made that Nortons aren't competitive anymore but, while this is certainly true where Superbike racing is concerned, they are exciting to see and hear in action. I for one have been going primarily to watch the Twins and Vintage and usually leave once they're finished. Be there early if you come-- owing to noise regulations at Sears the Twins and Vintage usually run first so that if the program runs late only the well-muffled bikes are left. They even turn off the PA system at 5:00PM.

There are several ways to show support. One idea is for a club ride/day at the races, sometime in the Spring when the new racing season begins. Another possibility is to establish a "Racer Hotline" which I would be willing to start and which would be a convenience for racers needing parts, tech assistance, whatever. The NOTICE editor could act as a focal point for people seeking parts and those willing to sell (or give away) parts. This service would be phone-in and might provide linkups that wouldn't otherwise occur. Any ideas?

Another related topic concerned race coverage in the NOTICE. This is certainly a promising avenue but needs someone who is willing to write up a race(s). That could be YOU.

I do have some recent notes to get the ball rolling but I'd like to see someone else contribute to our newsletter. The bald fact is that with the exception of your officers and a few brave individuals there's been a deafening silence out there-- and that's not healthy for the future.

RACING NOTES:

The new CITY BIKE (Sept.) is out but some of the facts related to the Aug. 29 Vintage race are wrong. Rob Tuluie (reported as first in Sportsman

750) was disqualified after a protest was upheld by race officials. Seems that he didn't have a rear taillight (required for this class) even though the wiring was intact. He lost \$300 prize money as a result. Mark Weisendanger didn't follow him to the checkered flag-- Mark's engine blew up around lap four. He said he felt the rear end squirming (from engine oil) and it scared him badly (not his exact words). What also was not reported was that Mark was running like a champ, leading Rob for several laps before he dropped out. Eric Swortsfigure was in the finest form I've seen him and blew away the rest of the field in Formula 750 Vintage. Eric is an aggressive rider and if you make it to a raceday when he and Lee Steinmetz are battling it out you're in for a real treat. These guys MOVE.

Club member Jan Barton has been preparing his Harley for Allen Satterlee who put in a good show in Pro Twins- Modified Production (Bike was protested, Satterlee disqualified). What I found interesting in this effort was Jan's technique for starting the big Harley. I've seen racers use roller contraptions powered by large batteries to get the rear wheel spinning to start the bike but Jan had an arrangement which was driven by the rear wheel of his truck. Just the thing for those cold winter mornings!

By the way, the start of the Pro Twins event, formerly call the BOTT, was outrageous! A whole bunch of Ducs, Harleys, Guzzis, Nortons-- all shooting off the line together makes an unbelievable roar. It seemed as if the ground was shaking! Incredible!

The AFM Twins-750 event on Sept. 13 at Sears was a heartstopper. Some jerk clipped Eric at 80-90mph just before start/finish and he was down in an instant. He slid, leathers smoking, for perhaps 80 yards on his back and as he approached the wall I watched as he instinctively covered his helmet with his hands, preparing for the impact. His bike hit first, disappeared for a second in a haybale, then rose up in the air amidst the hay as it slammed into the concrete. Fortunately Eric didn't hit hard. On impact I shouted a choice epithet and the lady next to me jumped. He lay there for awhile then moved a bit. Gradually it became clear that he was not seriously injured (sore back and butt as it turned out). You don't like to see accidents like this.

Mark was back again with a freshly installed spare engine. You just can't keep these guys away. He had a good ride. Yours truly improved his lap times by ten seconds aboard a Triumph 500 in Vintage thus

(Continued p. 8)

JOIN UP



WANT ADS



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

WANTED:

1. MKIII handlebar switches, mirrors, front master cylinder, brake reservoir.
2. Brake and clutch levers and brackets.
3. MKIII rear brake master cylinder and linkage (ie., foot pedal pushrod, etc.)
4. Stock ignition switch wiring for idiot lights.
5. 750 type pipes and 750 reverse cone mufflers (good shape, please).
6. 1/4 fairing, Dunstall type.

Any of the above deeply appreciated-- I'm trying to finish a gorgeous MKIII. Thanks!

Doug Ratliff
2104 Crane Ct.
Sacramento 95825

FOR SALE

1. Norvil header pipes. New. \$50.
2. MKIII Rear disc assembly. Wheel-hub, disc, calipers, master, swingarm. Complete. \$175.
3. MKIII Crank and cases. Perfect. \$175.
4. MKIII Primary chaincase. \$50.

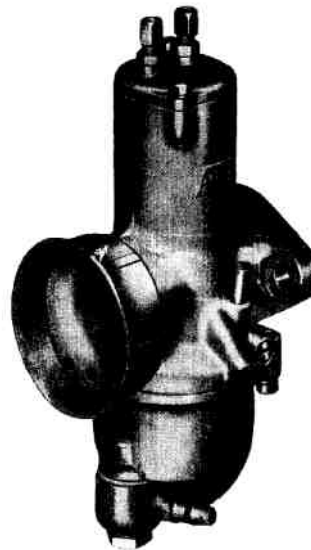
Chris Nichols
(415)965-4611

FOR SALE

1974 JPN as seen on the cover of the Feb. '86 issue of the NUTTLE (second from left) and in CITY BIKE. Low miles. New valves and porting. \$3,500.

John (408)476-3663
or Wayne (408)458-9069

HINTS AND TIPS for AMAL CARBURETTER Series 600 and 900



Burton Kranzel received this Amal leaflet and passed it along to us. Enlargement of type is maximum for NOTICE format but you'll still have to squint.

STARTING from cold. Turn on fuel supply, set ignition (if manually operated) for best slow running, depress tickler to flood float chamber, close air valve, open throttle slightly and start engine. When engine starts open air valve and close the throttle; if engine begins to falter, partially close the air valve until engine is warm, then set in fully open position.

STARTING, engine hot. Open throttle slightly and start engine. It should not normally be necessary to flood the float chamber or close the air valve when starting a warm engine.

STARTING, general. Experience will show when it is necessary to flood the carburetor or use the air valve and also the best setting of the throttle valve. If the carburetor has been over-flooded or strangled, which would result in a wet engine and over-rich starting mixture—fully open the throttle valve and air valve, give the engine several turns to clear the richness, then start again with the air valve fully open and the throttle valve slightly open.

STARTING, SINGLE LEVER CARBURETTERS. OPEN THE THROTTLE VERY SLIGHTLY FROM THE IDLING POSITION AND FLOOD THE CARBURETTER MORE OR LESS ACCORDING TO THE ENGINE BEING COLD OR HOT RESPECTIVELY.

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THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH

adding to a respectable learning curve which, I fear, has peaked. I mean, I'm racing my brains out already. It just ain't possible to go faster. At least not until next month.

Nick Wiltz was wandering around with that far-off look and he may join up next season on a Yamaha single.

*****Corey Levenson has just returned from the Classic Manx GP Race at the IoM where G50s took the first six places. Dave Pither became the first classic racer to lap the circuit at over 100mph (100.22). Corey toured the National Motorcycle Museum and stopped in at the Norton factory where, as his luck would have it, technicians were testing the Rotary racer. He took the photo which appears on the cover (The photo is great in the 'flesh'. Anybody have a Rollei 35 SE-- I'm interested in buying one.) The color scheme is blue/silver/red, bottom to top. Note, if the photo reproduces well enough, the strange ducting which leads to the muffler. The portion of the bodywork behind the muffler appears to be the rear fender. Corey said it sounded unlike anything he had ever heard-- something between a 2 and 4 stroke. In color this bike is a tasty morsel!

I'll try and keep you posted on the progress this bike makes on the track as the information becomes available to me.

*****Louis Mendelowitz has agreed to act as Recording Secretary, at least until the elections. Which brings us to yet another call for YOU to consider helping out. No big money, just a chance to keep things moving along.

Lou

PUZZLE OF THE MONTH

A new member, Pete Serrino, writes: "I am currently trying to solve a high speed wobble problem which has plagued the bike with varying severity since new. Should anyone venture an opinion on handling woes I have done the following:

1. Replaced the spindle (stainless) and bushes
2. Pinned the spindle in the cradle
3. Gusseted the swingarm
4. Trued the wheels to within .005" runout
5. Had the wheels "computer" balanced
6. Installed a Norvil head steady
7. Spaced isolastic donuts with rubber hose to keep them from shifting

8. Shimmed isolastics to .005"

I am currently building a fork brace and I plan to install a steering damper. Tires are 100/90 19 front and 120/80 18 rear (Elites). They seem to *have* aggravated the problem, especially as the rear tire has worn. A local British MC dealer, mechanic, and racer seems to think that the increased traction has caused the problem. I would appreciate all opinions."

Any ideas?

FROM THE DEN OF THE RIDE COORDINATOR

The October ride will go through the hills of the East Bay and be led by Dave DeBella. Action starts at 10AM at TT Motors, Berkeley, Sunday, Oct. 25.

One of our new members, Susan Wood, and friends will lead the perfect December ride. One hour of nice roads leads to as many hours as you can stand in a great bar in Port Costa.

Louis Mendelowitz has kindly consented to lead the January Mt. Hamilton ride, a yearly tradition.

This leaves NOVEMBER. A North or South Bay ride would be nice-- any volunteers?

I have decided to (tentatively) throw my hat into the ring as next year's Ride Coordinator. I would like to arrange one ride to the Sears Point races, possibly trying to get group rates, and come up with some sort of prize (Slightly used camshaft from someone's parts pile?) for the fastest Norton on the track.

SUPPORT OUR RACERS?

At the September meeting, some sort of racing support was kicked around and the November meeting is supposed to be Racer's Night. Pros and cons of more actively helping Norton racers:

PRO 1. Norton has always been identified with racing.

2. Racers have high visibility, which would attach to the club if we actively supported them.

3. Many members might enjoy volunteering as pit crew.

CON 1. Some wild-eyed racer showing up at JAM demanding precious spare parts from an unfortunate club member

2. Attempts to dragoon club members as pit crew

(Cont. p. 9)



I think further discussion is necessary and desirable. People with more ideas should show up at the October meeting.

Margie Siegal

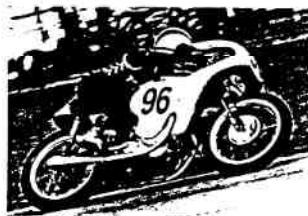
TAKING THE PLUNGE CONTINUED

Eiker) have shown, Nortons can be competitive if properly prepared and ridden hard. You'll scare yourself no matter what you ride but if you're familiar with Norton handling and power characteristics this might be a good choice for the not-so-faint-of-heart. You'll need to build your bike up for racing and that will probably cost anywhere from \$1000-\$2000. Definitely not for the faint-of-heart. Beware, however, the T-750 guys mean business; if you're not sure you can ride a Norton hard don't bother. I can't and I didn't.

Which brings us to Vintage. For all practical purposes the displacement limit is 500cc (They do have higher displacement categories for special classes but most of the bikes run in Vintage are 500cc or less). Your Norton can run with this group but it will be lonely. I opted for a 500cc Triumph, an old commute vehicle which I originally bought for my wife (I thought it was cute, she sat on it and said it was too heavy, and then complained for the next five years that it obscured her view of the garden).

The bike had not been used for 9 months. I decided to take it to Mike Green at West Coast British to see what he thought I'd have to do to transform it into a race machine. Surprisingly the bike started readily. I almost made it to Dublin when the Zener diode bracket cracked and the electrics went limp. Mike rescued me with his truck and we drove to his shop. His two suggestions have turned out to be good ones: (a) rebuild from scratch, or (b) buy a machine which is ready to be raced. I chose (a) and now have confidence in the engine and learned a great deal about all facets of the bike. (b) would have been a good choice too, especially now that I've paid for all the new parts for (a). Both the AFM and the CVRG publish rules books which detail requirements for building your bike.

Friends and dealer support are important. Mike Rettie and Ken Whitney have been more than helpful and encouraging. Mean Marshall has given me good advice and stocks all the parts I've needed. Time is essential; time to make mistakes, time to fix mistakes. The first time you wire up a bike takes hours. After awhile you realize that simpler is better because you'll probably need to remove or change that last modification sooner than you think.



RIDERS SCHOOL:

So you've got your bike ready, scrounged up some leathers, boots, gloves, back protector, and have the right helmet. Now comes Riders School-- an all day class at Sears (or Willow Springs) where you'll learn the nitty gritty of going fast safely. The day is divided into two parts, morning lecture, and afternoon walking and then riding the track. Both aspects of the day were exceptionally well planned and presented. Mike Ross delivered a well thought out talk to about 40 students. The walk around the track was invaluable. You learn the lines through turns and get a close look at the track surface. Two instructors then take a group of six students around on bikes to "groove" the lines after which the group splits in half for more intensive riding and closer observation of each rider. A debriefing after the ride provides an opportunity to fine tune the instruction even more. This is a first rate school taught by first rate instructors.

The afternoon session of this class takes on even more significance when you consider how difficult it is to get track time. The Sears track is open for testing during the week, but if you happen to be the only one there (I was, one Monday) you bear the entire cost of the ambulance service (which the track provides at cost) plus the testing fee. If you share the track with other riders the track costs are shared but first you have to make sure other riders will be there. In short, it's a hassle which, I suppose, is lessened with experience but which can sting the beginner (\$70 for 1/2 hr. in my case). I mentioned in a previous NOTICE in an article about the Superbike School that you can get track time when that school is holding its session but even then the costs were relatively high (\$120 for 2-3 hrs?). So bear this in mind; once you are race ready you may very well have trouble finding a place to practice. It's like planning ahead for a ski vacation only to find no snow on the slopes when your week arrives.

NEXT ISSUE: The race and what you will need.



TECH TALK

The Discussion Continues. . . .

Harvey: That'll happen if you overtighten your primary-- the rollers will start coming off. [Also if ATF is used for primary case lubricant.--SJM]

Phil: He ran his brake too tight also. It was binding and it melted the rubber cush blocks in the rear wheel. It was solidified goop.

Harvey: This rear brake problem is not uncommon. I find that maybe one in four guys with a Norton knows how to adjust the rear brake. You've got to centralize the shoes [by applying the rear brake--SJM] when you tighten the nut on the rear axle. Both shoes have got to contact the drum at the same time.

Mike: It would be interesting to come up with a list of the most neglected things on the bike. Isolastics, swingarm lubrication, speedo drives.

Phil: I have a question: What distorts the speedo drive body? What makes it bow inwards?

Mike: Marshall claims that it's a lack of lubrication.

Burton: I think it's overlubing. The tag that comes with the new one says, "Two shots of grease every 500 miles." I've destroyed one drive by overlubing it.

Mike: No, it'll just push right back up the cable.

Phil: It'll push itself radially out. You see all these grease stains. . . .

Mike: Well, I don't know why they distort like that but it's certainly a common problem.

Phil: I'm getting some rebuild kits made for the speedo drive and I showed the gears to the guy who makes them and he said he'd never heard of it happening before.

Mike: What? I think they're just chronically underlubed.

Phil: The biggest joke is that they put a grease fitting on but you can't get a regular grease gun on it! I reckon the design was by the janitor at Norton who made up his own grease fitting for his grease gun and then they made all the fittings like his.

Harvey: If you push real hard maybe 10% of each stroke actually puts grease in. [If you're having a problem here it's because you have the wrong type of adapter on the end of the grease gun. You need the adapter for flush fittings, not zerk fittings.--GA]

Mike: What about petcocks? Do you have good ones?

Phil: I've just got the regular Norton ones. They don't leak now like the old ones used to. I'd like to get the newer Triumph ones.

Harvey: You can make the old ones fit really nicely though. I'm talking about the ones that are all metal, the brass ones.

Phil: You take your U-bolt and . . .

Harvey: They get a little dirty and scraped up. You take the snap ring out and, using a little toothpaste, you rub around in there. [Rub all you want, Harvey, it won't make any difference.--SJM]

Phil: Some of the newer ones have a rubber seal in there. They're not brass to brass.

Mike: Yeah, and what happens is that rubber seal moves. . . .

Harvey: They stopped using those brass ones around '71-'72 and replaced them with plastic ones. But they break.

Burton: The handles, those little toggles, break off.

[At this point the group resorts to yarn swapping. What follows are some of the tech topics which emerged from the laughter.]

Lou: What do you guys prefer in pipes?

Harvey: The Dunstall setup you've got [2-1-2] is not terribly popular. They fracture at the front and where the two flare out at the rear to go into the mufflers they tend to drag. Also, you can't use a centerstand with them unless you use the Dunstall one with the loop in it. If you get the Norvil pipes they tuck in well. I had them on my Production Racer and they come in right under the primary cover. On the right hand side they come in close to the frame rail but they're above it. The stock 750 ones sit out a bit and they're about even with the frame rail.

Lou: What about two into one?

Phil: I think you get a little more midrange torque from a siamese pipe but that's about it.

Harvey: They sound funny. I think they were unpopular too because they were tough to tuck in and again you had the centerstand problem.

Phil: Removing them might be a problem, too. It's the same as the crossover system-- getting them off and on is a pain in the ass.

Mike: Do the new 750 pipes come with squared off flanges going into the head?

Phil: I have two types, squared off flanges and flared flanges. Flares with collets and doodads. You get a little bit more movement for better alignment, causing less stress on the pipe which might fracture it. [You also have fewer threads of the exhaust nut engaging the head threads. Do not use a gasket under the conical washer, and be careful when you tighten so as not to strip the thread.--SJM]

Harvey: It's like a ball and socket where the flare goes over that other piece. I've never seen one of them break.

Burton: Also, the big finned nut stays tight after you've tightened it a few times.

Lou: I've seen a lot of different arrangements for keeping that finned nut snug.

(Cont. p. 11)



TECH TALK CONTINUED

Phil: The best thing to do is when the engine is hot tighten the shit out of it.

Harvey: You don't need retainers or springs or anything. It'll never come loose.

Mike: Stay away from aluminum exhaust nuts. [They, along with titanium nuts, will seize in the head and have to be drilled out.--SJM]

Phil: Get the locking wrench with a piece of pipe on the end of it and, right when it's hot, put a good hefty pull on it and it'll stay cinched up. But when you want to take the exhaust system off you've got to do it when it's hot. If you don't, you can break the fins off the header nuts. [This a great way to strip the threads. The handle length is sized the way it is on the Norton tool for a reason. That is to limit the amount of torque applied to the nuts.--SJM]

Harvey: But you do need the Norton tool. You'll never strip out the nut in the head, by the way.

Mike: Not from overtightening it.

Phil: Unless it's bad to start with.

Harvey: When it gets loose and bangs around in there, that's what wears out the threads in your head. In the Commando the engine moves around relative to the exhaust pipe and that can cause problems.

Phil: It's a problem which is peculiar to the Commando. I've seen lots of old Norton heads on pre-Commandos and the exhaust ports are perfect.

Harvey: That's right, and it's because the exhaust pipes didn't move around relative to the engine.

* * * * *

Harvey: What do you guys think is the most desirable or collectible twin today? Which one is worth the most stock?

Phil: The Player.

Mike: To me that's a Norton in drag.

Harvey: Is it a sheep in wolf's clothing?

Phil: To me it's the most beautiful motorcycle ever made.

Burton: To me too.

Mike: I think the Fastback is a much prettier bike.

Harvey: The Production Racer was the finest British motorcycle ever made.

Lou: I like Dave Neal's GP Norton.

Mike: I think the old Domiracer . . . with the sweptback pipes, God, what a pretty bike . . .

Phil: Well, I think we need to fight. . . . END. Whew!

(Editor's Note): Thanks again to the participants in this extravaganza: Alan Goldwater, Burton Kranzel, Harvey Loucks, Scot Marburger, Phil Radford, Mike Rettie, and Lee Steinmetz. They've done the club a big favor and you might tell them so the next time you see them.

THE AMAL Continued

CABLE CONTROLS. See that there is a minimum of backlash when the controls are set back and that any movement of the handlebar does not cause the throttle to open; this is done by the adjusters on top of the carburetter, after releasing the adjuster locknuts. See that the throttle valve shuts down freely, then reset locknuts.

PETROL FEED. A filter gauze is fitted at the inlet to the float chamber, to remove this gauze unscrew the banjo bolt, the banjo and filter gauze can then be removed. Before replacement ensure that the filter gauze is both clean and undamaged and check fuel supply by momentarily turning on fuel tap. Vertical loops in petrol pipes must be avoided to prevent air locks. Float chamber flooding may be due to a worn float needle but nearly all flooding and blockage of the filter gauze with new machines is due to impurities from the tank. Periodically clean out filter gauze and float chamber until the trouble ceases or alternatively the tank may be drained and swilled out, etc.

FIXING CARBURETTER AND AIR LEAKS. Erratic slow running is often caused by air leaks, so verify there are none at the point of attachment to the cylinder or inlet pipe. A sealing ring is fitted into the attachment flange of the carburetter. Also in old machines look out for air leaks caused by a worn throttle or worn inlet valve guide.

BANGING IN EXHAUST may be caused by too weak a pilot mixture when the throttle is closed or nearly closed—also it may be caused by too rich a pilot mixture and an air leak in the exhaust system; The reason in either case is that the mixture has not fired in the cylinder and has fired in the hot silencer. If the banging happens when the throttle is fairly wide open the trouble will be ignition—not carburation.

BAD PETROL CONSUMPTION of a new machine may be due to flooding, caused by impurities from the petrol tank lodging on the float needle seat and so prevent its valve from closing. Flooding may be caused by a worn float needle valve. Also bad petrol consumption will be apparent if the needle jet has worn; it may be remedied or improved by lowering the needle in the throttle, but if it cannot be—then the only remedy is to get a new needle jet.

AIR FILTERS. These may affect the jet setting, so if one is fitted afterwards to the carburetter the main jet setting and the engine is run without it, take care not to overheat the engine due to too weak a mixture; testing with the air valve (page 2) will indicate if a larger main jet and higher needle position are required.

EFFECT OF ALTITUDE ON CARBURETTER. Increased altitude tends to produce a rich mixture. The greater the altitude, the smaller the main jet required. Carburetters ex-works are set suitable for altitudes, up to 3,000 feet approximately. Carburetters used constantly at altitudes 3,000 to 6,000 feet should have a reduction in main jet size of 5 per cent. and thereafter for every 3,000 feet in excess of 6,000 feet altitude further reductions of 4 per cent., should be made.

HOW TO TRACE FAULTS

There are only two possible faults in carburation, either richness or weakness of mixture.

INDICATIONS OF :—

RICHNESS.

Black smoke in exhaust.
Petrol spraying out of carburetter.
Four strokes, eight-stroking.
Two strokes, four-stroking.
Heavy, lumpy running.
Sparking plug sooty.

WEAKNESS.

Spitting back in carburetter.
Erratic slow running.
Overheating.
Acceleration poor.
Engine goes better if :—
Throttle is not wide open or
Air Valve is partially closed.

If richness or weakness is present, check if caused by :—

- | | |
|---|---|
| (1) Petrol feed. | Check that jets and passages are clear, that filter gauze in float chamber banjo connection is not choked with foreign matter, and that there is ample flow of fuel. Check there is no flooding. |
| (2) Air leaks. | At the connection to the engine or due to leaky inlet valve stems. |
| (3) Defective or worn parts. | As a loose fitting throttle valve, worn needle jet, loose jets. |
| (4) Air cleaner being choked up. | |
| (5) An air cleaner having been removed. | |

Removing the silencer or running with a straight through pipe requires a richer setting.

(Cont p. 12)



AMAL Continued

Having verified the correctness of fuel feed and that there are no air leaks, check over ignition, valve operation and timing. Now test to see if mixtures are rich or weak. This is done by partially closing the air valve, and if engine runs better weakness is indicated, but if engine runs worse richness is indicated.

To remedy, proceed as follows:—

- | | | |
|--------------------|---|--|
| | To cure richness, Fit smaller main jet. | To cure weakness, Fit larger main jet. |
| Position 1. | Screw out pilot air adjusting screw. | Screw pilot air adjusting screw in. |
| Position 2. | Fit a throttle with larger cutaway | Fit a throttle with smaller cutaway |
| Position 3. | Lower needle one or two grooves | Raise needle one or two grooves |
| Position 4. | | |

NOTE. It is not correct to cure a rich mixture at half throttle by fitting a smaller main jet because the main jet may be correct for power at full throttle: the proper thing to do is to lower the needle.

PARTS TO TUNE UP WITH

THROTTLE ADJUSTING SCREW. Set this screw to hold the throttle open sufficiently to keep the engine running when the twist grip is off. An "O" ring is fitted to the screw to hold this adjustment by friction.



MAIN JET. The main jet controls the petrol supply when the throttle is more than three-quarters open, but at smaller throttle openings although the supply of fuel goes through the main jet, the amount is diminished by the metering effect of the needle in the needle jet. Each jet is calibrated and numbered so that its exact discharge is known and two jets of the same number are alike. NEVER REAMER A JET OUT. GET ANOTHER OF THE RIGHT SIZE. The bigger the number the bigger the jet.

To remove the main jet, remove the float chamber, the exposed main jet can then be unscrewed from the jet holder.

NEEDLE AND NEEDLE JET. The needle being taper either allows more or less petrol to pass through the needle jet as the throttle is opened or closed throughout the range except when idling or nearly full throttle. The taper needle position in relation to the throttle valve can be set according to the mixture required by repositioning the jet needle clip in any of three positions thus raising or lowering it. Raising the needle enriches the mixture and lowering it weakens the mixture at throttle openings from one quarter to three-quarters open.

The throttle needles are marked with a single groove around the top diameter for use on the 600 series carburetter, the 900 series carburetter needles are identified by three grooves around the top of the needle, throttle needles identified by two grooves are used on certain models for both series 600 and 900 carburetters.

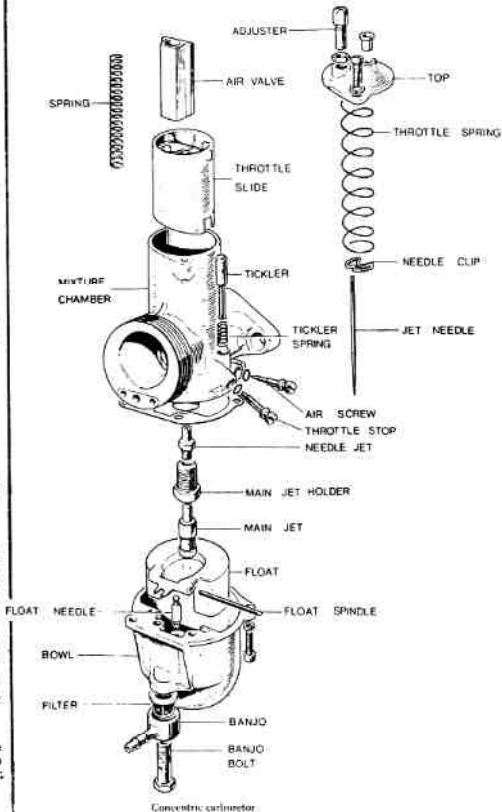
THROTTLE VALVE CUT-AWAY. The atmospheric side of the throttle is cut away to influence the depression on the main fuel supply and thus gives a means of tuning between the pilot and needle jet range of throttle opening. The amount of cut-away is recorded by a number marked on the throttle valve, viz., 622/3 means throttle valve type 622 with No. 3 cut-away; larger cut-aways, say 4 and 5, give weaker mixtures and 2 a richer mixture.

AIR VALVE is used only for starting and running when cold, and for experimenting with, otherwise run with it wide open.

TICKLER a small plunger spring loaded, fixed in the carburetter body. When pressed down on the float, the needle valve is allowed to open and so "flooding" is achieved. Flooding temporarily enriches the mixture until the level of the petrol subsides to normal.

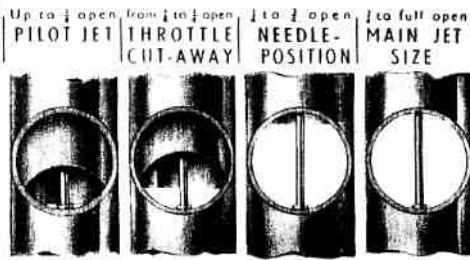
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NORTON OWNERS CLUB



HOW TO TUNE UP

PHASES OF AMAL NEEDLE JET CARBURETTER THROTTLE OPENINGS



SEQUENCE OF TUNING

FIG. 5.

TUNE UP IN THE FOLLOWING ORDER.

NOTE. The carburetter is automatic throughout the throttle range—the air valve should always be wide open except when used for starting or until the engine has warmed up. We assume normal petrols are used.

(Cont. p. 13)



TECH TIPS

1st. **MAIN JET** with throttle in position 1 (fig. 5). If at full throttle the engine runs "heavily" the main jet is too large. If at full throttle by slightly closing the throttle or air valve the engine seems to have better power, the main jet is too small. With a correct sized main jet the engine at full throttle should run evenly and regularly with maximum power. If testing for speed work ensure that the main jet size is sufficient for the mixture to be rich enough to keep the engine cool, and to verify this examine the sparking plug after taking a fast run, declutching and stopping the engine quickly. If the plug body at its end has a cool appearance the mixture is correct; if sooty, the mixture is rich; if however there are signs of intense heat, the mixture is too weak and a larger main jet is necessary.

2nd. **PILOT JET** (fig. 5) with throttle in positions 2 and 5. With engine idling too fast with the twist grip shut off and the throttle shut down on to the throttle adjusting screw, and ignition set for best slow running: (1) Screw out throttle adjusting screw, until the engine runs slower and begins to falter, then screw pilot air adjusting screw in or out, to make engine run regularly and faster. (2) Now gently lower the throttle adjusting screw until the engine runs slower and just begins to falter, adjust the pilot air adjusting screw to get best slow running: If this 2nd adjustment make engine run too fast, go over the job again a third time. Both the throttle adjusting screw and pilot air screw have an "O" Ring fitted to hold the adjustment by friction.

3rd. **THROTTLE CUT-AWAY** with throttle in position 3 (fig. 5) if, as you take off from the idling position, there is objectionable spitting from the carburetter, slightly enrich the pilot mixture by screwing in the air screw sufficiently, but if this is not effective, screw it back again, and fit a throttle with a smaller cut-away. If the engine jerks under load at this throttle position and there is no spitting, either the jet needle is much too high or a larger throttle cut-away is required to cure richness.

4th. **NEEDLE** with throttle in position 4 (fig. 5). The needle controls a wide range of throttle opening and also the acceleration. Try the needle in the lower position, viz., with the clip in the groove at the top; if acceleration is poor and with air valve partially closed the result are better, raise the needle by two grooves; if very much better try lowering the needle by one groove and leave it where it is best. If mixture is still too rich with clip in groove No. 1 nearest the top the needle jet probably wants replacement because of wear. If the needle itself has had several years' use replace it also.

5th. **FINALLY** go over the idling again for final touches.

TUNING TWIN ENGINES WITH TWIN CARBURETTERS

where each cylinder has its own Carburetter.

First of all, slacken the Throttle stop screws and put the Twist Grip into the shut off position to allow the Throttles to shut off; there should be a slight backlash in the cables which backlash can be obtained, if necessary, by screwing in the cable adjusting screws on the top of the Carburetter after releasing lock nuts. Then, with the Handlebars in the normal position, and with the Throttles closed, adjust the cable adjusting screws so that on the slightest opening of the Twist Grip, both Throttles begin to open simultaneously, then reset lock nuts.

To set the Carburetters, bear in mind these "Hints," which may be useful:—Main Jet sizes are of course selected by checking the effect of the Mixture on the Sparking Plugs after taking a run at full throttle over a straight piece of road; the smallest pair of jets that give the best maximum speed are usually correct provided that the Plugs do not show any signs of excessive heat. It might be that for really critical tuning, one Carburetter might require a slightly different Jet size from the other.

For slow running, set the Twist Grip to make the Engine run slowly but just faster than a "tick-over"; then gently screw in the Throttle stops to just hold the Throttles in that position, and return the Twist Grip into the shut position, leaving the Engine running on the Throttle Stops.

The next thing to do is to set each Carburetter to obtain the idling by screwing down the Throttle Stop Screws and adjusting the Pilot Air Screws accordingly.

Regarding the setting of the Pilot, a fairly satisfactory method is to detach one Sparking Plug lead, and set the Pilot Air Adjusting Screw on the other Cylinder as a single unit, and then reversing the process to the other Cylinder. It may be found that when both leads are connected to the Sparking Plugs, the Engine runs slightly quicker than desirable, in which case, a slight readjustment of the Throttle Stop Screws will put this right. It is essential that the speed of idling on both Cylinders is approximately the same, as this will either make or mar the smoothness of the get-away on the initial opening of the Throttle.

It is essential with Twin Carburetters that the Throttle Slides are a good fit in the bodies, and also that there is no suspicion of air leaks at either of the flange attachments to the Cylinder.

Regarding the lower end of the Throttle range, which is always the more difficult to set, one can only take excessive pains to make quite sure that the Control Cables are perfectly adjusted, without any excessive backlash or difference in the amount of back lash between one Carburetter and another; otherwise one Throttle slide will be out of phase with the other, and so resulting in lumpy running.

To check the opening of the Throttle simultaneously, shut the Twist Grip back so that the Throttles are resting on the Throttle Stop Screws in their final position of adjustment; then insert the fingers into the air intakes and press them on the Throttles and with the other hand, gently open by the Twist Grip and feel that the Throttles lift off their stops at the same time.

RITA REVEALED

(The following article comes to us courtesy of the Chicago Norton Owners Club. Thanks, fellas.)

The Lucas RITA transistorized ignition system is one of the more commonly available units that you can put on your Norton. Its claims to fame include that it never needs readjustment, the ignition advance is all electronic, and therefore less likely to hang up or fail, and that the effective dwell angle is greatly increased. They are distributed by Mistral Engineering, 63a Turner Rd., London, E17 3JG. These units are quite reliable, but like all electronic black boxes, they don't warn you before they fail, and there is no way to limp home on them, unless you have brought along your old points setup in a sack. On the other hand, we have been told that in the last year of Triumph sales, with a RITA in every one of them, they had only four warranty returns the whole year.

Also, with the Lucas unit, there is no way to repair a sick module-- they make you buy another whole system (or at best a new module at severe financial stress), and no one seems to be able to repair a dead module. We're trying to change that. We have spent some time looking inside the black boxes, and have a pretty good idea of what makes them tick. And here's what we've found out.

HOW THE RITA WORKS

First of all, with these units, a reluctor replaces the points on the end of the camshaft. A reluctor is just a steel rotor with a couple of tips on

(Cont. p. 14)



THE NEWSLETTER OF THE NORTHERN CALIFORNIA BRANCH

it that rotates past the pickup coil. The pickup coil is wound around a permanent magnet core. The motion of the reluctor tip near the magnet changes the magnetic field, creating a pulse in the pickup coil. The pickup is connected into the amplifier module, the output of which drives the coils. Many automotive engineers consider a reluctor pickup superior to most other methods, such as optical interrupters, for the simple reason that its performance is not compromised by the presence of oil films.

For all intents and purposes, the amplifier module drives the coils like points, only faster. Between firing of the plugs, the module switch is closed, just as points are, storing energy in the coils. When the pickup is pulsed, the module switch opens, the coil primary current is momentarily interrupted, and the stored energy is released in a spark of energy to the coil.

One feature that these reluctor pickups have is that an electronic spark advance is provided for free. This is caused by the fact that the pickup pulse amplitude is dependent upon the relative speed of the reluctor tip past the pickup coil, but the threshold, or triggering point, is fixed. As the engine spins faster, the higher-amplitude pulse triggers the amplifier module at an earlier point on the crank, and you have effectively advanced the timing. The literature claims that the advance will move from 20 degrees at 2,000rpm to 28 degrees at 6,000rpm with the RITA. At an idle, the advance drops to less than 20 degrees, but the exact low RPM advance is highly dependent upon the reluctor gap.

Note that the RITA is NOT a capacitive-discharge, or high-energy system; it's essentially just electronic points. The coil output voltage will NOT be substantially improved with a RITA. What will be improved is the reliability of the advance mechanism, the dwell angle (near 100%), and the improved rise time will somewhat reduce plug-fouling tendencies. Also, You'll never have to set the points again, with a RITA. Just don't expect it to belt out a super spark like a GM HEI module. The RITA is a simpler device, better than points in several respects, but not the last word in automotive engineering.

RITA INSTALLATION

In installing a Lucas RITA, a stock Norton coil wiring is redone, so that both coils are connected in series, without either a ballast resistor or

condensors. The usual location for the amplifier module is on the coil mounting bracket, in which you drill a couple of mounting holes. At the camshaft end, you remove the points plate and the auto advance unit, and replace them with the pickup and reluctor. The reluctor fits the same tapered end of the camshaft formerly occupied by the auto advance. Fig. 1 shows the stock Norton wiring, with ballast resistor, points, and condensers; the Fig. 2 drawing shows you how the Lucas RITA is installed. If you think that this looks like both spark plugs fire at once, you're quite right. Apparently, this does not create problems, although with a radical cam (i.e. very high overlap), theoretically it possibly could backfire through the carbs at idle. In theory. The only admitted problems have been with twin cylinder engines with 180 degree cranks running alcohol fuels.

The Mistral literature mentions that a unit for fixed advance is available. An examination of the contraption reveals that if you use the Big Secret, you too can get fixed advance. To get fixed timing, you just exchange the two pickup leads, and readjust the timing (swapping the input wires retards the timing about 20 degrees). When run this way, the portion of the pulse triggering the module is much less affected by the RPMs of the engine, and you effectively get fixed advance. Fixed advance is rarely optimum for a street bike, but some racers like it.

Fixed advance brings to mind an A10 BSA I once had, which had a magneto with manual spark advance, and no key. If you left the sucker fully advanced when you got off, the machine was its own anti-theft system... it would throw any larcenous high schooler over the bars without a bit of trouble; and the screams of pain substituted for a siren.

FIG. 1 ORIGINAL NORTON IGNITION

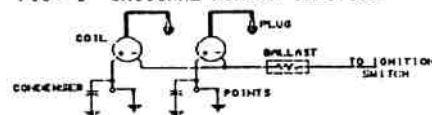
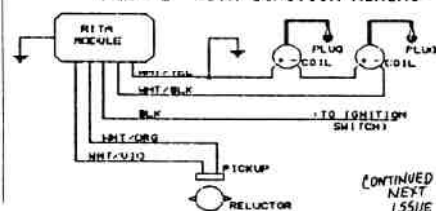


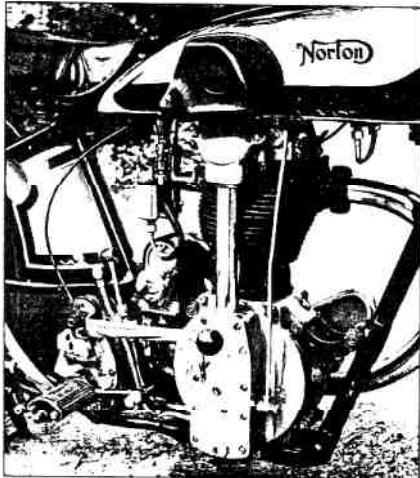
FIG. 2 RITA IGNITION WIRING



CONTINUED
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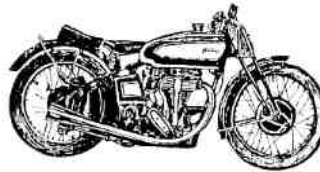
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