



# Freightliner CASCADIA ISX12N Back Of Cab Installation

**Date:** 4.29.2024

**Subject:** Freightliner CASCADIA ISX12N Back Of Cab Installation

**Models:** CASCADIA ISX12N



Cummins Clean Fuel Technologies

1051 Republic Drive, Suite 200

Roanoke, TX 76262

Phone: 817-767-6020

## LIFTING:

1. Install spreader bar and high-capacity straps to the BOC (Back of Cab) unit using the quick disconnect lift points. (if applicable)
  - a. Ensure spreader bars are correct distance apart pulling the load perpendicular to the spreader bar.
  - b. Ensure straps used to lift unit are of adequate strength. (used polyester lift straps rated for a 3000 lb. vertical lift load).
  - c. Install padding behind hooks on unit to avoid damaging any paint or bodywork.
  - d. IMPORTANT: ensure the clasp of the hook is facing the outside of the BOC unit.
2. Lift BOC assembly into position on the back of the chassis. Locate the area where you wish to mount it and ensure proper truck and pin box clearances.



figure 1 Proper Hook Attachment



figure 2 Correct Hoist Set Up

## **FRAME/CHASSIS:**

### Cutting Huck Bolts:

1. Once you identify fitment and system location, cut the necessary huck bolts from the chassis.
  - a. Note: Some frame bolts will be nuts and bolts instead of huck bolts. In this case, remove them, as necessary.
  - b. If there is hardware in the way of where the system will be located, remove the nut and bolt or huck and relocate the brackets using a hole that will be used for the system or another nut and bolt on the chassis out of the way.
  
2. An angle grinder with a cut off wheel will be used to cut the huck close to the outside of the frame rail as close to the huck flange as you can get.
  - a. Do not cut against the edge of the huck and the frame, but, as close to the outside of the huck flange as possible.
  
3. Cut 50-75% of the way through the huck bolt and then use a hammer to remove the huck completely from the frame rail.
  
4. Remove any and all fittings, modules, or brackets on located on the inside or outside of the frame rail that will need to be relocated or temporarily moved until the system is installed.
  
5. Cut and remove zip ties and locate wiring harness needed for system.



figure 3 Huck Bolt

## Marking Holes:

Depending on the chassis, and the system installed, the frame rails might need to be drilled in order to accept the back of cab system.

1. Use a T-Square on frame rail to locate hole installation as the provided drawing dimensions of the system bracket spacing requires.

Note: these hole locations will vary based upon truck, wheelbase, manufacturer, and options installed on the truck.

2. Using the holes currently on the frame rail use the drawing for the hole spacing to create the lines center lines for the new holes to be drilled.
  - a. Each bracket gets a total of 8 bolts for the 175, 130, 2 tank- 70 DGE BOC system installs and 4 outside holes for the other system installs.

### **Drilling Holes:**

1. Once the hole centers have been located use a center punch each of the holes before starting.
  - a. The holes to be drilled in the frame are 11/16" size.
  - b. Ensure there are no obstructions on the inside of the frame rail such as brackets, electrical wire, or air lines so that they are not damaged during the drilling operations.
2. The use of a magnetic drill makes this job easier and safer for the installer although not required.
  - a. When using a magnetic drill:
    - i. Always keep a supportive hand on the drill in case of momentary power loss so that drill does not fall off the frame.
    - ii. Ensure the LED "safety switch" is illuminated green to indicate the magnet is seated properly against the frame rail.
    - iii. Clean the drill of metal chips in between each hole to keep metal fragments off of the magnet surface.
    - iv. Do not apply excess force to the drill.
    - v. Use cutting fluid.

### **Installing BOC Unit on Chassis:**

1. Be careful lifting the unit into place and locate the unit with the holes that we previously drilled.
2. Line up front and rear holes of the unit and insert a bolt with a washer from the through the outside of the frame and retain with a nut.
3. A spud wrench may be needed to get all of the holes to align as well as adjustment of the crane assembly.
4. Before torquing, install all 32 bolts through the brackets and frame.
5. After all bolts have been installed, reinstall any brackets that were removed on the inside of the frame rail.
6. Remove straps and quick disconnects from the system.
7. Once the system has been installed and torqued connect the pre-run electrical and fuel lines into the bottom of the BOC unit.
  - a. Make sure round connector is in the proper orientation.

### **Coolant and Fuel Lines:**

1. If the coolant lines have been run from the manufacturer, locate them and cut them to proper length.
  - a. Ensure a routing that is away from the driveshaft or any sharp edges.

- b. Note: to avoid spilling excess coolant use coolant hose clamps and a drain pan.
- 2. Install coolant in/out in either orientation as the regulator used in our systems does not require a flow direction.
  - a. Install using standard worm drive hose clamps.
- 3. Connect the low-pressure fuel line to the BOC unit.
  - a. This might require a 90-degree fitting be used.
- 4. Final zip tie all brackets, hoses, and electrical connections throughout the truck.