



Service Repair Manual

Models

414E Backhoe Loader

Product: BACKHOE LOADER

Model: 414E BACKHOE LOADER ELB

Configuration: 414E Backhoe Loader ELB00001-UP (MACHINE) POWERED BY 3054 Engine

Disassembly and Assembly

414E, 416E, 420E, 422E, 428E, 430E, 432E, 434E, 442E and 444E Backhoe Loaders Power Train

Media Number -REN6475-13

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i02489286

Transmission (Power Shift) - Remove

SMCS - 3030-011-PM

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	180-3034	Repair Stand Set	4
B	8S-7615	Pin	2
	4C-6486	Stand	2
	8S-7641	Tube	2
	8S-8048	Saddle	2
C	208-5040	Support Tube	1
D	1U-7505	Hydraulic Jack	1

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

Note: Put identification marks on all lines, on all hoses, on all wires, and on all tubes for installation purposes. Plug all lines, hoses, and tubes. This helps to prevent fluid loss and this helps to keep contaminants from entering the system.

1. Connect the lock for the boom. Refer to Operation and Maintenance Manual, "Boom Lock".
2. Connect the lock for the swing boom. Operation and Maintenance Manual, "Swing Lock Pin Control".
3. Connect the lock for the extendable stick. Refer to Operation and Maintenance Manual, "Extendable Stick Lock Control".
4. Lower the bucket to the ground. Place the control for the bucket into the FLOAT position.
5. Drain the transmission oil into a suitable container for storage or disposal. Refer to Operation and Maintenance Manual, "Transmission Oil - Change".
6. Remove the piston pump. Refer to Disassembly and Assembly, "Piston Pump - Remove".
7. Remove the front drive shaft. Refer to Disassembly and Assembly, "Drive Shaft (Front) - Remove and Install".



Illustration 1

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Illustration 2

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8. Raise the machine so that the machine is level and 914 mm (36 inch) off of the floor. Install Tooling (A) and Tooling (B) under the machine.

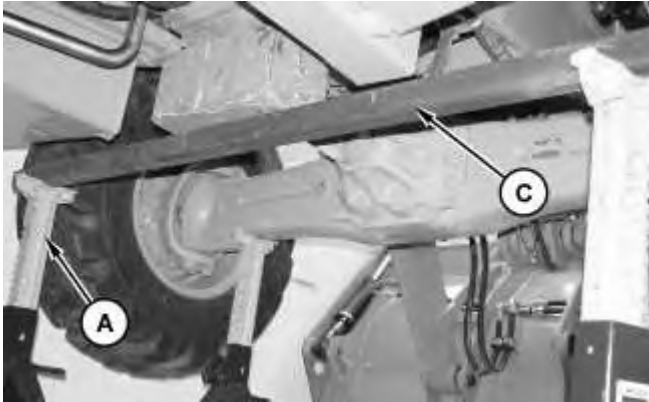


Illustration 3

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9. Install Tooling (A) and Tooling (C) in order to support the engine when the transmission is removed.

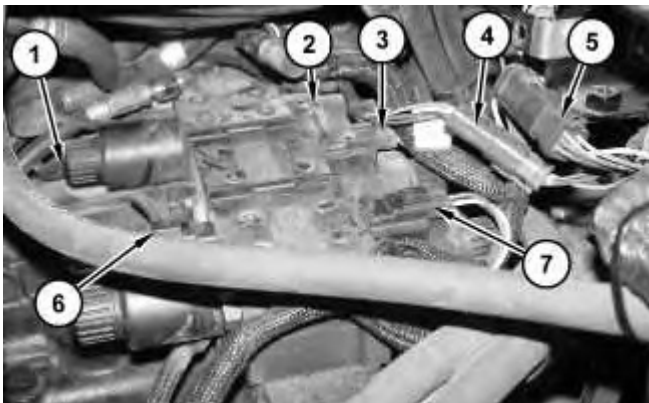


Illustration 4

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10. Disconnect harness assemblies (1), (2), (3), (4), (5), (6), and (7).

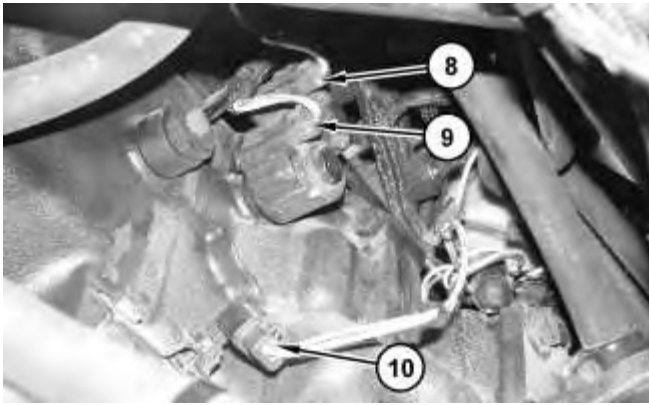


Illustration 5

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11. Disconnect harness assemblies (8), (9), and (10).

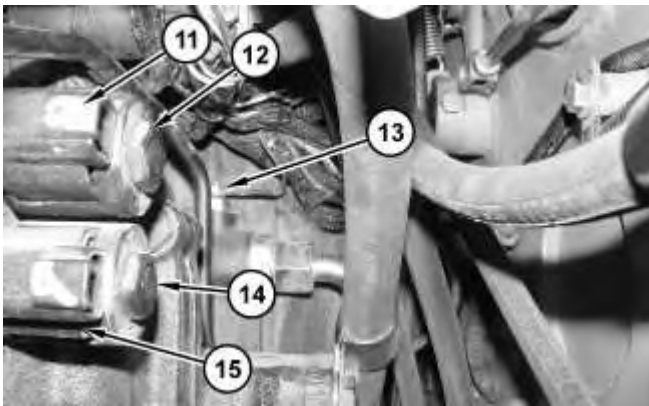


Illustration 6

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12. Disconnect harness assembly (13). Remove nuts (12) and (14). Remove solenoids (11) and (15) and remove the plungers.



Illustration 7

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13. Disconnect hose assembly (16) from the right side of the transmission.

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