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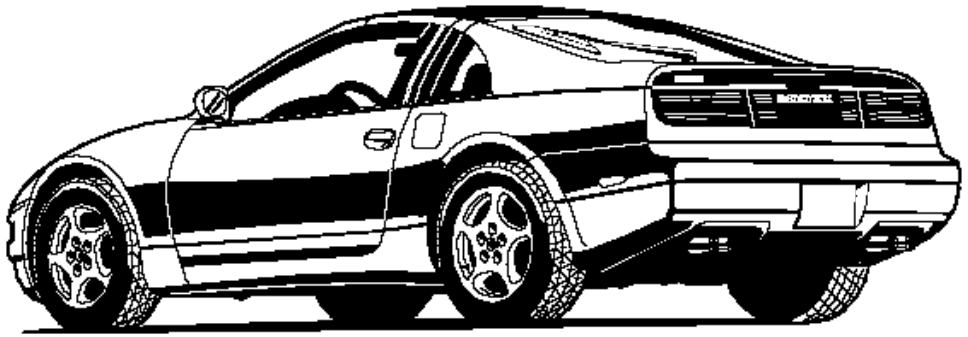

1994 Nissan 300 ZX® 2-Seater
with optional T-Bar roof

The NewZletter

of the Z-Car Club of Washington

Vol. XVIII, No. I July, 1997

Next Meeting: Larrabee State Park • July 19th 3:30

– What's Inside –

A Message from the President

Well, as you can see, The NewZletter has gone through a few small changes.

After finding out that some of the previous versions had been delivered mangled from them going through the machinery at the various post offices I thought that something needed to be done.

I am interested in what you think about the changes; good or bad. Please tell me your thoughts on the changes either by email at mswhite@sos.net, by phone at 360.424.8643 or let me know at the next meeting.

Also, in the near future, there will be a change on the website. No, not a change in the address – the membership decided at the last meeting that now was not the time to incur the expense for our own domain name. The change will be in the design of the website itself.

As the website will be celebrating its first year in existance, some changes will be made to make things more accessible, more readible, and more complete.

If you have content that you would like to have included on the website or in The NewZletter let me know. We can always use more tech information, especially on the website.

Z-Ya!

The NewZletter
A monthly (usually) publication of the Z-Car Club of Washington

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ZCCW Application for Membership

Annual dues: Single = $25; Family = $30; Associate = $15*
Prorated by quarter for NEW members ie:
Single: [Jan - March $25] [April - June $18.75] [July - Sept $12.50] [Oct - Dec $ 6.25]
Family: [Jan - March $30] [April - June $22.50] [July - Sept $15.00] [Oct - Dec $ 7.50]
Associate: [Jan - March $15] [April - June $11.25] [July - Sept $7.50] [Oct - Dec $ 3.75]
*Associate membership is for those whom it would not be feasible to be able to attend any meetings or events.
Associate members in the United States will receive the printed version of The *NewZletter*

To join, fill out application and send with payment to:
Z-Car Club of Washington
18505 Alderwood Mall Pkwy. Suite # 1-419
Lynnwood, WA 98037-8013

☐ New Member?
☐ Update?

Membership – Type –
☐ Single
☐ Family
☐ Associate

Name(s): _____ Birthdate(s): _____

Address: _____ City: _____

State: _____ ZIP: _____ E-Mail: _____

Phone: _____

Z-Car 1: Color: _____ Year: _____ Model: _____

Z-Car 2: Color: _____ Year: _____ Model: _____

Z-Car 3: Color: _____ Year: _____ Model: _____

What area(s) of the club are you interested in?

Technical/Mechanical: _____ Showing my Z(s): _____ Autocross: _____ Rallying: _____

Cruises: _____ Other: _____

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Are You Looking For That Certain Part or Z?

Advertize them here in The NewZletter!

Call Michael at:
360.424.8643
email: mswhite@sos.net

While It's Fresh in Mind...

As some of you may know from my various posts to the 240 group, I have been looking for a replacement differential for my '72 for about a month. This unfortunate search was the result of personal inattentiveness which led to a total depletion of the R180's lube supply, and should in no way be construed as a product of Datsun's fine engineering department.

I had a number of electronic conversations with some very interesting people about their diffs, some on the Atlantic seaboard, and most east of the Mississippi. Throughout the chase I remained determined to find another 3.36 R180, no matter how long I had to cruise with ear muffs to cut the terrific whine of blown gears. I was driven by dual convictions that the tall gearing would ease my fuel bill, and that the R180's relatively light weight would help my '72 remain svelte rather than laying on further avordupois in its golden years like its owner. And, also, there were memories of the 4.11's that used to reside under the rear deck, which had made a mockery of first gear and allowed an occasional, embarrassing start in third.

The chalice of 3.36 gears was abruptly shattered just a week ago in a conversation with Ollie the Z-Man. I appreciated that Ollie did not laugh out loud at my declaration for 3.36's, and instead probed why anyone with an L28 and a five speed would want gearing that on paper would do a hundred and fifty-two, but in reality would be left in the dust off the line by many subcompacts. Was the four hundred rpm I'd be saving really be worth it? And why was I avoiding the "perfect" numbers of 3.7 or 3.9?

I understand now that it was only a matter of time until Ollie found the right argument, and it didn't take long. "You should never shift these cars below 2800 or 3000," he said. The gear drop of such a shift bequeaths the following gear with little over 2000 rpm to work with, and I grudgingly allowed as how I did spend a lot of time around 2000. "Well don't ever run them below 2000," he replied. "You can hurt the L series engines by running them too slow." That one got to me. You mean one could actually hurt a Z motor? Heavens. It didn't take too long to decide a 3.54 would be ok. When Walt Meares of the 240 group happened to write that his mileage actually went up when he went from a 3.36 to a 3.54, it was icing on the cake. And I even admitted to myself that maybe I was becoming a performance weenie. Time to kick in. More power to me.

Thankfully it was not from South Carolina or New York or Oklahoma that I got a replacement diff, but from Bellevue, where fellow ZCCW member Tim Nevins had an R200 that he said his wife would be glad to see gone. Saturday afternoon the diff was in the front footwell of the Z, and Saturday night I decided Sunday was the day. Now you must understand that I've changed diffs before: from the original R180 3.36 to an R200 3.54; then to an R180 4.11; then back to the R180 3.36. Not a problem. Crank it out. The major difference this time was a bit obscure at the time, even to me: I had a NewZletter deadline coming up, and no lead story. What a nifty thought: write down the story of the swap, while it was fresh in my mind. Help somebody else out who might be looking to do the same thing. Best of intentions. Thus the title.

You probably have a pretty good picture of the essentials of swapping an R180 for an R200 if you're online. Posts of people doing just that constantly recur. You not only need the differential, you need the mustache bar too, because the R200 has slightly bigger holes for the diff mounting studs, and they are spaced farther apart. That's not the only difference. Looking down from above (if you could look through the rear deck) you would see that neither bar is "flat"; they have bends in them. You'd also see that the R180's bends result in the mustache bar being located ahead of the steel mount that drops down

from the chassis' subframe to support the rear A-arm pivots, while the R200 mustache bar crosses behind the A arm support.

The very first step was to get the car up in the air a ways, maybe a foot and a half or two, and then to support it on blocks so it was stable enough that I wouldn't get smooshed by it if I happened to get physical with a wrench while underneath. Then I put down a sheet of plywood so the grass wouldn't eat all those little nuts and washers and took the rear wheels off to clear the playing field.

The first step on the car was to get the rear portion of the exhaust pipe out of the way. When I put my current exhaust system on, I had the shop put in an extra joining flange a couple of feet ahead of the rear axle, so all I had to do was break the connection there. This is much easier than removing an entire welded pipe from the manifold, but I won't go so far as to say it's pleasant.

The weentzy jam nuts that hold the driveshaft and halfshafts to the differential input and output flanges were then removed. One or two swaps back I had figured out that the easiest way to get at these halfshaft flange nuts was from the wheel well, sitting up in relative comfort with feet under the car. Then, plugging all of my socket extensions together, I could reach the nuts with the ratchet out in the wheel well. When the car is jacked up, the halfshafts angle down and obstruct access to some of the nuts, so the best socket access is when a nut is positioned on the "top." One rotates the brake drum to bring each nut to the top in turn.

The driveshaft flange nuts require that you get under the car. The aftermarket rear sway bar on my car makes things more cramped than normal around the input flange, but I found I could put an open end wrench on the nut and then turn the driveshaft by hand to loosen the nut. Torque specs on these nuts are not very high.

By now the diff was connected only to its mounts, which means two nuts on studs running through the mustache bar at the rear of the diff, and, in my case, a single nut fastening the stud of the solid steel front diff mount to the crossmember ahead of the diff. The Datsun manual says you can remove the diff complete with its front crossmember and the mustache bar, but as I was operating with power by Armstrong, I decided to remove the diff itself and leave those other pieces hanging there. I loosened the four bolts holding the front diff crossmember to get as much movement as possible out of the member without removing it entirely. After removing the three mounting stud nuts, it was a relatively easy thing to push the front of the diff up to release the front stud, move the whole thing forward to clear the rear studs, and gently (heh heh) drop it to the ground. Well not quite easy. I had never removed the stock rubber snubber belt that Datsun expected to hold the front of the diff down, so the diff input flange naturally had to catch on this hunk of fabric and rubber and be persuaded out with much grunting, cursing, and carrying on.

With the R180 out, I topped off the lube in the R200, pulled the solid front mount off the 180, and installed it on the 200. Then I removed the R180 mustache bar from the car, pulled out the urethane bushings, pushed them onto the R200 bar, and installed it in the car. Half done, I thought. What came next, I knew, would be the toughest part of the whole party: lifting the R200 up, pushing its nose over the crossmember and under the snubber belt, and then stuffing it's mounting studs through the mustache bar holes. I gathered myself.

Sitting in a lawnchair with a beer in hand, the difference between an R180 and R200 is slight, just a few numbers. I dimly recalled the R180 as being about seventy pounds, and guessed the R200 at fifteen or twenty more than that. Doable. Lying on one's back and pushing the damned thing off one's chest is another situation entirely. I somehow got the 200 maneuvered under the car with me along side it and then with a insane burst of energy got the thing up on top of me. Though this was a significant hur-

Z Car Transmissions

Many early Z's have accumulated well over 200,000 miles and that's when major components such as transmissions and differentials begin wearing out. Those of us in that boat are all on the lookout for the best possible repair choices. Here's a succinct post in response to the replacement tranny question from Z guru Marc Sayer:

Gary Savage wrote: " The '82 280ZX is the best tranny. According to Ron Johnson (Nissan Comp), all the stock trannys are the same. Only the comp unit is more bulletproof than the others. However, the '82 unit comes w/ close-ratio gears and a 25% overdrive, instead of the normal 15%.

Marc responded:

There is one stock trans that is tougher than the rest, and that is the Borg Warner T5 as used in the turbos, but there are some drawbacks to it, including a different, slower shifting feel, and more weight. If you are going to run one of the ZX 5 spd trans as opposed to the 5 speed from a Z, you really will want to change rear end ratios. Here are the suggestions I give people when looking into trans changes.

Table 1

	a1	b2	b3	c3	c4	a4
1st	11.92	11.75	12.28	11.32	11.94	13.83
2nd	7.38	7.35	7.68	6.87	7.24	8.57
3rd	4.77	4.63	4.83	4.83	5.1	5.54
4th	3.36	3.54	3.7	3.7	3.9	3.9
5th		3.05	3.19	2.75	2.9	

For the Z Jatco 5 spd, use a 3.54 or 3.7 rear end. For the ZX Jatco 5 spd, use a 3.7 or 3.9 rear end. And for the ZXT(urbo) BW T5 5 spd, use a 3.7 or 3.9 rear end.Use the Borg Warner transmission only if you must, i.e.: if you are running over 250 hp and/or keep breaking transmissions.

The first rear end choice will yield a relaxed slow revving setup, good for lots of relaxed long distance trips or for top speed work, but the off the line acceleration will be poorer. The second rear end will bias the gearing more towards acceleration and make for a quicker car. Top gear with the 3.9 and the ZX box will still be about the same as a 240 4 spd with the 3.36 rear end, but the overall gearing on the lower gears will be much better.

Here are the gear breakdowns

a=Z 4 spd	1=3.36
b=Z 5 spd	2=3.54
c=ZX 5 spd	3=3.7
	4=3.9

A1 is the original 240Z gearing here in the US while a4 was the 240 gearing in most of the rest of the world.

As you can see, any of these combos will still yield a slower revving top gear than the original 240 4 spd. The real difference to my mind is in the other gears ratios.

-Z

July Meeting Location

July's meeting is going to be a combination potluck-picnic/road trip up Chuckanut Drive to Larrabee State Park.

Plan on leaving Everett from Z-Sport at 2:30 on the 19th and head North on I-5 to the Chuckanut Drive/Hwy 11 exit (exit number 231). This leg of the trip should take between 30-45 minutes. Continue North along Chuckanut Drive to Larrabee State Park. Others will be joining along the way at the State Patrol office in Burlington at exit 231.

Picnic facilities are available on a first come-first served basis. But not to worry, there should be plenty of room; the park is pretty big.

So, bring your favorite foods and hope for sun as the view is beautiful and the park has beach access.

Car Movies

Sometimes, usually in the deep, dark, damp of January or February, you just wish you could get some decent weather so you could take your Z out for a spin. But this being the Northwest, those days happen rarely, and when they do, they seem to occur on work days. That's when you head for the video store, pitifully searching for anything at all that reminds you how much you love to drive. Well we want to prepare you before the cold dark winter of 98. The editors of Car Craft Magazine recently put together a Top Ten list of this and that--cars, engines, project cars, etc.--and they included their own Top Ten list of car movies. Now, granted, it's a blue moon when Car Craft covers Datsuns, but when you have the winter blues, almost any car will do, right?

American Graffitti: A look at a summer in the '60's during the height of the muscle car craze, with a young Harrison Ford playing the bad guy in a '55 Chevy. Also featured are a '58 Impala (doncha love 'em?), a '49 Merc, and a 32 Ford 5 window coupe. The car action is mostly of the cruisin' type, but a nice flick anyway.

The Blues Brothers: Definitely not a movie you think of when you think of cars, but a classic featuring a '74 Dodge Monaco, Princess Leia with a bazooka, and a chase scene rumored to have destroyed more cars than any other movie. Dan Akroyd's lines about the Monaco to John Belushi are precious: "It's got a cop motor. A 440 cubic inch powerplant. It's got cop tires, cop suspension, cop shocks. It's a model built before catalytic converters so it'll run good on unleaded gas."

Bullitt: Steve McQueen in a '68 Mustang fastback with a 390 running the hilly streets of San Francisco against a Dodge Charger. You can fast-forward to the car chase near the end of the movie. Unless you've seen it before. If so then you can fast-forward to the chase scene.... McQueen did his own driving.

Cannonball Run: Coast to coast race plot with Farrah Fawcett and Burt Reynolds when he had hair.

Gone in 60 Seconds: The car heist business from the inside out. Features a Manta kit car with a small block Chevy and a yellow Mustang and a number of chase scenes.

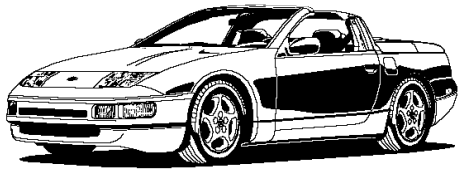
Gumball Rally: Another coast to coast race theme, this one probably the best, featuring a '70 Camaro, a Corvette, a Jag XKE, a Mercedes 300SL roadster, a Rolls Royce, a Porsche 911, a 427 Cobra, and a Ferrari Daytona Spider. Don't think too hard about the plot.

Two Lane Blacktop: Street racing culminating in a point to point race featuring a '70 GTO and a '55 Chevy.

Mad Max, and Mad Max 2--The Road Warrior: post apocalyptic scenario featuring wild Australian vehicles (note that I didn't say cars) doing outlandish, and sometimes very silly things. Partially entertaining, but not gripping.

Smoky and the Bandit: Burt Reynolds again, this time with Jackie Gleason as the bad cop. Lots of trucker jive and heavy metal slewing around the countryside. Handling? You mean sliding, right?

Vanishing Point: Existential (had to have one) plot involving delivery of a '71 Challenger from Denver to San Francisco. Don't get attached to the hero.



1994 Nissan 300ZX® Convertible

dle, it immediately became apparent that I could neither wait around nor relax in this position without grievous injury.

As the nose of the diff was lighter, and the rear had trapped the glove on my other hand, the nose had to go up first. With very many more expletives I pushed the nose up so it sat on the front crossmember where it then ran afoul of the rubber snubber. Somehow I managed to get the snubber up over the input flange and push the 200 ahead a wee bit. All I needed was to get that one little stud into that one little hole, but forward movement ceased when the input flange ran into the sway bar.

Drat and blast! Things were going sour. As I heaved and jostled and cursed, trying to get the rear mount studs up over the rear suspension mount, it suddenly dawned on me that the little plastic cap on the diff breather tube had left its station, and that dirt from the rear crossmember was threatening my clean lube. Where in the hell was the cap? The only thing holding the diff aloft was me, and I was wearing out. Somewhat closer to panic than I was just a few moments before, I stabilized the diff by pulling my knee up to my chest and resting the diff below my kneecap. I was now somewhat upside down, but I could use my leg to hold up the diff. I took heart for about a minute until realized I could not see any way to get the diff into position. The idea was beginning to surface that I might have to take the thing out and start over.

No!! Never!!! I won't I won't I won't. And it was during this tantrum that I found the plastic cap, or rather, located it by feel, in a most unlikely place, directly between my shoulder blades, the next-to-the-bottom layer of a sandwich consisting of car, diff, me, cap, and plywood. I had to get the cap. Without it I couldn't take the diff out without the lube dribbling out the vent tube and onto my chest and face. To make sure I experimented by slowly lowering the diff. Sure nuff. Gear oil would flow out of the vent long before I got the thing on the ground.

I can't say now how I got the cap, but I did. Just one of those emergency miracles you read about in Reader's Digest. I got that sucker back on the vent tube and quick as I could got the 200 back on the ground. Every part of me was plumb tuckered. I was laying there contemplating the world when my friend Greg came up. He'd managed to miss the good part. After several minutes of collecting myself, I decided that at least one side of the front crossmember had to come off to make enough room for the rear of the diff to clear the rear suspension mount. That done, and now buoyed by an audience, I got the 200 back under the car, up in the air, and into the mustache bar almost immediately. With the rear captivated, I propped the front of the diff up with a piece of wood and then aligned the front crossmember with the front diff mount and fastened it. Reinstalling the front crossmember bolts was easy with the diff propped up.

Reinstalling the halfshafts and driveshaft took longer than I'd hoped but presented no unusual problem, save for the oddity that one halfshaft would not compress far enough for its flange to clear the diff output shaft studs. I finally loosened the rear suspension bracket on that side to give me the needed slop. Then all that remained was the exhaust pipe, wheels, and getting the car off the blocking.

Elapsed time was just about six hours, which is probably longer than it took me in the past, and, as it happens, is exactly how long it took for my brother-in-law and I to swap his 73 Capri engine into my car, and my engine into his car (don't ask why we did this). Even though I had done this swap more than once before, this time things went differently. This particular exercise marks the only time in all my years of wrenching that I have gotten grease stains on my chest. I'm probably lucky I avoided some kind of thoracic puncture. As a precaution against awakening the next morning an invalid, I swabbed my neck with copious amounts of topical arnicaflora, and thus Monday was not the dismally painful day it might have been.

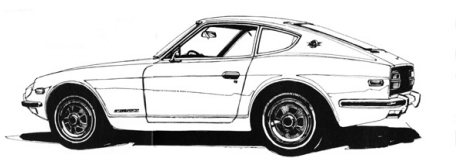
So what can I pass on to you about this swap, so that you might have a better time of it than I? First off, you need wood blocks, lots of them, including some BIG ones, to get the car up in the air and to keep it stable. Those little Costco jackstands just aren't up to it when the going gets ugly. Second (or maybe first) you need a clear sense of what you're going to do at each step before you go blowing your energy and patience. Third, a hard, clean surface is a lot better than a grassy lawn. Fourth, an audience is nice, especially one that knows what a nut is.

And perhaps most important of all: There is a clear evolutionary reason why some people have tools, and other people have Tools, and other people have TOOLS, and other people have Equipment. I have Tools, with a capital T, meaning I have everything the manual says I might need, plus a lot of other stuff. But unless you're really into pain, what you really need is at least some Equipment. Like a nice car lift for example, so you can see what's going on without bending over or laying down. And certainly a floor jack and a transmission jack to make the event a head scratcher rather than a body basher. If you don't have this stuff, I really do suggest you consider paying the few measly bucks you'd save to someone who does. Then you can sit around and tell stories and sip cool beverages while someone else does the work.

How is the new diff, you ask. Mercifully quiet. Peppier without being short-legged. More fun than the 3.36. Different than I remember. Ollie was right. Good man.

And is all ok now, peachy keen? Ah me, there's more aboil in the fish pot than clams and noodles. Pray take a peek at the next story.

-Z



The Secret of Skagit Head

In our last chapter our hero, Tom Carter, had just met the Toothless Man of Skagit Head, who had whispered a secret to him out of the darkness and then disappeared without a trace. Now nothing was more important than to get that information to the Three Z Gang at their headquarters in the old Carson boathouse. Tom grimly set off into the misty night and by midnight he had arrived and hung out the emergency meeting beacon lantern.

Spud Kinney was the first to arrive. Tom told him about the Toothless Man, and about the secret numbers 3.7 and 3.9. Spud was not impressed and complained about being called out. "You hauled me out for that??? Hell once I knowed a guy run 536's," he scoffed. "Ain't nothin' special about 370's. An' then there's anothern I knowed he wuz runnin' 612's outta some NATO rig." Tom couldn't answer this and Spud was still carrying on when Mack walked in, breathless. The ringleader of the Three Z's listened as Tom told him about the Toothless Man. Mack would know what to do.

"Hell I knowed a guy run 8.32's," Spud was saying when Mack cut him off. "Knock it off Spud. Whend you ever see a 8.32 'cept on a washing machine? Tom heres got us a puzzle an' we hafta work it out. Grab that paper."

"Lessee, hey Spud, what's the original tire height on a '72?" One thing Spud did have a head for was numbers, even if he forgot what they attached to sometimes.

"They's 23 an' a half," said Spud without a pause.

"Tom's gotta a five speed," Mack stated, "an' that five speed has a .864 fifth... He looked up at Tom suddenly: "You ain't got a ZX tranny do ya?" Tom shook his head and Mack went back to the paper. "Oh it don't matter. We gotta figure it with a 1:1 top gear

Replacing Cam Chains

At about 195,000 miles my old L24 engine needed a cam chain change. If you consult the manual, you'll see the procedure is not a thirty minute job. The fan, water pump hoses, water pump, and all sorts of other things need to come off before you can remove the front cover. And it's common for front cover bolts to do nasty things like break off, bogging down the whole process.

Having done this years before on my '73, I wanted to avoid this procedure so much I actually hired someone to do it for me this time, and his method should be passed along because it will save you lots of time. Rather than removing the front cover, this fellow replaced the timing chain by removing only the valve cover. You'll need a die grinder or metal grinder with a small diameter abrasive disc to do this, but they often may be borrowed if you do not have one. Here's how he did it:

1) Remove the valve cover.

2) Loop a strong wire around both the ascending and descending parts of the chain and tightly tie each off to some immovable part of the engine. Remember that you'll have to remove the front cover if you allow the cam chain tightener to come out of its bore, and the wires help prevent this unfortunate happening.

3) Cover the entire valve train with clean rags, and stuff multiple rags into the opening between the front cover and the head.

4) Carefully using a die grinder, cut the two chain links (at the front and rear side of the cam sprocket) at the top of the sprocket. (Cutting the link at the top of the sprocket means that the remaining links remain bedded in the cam sprocket teeth.) The rags prevent metal and abrasive disc particles from entering the engine.

5) Carefully remove all rags so that no particles fall into the engine.

6) Connect the new chain to the descending leg (on the right side, facing the rear) of the old chain using a split type chain link, and be sure to use the locking clip that comes with the link. This means that the end of the descending chain leg will no longer be bedded in the cam sprocket teeth, but the chain will be held tightly by the wires you installed. DO NOT remove the loose end of the ASCENDING chain leg from the cam sprocket.

7) Untie the wires on both ascending and descending chain legs. Don't let the ascending chain come off the cam sprocket teeth.

8) Use a large wrench to slowly turn the cam sprocket retaining bolt clockwise (facing the rear) to turn the cam. Turning the cam clockwise means that the descending (right) leg of the chain will be loose, but the ascending leg (on the left) will remain tight and the chain tightener will stay snugly in its bore. Go slowly and don't EVER turn the cam sprocket bolt counter-clockwise.

9) Continue turning the cam until the new chain has been fully pulled around the crank sprocket and the end of the ascending leg of the replacement chain is now engaged on the cam sprocket with the end link at the top of the cam sprocket.

10) Fasten both legs of the chain again with wire. This is for insurance, in case you let a chain end fall while replacing the split link.

11) Remove the split link, detach the old chain, lay the end of the descending leg of the new chain onto the cam sprocket, and reinstall the split link. Be sure to put the closed end of the split link retainer clip forward (to the right) relative to the chain motion.

12) Reinstall the valve cover and you're done.

Note that there was no mention of aligning the dots on the cam and crank sprockets with the punch marks on the chain. That's because with the chain constantly engaged in both sprockets, the relative position of each never changes. Note also that an extra pair of willing hands will make this job a little easier, and a lot less nerve-wracking.

-Z

Actually, Oxisolv doesn't have a Hazardous Shipping Charge, as I was surprised to find out when I just looked in the catalog. It's $10 for 16oz., $25 for a gallon, and $119 for 5 gallons. (You can tell which of Eastwood's products are hazardous shipping ones by looking for a Z at the end of the part no., which none of the Oxisolv part numbers have.

I like the idea of using the cheap Aquamix stuff to eat away the rust, then using Oxisolv to put on the zinc phosphate coating it provides after the rust is gone.

Bill Reagan wrote about using a rust eater product that didn't coat the steel with any kind of zinc coating, and said it would flash rust quickly, so you should immediately paint the BARE steel with zinc chromate primer (Dupont's Variprime WITH zinc chromate). I prefer using Oxisolv, not rushing, and using self etching epoxy primer. To each his own.

My point is if the product does not provide some sort of rust preventative, like a zinc phosphate coating, you need to be very quick to paint the bare steel. So if you use Aquamix, be sure to either hit it with primer or Oxisolv, etc. very soon afterwards.

One more thing. You must be careful not to use too strong an acid. If it's too strong, you start to get hydrogen embrittlement of the steel, which means that the steel gets brittle and will crack up easily. I found this out using straight Muriatic acid (HCL) for swimming pool use on steel. Plus, the stuff kept corroding the steel and was hard to neutralize. Stick with the weaker phosphoric acids. I'm not sure how strong Aquamix is, relative to Oxisolv. .... I'd guess Oxisolv is pretty weak, since it doesn't have hazardous shipping charges, and I can get it on my hand without it burning much at all. This is not a knock on Oxisolv, I may yet order some if it truly zinc-coats the parts.

It really does protect it from flash rust. I've left steel treated with Oxisolv in warm, humid environments for months and saw no rusting. But you shouldn't wait that long, I don't think.

Carl Beck also replied to Josh Pryor, beginning by quoting Josh's post:

Josh on Monday, asked: “I have a 240Z which is stripped to bare metal, what do you all think I should use as a base primer to ensure many years of rust free driving?”

That depends on a number of things that you didn't tell us.

If it was stripped to bare metal by dipping the entire body shell into a chemical stripping tank....then it must be dipped in a rust proofing primer. These are usually fish oil based primers.

This is the only way to assure that the body seam sealer which was removed by stripping and all the cracks and crevices that you can't reach, are sealed again with something. So the only thing you can do is dip it in whatever primer/rust preventive the stripping shop has.

Above that - if you are going to spray the primer on clean metal, then you need to use a self etching epoxy primer. Most major manufacturers supply this as part of their complete paint "systems." But I hasten to add, that this is intended to go over CLEAN bare metal. Also, any body filler MUST be applied over the top of this sealer to assure that the body filler doesn't draw moisture through the metal. (Moisture drawn through the metal, is mainly what causes the body fillers to bubble up a year or so after they has been applied).

IMHO - Best results are achieved when you visit your local automotive paint store, and select a specific brand of paint, then use that vendors products and follow their recommendations. (Don't mix vendors products unless you know what you are doing from years of experience and lots of paint jobs behind you).

–Z

anyway. The fifth is just for cruise. Sooo..... what the Toothless Man must be sayin' is that if had 3.7's you'd be runnin' 3175 rpm at 60, and that's perfect."

"What about the 3.9's? Spud asked. "Maybe they's more perfect."

"Well they ain't gonna be more perfect," Mack said, exasperated. "Ya can't get more perfect than perfect. But I guess we should see what the 3.9's would do." He set to figuring again and all was silent for a moment, with the shadows from the lantern flickering on the high wall behind them. Mack straightened up.

"The 390's would give ya 3347. That ain't much different, maybe 250 rpm. So the Toothless Man must figure "perfect" cruisin' is between about 3200 and 3450.

"What about fifth?" said Tom. "What's it doin' in fifth at 60?"

"Criminetly," said Mack, "wait a second." He went back at it with the pencil and paper and everyone fell silent. "That'd be...2892, with the 390's. That's about 300rpm too slow to be perfect. But you got those measly 336's in there yet. With that five speed you gotta be waay low in fifth. Least you ain't got a ZX box in there. That'd be worse." Mack leaned over the paper again and Spud snickered.

"Geeez," said Mack. "With 336's and a five speed you're only turnin' 2491 rpm. That's nearly a grand lower than perfect. You prob'ly gotta shift down to second to pass somebody."

Tom looked crestfallen. Suddenly he perked up. "Ok ok. What if I stick in that 354 pumpkin I got? Then maybe I could go to those 60 series tires I' been lookin' at. They're 24 inches tall. What'd that be?" Mack glared at him and then started figuring. "Won't help much," he said. "With 354's and a 24" tire you'd be at 2570. You gained all of 79 rpm. You're still 600 rpm short. That engine should be turnin' faster."

"Harharharharhar. Sounds like a hot cruiser just right for ya," said Spud with delight. "Race yore gramma."

"You don't know my grandma," said Tom defiantly. "She races in GT2 and her Z'll rip your lips off. Just ask Ollie."

"Who's Ollie?" asked Mack.

"Oh," said Tom, "sorry. That's in another story."

Suddenly there was a crash just outside the boathouse walls. Mack killed the lantern and they all hit the floor at once. "What's that?" said Spud in a shaky voice. A howl arose in answer from outside the boathouse.

"It's the Toothless Man!" wailed Tom. "He must've followed me here. We gotta get outta here. Yeow!!!" And they all scrambled for the secret escape door that would take them safely into the old train tunnel and down to Bridey Creek.

In the mist outside the boathouse, the Toothless Man stepped out from behind a tree, pulling a mastiff. It was only a matter of time. He knew where they'd go next. And there was plenty of time til the new moon.

Next Week: Tom in the Graveyard!!!!!

News from Z Specialties

Ollie Naugle, the Z Man, who will do a tech session July 18 on his anti-lock braking mod, crops up several times in this month's NewZletter. He recently passed on the schedule for his race car, and some other interesting news about a new product he now carries. First the car and its schedule.

Ollie's car races in the SCCA GT2 class and is active in the Northwest Region. It will race:

July 19 and 20 at Mission, B.C. at the Mountain View course at Mission Ridge
August 2 and 3 at Mission, B.C.
August 9 and 10 at Portland International Raceway, Portland, OR
August 16 and 17 at Seattle International Raceway
August 30 and 31 at Port Orford, OR
September 13 and 14 at Portland International Raceway
September 20 and 21 at Mission, B.C.
October 4 and 5 at Seattle International Raceway

If you attend any of these events, be sure to stand up and holler for Ollie.

The new product Ollie mentioned is a speaker box built for 1970 to '83 Z's. The box replaces the transverse rear trim panel at the back of the car (covering the tail lights) and has space for two 6-by- 9-inch speakers with room for tweeters. Ollie says is apparent that a lot of thought and development has gone into this unit and that it's well built. Covering options include fabric, vinyl, or carpet. The box has a jute lining and attaches easily with two Phillips screws. This is the same unit that Motorsport now advertises, but Ollie's price is better, and he'll give ZCCW members an even better deal. So if you're looking for a way to hide your speakers and improve your sound system, give Ollie a call at 206-363-3577, or visit him at Z Specialties, 19921 Ballinger Way NE Seattle, WA 98155.

–Z

Cool Z

Summer's here and will bring, for many of us, overheating problems (have you been on the Seattle "free"ways lately??). If your vintage Z loses its cool when the temps rise, you should check the following causes before you jump the gun and try to augment your heating system with a larger radiator:

1) Valve timing: Late valve timing can indirectly contribute to overheating by reducing engine power output and making the engine work harder. Cam chains stretch over time, making bad valve timing a common malady with older Z's. Also, make sure your crank pulley is really telling you where TDC is by double checking the TDC mark against piston position.

2) Ignition timing: Late ignition timing postpones the ignition of fuel and air and subjects exhaust valves and ports to very high temperatures which transfer into coolant in the head.

3) Lean fuel/air mixtures: A rich mixture runs cool, and a lean mixture runs hot. If you lean your carbs out too much, you fry the engine. That's why airplane jockeys consult the EGT (Exhaust Gas Temperature) gauge regularly. If you really want to be sure how hot you're running, install an EGT in your exhaust manifold to inform you directly of exhaust gas temps. Or install a homemade oxygen sensor to let you know when your running oxygen-deprived (lean).

4) Belly Pan: The stock Datsun belly pan, which runs aft from the radiator bulkhead between the frame rails, helps air move through the radiator. If past modifications have left you panless, find one in a junkyard and put it on.

5) Check inside your radiator for signs of corrosion. If you can see corrosion, the heat dissipation capabilities of your radiator are already being affected. Be sure to change antifreeze at the manufacturer's suggested intervals.

More on Rust Busters

You may recall a previous article in The NewZletter on Eastwood's anti-rust products. Three recent posts in the 240 group with further comment on these products--from Pete Paraska and Carl Beck--are worth repeating here.

Pete Paraska wrote:

Josh Pryor wrote: I have a 240z which is stripped to bare metal, what do you all think I should use as a base primer to ensure many years of rust free driving?

Walter Meares replied: I used an epoxy primer (PPG DP40). Before priming I used a metal treatment to remove any flash rust and put a light galvanizing coating on the metal. I don't remember whose product that was, but there are several out there.

(I got kind of preachy here. This subject is real close to my heart :)

I used Eastwood company's "Oxisolv." It is a phosphoric acid solution that contains some Zinc. It removes (not converts) rust and leaves a light Zinc-Phosphate coating on the steel to prevent flash rusting. There are other products, I'm sure, but this stuff does work. It takes time and temperature to do it's work, though, and you need to clean heavy rust off. By temperature, remember that the rust removal and zinc-phosphate treating processes are chemical reactions that have rates of reaction that go up with temperature. I found that if I heated the metal with a torch, or put a heater under the car (it was on a rotisserie), the reaction went much faster, and it was easier to get a more complete (darker) zinc phosphate treatment on the metal. This also speeds up rust removal. If you heat the steel too much it evaporates away quickly or boils off if you really over-do it. That high school Chemistry class was good for something, huh!? ... But for treating a car that's been stripped of paint, and maybe sand blasted, Oxysolv works great. I did just that to my shell after it was (gingerly) sand blasted. It stayed rust free in a garage in 20-60 degree F, sometimes humid weather for 6 months while I worked on replacing rusted-and-gone steel areas.

Whatever you do don't even attempt to use the rust "converters." They only convert the top layer of rust and it continues to rust underneath. If you can't get to an area (I had a few of those), and you suspect surface rust (it's there, Datsun did a horrible job of treating non-exposed areas), you might get away with something like Eastwood's Corroless. That's what I tried. Talk to me in five years and I'll tell you if it rusted through the back edge of my roof. What I'm saying here is REMOVE the rust, don't try to CONVERT it.

I agree with the epoxy primer. Zinc Chromate would also be good, but it's not as tough as the Epoxy, and may not adhere as well. All the resto-shops I talk to say the Epoxy is the way to go. Of course, I bet the EPA would rather you not use Zinc Chromate, since Chromium is one on their nasty list.

DISCLAIMER. I don't work for Eastwood or anything, I just spend a lot of my resto money with them. There are probably other companies that sell similar stuff. Their WWW page is at http://www.eastwoodco.com/

Stephan Youschak then wrote a reply to Pete's post, to which he replied as follows:

Stephan Youschak wrote: "RE: Pete Paraska's recent post on Eastwood's Oxisolv.... I found an alternative to this product that likely is locally available to almost all of you. It's called "Phosphoric Acid Cleaner", by AquaMix. The Aquamix liquid is available in quarts and gallon jugs, and it is cheap. Probably less than the premium Hazardous Shipping charges alone that I think may apply to a mail order quart of Oxisolv.... thus I can only guess how much more it would cost to ship Oxisolv. Perhaps Pete can shed some light on this."

HEI Woes

The GM HEI ignition module is a great way to inexpensively improve a "points" Z ignition system. It can, however, be a real headache to get working properly as Kyle Hagemann in the 240 group recently found out. I thought I would make the several posts suggesting advice into a story for this NewZletter edition, but to keep things short and manageable, I've just included Kyle's original post relating the problem, a listing of the key suggestions made, and the apparent resolution to the problem. First, from Kyle:

"This is pretty long, but please read it all. I'm dying here.... I just put the GM HEI on my '72 240. I used a '76 distributor, and a GP-Sorenson Module. The coil is still stock. It's not running quite right, at lower RPM / lower throttle openings. At WOT (or anything close) it runs GREAT! Big power! Unfortunately: 1) At idle, it stalls, then will immediately restart by itself. 2) Upon deceleration, it cuts out, in preparation for 1. 3) At cruise, it surges, and the tach jumps around."

Several people posted the following suggestions:

1) Make sure 12V is going to the module both when cranking and in the ON position. With the stock ignition 12V is supplied to the coil only when cranking, with a reduced voltage being supplied to the coil when running.

2) Recheck timing.

3) Check the distributor for excess shaft wobble.

4) Recheck the reluctor air gap. Min is .005 and max is .010. This is related to #2.

5) Replace the stock coil with an MSD Blaster coil. That coil (and some other high performance coils) can operate at a full 12 volts continuously.

6) Check your coil wire.

There were a lot of other suggestions that had more to do with fine tuning than with just getting the engine running consistently, but I've not included them because the answer to Kyle's problem is contained in the above six points. Here's what apparently happened:

Kyle used the stock coil and removed the ballast resistor as is usually done in an HEI swap. Removing the ballast resistor increased the running voltage to the coil to 12 volts. A constant 12 volts is fine for a high performance coil, but is a death sentence for a stock coil. As the stock coil burned out, the engine ran increasingly badly. When the coil began to leak oil, Kyle bit the bullet and bought an MSD Blaster. However, oil leakage from the stock coil apparently affected the conductivity of the coil wire, and even with the new coil, the engine ran erratically. Kyle was able to clean the oil off the coil wire, and when this was done, the engine began to operate normally.

Everything in this solution makes sense except the last part about the coil oil affecting the coil wire's conductivity, but as this NewZletter goes to press, that was the apparent cause of the problem; the engine is running fine now. If there are further developments in this saga, I'll report them next month.

-Z

When you've checked the things above, then consider:

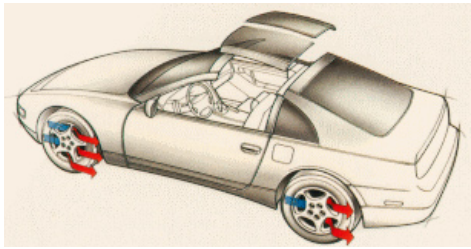
1) Sealing up the radiator support bulkhead: There are several large holes in the stock radiator bulkhead. Any air that goes through the holes does not go through the radiator. Plug the round ones with plastic plugs found in the electrical section of a good hardware store. Plug the oval ones with whatever you can find (Mr. Duct Tape, dog toys, chewing gum, etc.).

2) Installing cooling intake air baffles: In the stock early Z, once air has passed the bumper, it can bypass the radiator by going underneath it. Fabricate a light gauge aluminum stock or ABS plastic panel(s) to prevent cooling air from bypassing the radiator. The same situation is true in Z's which have forsaken the stock valence in favor of an aftermarket spoiler. Remember: air that doesn't go through the radiator is simply aerodynamic DRAG which requires horsepower and increases cooling system load.

3) Installing an oil cooler: Oil coolers are a good idea some of the time. If you live in a warm-to-hot climate, you're a candidate. If you live where the winters get chilly (like it does here in Washington), be sure to install a oil cooler thermostat valve to allow the oil to warm fully before being routed to the cooler.

ANY kind of overheating can warp the cylinder head, or cause head gasket, valve, or valve seat problems. Any kind of deterioration results in a higher cooling load and leads to a more rapid deterioration. Prevention is the key here. Don't wait for it to happen to you.

-Z



Quick Bits

Club Mailing Address

Have you ever tried to mail something to the club and found yourself asking what address to send it to? Does it go to the return address on The NewZletter, or the address on membership application, or the address for placing submissions to The NewZletter? Well, to help alleviate this confusion, we have narrowed the choices. For matters of timeliness the mailing address for submissions to The NewZletter is the same (see credit box p2). The new main mailing address is:

Z-Car Club of Washington
18505 Alderwood Mall Pkwy. Suite # 1-419
Lynnwood, WA 98037-8013

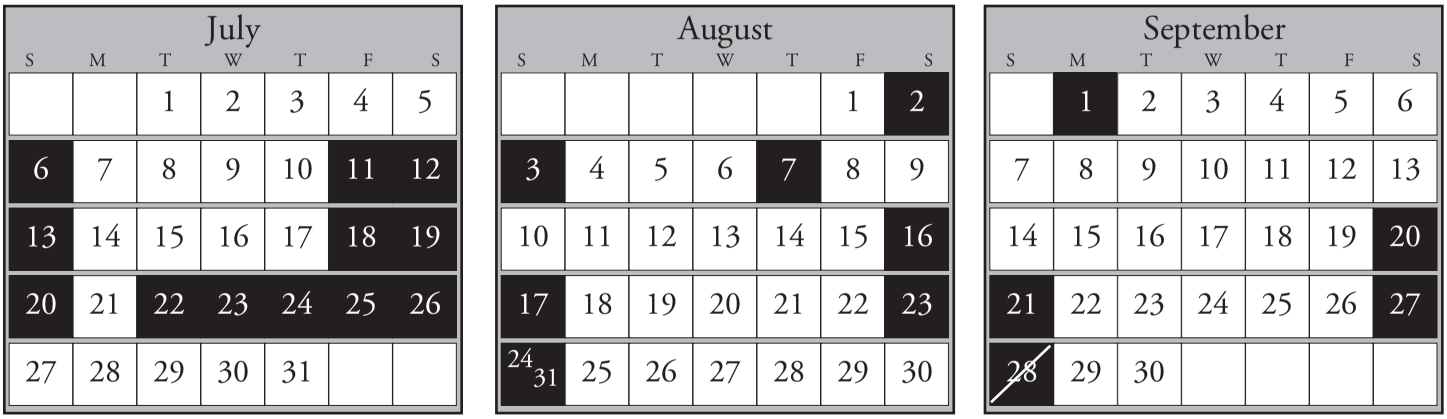
Electro-Cool

I junked the stock water-pump-mounted fan on my Z five years ago; I didn't care for that old, out-of-balance plastic fan flying around out there next to the radiator, and I didn't like the fan roar. An easy alternative to the stock fan is an electric fan from a 280. These fans are common and inexpensive at junk yards, and they bolt in easily. Be sure to install a 30 amp fuse in the positive electrical feed wire. Most people will want to install a thermostat switch so the fan comes on automatically, but it's a good idea to also install a cockpit switch (with a tell-tale light) to help you keep ahead of your Z's cooling needs in bumper-to-bumper traffic. Always turn on the fan before it's needed.

Preventing Broken Bolts and Studs

As noted in the Cam Chain piece later in this issue, broken bolts can slow down a repair to a crawl. Prevention in this case is by far the best cure. I've said it before, but it bears repeating: if you want to avoid future problems, there are some bolts and studs that you absolutely must coat with anti-seize whenever you remove and re-install them. These include the front cover bolts; any exhaust system bolts or studs; any suspension bolts that are exposed to water; any steel bolts are installed in aluminum castings; and especially the three thermostat cover bolts. And, to repeat once more: nickel based anti-seize works better in high heat situations than does copper based anti-seize.

ZCCW Automotive Activities



July 6
Waterfront Park All Nissan Show & Shine, North Vancouver, BC. Hosted by B.C. Z-Car Registry. Info: 604.987.4416 .evenings between 6pm-9pm

July 6
NWR/SCCA Regional $5 - Kent

July 11-13
5th Annual Mt. Shasta All Datsun-Nissan Meet. Mt. Shasta, California. Contact Dennis Hale at 408.336.2444. For details check http://dimequarterly.tierranet.com/events/97shasta.html

July 13
BSCC Event #5 - Bremerton

July 18
,ZCCW Tech Session at Z-Specialties 19921 Ballinger Way, Seattle

July 19
ZCCW General Meeting/Picnic. Larabee State Park

July 20
WWSCC MCPS Sports Car Spectacular '97 - Kent

July 22-27
10th Annual Z-Car Club Convention, York, PA

July 26-27
SCCA Seattle National Tour - Kent

August 2-3
West Coast Z Event, Nissan Headquarters, Gardena, CA, by Group Z.

August 3
B.C. Z-Car Registry Annual Whistler Run

August 7
BSCC Time Trial - Bremerton

August 16-17
ZCCW/BCZCR 3rd Annual Port Townsend Meeting of the MindZ. Also, Port Townsend Kiwanis Classic Car Show.

August 23-24
3rd Annual Hot August Swap Meet & Car Show - Bates Technical College, Tacoma. Opens 8am, Adm $1.

August 24
WWSCC BEAC Enduro XXVIII - Kent

August 30
ZCCW General Meeting

August 31
NWR/SCCA Regional #6 - Kent

— What's Coming Up... —

October 4
Road trip to Leavenworth

October 5
Rally "" Kids, King County, WA.

October 11
Crazy Days Car Show. Arlington/ Lakewood

October 11-12
29th Annual Monroe Swap Meet, Evergreen Fairgrounds.

October 25
ZCCW General Meeting - Location TBD

– 1998 –

February 28
Nissan Datsun Sports Owners Club, Inc. 30th Anniversary black tie event. South Yarra VIC Australia

July 20-25
11th Annual Z-Car Convention

The ZCCW draws its calendar information from many sources. If you would like to be one of those sources and have automotive events that you would like to have included, email Michael at mswhite@sos.net.