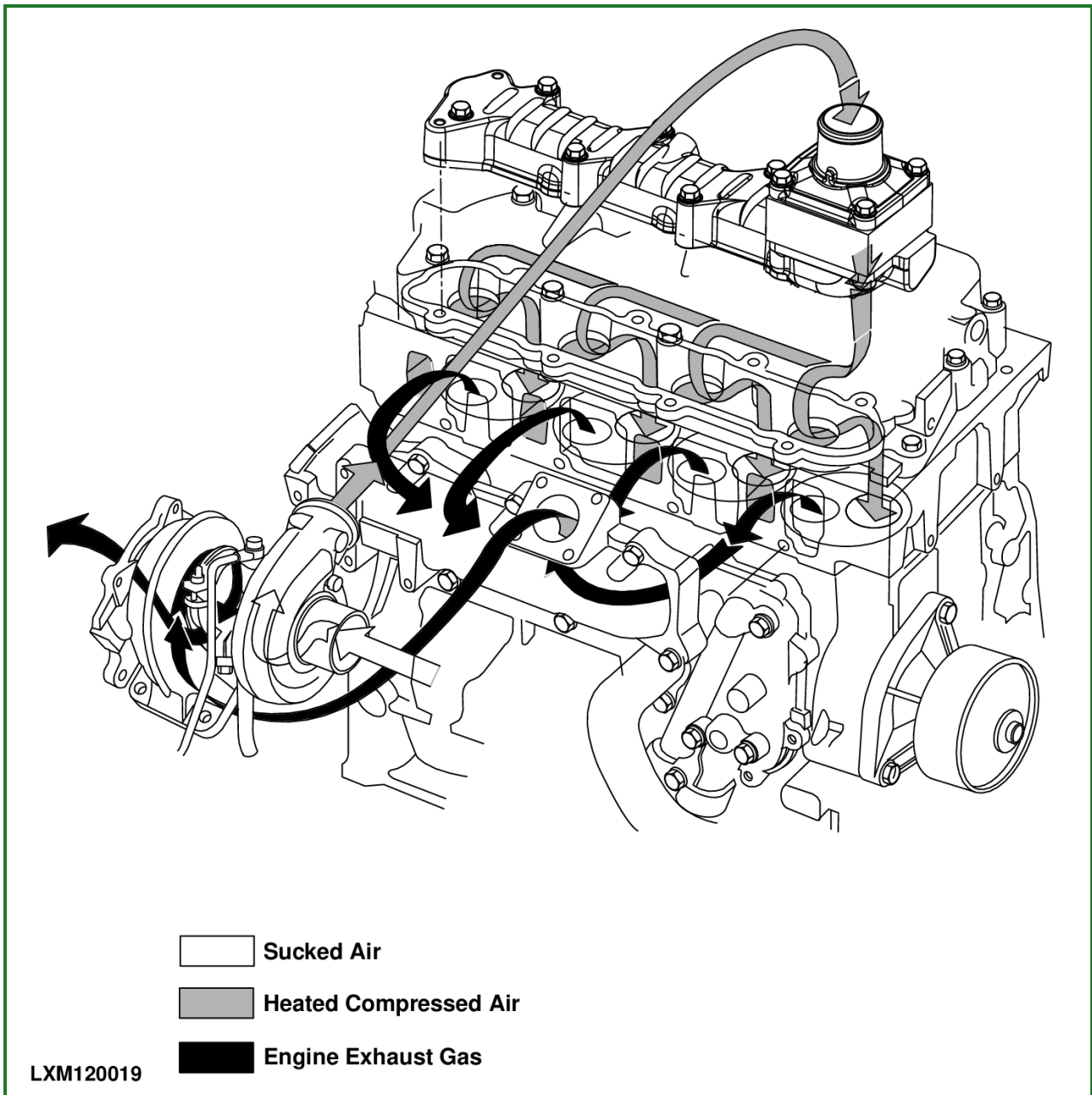


## Turbocharger System



LXM120019-UN: Turbocharger Air Flow

The boosting system is composed of the following parts:

- Air filter
- Turbocharger
- Intercooler radiator (if equipped)

Go to [Section\\_03:Group\\_135](#)

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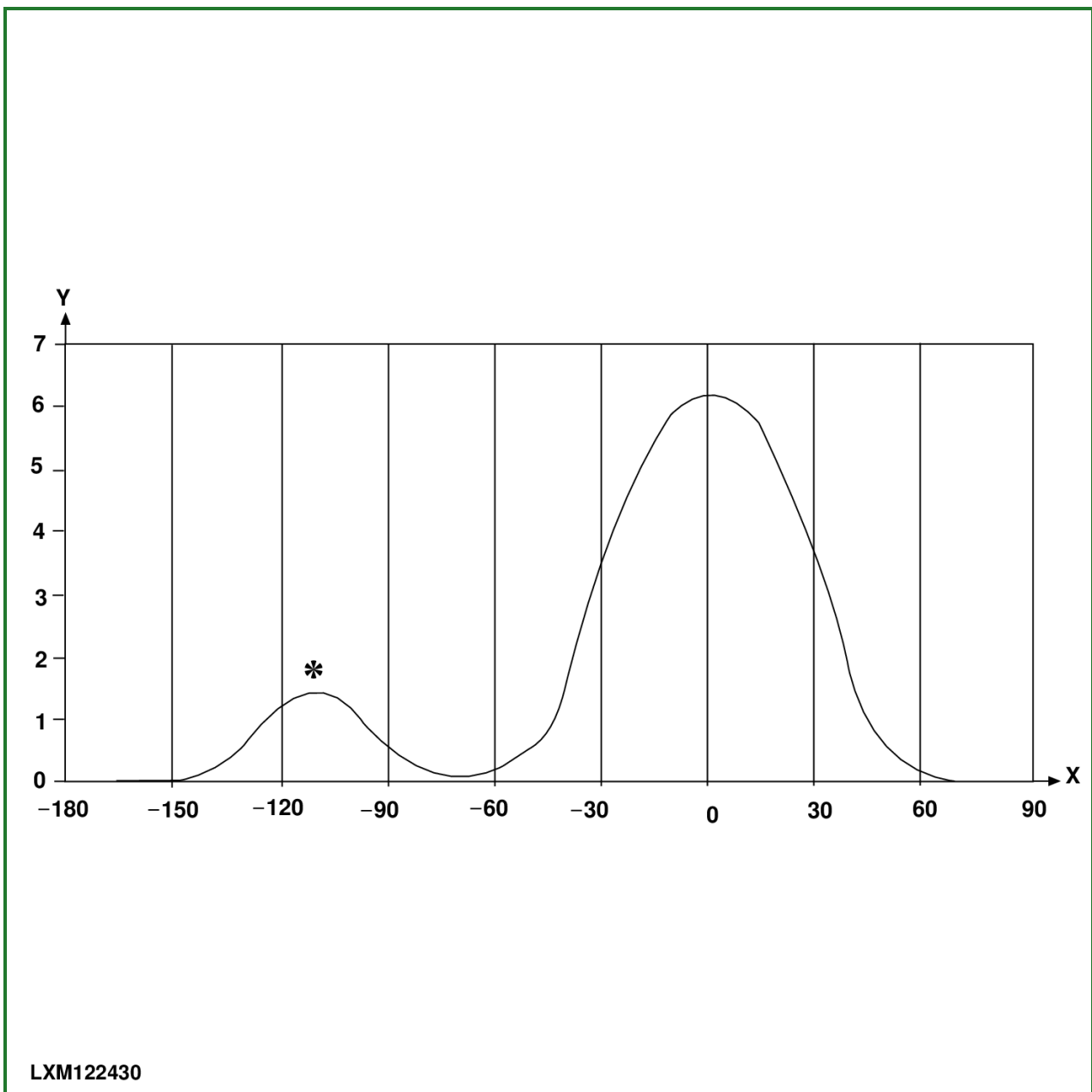
## EGR Exhaust Gas Recycle System

The exhaust gas can be partially recycled to cylinders to reduce maximum temperature values of combustion that produce nitrogen oxides (NO<sub>x</sub>).

The exhaust gas recycle system (EGR) reduces combustion temperature and therefore is an efficient NO<sub>x</sub> emission control system.

### *Internal EGR Operating on the Intake Valves*

The specific design of suction cams of the internal EGR system allows part of exhaust gas to be recycled to engine cylinders. This type of EGR, called internal EGR, is not equipped with any electronic control, the system is always active. Its configuration requires no additional parts such as control valves, pipelines, or heat exchangers. Therefore engine profile remains unchanged. Besides main lobe, suction cam has an additional lobe as to configuration without EGR. During concerned cylinder exhaust phase, this lobe allows a shaft advanced opening of intake valve (\*). In this way, part of the exhaust gas is trapped in the suction duct and later, during cylinder suction phase, this gas is recycled to cylinder inlet for combustion phase.



LXM122430-UN: Intake Cam Profile

**LEGEND:**

X - Cam Rotation (degrees)