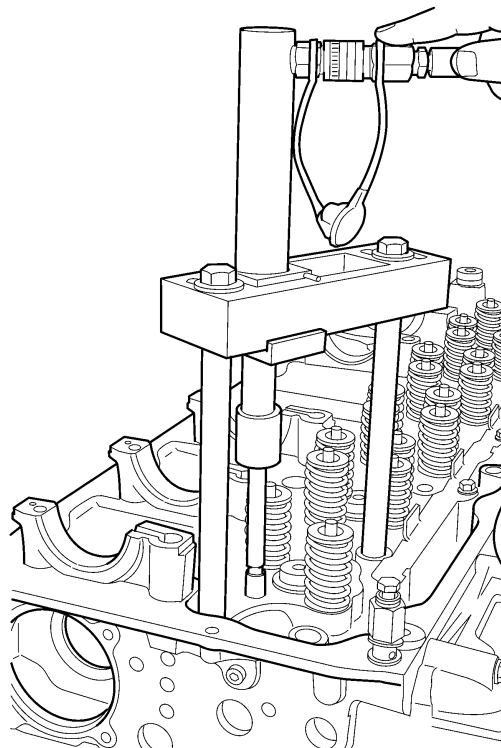


## Valve Guides, Replacement D16F

### Valve Guides, Replacement



W2006124

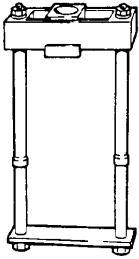
### Contents

- “Valve Guides, Replacement (One Cylinder Head)” page 3

**Note:** Information is subject to change without notice.  
Illustrations are used for reference only and may differ slightly from the actual vehicle being serviced. However, key components addressed in this information are represented as accurately as possible.

## Special Tools

For special tools ordering information, refer to Tool Information, group 08.



W0001780

**9990176**

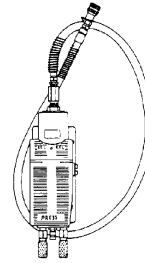
Press Tool



W0001772

**9996161**

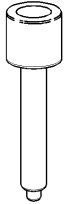
Hydraulic Cylinder



W0001773

**9996222**

Foot Pump (for 9996161)



W0001413

**88800137**

Valve Guide Removal Drift



W0001412

**88800064**

Valve Guide Installation Drift

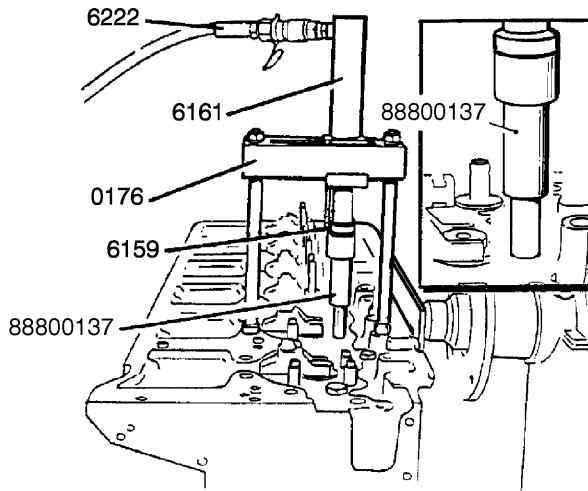
## 2143-03-05-03 Valve Guides, Replacement (One Cylinder Head)

*Special tools: 9996161, 9996222, 9990176, 9996159, 88800064, 88800137, J47364, 2012-A*

### Removal

#### 1

Use tools according to the table below and mount them on the cylinder head.



Press tool	9990176
Hydraulic pump	9996222
Hydraulic cylinder	9996161
Pin	9996159
Valve guide removal drift	88800137
Cylinder head mounting fixture	J47364
Cylinder head stand	2012-A

9996222, 9996161, 9990176, 9996159, 88800137, J47364, 2012-A

W2006394

#### 2

Press out the valve guides.



### WARNING

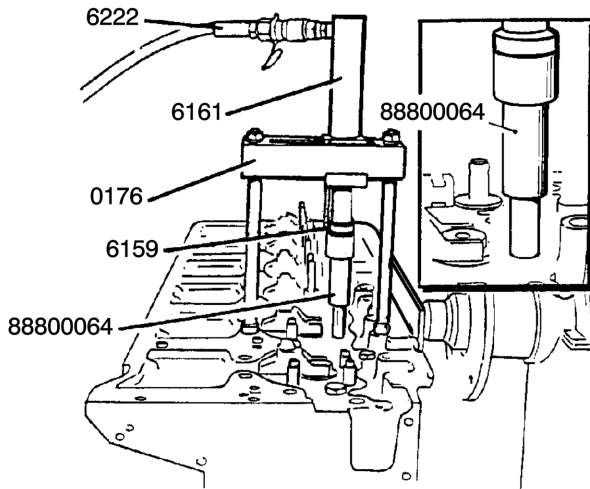
Use protective goggles or eye injury could occur.

### Installation

**1**  
Heat the cylinder head with hot water while also cooling the valve guides with dry ice.

**2**  
Using engine oil, lubricate the valve guide hole in the cylinder head.

**3**  
Use tools according to the table below and mount them on the cylinder head.



Press tool	9990176
Hydraulic pump	9996222
Hydraulic cylinder	9996161
Pin	9996159
Valve guide installation drift	88800064
Cylinder head mounting fixture	J47364
Cylinder head stand	2012-A

9996222, 9996161, 9990176, 9996159, 88800064, J47364, 2012-A

W2005392

**4**  
Press the valve guides in until the tool bottoms against the cylinder head surface. This will give the correct height. See Function Group 20, Information type Specifications, Specifications.

	<b>WARNING</b>
Use protective goggles or eye injury could occur.	

**5**  
Repeat for the remaining valve guides.

**6**  
Remove the tools from the cylinder head.

**7**  
Blow the cylinder head oil and fuel channels clean.