Gateway Norton Owners News #4

"To Promote the Use and Pride of Norton Motorcycle Ownership"

May 2000

Compiled by J. Jump

EDITORIAL

It surprises me how fast time goes by! Seems like I just got finished mailing out #3 and I'm already behind with this edition. Looking forward to a good riding season this year. By the time you read this Tom's ride, Marty's Norton Day, and probably the HoAME Rally will be history. There are still 6 months left to this riding season and I hope we can put together an agenda to fill in the rest of the year.

By now all that wanted club T-shirt has one and the reception has been positive. As of this writing I have sold 29 shirts and gave one to Rob Overal (the artist), so all shirts are gone! Thanks for bailing me out and not leaving me holding the bag! Some interest has surfaced into when the next batch will be available, and whether we can get long sleeves-Anything your heart desires! The minimum order is 12 shirts but that can be a mixed bag of short & long sleeves If anyone who missed out on the first batch is interested in getting a shirt, I can start an order and when we get 12 I'll place the order with the shirt shop. If someone other than a club member asks you about getting a shirt, send him my way.

Progress on the club banner has hit a snag and was not available for display at the HoAME rally. I'm still trying to pursue this and hopefully it will be in fabrication soon.

It appears that the Web Page has had some activity and should be considered a success. Thanks for your efforts, Ron. If you haven't visited yet, the address is http://go.to/gnoa. Drop in and leave some hate mail for us!

It seems that our membership drive has slowed down to about nothing. I would like to do some investigation into DMV records, but I haven't had the time to do so yet. If anybody is interested in picking up the ball, or if you have some ideas on how to increase membership please let me know. We do have one new member-Lyle Perry of Custom Creations. Welcome him on board the next time you see him.

RUMOR CONTROL

Mike French received a Joe Hunt Magneto as partial payment for services rendered, and has decided to build a "Race Bike" around it. When asked why, he responded "I always wanted to have a bike powered by one of these!"

Bill Bluemel has been seen motoring about on his re-born Roadster, and he reports that it runs real sweet. He asked that I extend a challenge to anyone who "thinks he's man enough" to a title-for-title run between Bush Wildlife and Defiance. Nothing like new pistons to get your Mo-Jo runnin'!

Bill Henderson has decided to join Ted Hoyer in a go at the Iron Butt Rally this year. The Dynamic Duo have decided to enter in the Two-Up class, campaigning Ted's E-start. Ted stated that the installation of a 22 tooth countershaft sprocket has extended the range of his Roadster tank to 350 miles! He also stated that Bill's extensive touring experience will be an asset in the around-the country speed run, citing that he is familiar with all the good truck stops (the ones with the best coffee and flirtin'ist waitresses) along the 10,000 mile route.

shortened version of a Tech Day is in order fairly soon, as other club members' Nortons could use a freshening.

Talking further about Mike and his far reaching work, all of a sudden he is earnestly pursuing the construction of Super Trick, silver framed Café Norton using his venerable Combat engine, a short circuit Lyta tank, clip-ons, rear sets, etc. Although lighter is faster, Mike has finally succumbed to constant badgering, and has agreed to install a street-legal lighting system. As for myself, I hope he goes with electronic ignition and not the massive self-centered magneto he got from Bill. After all, it's lighter that way!

In the foreseeable future Dan Woerner will be back at it concerning his '74 Roadster (the bike should be a jewel, hopefully painted yellow) and Tom Moors thought he might lightly go over his early Fastback and show it around. Charlie Hillyer did a phenomenal job on his '68 Fastback and it would be fun to compare them, along with Joe's '70 model. We all look forward to seeing Robin's air-cooled Norton Rotary back on the streets, and how about Bill Reukert's exquisite '69 Norton Mercury (so close to a 650 SS it's scary). And Marty's '47 ES-2 will really be something to behold.

Yes, we have a very healthy, evolving Norton chapter. It should be interesting to see its progress!

(Editor's Note: Thanks Tom for submitting a sample of your literary talents for us to critique. Tom has asked that I issue a challenge to the membership to submit samples of their work for the rest of us to laugh at.
P.S. Watch out Mike-I think he's about to ask you for your Bud Light!)

LETTER FROM COLORADO NORTON WORKS

I received this letter a while back from Doug McCadm, owner of Colorado Norton Works. Sounds like a fun club activity!

Hello Joe,
I read your article in Norton News #118 and felt compelled to write you with an idea that crossed my mind. You listed in the article some ideas, and one of them was "research into aftermarket parts and rebuilding processes" for your club. I don't know if you've heard of Colorado Norton Works or saw us at the Virginia National Rally. I will be travelling through St. Louis on Sunday, June 4th on my way to the vintage bike races at Laconia, NH. I will be trailering two of our latest rebuilds to be delivered to customers out east. It seems like a perfect opportunity, if you'd like, for me to stop in St. Louis and roll one of these machines off, perhaps at someone's garage, and have a blow by blow run down on all the 30+ improvements that go into a CNW rebuild. These bikes are built up from the bare frame & engine cases, and I thought it might be really interesting for your membership to hear why we use what we use to end up with a modernized and dependable Norton for today's standards of riding. I'd be more than happy to make an evening out of it if this sounds good to you. Please contact me at

Colorado Norton Works
27174 Road P
Dolores CO 81323
(970) 882-7670

I'll be at this address and number after April 25, so drop me a line and let me know what you think.

Naturally, I thought this might be pretty cool, so I called him up. Seems that his schedule has changed and he won't be coming through town until later his summer, perhaps the week following the National. I recommended that he let me know where he will be staying in St. Louis that night and we can meet

tightening when installing fresh plugs. Spark plug manufacturers have solved the problem by leaving an unthreaded relief at plugs' lower ends. The relief also serves as a pilot, guiding a plug straight into the plug hole. Finally, the relief accommodates differences in opinion between plug makers about how nominal reach dimensions should translate into actual metal - and there are some small differences.

Matters of thread diameter and length resolved, you can still get into trouble with a spark plug property called "heat range." All conventional plugs, whatever the application, have to stay hot enough to burn away deposits (oil, carbon, etc.) that otherwise would short-circuit the spark, and that places the lower limit for temperature at about 700 degrees F. There are multiple upper limits for plug temperature: sulfurous fuel elements begin chemical erosion of the electrodes above 1100 F.; oxidation of nickel-alloy electrodes begins at 1600-1800 F.; and at some point (which depends upon compression ratio, mixture, throttle setting, etc.), the electrodes will be hot enough to cause pre-ignition. So, to be safe, plug temperatures must be held between 700 F. and 1000 F. over the whole range of operating conditions.

If all engines, and riders, were identical, the spark plug manufacturers' jobs would be easy, as a single plug would be suitable for all applications. Instead, engines vary enormously, as do specific operating conditions, and so the plugs themselves have to be given equally varied thermal characteristics. This is done by varying the length of the path taken by heat as it travels from the very hot center electrode and insulator nose to the relatively cool areas around the body's threads and the plug washer. Plugs with a long insulator nose, which leads heat high into the plug body before it turns back toward the cooler cylinder head, are "hot." Short-nosed plugs, with a shorter heat path, are "cold." And these terms are very misleading, as in all cases the object is to match the thermal characteristics of plug and engine so the electrode temperature will stay between 700 F. and 1000 F. We must emphasize that it is the engine that puts heat into the plug, and not the reverse. A "hot" plug does not make an engine run hotter; neither does a "cold" plug make if run cooler.

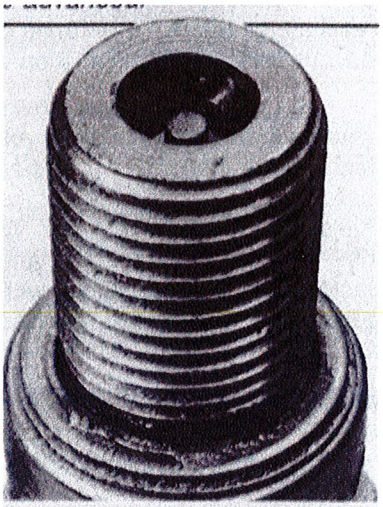
The entire question of heat range is something most people find terribly perplexing - and deal with simply by following the recommendations of their bike's manufacturer. But this does not always yield satisfactory results, because many motorcycle engines make impossible heat range demands. Free-air cooling broadens the range of engine temperatures; so does the typical bike engine's specific power output, which is a level encountered only in outright racing engines little more than a decade ago. Manufacturers tend to specify plugs with heat ranges chosen with an eye toward "worst-condition" operation, which means that bikes' original equipment spark plugs often are a bit cold for those who ride conservatively. Unfortunately, the conservative rider is mostly likely to also be conservative in other ways, and in most cases will stick with whatever plug his owners manual suggests. The speed merchants, who are the people manufacturers have in mind when they make their heat-range recommendations, usually assume their own bikes need colder plugs.

Knowing which plugs are hotter or colder than the ones you presently have in your bike is easy if you're content to stay with the same brand. Nearly all of the world's plug makers use a number-based code to designate heat range: foreign firms follow a system in which higher numbers mean colder plugs; American companies do just the opposite, assigning hotter plugs higher numbers. Unfortunately, there is no semblance of order beyond this point. One company, Champion, is in a state of nomenclature transition that makes its product line inordinately confusing. The American Rule applies at Champion, but in an odd way, spread across three series of heat ranges that encompass touring and racing spark plugs, old and new, with double-digit numbers assigned to some and single digits for others.

Bosch's three-digit numbers are a holdover from the early days, when plugs were rated for engines' "indicated mean effective pressure." But combustion chamber pressures alone soon proved inadequate, for it was found that the thermal load on a plug also depended upon spark timing, cylinder head cooling and even on the flow of mixture into the cylinder. These factors greatly complicate the business of assigning plugs thermal ratings. Each spark plug manufacturing firm has its own test procedure, and though there are efforts being made to bring the whole thing under some international standard no agreement exists today.

On the other hand, there is an enormous amount of mutual product testing being done, and this enables plug manufacturers to offer accurate cross-brand conversion charts. However, it should be understood that the equivalents are not exact. When plug maker-A's chart shows "equivalents" from maker-B and maker-C it only means those are the nearest equivalents; they aren't necessarily identical. This creates a little confusion, and an

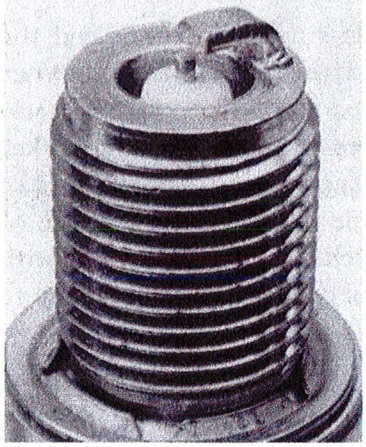
Limited plug/piston clearance in certain racing engines has prompted plug makers to create the recessed, or retracted gap, configuration. Champion inadvertently did everyone a great disservice by labeling its retracted-gap design as an "R" plug: people thought the letter meant "racing" and used the R-series in all kinds of high-performance applications, which was a terrible mistake. Even if an R-plug's heat range (all are very cold) is right, its gap placement lights the fire back in a hole and the combustion process never is quite as regular as it should be. The retracted-gap plug exists only because some engines present a clearance problem; it never was intended for use where conventional or projected-nose plugs can be fitted.



Retracted-gap plugs exist only to solve combustion chamber clearance problems though they look racey.

At one time there was a lot of excitement over another unconventional plug-nose configuration. In the "surface-fire" plug the spark gap was between the center electrode and the flanged-inward end of the metal shell, and the insulator material filled its interior out almost flush with the electrode's tip. Surface-fire plugs don't even have a heat range; they run at about the same temperature as the combustion chamber's walls and are completely immune to overheating. Neither can they cause pre-ignition. These features were stressed at the time of their introduction, and everyone thought surface-fire plugs were just wonderful. They aren't, because they make their spark too close to the chamber wall, and require an incredibly powerful, CDI ignition system.

Special-electrode plugs are costly, but help make the most of motorcycles' poor ignition systems.



Motorcycle ignition systems are the weak sisters of the world's spark generators. Bikes therefore need all the ignition help you can give them, which brings us to yet another useful group of special spark plugs: those with precious-metal electrodes. Conventional plugs have thick, blunt electrodes made of an alloy that's mostly iron, with a little nickel added to lend resistance to erosion. Special-electrode plugs have a side (ground) post made of ordinary nickel-iron alloy, but a center electrode of something much more costly - which may be a silver alloy, or gold-palladium, or platinum, etc. Bosch still favors platinum; Champion, ND and NGK offer plugs with electrodes in materials ranging from silver to tungsten. Gold-palladium seems to be the alloy that offers the best price/performance advantage; we don't entirely trust silver electrodes, which if overheated will over-expand and crack the insulator nose.

Platinum and gold-palladium alloys can survive the combustion chamber environment as very small wires, and in that rests their great advantage. Electrons leap away from the tip of a small-diameter, sharp-edged wire far more willingly than from one that's fatter and rounded. So the fine-wire plug requires less voltage to form a spark than one with conventional electrodes, and the difference becomes increasingly biased in the former's favor as hours in service accumulate and erosion blunts the iron-alloy electrodes. There are, of course, drawbacks with precious-metal plugs: they are more expensive, and they are very sensitive to excessive ignition advance. The overheating you get with too much spark lead effects plugs' center electrodes before it can be detected elsewhere in an engine, and when subjected to this kind of mistreatment fine-wire electrodes simply melt. In one sense this is a disadvantage, as it means the ruination of expensive spark plugs. Seen in another way it's a bonus feature: it is better to melt a plug electrode than an engine.

A final variation on the basic spark plug theme you should know about is something NGK calls a "booster gap," and is known at Champion as an "auxiliary gap." By any name it's an air gap built into a plug's core, and it improves resistance to fouling. Conductor deposits on a plug's insulator nose tend to bleed off the spark coil's electrical potential as it is trying to build itself up to spark-level strength. If so much energy is shunted in this way that firing does not occur we say the plug is "fouled." It is possible to clear a lightly fouled plug by holding the spark lead slightly away from the plug terminal and forcing the spark to jump across an air gap. The air gap works like a switch, keeping plug and coil disconnected until the ignition system's output voltage rises high enough and is backed by enough energy to fire the plug even though some of the zap is shunted by the fouling deposits. Mechanics discovered this trick; plug makers have incorporated it into some of the plugs they sell, and

distance I saw something just beyond the shadows. Suddenly I realized the object was a person standing in the middle of the traffic lane, and I was still accelerating after the pass! As I was executing my panic stop, I realized that figure standing in my lane was a policeman, and he was holding his right hand up to signal for me to stop. He didn't budge as I grabbed for all the brake I had and downshifted as fast as I could. I finally came to a stop about 5 feet in front of him. He seemed frozen and had that "Deer in the Headlight" look on his face-perhaps he didn't realize at what velocity I was traveling when he decided to stand out in the middle of the road to flag me down. He regained his composure and waved me over to his cruiser on the side of the road.

"Do you know how fast you were going back there?" he asked. " We clocked you with an airplane at 79 miles per hour over a two mile stretch!" The years have dulled the memory but I must have learned some tricks from our encounter with the law the day before. He seemed to be an enthusiast him self and was interested in the funny looking "Motorsicle" from Italy. After I assured him I was just passing through he let me go with a verbal warning. I got out of his cruiser and walked back to my bike, which was parked next to the driver's door, put on my helmet and kicked the bike to life. Just as I was pulling it up into first, he stopped me. He was looking at the ruler pocket on the right leg of my half bibs, which was at his eye level just outside his window. He reached into my pocket and pulled out my bag, which I had received as payment from my buddy the night before. My heart sunk! Visions of bracelets, finger printing, jail cells, bail bondsmen, court, lawyers, judges, criminal records, and a call to my parents flashed through my mind. In that short instant I went from the euphoria of thinking I got off a speeding rap into the depression of realizing that I was in Oklahoma and in a heap of trouble! I thought "If I had just put it back into my tankbag after the last stop, I'd be shifting into 5th by now!". I was preparing to dismount and submit myself to him when I saw him slowly shake his head from side to side. He pointed down the road, told me to get out of his county and never come back. He didn't have to ask me twice! I soon found my way off of the 2 lane and onto the interstate that lead out of Oklahoma and into Texas. That evening I arrived in Dallas and made it to my friend's apartment. He was expecting me and prepared for my visit by filling up a cooler with long necks and packing me a bag for the road. There have been times in my life when I was very lucky, but this day was the pinnacle!

I spent the next day visiting with my buddy and inspecting the bike. Wanting to change the oil soon after the rebuild, I quickly found Bid D Triumph in the phone book and verified that they had 5 quarts of straight 50 wt in stock. I was interested in visiting their shop, having first become acquainted with them while corner working races for the MCRA at MAR in Wentsville. I'll never forget the speed at which John Mononno would appear over the hill on MAR's 3800-foot straitaway riding their team's GP Trident. It was like seeing the Blue Angles; he was almost past you before you heard his engine! Before you new it, he was through corner 1 and out of sight, down the hill, and entering the right hand dogleg known as corner 2. There was one race I remember where he and Tirello Tacci were dukin' it out. Tacci was on a Seely-framed Water Buffalo and was Big D's only competition. The big Suzuki had the top end but couldn't stay up with the Trident in the corners. Every lap looked the same at the start/finish line; Mononno had the lead but Tacci was closing fast, never quite getting through corner 1 first. Late in the race Tacci made his move. He passed Mononno at the end of the straight by braking too late for corner 1. Realizing his mistake he threw the Suzuki down at the end of the strait and he and the bike slid past the corner into the staging area for the drag strip. He eventually stopped and walked away with some nasty road rash, bit his bike slammed into the guardrail at the end of the staging area. It hit so hard that spoke nipples had pulled through the alloy rim. We speculated he went down at around 130 MPH, a speed of which we only dreamed about achieving on our street bikes.

were pleased to see the winner show up as promised with the winning bike loaded up in the back of his van. All the excitement got to me and I soon found myself in no condition to ride back to where I was crashing at night. I spent the night in the back of Joel's Pontiac to sleep it off.

After the climax of that night I was anxious to leave Daytona and start heading home. I had been out of St. Louis for about 8 days and was running low on cash. I decided to take the direct route, mostly interstate, through Florida, Georgia, Tennessee, Kentucky, and Illinois. The trip was pretty much uneventful, which I welcomed by now. I found myself overtaking a continuous stream of bikes leaving Florida, presumably headed for destinations to the north and west. On the beltway around Atlanta, I caught up with guy on a sidecar rig, but this was no ordinary rig! He was maintaining around 80 MPH and it was all I could do to keep up with him. Eventually he pulled off into a rest area and I followed him in because I had to get a look at his rig. It turned out to be an EML rig with the one piece chassis, leading link forks, 15 inch automobile wheels with radials mounted, and a mighty powerful R 100 motor. I was quite impressed with its performance!

Driving through Tennessee I saw a sign advertising tours through the Jack Daniel's Distillery. That was a tourist stop I couldn't pass by! It turned out to be a family destination (?), so naturally I was the only one arriving on two wheels. I really enjoyed the tour, which led us through the Tennessee countryside. Seeing them prepare the charcoal, walking through the warehouse that held all the aging barrels, and walking through the fermentation house worked up a powerful thirst, and I looked forward to a complementary taste of the legendary Sour Mash. You can imagine my surprise when, at the end of the tour, we were informed that the complementary refreshment being served was lemonade, because the distillery was located in a dry county! I couldn't even ***buy*** a drink! Oh well, when life gives you lemons, you make lemonade! I have to say it tasted mighty good!

The rest of the trip led me northwest through Kentucky, due north to Mount Vernon, then westward to St. Louis on I-64. I was tired and glad to be home. As it turned out, I missed all the rain, had no breakdowns, and wore out a rear tire on my trip. I don't recall how far I traveled-2700 miles seems to stick out in my mind. Lots of good memories that I still carry around, some of which I had forgotten until I started writing this story. Now I want to do another ride, but this time perhaps with another rider. Anybody up for Mid-Ohio & the Norton National in July?

Treasury Report

Lots of activity here to report on, most due to purchase and sales of club T-Shirts. Both Steve Moose and Marty Dupree made cash donations of $20 & $50 respectively. Figuring he hadn't done enough, Marty then donated the $27 collected from members to offset his expenses for food/refreshments following Tom Mitchell's ride on April 30th. Kudos to these fine gentlemen for their generous support!

Balance (02/17/00)	$ 105.89
Money taken in	(+) $ 533.70
Money Spent	(-) $ 420.31
Total as of 5/22/00	$ 218.68

(If anyone would like a copy of the detailed Treasury report, please let me know & I'll send it right out)