



# Service Repair Manual

## **Model**

320E and 320E L 320EL EXCAVATOR

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Product: EXCAVATOR

Model: 320E L EXCAVATOR KLT

Configuration: 320E &amp; 320E L Excavators KLT00001-UP (MACHINE) POWERED BY C6.6 Engine

## Disassembly and Assembly

### 320E and 323E Excavators Machine Systems

Media Number -KENR9842-01

Publication Date -01/03/2013

Date Updated -28/03/2013

i04390499

## Heating and Air Conditioning

SMCS - 7304; 7309; 7320

### Removal Procedure



**Personal injury can result from contact with refrigerant.**

**Contact with refrigerant can cause frost bite. Keep face and hands away to help prevent injury.**

**Protective goggles must always be worn when refrigerant lines are opened, even if the gauges indicate the system is empty of refrigerant.**

**Always use precaution when a fitting is removed. Slowly loosen the fitting. If the system is still under pressure, release it slowly in a well ventilated area.**

**Personal injury or death can result from inhaling refrigerant through a lit cigarette.**

**Inhaling air conditioner refrigerant gas through a lit cigarette or other smoking method or inhaling fumes released from a flame contacting air conditioner refrigerant gas, can cause bodily harm or death.**

**Do not smoke when servicing air conditioners or wherever refrigerant gas may be present.**

**Use a certified recovery and recycling cart to properly remove the refrigerant from the air conditioning system.**

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1. Refer to Service Manual, SENR5664, "Air Conditioning and Heating Systems with R-134a Refrigerant" for the recovery and the charging procedure. Refer to Special Publication, NENG2500, "Air Conditioning Tools" for the correct tools.

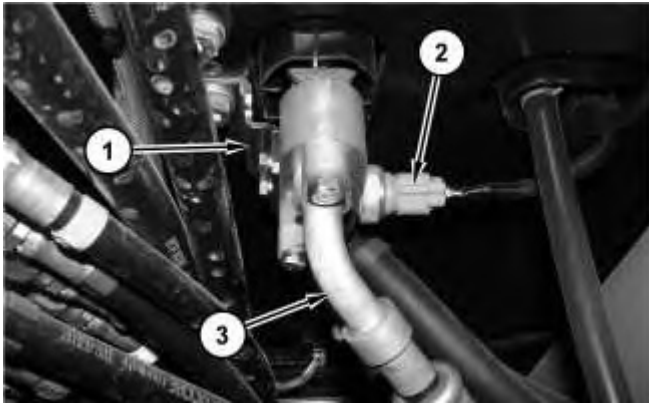


Illustration 1

g02561096

2. Disconnect hose assembly (3). Remove switch (2). Remove bolts (1).

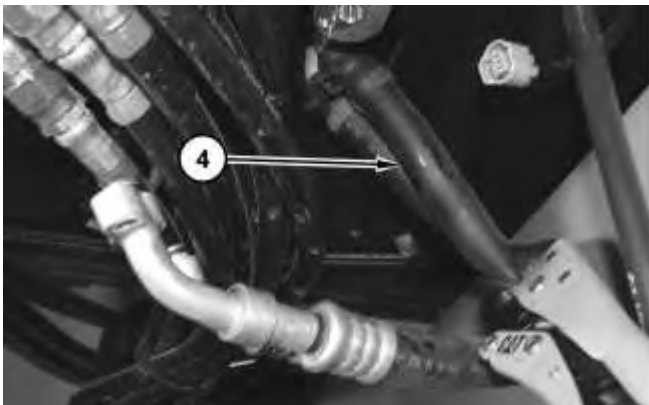


Illustration 2

g02561097

3. Clamp hose, as shown to contain coolant. Remove hoses (4).



Illustration 3

g02561116

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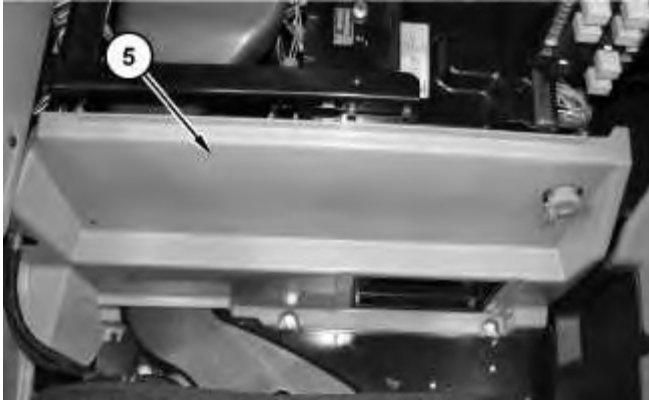


Illustration 4

g02561117

4. Remove panels (5) and (6).



Illustration 5

g02561119

5. Remove duct (7). Remove frame (8).

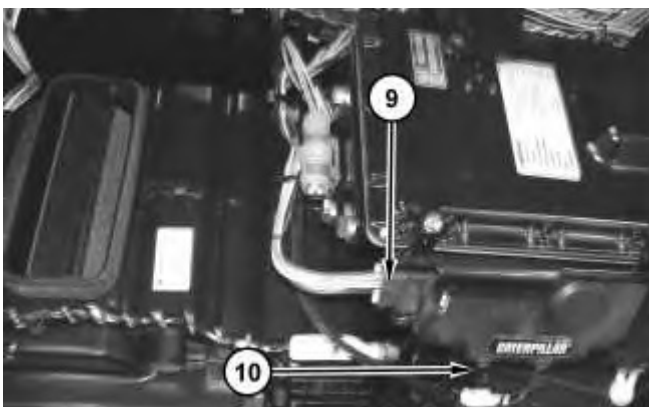
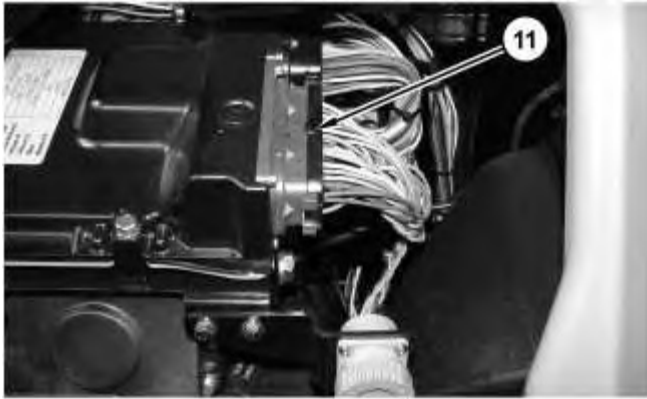


Illustration 6

g02561121

6. Disconnect harness assemblies (9). Disconnect antenna leads (10).

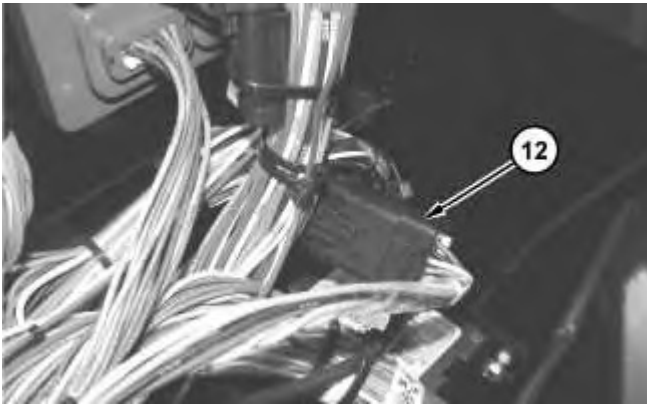


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Illustration 7

g02561122

7. Disconnect harness assemblies (11).



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Illustration 8

g02561123

8. Disconnect harness assembly (12).



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Illustration 9

g02561133

9. Disconnect harness assembly (13).

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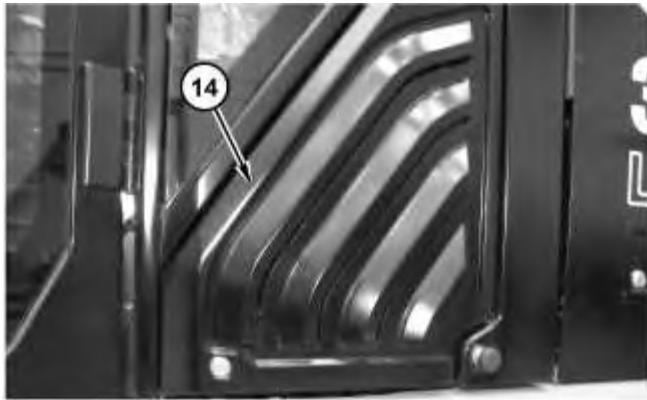


Illustration 10

g02561576

10. Open panel (14).

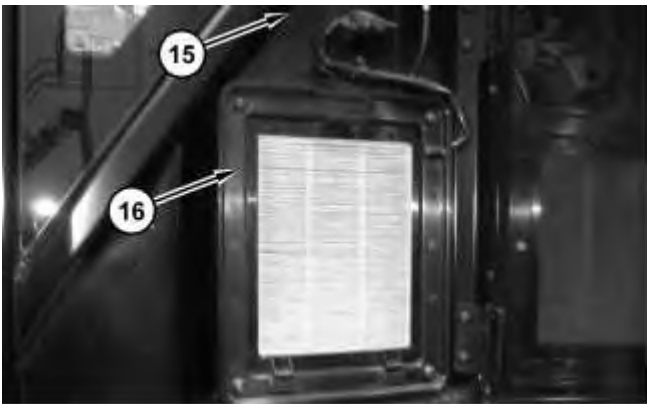


Illustration 11

g02561577

11. Relocate harness assembly (15). Remove filter housing (16).

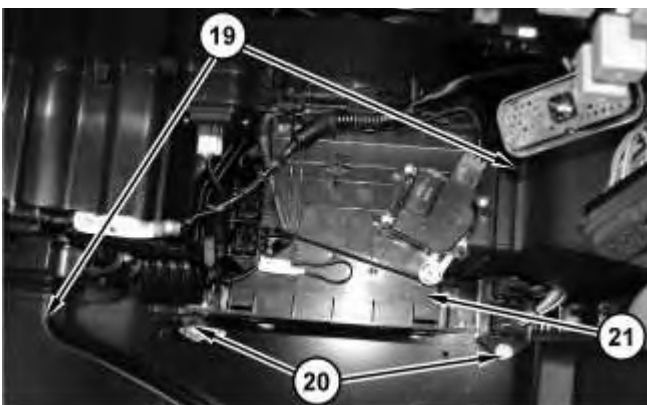


Illustration 12

g02561176

12. Remove bolts (20). Remove ducts (19). Remove air conditioner group (21).

## Installation Procedure

1. Install air conditioner group (21) in the reverse order of removal.

## Disassembly Procedure

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

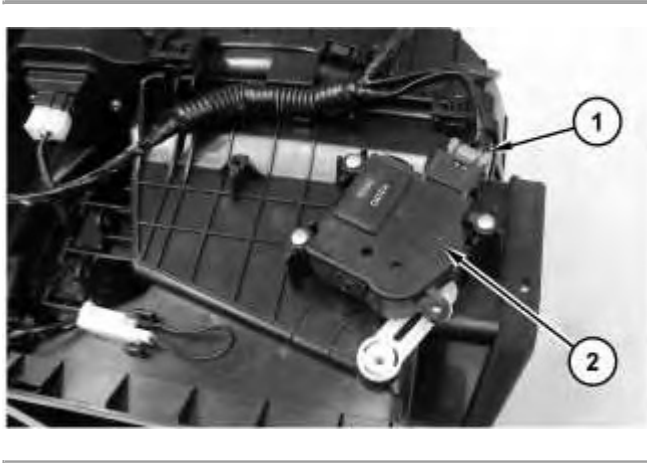


Illustration 13

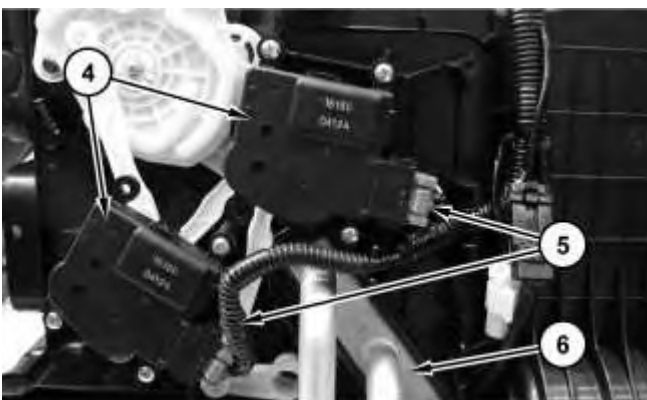
g02566678

1. Disconnect harness assembly (1). Remove actuator motor (2).



Illustration 14

g02566681

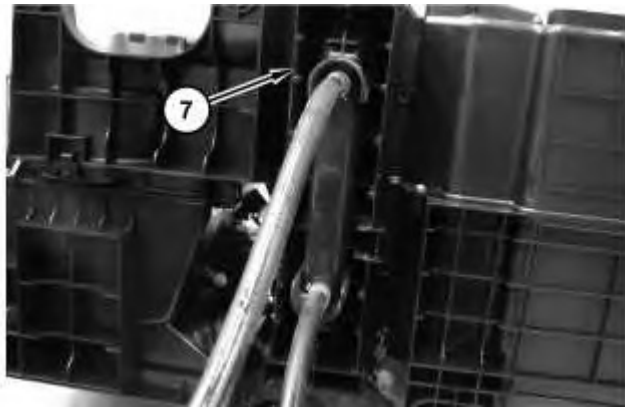


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Illustration 15

g02564117

2. Remove cover (3). Disconnect harness assemblies (5). Remove actuator motors (4). Slide out core (6).



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Illustration 16

g02566716

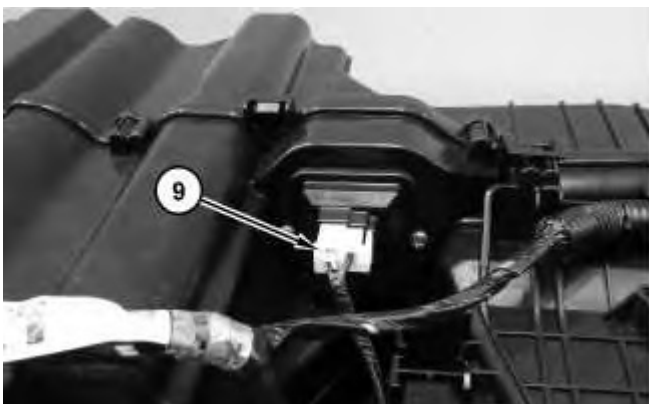


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Illustration 17

g02566717

3. Remove cover (7). Remove evaporator (8).



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Illustration 18

g02566720

4. Disconnect harness assembly (9) from blower control.

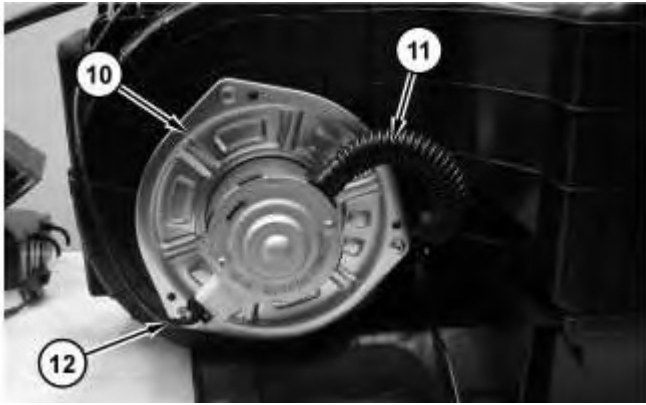


Illustration 19

g02561537

5. Disconnect harness assembly (12). Remove hose (11). Remove fan (10).

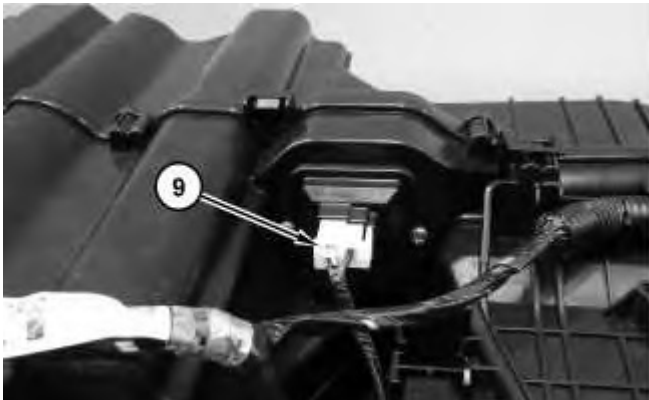
## Assembly Procedure



Illustration 20

g02561537

1. Install fan (10). Connect harness assembly (12). Install hose (11).



2. Connect harness assembly (9) to blower control.



Illustration 22



Illustration 23

3. Install evaporator (8). Install cover (7).

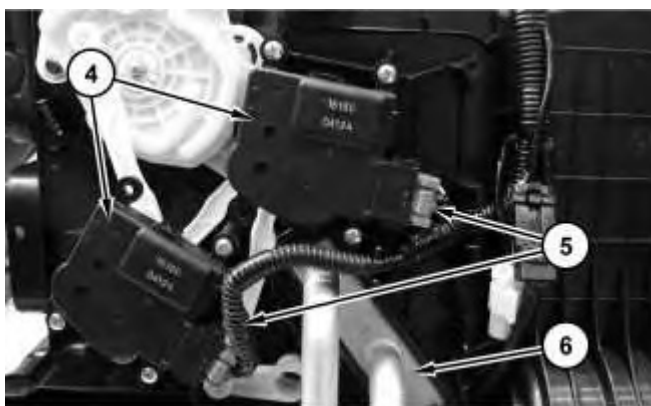


Illustration 24



Illustration 25

g02566681

4. Slide in core (6). Install cover (3). Install actuators motors (4). Connect harness assemblies (5).



Illustration 26

g02566678

5. Install actuator motor (2). Connect harness assembly (1).

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Product: EXCAVATOR

Model: 320E L EXCAVATOR KLT

Configuration: 320E &amp; 320E L Excavators KLT00001-UP (MACHINE) POWERED BY C6.6 Engine

## Disassembly and Assembly

### 320E and 323E Excavators Machine Systems

Media Number -KENR9842-01

Publication Date -01/03/2013

Date Updated -28/03/2013

i04384176

## Refrigerant Receiver-Dryer

SMCS - 7322

### Removal Procedure



**Personal injury can result from contact with refrigerant.**

**Contact with refrigerant can cause frost bite. Keep face and hands away to help prevent injury.**

**Protective goggles must always be worn when refrigerant lines are opened, even if the gauges indicate the system is empty of refrigerant.**

**Always use precaution when a fitting is removed. Slowly loosen the fitting. If the system is still under pressure, release it slowly in a well ventilated area.**

**Personal injury or death can result from inhaling refrigerant through a lit cigarette.**

**Inhaling air conditioner refrigerant gas through a lit cigarette or other smoking method or inhaling fumes released from a flame contacting air conditioner refrigerant gas, can cause bodily harm or death.**

**Do not smoke when servicing air conditioners or wherever refrigerant gas may be present.**

**Use a certified recovery and recycling cart to properly remove the refrigerant from the air conditioning system.**

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1. Recover the air conditioner refrigerant from the air conditioner system. Refer to , SENR5664, "Air Conditioning and Heating Systems with R-134a Refrigerant" for the correct procedure. Refer to Dealer Service Tool Catalog, NENG2500, "Air Conditioning Tools" for the correct tools.



Illustration 1

g02551740

2. Open the left side access door.

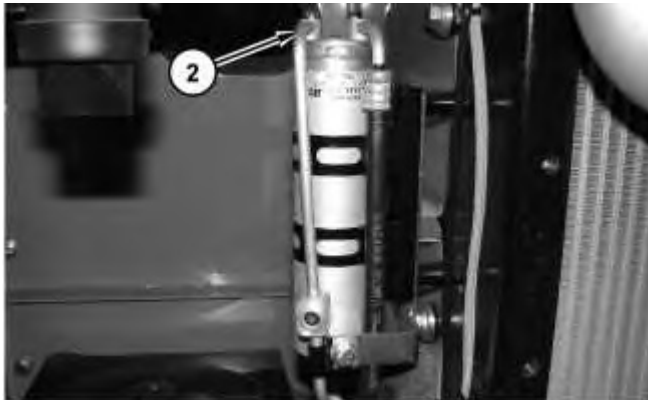


Illustration 2

g02551741

3. Disconnect lines (2) from the refrigerant dryer (3).

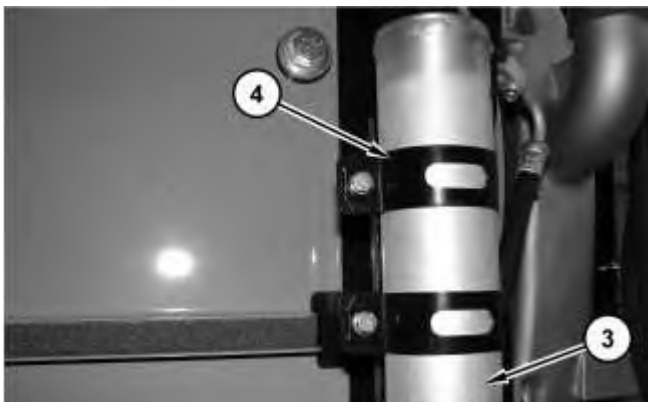


Illustration 3

g02551744

4. Remove clamps (4). Remove refrigerant dryer (3).

## Installation Procedure

1. Install refrigerant dryer (3) in the reverse order of removal.

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Configuration: 320E &amp; 320E L Excavators KLT00001-UP (MACHINE) POWERED BY C6.6 Engine

## Disassembly and Assembly 320E and 323E Excavators Machine Systems

Media Number -KENR9842-01

Publication Date -01/03/2013

Date Updated -28/03/2013

i04604894

### Actuator Motor (Air Distributor)

SMCS - 7304-MQ; 7309-MQ; 7320-MQ

### Removal Procedure

#### Start By:

- a. Remove the storage box and covers.

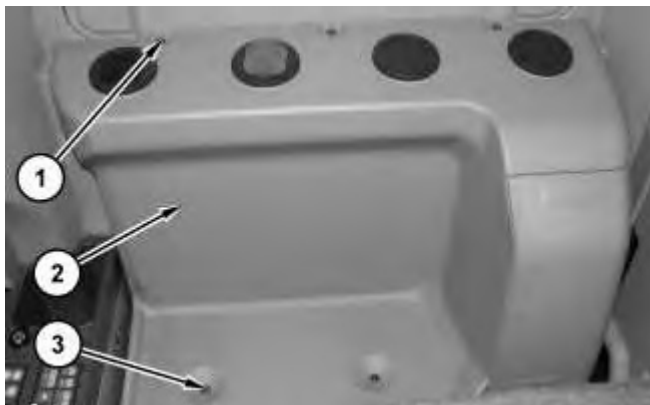


Illustration 1

g02412816

1. Remove bolts (1) and (3). Remove cover (2).



Illustration 2

g02412857

2. Remove cover (4).

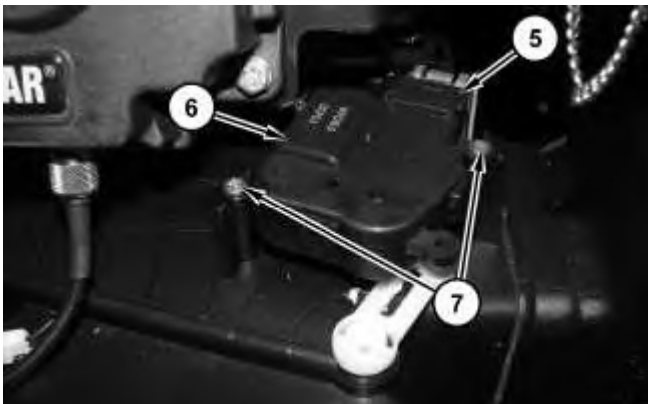


Illustration 3

g02412877

3. Disconnect harness assembly (5). Remove screws (7). Remove actuator (6).

## Installation Procedure

1. Install actuator (6) in the reverse order of removal.

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Product: EXCAVATOR

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**Disassembly and Assembly  
320E and 323E Excavators Machine Systems**

Media Number -KENR9842-01

Publication Date -01/03/2013

Date Updated -28/03/2013

i04484309

**Control Module (Automatic Temperature Control Unit)**

SMCS - 7304-TA; 7309-TA; 7320-TA

**Removal Procedure**

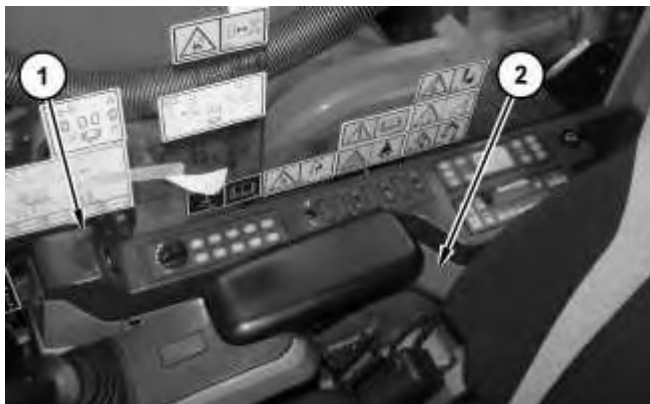


Illustration 1

g02235393

1. Remove cover (1) and screw. Remove cover (2).



2. Remove screws (3) from control panel (4).

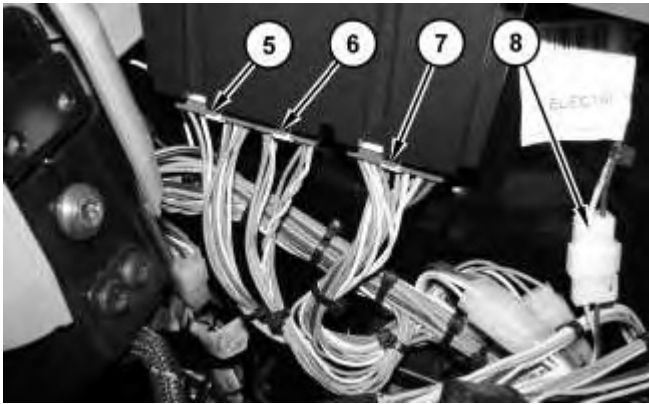


Illustration 3

3. Disconnect harness assemblies (5), (6), (7), and (8).

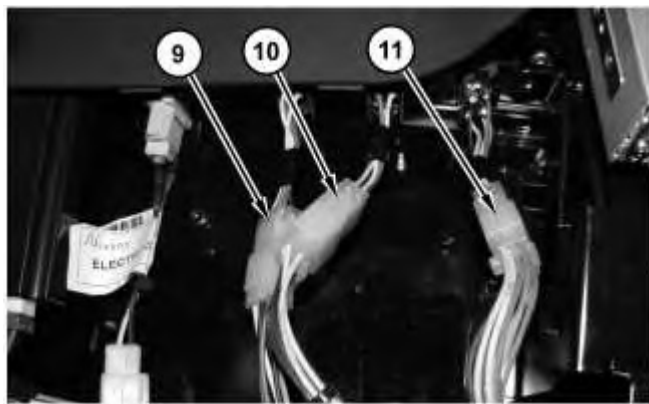


Illustration 4

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

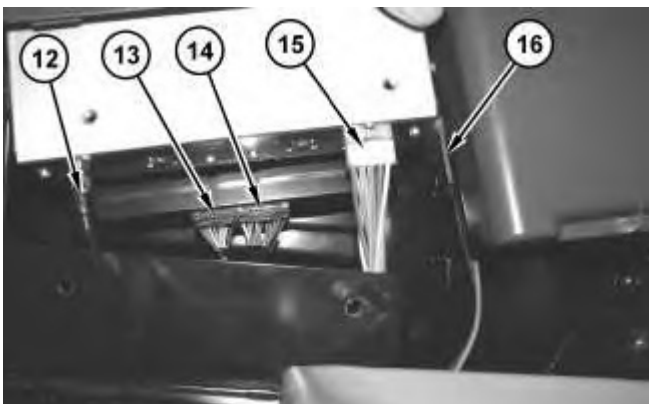


Illustration 5

5. Disconnect antenna (12). Disconnect harness assemblies (13), (14), (15), and (16).

6. Remove control module (4).

## Installation Procedure

1. Install control panel (4) in the reverse order of the removal.

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**Disassembly and Assembly**  
**320E and 323E Excavators Machine Systems**

Media Number -KENR9842-01

Publication Date -01/03/2013

Date Updated -28/03/2013

i04610611

**Track Carrier Roller**

SMCS - 4154

**Specifications**

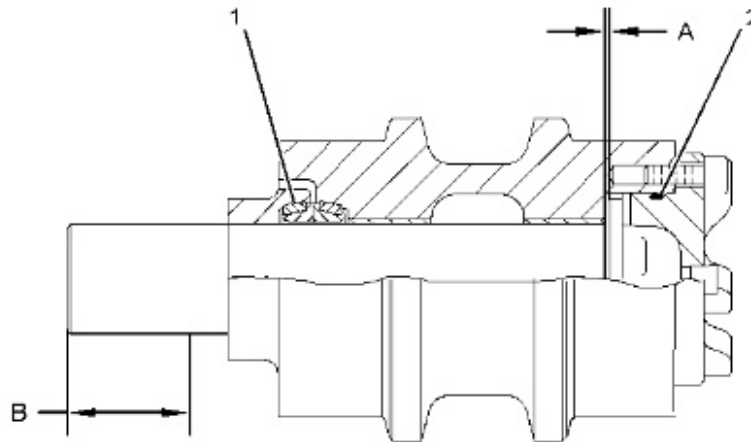


Illustration 1

g02593236

Table 1

Specification for 8E-5600 Track Carrier Roller			
Item	Qty	Part	Specification Description
1	1	<b>8E-5608</b> Duo- Cone Seal Gp	The rubber toric seals and all the contacting surfaces must be clean and dry at assembly. Before assembly, apply a thin film of <b>6V-4876</b> Lubricant to the contacting surfaces of the metal seal rings. The metal seal rings must be assembled square. The rubber toric seals should not bulge and the rubber toric seals should not twist.
A	-	-	

			End play: Minimum is 0.20 mm (0.008 inch). Maximum is 0.75 mm (0.030 inch).
2	1	<b>6V-7661</b> O-Ring Seal	Lubricate the bore of the O-ring seal lightly with the lubricant that is being sealed.
B	-	-	Before assembly, length of the track roller shaft assembly that must be free of paint is 55 ± 5 mm (2.2 ± 0.2 inch).

## Removal Procedure

Table 2

Required Tools			
Tool	Part Number	Part Description	Qty
A	8T-5255	Hydraulic Jack	1

1. Start the engine. Park the machine on a hard, level surface. Shut off the engine.



**Personal injury or death can result from grease and oil coming out of the relief valve.**

**Grease and oil are under high pressure coming out of the relief valve and can penetrate the body.**

**Do not watch the relief valve to see if grease is escaping. Watch the track or track adjustment cylinder to see if the track is being loosened.**

**Make sure the vent holes are clean before the tension is released on the track.**

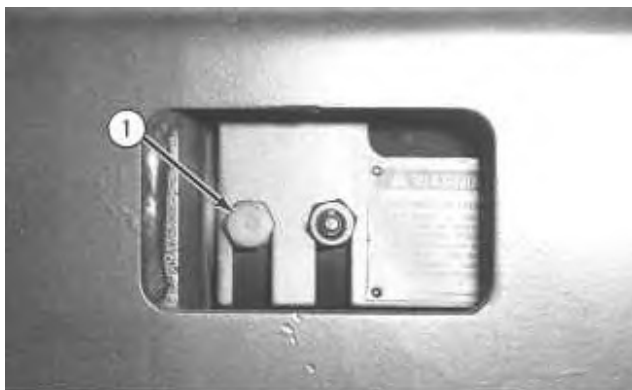


Illustration 2

g00489342

2. Release the tension on the track.
3. Loosen relief valve (1) by one turn only. If the track does not loosen after opening the relief valve, move the machine forward and backward until the tension is released.



Illustration 3

g00693935

4. Loosen bolt (2) that holds track carrier roller (3) to the mounting bracket on the undercarriage.

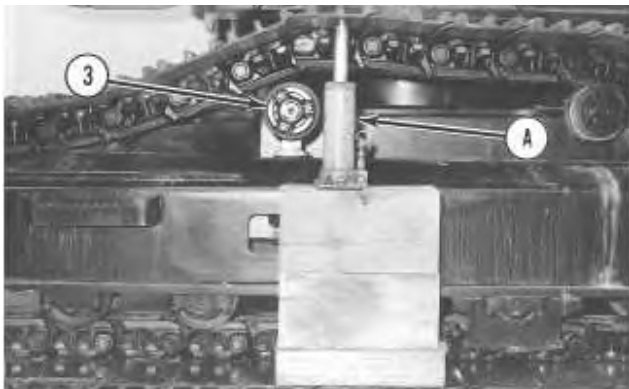


Illustration 4

g00489356

5. Position Tooling (A) and suitable cribbing under the track assembly, as shown.
6. Use Tooling (A) in order to lift the track assembly off the track carrier roller.
7. Remove track carrier roller (3). The weight of track carrier roller (3) is 17 kg (38 lb).

**Reference:** Refer to Undercarriage Reconditioning Bulletin, SEBF8568, "Hydraulic Excavator Roller Disassemble and Assembly Procedures" for the Disassembly and Assembly procedures for the track carrier roller.

## Installation Procedure

Table 3

Required Tools			
Tool	Part Number	Part Description	Qty

1. Make sure that the shaft of the track carrier roller and the bore in the mounting bracket on the undercarriage are clean and free of dirt.
- 

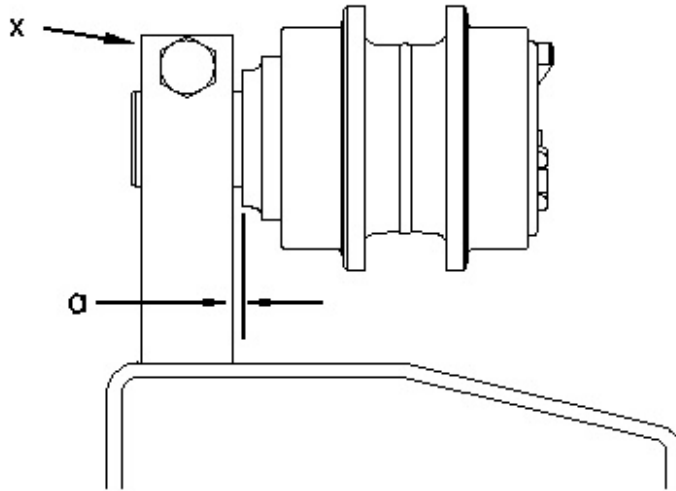


Illustration 5

g00652868

(x) Mounting bracket

2. Place the track carrier roller in position in the mounting bracket. The weight of track carrier roller is 17 kg (38 lb). Adjust the carrier roller until Distance (a), the distance between the outside face of the mounting bracket and the carrier roller is  $7.0 \pm 0.5$  mm ( $0.28 \pm 0.02$  inch).
- 



Illustration 6

g00693935

3. After you adjust the position of track carrier roller (3) in the mounting bracket, tighten bolt (2).
-

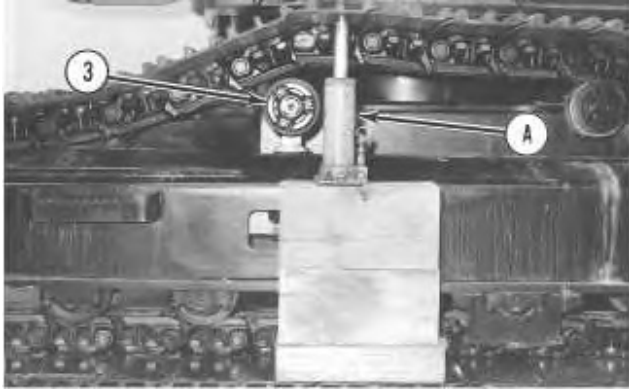


Illustration 7

g00489356

4. Make sure that track carrier roller (3) rotates smoothly by manually turning the carrier roller.
5. Slowly lower the track assembly onto the carrier roller with Tooling (A).
6. Tighten the tension of the track. Refer to Operation and Maintenance Manual, "Track Adjustment - Adjust" for the correct procedure.

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**Disassembly and Assembly**  
**320E and 323E Excavators Machine Systems**

Media Number -KENR9842-01

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i04610953

**Track Roller**

SMCS - 4180

**Specifications**

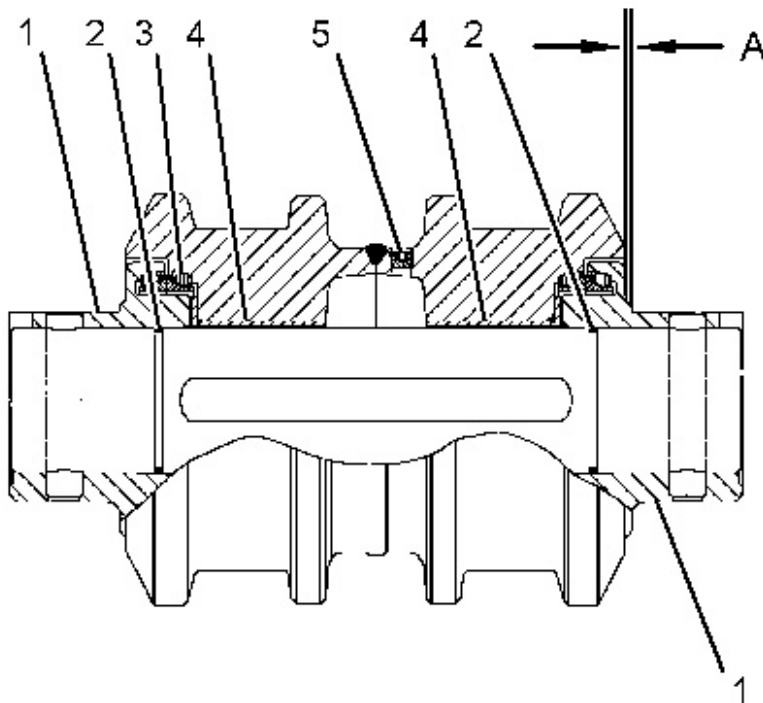


Illustration 1

g02724642

Table 1

**Specification for 348-1868 Double Flange Track Roller**

Item	Qty	Part	Specification Description
1	-	-	Before assembly, the surfaces must be clean and free from protective coating.
2	2	<b>7F-8268 O-Ring Seal</b>	Lubricate the bore with the lubricant that is being sealed.
3	2	<b>9W-2142 Duo-Cone Seal Gp</b>	The rubber toric seals and all the contacting surfaces must be clean and dry at assembly. Before assembly, apply a thin film of <b>6V-4876 Lubricant</b> to the contacting surfaces of the metal seal rings. The seal rings must be assembled square. The rubber toric seal should not bulge and the rubber toric seal should not twist.
4	2	<b>8E-5599 Track Roller Bearing</b>	Inside diameter after assembly is $60.130 \pm 0.076$ mm ( $2.3673 \pm 0.0030$ inch).
5	1	<b>7H-3171 Pipe Plug</b>	Apply blue Loctite 242 to the threads.
A	-	-	End play for the track roller shaft: Minimum is 0.25 mm (0.010 inch). Maximum is 1.25 mm (0.049 inch).

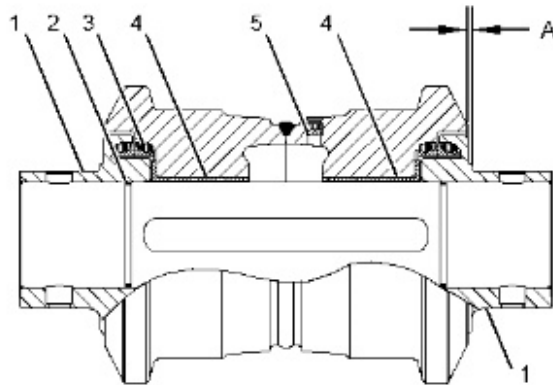


Illustration 2

g02724638

Table 2

<b>Specification for 206-1265 Track Roller Gp</b>			
Item	Qty	Part	Specification Description
1	-	-	Before assembly, the surfaces must be clean and free from protective coating.

2	2	7F-8268 O-Ring Seal	Lubricate the bore with the lubricant that is being sealed.
3	2	206-9211 Duo-Cone Seal Gp	The rubber toric seals and all the contacting surfaces must be clean and dry at assembly. Before assembly, apply a thin film of 6V-4876 Lubricant to the contacting surfaces of the metal seal rings. The seal rings must be assembled square. The rubber toric seal should not bulge and the rubber toric seal should not twist.
4	2	8E-5599 Track Roller Bearing	Inside diameter after assembly is $60.130 \pm 0.076$ mm ( $2.3673 \pm 0.0030$ inch).
5	1	9w-2146 Plug	Apply blue Loctite 242 to the threads. Torque to $28 \pm 5$ N·m ( $248 \pm 44$ lb in).
A	-	-	End play for the track roller shaft: Minimum is 0.25 mm (0.010 inch). Maximum is 1.25 mm (0.049 inch).

## Removal Procedure

Table 3

Required Tools			
Tool	Part Number	Part Description	Qty
A	8S-7611	Tube	2
	8S-7615	Pin	2
	8S-7640	Stand	2
B	183-4797	Track Roller Lifting Fork	1

**Note:** There is a track guide on each side of the machine. The procedure that follows is for the removal of the track roller with the track guide.

1. Start the engine. Park the machine on a hard, level surface. Stop the engine.
  2. Release the tension on the track. Refer to Operation and Maintenance Manual, "Track Adjustment - Adjust".
-



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Illustration 3

g01211423

**Note:** Adjust the height of Tooling (A) in order to have sufficient clearance for the removal of the track rollers when Tooling (A) is installed under the undercarriage (1) of the machine.

3. Lift the side of the machine. Install Tooling (A) under the undercarriage, as shown.

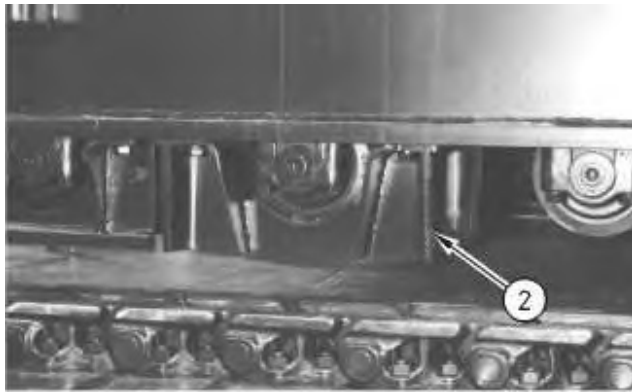


Illustration 4

g00664654

4. Loosen the bolts that hold track guide (2) to the undercarriage.

**Note:** Do not remove the bolts at this time.

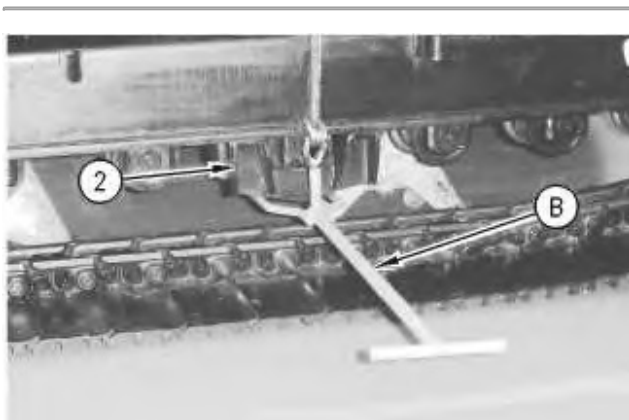


Illustration 5

g00664663

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