

Need high capacity straps

Install spreader bar and high capacity straps to the BOC (Back of Cab) unit using the quick disconnect lift points. (if applicable)

- Ensure spreader bars are correct distance apart

- install padding behind hooks to avoid damaging any paint or bodywork

- Use quick disconnect fittings on BOC

- Installs vary from truck to truck

2. Test Fit Tank Assembly:

- test fit tank assembly on the frame rail of the truck to ensure no glaring fitment.

3. Once you identify fitment and system location, cut the necessary huck bolts from the chassis

- lower frame rail will have bolts instead of huck's

- If there is hardware in the way of where the system will live, remove the nut and bolt or huck and the system remove them 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.

- Cutting Huck Bolts:

 - you will need an angle grinder with a cut off wheel. Cut the huck close to the outside of the framerail (not between the edge and the chassis) but as close to the huck flange as you can get)

 - Cut 50-75% through the huck and then use a hammer to remove the huck completely from the frame rail.

4. Remove any and all fittings, modules, or brackets on the inside of the frame 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.

6. The part numbers for the harness can vary, however the functions are the same.

 - all are labeled

 - LH inner framerail

 - 500 KB (varies)

 - 4 major functions from truck: load lights (if equipped), switched power, ground, ?

 - location of this harness on the truck side can vary truck to truck

7. Frame Drilling

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.

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.

-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.

-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.

-The holes to be drilled in the frame are 11/16" size

Drilling:

-Once the hole centers have been located use a center punch each of the holes before starting.

-The use of a magnetic drill here makes this job easier and safer for the installer although not required.

-When using a magnetic drill:

-Always keep a supportive hand on the drill in case of momentary power loss so that drill does not fall off the frame

-Ensure the LED "safety switch" is illuminated green to indicate the magnet is seated properly against the frame rail.

-Clean the drill of metal chips in between each hole to keep metal fragments off of the magnet surface.

-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.

-Do not apply excess force to the drill

-Use cutting fluid

-Repinning the MP92-1608 wiring harness might be necessary on certain models (This applies to Cascadia Freightliners)

ISX12N Engine

-Run electrical before the system is installed on chassis

Truck Side Electrical:

-J1939-500KB-white w/yellow stripe

-green w/yellow stripe

Black/Purple w/white strip-load lights

-The four needed electrical components from the truck side are: power, ground, switch power, fuel signal, and load lights (if equipped)

-Wire locations and colors on the truck side will vary

MP92-1208 (round BOC connector)-zip tie to the frame cross member, this will connect the BOC system to the rest of the truck. Ensure there is enough slack in the electrical to allow easy installation once the system is installed

-avoid routing harness over any sharp or hard edges to avoid breaking wires.

MP92-1608-jumper harness is installed between the MP92-1208 system harness and the truck wiring. This harness allows the MP92-1208 system harness to be installed on Freightliner trucks.

Cut zip ties flush with the head of the zip tie to avoid being cut

-MP92-1035-(J1939 Jumper Wire harness)-This jumper harness may be required for some cab configurations in order for harness to reach the inside of the cab.

-2 wire-purple w/white stripe (positive) and black (negative)

-may have to have connector style changed on Momentum harness in order to match up with the harness on the truck

-New harness coming in the future to alleviate this problem.

-Install plug on red, white, yellow-blue, and black wire

-zip tie out of the way

-Install MP92-1608 jumper harness

-Once harness is test fitted along the frame rail tie up any extra slack in the wire harness by looping them and using zip-ties to hold excess wire.

-Route wiring harness along the inside of the left hand side frame rail following the main wiring harness to the outside of the frame rail.

-Continue running the harness along the top side of the left side frame rail into the under hood area of the truck with the main harness and air brake lines come through underneath the cab assembly.

-Cut hole in the firewall of cab assembly to the right of where the truck air supply lines enter the cab.

-Feed wire through firewall

-Zip tie under hood portion of the wiring harness to existing wiring harness away from any moving components which could damage the truck or the harness.

-Remove lower all dash panels for access to the harness being fed through the firewall.

-in order to do this we will have to remove the driver's side front grab handle and the foot well plastic.

- Remove ignition switch assembly from the dashboard of the truck.
 - cut the wire for the center pin of the ignition switch
 - Will always be the center pin on all trucks.
 - install start interrupter circuit between the switch and the truck.
 - From the MP92-1608 harness, the yellow wire is the key switch side and the grey w/red stripe goes to the starter circuit.
 - After center pin wire is cut, install crimps on each side of the switch.
 - Note: if there is an issue with a no start condition, the start interrupter circuit can be bypassed and reattached as it came from the factory.
 - If no crank condition continues, it is on the freightliner side of the circuit.
 - if no crank condition is resolved, the issue is on the BOC system side.

Reinstall key switch

- Zip tie key-switch interrupter circuit harness out of the way, taking caution to avoid brake, gas, and steering assemblies.
- Remove 4 torx head bolts for the in dash cover plate to gain access to the behind the dash area.
- Reinstall lower dash assembly in the reverse order of how it came off.
 - starting with center dash piece
 - then left side panel under key switch area
 - reinstall 13 mm hex head
 - reinstall far left kick panel assembly
 - reinstall foot well assembly across door threshold taking care not to damage the weather stripping.
 - install the small panel just above the gas pedal assembly with 3 torx bits
 - reinstall grab handle assembly and pop plastic covers back into place.
- Remove gauge blank (if applicable) otherwise a hole in the dash will have to be cut in an appropriate location
- locate power, ground, and backlighting for fuel gauge
- locate MP92-1031-C wiring harness for gauge
- install gauge assembly into dashboard
 - use pictures to see best way to install.

- attach MP92-1031-C to the back of the gauge assembly.
- Gauge comes with two terminal types:
 - standard terminals
 - Freightliner, Kenworth, PACCAR, etc. style
- Crimp new terminals onto positive (red) and negative (black) on the end of the MP92-1031-C harness.
 - Power connection needs to be switched power
- Install the black ground wire of the MP92-1031 to the truck side of the splice block
- install the blue analog backlight to dimmer terminal splice block.
- install red power wire to a switched power splice block under dash.
- install black ground wire into a splice block under dash.
- clean up wiring with zip ties and reassemble the dash.

Installing BOC Unit:

- ensure the straps that are being used to lift the unit are load rated high enough.
- Use a spreader bar with appropriate weight rating adjusted correctly (spreader bar perpendicular to the load straps) to lift unit into place
- Use the quick connect fittings in the BOC unit (if equipped) otherwise use the end plate style lift bracket.
- Be careful lifting the unit into place and locate the unit with the holes that we previously drilled.
 - There are 32 nut, bolt, and washers for this assembly.
- 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
- a spud wrench may be needed to get all of the holes to align as well as adjustment of the crane assembly.
- Before torquing, install all 32 bolts through the brackets and frame.
- After all bolts have been installed, reinstall any brackets that were removed on the inside of the frame rail.
- Remove straps and quick disconnects from the system.
- Once the system has been installed and torqued connect the pre-run electrical into the bottom of the BOC unit.
 - make sure round connector is in the proper orientation.
- Coolant lines:

-if the coolant lines have been run from the manufacturer, locate them and cut them to proper length.

-Ensure a routing that is away from the driveshaft or any sharp edges.

-Connect the low pressure fuel line to the BOC unit

-this might require a 90 degree fitting be used.

-cut the coolant supply and return lines to the proper length.

Note: to avoid spilling excess coolant use coolant hose clamps and a drain pan to avoid making a mess of coolant on the ground.

-Install coolant in/out in either orientation as the regulator used in our systems does not require a flow direction.

-Install using standard worm drive hose clamps.

-Final zip tie all brackets, hoses, and electrical connections throughout the truck.

-Start interrupter circuit check:

-Open the fuel fill door of the truck located on the driver side.

-Note: If having trouble locating, look for the door open circuit switch as pictured. (will be located in the same area as the NGV1 and NGV2 fuel receptacles.

-Turn the ignition on and attempt to start the truck, if no crank condition exists, the start interrupter circuit is working correctly.

-Close the fuel fill door then attempt to start the truck again, if the truck cranks, the start interrupter circuit is fully-functioning.

Solenoid Check:

-Open system door panel and ensure when the truck is in the key-on position the solenoid clicks as it should.