

insider info.

Engine Noise When Cold

Beginning with the 1997 model year, the 2.2 and 2.5 engines were made more fuel efficient, more powerful, and were given a flatter, more usable torque curve than in previous years. To achieve these objectives, it was necessary to make improvements and modifications to the Subaru engine lineup. The following are some of those improvements:

- Mechanical valve lash adjusters (reduces friction),
- Lightweight pistons (reduces inertia),
- Short skirt, Molybdenum coated pistons (reduces friction),
- Increased compression ratio (improved power output),
- Improved cylinder head design (improved cooling),
- Improved induction system (improved breathing).

As a result of these enhancements, some Subaru engines may exhibit some engine noise during the warmup period after a cold startup. This noise is a consequence of the engine improvements and is not, in any way, an indication of any engine problem.

A light engine knock, after cold start, that gradually dissipates as the engine warms up and is virtually undetectable (from inside the vehicle) once the engine has reached operating temperature, is a normal characteristic of these engines. Repair attempts to reduce this type noise are generally unsuccessful.

If you have a vehicle in which an engine noise is other than that as described above, be sure to take the time to check all possible causes prior to condemning the internal components of the engine.

Before replacing parts in an attempt to eliminate engine noise, the engine should be inspected externally and internally for another source of noise. A look at the engine oil is a good place to start. New engines will have a small amount of metal particles in them, but after that should be relatively free of metal.

Another area to look at would be the timing belt tensioner and the belt and sprockets. There have been cases where

noises under the belt covers and from external components have made noise that sounds like a deep internal knock.

If a customer complains of a cold engine knock, and the cause is from the improvements listed above, please reassure him/her that no permanent engine damage will occur.