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# **How to Rebuild Common Rail Injectors**

## **Introduction of CRM-200 Common Rail Injector Repair Measurement Tool Set**

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December, 2016**



# How to Repair Common Rail Injectors?

- **Bosch has defined three stages to repair Common rail injectors in recent years**
- **Repair Stage 1:**
  - **Replace Nozzle**
- **Repair Stage 2:**
  - **Replace high-pressure sealing washer**





# Common Rail Injector Repair Stage 3

## Bosch Launched in 2010

- **Complete injector repair**
  - **Save money for customers**
  - **Create business opportunities for repair shops**



# Common Rail Injector Repair Stage 3

## Bosch Launched in 2010

- **All components may be replaced, such as**

- **Nozzle**



- **Valve set**



- **Solenoid assembly**



- **Injector body**





# Common Rail Injector Repair Stage 3

## Rebuild Injector after Component Being Replaced

- **Injector critical dimensions are accurately controlled by using the calibration shims or spacers of exact thicknesses in the injector during injector rebuild to meet Bosch spec tolerance of  $1\mu\text{m}$ .**
- **Professional tools are required.**



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# CRM-200 is the Right tool

## To Fulfill Bosch Common Rail Injector Repair Stage 3



### CRM-200 Standard Package

# CRM-200

## Integrated Design



- **15 ' touch screen flat panel PC with controller**
- **Controller function**
  - **Control data communication between PC and micrometer**
  - **Generate single shot driving signal to measure injector dynamic armature stroke**



# CRM-200

## PC Windows Based Software

- **Multiple Languages**
  - English
  - Spanish
- **Intuitive, step-by-step instruction to direct user to rebuild injector**
  - Measure thickness of calibration shims
  - Measure dimension of injector components
  - Provide the required thickness of calibration shims
- **Complete database to cover Bosch and Denso common rail injectors**
  - CRI 1, CRI 2, CRI 3 for Automotive engine
  - CRIN 1, CRIN 2 for Commercial vehicle engine
  - Denso X2 and G2 injectors
- **User can add new test data manually**





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# CRM-200 Tool Sets (1)



**Injector Mount Frame**



**Solenoid  
Dismantle Tool for  
CRI 2.1 Injectors**



**Frame  
Accessories**

**Complete set of tools to hold injector and perform  
precision measurement**

# CRM-200 Tool Sets (2)



- **Mitutoyo micrometer made in Japan**
- **Accessories**

# CRM-200 User's Manuals



- **User's manuals are in electronic format in CD**
- **Details in every operational step to help users to master the skills to rebuild Bosch and Denso injectors.**



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# CRM-200 Options (1)



**Full sets of calibration shims for repairing Bosch  
CRI1, CRI 2.1, CRIN 1, CRIN 2 injectors and  
Denso X2 and G2 injectors**



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# CRM-200 Options (2)



**Injector assemble/disassemble tool set**



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