



AREA 51 Project: Invader "Kawasaki made Sleds?"

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When most people take on a restoration project, the goal is to strip the machine down completely then carefully and lovingly restore each piece before reassembly. Dealing with issues as they arise, locating parts or realizing the machine isn't worth the trouble, is all part of the game. This project is a little different then that. Note, just like on TV, this article has been shortened for readability and space/time limitations. Frustrations, broken bolts and thrown tool episodes have been deleted since all repairs went perfectly (as they always do).

I was given a 1980 Kawasaki 440 Invader by my uncle in leu of service work I performed on his new(er) skidoo. It was in hard shape and not running, but all the major parts were there and I could tell it had potential. My first task was to go on-line and find some information on this 25 year old relic, heck, Kawasaki hadn't even made snowmobiles since 1982!!! A quick search netted (no pun intended) me www.kawitrax.com, which has since been an invaluable tool for finding parts, information and repair techniques for these old Kawasaki sleds.

My goal in the first year was to get the beast running and repaired enough to ride and see what it needed further in repairs, or if it was even worth fooling with. I started by replacing the dried up/cracked gas and oil lines and installing a new pick up hose in the gas tank. The carburetors were taken apart and meticulously cleaned, which removed years worth of crud that had accumulated in the bowl and various passage ways. Next I installed new spark plugs and put in some fresh fuel, and the moment of truth had arrived! Remarkably the beast fired up on the fourth pull, completely enveloped the garage in smoke, but purred like a kitten with a 2 stroke hum unique to these old Kawi sleds!!!

Since stage one went well, stage two commenced. The hood hinges were missing so I fabricated a set from a pair of hardware store gate hinges, the result looked identical to stock. Next, I hauled out the rear suspension skid for a full inspection. I replaced the seized shock with a freebie that I custom fit, replaced the nearly non existent hyfax, greased all the cross shafts and inspected all boggy wheels and bearings. I took the front skies/leaf springs apart and replaced the main ski bolts,

cleaned up and greased the ski legs where they go into the body and replaced one tie rod end. The seat cover was dry rotted and nearly non-existent in places, so I fastened a scrap of brown vinyl with some fancy black duct tape in preparation for the maiden voyage.

This voyage took place at the annual winter trip to the Sooley Cabin in February of that year. The engine had a bad hesitation near the engagement of the clutch but seemed to be OK at speed. And speed it did!!! This relic sure could move, it really surprised me that this piston port engine could hang so well with much more modern sleds. Some tuning of the carburetors helped the bogging problem but didn't cure it, a hill climber it wouldn't be on this trip. By the end of the weekend, one of the bars in the rear skid had cracked, small holes in the exhaust manifold developed, and the bog in acceleration worsened.

Over all it was a successful test flight. I learned that 440's are pigs on fuel, 2" of suspension travel is great for oval track racing but not trail riding on the Avalon, and that this machine needed more work.

Stay tuned for part 2 where the invader gets some mechanical work and a well deserved face lift.

Part 2:

After the initial shake down run at the Annual Winter Cabin Trip, the invader took a well deserved rest wrapped up in a fancy blue tarp behind the shed for the summer. That fall, around the same time my back fully recovered from riding the Invader, I started back at the restoration project. To start I had to find a solution to the apparently famous "Kawasaki Bog" and fix the cracked suspension arm.

I took the carburetors apart again to make sure the bog wasn't coming from a clogged jet/passageway, I checked all the fuel lines and tested the fuel pump. I researched via the internet to find the correct drive belt, once I had the right part number I found one at a local parts store. Indeed the belt that was on the machine was incorrect and well worn. Through my research I also found that Kawasaki recommended using BR9EV spark plugs as opposed to the common BR9ES, so I picked up a set and installed them. To further eliminate any source of "bog"

from the ignition system, I installed a new coil and spark plug boots.

Next, the rear suspension was partially dropped to address the cracked suspension arm. Since replacements are non-existent in Newfoundland the arm was cleaned and a mounting bracket fabricated and welded in place. At this time I was fairly confident that my engine troubles were resolved, but since we still had no snow for a test ride I decided to start working on the cosmetic side of the project.

First I had the seat recovered with nice black four-way stretch vinyl to replace the well-worn blue vinyl/brown vinyl & black duct tape that I installed the previous year. I cleaned and painted up all the rusty steel bits under the hood, the exhaust, skis and various tunnel supports and brackets. Also, I took a lot of time and polished the tunnel and all the aluminum trim with Peak metal polish to bring it back better than new.

Now it was time to refinish the hood which was in pretty sad shape, it was seriously faded & scratched but fortunately it was not cracked. I took a lot of digital pictures to both keep a record of the process and to use as a reference when it came time to have decals made, to tape off the two-tone paint scheme, and match pinstripes.

First to be stripped were the factory decals and pinstripes (what was left of them). Use of a heat gun and rubbing alcohol sped this process right up to a blistering snail's pace. Next came a lot of sanding, filling in scratches with spot putty and more sanding. I won't get into all the details of the painting process as it is very similar to my previous article "Sledworthy-February 2006 Project Cheyenne" and tips can be found on the How To's page on this site. Once I was happy with the body work I applied etching primer, sanding lightly in between coats.

I researched the 'net and found the paint codes to closely match the factory colors which consisted of dark blue and highlighted with light blue metallic. I started with the dark blue color painting the entire hood but not applying too much in the areas that were to be later painted light blue. After I deemed this color evenly applied, I taped off for the light blue color using my digital pictures as a reference. The light blue was applied the same way as the dark blue in many light coats until I had the right shade and even color. After I untaped the hood, I gave it a light sanding and applied many coats of clear to add protection and a base to wet sand if necessary. The end result was fantastic!!!

By now, we finally received a little snow, so another test run was in order. This run took place in the Goulds on a beautiful sunny Saturday. This time the Invader ran very well, the hesitation seemed to be fixed, and I had a heap of fun. Late in the afternoon I ran into a small problem with the exhaust as a rather large hole developed in the manifold, and the collar on the muffler that slips over the manifold cracked off. When I got home I sent the manifold over to a friend with a Mig welder for a repair, and I repaired the collar on the muffler myself. I fabricated a new collar from an exhaust adapter pipe and had it Mig welded in place.

The Invader's second trip that year was the annual week long Winter Cabin Trip adventure in February. On the very first run on the first day I hit a dip in the snow at mid speed and turned the Invader on its hood. The machine slid upside down about 50 feet up the frozen pond with me shortly behind it. Luckily I survived, and more importantly the Invader survived with only one very small crack that I will repair later... and NO scratches in the paint! This really demonstrates the benefit of using clear coat. The Invader ran perfectly for the rest of this trip and for the rest of the year. It was gracefully stored behind the shed again for another summer...in a fancy blue tarp.

This year there was very little that needed attention on the sled. I fixed up a tie rod end in the front steering, took out the rear suspension for inspection and paint and looked for electrical gremlins that kept the lights from working. I completely went through the electrical, cleaned all connectors and switches, cleaned up wires on the handlebars and checked for shorts. Then I took apart the rear taillight and found a lot of rust in the reflector housing, so I cleaned, primed and painted it silver, now the light is much brighter. I never had a working key switch so I ordered a new one and installed it and low and behold the lights all worked again! Since I also never had a windshield, and they are nearly impossible to find new or used around here, I decided to make one from a black Krazy Karpet children's slide. I had found lots of pictures on the internet to go from, made a template from cardboard and traced it out of the Karpet. It came out great looking identical to the low black windshield found on many vintage Kawasaki race sleds.

The only other things that I completed were installing the silver & red pinstripes and the factory decals that I had made at a local sign shop. The old invader never looked better, and continues to run great. Aside from a small glitch with a defective coil, this old beast is always easy to start and still a lot of fun to ride on

SMOOTH trails. Part of the fun of a vintage sled is the work you put into it, but also the looks you get from people on the trail. The most common comment/question I hear from young people is "Kawasaki made sleds???", and reminiscence of older people of days gone by when they rode Kawasaki Sleds.

This project is defiantly one that will never end, I still have plans to pull the motor for a full cleanup of the engine compartment and to replace the crank seals. At that time I'll address the last bit of slop in the steering rods under the motor, and whatever else pos up!!!

Cheers, MIKE