



SURF'S UP!

Some modifications to the fuel pump and injectors resulted in a significant power increase for this Japanese import

WORDS AND PHOTOGRAPHS BY JOHN ROTH

Barbara Whittaker's daily driver is a 1991 Toyota Surf that her husband John imported from Japan. When it arrived, in excellent low-mileage condition, it was producing close to the stock 42hp at the rear wheels (55kW).

Awesome power output it wasn't. However, the Surf offered just about everything else, with an impressive list of stock features that included automatic transmission, power steering, electric windows and electronic fuel injection, as well as after-market fittings including alloy wheels and a bullbar. It was just the right size to get plenty of use as a holiday getaway vehicle, a tow vehicle for the go-karts on weekends, or as a family shopping trolley the rest of the week. Barbara found it easy to drive and park, and the miserly fuel consumption made it cheap to operate.

Yep, all looked well until John took the Surf on the beach and realised it struggled to plough through soft sand. Then, while towing the race carts one weekend, he got fed up with having to change gears constantly at the hint of even the slightest

hill. Barbara, although quite used to high-performance machinery, wasn't really bothered by the Surf's lack of steam because it had so many good things going for it. However, she certainly wasn't going to knock back a bit more grunt either!

John looked under the bonnet to try to find some more power. As the proprietor of Brisbane's Tuning and Turbo Centre, and a race mechanic, John had a bit of a head start in the search for power, but he had to consider two factors. The Surf was totally reliable – a major asset in a family car – and didn't cost much to run. John went looking for an increase in performance that wouldn't cost a fortune or affect reliability.

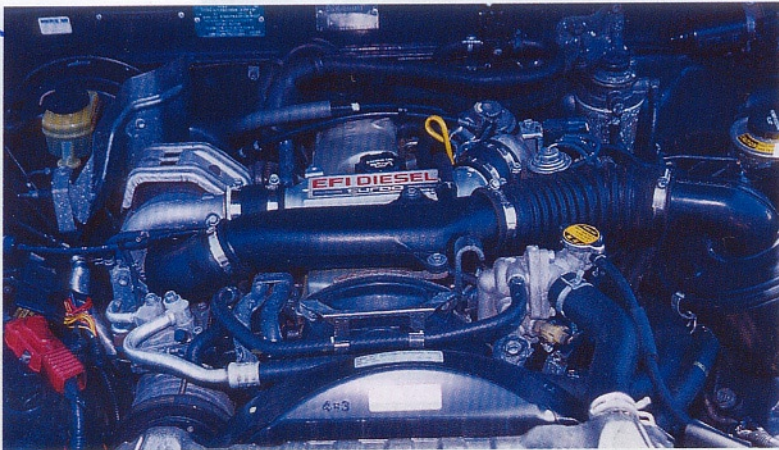
John started with the fuel pump, modifying and rebuilding it, and raising the boost pressure to 14psi. He then modified the injectors to suit. This sounds simple – and it is – to an accomplished diesel-performance expert. However, even an expert needs to play around a bit to achieve the best results. Eventually John worked out a pump/injector combination that achieved almost half as much power again over the



stock vehicle (61hp at the rear wheels), without appearing any different under the bonnet.

Trickery? Black magic? No, just good tuning commonsense and experience.

Apart from increasing the available power, John's tuning also lifted the torque production across the board making the automatic gearbox more responsive. Suddenly, the little Surf was ploughing through soft stuff without the run-up it used to require, and towing a gear higher than previously. The transformation was unbelievable and achieved with minimum disruption to the vehicle



DETAILS

VEHICLE: 1991 Toyota Surf 2.4-litre turbo-diesel

MODIFICATIONS: Fuel pump and injectors modified and rebuilt, turbo boost increased to 14psi

COST: Approx. \$1500

RESULTS: Power increased by 45 per cent from 42hp to 61hp (at rear wheels), economy improved by 9 per cent, reliability not affected

CONTACT

Brisbane Tuning and Turbo Centre
17 Nile Street, Woolloongabba. (07) 3393 1588

itself. In addition, fuel economy actually increased because of the extra efficiency John and his chief mechanic, Greg, had squeezed from the four-cylinder diesel. Whereas the Surf was good for 360km to the tank, after the tuning work it ran more than 390km.

Understandably, John is pretty impressed with the results. He's also keen to let people know that he's importing Surfs from Japan, with prices starting at \$15,000 after compliancing – a full legal compliance that includes changing all vehicle fluids. If you're interested, or if you're keen to get your own Surf tickled, give him a call at the Tuning and Turbo Centre.