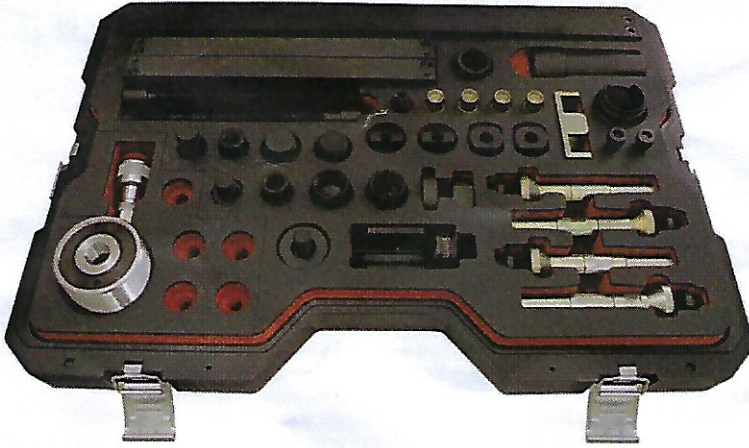




Art:43467-WW

## UNIVERSAL HYDRAULIC INJECTOR REMOVAL TOOL KIT



### Information

**Hydraulic Injector Removal Kit:**

Designed to work along with top flat diesel engines where the injectors are fitted down the middle. Can be used on Bosch, Delphi, Denso and Siemens injectors.

**Time Saving & Efficient Kit:**

No need for cylinder head or engine removal which allows for on car use to dramatically increase speed & time efficiency.

**12 Ton Hydraulic Cylinder Included:**

Also sold separately as 43468-ww.

### Precautions

Always wear safety gear.

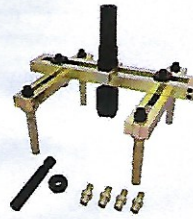
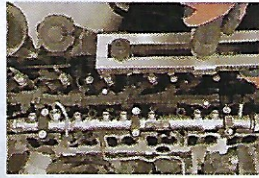
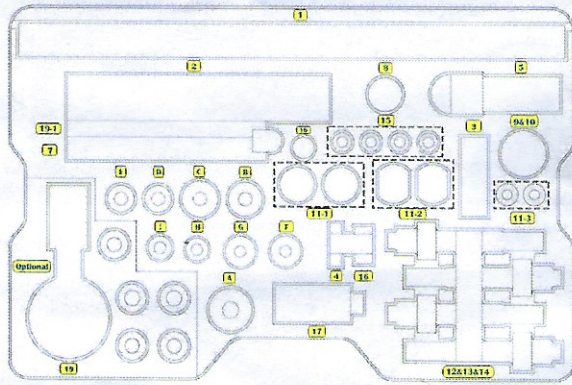
Working in a clean and safe environment.

This task should be carried out by trained personnel.

Make sure to consult manufacturers manual.

Do NOT use with air tools.

## Instructions:



### • WARNINGS:

#### • 1. When Removing or Installing the Common Rail Fuel Injection System:

- Common Rail Fuel Injection System is subject to extremely high pressure (Approximately 1600 bar). So never perform any work on the injection system with engine running 30 seconds after the engine stops.
- Make sure the removed parts related with the common fuel injection system (Injectors, Common Rail, High Pressure Fuel Pipes etc) are thoroughly cleaned.
- When installing the high pressure fuel pipe, tighten it several times in accordance with the specified tightening torque.
- When installing the injector clean it and replace the gasket with a new one.
- Not to damage the injector by impact etc, insert the injector into the cylinder head vertically.
- Insert the injector in the cylinder head after pasting Diesel oil to the gasket.

#### • 2. When using the Injector Remover:

- Have thorough knowledge of the manuals instructions before using this tool.
- Remove the part in engine interfering in this tool before installing this tool.
- Confirm again whether the tool is installed correctly before removing the injector.
- When removing the injector do not exceed the maximum tightening torque otherwise the cylinder head and the cylinder head cover will be damaged.

#### • Maximum Tightening Torques:

- A, D, U, S Engine: 10 Kgf.m
- J Engine: 25Kgf. m

### • How To Use:

#### • 1. Removal Of The Injector Of A, D And U Engine:

- Disconnect the battery negative ( - ) terminal from the battery.
- Remove the engine cover, and then disconnect the injector connector.
- Remove the high pressure fuel pipe and then disconnect the return hose or tube from the injector.
- Remove the injector fixing clip.
- Assemble the Main Bar (Part 1) and the Cross Bar (Part 2) temporarily using the Bar Holder Assembly (Photo 01)
- Install the Sub Supporter A (Part 15) in the Main Supporter (Part 14) (Photo 02)
- Install the Main Supporter (Part 14) on the Cross Bar (Part 2) temporarily by using the four Supporter Mounting Bolts (Part 13).
- After inserting the Injector Holder A (Part 7) toward the injector connector, place it on the groove at the lower end of the injector (Photo 05).
- Place the Injector Holder B (Part 9) on the groove at the lower end of the injector (Photo 07)
- Install the Injector Holder Cover (Part 10) (Photo 08).

## Instructions:

- Tighten the Injector Holder Mounting Bolt (Part 11) on the Injector Holder Cover (Part 10) with a 3mm L-Wrench (Photo 09).
  - Install the assembled tool (Photo 09) on the four fixing bolts of the cylinder head cover (Photo 10).
  - **CAUTION:** When installing the Main Bar Assembly, be careful not to damage the other parts.
  - Also make sure that the tightening torque of the cylinder head cover bolts is 0.8-1.0 Kgf.m.
  - Assemble the Bar Holder Assembly (Part 12) and the supporter Mounting bolt (Part 13) with an 8mm L-Wrench (Photo 11).
  - **Standard of the L Wrench:**
  - For the Supporter Mounting Bolt (Part 13) and the Holder Bar Assembly (Part 12) : 8mm
  - Install the Main Bolt Holder (Part 3) (Photo 12).
  - **CAUTION:** Fix the protrusion of the Main Bolt Holder (Part 3) in the hole on the Main Bolt (Part 6).
  - Install the Ball Bearing (Part 4) (Photo 13).
  - **CAUTION:** Make the bearing roller face upward.
  - Install the Main Nut (Part 5) (Photo 14).
  - Install a socket (32mm) to the injector and then remove the injector with turning the socket clockwise by using a torque wrench (Photo 15: D Engine) (Photo 16: A Engine) (Photo 17: U Engine).
  - **CAUTION:** Not to damage the cylinder head and the cylinder head cover. Do not exceed the maximum tightening torque. **Maximum Tightening : 10 Kgf.m**
- 2. Removal Of The Injector Of J Engine:**
- Disconnect the battery negative ( - ) terminal from the battery.
  - Remove the engine cover, and then disconnect the injector connector.
  - Remove the high pressure fuel pipe and then disconnect the return hose or tube from the injector.
  - Remove the injector fixing clip.
  - Assemble the Main Bar (Part 1) and the Cross Bar (Part 2) temporarily using the Bar Holder Assembly (Photo 01)
  - Install the Sub Supporter A (Part 15) in the Main Supporter (Part 14) (Photo 02)
  - Install the Main Supporter (Part 14) on the Cross Bar (Part 2) temporarily by using the four Supporter Mounting Bolts (Part 13).
  - Temporarily install the Main Bolt B (Part 7) to the injector to the end of the helix (Photo 05).
  - **CAUTION:** To assemble the Main Bolt Holder (Part 4) and the Main Bolt B, screw the bolt temporarily. Apply the grease on the thread of main bolt-B before installation.
  - Install the assembled tool (Photo 04) on the four fixing bolts of the cylinder head cover (Photo 06).
  - **CAUTION:** When installing the Main Bar Assembly, be careful not to damage the other parts. Also confirm that the tightening torque of the Iso confirm that the tightening torque of the cylinder head cover bolts is 0.9-1.1Kg.f.m.
  - The tool should be located on the designated place to use.
  - Tighten the Supporter Mounting Bolt (Part 13) with an 8mm L Wrench (Photo 07).
  - **Standard of the L Wrench:**
  - For the Supporter Mounting Bolt (Part 13) and the Holder Bar Assembly (Part 12) : 8mm
  - Install the Main Bolt Holder (Part 3) (Photo 08).
  - **CAUTION:** Fix the protrusion of the Main Bolt Holder (Part 3) in the hole on the Main Bolt (Part 6).
  - A position when assembled tool (Photo 04) is installed on engine head cover bolt.
  - Install the Ball Bearing (Part 4) (Photo 09). Install the Main Nut (Part 5) (Photo 10).
  - Install a socket (32mm) to the injector, and then remove the injector with turning the socket clockwise by using a torque wrench. (Photo 11).
  - **CAUTION:** Not to damage the cylinder head and the cylinder head cover. Do not exceed the maximum tightening torque. **Maximum. Tightening Torque : 25 Kgf.m**

## Instructions:

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### • 3. Removal Of The Injector Of S Engine

- Disconnect the battery negative ( - ) terminal from the battery.
- Remove the engine cover, and then disconnect the injector connector.
- Remove the high pressure fuel pipe and then disconnect the return hose or tube from the injector.
- Remove the injector fixing clip.
- Assemble the Main Bar (Part 1) and the Cross Bar (Part 2) temporarily using the Bar Holder Assembly (Photo 01)
- Install the Sub Supporter A (Part 15) in the Main Supporter (Part 14) (Photo 02)
- Install the Main Supporter (Part 14) on the Cross Bar (Part 2) temporarily by using the four Supporter Mounting Bolts (Part 13).
- Temporarily install the Main Bolt B (Part 7) to the injector to the end of the helix (Photo 05).
- **CAUTION:** To assemble the Main Bolt Holder (Part 4) and the Main Bolt B, screw the bolt temporarily. Apply the grease on the thread of main bolt-B before installation.
- Install the assembled tool (Photo 04) on the four fixing bolts of the cylinder head cover (Photo 06).
- **CAUTION:** When installing the Main Bar Assembly be careful not to damage the other parts. Also confirm that the tightening torque of the Iso confirm that the tightening torque of the cylinder head cover bolts ( 9-11Kgf.m.
- Photo 07 illustrates the assembled tool on the head of the bolts.
- Tighten the Supporter Mounting Bolt (Part 13) with an 8mm L Wrench (Photo 08).
- **Standard of the L Wrench:**
- For the Supporter Mounting Bolt (Part 13) and the Holder Bar Assembly (Part 12) : 8mm
- Install the Main Bolt Holder (Part 3) (Photo 09).
- **CAUTION:** Fix the protrusion of the Main Bolt Holder (Part 3) in the hole on the Main Bolt (Part 6).
- Install the Ball Bearing (Part 4) (Photo 10).
- Install the Main Nut (Part 5) (Photo 11).
- Install a socket (32mm) to the injector, and then remove the injector with turning the socket clockwise by using a torque wrench. (Photo 12).
- **CAUTION:** Not to damage the cylinder head and the cylinder head cover. Do not exceed the maximum tightening torque. **Maximum Tightening Torque : 10 kgf.m**

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If you are unsure on how to use the item please contact us. If it were to fail due to a manufacturing fault or poor workmanship we will repair or replace it. Please contact your local dealer in the event you need to send the item back. You can also make a repair/replacement request on our website and download & complete the form online. Normal wear and tear along with misuse will void any warranty. Consumables are not covered under warranty.

[www.welzh.com](http://www.welzh.com)

Limited **12 month** warranty



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