



Service Repair Manual

Models

301.8 Mini Hydraulic Excavator

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Product: MINI HYD EXCAVATOR

Model: 301.8 MINI HYD EXCAVATOR H8X

Configuration: 301.8 Mini Hydraulic Excavator H8X00001-UP (MACHINE) POWERED BY C1.1 Engine

Disassembly and Assembly

301.5,301.6,301.7,301.8,302 Mini Hydraulic Excavator Machine Systems

Media Number -M0092231-00

Publication Date -01/09/2018

Date Updated -11/09/2018

i07366569

Blade Cylinder - Assemble

SMCS - 7562-016-BG

Assembly Procedure

Table 1

| Required Tools | | | |
|----------------|-------------|-----------------------|-----|
| Tool | Part Number | Part Description | Qty |
| A | 152-4251 | Cylinder Repair Bench | 1 |
| B | 1P-2853 | Spanner Wrench | 1 |
| C | 280-2060 | Offset Spanner Wrench | 1 |
| D | 8H-8539 | 1 5/8" Socket | 1 |
| | 5P-3588 | Adapter | 1 |



Illustration 1

g06295667

1. Install seal (16) and spacer (17).



Illustration 2

g06295654

2. Install O-ring seal and backup ring (14). Install O-ring seal (15).



Illustration 3

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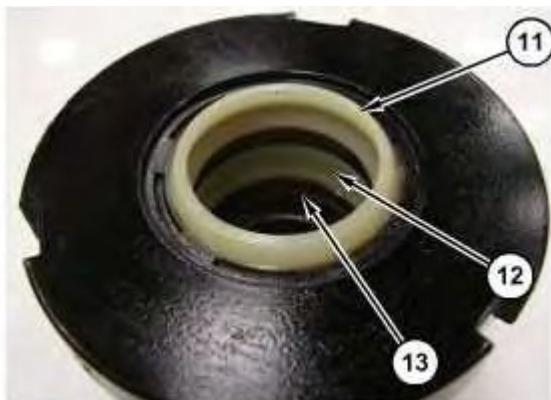


Illustration 4

g06295645

3. Install bushing (10). Install O-ring seal (13). Install inner seal (12), and outer seal (11).

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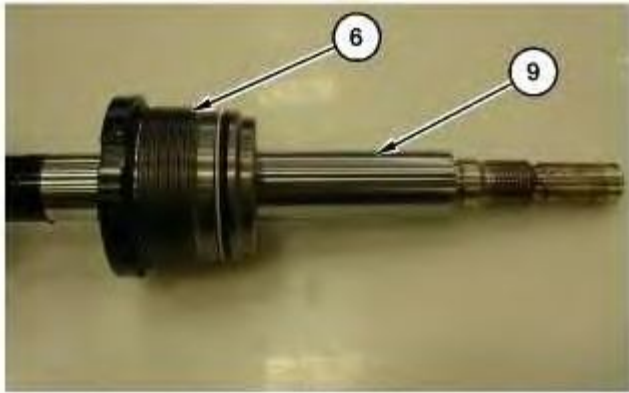


Illustration 5

g06296653

4. Install cylinder nut (6) onto rod end (9). Apply oil on seals and rod end for assembly.

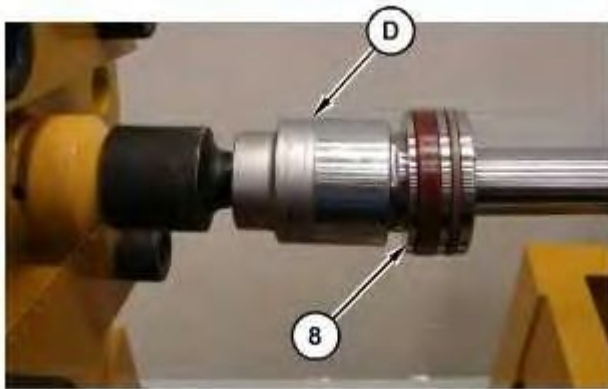


Illustration 6

g06295422

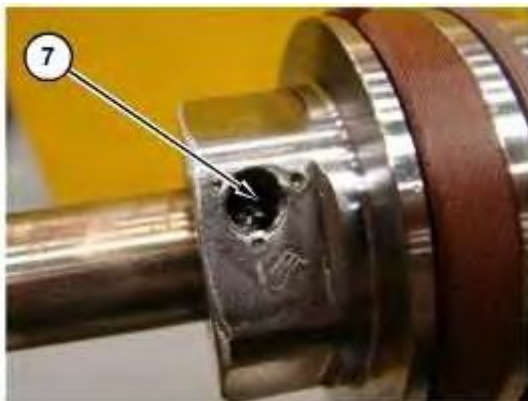


Illustration 7

g06295757

5. Mount the rod end onto Tooling (A).

Install piston (8). Use Tooling (D) to tighten piston (8). Tighten piston (8) to a torque of $400 \pm 20 \text{ N}\cdot\text{m}$ ($295 \pm 15 \text{ lb ft}$).

Install ball and set screw (7). Tighten set screw (7) to a torque of 17 ± 2 N·m (150 ± 18 lb in). Stake set screw in place once torque is applied.

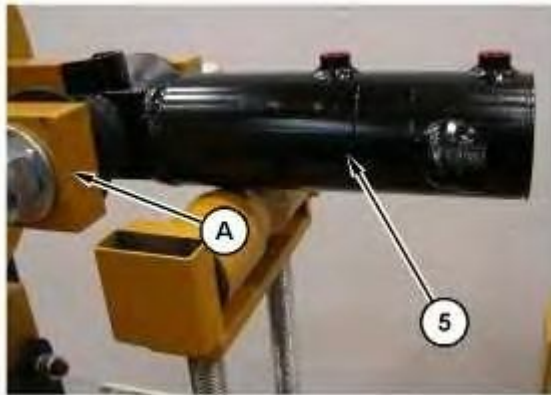


Illustration 8

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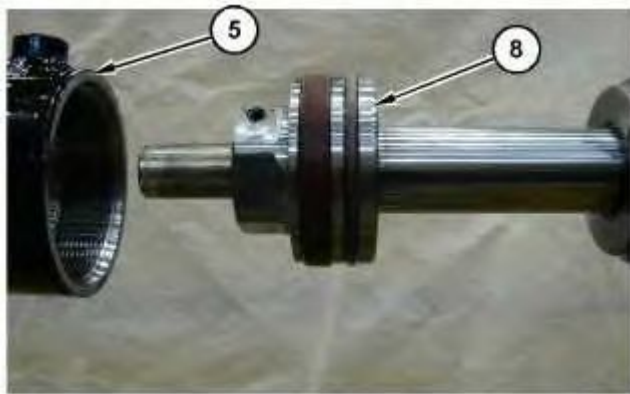


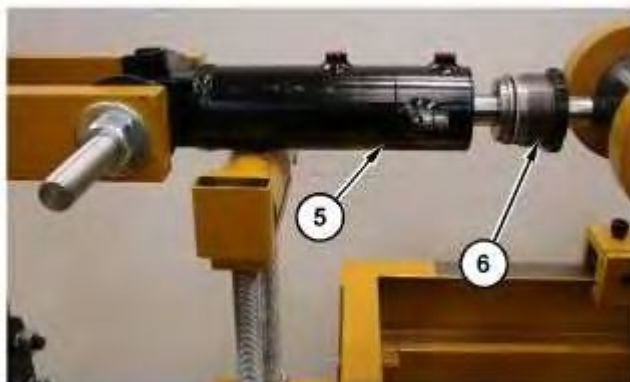
Illustration 9

g06295798

6. Mount barrel end of cylinder (5) on Tooling (A).

Align barrel assembly (5) and the rod assembly for installation. Apply hydraulic oil inside barrel assembly and on piston (8).

Install the piston and rod assembly inside the barrel assembly.



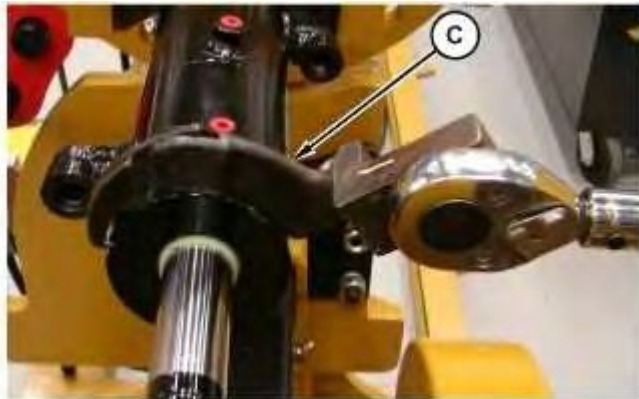


Illustration 11

7. Install cylinder nut (6) into barrel assembly (5). Apply hydraulic oil to seals before installation.

Use Tooling (C) to tighten cylinder nut (6) to a torque of 226 N·m (167 lb ft).



Illustration 12



Illustration 13

8. Install seals (1) into barrel end of blade cylinder (2). Install seals (3) into rod end of blade cylinder (4).

End By:

a. Install blade cylinder.

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i07397606

Blade - Remove and Install

SMCS - 6060-010

Removal Procedure

Start By:

- a. Remove blade cylinder



Illustration 1

g06310423

1. Place suitable blocking under blade assembly. Remove bolts (1) and pin assemblies (2).
-



Illustration 2

g06310444



Illustration 3

g06310445

2. Attach strap and a suitable lifting device around blade assembly (3). The weight of blade assembly (3) is approximately 68 kg (150 lb). Remove blade assembly (3).

Installation Procedure

1. Install blade assembly (3) in the reverse order of removal.

End By:

- a. Install blade cylinder

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i07394729

Bucket - Remove and Install

SMCS - 6001-010; 6101-010

Removal Procedure

1. Lower bucket to the ground.



Illustration 1

g06306012

1. Remove retainer bolts (1).
-



Illustration 2

g06306014

2. Remove pins (2) from bucket linkage and stick. Remove bucket (3).

Installation Procedure



Illustration 3

g06306014

1. Position the stick over the bucket (3). Install pins (2) through the bucket linkage and the stick.



Illustration 4

g06306012

2. Install retainer bolts (1). Place two nuts on the retainer bolts (1) to lock in place.

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i07390177

Bucket - Remove

SMCS - 6101-011

Removal Procedure

1. Lower bucket to the ground.



Illustration 1

g06306012

1. Remove retainer bolts (1).
-



Illustration 2

g06306014

2. Remove pins (2) from bucket linkage and stick. Remove bucket (3).

Installation Procedure



Illustration 3

g06306014

1. Position the stick over the bucket (3). Install pins (2) through the bucket linkage and the stick.



Illustration 4

g06306012

2. Install retainer bolts (1). Place two nuts on the retainer bolts (1) to lock in place.

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i07394736

Bucket Linkage - Remove and Install

SMCS - 6513-010

Removal Procedure

Start By:

- a. Remove Bucket

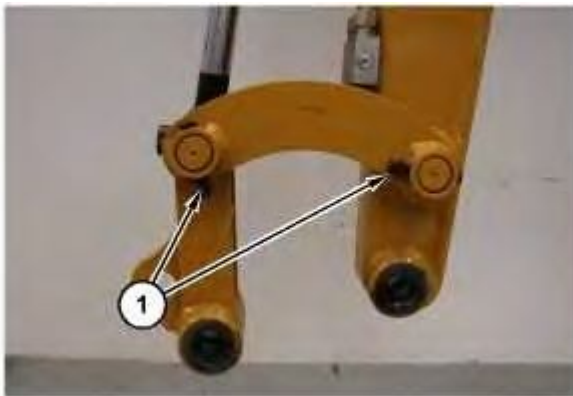


Illustration 1

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1. Remove retainer bolts (1).
-

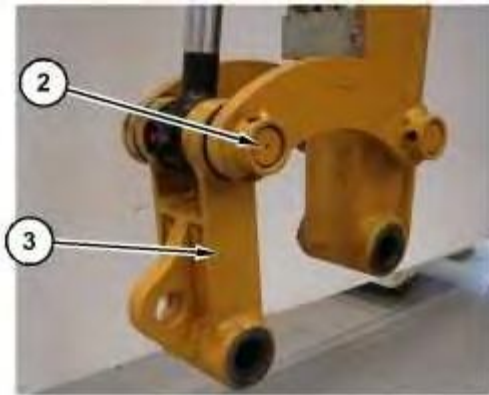


Illustration 2

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2. Remove pin (2). Remove link assembly (3).

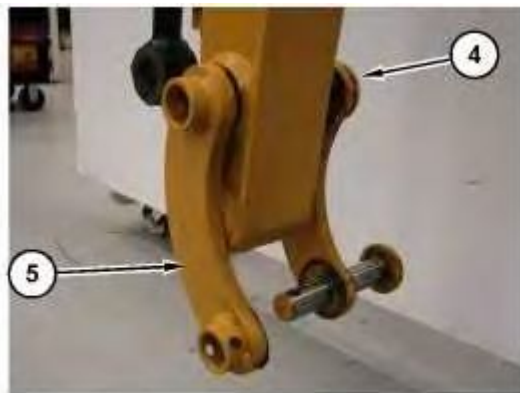


Illustration 3

g06306899

3. Remove pin (4) and links (5).

Installation Procedure

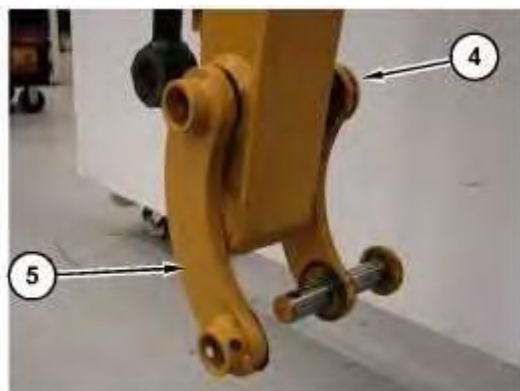


Illustration 4

g06306899

1. Install links (5) and pin (4) on the stick.

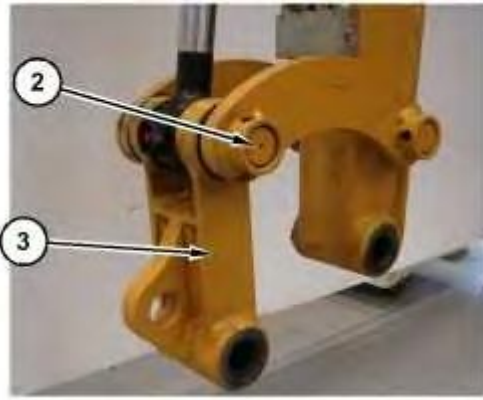


Illustration 5

g06306893

2. Position link assembly (3) along with pin (2) along with the cylinder, on the stick.

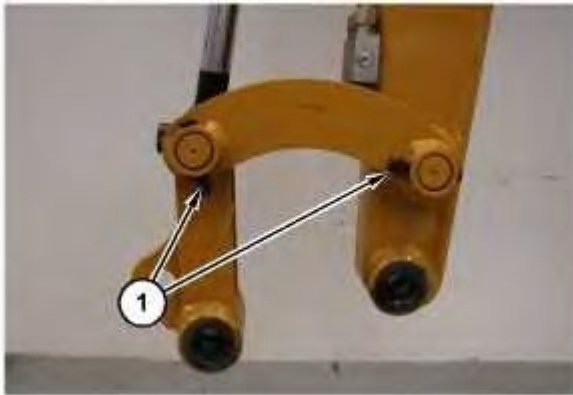


Illustration 6

g06306848

3. Install retainer bolts (1). Use 2 nuts to lock retainer bolts (1) in place.

End By:

- a. Install Bucket

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i07394846

Bucket Cylinder - Remove and Install

SMCS - 5457-010-G1

Removal Procedure

Start By:

- a. Disconnect Bucket Linkage
- b. Relieve System Pressure



Cylinders equipped with lock valves can remain pressurized for very long periods of time, even with the hoses removed.

Failure to relieve pressure before removing a lock valve or disassembling a cylinder can result in personal injury or death.

Ensure all pressure is relieved before removing a lock valve or disassembling a cylinder.



Personal injury can result from hydraulic oil pressure and hot oil.

Hydraulic oil pressure can remain in the hydraulic system after the engine has been stopped. Serious injury can be caused if this pressure is not released before any service is done on the hydraulic system.

Make sure all of the work tools have been lowered to the ground, and the oil is cool before removing any components or lines. Remove the oil filler cap only when the engine is stopped, and the filler cap is cool enough to touch with your bare hand.

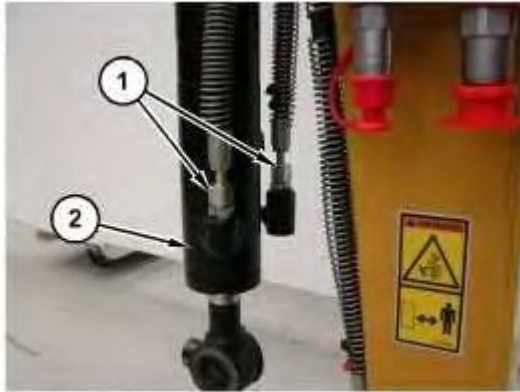


Illustration 1

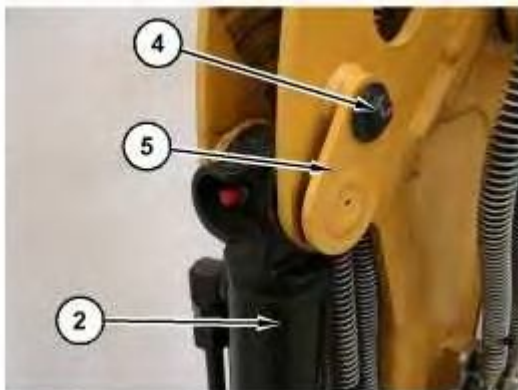
g06306937



Illustration 2

g06306978

1. Disconnect hose assemblies (1) from bucket cylinder (2). Remove clamps (3).





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2. Remove bolt (4), pin assembly (5), and bucket cylinder (2).

Installation Procedure

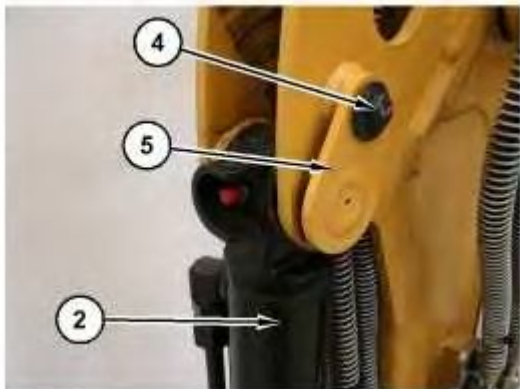


Illustration 4

1. Position bucket cylinder (2) in place on the stick. Install pin assembly (5) and bolt (4).



Illustration 5

2. Attach hose assemblies (2) to bucket cylinder (2).

End By:

- a. Connect the bucket linkage assembly.

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