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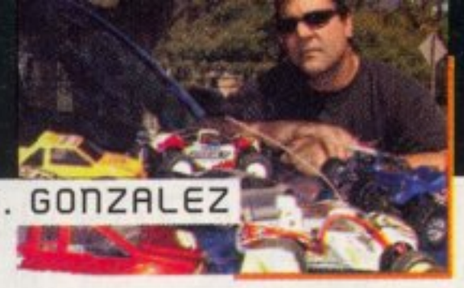
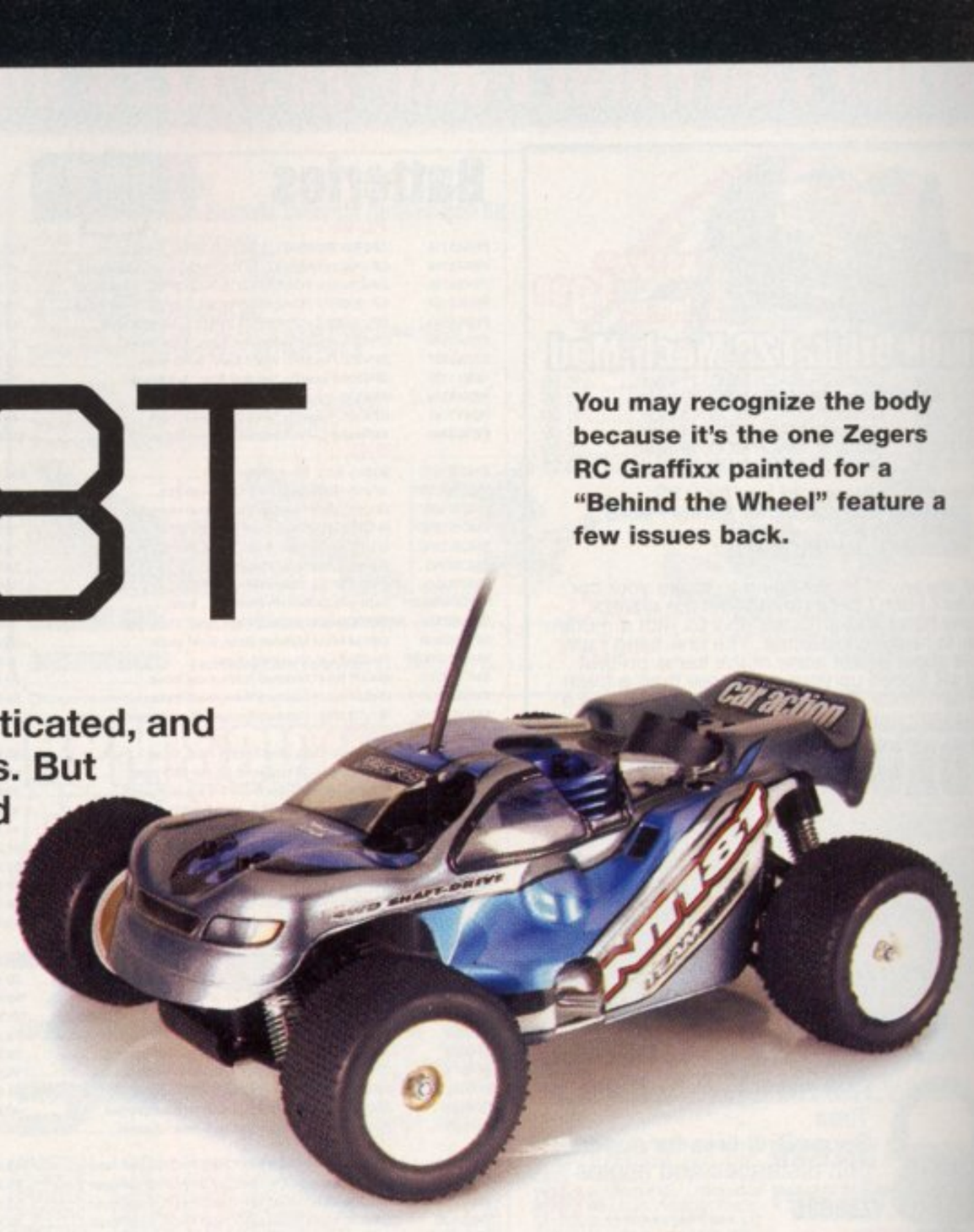
APRIL 2007

BY GEORGE M. GONZALEZ



PROJECT XRAY NT18T

The XRAY NT18T is fast, nitro-powered and super-sophisticated, and that's probably why it's one of my favorite micro vehicles. But like any other gearhead, I had to make it even faster and more durable. I had an OFNA/Picco P-Zero .85cc racing engine that was waiting for a home, and I couldn't think of a better place for it than in the NT18T. It's sure to increase its speed, so I had to make the truck more durable. The project begins ....



You may recognize the body because it's the one Zegers RC Graffixx painted for a "Behind the Wheel" feature a few issues back.

PARTS

XRAY

ALUMINUM PARTS

- Shock towers (F/R)—item no. 382095/383095; $26/$31 each
- Left/right suspension blocks—382252/382262; $33 each
- Driveshafts—385301; $34/pair
- Oil shocks (F/R)—388400/388401; $23/pair
- Adjustable turnbuckle set—383302; $14/pair

OFNA

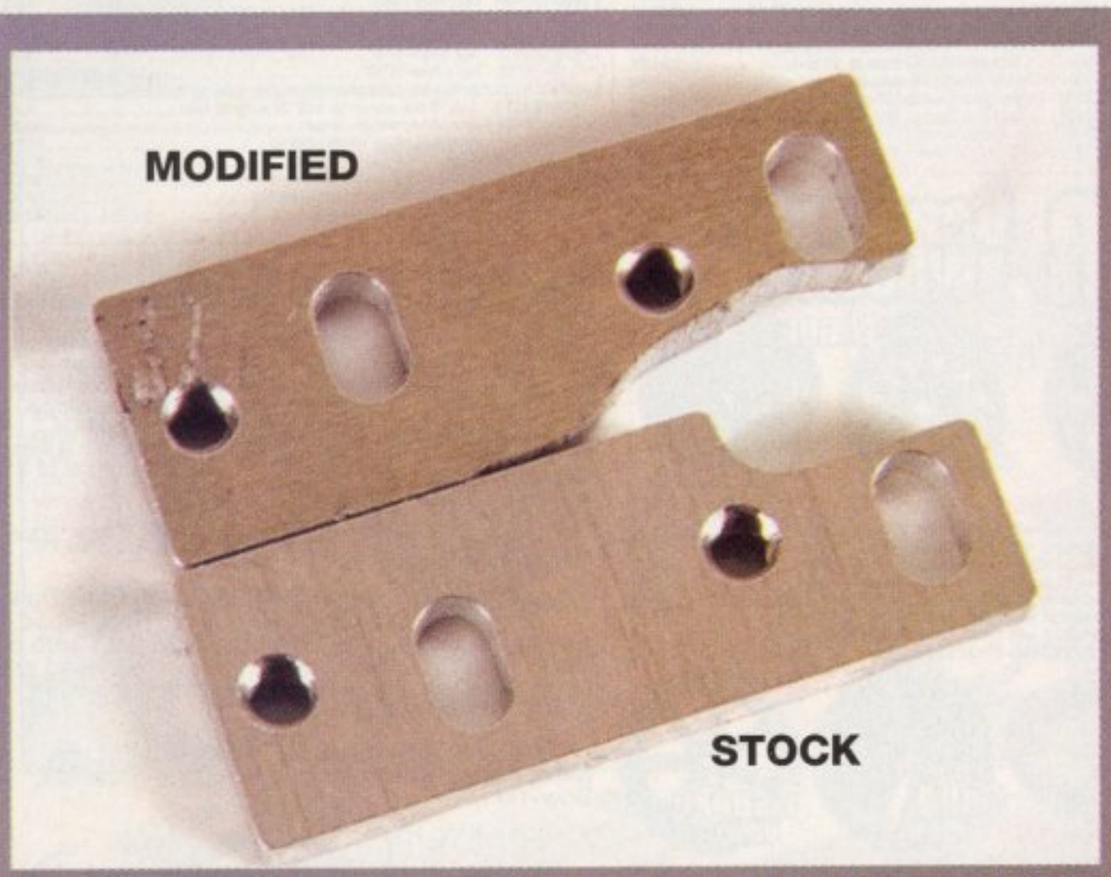
- Picco non-pull-start P-Zero engine—51118; $130

ENGINE SWAP

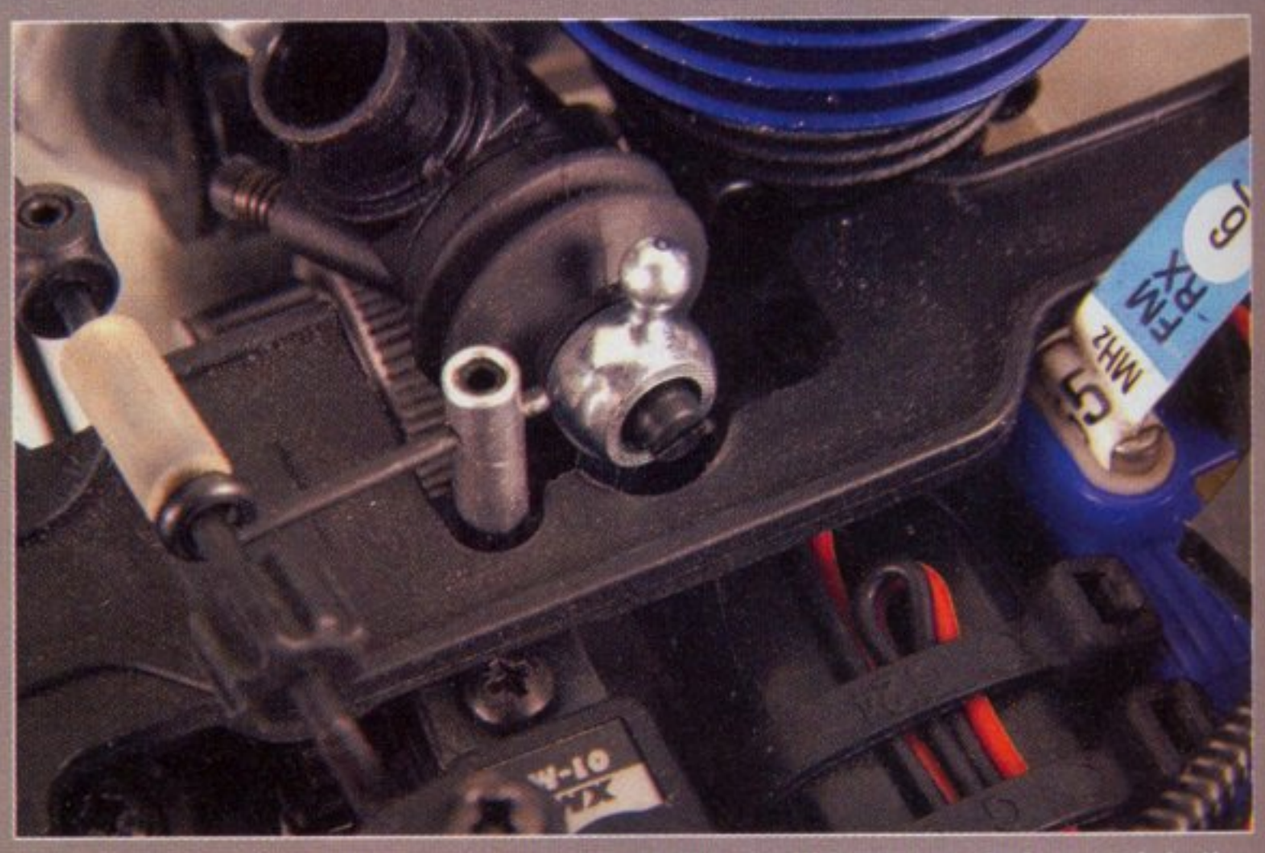
The Picco P-Zero might be small, but it isn't short of power. Like the larger Picco Evo engines, it features ABC construction, a turbo ground crankshaft, a bushing-equipped machined-aluminum conrod, a twin-needle slide carb and a machined-aluminum cooling head with a turbo-plug head button. The pull-start version is a drop-in replacement for the Sportwerks Chaos, the IRC Vulcan, Team VTX MS1 and MST1 and Trinity's Next. The non-pull-start version is perfect for the XRAY NT18 and NT18T and any other micro vehicle with flywheel access.

To install the Picco, I had to slightly modify the XRAY chassis because the engine's case is a little wider than the stock engine's. I ground away material from the engine-mounting plates, which are attached to the chassis. The finned engine mounts, however, didn't have to be modified. I ground away about 2mm of material from the front inside parts of the engine-mounting plates to allow the engine to be dropped in without catching on anything. A Dremel Tool with a grinding bit does the job, but a bench grinder will cut through the steel in a fraction of the time.

The upper deck had to be modified, too, because the Picco has a larger carb. But before I did this, I rotated the slide carburetor 20 degrees inwards to allow



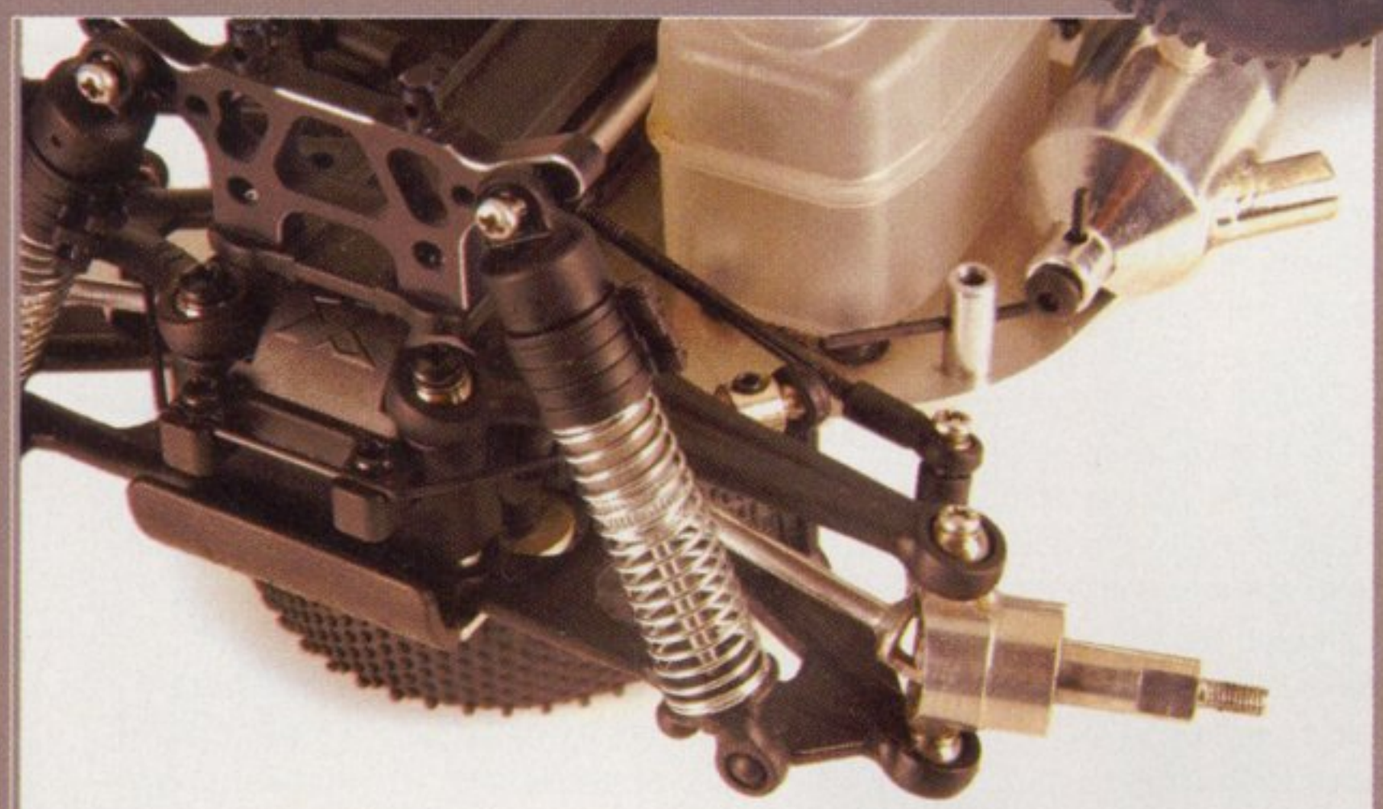
It's easy to see where I ground the engine-mount plates to allow the Picco engine to fit the chassis.



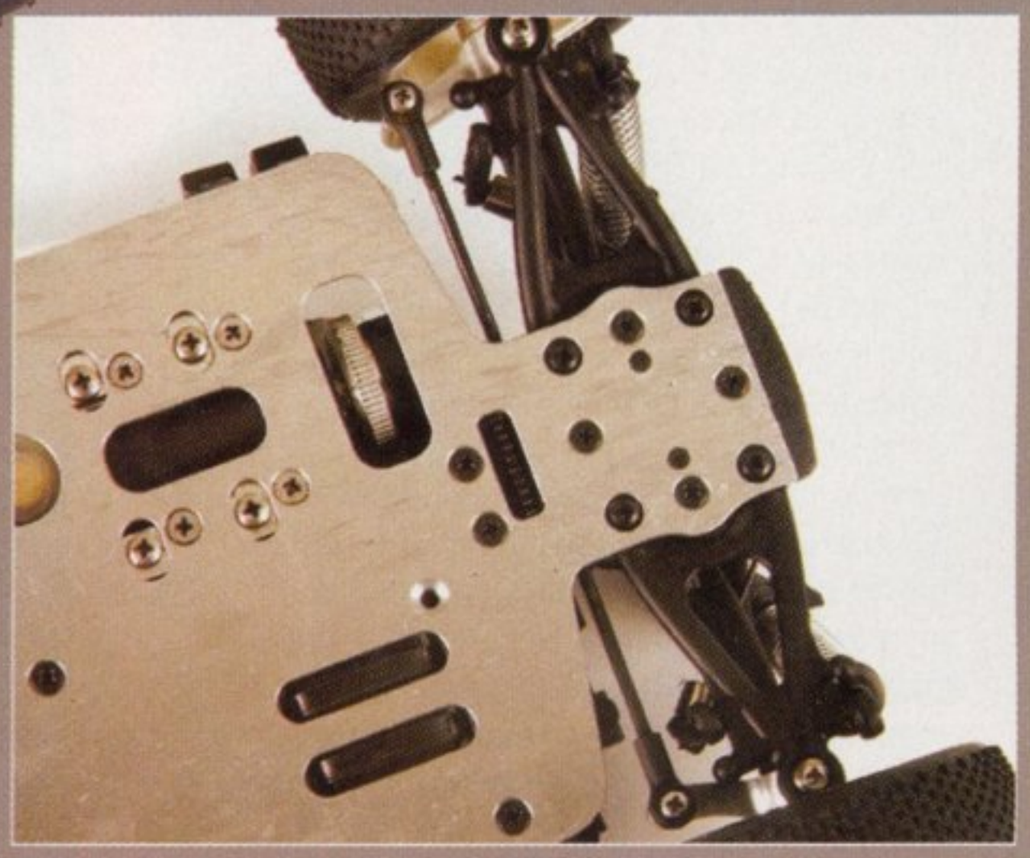
If you choose to use the same engine as I did, you'll have to grind a notch in the upper deck to allow the slide carb to open completely.

The OFNA/Picco P-Zero engine is a screamer, and it runs reliably. To fit a variety of applications, it's available with and without a pull-starter.

No fancy anodizing or colored hardware here; this truck is all business. The hop-ups are easy to spot, however, if you know what to look for.



The aluminum knuckle arms and driveshafts are must-have mods if you decide to install a Picco engine, as I did. The aluminum shock towers are ultra-stout, and the aluminum oil dampers are even smoother than the stockers.



The adjustable rear turnbuckles allow you to adjust rear toe-in. The stock truck had about 4 degrees of toe-in, and that made it a bit loose in the corners. I altered that to about 3 degrees.

it to open without binding against the brake actuator tube. Having positioned the carb correctly, I noticed that the throttle arm was binding against the upper deck and preventing the carb from opening completely. I ground the upper deck to make room for the slide carb to open to full throttle. After I had completed these mods, the engine dropped right in. The stock, tapered, split washer, the flywheel, clutch nut, clutch shoes and the clutch bell fit the Picco engine perfectly.

BULLETPROOFING

After installing the Picco engine, I moved on to strengthening the suspension. This was easy because RC America offers many option parts for the NT18T. As they do on any RC car, parts will wear out and break. The stock plastic universal driveshafts take a lot of abuse and will have to be replaced more frequently than any other component on the truck. Carry a bunch of spares in your toolbox, or install the optional aluminum driveshafts as I did. They're a lot more durable and won't fall apart when you smack a board or any other track barrier. If you can afford only one set of aluminum driveshafts, install them up front because the front end of the truck usually takes hits.

The stock plastic knuckle arms also take a great deal of punishment, and a hard crash will snap them off the knuckles. I installed a set of aluminum knuckles (sold individually for the left and right sides) because I wanted to bash on the truck with complete confidence. The stock plastic shock towers have held up very well, but I didn't want to take any chances because I knew that my Project Truck would be much faster. I installed the optional, black-anodized front and rear aluminum shock towers (sold separately). They're stronger and more rigid than the stockers.

The stock plastic oil shocks work well and are very durable, but I didn't want to take any chances. I outfitted the truck with a

I couldn't wait to test my hopped-up NT18T, so I went outside to the street to make speed runs. When I squeezed the throttle trigger, I was blown away: the truck was so fast that it made it to the end of the street in a few seconds. I had to break out the radar gun to confirm my findings. It blew past the radar gun at 43mph—absolutely ballistic. That's an 8mph increase on the stock truck's 35mph! The truck wasn't only faster at the top end, but its acceleration speed also increased dramatically, so it reached full speed in a fraction of the time. I was amazed because I used the stock clutch bell and spur gear, so I hadn't changed the gearing.

I headed to an off-road track. There, I had to water the surface because it was nearly impossible to get the power to the ground on the dry, dusty surface. I let the water soak in and then tossed the truck onto the track and pegged the throttle. The tires gripped much better, but I still had to use a "feather touch" on the throttle trigger. The truck carried way more speed down the straightaway, and it didn't require a long runway to clear the jumps. I was able to coast it up to the jumps and peg the throttle at the last moment. The truck sailed through the air and easily cleared many of the jumps, but landings were rough, so I decided to take a conservative approach to the bigger, more widely spaced jumps.

I don't have pre-Project lap data, but I could tell that with the new engine, my lap times were significantly shorter. The engine was incredibly responsive and idled consistently. It also held its tune well and ran cool. I kept the air/fuel mixture set a little rich, because I didn't need any more power, and I wanted to make sure that the engine didn't overheat. It was a moderately warm day, and the engine's temp never exceeded 215 degrees F.

The truck survived many encounters with the wooden boards around the track and with the PVC pipes that marked the course layout. Nothing broke, bent or got tweaked even during hours of abuse. I'm very satisfied with the truck's performance, and I think this Project is very successful.