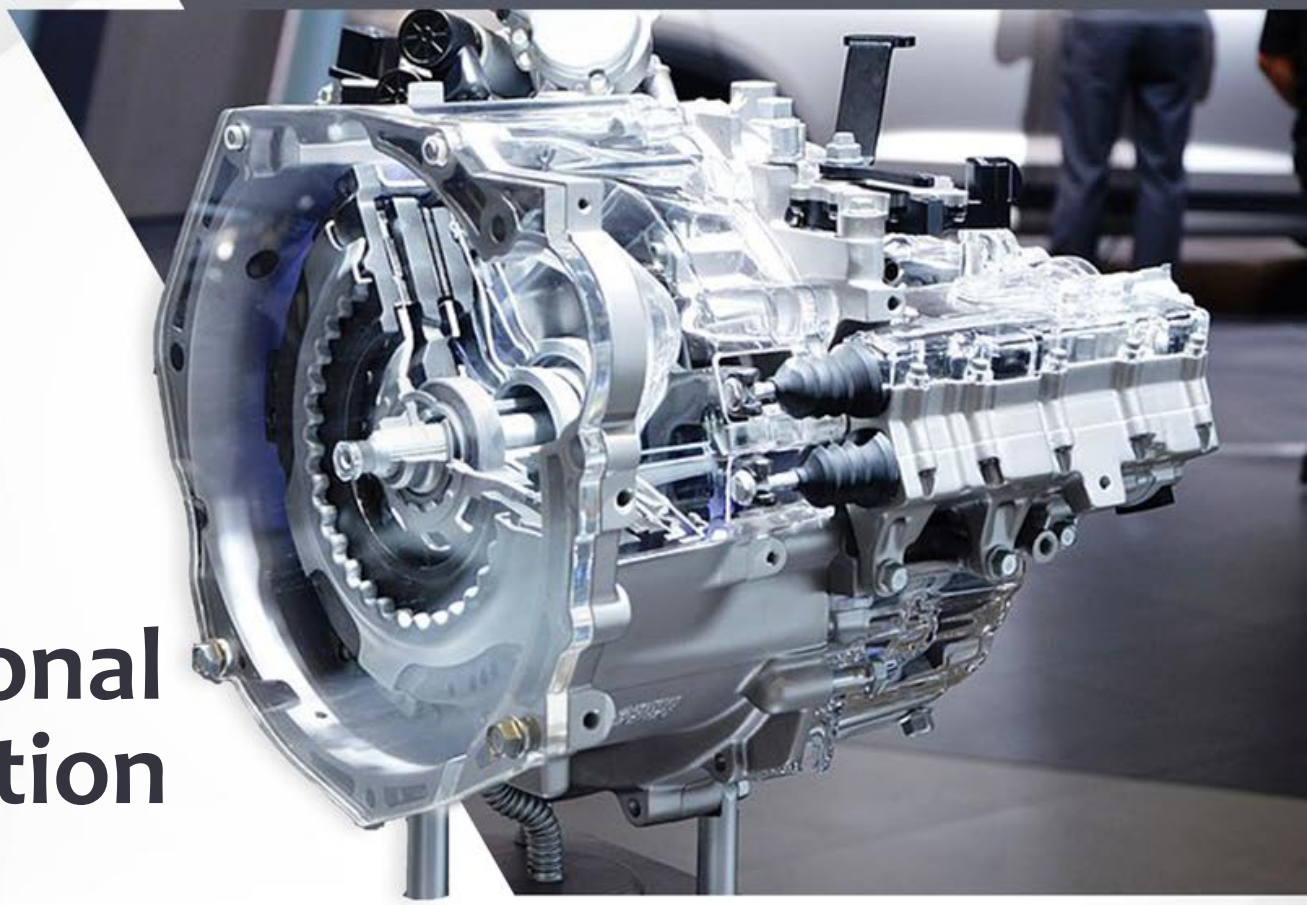
Advanced Structures India



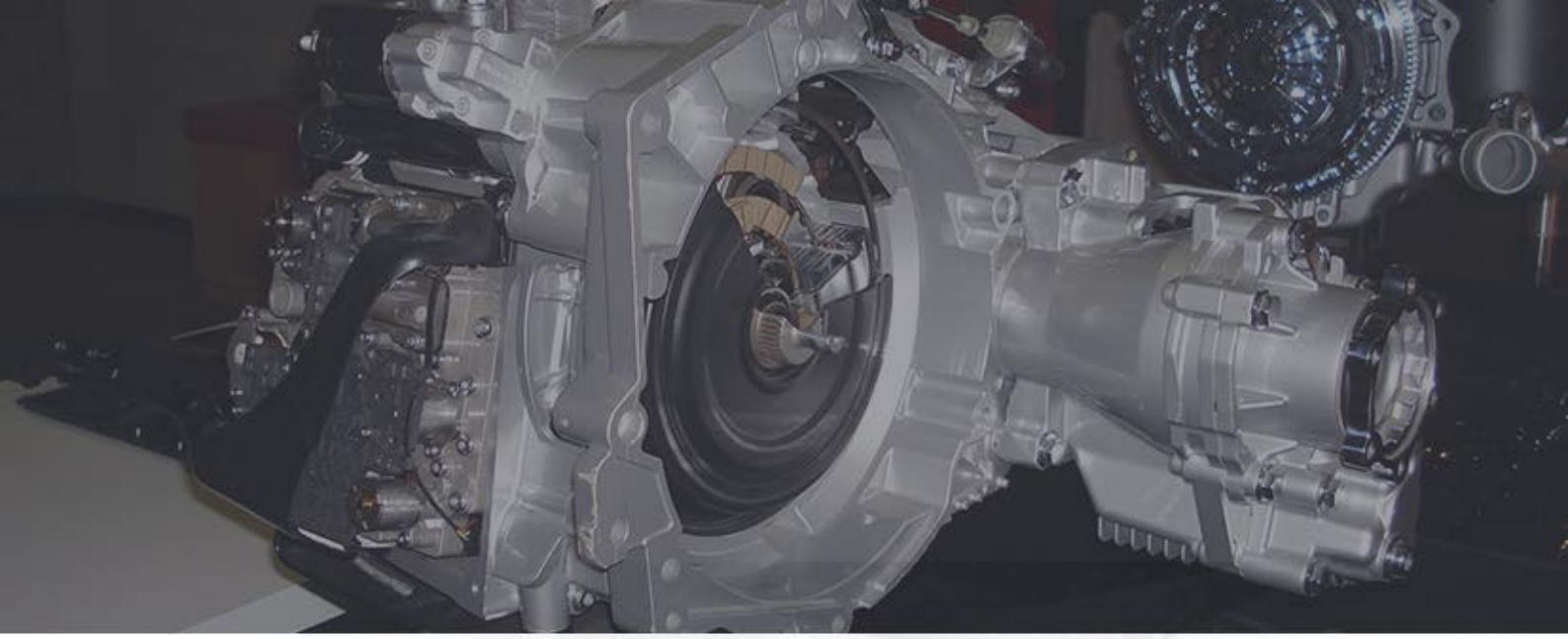
# Torsional Vibration

## CUSTOMER

**Clutch Supplier for one of the largest CV manufacturers in India**

## PROBLEM STATEMENT

- High Torsional Vibration and Noise measured in Trials
- Pre-Mature Failure of Clutch
- High angular displacement
- Predamping ineffective in reducing torsional vibration



## EXECUTION

- 3 different prototype clutches were tested on one vehicle to find the suitable clutch for different RPM ranges & gears.
- Field Measurement of Noise, Torsional Vibration, Structural Vibration & Engine RPM.
- Root Cause analysis- Colorplot study, Order analysis, Time domain(Synchronous)& Angle domain(Asynchronous)analysis.
- Torsional vibration levels with respect to RPM was found for each clutch.
- Engine angular acceleration & clutch resonating frequency were correlated with torsional vibration levels.

## SOLUTIONS

**Completed in 18 days**

- Modifications in clutch parts were recommended for better performance.
- Optimum working RPM & Gear combination for different conditions were given.
- NVH & Torsional Vibration training for client's technical team was given for solving similar problems in future.

### About Us

Advanced Structures India is an Engineering Services company focussed on turn key solutions to Automotive R&D functions. Our clients include leading car, two wheeler and commercial vehicle manufacturers from India and abroad. Our activities support our clients in developing new vehicle concepts, creating vehicle/system/sub-system level targets for performance and cost using our benchmarking and tear down solutions.

### Contact Us

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