

# Toyota broadens sludge-repair program

## Automaker alters V-6, insists neglect is cause

By [Richard Truett](#)

Automotive News / April 08, 2002

With its jealously guarded reputation for quality under attack because of sludge-clogged engines, Toyota Motor Sales U.S.A. Inc. last week unveiled two major efforts aimed at defusing the problem.

First, the automaker said it has made a running production change to its widely used 3.0-liter V-6 engine that will improve circulation by enabling oil to drain faster into the sump - an apparent acknowledgement that engine design has been at least part of the problem.

Second, Toyota said it will pay for sludge-related repairs for eight years from the date of purchase for all 1997-2002 Toyota and Lexus vehicles with the 3.0-liter IMZ V-6 engine and all 1997-2001 Toyota vehicles with the now discontinued 5SFE 2.2-liter four-cylinder engine.

Sludge buildup causes engine performance to deteriorate and, in extreme cases, causes engines to seize.

Toyota's new policy is a dramatic change from a so-called Special Policy Adjustment begun in February. Amid increasing criticism for refusing to deal with the problem, Toyota notified 3.3 million owners of the affected engines that sludge-related repairs would be covered for one year, as long as they proved the oil had been changed at least once in the previous year.

It insisted then - as it does with the new policy - that owner negligence is the cause of the problem.

### **About 3,400 complaints**

In contrast to the February offer, Toyota's new policy:

- Has no mileage limitation.
- Covers owners who buy used vehicles.
- Reimburses drivers who already have paid for repairs
- Includes payments for tow trucks, rental cars and other incidental expenses resulting from engines that fill with sludge.

Toyota says it has received about 3,400 sludge-related complaints since 1999. Spokesman John Hanson says the automaker never denied coverage to any customer who could prove the vehicle's oil and filter were changed at the specified maintenance intervals called for in the owner's manual.

But there are about 100 entries in the National Highway Traffic Safety Administration's Consumer Complaints database from Toyota and Lexus owners who say they they were not reimbursed. Many complainants say they could prove with receipts that they followed proper maintenance procedures, but were told the sludge problem was caused by abuse and

wouldn't be covered.

Hundreds of other angry customers, some claiming repair bills as high as \$8,000 and stuck with vehicles they were still paying for but couldn't drive, have vented their anger on the Internet or taken their complaints to lawyers.

George Peterson, president of AutoPacific, a consulting firm in Tustin, Calif., said Toyota is doing the smart thing by no longer holding customers responsible for the problem.

"The best way for a company to respond to any issue like this is not to point a finger and say, it's your fault or my fault, but to just fix it," he said.

### **No major changes**

According to Toyota, there have been no major changes to the V-6 engine in the last 10 years that would be responsible for the sludge. But in the last three years, Toyota has added variable valve timing to the engine and it has gained low emissions certification.

The majority of sludge complaints involve the V-6 in the 1998-2001 Sienna minivan. The problem has surfaced on a smaller scale in the Camry sedan and a few Lexus RX 300 sport-utilities and ES 300 sedans.

Independent automotive technicians, engineers and an oil company chemist say the sludge buildup could be the result of a combination of factors that include temperature, manufacturing, engineering, design, driving habits and poor maintenance.

### **Temperatures are critical**

Bruce Crawley, a lubrication specialist for ExxonMobil Corp., said the first thing he would look for in investigating a sludge problem would be "cold spots" on surfaces where the oil circulates, because large variances in internal engine temperatures can cause sludge.

"You don't want any cold spots because that's where you get acid forming," he said. "You'll get oil coming up one way and acid coming down the other way, and ultimately they contact. On some engines you can actually see where that is happening because you'll see deposits in a particular part of the engine where there is a cold spot."

Hanson of Toyota said the changes the company began making last month to the V-6 will make the engine better able to withstand long periods between oil changes. He repeated Toyota's contention that there is no problem with the engine's design.

"Under the cam cover is a baffle system," he said. "It allows oil to collect and condense and drip down into the cylinder head. Dirty vapor collects there and clogs up."

"We are going to change the baffling and enlarge the holes. That makes the oil drain faster and enhances the engine's ability to function under duress."

But Larry Parry, an independent repair technician in Orlando, Fla., and host of a radio auto-repair talk show, says Toyota's change to the oil baffles won't stop the sludge from building up.

"There's nothing on top of the engine restricting the drain at all in that motor," he said. The internal temperatures are the problem, contends Parry.

Parry said he has measured the temperature of the cylinder block and heads. He said the block runs at 190 to 210 degrees Fahrenheit, while the heads typically reach 260 to 270 degrees.

Parry, who says he has repaired about 30 sludge-filled Toyota engines since 1998, contends the V-6's cylinder head temperature is too high because Toyota reduced the size of coolant passages in the head gaskets.

He says that makes for a hotter, cleaner burn, but also causes sludge to build up because the oil gets too hot. Also, Parry says, sludge develops as the oil passes back into the block, which is running 60 to 70 degrees cooler.

According to General Motors, the industry standard for temperature differences between the cylinder head and engine block is between 10 and 15 degrees.

Hanson said cooling passages were not made smaller and there are no 60-degree temperature variances inside the engine.

### **Toyota: Oil monitor possible**

Hanson said Toyota is considering a system similar to one used by General Motors on 2002 vehicles that warns drivers with a dashboard light when it is time to change their oil.

The GM system uses a computer program to estimate when oil is worn out, based on engine usage patterns. The system costs less than \$10 per vehicle.

Meanwhile, Toyota dealers said last week they are not being overrun by customers with sludge-damaged engines.

"There's been talk about (paying for repairs caused by oil gelling) over the past few years," said Ken Joswiak, general manager of La Fontaine Toyota in Dearborn, Mich.

"Obviously it was big enough for this to turn into what it has here. But it's not like we're seeing a stampede of customers at our door wanting their cars fixed."

Joswiak said his dealership, which sells about 60 Toyotas per month, has fixed four or five vehicles under the February policy adjustment. c

*Staff Reporter Joe Kohn contributed to this report*