

# *The Club Commando Chronicles*

*Special Feature to NNENO Newsletter ☺*

## **Chapter I: *In the beginning*.....**

Grown men will pay a lot of money and spend a lot of time trying to capture the joy of youthful play. And so it is with our loosely formed group, *The Classic Bike Cooperative* here in northern Vermont. Our little band consists of friends and acquaintances from our years at General Dynamics Armament Systems in Burlington Vermont - a high performance weapons design and manufacturing business. Think 20mm Vulcan cannons on F-16s, Hydra 70 rockets for helicopters, 120mm mortars, and various ground, sea and airborne things that blow up things, and that is our background. We are mostly engineers by training – design, project, manufacturing, materials, and managers. But most importantly, we are old bike nuts with the piles of old parts and oil stains on the floor to prove it. Our ranks include a former Triumph mechanic, a fellow who campaigned his Norton Commando in a few races and a guy who goes to India regularly and is tied up with some Brit Iron clubs there (more on that angle in another episode). We have a good place to work, long winters and understanding families.



*Bud Leonard, The Club Commando,  
and Captain Jack*

Over the past few years, the founders – Captain Jack (the Prez) and our VP and TD (Technical Director) Mr. Nick, have slowly sucked others in to our little group. The general idea was to have wrenching time together to restore bikes and then ride them. A close-knit group, there is the trust necessary to hand the keys over and say, “here, try this one”. Our vision is to have a garage full of “I always wanted to ride one of those” type bikes that we procure, rebuild and enjoy as the co-op expands. Seed funding and “ownership” of club assets rests with the Prez, but additional funding sources for parts, etc. are coming via eBay by selling anything not bolted to the floor in our respective homes. Other members in good standing are our Road Test Captain Chris and Sag, our lone Harley guy working on a 73 Sportster, which he has owned since new. Sag’s bike was allowed in the garage since it was kick-start only, has a right hand shift, and Sag owned a 71 Bonnie before the Harley.

So, current CBC inventory is as follows:

- The Captain’s Commando
  - 1974 completed in Blue Stripe color scheme, a pretty nice specimen
- The Triumph “Guest Bike”
  - 1973 TR7 for inductees to remember their youthful ways, a good runner

- 441 Victor Special
  - 1969 done in a ‘patina’ restoration, taken out for “single’s nights” at CBC
- 1965 Royal Enfield
  - Imported from India – currently a hanger queen and on a prolonged “time out” until it behaves better
- 1965 TR6-R/C “Eastern”
  - Owned from new by the VP & TD, undergoing nut and bolt resto
- 1973 XLCH Sportster
  - Sat for 16 years, but before teardown it was fired up in the driveway and left a 2-inch wide patch of exhaust rust behind. Undergoing full resto and coming along nicely.
- The “Club Commando”
  - 1974 850 previously owned by a sadist and found in a nice Brit Iron rest home in Rutland, VT

Next month.....*Chapter 2: The Club Commando arrives at CBC.* In this episode Larry, Curly and Moe head to Rutland to “check-out” an available Norton for the club. Armed with years of knowledge, elaborate diagnostic equipment and wry wit (not to mention a pile of cash), the boys meet their new best friend Bud (garage full of 20 to 30 restored bikes and others in the wing) and load their “find” in the truck for the long ride home. That funny ‘clunking’ noise we couldn’t figure out plus a comment about “well, everything is fixable” foreshadow some unpleasant surprises during the initial autopsy.

## Chapter 2: The Club Commando arrives at CBC



Midway through the summer of 2006, our little primordial group of bike enthusiasts was taking shape. It seemed we were on a loose weekly schedule of showing up at the Prez’s garage and fiddling with things on a few bikes, but mostly finding a way to eat some pizza and have a couple of beers after all the ‘work’ was done. Emails started floating around, favorite bikes owned and wished-for were discussed and debated. We didn’t have much running so shop and wrench time prevailed on the restoration of the Captain’s Commando and Sag’s Harley, with occasional work on the TR7 and cussing the Royal Enfield.

Then came the email from a Norton associate who had made the run to Lloyd Provin’s open house in Pittsford, VT in June. On a crumpled slip of paper was a phone number for a guy who had a 74 Commando he’d like to sell. Turns out this wasn’t just some guy. This was Bud Leonard, our soon-to-be new best friend. Bud, you see, has done pretty well in business and even better in assembling a serious collection of British Iron. And the guy knows what he is doing in the restoration department. Well, three of us climbed into Nick’s truck and drove the couple of hours south to meet Bud. After ogling and caressing a wide range of (mostly) Triumphs, we were shown the Commando.

Now, old bike guys buying old bikes from other old bike guys are like two old dogs sniffing each other's privates. Somebody has to be the alpha. In Bud's case, he'd surrounded himself with 20 bikes you'd kill for that spoke volumes on his place in the bike-pack pecking order. In our case, we had a decent cache of old bike hands-on savvy, knew more about the Nortons, AND we had cool stuff like borescopes from the gun factory. Pretty shortly we subconsciously knew it was a draw in the alpha contest and we all quickly just all tried to figure out what had happened to this poor bike.

Well, for starters, it was more or less all there, but pretty ugly, in a 1970's fashion statement sort of way. Instead of tie-died bellbottoms it had the equivalent - high bars, his/her love seat, 2 into 1 MAC exhaust, scabbed on oil cooler and crappy black paint job. Noting the wobbly rear spokes and dented front fender, we quickly established that this was somebody's wheelie bike. The (steel) tank, surprisingly, was not dented and decent inside and I dearly wanted one for my Captain's Commando (which had a Hi Rider tank). We dickered a bit and left with both the bike and some cash left over. We were happy. We had a great project bike and a new friend.

On the ride home we figured that worst-case a parting-out would recover the purchase price if things got ugly. Well, ugly is what we got. Note to self: if motor turns just a little and one piston doesn't move, all the wishful thinking in the world is not going to prevent you from finding a major engine failure. This motor seized a big end bearing and continued to be run until all available aluminum from the bottom end of the con rod had more or less powder coated the entire inside of the crankcase, complete with 3 puncture wounds to the drive side housing. To make matters worse, the lower skirt on the drive side cylinder jug was cracked in 2 places.

After the necessary – and prolonged - ‘awe s---’ break, we proceeded to finish the motor teardown and inventory the balance of the bike. The score at the end of the first quarter:

- Power Unit
  - 3 holes in drive side crankcase
  - Trashed drive side main crank journal
  - Cracked cylinder skirt
  - All other lower end components in good shape
  - Cylinder head ok, but in need of rebuild
  - Primary drive and clutch OK
  - Gearbox OK
  - Isolastics intact, but in need of rebuild
  - Final drive sprocket worn
- Air handling/exhaust/metal work
  - No airbox or filter
  - Amals salvageable
  - 2 into 1 MAC not usable
  - Side covers and tank good; bad paint
  - Rear fender OK; major dent in front
  - Seat pan rusted out

- Remaining bracketry more or less there
- Frame/swing arm/suspension/wheels/brakes
  - Frame straight and true
  - Rear shocks shot
  - Fork tubes shot
  - Tires/tubes need replacement
  - Front hub, rim, spokes and disc ok
  - Caliper complete, but seized and in need of pistons/seals
  - Jap (non OEM) master cylinder
  - Rear hub ok; spokes broken, rim bent, brake ok except for linings
- Electrical/controls
  - Main wiring harness is junk; headlight harness OK
  - Headlamp and taillight assemblies OK
  - No directionals
  - Horn ok
  - Standard coils and points – all ratty
  - Broken switchgear housings on both sides

Well, you get the idea. It was however, a 1974 – same as the Captain’s Commando, so we at least knew what all the parts looked like (and more importantly, how much they cost), having just been through that restoration.

And, as Nick had foreshadowed at Bud’s, “Everything is fixable”. The question, of course, is a matter of degree: technical judgment, pocketbook, Norton purity, safety, cool factor, and so on.

**Next Month** – *The Material Review Board (MRB) Renders a Verdict.* In our third installment, the boys seek (and receive) lots of outside help from Dyno Dave, UK, Frank Holmes, Old Brits, local aerospace materials engineers and many others as they plan a course of action on the motor. Nick, meanwhile, scores a big eBay trophy that sets the bike in a firm end-item direction.

## Chapter Three: The Material Review Board

For those not acquainted with designing and manufacturing parts for a living – especially *aerospace* parts - it should come as no surprise that sometimes parts aren’t made to print or may be returned from the field under a warranty claim that don’t work or are damaged. Well, somebody has to decide whether the parts are usable, repairable or scrap. That power lies with the Material Review Board – normally a cross-



functional team of engineering, quality, manufacturing and other 'experts' who usually can only agree on where to get coffee in the morning.

In the CBC MRB, we had no shortage of experts and opinions on what we should do with the Club Commando motor carnage. We talked about everything from rebuilding the motor as a 750, to sleeving, to weld repair and so on. When all was said and done, we settled on the following course of action and technical decisions on the main motor parts. This was the result of a 'top down' specification that required only that the bike provide the following:

1. Good 850 performance
2. Start easily and run well
3. Be as reliable as possible

This was to be a Sunday Special, or as Chris #1 likes to say, a "Gentlemen's Express". None of us are racers (well Chris still looks the part) and are not getting any younger.

- For the purists among us, the motor and frame numbers needed to match. EBay cases were therefore not an option and the existing cases would need to be salvaged. Dyno Dave, who was consulted on many occasions, said "yup, you can do that" and our local metallurgist (Mark) did the research on the materials and proper weld schedule (yup, it's that Brit crap, it'll outgas and cause all sorts of problems, but we can do it). Cases were then weld repaired, blended, epoxied and painted. They looked great when done. Cost – beer for Mark and his pal Jerry the welder with plenty of attaboys.
- The jugs – with the skirt cracks – generated the most email spam in the club. Weld, don't weld, simply remove the damaged material, sleeve and so on. At the end of the day, a \$250 bid on eBay got us a used standard bore cylinder. That went to *Frank's Brit Bike Barn* for boring, + 0.020 pistons, pins and rings. The head was fine, so that went to FBBB as well for new valves and guides. Cost – I forget, but the stuff that came back from Frank's was worth every penny and we can sleep at night. We got the nice jugs now, mate, and Frank is like our totally new best friend.
- Then, the old sumthin' for nuthin' routine, or as our friend Bernie would quip, "how very Yankee of you". Chris #1 scored a 750 bottom end with – yes! – perfect crank cheeks and decent conrods. Mr. Comeau offered that those cheeks could be mounted to the 850 flywheel and the bottom end reassembled with the 850 superbend bearings without the need for balancing. We scored some NOS big end shell bearings on eBay, polished the conrods to a 4 star rating (quite lovely looking when done, actually), installed new bolts – and voila – a ready to go bottom end. Oh, and we sold the residual cases and camshaft on eBay for MORE than we paid for the entire bottom end in the first place! Existing camshaft, followers, oil pump, timing chain, etc. all cleaned up fine.
- With our extra \$\$\$ from the sale of the residual 750 bits, we treated ourselves to an eBay engine stand and got humpty together in due time. Of course we watched

the Mick Hemmings DVD 50 or 60 times and made sure we took cuppa breaks at the right time too.

Surprisingly, the primary drive, clutch and gearbox were all in very good shape. We did the disassembly-cleaning-new seals drill, but really found no major worn or broken parts. Of course we had the opportunity to reassemble the gearbox about 4 times as we 'learned' the proper timing of the camplate (with a laptop on the workbench running the Hemmings DVD). A new 20T sprocket and rear chain were the only major new part purchases. Shortly after the New Year, we declared the Power Unit ready for service and set it aside.

Paint vs Powder Coat? Well, we gave the frame finish trade-study to Sag, who was ready to get the Harley frame done about the same time. We ended up going powder coat, but the main idea was to find a good local source for both. Sag is an engineer's engineer and does his homework on these things. He got the frames done in good shape at a local guy we'll use again. Nick has the PC facility for smaller parts and a wide variety of colors available, so smaller parts end up being done at his place. Cost - \$250 for each frame I recall.

And then, one cold winter evening, Nick showed up with a prize. A few weeks earlier he woke up one morning, did the usual eBay "Norton" search and clicked "BUY IT NOW" before the coffee had stimulated his higher reasoning center - a pure id response from the subconscious mind. You see, Nick has harbored a deep and devoted lust for many years and had the chance to act on it.

He has heard the siren call of a café bike since his youth as a Triumph mechanic.

In the back of his truck was a Gus Kuhn café tank and seat set up for a Commando. Never painted, never seen gas.

**Next Month:** *The Road Before Us* With the Club Commando now on a course to be a café bike, decisions (and expenditures) are coming fast and furious. The bike takes shape and gets a new name. Our heroes are on a roll now and can see that first kick on the horizon just past the spring equinox.

## Chapter Four: The Road Before Us



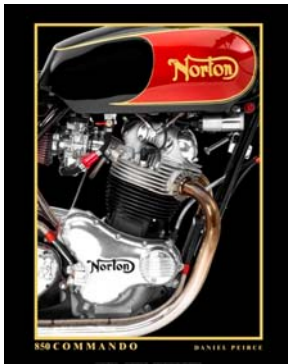
Something primal stirs when a rebuilt motorcycle engine is remated with its frame. Given the tortured past the poor 850 motor had seen, you could almost feel it grinning quietly as motor, gearbox, primary drive, isolastics, swingarm, and frame got reacquainted. Mounted on a high workbench with casters that allowed the assembly to be rotated around, the reborn Club Commando shone like a jewel in the

shop.

With snow and sub zero temps outside, but spring just a few short months away, the boys now had a pretty good pace going. There was still no lawn to mow, no house to paint and no little league games to go to. At 5PM it was still dark outside and the weekly wrench sessions were starting to produce some serious results.

While the bike was still on a firm café path, the Gus Kuhn bodywork was giving the tech director some serious fits. Nick is a manufacturing engineer who specializes in aero structures, sheet metal, composites and the like. The GK fiberglass was a bit flimsy in places and was requiring more and more noodling as to the best way to reinforce and mount it. Further, seat padding and paint were going to be additional costs, so we focused on getting the rolling chassis, electrical, oil lines, carburetors, etc. installed and properly dressed before making final decisions about the GK bodywork.

And then, simple dumb luck struck again. Long story short, we watched a pile of eBay listed Commando parts go unsold. It was from an early 750; fiberglass Roadster Tank, headers and exhaust nuts, air box, foot controls, and on and on. Apparently everyone wanted to get this guy to break it up. New to eBay, he didn't do so. A couple of phone calls - and the added benefit that this guy's wife worked for Fed Ex - and the CBC found a 3x3x3 ft box FULL of Commando stuff at the garage door within a few days for.....\$300, including shipping. The box weighed a ton. Our Patron Saint of Commandos had blessed us big time.



Well, pretty soon we had a used Corbin Gunfighter seat from Frank's Brit Bike Barn, rearsets from Clubman Racing, pattern Dunstall mufflers and clubman bars from eBay. At that point we decided that the Gus Kuhn look would have to wait for another project in the future. The Roadster tank and side panels went to Bob Myers at Cycle Colors with instructions to "paint it like the picture please". The "picture" was from the Daniel Pierce motorcycle engine series - pure Commando porn (<http://www.trickphotog.com/OrderPage.htm>). Feeling like a kid looking at the back of a cereal box for the toy inside, it was torture waiting for the paintwork to come back, but we had plenty to do in the meantime.

While waiting for paint, all the various bits were assembled relatively quickly with the usual decisions about location, adjustment, mods etc. We went with a Norvil front fender, bobbed the rear slightly and mounted a smaller taillight. Front brake caliper was stock, but with a 13mm Yamaha master cylinder and lever. Nick skimmed, drilled and powder coated the front disc. A K&N twin air cleaner replaced the big airbox and we mounted the ignition switch laterally on the battery box shelf. The 750 headers, with no balance pipe, looked just right with the pattern Dunstalls. Brake and rocker lines were treated to stainless. A new main wiring harness, many new connectors, Boyer Brandsen and generous application of dielectric grease was our best defense against intermittent electrical problems down the road. A used rear rim off of eBay was laced with SS spokes

(such a deal from FBBB), K70's were mounted and balanced front and rear, which rounded out the major components.

The bike was ready to go before the Daniel Pierce paintwork was back, so we mounted an old Hi Rider tank and crossed our fingers. After priming the oil pump/tank and wringing our hands forever, we finally tickled the Amals, applied some choke and gave it the first kick it had likely received in 25 years. On June 15<sup>th</sup>, a few days shy of the one year anniversary when we bought the Club Commando from Bud, it breathed to life on the third kick.

What followed has been what we aerospace engineers like to call a "reliability growth" program. This is shorthand for an increase in "mean time between failure" as various bits and pieces revealed themselves to be frail (or more often, some form of misassembly by guys with a few too many thumbs at times). But, in time, old "Gus", as the bike was now called, went for longer and longer outings. Each return met with a pit-crew frenzy as all of us in the shop debriefed the pilot and looked for leaks, loose parts, and other signs of impending disaster. All in all, we mostly needed to keep dialing in carburetion, timing, alignment, controls set up and so forth. You know, the normal joys of classic bike ownership – the damn things are never done. The result was that, by the time the paintwork arrived, Gus was a nice running bike with a 100 miles on it.

The out-of-box experience of Bob's paintwork was beyond words. The man is The Man. Period. The tank and panels were even better than the cereal box. With the crown jewel in place no one wanted to sit on the bike, never mind ride it, for fear of scratching the paint. But ride we did, and as of press time, ol' Gus got to do 140 miles in the central Green Mountains of Vermont on a sunny Saturday afternoon recently. No runs, no (oil) drips, no errors. All smiles.

And so, with the help of many, the Club Commando has been reborn and reincarnated into a pretty slick ride and a legitimate head turner. All that is left is to take a ride to Rutland to be reunited with Bud Leonard for his stamp of approval.

Gus will look forward to a cozy, climate controlled, off-season in the President's front TV room as an object d'art amongst posters from the Guggenheim Las Vegas *Art of the Motorcycle* exhibit – and likely a place for the cats to curl up and sleep.

*Next.....a Commando for India.* A new Norton adventure is on the horizon for the CBC. Pappy Singh, a construction equipment retailer in Hyderabad India, has become good friends with the club prez. Among other things, Pappy has named his business Norton Construction Machinery, owns several 1950's vintage Nortons (including a Manx) and has named his youngest son Norton.

But, best anybody in the vintage bike circles of India can tell, there are no Commandos in India. He lusts mightily for a Commando, but alas, import duty into India is 300% on such things (ie a \$5,000 Commando becomes \$20,000).

So the plan, of course, is to send one to him in parts and reassemble in Hyderabad. For a guy who named his son Norton, the CBC considers it a noble cause.....