

TARGA

NEWFOUNDLAND 2015



BMW'S HAVE WON THE OVERALL TROPHY, BUT IT'S A FIRST FOR BMW IN THE TOURING CLASS—IN A 328xi WAGON.

STORY AND PHOTOGRAPHS BY MARINUS DAMM

In September, the easternmost province of Canada was the venue for the fourteenth running of Targa Newfoundland—the only Targa-style rally in the Americas. Built around the notion of “raising the bar,” on each successive day of the event, the target times become harder to achieve. It’s five full days of competition, starting and ending in the capital city of St. Johns.

This is not on a race track; Targa Newfoundland runs on the same narrow roads and byways that the islanders traverse all the other weeks of the year. During the rally, however, the roads are closed to normal traffic, and marshaled

by hundreds of volunteers in order to assist the organizers in maintaining safety along the 1,400-kilometer route.

And there we were, in our 2012 BMW 328xi sport wagon, entered as #1009 in the Grand Touring class.

“The Rock” is well off the mainland, surrounded by the Atlantic. Unless you air-drop your car, you must take a ferry. You’ve two ferry choices, a six-hour 100-mile crossing or a fourteen-hour 320-mile run. The first lands you on Newfoundland’s western edge, still 900-plus kilometers from St. Johns. The second option brings you to the near side of the Avalon peninsula on which St. Johns sits.

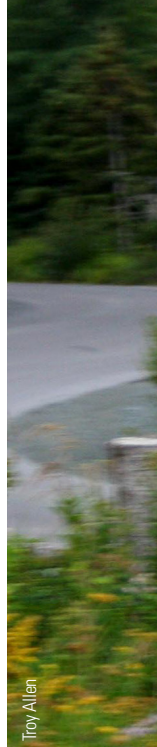
We’d opted for the latter, since the drive in from that dock is just 130 kilometers.

But where do you *board* the ferries? At the northeastern tip of Nova Scotia—about 3,800 miles from our home in Portland, Oregon.

So, Step One: get the car to North Sydney, Nova Scotia. We considered car-transport services, but the price quotes for a round-trip carry exceeded the cost of the Targa entry fee. Since the wagon is a great road-trip car, and fuel is relatively cheap, we thought of driving it ourselves—but the prospect of adding two more weeks to our time off from work didn’t go over well with our

Robert Reinhardt

Ralph Saulnier



Targa Newfoundland takes rallyists through the towns of that Canadian island—often at high speed.

You might think that an E91 328i wagon would be a poor choice for a rally car, but you would be wrong.

employers. Turns out, however, that we know two couples who were interested in expenses-paid cross-country jaunts. So we loaded the wagon with equipment and spares, and sent Transport Team #1 on their way.

A week later, we flew to Portland, Maine—Portland to Portland!—to rendezvous and take over the car. We'd then have about ten hours of driving to the

ferry dock, and sixteen hours to do it.

That was the plan. But airline travel can go *so* wrong.

As we were parking the car at PDX, our airline's auto-texting system notified us that our flight would be late. The buzz-buzz of similar texts arriving grew so familiar that by the following morning, I no longer noticed new texts; they were just part of the background. We landed

in the other Portland sixteen hours behind schedule.

While Team #1 flew home, we drove through Maine, New Brunswick, and Nova Scotia. We had no chance of making our original ferry, but we hoped to get on the midnight run of the short route. We had two GPS units on the dash, one garden-variety unit and one Special Commercial Vehicle Tracking

BUILDING A SILK PURSE FOR TARGA NEWFOUNDLAND

I'd seen Targa in-car videos of Grand Touring competitors, and there's a good amount of wide-open-throttle howls and rev-limiter stutters and screeching tires there. This isn't a top-speed race, though; you don't always want to go faster, no matter how fast you're already going. The tactical goal is shorten acceleration times so that you can have more relaxed cornering. You'll never see any of the corners more than once—every turn is new to you. You want the car to go *whoosh* from 30 to 75 kph, and then adjust your speed as need be.

In 2006, the first year of BMW's E90, BMW sent two similar engines to the U.S. One went into cars badged 325i, and the other into cars badged 330i. The engines shared most parts—block, head, pistons, cams—but three things set them apart: intake manifold, exhaust system, and ECU software. The 325i had single-stage intake manifolds, standard-capacity catalytic converters, and moderate valve lift above 5,000 rpm. The 330i had a three-stage intake manifold, freer-flowing

catalytic converters, and maximal valve lift up top.

If you're wondering how different ECU software equates to different valve lift, good! The answer's simple: the N52 is a Valvetronic engine, with a computer-controlled adjustable fulcrum point on the rocker arms. Changing that fulcrum point changes the valve lift. Better breathing as a result of those differences yields a 40-horsepower advantage for the 330i.

But you couldn't get a 330i engine in a wagon.

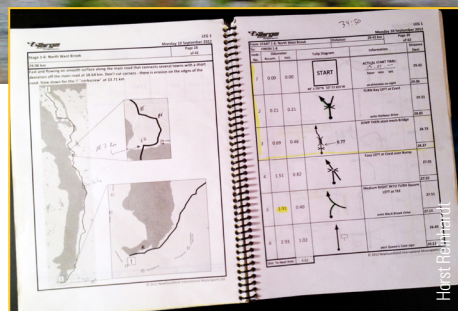
Nor, in later years, could you get a 335i engine in a wagon. 328i E91s like ours soldiered on with 230 horsepower. That horsepower is adequate—more than adequate—for ordinary driving. But it's a little light for keeping up with the average speeds set for the latter half of Targa week.

So what to do?



The Ultimate Sleeper: A 328i wagon wins Targa Newfoundland's Touring Class.

Targa Newfoundland is a "blind" rally; competitors use a printed route book instead of preparing their own pace notes.



and Dispatch System. The two GPS units disagreed about whether we'd make it. I was optimistic, until as we crested some mountain pass in Nova Scotia and a wall of fog clamped visibility to nada.

Can't haul ashes if you can't see.

But the wall was thin, and as the night came on, the traffic was thin, too. 300 kilometers of wet, dark, unknown roads to cover on a deadline. How dreadful!

We reached the ferry dock while the late boat was still there. We feared that there'd be a problem converting our earlier booking for the long route, but Marine Atlantic bent the language of the contract and let us board. The next day, after we docked, we burned through 929 kilometers of highway to get to St. Johns.

Now everything was in Targa Mode. Friday was the rookie school, Saturday

was tech inspection, and Sunday was a non-scored Prologue day to sort out the cars' starting order. Then suddenly it was Monday, when the seconds began to count.

We were scratching our heads. We've done a lot of time-speed-distance rallies, from Arizona to the Arctic, but we'd never done anything quite like the Grand Touring Division at Targa

The BMW Performance exhaust (aka muffler) and BMW Performance intake (aka airbox) list for more than \$2,000 combined. The factory turbo-charger kit costs—wait, there is no factory turbo kit.

What about adding the multi-stage manifold first used on the 330i (and subsequently on X3 and Z4 3.0si models)? Getting the manifold is easy enough; you can buy a used one, and chase down all the gaskets and screws you need, or get a kit of OEM parts offered by several well-known Internet retailers. The manifold kits run about \$1,000. We chose the triumvirate of factory upgrades: exhaust, airbox, and manifold.

Look under the hood of an E90, and you can see only the forward half of the engine. To change the intake manifold, you've got to start by moving or removing several wire looms and splash shields and airflow covers. Once you've cleared the top of the engine, you can start the disconnections from the manifold itself. Finally, you back off the bolts at the engine-side flanges, and then balance the plastic manifold precariously while you

reach between it and the block to disconnect still more stuff.

With the manifold off, I could see right down the ports to the back of the intake valves. At 34,000 miles, the valve stems, the aluminum walls of the ports, the valve guides—all were spotless.

The new manifold goes on like a factory piece (you'd hope so!). The wiring to control the multi-stage valves is already on the car. Underhood, there are two short harnesses, with their connectors stowed neatly. If you had noticed that they were hooked to nothing before, it would have been quite a mystery.

With everything—including those two harnesses—reconnected, I started 'er up. I could hear the staging-control valves go *clack* when activated via a diagnostics tool. And, monitoring live values while my navigator drove, I watched something called the DISA percentage go from 100% under 2,800 rpm to 50% between 2,800 and 4,100, then drop to 0% over 4,100 rpm.



Horst Reinhardt



Ralph Sauner



Ralph Sauner

Getting there is *not* really half the fun; make sure you check the ferry schedule.

Newfoundland. It was one part stage rally, one part Monte Carlo, and the rest, purely novel: There are few speed changes, no directed pauses, and no penalty for creeping. Aside from the flying-finish control, timing points were inconsistently marked.

At the end of the first day, on a long high-speed section, I couldn't make up time. I watched the TimeWise error display slowly creep up, and we crossed the finish line out of our window. The road was wet, and the pace was brisk, but we know those conditions well. Something else was going on, something we didn't understand.

Tuesday's midday sections were equally painful. Trying to keep up, I stopped shifting; the corners could be taken in third, and when the road straightened, I ran the speedo up to 130 kph—the speed limit in the GT class—and held it there into the next turn. Lemme tell ya, driving along at 6,100 rpm gives the car quite a thirst; we were getting about six mpg in that section!

And still, we ran late into the finish.

Our well-practiced routines weren't yielding their usual results, and we slipped down the rankings in the first two days. We summoned the Oracle Of TSD, Russ Kraushaar, and in a long

exchange of text messages, he dissected our reports, and then pronounced his analysis: "You're screwed." That seemed right; we were frustrated and depressed. By mid-afternoon Tuesday, having taken another bunch of points on a long section, we were at a crisis; nothing we did was working.

So we ate dinner.

The whole rally did, actually—a seafood extravaganza laid out in the local community hall. It's surprising what a nice piece of grilled salmon will do for your attitude. And don't they say fish is brain food? Whatever the cause, we entered Tuesday's final stage loose, refreshed,

Those readings corresponded to palpable surges on acceleration. So apparently, the ECU just uses the control valves when it sees 'em.

The N52 had a pretty smooth power curve before, but the three-stage manifold put some bumps in there. And with the BMW Performance exhaust and airbox, it sounds marvelous.

We originally picked the sport wagon up in Germany. After circling Austria, the car had 1,200 miles on it, and I pronounced it broken in. Northeast of Munich, we found a section of unrestricted Autobahn and let it run. Our top speed was around 200 kph, but that was enough to reveal a weakness. The Monday-afternoon traffic was "surgey"—a number of full-road slowdowns developed quickly, very quickly. When things go wrong on the Autobahn, you want to slow down



RIGHT NOW, and the sport wagon's braking above 150 kph wasn't reassuring.

With that memory, I fretted about Targa Newfoundland. The maximum speed for Grand Touring is set at 130 kph, so the stock brakes would have the stopping power—but what about staying power? Could they do twenty hard braking runs per stage, nine stages per day, for all five days of competition—and still be fit to drive home on? I had my doubts.

Like the engine upgrades, the best solution seemed to be OEM parts. Careful comparison of the parts list for a 335xi sedan versus our wagon showed the same brake hoses, master cylinder, and ABS/DSC controller: same dust shields behind the rotors, same hubs, same parking-brake parts and pad-wear sensors. But the rotors—ah, there's



You can count on rain—and deep puddles—at Targa Newfoundland.

and ready to try new things—and having a good time.

That stage began just outside the dinner venue. We suspected there'd be an intermediate timing control 1.8 kilometers in, because there'd been one at that location when we came into town from the opposite direction. We went wide full open from the start, charging up a wet, off-camber hill over a blind crest, letting the xDrive andMichelins handle the traction. It took all of the 1.8 kilometers to get back on time, but we passed the timing control within our window.

We zeroed the finish control, too—and recognized that we were “getting it” at

last. The key insight? This is not an on-time-all-the-time rally; the experienced GT teams were running as far ahead of time as they could get between controls. You needed to carry ten seconds—sometimes more—into the final twisty bits before the end.

The next day, the time windows were tightening—and so were the stages. Running in the town of Trinity, we blasted through tiny streets and alleys, shooting between houses, over wet and sandy surfaces. Ninety-degree left; 100 meters later, ninety-degree right; 110 meters, another right; and another after that. It felt like running from the cops in your

own neighborhood.

The wagon was brilliant here, oversteering—pushing—only twice, when I braked too deep into turns, and with all-wheel drive, the rear end never stepped out when I stood on the gas. The Time-Wise rally computer, which we ignored on the long, fast sections, finally came into play; its driver display continuously prompts the pilot, relieving the navigator from timekeeping and freeing that right-seater to call the upcoming turns. In our Equipped-class car, the display does the yelling: -00:02.3 (versus “You’re down two!”) or 00:06 (versus “You’re up six!”). By the way, we very rarely saw the latter.

the booty! The 335xi front rotor is 36 millimeters larger than the 328xi version. The rear rotor increase is almost that much, too. Since the hubs and backing plates were identical, the bigger rotors looked like a bolt-on.

Of course, brake calipers need to match rotors. Examining those parts was encouraging: the 335xi rear calipers are similar to the wagon’s, just positioned farther out via a taller bracket. The 335xi front calipers look twice the size of the 328xi originals, and their brackets are substantial chunks of steel. But the bolts and mounting locations for the brackets are the same. It seemed worth a try, so I ordered the parts and methodically test-fitted them.

Everything fit perfectly.

Installation, in fact, was akin to a routine brake job. The car did gain some weight in this process, but I can’t imagine a better place to add strength. I lost the ability to run sixteen-inch wheels for winter, and the larger rotors and pads (wear items) will be more expensive when

replacement time comes.

Let’s tote it up: what did I spend to beef things up?

Performance exhaust and airbox: \$1,800

330i intake manifold: \$1,000

335xi brakes: \$1,300

Total: \$4,100

I feel that BMW NA missed a trick here. When we ordered the wagon, there was only one U.S. model, the 328xi. Even though BMW was building 335xi wagons for other markets, we couldn’t order one—or I’d have had the power and brakes that I needed from the get-go.

And now it looks like BMW NA fixed this oversight. If you configure a new 2016 3 Series wagon, you can click M-Sport Brakes, and pretty blue four-piston calipers with larger rotors appear. And they’re a bargain: \$650. Now, if I could just click Sunroof Delete and Manual Transmission, I’d be headed back to Munich!—*Marinus Damm*



Renée and Marinus Damm (lower left) won Targa Newfoundland on their first try.



Marilyn the Rally Wagon waits in line for the ferry.

On the strength of the car, the computer, and our quick recovery from mistakes, we rose from fourth to second place on Wednesday. Thursday had a mix of medium and short stages, the shorts predominating, and we honed our new skills all day—not perfect anywhere, terrible in only a couple of places. But the team ahead of us was very good, so we hoped just to hold on to our spot.

Friday morning, surprise: We had a slim lead in first place!

Friday's stages, however, gave us plenty of chances to fall back. A long, fast stage in the morning finally put some color in the brake rotors, if you take my meaning. And its mirror-image stage, which was altered at the last minute to eliminate the opening 5 kilometers, was both a boon and a boondoggle. A boon, because handling big changes on short notice is the prevailing forte of the TimeWise 798A. While the other teams were struggling to

re-calculate and re-time their references, we let the box do that work. As long as you throw the switches at the right mark, the computer will nag the driver appropriately.

A boondoggle, because I still struggled—even after all those prior stages—at keeping our speed up while driving into the end zone. I would be up by seven seconds three kilometers out, but those seconds would leak away—and fifteen more besides!—before we passed the timing line. I either needed twenty seconds “in the bank” at the top of the hill, or I needed some kind of brutal car, or better skills—but hey, I'm trying!

The dispassionate error display dunned me again and again, but I had nothing more to give. It was agony to see the car behind us—who should have been half-a-minute back—in our rear-view mirror, rolling past the timing line very close to their zero point.

We also suffered some points at the midday stages, where a high average speed and a blunt turn before the flying finish took a levy. But after lunch (at the local firehall this time: seven kinds of dessert!), the final four stages played to our strengths. These were village runs, the tightest and most technical yet, with no time for time-calling by the navigator. Our in-car routine was smooth, my leash cast off; my co-driver claims that she's not competitive, but when it's crunch time, she's ready to rumble.

Those last four sections let us extend our lead, and we—the rookies—won! We were first in both our class and the whole Grand Touring Division. It felt like a tremendous comeback. Next year will see the fifteenth running of Targa Newfoundland; you might want to make the journey. There's something happening on the Rock that we've never seen elsewhere—and neither have you! **R**