

Induction Valve Seat Removal (IVSR) System

Electromagnetic, Non-Contact, Flameless Heating Technology

Innovation
Revolution

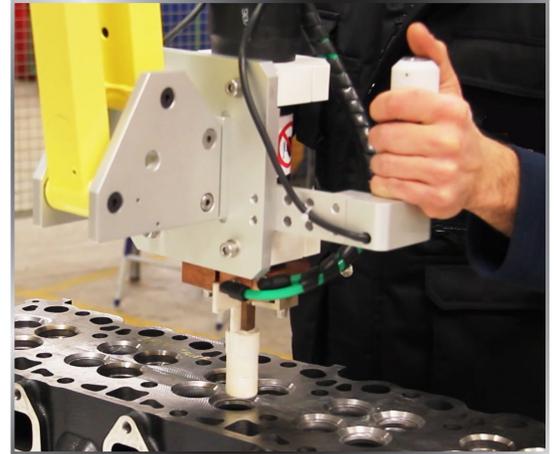
Fast, Clean, Reliable Induction Removal Process

Ajax TOCCO Magnethermic's IVSR systems have revolutionized heavy duty engine remanufacturing operations, specifically in the time consuming task of removing pressed-in valve seats from engine cylinder heads. Ajax TOCCO's IVSR process has increased profitability of engine reman facilities across North America, while simultaneously increasing quality, efficiency, core retention rates, operator safety, and ergonomics.

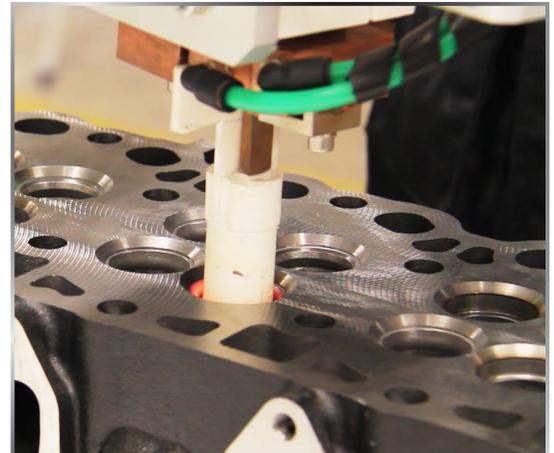
Ajax TOCCO's IVSR technology is so effective, valve seats can be easily removed with minimal force, saving valuable time and money. By way of induction, valve seats are **heated and cooled in seconds**, resulting in mechanical shrinking of the pressed-in seats. No subsequent machining is needed for valve seats or seat recesses, which means the valve seats can be replaced over and over, extending the life of the cylinder head.

Features & Benefits

- Eliminates open flame
- Increases core recovery rates
- Eliminates collateral damage to heads
- Increases production rates
- Reduces time consuming machining and labor hours
- Improves operator comfort and safety
- Compatible with all cylinder head makes and models, including passenger car engine applications, from aluminum to cast iron.



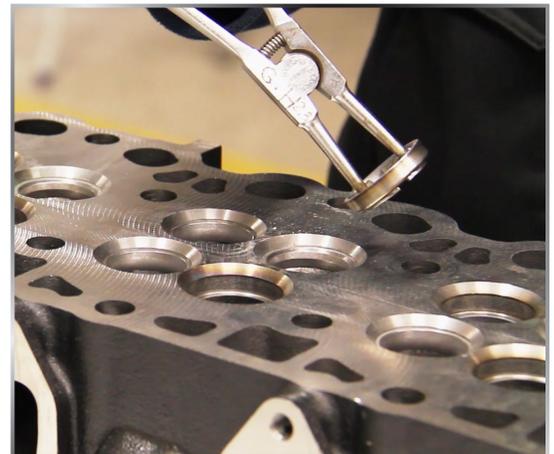
Handheld inductor is lowered into place



Valve seat ring is heated to approximately 1450° F



IVSR Shrunken Valve Seat



Cooled valve seat ring contracts, allowing easy removal

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Features & Benefits

IVSR heating inductors are built to very tight machine tool tolerances in order to provide precise alignment and pinpoint heating zones, thus limiting the heat to only the valve seat area, preventing heat damage to the parent bore of the valve seat pocket.

Ajax TOCCO Magnethermic's IVSR inductors are water cooled and equipped with model specific alignment and spacing features to take the guess work out of the process and simplify the procedure for operators.

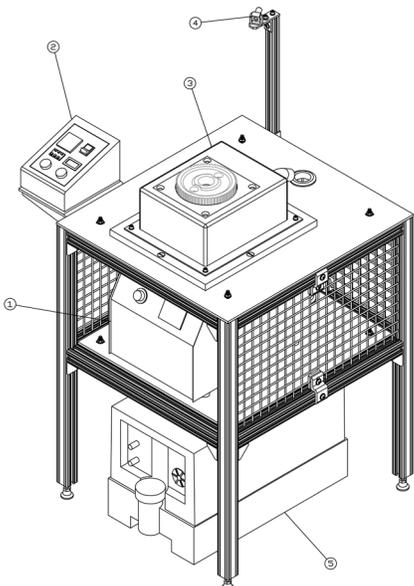
Features, such as tool-less quick change, allow different inductor geometries to be swapped in seconds based on the make and model of head being processed.

The durable design and heat resistant materials allow for thousands of seats to be removed with a single IVSR heating inductor.



Other Applications:

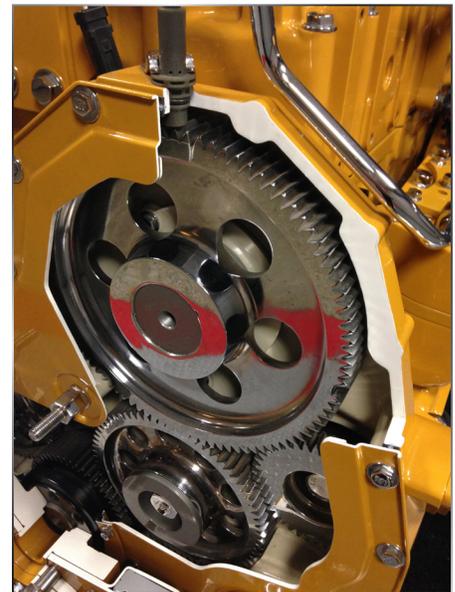
Ajax TOCCO Magnethermic's IVSR systems can be easily adapted for other reman applications such as gear shrink fitting. Other applications include: nut/bolt heating, coatings removal, weld preheat, and brazing/soldering.



Dedicated Gear Shrink Fit System



Crank Shaft Gear



Crank and cam gears are easily installed and removed

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