# **CATERPILLAR®**

## Service Repair Manual

### **Models**

246C Skid Steer Loader

Model: 246C SKID STEER LOADER JAY

Configuration: 246C Skid Steer Loader JAY00001-UP (MACHINE) POWERED BY 3044C Engine

### **Disassembly and Assembly**C3.4 Engines for Caterpillar Built Machines

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# **Inlet and Exhaust Valve Springs - Remove and Install - Alternative Method**

SMCS - 1108-010

#### **Removal Procedure**

Table 1

Required Tools				
Tool	Part Number	Part Description	Qty	
A	9U-6145	Air Connector (1)	1	
В	-	Stud (M12 x 1.75 by 380 mm)	1	
	9U-6144	Adapter As	1	
	6V-8149	Nut	1	
	5P-8245	Hard Washer	13	
С	4C-8134	Seal Remover	1	
	1U-7600	Slide Hammer Puller Gp	1	
D	8S-2263	Spring Tester	1	

<sup>(1)</sup> The **9U-6145** Air Connector is part of the **9U-6274** Compression Test Tool Gp. The **9U-6145** Air Connector can be ordered separately.

#### **Start By:**

- A. Remove the rocker shaft assembly. Refer to Disassembly and Assembly, "Rocker Shaft and Pushrod Remove".
- B. Remove the fuel injectors. Refer to Disassembly and Assembly, "Fuel Injectors Remove".

#### **NOTICE**

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

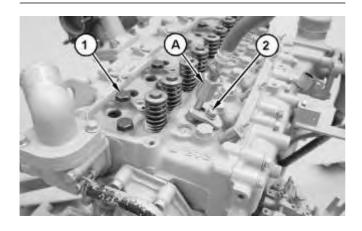


Illustration 1

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1. Install Tooling (A). Install the bolt and bracket (2). Remove bolt (1).

**Note:** Maintain air pressure in the cylinder that is being serviced until both of the valve springs are removed and installed. Do not depress the valves during the removal or the installation process. If the valves are depressed during the removal or the installation process, air pressure will be lost and the valves may fall into the cylinder.

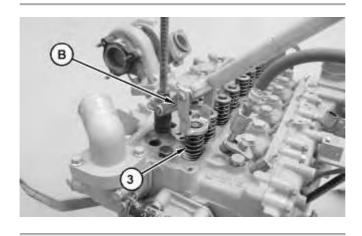


Illustration 2

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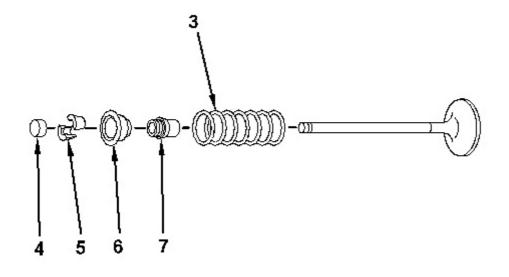


Illustration 3 g01035176



Personal injury can result from being struck by parts propelled by a released spring force.

Make sure to wear all necessary protective equipment.

Follow the recommended procedure and use all recommended tooling to release the spring force.

#### **NOTICE**

Ensure that the valve spring is compressed squarely or damage to the valve stem may occur.

- 2. Install Tooling (B). Use Tooling (B) to compress valve spring (3). Remove cap (4) and retainers (5).
- 3. Release the pressure from Tooling (B) and remove Tooling (B). Remove retainer (6).
- 4. If necessary, use Tooling (C) to remove seal (7).
- 5. Use Tooling (D) to check the valve spring force. Refer to Specifications, "Cylinder Head Valves".
- 6. Repeat Steps 1 through 5 for the removal of the remaining valve springs.

#### **NOTICE**

Do not turn the crankshaft while the valve springs are removed.

#### **Installation Procedure**

Table 2

Required Tools				
Tool	Part Number	Part Description	Qty	
A	9U-6145	Air Connector (1)	1	
В	-	Stud (M12 x 1.75 by 380 mm)	1	
	9U-6144	Adapter As	1	
	6V-8149	Nut	1	
	5P-8245	Hard Washer	13	
С	4C-6373	Seal Installer	1	

<sup>(1)</sup> The **9U-6145** Air Connector is part of the **9U-6274** Compression Test Tool Gp. The **9U-6145** Air Connector can be ordered separately.

#### **NOTICE**

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Keep Tooling (B) and an air hose attached in order to force air pressure into the cylinder. This will hold the valves in position while the inlet and exhaust valve springs are installed.

**Note:** Maintain air pressure in the cylinder that is being serviced until both of the valve springs are removed and installed. Do not depress the valves during the removal or the installation process. If the valves are depressed during the removal or the installation process, air pressure will be lost and the valves may fall into the cylinder.

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