Next came a Kawasaki KZ1000 LTD which I punched out to 1180cc. I couldn't get the CBX out of my mind, however, and eventually bought one from a guy in San Diego. It was a silver 1979 that was bone stock and gorgeous. It was so perfect that I couldn,t stand the pressure of keeping it pristine so I sold it and bought three more that I could fool with.

SEVEN CBXs LATER....AND MY CBX LIFE PRIOR TO STARTING REDLINE MOTORSPORTS

Well, seven CBXs later, I contracted Nigel Patrick Racing to beef up the motor and improve the handling via a GSX1100 swingarm and a GSX-R750 front end for 17 inch wheels and modern rubber. About this time I met Mike Donndelinger at the annual Morro Bay CBX rally and in a drunken stupor in the motel parking lot I agreed to embark on a CBX racing program. Team Tyrannosaurus X was born with the help of many ICOA members. He donated the rolling chassis and I donated the motor after I wadded my bike and started planning the redesign. Most of you are aware of the great success Mike achieved in the AFM Super Dinosaur class.

After two seasons of racing he returned my motor and work was begun on my bike. Mike had the chassis straightened and added reinforcement tubes and gussets for frame strength and rigidity. He designed some inserts to lower the swing arm pivot point raising the motor for the necessary clearance which was the cause of the last crash. A 1995 GSX-R1100 front end was installed because it's about an inch and half longer then the 750.

Call or email us on your CBX needs.

Gary Allen ICOA #2460

TECH TIP REPRINTS

Now available from the ICOA is the complete reproduction of the Tech Tips taken from the CBXpress. Entitled the "Tech Tip Chronicles," this compilation of Tech Tips have been cleaned-up for easy reading and include eight tabbed and index sections with all illustrations, and come three hole punched. You can pay for these reprints with a check, MasterCard or VISA. Checks should be made payable to the ICOA and sent to Eric Schreiner at the following address.

> Eric Schreiner c/o ICOA Goodies P.O. Box 532 Keno, OR 97627-0532 541-273-8477 goodies@cbxclub.com



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Team Leader: Dave Ditner (acting)

To head up this Team or submit an article please email Dave Ditner at CBXDAVEY@cs.com or Florida phone 352-330-0162 through the beginning of May, after this Michigan 246-628-4288. Current article format/content, but be creative. 250-500 word count in MS Word or email format. Jpeg pictures please. Submit text files and picture files separately (do not embed pictures in article). Regular mail/photos acceptable. **Next Xpress submissions due by 12/15/2003**.



Avoiding Thousands of Dollars in Damage When Changing Your CBX Rear Tire

What's the dirtiest job on an X? Probably changing the rear tire.

When changing your rear tire what are the chances your CBX will roll forward off the center stand and cause thousands of dollars in damage?

Want to avoid all this expense?

If you do it yourself, or at least remove the rear wheel to take it and get it done, do yourself a big favor. After you have the bike on the center stand, take a soft tie and two tie down straps and connect them running from one of the loops at the base of the centerstand through the back side of the front wheel and around to the other centerstand loop. Pull it tight!!!! (see photo)

Now when you're wrestling the wheel off or on you won't have to worry about the bike going forward off the centerstand and falling, knocking over your CBX or your beer.



LETTERS TO THE EDITOR

Tell the membership what you think about the ICOA, the Xpress and/or WWW Page

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See page 36 for details

CBXTechnical: Advanced

Team Leader: John Seltzer

Team Member: Mike Nixon

To submit an article please contact John Seltzer via email jhseltzer@attbi.com or phone 360-647-7702 Pacific time 6:00 pm to 8:00 pm weekdays. Anytime Saturday and Sunday. Current article format/content, but be creative. 250-500 word count in MS Word or email format. Jpeg pictures please. Submit text files and picture files separately (do not embed pictures in article). Regular mail/photos acceptable. **Next Xpress submissions due by 12/15/2003.**



Building Your Own Cylinder Leakdown Tester

Updated article from Jan-Feb-Mar 1995 issue

"That'll be \$1,500, and Oh, Uhh, it Still Smokes..."

As part of your routine maintenance chores, you probably already include an occasional cylinder compression check. It's a good way to periodically monitor the general condition of your engine. However it is just that – general. A compression check can miss some serious engine problems. Many an engine that has passed a compression test will subsequently "peg" an exhaust gas analyzer's meter, indicating significant running problems. Consequently, seasoned techs know better than to trust a compression test by itself. Here's a better way.

A Better Way

Everyone remembers how to do a compression test: Screw in the tester, flip the kill switch to "off", hold the throttle wide open, and press the starter button. The cylinder takes in air and compresses it, and the tester traps it. The maximum is reached when the gauge holds as much pressure as the engine can produce. Not too difficult. The weakness of this test however is that throttle position, engine temperature, ambient air temperature, and a host of other factors can make the results vary considerably. What's worse, a compression test checks too many engine components at the same time. A poor reading can indicate so many things, it's hard to tell which engine part is at fault without doing a lot of other tests. A leakdown test avoids this difficulty. Air is pumped into the cylinder from an outside source, and the gauge reads the percentage that escapes. This not only eliminates all of the aforementioned variables, but as a bonus, it is a simple matter to pinpoint the source of the leakage by wiggling and rotating engine parts while the test is underway.

But how does it work? Okay. Let's say your brother-in-law rebuilt your engine. You've suspected that the guy is mechanically-challenged, and sure enough, the finished product smokes like a chimney. But he's your kin, so... Finally, you have a shop look at it. Good results from a compression test combined with the smoking leads them to a diagnosis of trashed valve guides. Seems reasonable and you approve the work. But, afterward the engine still smokes. Now you really have a problem, not to mention the shop, and your brother-in-law. Enter Mr. Goodwrench, who produces a leakdown tester, and performs the following test. On each cylinder in turn, he finds TDCC, sets up the tester, and reads the percentage of leakage. They're all good and low. Hmm. Undaunted, our hero retests each cylinder, but this time he lowers the pressure setting on the instrument, and, rotating the crankshaft a smidge each time to slide the piston down the bore a little, picks up the problem, plain as day. On the #6 cylinder, the gauge now reads 60% leakdown when the piston is partway down the bore, indicating cylinder damage,

which the t e a r d o w n v e r i f i e s . Seems your brother-in-law didn't get one of those pesky w r i s t p i n circlips all the

way into its groove. It subsequently popped out, and the wristpin tore a handsome trench into the cylinder wall. Why didn't the shop find it when the head was pulled for the valve job?

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About this article, "The inspiration for this article came out of an incident at the motorcycle shop where I wrenched at the time. The machine was actually a ZX11, one that had just had a big bore kit put in it by another tech. The machine was repeatedly fouling just one spark plug. I got the idea of lowering the tool's pressure and rotating the crankshaft from some things about leakdown testing that the late Smokey Yunick had said many years ago. It worked. After replacing the trenched cylinder sleeve, I pulled the oil pan and retrieved the piston circlip. Made me a hero."

"By the way, many people have asked me, 'What is the restrictor for?' The leakdown tester's restrictor dampens the gauge, so that when connecting and disconnecting the tool from the compressor, the needle doesn't slam forcefully full scale."

I put over 60,000 miles on his own 81 model CBX before financial and health issues forced its sale, but remembers it and his past involvement with the ICOA fondly. "While on vacation in Wyoming, a friend and I stopped in a tiny cafÈ to get out of the wind. A fella sitting at the counter came over and bought us all lunch, saying he was a member of the ICOA. His hospitality made a lasting impression on me."

I am looking forward to renewing friendships and making new friends in the Association.

Mike Nixon



Mike & Kimberly Nixon

I am pleased to advise the membership that Mike Nixon is back with ICOA. This is one of the most exciting ICOA news items I ever been associated with in 23 years with the club.

These articles helped all us maintain our bikes in the early CBX days, ride them to far off rallies with certainty we would get there and back, plus they served as the "Bible" we all used to solve CBX Technical issues when they happened.

Mike is a Registered Honda Technician with over 30 years' experience in the motorcycle service industry and was one of the first ICOA Technical Editors for ICOA. Over 15 years he contributed 30 plus Advanced Technical Articles most of which are featured in our Tech Tips which can be purchased via the Goodies area.

He also has worked in the Motorcycle Division at American Honda, and has a long history with Motorcycle Mechanics Institute, where he was for several years an instructor, and was for years the Institute's Curriculum Designer

Mike has joined John Seltzer's Advanced Technical Team and over time will provide us with some new articles and insights into the wonderful technical world of the CBX.

Mike will be also re-introducing some of these original wonderful articles over the next couple of years after he gets a chance to review and update them; which is the case with the Leakdown article in this Xpress.

Mike Brown Barone

Because two of the six pistons were at TDC. Why didn't the compression test pick it up? Because despite the trench, there was still plenty of cylinder area (the pin is nearly an inch below the deck) in which to build adequate pressure during a compression test. This actually happened, and it illustrates both the weakness of a compression test and the comparative strength of a leakdown test.

Whoosh!

Leakdown testers are *way* cool. Not only does the amount of air escaping from the cylinder register on the gauge, it can also be *heard*, enabling the source of the leak to be pinpointed prior to the teardown. For example, high readings accompanied by hissing in the carburetor indicate burnt, tight, or carboned-up intake valves. The same thing in a muffler points toward—you guessed it — exhaust valves. A breeze coming out of the dipstick hole indicates worn or heat-softened rings. And, air escaping from an adjacent spark plug hole pinpoints a blown head gasket.

Not for Everyone

There's a catch, of course. You need an *air compressor* to use a cylinder leakdown tester. And, you need to now how to accurately find TDCC (top dead center on the compression stroke) for each cylinder that is tested. Can you do it? Sure. If you can adjust your valves, you can use a leakdown tester.

Rolling Your Own

Inexpensive, ready-made leakdown testers are easy to find today — you don't have to mortgage your house to a *Snap-On* dealer. So, if you are concerned about the condition of your engine but aren't into making things, or don't have the time, you can buy a leakdown tester for about \$75 at many auto parts stores and the like. If on the other hand you have an air compressor, that sort of implies that you're a certified tinker. You're probably also into making things, and for you, throwing this thing together is no big deal. For you then, here's the rundown:

Pressure regulator

This is designed to be screwed onto an automotive paint spray gun. Grainger's is probably the cheapest, followed by Sears and Ace Hardware. The gauge that is often attached is, unfortunately, the wrong kind for our purposes. Also, make sure the regulator comes with the blockoff plugs for the two passages you won't be using.

Pressure gauge

Get a quality, back-mount, 0-100 psi gauge. As of this writing Grainger has the best deal. For the professional touch, carefully pry off the bezel and cover the faceplate with a copy of the label shown here. If you don't re-label the gauge, no big deal. Just read it backwards; i.e. "10" means 90% leakdown.

continued on page 37

