

**Translation of the RVS Technology test-article published on October 26<sup>th</sup> 2005 in the 4 x 4 Magazine Finland Nr: 5, November-December 2005:**

**RVS: Do oil additives help?**

Some people certainly recall TV Adds where cars were driven without engine oil. In some of these cases pure water was sprayed onto the crankshaft and then people around marvelled as the engine continued working. One doesn't have to be a genius to understand that the water cooled down the engine thus helping it to function longer. There were products of this "Power" and that "Teflon" and such "Up". The common factor in all products was Teflon, which built a coating on the metal surfaces. We all know how little of mechanical wear Teflon stands already on the Teflon frying pan to say nothing about cylinder liner-piston ring contacts or tooth wheel contacts in transmissions.

Similar products are still available, but today there's a new technology available as well, which bases on totally different kind of method. The name of this technology is RVS and the better and longer lasting effects are consequences of diffusion where the metal and ceramic particles together form a protective and smooth coating-like layer that also lasts much longer than the Teflon and soft metal based "coatings".

RVS Technology has initially been developed for the late Soviet Union and Russian army and space industries. It acts as a preventive wear protection and restoration method in all mechanisms having a metal against metal contact, for instance in transmissions, engines, rear axles, ball-and-socket joints, bearings, gun barrels etc.

I have personally been rather sceptical and reserved regarding additives and stuff alike. However, the different reactive principal of RVS Technology sparked my interest and won my doubts, so I decided to test RVS in my own cars. The Product Liability Insurance of RVS made my decision much easier.

The two cars, which were treated with RVS: Ford Transit 2.5D (Diesel) Van, 1992, mileage 278,000 km and Mitsubishi Pajero 2.8D (Diesel), 4x4, 1998, mileage 140,000 km. In both cars the Power Steering, Engines, Gearboxes and Rear Axels (differential) got the RVS treatment. In the Pajero also the Front Differential and Splitter Gear were treated.

Applying RVS is simple and can be done in accordance to the normal oil change by following the instructions attached.

Before the RVS applications I took both vehicles to the Compression and Blow-by control. I also noted and listed other faults and additional noises I observed in order to follow up parameters and changes not measurable. I observed the following "faults":

- In the Ford Transit: Inappropriate noise from the Power Steering and the inefficiency of the Power Steering apparent as the steering wheel didn't return back to its normal position. In other words the steering wheel returned only 15 minutes short from the straight position and the car continued an eternal circulation until the driver turned the steering wheel straight. Another clear noise came from the differential at the speed of round 80 km/h.

- Moreover, I measured the fuel consumption of both vehicles by the mixed run and by the highway run:

Ford Transit: Mixed: 13.0 l/100 km (7.6 km/l), Highway: 6.7 l/100 km (14.9 km/l).

Pajero: Mixed: 13.4 l/100 km ( 7.5 km/l). Highway: 10.2 l/km (9.8 km/l).

The first noticeable thing after the RVS application was the improvement of the Power Steering efficiency in both cars and the steering wheel returned back to the straight position in the Ford. This was obvious rather quickly, 300 to 500 km from the RVS treatment. The noise level of the differential started to reduce approximately as fast. The noise didn't totally disappear, but it became bearable.

Improvements in the fuel consumption started to show only after a 3000 to 4000 km drive. Measurements and follow up of the fuel consumption is not easy and unambiguous, but can here be rather relevantly stated as the test lasted almost one year and the Ford Transit did 43,000 km and the Pajero 18,000 km during this period. The changes in the long term fuel consumption are as follows:

|  | <b>Mixed</b>                 | <b>Highway</b>              |
|--|------------------------------|-----------------------------|
| <b>Ford Transit:</b> Before RVS          | 13.0 l/100 km (7.6 km/l)     | 6.7 l/100 km (14.9 km/l)    |
| <b>Ford Transit:</b> 43,000 km after RVS | 11.8 l/100 km (8.5 km/l)     | 6.3 l/100 km (15.9 km/l)    |
| <b>Difference:</b>                       | <b>1.2 l/100km (- 9.2%)</b>  | <b>0.4 l/100 km (-6.0%)</b> |
| <b>Mitsubishi Pajero:</b> Before RVS     | 13.2 l/100 km (7.6 km/l)     | 10.2 l/100 km (9.8 km/l)    |
| <b>Mitsu Pajero:</b> 18,000 km after RVS | 11.8 l/100 km (8.5 km/l)     | 9.8 l/100 km (10.2 km/l)    |
| <b>Difference:</b>                       | <b>1.4 l/100 km (-10.6%)</b> | <b>0.4 l/100 km (-3.9%)</b> |

The differences are quite significant and I find the clear drop of the fuel consumption in the Mixed run (City run) particularly remarkable. The reduction of the fuel consumption can be, at least partly, explained by the reduction of the friction caused by the RVS compound, because the accelerations consume especially much fuel and the City run means continuous breakings and accelerations. The vehicles also rumble less while driving (accelerating) at low revolves (rpm).

Compression measurement results:

| <b>Before RVS Treatment</b> | <b>Ford Transit</b> | <b>Mitsubishi Pajero</b> |
|-----------------------------|---------------------|--------------------------|
| 1 Cylinder                  | 25.8 Bar            | 25.8 bar                 |
| 2 Cylinder                  | 24.7                | 25.6                     |
| 3 Cylinder                  | 24.4                | 24.7                     |
| 4 Cylinder                  | 25.1                | 24.9                     |
| Average (4 Cylinders)       | 25.0                | 25.25                    |
| <b>After RVS Treatment</b>  |                     |                          |
| 1 Cylinder                  | 25.6                | 26.3                     |
| 2 Cylinder                  | 25.4                | 26.2                     |
| 3 Cylinder                  | 25.4                | 26.2                     |
| 4 Cylinder                  | 25.7                | 26.2                     |
| Average (4 Cylinders)       | 25.25               | 26.22                    |

The average differences in the values before and after RVS are not big but clear (in the Ford on level + 2.1 % and in the Pajero on level + 3.8 %) and they are to the right direction. Even more important is that the compressions have evened out and the engines operate better balanced.

In the Pajero the initial stage was already quite good, thus no bigger changes could be expected. However the Cylinder wise values of the Pajero improved as well and ended up very even.

The test was carried out by my own private financing, so I didn't have the budget to carry out more measurements, for instance to test how long the treatment results last. In this area one has to content with the large number of laboratory and empiric test results which prove that the technology works excellently and that the once produced "coating" lasts/protects the engine and mechanisms for the promised 80,000 to 100,000 km.

As the summary of the trial I can say that RVS has worked well and according to the expectations. It has reduced the fuel consumption and restored the differential. Additionally the positive effects of the compound showed evident in the Power Steering. The achieved Product Liability Insurance, the experiences of numerous professional transport companies and civil drivers and the almost praise statements given by the Motor Race Drivers talk best for the functional capacity and safety of the RVS Technology.

RVS can be used in 2-Stroke and 4-Stroke engines and manual and automatic gearboxes and differentials in all cars/vehicles, motorbikes, mopeds, snow scooters etc. I dare myself to recommend RVS because adding it into the lubricating oil can be a worthy alternative to the replacement of a faulty part or other mechanical repair.

Prolonged lifecycle,  
Regards, Jori

### **Acceleration up hills**

We tested the compound also in another Mitsubishi Pajero, 1992, mileage 446,000 km. To this elderly car we carried out no other measurements than acceleration up hills with the highest gear 4-wheel drive connected. The idea was to find out if the possible reduction of the friction in the engine and power train (drift system) would show out in form of a better acceleration driving uphill with the highest (weakest) gear (5<sup>th</sup> gear).

The measurements were carried out by using a Stalker digital radar device and a portable computer, onto which we saved the velocity/distance-curve recorded and drawn by the radar device.

The car was accelerated from a junction with the 5<sup>th</sup> gear just under the distance of 500 metres up to a level speed of 70 km/h. Below the hill we gave full throttle.

#### **Measurement results:**

Before the RVS Treatment: The speed, measured below the hill, 493 m from the starting point (junction) of the acceleration, was 71.66 km/h. The speed of 100 km/h was reached by the distance of 1153 m from the starting point i.e. a speed increase of 28.34 km/h from 71.66 km/h to 100 km/h took 660 m.

After the RVS Treatment (11,000 km after): The speed, measured below the hill, 493 m from the starting point of the acceleration, was 69.00 km/h. The speed of 100 km/h was reached by the distance of 1115 m from the starting point i.e. a speed increase of 31.00 km/h from 69.00 km/h to 100 km/h took 622 m. The improvement of the acceleration is quite clear, 16.1 %.

Hans B

Amendment to the article:

The Blow-by values were also measured, but due to the lack of article space the results could not be published in accordance to the article. The measured values below:

Blow-by measurement results:

| <b>Before RVS Treatment</b> | <b>Ford Transit</b> | <b>Mitsubishi Pajero</b> |
|-----------------------------|---------------------|--------------------------|
| 1 Cylinder                  | 12%                 | 9%                       |
| 2 Cylinder                  | 10%                 | 8%                       |
| 3 Cylinder                  | 9%                  | 8%                       |
| 4 Cylinder                  | 13%                 | 10%                      |
| Average (4 Cylinders)       | 11.00%              | 8.75%                    |
| <b>After RVS Treatment</b>  |                     |                          |
| 1 Cylinder                  | 9%                  | 8%                       |
| 2 Cylinder                  | 10%                 | 8%                       |
| 3 Cylinder                  | 9%                  | 8%                       |
| 4 Cylinder                  | 10%                 | 9%                       |
| Average (4 Cylinders)       | 9.50%               | 8.25%                    |

As we can see, the average improvement of the values after RVS is again obvious, particularly in the Ford (13.6 %). In the Pajero the improvement level is 5.7 %. Even more important is that the Cylinder wise Blow-by values have evened out.

Hans B: Hans Back, the Chief Editor of 4x4 Magazine Finland

Jori: Jori Hakkarainen, Special Editor of 4x4 Magazine Finland

Contact details of the 4x4 Magazine Finland:

Address: P. Box: 2277  
FI-96201 Rovaniemi  
FINLAND

Email: [toimitus@4x4-magazine.com](mailto:toimitus@4x4-magazine.com)

Telephone: +358 16 342 4001