TREVOR DOHLE HONDA CX500 TURBO RESTORATION

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Just starting to send some photos of Dean Mahoney's 1982 Honda CX 500 Turbo restoration. When I first started this journey, this bike didn't even run, had to do a lot of research on the bike to work out what was causing the problem, (several other so called experts had tried & charged Dean money, & fixed nothing). This bike is an extremely complicated motorcycle, an example of Honda trying to show the rest of the motorcycling world how clever they were at the time. All the big Japanese companies at the time had a Turbo variant, but none were as hi-tech as Honda's version, or as complicated. I am also not saying it's better than the rest just way more complicated, and harder to work on. The people who own these bikes are fanatics, and won't hear a bad word about them,(HEY DEAN). One of the biggest problems I have found with the bike is Honda put all this Turbo technology into a standard naturally aspirated CX Honda frame. This bike is like a Commodore 64 meets analogue, and it's a very tight fit . That's a brief outline.

To solve the original problem of why it wouldn't run at idle, I found an old Honda, 4 part service school video on u tube put together for Honda Technician's, by Honda. I was always suspect of the MAP Sensor (Manifold Absolute Pressure, Sensor). The other problem I haven't talked about is that parts for these bikes are non - existent, world wide, and have been for quite some time. After trying lots of things to fix the problem and failing ,I watched the u tube video, and I discovered that the MAP Sensor & the Atmospheric Pressure Sensor are the same, the just have a different job according to the primitive thing this bike calls an ECU. So I swapped them around as in the grand scheme of things, the job of the MAP Sensor is far more important. Suddenly the bike fired into life and ran much better. Now I had to find a non-existent Sensor, I went onto and joined the CX 500 Forum, these guy's are very switched on (maybe fanatical would be a better description). It turns out these guy's have been struggling with the non-existent parts problems for many years, these Sensors have been a problem since just after new, along with a few other Sensors, which at the moment I don't have to worry about. These people on the forum have been experimenting with different MAP Sensors for years, so that they can keep their beloved CX Turbo's going. They found a 2005 Suzuki GSXR 750 MAP Sensor to follow within 2 percent of the CX Turbo's MAP Sensor on an oscilloscope, slightly richer. Now I had the fix I just had to wire it in, and make it look like it should be there I could have hard wired it in, but then if it failed it would have to be cut out, so I tracked down some original plugs from China, (hooray for ebay). I put the bike back together enough to make it legal and rode it around for a week, it seemed to work ok, with little power under 6000 rpm, then the Turbo would spool up an it would go good, so still not convinced I had fixed it I got Dean to take it for a run, (my bike has 170 rear wheel horse power) it's hard to compare when you think how far motorbikes have progressed. Dean came back from his ride with a smile like split watermelon and said it was running perfect. I have to remind myself, this bike is only 499cc, with 7.2 to 1 compression with a Turbo that boosts to 19.2 psi and spins at 180,000 rpm, so it has about the power of a CB 250, and at 6000 rpm it goes to the power of a CB 900 BOL'DOR, so in 1982 it would have been a very exclusive and hi-tech machine.

Now that it runs Dean has decided to refurbish it, I am doing all the mechanical and tidy up. Stripping it to the frame, (engine and suspension out, powder coating , polishing and painting of parts, rebuild suspension and brake). When you see the condition of the frame, it's understandable why it had to be stripped even though you don't see very much of it.

Powder coating the pile of metal this bike has carry around has mostly been done, just waiting for a few special engine parts to be Power coated (found new guy seems very good). Then I can get the motor back in and take more photo's. The project continues soon

Heat shield before.

Turbo heat shields, done.

Pipes with paint all falling off and rust holes more parts that can't be purchased, I have sent them to be reconditioned in Brisbane, they have come back looking extremely good, I haven't taken photo's yet. I will take some and send.

The pile of metal this poor little thing has to carry around.

Gloss to the right of the picture and the frame in the middle, semi- gloss, to the left of the blue snuggle rug.

Really Packed in There

The old (huge stuffed) CX Turbo MAP Sensor.

This is the new plug sourced from a Chinese company, to join to the new Sensor which makes it weather proof, more professional and cost about 12 cents + post, ever tried to get, 1 genuine plug for a late model loom?

New plug and new MAP Sensor.

Exhausts back from repair

Just got some parts back from Ryan, the Powder Coater today.
This is the swing arm, clutch cover, oil filter cover and both rocker covers, polished, the black parts were then powder coated black and then the whole component clear powder coated. Still waiting for the diff housing which attaches to the back of the swing arm to be polished and clear
powder coated.

The swing arm is only polished where Honda
had made it shiny the rest is hidden by the frame and is heavy rough cast, (
a lot of work and money to sand out and polish, although it is a lot shinier than when it left mister Honda's factory). The clutch cover where

the Honda is in the center was first powder coated black then the whole lot clear powder coated.

Time for more photo's, almost ready to install the motor
into the frame, just cleaning the motor first. Installed new tapered bearings into the swing arm, assembled all the Pro Link suspension and added
some grease nipples to grease all the bushes, which Honda should have done as standard because every bush was seized in it's bore, all good now. Had to
make up plates to suspend engine from crane to make it easier to get to the bottom of the engine,(the sump had a lot of embedded road grime).

A bit cleaner a dose of truck wash and a high pressure hose off, now I will hand clean and polish the parts that can be seen, no point wasting time
cleaning something that can't be seen, all the dirt and road grime has been
removed that's good enough

A shot from a different angle, the polished swing arm looks good against the black frame.

A shot from the rear showing the Pro Link air shock and looking down the hole in the swing arm where the drive shaft will go.

The blue snuggle rug features again and my dog managed to photo bomb, he's a
good boy.

Turbo Manifold, Ceramic Coated by Motorcycle Exhaust Professionals in Brisbane, (same people who did the repairs to the exhaust system)
Your message is ready to be sent with the following file or link attachments:

Engine cleaned up ready for install to the frame

Motor and frame come together with the help of CMRC, Secretary Rob Storer, one night after work.

Still have to trim sealant around diff to swing arm.

Brakes being rebuilt all new parts, pistons, piston seals, callipers and master cylinder powder coated. Bolts, slide pins, anti-rattle plates, bleed
nipples, banjo bolts all zinc plated to original factory finishes. R/H calliper assembled, L/H calliper and master cylinder ready to assemble. The
master cylinders for these early Honda's (approx. 1979 to 1985, the ones with the rectangular plastic reservoir and the rears are no longer available), so my only option was to get the originals resleeved with stainless sleeves. Neil Robson of BCR Brakes, Moorhead St. seems to have done a wonderful job, done in the time frame he said it would be done, it's
not a cheap exercise a bit over $200, but if you can't repair no other options if you want to stay original. I have a list of all the different bore sizes that he can sleeve, the Honda bores are, 5/8" Front and 14mm Rear.

All the brake parts back from the powder coater.

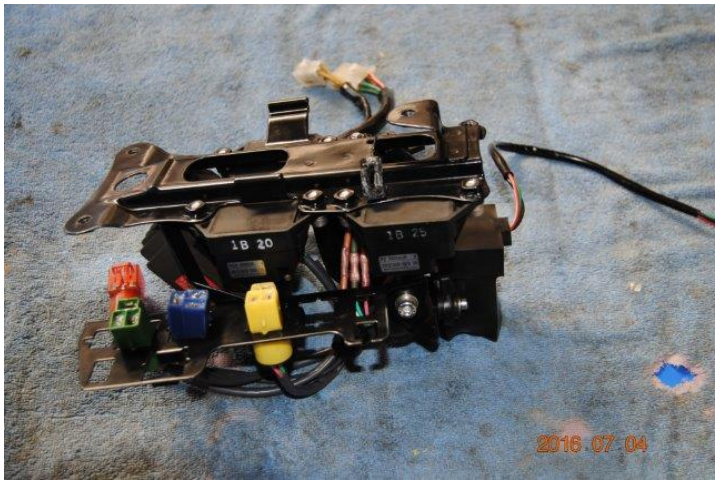
Does this look new?? Not bad for a 34 year old part.

Rear Calliper rebuilt and fitted to bike.

Front forks rebuilt, new slider bushes, fork seals, fork oil, Forks sent to RAD Hard Chroming to be re chromed and checked for straightness, old springs still within spec. The usual Zinc plating and a little bit of chrome
on the dampening adjuster cover

This is the Silver Zinc and Black Zinc I got back yesterday

This is a sub assembly, holds all the primitive sensors,(apart from the new
Suzuki MAP sensor), voltage regulator and Tip Over Sensor and a couple of relays. This slots in between the frame rails under the seat.



To be continued -