

Document Title: Superstructure, removal	Function Group: 710	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

Superstructure, removal

Op nbr 00000

WARNING

The superstructure is heavy. Pay attention to safe footing and the area around the crane before proceeding to remove or install the superstructure.

NOTE!

Weight of superstructure : 4 ~ 7 tons excluding counterweight and digging unit.

1. Remove the digging unit.
2. Disconnect center passage clamping screw, seal cover, hydraulic oil hoses, drain hose, and one servo hydraulic oil hose from center passage.

NOTE!

Bundle the hoses. Blind plug each disconnected hose and pipe.

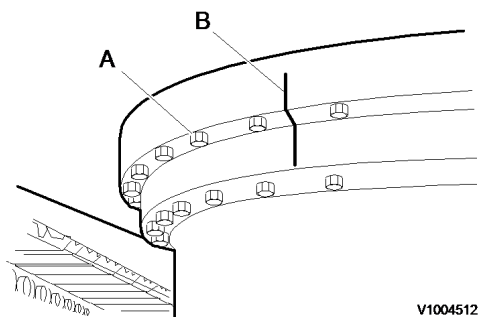
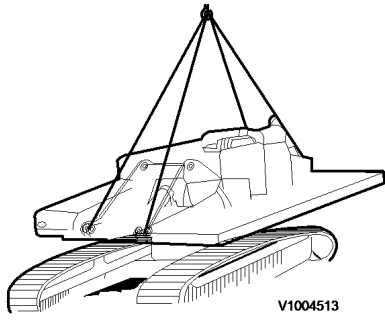


Figure 1
Slew ring installed

- A. Screw
- B. Confirm alignment of match marks

3. Remove screws (A) fixing the outer race of the slew ring.
4. Dismantle the cab, counterweight and guard. Place a wire rope on the superstructure and lift it with a crane to an extent that the wire rope is not slack.
5. Lift the superstructure just a little, and after confirming safety all around, lift it up and out.



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Figure 2
Lifting the superstructure

Document Title: Superstructure, installation	Function Group: 710	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

Superstructure, installation

Op nbr 00000

1. Bundle the hoses attached to the center passage together and place them upright.
2. Coat the screws and threaded holes of the slew ring with "Threebond kk 1215" (Loctite #515).

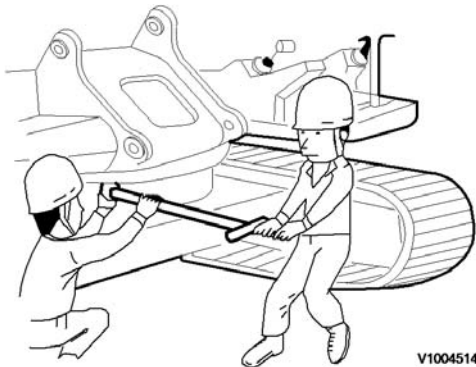


Figure 1
Fig. 5 Installing the superstructure

3. Lift the superstructure and install it to the slew ring.
NOTE!
Lower the superstructure so that the slew pinion and the slew ring are engaged.
NOTE!
For tightening torque, see torque chart.
NOTE!
Tighten diagonally opposite screws in sequence.
4. Connect the hoses, center passage clamping screw and seal cover disconnected for removal.

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Document Title: Tightening specifications	Function Group: torque, 715	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

Tightening torque, specifications

Protecting plate

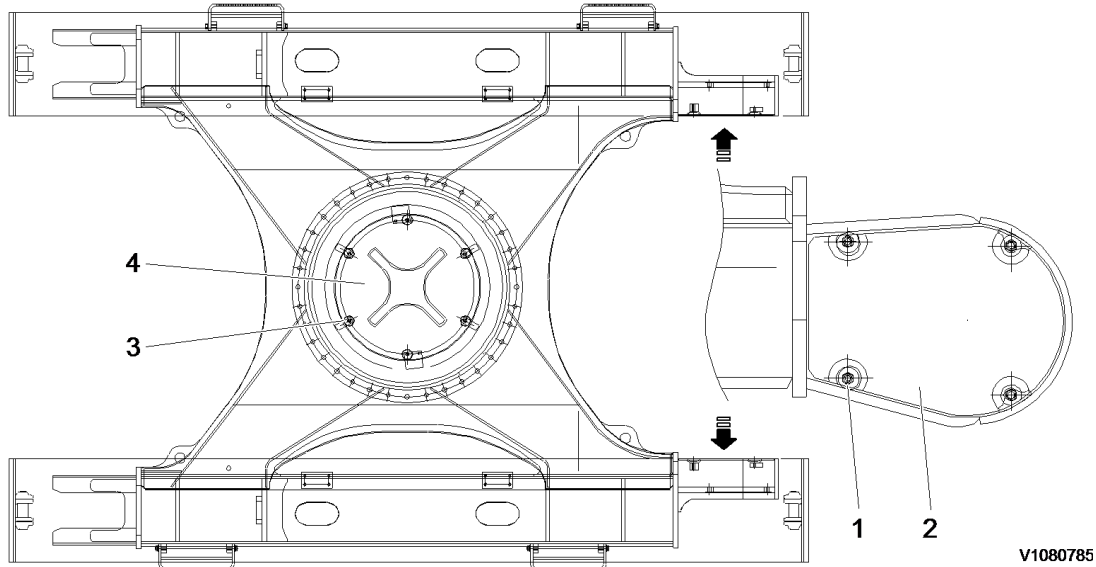


Figure 1
Machine view, protecting plate

Tightening torque: Nm (kgf m) (lbf ft)

No.	Items	Weight: kg (lbs)	Tightening torque
1	Mounting screws	–	265 ±29 (27 ±3) (195 ±22)
2	Track motor protection cover (LH, RH)	6.5 (14)	–
3	Mounting screws	–	262 ±26 (26.7 ±2.7) (193 ±19)
4	Under cover HDF (MUD) thick: 20	91 (201)	–

NOTE!

Apply loctite #277 or 609 on screws.

Document Title: Boom cylinder protecting guard, removal	Function Group: 715	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

Boom cylinder protecting guard, removal

Op nbr 715-019

1. Park the machine in the service position B, see [091 Service positions](#).

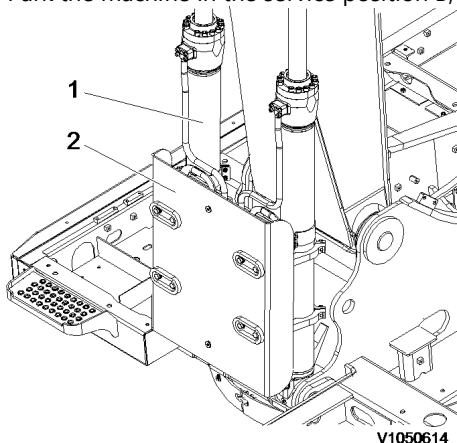


Figure 1
Position, boom cylinders

2. Raise boom cylinders (1), to Vertical position and stop engine.
3. Install I-bolt and sling guard (2) securely with a hoist.

NOTE!

Guard weight: 60 kg (132 lbs)



The parts are heavy. Take appropriate safety cautions when handling them.

4. Remove screws (3) and guard (2).

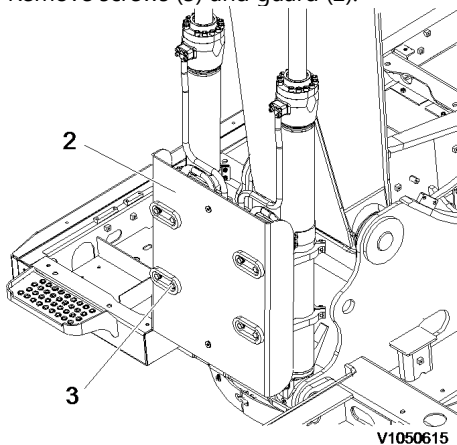


Figure 2
Remove, guard

5. Remove screws (4) and clamps (5).

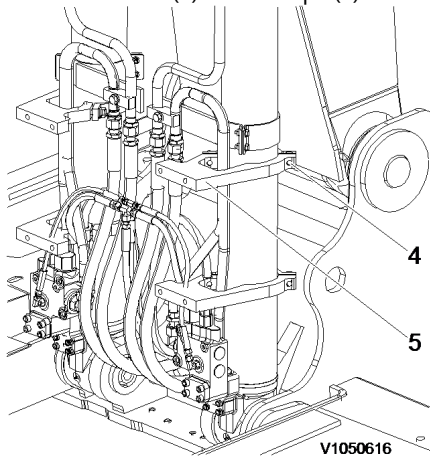


Figure 3
Remove, clamp

Document Title: Boom cylinder protecting guard, installation	Function Group: 715	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

Boom cylinder protecting guard, installation

Op nbr 715-020

1. Park the machine in the service position B, see [091 Service positions](#).

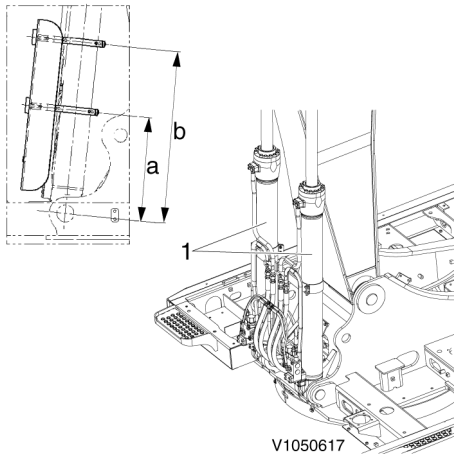


Figure 1
Marking, clamp position

- a. 405 +5 mm (16 +0.2 in)
 - b. 745 ±5 mm (29.3 ±0.2 in)
2. Raise boom cylinders (1), to Vertical position and stop engine.
 3. Mark clamp location on each the boom cylinder (1).
 4. Install screws (3) and clamps (2), don't over tighten the clamps (2).

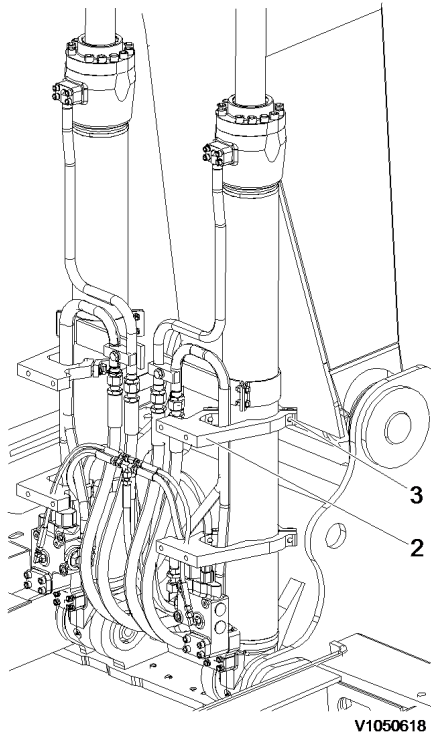


Figure 2
Install, clamp

5. Sling guard (4) securely with a hoists and install screws (5).

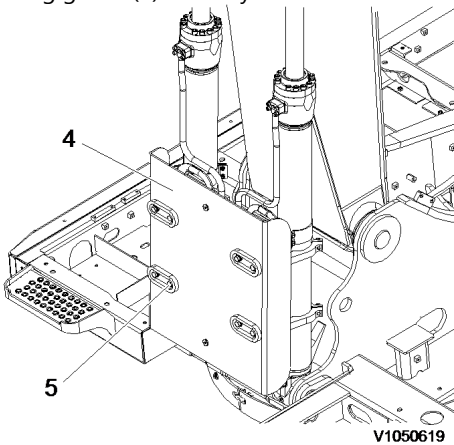


Figure 3
Install, guard

NOTE!

Apply loctite on screws (5).

NOTE!

Guard weight: 60 kg (132 lbs)

Tightening torque: 262 ±26 Nm (193 ±19 lbf ft)



The parts are heavy. Take appropriate safety cautions when handling them.

6. Before installing screws (6) apply loctite.

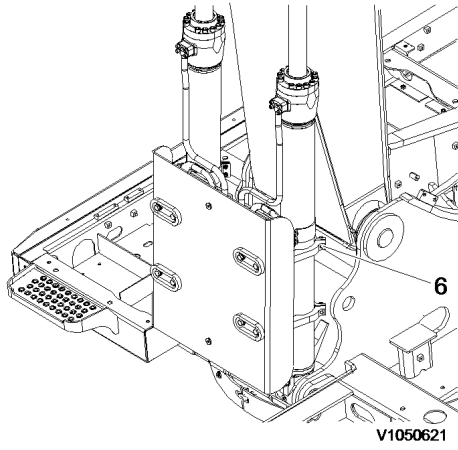


Figure 4
Install, clamp screw

NOTE!

Tightening torque: 262 ± 26 Nm (193 ± 19 lbf ft)

7. Check for interference of guard by operating the boom cylinders.

Document Title: Bucket cylinder protecting guard, removal	Function Group: 715	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

Bucket cylinder protecting guard, removal

Op nbr 715-023

1. Park the machine in the service position A, see [091 Service positions](#).

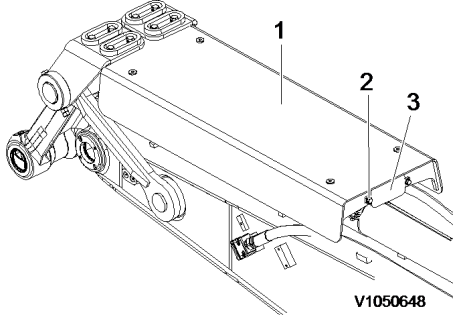


Figure 1
Remove, cover

2. Install I-bolts and sling guard (1) securely with a hoist. Remove screws (2) and cover (3).
3. Remove screws (6) and guard (5).

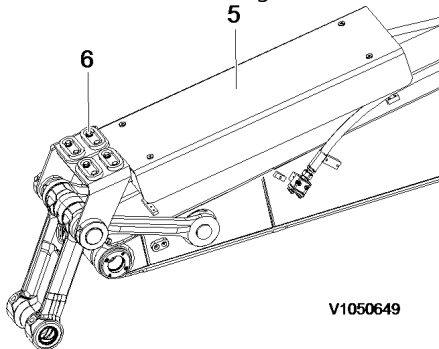


Figure 2
Remove, guard

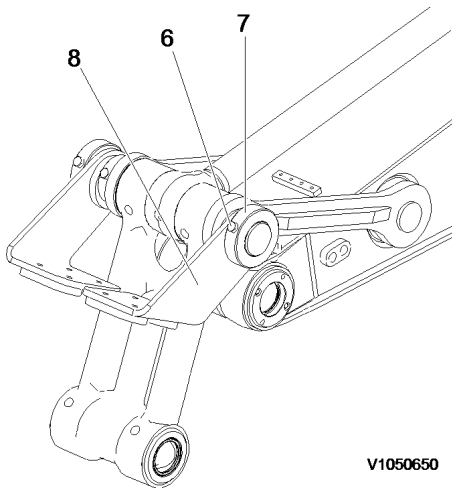


WARNING
The parts are heavy. Take appropriate safety cautions when handling them.

NOTE!

Guard (5) weight: 113 kg (249 lbs)

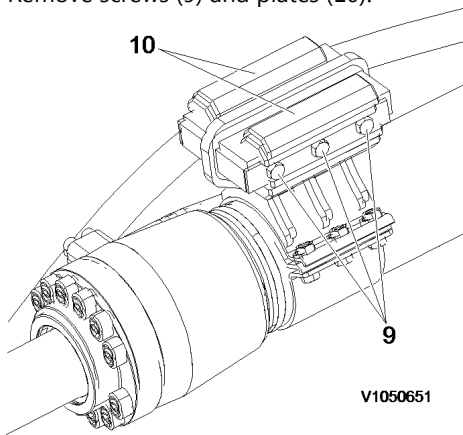
4. Remove screws (6), collars (7) and links (8).



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Figure 3
Remove, links

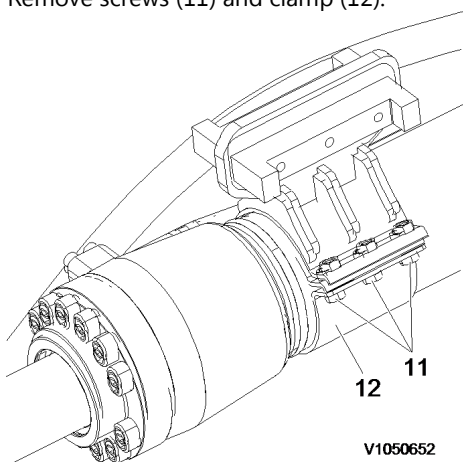
5. Remove screws (9) and plates (10).



V1050651

Figure 4
Remove, plates

6. Remove screws (11) and clamp (12).



V1050652

Figure 5
Remove, clamp

Document Title: Bucket cylinder protecting guard, installation	Function Group: 715	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

Bucket cylinder protecting guard, installation

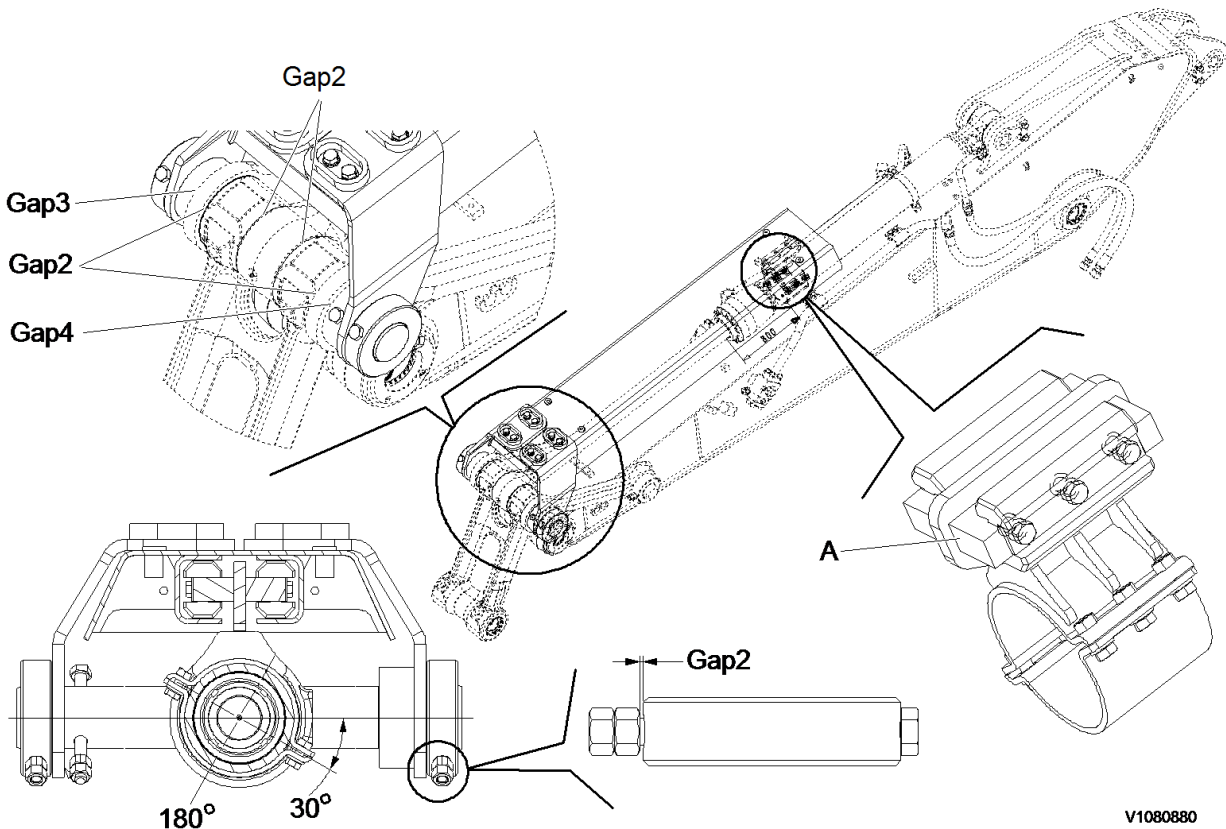


Figure 1
Bucket cylinder protecting guard

No.	Places.	Gap clearances		1.0 mm thick shims	0.5 mm thick shims
		Minimum	Maximum		
Gap1	1	+1.0	+2.5	1	2
Gap2	1	+2.0	+3.5	2	2
Gap3	1	+0.5	+1.5	-	1
Gap4	1	+0.5	+1.5	-	1

NOTE!

The item "A" it will have to consider to an assembly direction.

Op nbr 715-024

1. Park the machine in the service position A, see [091 Service positions](#).

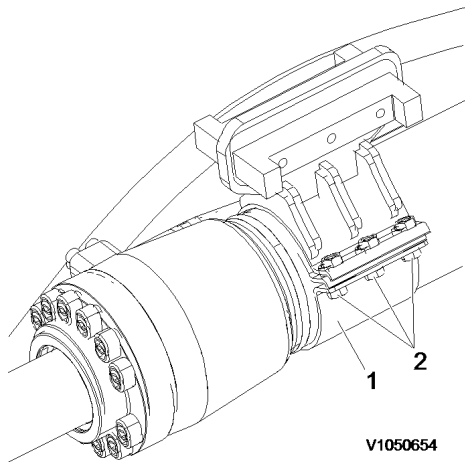


Figure 2
Install, clamp

2. Install clamp (1) and screws (2).

NOTE!

Apply loctite on screws

Tightening torque: 111 ± 11 Nm (82 ± 8 lbf ft)

3. Install plates (3) and screws (4).

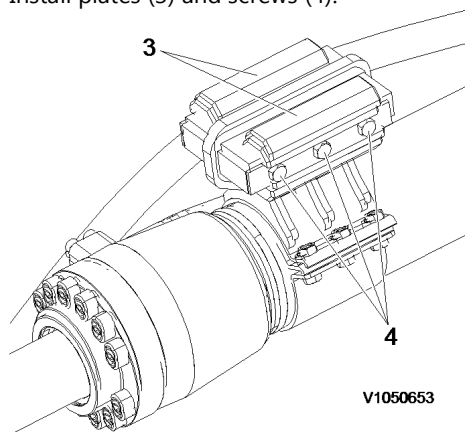


Figure 3
Install, plates

NOTE!

Apply loctite on screws

Tightening torque: 111 ± 11 Nm (82 ± 8 lbf ft)

4. Install links (7), collars (6) and screws (5).

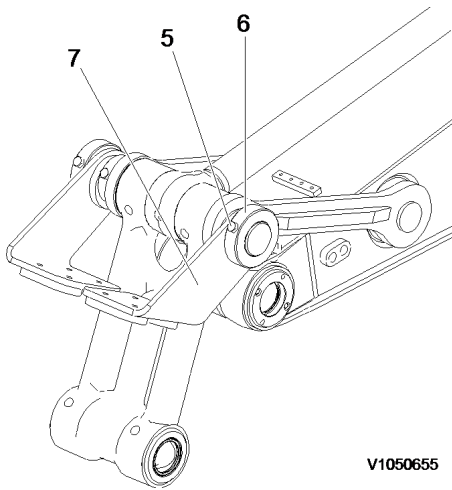


Figure 4
Install, links

5. Install I-bolts and sling guard (8) securely with a hoist.

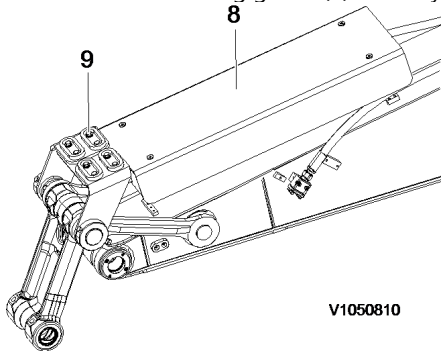


Figure 5
Install, guard

Install guard (8) and screws (9).

NOTE!

Guard weight: 113 kg (249 lbs)

Tightening torque: 262 ±26 Nm (193 ±19 lbf ft)



The parts are heavy. Take appropriate safety cautions when handling them.

6. Install cover (10), screws (11) and check for interference of guard by operating the bucket cylinder.

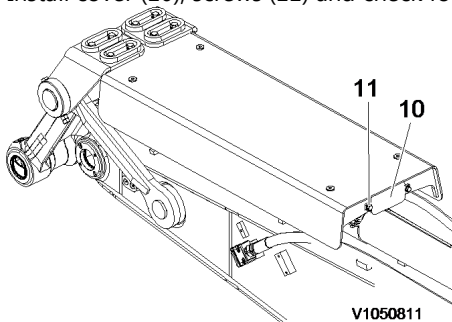


Figure 6
Install, cover

NOTE!

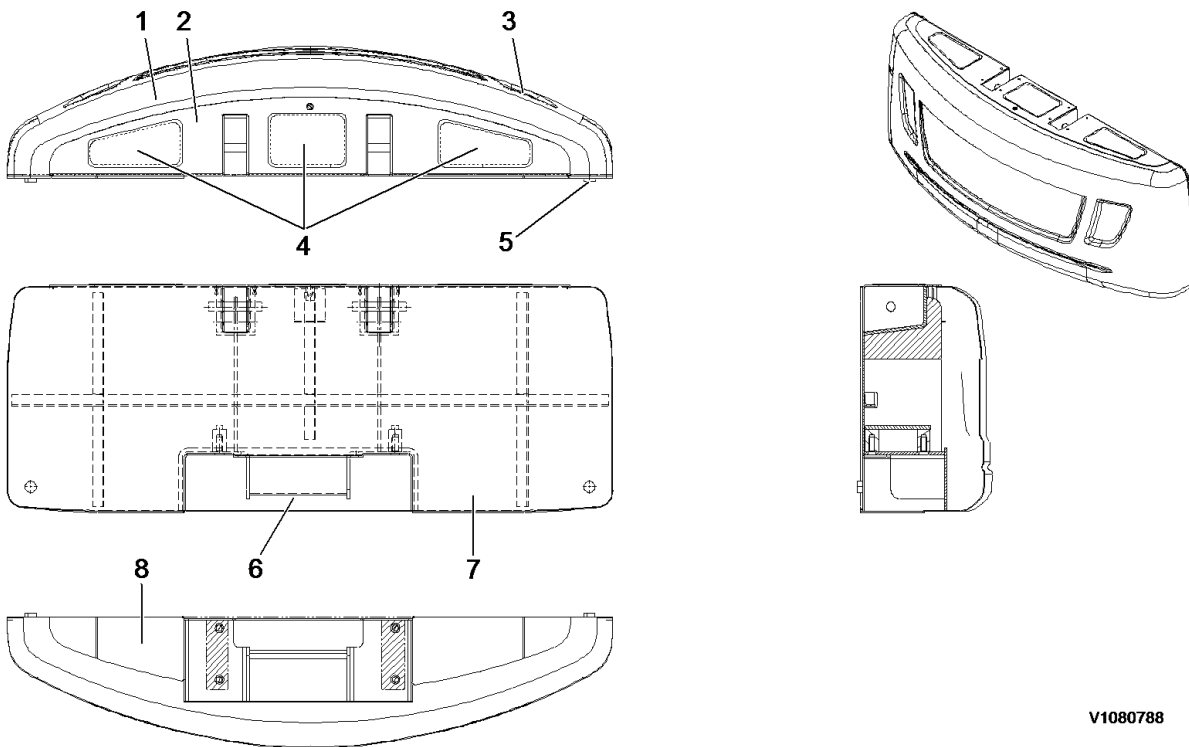
Tightening torque: 262 ±26 Nm (193 ±19 lbf ft)

Document Title: Counterweight, description	Function Group: 716	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

Counterweight, description

Fabrication type

The counterweight is a counterbalancing weight that is located at the rear of the machine. The counterweight is designed in order to give the machine extra weight in the back end in order to counter the weight that is located at the front of the machine, in particular the boom and dipper arm.



V1080788

Figure 1
Counterweight, structure

1	Body	2	Plate	3	Reflector
4	Cover	5	Stopper	6	Base
7	Side plate	8	Under cover		

Document Title: Counterweight, removing	Function Group: 716	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

[Go back to Index Page](#)

Counterweight, removing

Casting type



The counterweight is heavy. Take care in performing removal. To lift the counterweight, use certified wire ropes in good condition, of adequate load rating and length.

Op nbr 00000

1. Position the machine on flat, firm and level ground, free from any obstructions or interference.

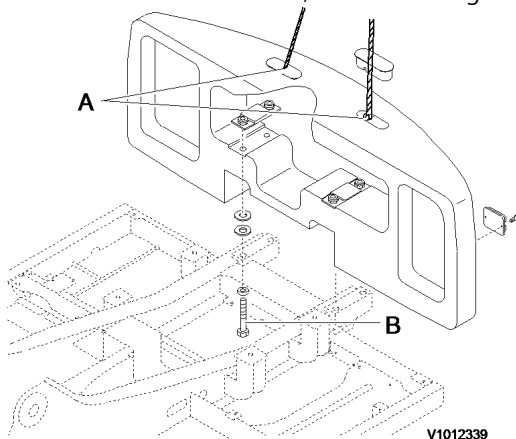
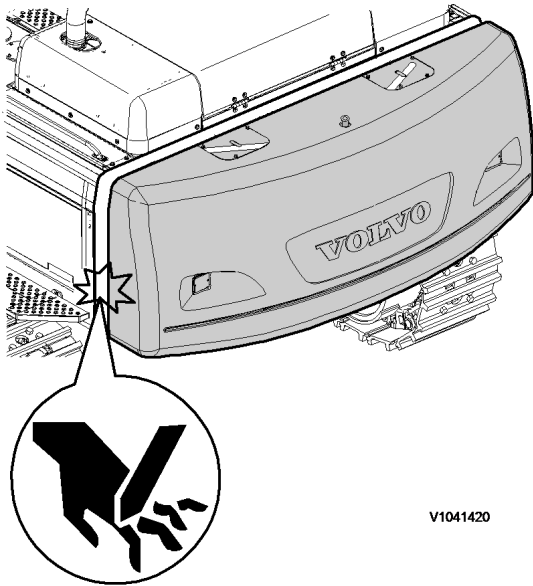


Figure 1
Counterweight

2. Position the boom and arm with the bucket on the ground.
3. Pull the safety locking lever securely.
4. Remove two plugs from the top of counterweight.
5. As shown in the illustration, connect the lifting cables or slings with sufficient strength for the counterweight at the lifting point (A) correctly.
6. Disassemble four bolts (B).
7. Lift the counterweight enough so that there is no load on the retaining pin.
8. Place the counterweight onto suitable support.



V1041420

Figure 2
Be careful of you finger

Document Title: Counterweight, removing	Function Group: 716	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

[Go back to Index Page](#)

Counterweight, removing

Fabrication type



The counterweight is heavy. Take care in performing removal. To lift the counterweight, use certified wire ropes in good condition, of adequate load rating and length.

Op nbr 00000

1. Position the machine on flat, firm and level ground, free from any obstructions or interference.

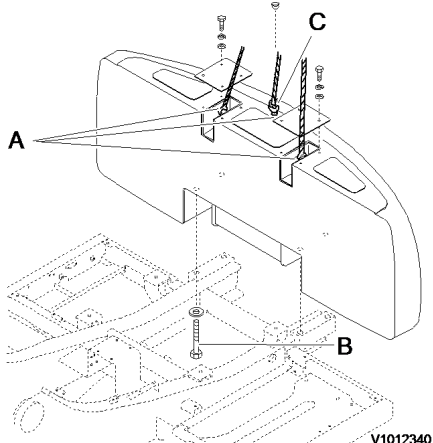
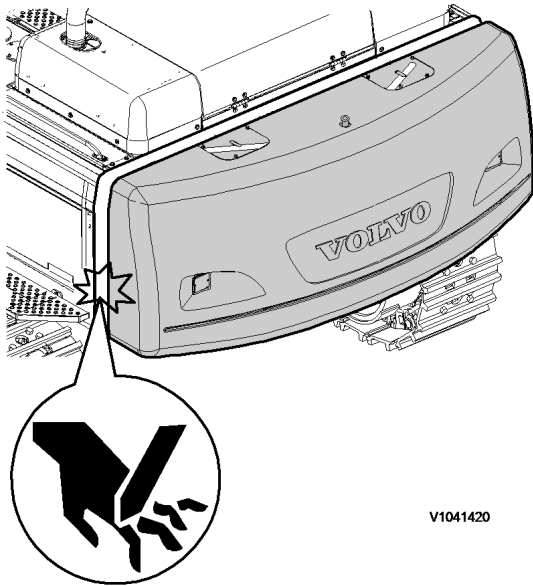


Figure 1
Counterweight

2. Position the boom and arm with the bucket on the ground.
3. Pull the safety locking lever securely.
4. Remove two covers and a plug from the top of counterweight.
5. As shown in the illustration, connect the lifting cables or slings after fastening eye bolt (C) with sufficient strength for the counterweight at the lifting point (A) correctly.
6. Disassemble four bolts (B).
7. Lift the counterweight enough so that there is no load on the retaining pin.
8. Place the counterweight onto suitable support.



V1041420

Figure 2
Be careful of you finger

Document Title: Additional counterweight & digging unit	Function Group: 716	Information Type: Service Information	Date: 2015/5/6 0
Profile: EXC, EC210B NC [GB]			

Additional counterweight & digging unit

When special digging units (such as : scrap handling clam, log loader etc.,) are installed on the excavators, an additional counterweight is required for stability.

In these cases, check the digging unit specification and compare it carefully to the excavator load lifting capacity chart in the operators manual.

And if in doubt, contact your local dealer for advice.

Additional counterweight can be installed according to special digging units, however we are not responsible for any failure of the excavator or breakage of digging units due to such application.

For reference, an excavator is basically designed only for excavating and is not designed to be used as a crane.



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Profile: EXC, EC210B NC [GB]			

Counterweight, fitting

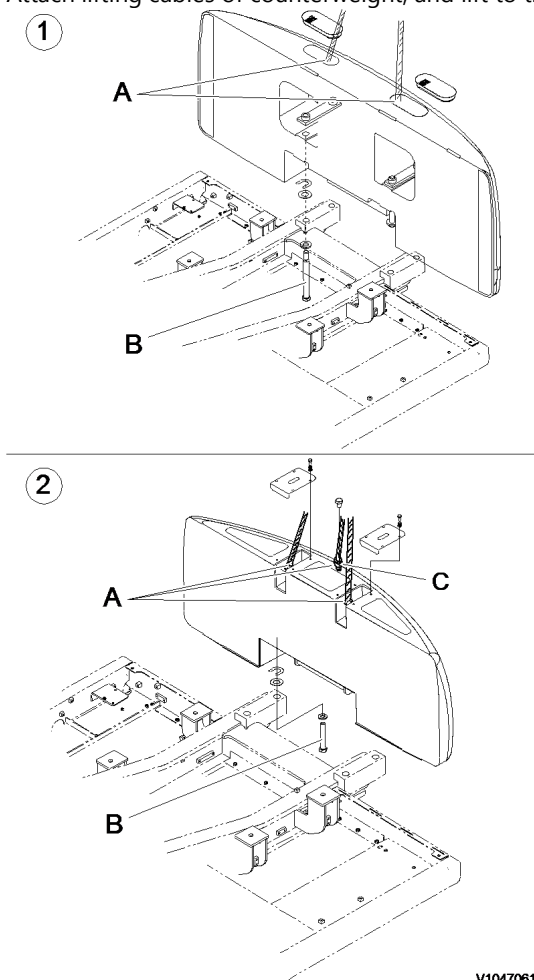
Op nbr 716-002



WARNING

Lift the counterweight just a little, and after confirming safety and horizontal position, proceed to install it.

1. Position the machine on flat, firm and level ground, free from any obstructions or interference. Position the boom and arm with the bucket on the ground.
2. Engage the control lockout lever securely.
3. Attach lifting cables of counterweight, and lift to the desired position.



V1047061

Figure 1
Installation, counterweight

1. Casting type
2. Fabrication type

4. Slowly lower the counterweight to the mounting face of the rear superstructure. Match the screw hole. Insert the lock plate and the spacer, and tighten screws (B). See tightening torque, [716 Counterweight, tightening torques](#).
 - Lower the counterweight to the mounting face at the rear of the superstructure.

NOTE!

Apply loctite # 277 onto the threads of screws (B).

NOTE!

10 ~ 15 mm (0.4 ~ 0.6 in) keep clearance A (left and right) equal.

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