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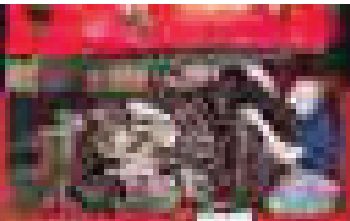

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POWER TRIP PART III

TRANS MODS AND A KILLER STREET/STRIP TORQUE CONVERTER

BY RICK JENSEN
PHOTOGRAPHY BY THE AUTHOR

Last time out, my big-horse LC2 build had progressed to the point where I could ship it from Florida to Ron's Custom Auto in Jersey for final assembly and installation into my awaiting 1987 Turbo-T.

Though the engine sat expectantly in a corner of the shop, I decided to take a break from the motor build as my brand-new Precision Industries torque converter had arrived.

With my TR being a street/strip ride, I wanted to be able to up the stall speed for the bigger turbo and retain the converter lockup function on the street for better mileage and lower revs—that's a no-brainer that many converters, including the 10.5-inch lock-up unit currently in my 200-4R, are capable of.

But I also wanted this high-powered Buick to be able to abuse the hell out of the converter without it flinching, as well as lock it up at WOT for the best performance possible—and for that, I would need a multi-disc Vigilante.

The secret to this WOT lockup madness is the multiple clutch discs used in this converter. Guys with near-stock Turbo Buicks tapped into this trick for years with the factory 12-inch converter—and picked up some decent ET as well. Trouble is, the stock-type lock-up clutch in most converters isn't built to take this kind of abuse, and at the kind of power level I'm shooting for, it would be stupid to even try it—except with Precision's three- or five-disc offerings. I chose a five-

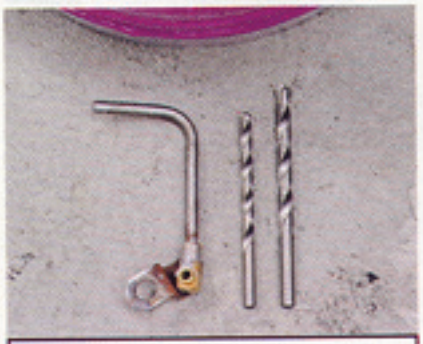
disc, 9.5-inch unit for maximum reliability.

Correctly sizing the turbo and torque converter can be tricky, especially if the Buick will be used in a street/strip capacity. Based on the size and type of the turbo I chose, as well as my goals at the drag strip, I requested a Vigilante with approximately a 3,300- to 3,500-rpm stall speed. The multi-disc option will enable me to lock up the clutch at WOT for additional gains, and I purposely made the stall a couple hundred rpm higher just in case I wanted to try a bigger turbo down the road.

However, choosing the multi-disc meant installing a pump kit into the trans. The 200-4R is notorious for cross-leaks in the valve body, and a pump kit ensures better clutch apply. This is not extremely complicated, but I thought it was best to leave it to a pro—enter Dynotech's Eric Schertz. Since he built my 900-horse-capable Hi-Pro transmission, he was the right man for the job. Follow along to see how it's done. ■

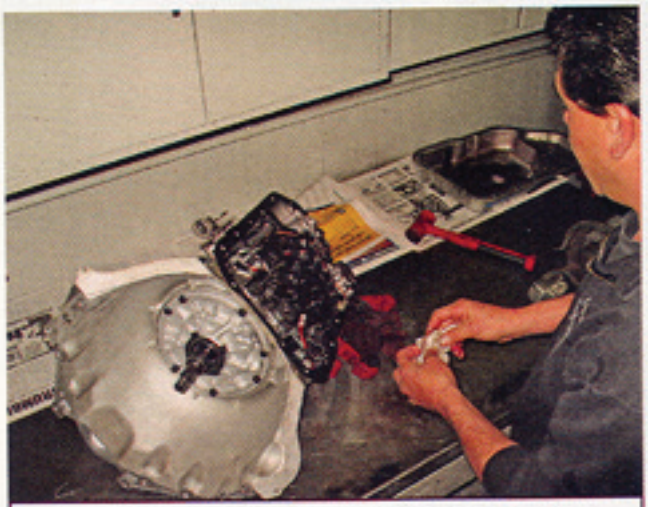
Here's how the Hartline LC2 looked when it got to Ron's Custom in New Jersey. It's very close to being completed and I will be putting the finishing touches on it soon. But for now it's time to concentrate on the torque converter and a necessary transmission mod.

The Vigilante multi-disc converter is a really high-tech piece: the five-disc clutch features Precision's proprietary material, and allows ultra-powerful TRs to lock up the converter at WOT without any ill effects. A billet front cover provides the ultimate in strength—these converters are rated to 1,600 flywheel horses. Even the paint is trick: it's temp-sensitive to warn you when the fluid has been overheated. You get all this, with a 2-year warranty and one free stall speed adjustment, for $997.

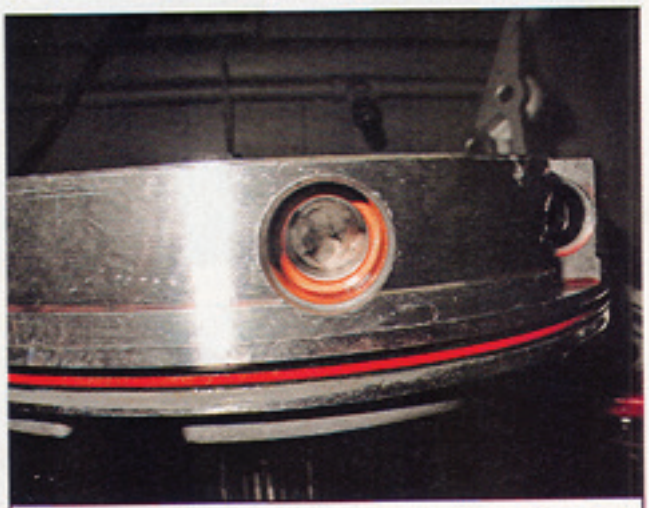


Precision's $60 pump kit works by taking fluid from the filter feed and diverting it to the lockup ciruit for the multi-disc clutch.

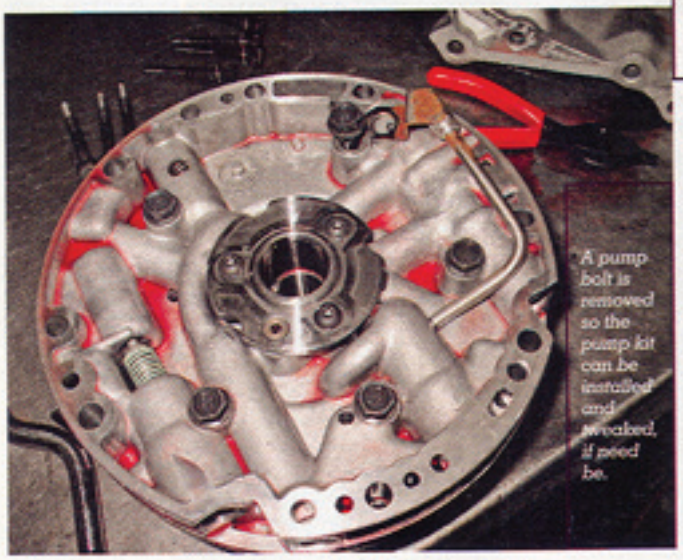
You may remember that this Buick was the recipient of a Dynotech Performance Hi-Pro transmission rebuild a couple of years ago. As this unit has very few miles on it, only the pump kit mod and a converter change will be necessary to meet my 10-second goals. Dynotech's Eric Schertz is doing our pump kit install.



He began by draining the 200-4R of its fluid. Next, the 16 pan bolts are removed, along with the filter and lockup solenoid.

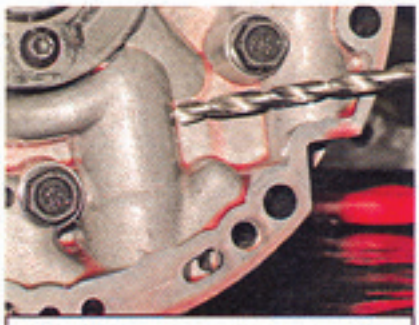


Seven 13mm pump bolts are removed so he can pull the pump out. You guys at home can use a prybar to access the pump through the holes in the case, gently "walking" it out. Next, he removes the pump gasket and front pump washer, and snap ring pliers make short work of the lockup valve assembly. Here's a shot of the pump filter cavity, where Eric will be drilling. He wedges a paper towel into it to prevent metal shavings from getting in.



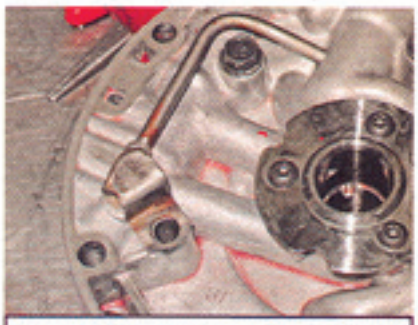
A pump bolt is removed so the pump kit can be installed and re-torqued, if need be.

Eric grabs a center punch to accurately mark where he'll be drilling.



A 9/32 bit is used to drill into the filter pickup cavity. Air or brake clean can be used to remove any residual shavings.

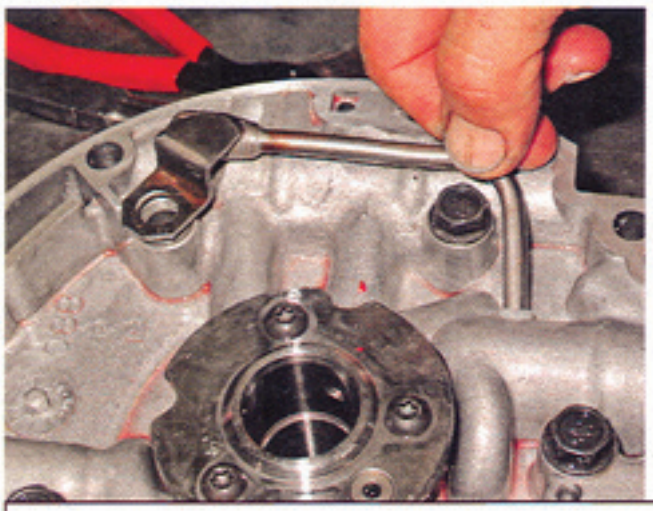
Next up is the 15/64 bit, and Eric repeats the process. Air is again used to clean out all debris.

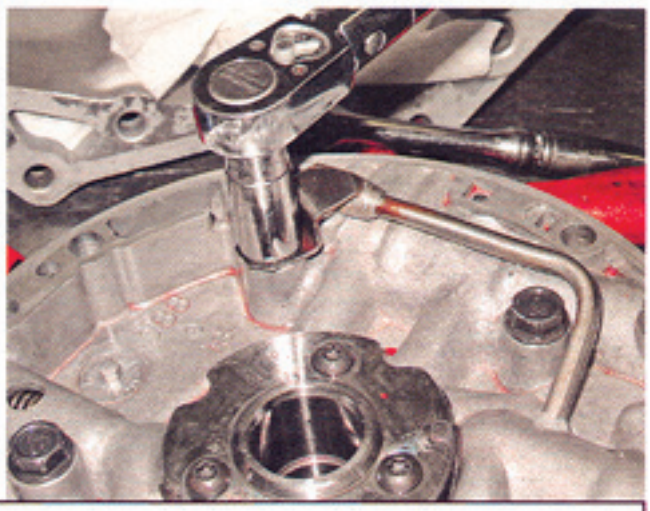


The tube is now test-fit: Eric gently bends it to adjust the angle so it lines up with the pump's new hole.

With the hole in the pump and the tube bent correctly, he mixes up a batch of J-B Weld and applies the mixture to the underside of the tube and the area of the tube that slips into the filter cavity. No way this puppy is getting loose!

POWER TRIP PART III





The tube's contact area is cleaned off, then Scherts tightens the original pump bolt to 18–20 ft-lbs.

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• Stock crank	N/A	$0
• Stock rods	N/A	$0
• Machine Work	N/A	$1,200
• RJC Girdle w/studs	RJC-231d	$399
• ARP Head studs	123-4203	$84
• Champion iron heads	GN1-4000A	$1,195
• Champion ported manifold	GN1-25527221PM	$275
• COMP Cams roller cam	69-000-8	$363
• JE custom piston kit (includes pistons, upgraded chrome bar stock wrist pins, rings, locks, pin-fit option)	235223	$860
• Cometic head gaskets	C5691-036	$140
• Rollmaster timing chain	Hartline Spec	$135
Part I Costs:		$4,651
• COMP Cams roller lifters	853-12	$423
• COMP Cams 5/16 pushrods	7966-16	$170
• T&D shaft-mount rockers	6000	$508
• Champion fuel rails	GN1-6100	$249
• 75 lb injectors	17113742	$375
• RJC oil pan	RJC-DSOP-20	$249
• RJC pan gasket	RJC-PG	$20
• RJC pulley 7-pc kit	N/A	$399
• GM crank sensor	N/A	$60
• Water pump	N/A	$60
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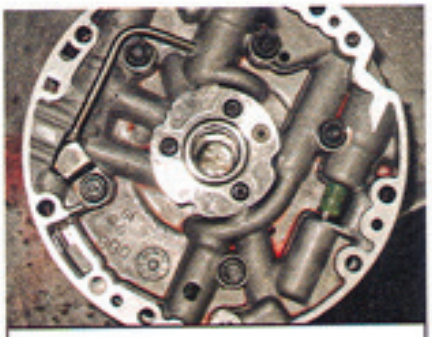
• Engine paint	N/A	$10
• Valve covers	N/A	$140
• Valve cover gaskets	N/A	$30
• Valvoline 10-40	N/A	$10
• Oil filter	N/A	$5
Part II Costs:		$2,738
• Pump kit	2004RPTK	$60
• Precision torque converter	N/A	$997
Part III Costs:		$1,057
Total cost to date:		**$8,446**

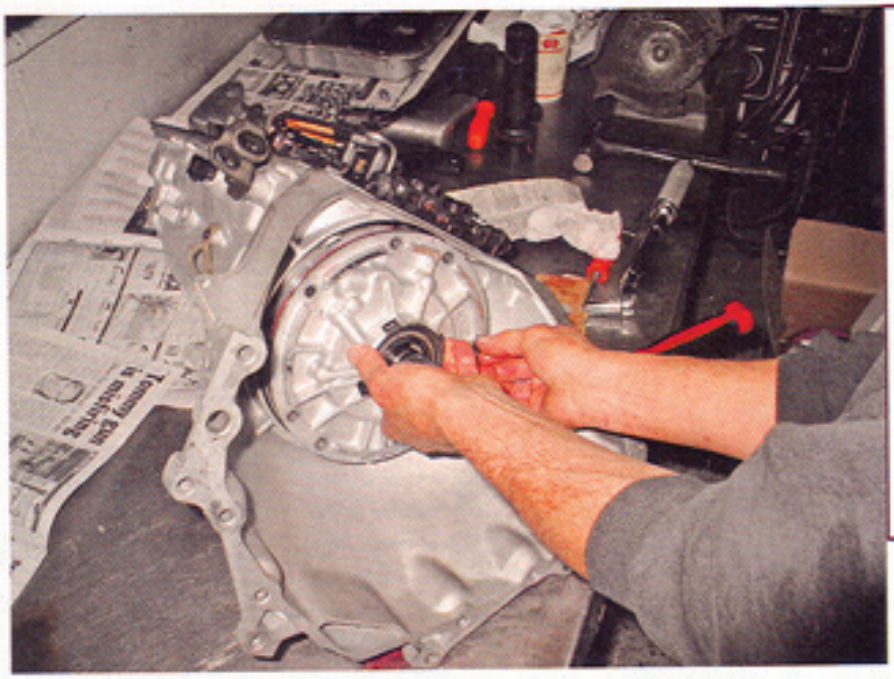
Barely discernable in this photo, the tube is visible in the upper right-hand corner of the cavity.



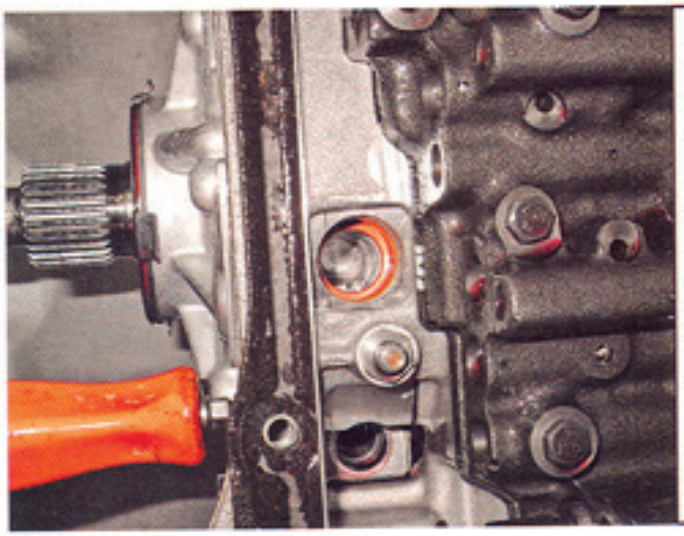
My 200-4R's newly modified pump with the kit installed.

Here we're working with a recently rebuilt trans with very few miles; if that's not the case, a new pump gasket, O-ring, seven pump washers, and a filter and pan gasket should be used during reassembly.

POWER TRIP PART III



Schertz reassembles in the reverse order that everything came off, and our pump kit-enhanced 200-4R is ready to accept the multi-disc Vigilante. "The most common mistakes with this modification are leaving the lockup solenoid bolts loose and not seating the lockup snap ring in its groove," Eric warns. Watch those areas and you'll avoid headaches.



Eric uses a pump bolt to guide the pump back on, then a rubber hammer and a screwdriver are used to get it into place.

SOURCE

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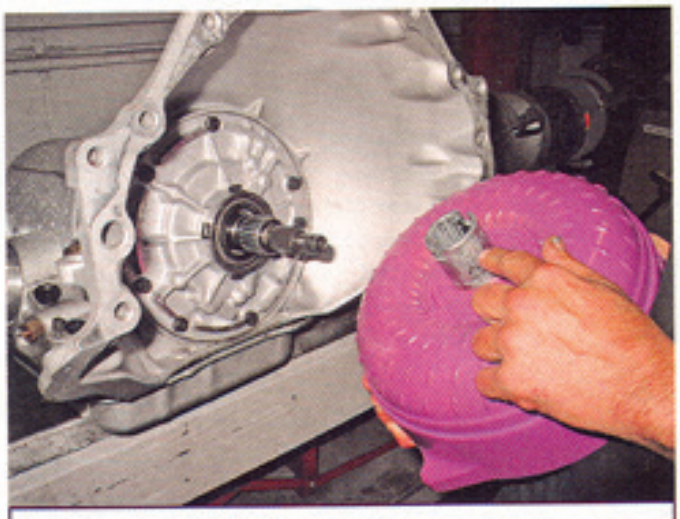

Finally, Eric demonstrates how the new converter will slip on. I'll wait to install the Vigilante converter—tune in next time as I continue this Buick buildup.