



Service Repair Manual

Models

303 CR Mini Hydraulic Excavator

Product: MINI HYD EXCAVATOR

Model: 303 MINI HYD EXCAVATOR DMA

Configuration: 303 CR Mini Hydraulic Excavator DMA00001-UP (MACHINE) POWERED BY S3L2 Engine

Disassembly and Assembly

303 CR Mini Hydraulic Excavator Machine Systems

Media Number -REN5593-01

Publication Date -01/01/2004

Date Updated -13/01/2004

i01920827

Main Control Valve - Assemble

SMCS - 5051-016

Assembly Procedure

NOTICE

Failure to properly assemble parts or failure to follow established procedures can lead to damage of the parts and assembly.

To avoid damage to parts, always identify and mark the parts so that they can be installed in the same location. Ensure that gear surfaces align. Never force parts during assembly.



WARNING

Spring force can cause personal injury or death.

Do not repair until you have read the Operation and Maintenance Manual.

Note: Only a small number of components within the main control valve are serviced components. A large number of nonserviceable items must be disassembled in order to access the serviced components.

Note: Keep all of the internal parts of the main control valve clean and lubricated.

1. Cleanliness is an important factor. Before the disassembly procedure, the exterior of the component should be thoroughly cleaned. This will help prevent dirt from entering the internal mechanism.

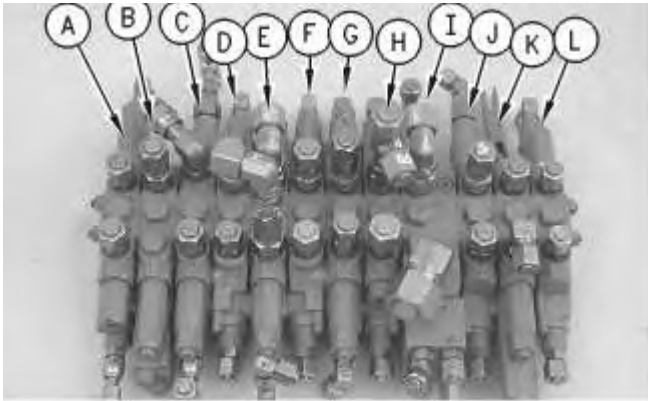


Illustration 1

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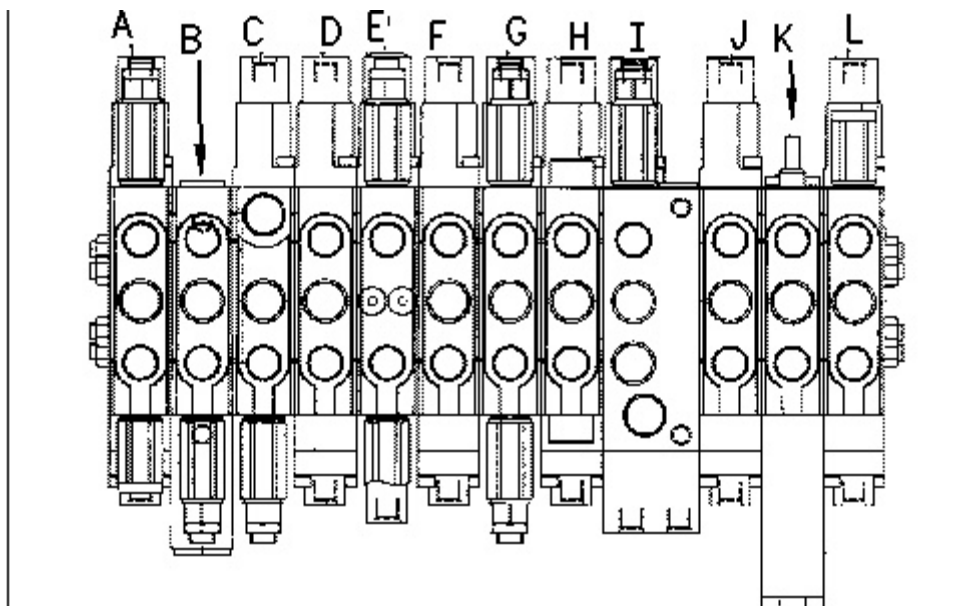


Illustration 2

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- (A) Bucket Block Assembly
- (B) Boom II Block Assembly
- (C) Boom Block Assembly
- (D) Left Travel Block Assembly
- (E) Straight Travel Block Assembly
- (F) Right Travel Block Assembly
- (G) Stick (Arm) Block Assembly

(H) Auxiliary (PTO) Block Assembly

(I) Boom Up Block Assembly

(J) Swing Block Assembly

(K) Blade Assembly

(L) Boom Swing Block Assembly

2. The above photo displays the functional positions of the valves within the main control valve.

Note: Place identification marks on the valves. The valves **MUST** be assembled in the same configuration.

Note: The main control valve will be assembled in reverse order.

Note: Do not mix components from one valve to another valve. Valve components **MUST** be returned to the original valve.

3. Assemble Block Assembly (L), as follows:



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.

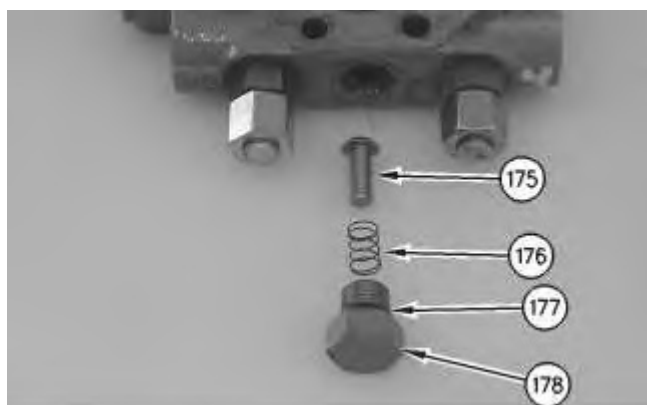


Illustration 3

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- a. Install spring (176) onto valve (175). Install O-ring seal (177) onto plug (178). Install plug (178) into spring (176). Install plug (178) and valve (175) into block assembly (L) .

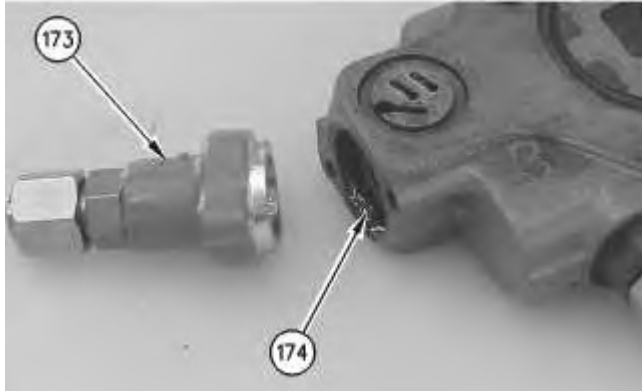


Illustration 4

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- b. Install O-ring seal (174) onto cover (173) .

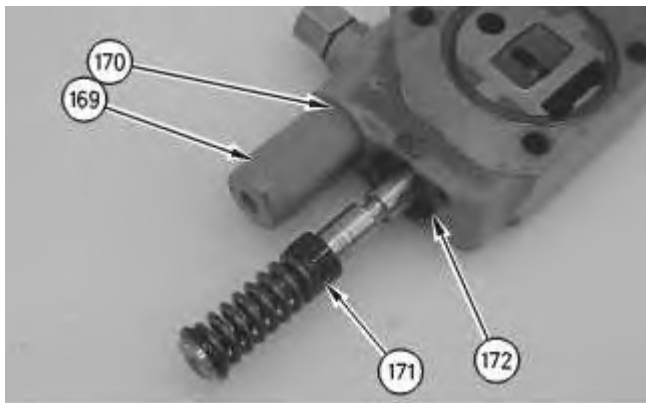


Illustration 5

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- c. Install O-ring seal (172) onto cover (167) .
- d. Install spool (171) into Block Assembly (L) .

Note: Lubricate the spool with a light coating of hydraulic oil at the time of installation.

Note: The spool must be oriented properly.

- e. Install O-ring seal (170) onto valve (169). Install valve (169) into Block Assembly (L). Tighten valve (169) to a torque of $39 \pm 5 \text{ N}\cdot\text{m}$ ($29 \pm 4 \text{ lb ft}$).
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