# **CATERPILLAR®**

# Service Repair Manual

## **Models**

415F2 Backhoe Loader

Model: 415F2 BACKHOE LOADER HWA

Configuration: 415F2 Center Pivot Backhoe Loader HWA00001-UP (MACHINE) POWERED BY C3.4 Engine

#### **Disassembly and Assembly** 415F2, 416F2, 420F2 IT, 420F2 ST, 430F2 IT and 430F2 ST Backhoe Loaders Power

Media Number -UENR5021-03

Publication Date -01/05/2015

Date Updated -05/06/2018

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### **Transmission (Direct Drive) - Disassemble**

**SMCS -** 3030-015-DD; 3066-015

### **Disassembly Procedure**

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	395-1590	Lifting Eye Assembly	2
В	422-5471	Lifting Eye Assembly	1
С	4C-3652	Spring Compressor	1
D	1P-1859	Retaining Ring Pliers	1
Е	8H-0663	Bearing Puller Gp	1
F	8B-7551	Bearing Puller Gp	1
G	1U-6400	Three Jaw Puller	1
Н	137-8102	Spring Compressor	1

#### **Start By:**

a. Remove the transmission.

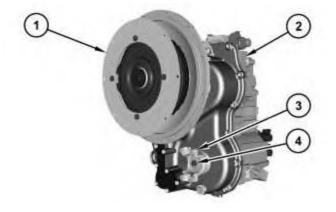


Illustration 1

1. Use two people to remove torque converter (1). The weight of torque converter (1) is approximately 23 kg (51 lb). Remove torque converter (1) from transmission (2).

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2. Remove bolt (4), the washer, and yoke (3) from transmission (2).

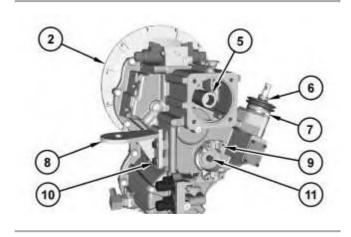


Illustration 2 g03828843

- 3. Remove shaft (5) from transmission (2).
- 4. Remove bolts (7) and gear shift (6) from transmission (2).
- 5. Remove bolts (10) and support assemblies (8) from transmission (2).
- 6. Remove bolt (11), the washer, and yoke (9) from transmission (2).

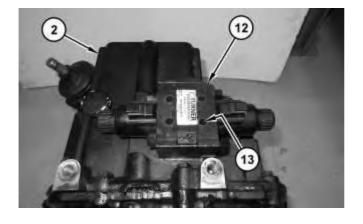


Illustration 3 g03828844

7. Remove bolts (13) and solenoid valve (12) from transmission (2).

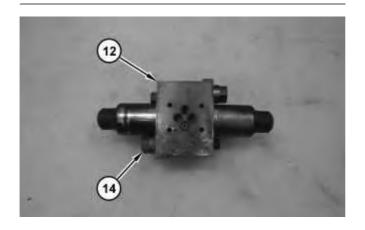


Illustration 4 g03828845

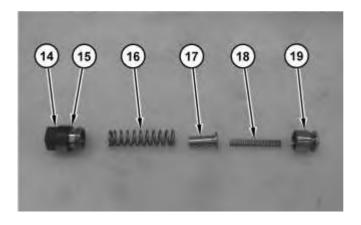


Illustration 5 g03828846



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.

- 8. Remove head (14) from solenoid valve (12). Remove O-ring seal (15) from head (14).
- 9. Remove spring (16), carrier (17), spring (18), and piston (19) from solenoid valve (12).

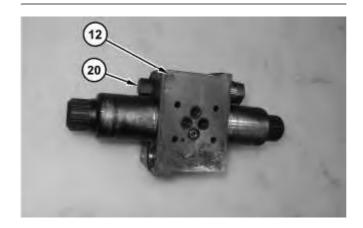


Illustration 6

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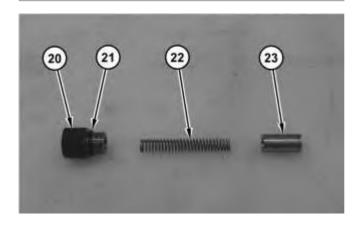


Illustration 7

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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.

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