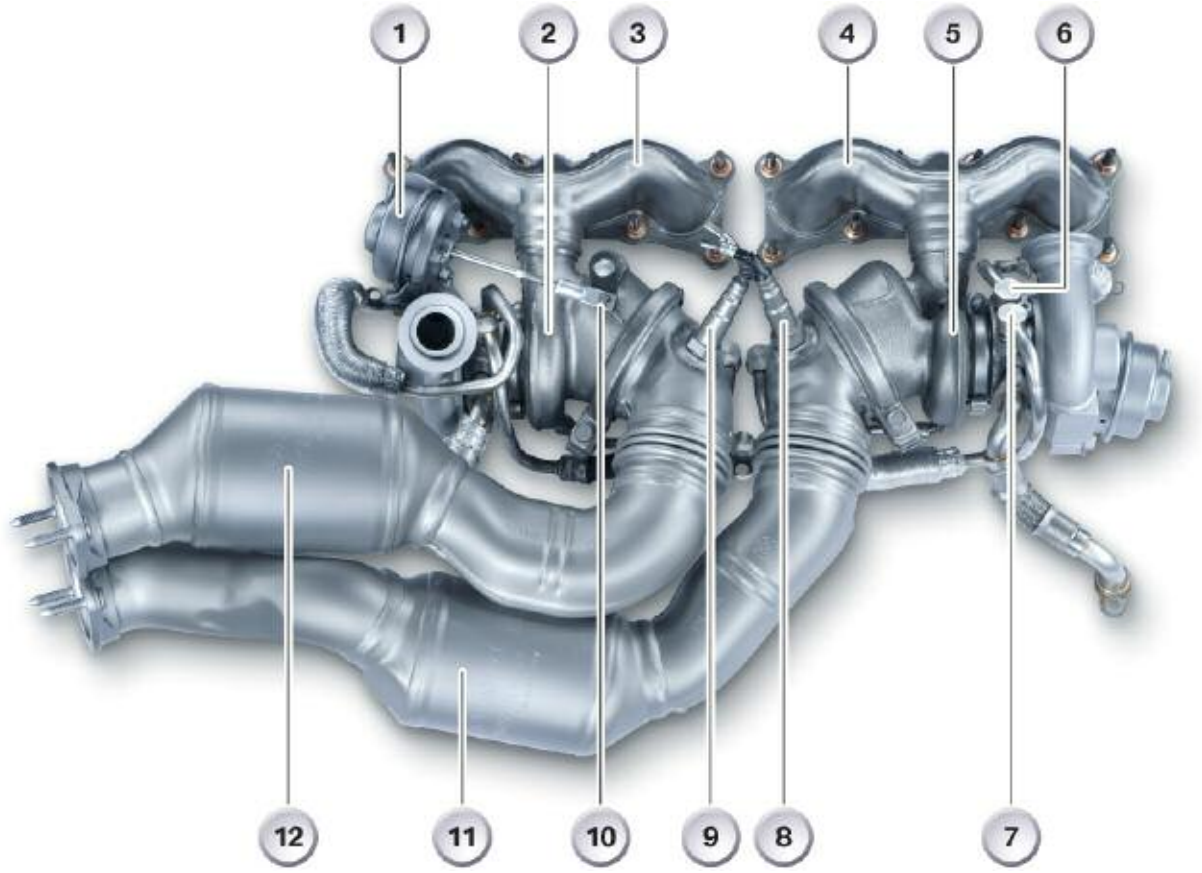
Bi-turbocharging

Utmost importance is attached to turbocharger response in the N54 engine. A delayed response to the driver's command, i.e. the accelerator-pedal position, is not acceptable. The driver therefore must not experience any so-called "turbo lag".

This requirement is met in the N54 engine with two small turbochargers, which are connected in parallel. Cylinders 1, 2 and 3 (bank 1) drive the first turbocharger (5) while cylinders 4, 5 and 6 (bank 2) drive the second (2).

The advantage of a small turbocharger lies in the fact that, as the turbocharger runs up to speed, the lower moment of inertia of the turbine causes fewer masses to be accelerated, and thus the compressor attains a higher boost pressure in a shorter amount of time.



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