



August 2014



Showing off your car, that's a big part of why we own these classics. Whether we will admit it or not, the pride you feel when someone shows interest in your ride really can make your day. It's a high of sorts, and the Car Craft Summer Nationals is my drug. For some car buffs, the opening night of their local cruise spot is a personal deadline for their winter project, but I don't work that way. Most of the winter I'm busy with family things, so spring and early summer are my times to get things done. Because of that, the Car Craft show was my deadline to finish a new shifter install (more on this later). It came down to the wire, putting finishing touches on just in time to get a pre-show wash and vacuum done. I literally only got a quick trip around the block before it was time to pack the car up. Getting it done last minute like that just adds to my excitement.

Another part of why Car Craft is my "crack" comes from a tradition started several years back called the Dawn Patrol. It started with a group who wanted to make sure we got one of the precious parking spots, so we showed up early... real early. 3am is the perfect time where everyone could arrive close to each other in line and hang out as a group. For several years John D even brought a camp stove and prepared breakfast. Not only were we already noticed by our cars and prime parking, we now had hot food and coffee. Unfortunately, it became too much work and took too much space. Every year, though, I still show up about 3 and hang out with all the other crazies on Como. The people you meet, the stories you hear, it happens completely without all the chaos of a car show. Aside from the occasional echo of nearby street racing, it's pretty quiet. Of course, you will see people sleeping in cars, but most have taken to chairs in the grassy boulevard or across the street at the restaurant supply parking lot. Nobody cooks, though.

Once they open that gate, I get that warm feeling. It starts when you show your wristband, grows as you take that first left turn off Dan Patch, and peaks at the drive past the barns up to the haunted house. Like a heroin addict, I get that feeling coursing throughout my body and then a comfortable calm settles in. The rumble of my car disturbing the peace, the smell of warm exhaust in the cold summer air, and the thought of the day's excitement hits. I've arrived.

Over the course of the weekend, I fuel my "addiction" by visiting vendors and planning what will be my next winter's project. I did meet with some online friends in attendance, and actually looked at a few other cars even. While walking around with Steven C and his pop, we made time to watch the Comp Cams Engine Build Challenge (covered later) and spent some time at the autocross track too. The Saturday meeting is one of the best attended of the year, and we all got to see some of the people we may only see once or twice a year. I spent about 40 hours at the fairgrounds and did as much as I could in that time. I met new people, saw some cool stuff, said Hi to old friends, and just lived the scene in the moment. I'm already looking forward to next year, and I fully expect to do it all over again. Luckily, this junkie only needs a yearly fix.

Car Craft recap:



Our club had a pretty good turnout. So good, that unfortunately we actually didn't have enough spaces for all of our members. I do know of several that already had plans parking with friends in other areas, and in one case, under the TPIS vendor tent.



Winning!

Again this year, Northstar Chevelles was able to continue its award winning streak at Car Craft. Chris P aka 67SS and his co-worker Todd were picked to compete in Saturday's Comp Cams Engine Builder Duel. The idea is simple: start with a crank and 4 of 8 pistons installed in a small block Chevy engine, and as quickly as possible, use the provided tools and remaining parts to assemble a fully functioning engine with will fire and stay running for 1 minute. There are a few things pre-done like rings on pistons, the heads are assembled, and the carburetor is actually a



F.A.S.T. unit already bolted onto the intake. Other than that, you install the remaining parts. Chris and Todd did it in a very time of 27:26. The other team finished in 30:19 with a little finishing help from the Comp Cams judge. Just for competing, they all a t-shirt and hat, and for winning, Chris and Todd each received a \$250 gift certificate from the Comp Cams family.





This is the in-car view from Friday and Saturday mornings. It looked like a parade snapshot. Imagine this coming through town. Well, you *can* live it... *if* you attend the Cruise for Troops.



Shifting Gears:

My '72 Malibu started out as a bench seat and column shift car. Somewhere in its past life, the owner swapped in a pair of ill fitting white Camaro buckets. I think they were chosen because they vaguely matched the interior. They were passable, though poorly mounted and worn out. At least they matched the barn find/survivor patina the rest of my car had! When the engine and 4L60 transmission were ready for install, I opted to go floor shift. Following my mantra of "used OEM is better than bad aftermarket", I picked up an original console base and was given an original horseshoe shifter for being Best Man in my best friend's wedding (we all got car parts!). When I swapped in the round gauge dash, black interior, and ProCar seats I thought I was pretty much done and drove around for a few years like that. I started to find that I would overshift when I was manually running through the gears. The factory horseshoe/staple design does not have a positive detent for each position. In previous cars, I have had factory floor shifters that made a distinctive drop into each position, and I wanted that again. I had a B&M Megashifter once, but that wasn't happening in this car. After doing some research and finding different ways to correct the factory version, I looked at other options from both modern and vintage cars.

Immediately dismissed from my list were shifters that couldn't be adapted to the overdrive gear selection. Quickly following those were ones that would just look too awkward in a muscle car. I wanted something that would look appropriate for the era, and considered other factory type shifters as well including modern car ones from any domestic or foreign vehicle. High on that list were the second generation Camaro and C3 era Corvette ones due to their compact design and available conversion kit from Shiftworks. Another factory design that I kept coming back to (and



2nd Gen and Camaro and C3 Corvette shifters



His/Hers

even chased a few to purchase) was the His/Hers shifter, also known as the Hurst Dual Gate. Factory installed in a Hurst/Olds and some GTOs, it had the look I wanted, could be converted, or use their overdrive specific version called Dual Gate 2. The down side to it was the cost. Original ones or very nice used ones were pretty scarce for a good price, so I looked at the aftermarket.

After doing quite a bit of research, I found that there are only just a handful of non-OEM shifter manufacturers, and even fewer making anything that fit my requirements. Hurst and B&M top the list, with a few smaller companies filling in certain niche markets. I was able to work up an idea using a B&M Quicksilver shifter that would have been cool. The Quicksilver is a ratcheting style, though it returns to the same central position after each shift. My idea was to mount it in a



Art Carr/Winters shifter



Quicksilver

factory type console (Camaro, Corvette, etc) and mount a manual transmission shifter boot over the lower mechanism, then swap on a different shifter ball. It would appear as if it were a stick shift, but function as a manual. That ranked pretty high on my list too, but then.... I was reminded of another company.

Several years ago someone showed me a factory style shifter that was custom made by a guy in California. You could pick the handle type, he could cut any type of shift indicator you wanted, and even add an anti-theft lock. While searching, this company came back into focus and I decided it was time to shift to a new umm, shifter. I chose the Lightning Rod shifter from Kilduff Machine. The idea is simple: one lever sets the car into the PRND gears, and pulling it all the way back drops you into L (1st gear). When that happens, the three levers to the right fall forward and are ready for manual shifting. Pulling each one back shifts your transmission by kicking an internal metal plate forward with each pull. That plate has a B&M cable and attached to it, and when the plate moves the cable, the transmission shifts. What's really cool is that you can also downshift each one too!



Options include knurled or butcher block handle, brass knuckle, grenade, or guillotine trigger, black or silver finish, and just about anything you want on the indicator plate. Made for 3 or 4 speed.

Mounting the shifter was pretty simple though I did have to make a floor bracket to mount the shifter level. My cell phone has a built-in bubble level which made doing that real easy to do. The hardest part was finding the specific forward/aft



Before and after, see how radical the new shifter is. Yes, it draws attention.

placement, allowing the cable to move freely into the shifter while still keeping it in perfect position for no-look shifting. It looked good, but it needed a console and different shifter handles.

This part of the project is where things got a little sketchy for me. I attempted 2 things that I was unfamiliar with: metal work and machine work. Sure, I can tell someone the basics, but doing it is another thing. The console I built was pretty simple: make 2 identical sides and bend a top over them. Screw it together, and you're done. While it was just like that, I found way more work was involved. Lucky for me, I have cable TV and have watched Jesse James and Paul JR demonstrate the process as they build motorcycle gas tanks, seat pans, and custom fenders.

Step one is draw it out. You don't need much more than a sketch, just something to keep you on track. I wanted the basic shape of a factory Chevelle console and remembered that there was a taper to follow the floor while the top was level. I wanted it to extend under the dash, and continue to the seat belts. Unfortunately, the shifter's mechanism prevented it to be one all piece.

Step two is a rough shape made from cardboard, stiff foam, or even beer can boxes. The idea is to get the shape made into 3D and dimensionally correct. I had some good stiff cardboard which made it easy to shape, and even screw pieces together. After several trial pieces, I had the sides cut to the contour I needed, and made a top to match. When working with cardboard or foam and you need to make a bend, cut a line on the inside face of where you need the bend. This will create a kerf which keeps the material from binding and resisting the bend.

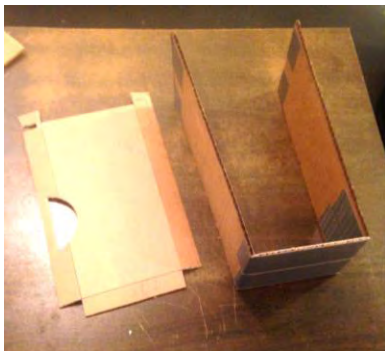
After making my 3D unit, I was able to put it in and make any adjustments to the design. This is the time to make sure there's no interference and dimensions are correct because you're building the real deal based on this piece.

The next step is disassembly and replication. Sounding very simple, the process is essentially making the exact same thing out of metal. I chose 18ga steel since it was on-hand at my local Menards. Yes, I am aware that I could go to one of several steel suppliers and save, but Menards is literally a block away. Gas costs money too, plus my time can be scarce. I bought a sheet large enough to cover both the front and rear console pieces.

The specialized tools needed for this build are simply an angle grinder to cut and finish the metal edges, and a way to bend the top over. The rest of the tools can be found in just about any garage. I picked up a Harbo Freight benchtop sheetmetal brake from a coworker for \$30 which did the trick. Cutting metal is dirty, and getting a nice clean, straight cut with home tools will take some time. I also dressed the edges so it wouldn't snag my carpet or my hands. After a few edge touch-ups and test fits, it was ready for paint. I did choose to add in a 12V power outlet now since it would be easier than after installation. Later I will be adding a cup and cell phone holder. After painting, I did the final assembly using chrome Allen headed bolts, keeping the muscle car look.



This is the final model. I will be adding an LED cup holder from World Speed Shop in the future.



Scrap cardboard templates

The rear console piece was a little different design. The front had an open end under the dash, but the rear needed a finished look which meant enclosing it. I went through the same process, but this time I used one long piece of metal which would wrap from one side to the other and then cap it off like the front. It required a little more thought since I had to make it a certain width and then match the top to that dimension. It's trickier to do once you start bending metal. I did get it pretty close, and after some trimming I had the top folded over and mated to it nicely. Remember that those bends do add length.

The next project was even more daunting for my skills: shifter handles. The shifter comes with plain black balls. I could have ordered pistol grips from Kilduff but they didn't have the right look to me. I also had found a Hurst version at Pep Boys, but it didn't feel right in my hand. The finger spots were evenly spaced and very pronounced, which is not how your hand grips a shifter. I even grabbed a real pistol grip and held it for a while to get the feel. What I settled on was something of my own design made specifically for my hand, and shaped for each gear grab.



I needed material, and found Midwest Steel Supply in New Hope to be cheapest. When I got there, I found a 26" "drop" (remnant) of 1x2 6061 aluminum, the perfect size for what I needed, and it was only \$16. I also picked up about 20 pounds of hot roll drop pieces at \$0.40/lb for future projects. With the metal bought, the next step was cutting it. I have a metal chop saw, but apparently it would prefer to not cut something that solid. I did it, but in the future I would look to have it pre-cut or find someone with a metal cutting bandsaw to help. I cut off three palm sized 4" blocks for the for the main rods, and one 3" chunk for the PRNDL lever since I would be



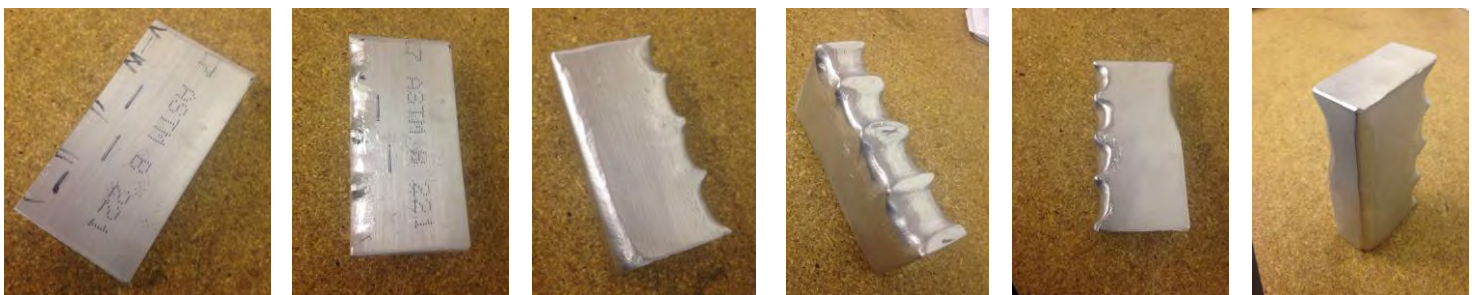
be grabbing it differently.

Among the other skills I would be learning on this project are drilling and tapping. I have drilled holes, and I have tapped too, but never done a blind tap, especially where the finishing position would be somewhat critical. What made this a little more difficult is that only one shift lever actually is straight up vertical. The others are canted to the side at different angles to keep the levers from hitting. I also wanted to position the handles to fit as I grabbed them. That meant drilling 3 of the 4 handles not only angled left to right but also angled forward to back, so I went to the new drill press that I bought specifically for this project. I needed one eventually, but this was a good excuse (cue the Tim the Tool Guy Taylor grunt here). I created a jig that held the lever in position and drilled into the soft aluminum making that neat silver spaghetti.



Tapping is the same whether you are just threading a hole or threading more than an inch deep into block. Start straight, go slow, and use a lubricant. Make sure you back out the tap and clean out the bits as you go. When you think you're done, go through it again several times to get all the little scraps out so the tap inserts with little effort. Since these are handles, I had to make sure the threads finish with the handle in the correct position. A few more degrees of turning brought them into perfect alignment, and I will add a set screw to make sure they don't loosen.

Shaping the handles is more of an art form than anything. I walked around my garage holding a rectangular block for several minutes trying to get a feel for the size, then I threaded it onto the lever again. With my seat in position, and my body settled like I was driving, I closed my eyes and reached for the handle. Holding it tight, I used a Sharpie to mark the outline of my fingers and circle the places where it met my palm and would need relief. I did that for each handle, marking the underside with the gear and which way was forward, and then set to shaping them.



Having never really shaped aluminum, I found that the carbide bits work well, but need a shot of WD40 to keep the bit from clogging. I also found that using an angle grinder with a 1/4" grinding wheel helped remove large areas of material pretty quickly. This helped a lot on the corners where I could cut into them, then smooth it out after. Once roughly shaped, I would grab the handle again and feel for anywhere that needed adjusting. The final shaping was done with 3M Roloc discs which helped smooth out the grinder marks and take off the extrusion marks from the remaining flat faces. Finishing with a simple clear coat, they were finally done.



Club gear available at:



www.IDthreadz.com



Upcoming shows:

(Not all are listed, see
CarShowNationals.com for more!)

8/3 Muscle Car Classic
Arrow Buick 7:30

8/9 Cars under the stars
Village Chev 6:30pm

8/10 New Brighton Show/swap
8am, Long Lake park

8/8-8/10 Northstar Impala Club
Iron Range Tour

8/16 Summer Classic (NCC Camaros)
Jeff Belzers, Lakeville 6:30pm

8/16 CLUB MEETING
DEREK AND JENNA'S, noon

8/17 Friar Tuck's 1st annual, Forest
Lake 10-4

8/23 Christ's Cross Show, 9-3
Family of Christ Church, HamLake

9/13 Anoka Cruise Finale 9-4
Anoka High School

9/13 Helping out our American Heroes
(HOOAH) Mac&Chesters 10-4

9/27 Cruise for Troops
Route 65 Classics Ham Lake
CLUB MEETING

10/11 Frankensteiners Ball 9am
Anoka County Fairgrounds



Recurring shows and cruises:

Anoka cruise

Most Saturdays 5-9pm

Info: www.anokaclassiccarshow.org

St Francis City Center Mall

Fridays 5-dusk

Info: Dick Henz 763-753-1092

Ricky's Embers in Fridley

Thursdays 4-8pm - Labor Day

10% off total bill

Hastings cruise

Every other Saturday

Info: www.Hastingsdowntown-mn.com

Stillwater Cruisin' on the Croix Wednesdays 5-9pm

Info: www.discoverstillwater.com/events

North St Paul History Cruise

Fridays 6-10pm Info: www.historycruzer.com

MN Cars and Coffee AutoMotorPlex Chanhassen

1st Saturday 8-11am

Meister's Bar & Grill Shoreview

Saturdays 5-10pm

Lookout Bar & Grill Maple Grove 3rd Wednesday 6pm

15% off food, Raffle/door prize

Culvers Anoka

3rd Thursday 5/15, 6/19, 7/17, 8/21, 9/18

RiceKillers Monday Nights,

Champlin Ice Forum, 6:30pm, free