

THE HONDA TL 250

TRIALS OR TRAILS

THE HISTORY

In the early 1970s, America's interest in observed motorcycle trials was exploding. The Japanese motorcycle makers were quick to recognize and seize on an opportunity.



Suzuki produced the RL250; Kawasaki built the KT250; Yamaha offered the TY80, 175, 250 and later the 350. All had 2-stroke engines. English and European makers were already well established.

Honda made its entry in 1973 with the 125cc TL 125. It was small, light and agile, and the only Japanese offering with a 4-stroke engine. The 4-stroke engine was heavier and had less horsepower than the other manufacturers' 2-stroke engines, but compensated with a wider power band and more low-end torque, theoretically perfect for competition trials. Unfortunately, the TL 125 proved woefully under powered, especially at altitude.

Honda's marketing department became convinced that a four stroke 250cc version was the answer. They hired the legendary English trials master Sammy Miller as part of a research and development team, built a few prototypes and after testing and competitive events, believed they had a winner. With great fanfare and high expectations, Honda introduced the TL 250 trials in 1975 continuing production through 1976. Approximately 5000 were produced during that period.

TRAIL NOT TRIAL

The TL 250 was never accepted by the competitive trials community. Although it featured unbelievable power and low end torque, at over 250 lbs., it felt too heavy and lacked the agility most serious trials riders wanted. Concurrently, by the mid to late seventies the American interest in trials was waning and by 1980 had been reduced to a few select hard core combatants. However, all was not lost.

I live high in the Rocky Mountains and purchased the first 1975 TL 250 to arrive at my local Honda shop. The TL 250 hit the mark as the best **trail** bike ever built. As mentioned before with the TL125, all engines loose approximately 4% efficiency per 1,000 feet of altitude gain. Where I ride the altitude ranges from 7,000 to 10,000 feet. With close to a 30% performance loss, the TL 250 still had loads of power.

The TL 250 features included a five-speed gearbox with the first three gears close and very low (third is equal to first gear on most motocross bikes), high ground clearance, a steep fork rake with minimum trail for fast low-speed



steering and foot pegs positioned to the rear. Carburetor air is drawn through the top of a sealed air box located high up under the seat. The TL 250 proved the perfect match for steep, high, rocky trails with intimidating switchbacks and raging streams that demand a machine capable of nimbly picking a line over difficult terrain.

THE HUNT

To me the hunt for collectable bikes is half the fun. I'm always asking new people I meet if they know of any bikes. Watching on line at Craig's list and eBay will give a good sense of bikes, parts and prices. Recent auction results such as Mid America Auctions (www.midamericauctions.com) will reveal what bikes are really selling for and in what condition. I'm always looking in driveways, alleys and backyards for the next project or parts bike.

A restoration project is usually the most economical if you start with as complete, unmolested and original a bike as you can find. It will have all the small parts, correct fasteners, nuts and bolts etc. It gets expensive quickly trying to chase down the correct parts. Your finished project will be the most valuable the more it resembles a stock factory original.



If the gods are smiling, you may find a pristine example. Before beginning a restoration on it consider this: clean original condition bikes are worth the most. A bike is only original once but may be restored multiple times.

INSPECTING A FIND

Give the bike a quick overall quick inspection. Are nuts and bolts rounded? Is it obvious that parts been removed or disassembled? I look at, feel and smell the oil; it will tell you a lot if it's low, dirty or if there's gas or water in it. Is the frame dented or bent? Are the wheels and spokes true? Are there any dings or rust pitting in the fork stanchions where the fork seals slide?

Observe if the motor is cold; if the bike is warm already, ask why. Next I ask the owner to start the bike. Does it start easy? Does it smoke or make noise? White smoke is gas, blue smoke is oil. Stick your finger in the exhaust. Is there excessive carbon or oil? Engine repairs can be expensive and difficult. Many TL 250s can still be found with solid engines and transmissions. The TL 250 engine was a very durable motor.

RESTORATION OVERVIEW

Restoring a TL 250 is a paradox. While a relatively simple bare bones, all-business bike, there are some notable nuances and challenges. The motor is lifted from an XL 250 with a few cosmetic and internal modifications. Many motor parts are still available from Honda. Wiring is minimal with a basic stator for electrical power. The basic bike had no lighting and few cosmetic embellishments. The light kit shown here was a factory TL 250 option.

That's the good news. Unlike road bikes which have a relatively pampered, easy existence, dirt bikes are intended to be ridden hard, on the edge and if you don't crash you're not having a good time. Trials bikes certainly qualify. Most of the surviving TL 250 examples are well rounded with many broken, bent, aftermarket and missing parts. Additionally, accepted trials competition practice is to run a low tire pressure for greater traction. Honda recommended a tire pressure of 5.7 lbs. for the front and 4.3 lbs. for the rear, frequently resulting in bent rims.

Further complicating matters, after about 1970, the motorcycle industry started using a lot of plastic for parts like fenders, side covers and headlight buckets. What seemed like a good idea at the time is a nightmare for the restorer today. Not only does plastic deteriorate over time from age and sunlight, but parts were easily broken and discarded. The limited inventory of TL 250 replacement parts were consumed decades ago. Additionally, the TL 250 was built with many parts exclusive to that bike. The exhaust system, rear dished sprocket, chain guard, chain tensioner, side covers and gas tank are some examples. Fortunately, the wheels and brakes on the TL 250 were also used on the TL125 which had a much larger production run making spares more available. Any Honda part number that has "376" in it was designed exclusively for the TL 250.

STARTING THE PROJECT

I begin a restoration project by first identifying and acquiring all the missing and broken pieces and parts. Ebay is a good source for parts although you must be prepared for misrepresentations and disappointments. Often I have to buy several of the same part to get one in the condition I want. The next step is to get the bike running well and install all the missing parts to inspect, check and adjust for fit. Assume it will need a major tune up including a carburetor cleaning and rebuild. The oil filter screen also needs inspection and cleaning. Look carefully at the debris in the oil filter screen. Nonmagnetic worn metal from bronze gears and case metal will get caught in the screen. Run a magnet over the debris. It will give you a clue about if and where there is internal engine wear. The bottom line is you want to find and correct any problems before you begin complete disassembly and commit to an expensive restoration.

Before completely disassembling the bike, photograph it from every angle, especially shots of details. Make detailed notes of wiring routing and other factory assembly details that may be hard to remember. Continue photographs during disassembly to note how the factory put the bike together. As you disassemble parts, bolts and screws put them in their own containers and label them. Honda parts and shop manuals are a must. Honda's parts manual has many helpful exploded diagrams and gives part numbers including bolt and screw descriptions.



Determine which, nuts, bolts and parts are cadmium or zinc plated. A few bolts are chrome plated. Quality chrome and cadmium plating shops are becoming hard to find; ask other restorers who they recommend. Chrome plating for handle



bars, kick starters etc. is called "decorative" chrome. Fork stanchions are "hard" chrome, and I've yet to find anyone who does small hard chrome jobs. Cadmium plating is referred to as "white" or "clear" for silver-colored parts and "gold" for gold parts like spoke nipples and the two rear upper motor mount bolts. I do my own polishing but most chrome plating shops will offer polishing also.

By Bill Martin

Find a good body shop and specialists who can repair and restore damaged parts. With the TL 250 this is critical, since NOS (new old stock) replacement parts are non-existent. Broken plastic parts need to be plastic welded, not glued. Worn metal pieces need to be built back up to original specs. The TL 250 has an aluminum gas tank. I use a specialist in aluminum tanks who separates the male and female parts of the tank, repairs the dents and leaks then skillfully welds the pieces back together at the bottom seam.

Locate a painter who specializes in detail automotive painting. No powder coating is available in the exact TL 250 colors except for the black parts. My preference is to have all the originally painted pieces painted and clear coated, including engine cases. The muffler and exhaust get a thin coat of high temperature black semi-gloss paint with no primer or clear coat so the paint and metal will expand and contract together. All 1976 and most 1975 decals required are currently available as high quality reproductions and should be applied before clear coating.

Glass bead blasting of all parts to be painted and cadmium plated is a necessity for a quality restoration. Lastly, for disassembly and assembly I recommend using flank drive wrenches and sockets to minimize rounding off the corners of bolts and nuts. Actual assembly took me about one week's time. The whole restoration process consumed about one year.

1976 model



These bikes are 1976 models with "Shiny Orange" livery on the gas tank and side covers. The 1975 models had "Tahitian Red" for the accent color. Both years feature fenders, side covers and the optional headlight bucket with a metal flake "Special Silver" paint and the frame of darker metal flake silver/gray. The head light bucket brackets and the engine cases are the same gray color. There are only a few very subtle differences between the two model years.

To complement the restoration on one of the bikes I added the very rare optional Honda TL 250 light kit. For more electrical output and brighter lighting, I installed an XL 250 stator. Most vintage and classic bikes will bring a higher value with the correct factory options and upgrades.

CONCLUSIONS

A well-executed restoration of a collectable model is not only a source of pride and accomplishment but a good investment. Restoration costs will only continue to rise. The number of restorable bikes at reasonable prices continues to decline. Skilled specialists like engine builders, metal workers and painters are becoming rarer as they retire.

The EPA continues to make life more difficult and expensive for chrome and cadmium platers. With collectable motorcycles becoming more desirable, many vintage car enthusiasts are discovering motorcycles. As one told me, "I can put four motorcycles in the space of one car and each bike may be worth the price of the car."

