Dana 20 to QuadraTrac Swap

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[Editor's Note: This will appear exactly as it appeared on the FSJ-List, due to the inability of any of my present computers to translate from KenSpeak to English.

why?, the lease on the truck is up in nov, and i need to make the wag 'road comfy' by then. the gearing is such that hi rpms are evident at 55, well below the normal speed seen on CA roads. at first, no prob, get an OD AT behind ur SB v8...at second, cost, just ask Mike B how many G.Washingtons hes putting down for his setup...so i got to talking wit troy franks about his plans and wheels started to grind in my mind about how the QT was laid out and how if installed in my wag what the pluses and minuses wood be. the more i began to visualize and then transcribe onto paper about this swap, the more i began to consider it as a worthwhile venture. the cost for the install from teardown to testdrive, wood be half of the install of a 4L80E/NP205. ok..where u get parts..u beg for em, thats how.

first i got on the net and asked if any1 had a QT they wanted to get rid of cheap. found 1 close by 50$. then i talked to Mike B about my plans, for his advice, and he said that since hes going the 4L60E route, he dont need the th400/QT he got sitting in his garage, just come up to Reno and get it. 2 weeks later i did. got AMC th400 home on sun, tore it apart in the bed of me truck in da driveway in 63mins. tear down of wag was routine. but this time i rented a trany jack...boy do i love the right tools for the job...sent in MY th400 and QT outputshaft to trany rebuilders that monday. get a call from trany place, 'the first gear internal ring gear is badly scored from a failed thrust washer', i say,' i have a all of th400 internal parts from the AT that gave up the outputshaft, will they work?? they say 'sure, bring em down' and i did..thanks Mike B :) aside from the internal gear and seals and bushings and gaskets and a lo sprag, the trany was fine and 368$ later, i got an 'almost' rebuilt th400 back. install of trany was normal.

the rebuild of the QT i got from Mike was per the instructions i got from the milemarker kit. i bought the OD PT kit, 400$. but in the kits instructions it told of removing both of the snap rings of the rear annular bearing to install the nu parts...those rings are what keeps the bearing endplay in check, since the snap rings are VERY hard to find i had to think of another route and i found it. the caged roller bearing. with the vac motor hardware removed i was able to insert the head of my seal/bearing driver into the cavity between the annular bearing and the roller bearing. then pass the handle part of the driver thru the opening in the annular bearing and out came the roller bearing. assemble the nu rear output shaft into the 2wd/4wd slider shaft, insert into case, uh oh...

since the back part of the rear output shaft juts out from the recess of the roller bearing i just removed, how do i reinstall the roller bearing??? the driver i have only installs seals, like hub grease seals, it has no provision to allow for the protruding shaft. solution...u use the nu lower sprocket. placing the roller bearing in its cavity, and then placing the nu sprocket into it, i was able to use its mass sliding up n down the 2wd/4wd slider to drive home the roller bearing. then to finish the job, i used the now defunct Edrive slider ring to fully seat the bearing. getting the case halves together was a prob, but by inserting a broom handle thru the hole that the lo range enters the case at, i was able to spread the sprockets far enuff to slide the halves together. replaced ALL the seals with the kit i bought, and we done.

even w/o the lorange, the Al QT is as heavy as me ole Fe D20. to help me install it, i used some threaded rod screwed into the top 2 holes in the trany adaptor to hold it inplace whilst i thread the 2 lower bolts into place. install front shaft, works great, install rear shaft, too long. 63$ later, rear shaft is correct size. vac lines now...fittings on vac motor are 3/16, fittings on switch r 1/8, fittings on eng is 1/4, ARRRRRRRRRRRRGH. got some clear vynyl tubing (CVT) in 1/8 and 1/4 sizes, find some spare 5/32 vac tube in the house. fit a 1" section of 1/4 CVT on the nipple of the eng fittting , then slide the 1/8 CVT into it, and then route that to the center nipple of the switch. use the remaining 1/8 CVT i got to connect the motor to the switch. use a 2" section of 5/32 on ea nipple on the vac motor, slip the 1/8 CVT into those sections and VIOLA...its done. ummm..where IS the switch? since my wags AC vents r in the area normally occupied by yalls glove box i decided to use the area now vacated by the d20 shifter. get some galvenized flashing and covered the opening in the floor. drill appropiate hole, mount switch. use plastic ties to keep the CVT snugg against the body.

QT vent..OEM vent sucks, remove it, threads are 1/8pipe...hmmm...use matching brass 3/16 compression fitting and a small section of 3/16 brake line. thread assembly into case. press 5/32 vac tube onto brake line, fit tubing into 3/8 extended vent tube from the d20...factory :)

lorange...have OEM lever from Mike B, thanks mike!!! who loves ya babe ;) locate lever just forward of seat on D side of trany hump, drill holes, mount lever. with lever in down, '2wd' , we c that distance from underside end to LR lever is 9"!! OEM link wont work...solution...go to hardware store and buy a 'turnbuckle' with loops at both ends long enuff to span 9". got 1. get bolts to fit the holes in the body LR lever and the QT LR lever itself...got it. but wait..since a turnbuckle will expand or contract buy turning the center component, simple vibrations can cause it to unscrew and fail. solution... locking nuts. find matching nuts that will thread onto 1 of the threaded loop sections of the turnbuckle, by tightening theses down against the center component, it will not unscrew and fall off. install fabbed LR link, works tits er great. fill case and LR wit ATF, road test. find no abnormalites, time to hit the road.

molina ghost run was last sat the 20 in san benito county CA, E of king city. i usually tow the wag down and crash in the van, but i needed a maiden voyage. 1 word...

OUT #%#!@$ing standing...

70mph at 2900rpm where b4 2900rpm netted me 55mph. i broke me turnsignal lever cuz of all the cars i passed. M VERY impressed with hiway manners of this QT. now, instead of the drone of the ujoints of the centered d20 to sing me to sleep, i get the roar of the 33" MTs to keep me awake. trail manners were equally absorbing, and i dint even grind the LR when i shifted. started eng, put in N, yanked up on LR lever..hmmmm, no clash, m i in LR yet?? place in R, hit gas...YUP...I AM!!!!!!!!! trail report in another email.

wood i do this if i had a normal Kaiser wag w/o QT. NO. this swap only worked cuz of my UNIQUE situation. i dont recomend this swap to any th400/d20 FSJ user unless they: A: really love their FSJ and cant trade if for a OEM QT FSJ B: live in an area where they NEED FT QT.

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