iLIFT Suspension Lift System
Acura NSX, 1991-05 (Fender Mount)
Document Version: 1.3

iLIFT®
Intelligent Suspension Lift Systems

Note:

- This installation manual is intended to supplement, not replace, the factory service manual. Please consult the factory service manual for specifics like shock absorber removal, replacement, component locations, and torque specifications.

Required:

- Compatible shock absorber & springs (see next page for details).
- Spring compressor for factory shock absorbers (wall-mounted style recommended).
- Shock absorbers, like KW which reuse the factory top mounts, require optional iLIFT-supplied urethane bushing kit, or optional iLIFT-supplied top mounts.
- Small “race batteries” may not have enough current capacity to allow the iLIFT compressor to run and not cause the engine to stall. A factory capacity battery is required.
- Standard automotive & electrical tools.

Instruction Sections:

1. Parts List

SYS-NSX1-FDR-2WH

iLIFT System, Fender Mount, 2 wheel - NSX, 1991-05

QTY	ITEM	PART NO.
BOX: 30x15x15 double wall		
Box 1 - Compressor & Accessories - 12x10x10 box (heavy bubble on all components)		
1	assembly, air compressor - fender mount - NSX, 1991-05	NSX1-COM-ASY
1	bracket, compressor fender mounted	NSX1-BKT-COM-01
1	air compressor intake & filter kit	COM-INT
Box 2 - Hardware - Small Tuck Top (2 Wheel)		
Bag 6x9 - "Actuator Accessories"		
2	bump stop, 20mm	BMP-20
2	spring bushing, for 63/63, 65, or 70mm springs	SPB-60-XX
1	cone installation tool, AxB (shaft size x thread size)	ASC-AxB
Bag 4x6 - "Air Tank & Air Control Installation Hardware"		
1	bolt, M6x12 hex flange (8.8 ZP)	1189106012
1	bolt, M6x20 hex flange (8.8 ZP)	1189106020
1	bolt, M6x45 hex flange (8.8 ZP)	1189106045
2	nut, M6 hex flange (ZP 10.9)	95003A101
1	spacer, 1.25" long for M6 bolt	92511A099
Bag 4x6 - "Air Compressor & ECU hardware"		
4	bolt, M6x16 hex flange (8.8 ZP)	1189106016
4	washer, M6 oversized (18-8 SS)	WSX-SUS-M6X20-1.6
1	washer, M8 oversized	91100A160
2	bolt, M6x35 hex flange (8.8 ZP)	6928106035
2	nut, M6 hex flange (ZP 10.9)	95003A101
1	mounting clip, DT/DTM (modified for 1/4"/M6 flat fastener)	MAN-CLP
1	bolt, M6x12 hex flange (8.8 ZP)	1189106012
1	bolt, M6x20 flat allen socket	92125A240
1	nut, M6 hex flange (ZP 10.9)	95003A101
Bag 6x9 - "Air Tube Accessories & Misc"		
2	fitting, Tee union 5/16" tube, nickel plated brass	89230-05
1	tube cutter tool	TC
20	zip tie, nylon, 5.5"	7130K53
10	zip tie, nylon, 8.5"	7130K54
Box 3 - Electrical - Tuck Top		
Small bubble wrap		
1	assembly, fender mounted cabin harness - NSX, 1991-05	NSX1-FEN-HAR-01-ASY
Bag 5x8 - "PDM & Accessories"		
1	power distribution module	46095
1	fuse, JCASE 40A	46592
1	fuse, MIDI 40A	46381
1	inline fuse holder, MIDI	46312
2	ring terminal, shrink insulated 1/4" stud 12-10 AWG	32903
2	ring terminal, shrink insulated 5/16" stud 12-10 AWG	32904
9	wire, TXL XLP Thin 10 AWG RED (ft)	TXL 10TA-1Z30
1	bolt, M6x45 hex flange (8.8 ZP)	1189106045
1	nut, M6 hex flange (ZP 10.9)	95003A101
Bag 5x8 - "Electrical Accessories"		
6	wire tap, 20-22 AWG	B004D0C2RC
1	switch, dual position up/down rectangle	10003281
4	terminal, flame-retardant for 22-18 gauge	9240K12

1	assembly, beeper w/ female connector	HAR-BPR-ASY
1	connector, DTM-compatible 3-way plug & wedge	CKK3031-1.2-21B
1	ECU 18 position connector with plugs (included if auto sensors not purchased)	0

ECU Box

1	Electronic Control Unit (ECU) Assembly	ECU-ASY

Loose

2	actuator assembly, XXmm (replace XX with shock absorber shaft size)	ACT-XX-ASY
1	assembly, fender mounted air tank & control 2 wheel - NSX, 1991-05	NSX1-FEN-AIR-2WH-ASY
5	tube, 6mm Nylon (ft) (one 5' length)	NB6x1-0100
30	tube, 5/16" Nylon (ft) (one 30' length)	NB-5-040-0250
25	sleeve, 3/8" (ft) (one 25' length)	20401F

Box, small tuck top "DUST BOOT 2WH"

2	dust boot, shock absorber	DUB-1

SYS-NSX1-FDR-4WH

iLIFT System, Fender Mount, 4 wheel - NSX, 1991-05

QTY	ITEM	PART NO.

BOX: 30x15x15 double wall

Box 1 - Compressor & Accessories - 12x10x10 box (heavy bubble on all components)

1	assembly, air compressor - fender mount - NSX, 1991-05	NSX1-COM-ASY
1	bracket, compressor fender mounted	NSX1-BKT-COM-01
1	air compressor intake & filter kit	COM-INT

Box 2 - Hardware - Tuck Top (4 Wheel)

Bag 6x9 - "Actuator Accessories"

2	bump stop, 20mm	BMP-20
2	bump stop, 40mm	BMP-40
4	spring bushing, for 63/63, 65, or 70mm springs	SPB-60-XX
1	cone installation tool, AxB (shaft size x thread size)	ASC-AxB

Bag 4x6 - "Air Tank & Air Control Installation Hardware"

1	bolt, M6x12 hex flange (8.8 ZP)	1189106012
1	bolt, M6x20 hex flange (8.8 ZP)	1189106020
1	bolt, M6x45 hex flange (8.8 ZP)	1189106045
2	nut, M6 hex flange (ZP 10.9)	95003A101
1	spacer, 1.25" long for M6 bolt	92511A099

Bag 4x6 - "Air Compressor & ECU hardware"

4	bolt, M6x16 hex flange (8.8 ZP)	1189106016
4	washer, M6 oversized (18-8 SS)	WSX-SUS-M6X20-1.6
1	washer, M8 oversized	91100A160
2	bolt, M6x35 hex flange (8.8 ZP)	6928106035
2	nut, M6 hex flange (ZP 10.9)	95003A101
1	mounting clip, DT/DTM (modified for 1/4"/M6 flat fastener)	MAN-CLP
1	bolt, M6x12 hex flange (8.8 ZP)	1189106012
1	bolt, M6x20 flat allen socket	92125A240
1	nut, M6 hex flange (ZP 10.9)	95003A101

Bag 6x9 - "Air Tube Accessories & Misc"

2	fitting, Tee union 5/16" tube, nickel plated brass	89230-05
1	tube cutter tool	TC
20	zip tie, nylon, 5.5"	7130K53
10	zip tie, nylon, 8.5"	7130K54

Box 3 - Electrical - Tuck Top

Small bubble wrap

1	assembly, fender mounted cabin harness - NSX, 1991-05	NSX1-FEN-HAR-01-ASY

Bag 5x8 - "PDM & Accessories"

1	power distribution module	46095
1	fuse, JCASE 40A	46592
1	fuse, MIDI 40A	46381
1	inline fuse holder, MIDI	46312
2	ring terminal, shrink insulated 1/4" stud 12-10 AWG	32903
2	ring terminal, shrink insulated 5/16" stud 12-10 AWG	32904
9	wire, TXL XLP Thin 10 AWG RED (ft)	TXL 10TA-1Z30
1	bolt, M6x45 hex flange (8.8 ZP)	1189106045
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Bag 5x8 - "Electrical Accessories"

6	wire tap, 20-22 AWG	B004D0C2RC
1	switch, dual position up/down rectangle	10003281
4	terminal, flame-retardant for 22-18 gauge	9240K12
1	assembly, beeper w/ female connector	HAR-BPR-ASY
1	connector, DTM-compatible 3-way plug & wedge	CKK3031-1.2-21B
1	ECU 18 position connector with plugs (included if auto sensors not purchased)	0

ECU Box

1	Electronic Control Unit (ECU) Assembly	ECU-ASY

Loose

4	actuator assembly, XXmm (replace XX with shock absorber shaft size)	ACT-XX-ASY
1	assembly, fender mounted air tank & control 4 wheel - NSX, 1991-05	NSX1-FEN-AIR-4WH-ASY
5	tube, 6mm Nylon (ft) (one 5' length)	NB6x1-0100
30	tube, 5/16" Nylon (ft) (one 30' length)	NB-5-040-0250
20	tube, 5/16" Nylon (ft) (one 20' length)	NB-5-040-0250
25	sleeve, 3/8" (ft) (one 25' length)	20401F
10	sleeve, 3/8" (ft) (one 10' length)	20401F

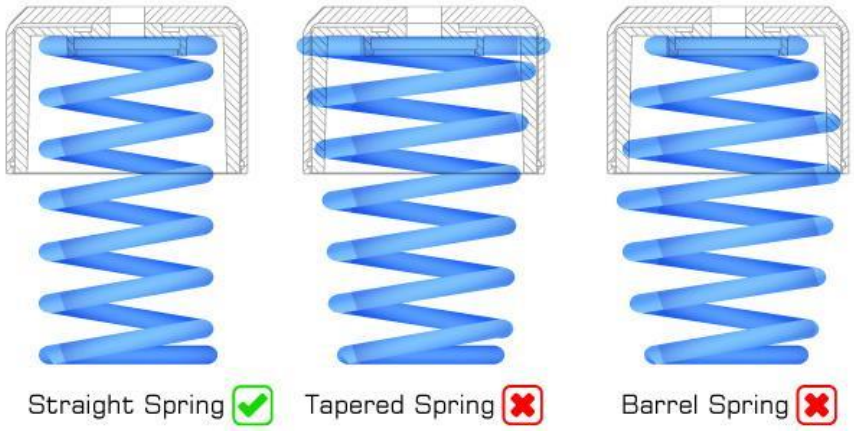
Box, small tuck top "DUST BOOT 4WH"

4	dust boot, shock absorber	DUB-1

2. Spring & Top Mount Requirements

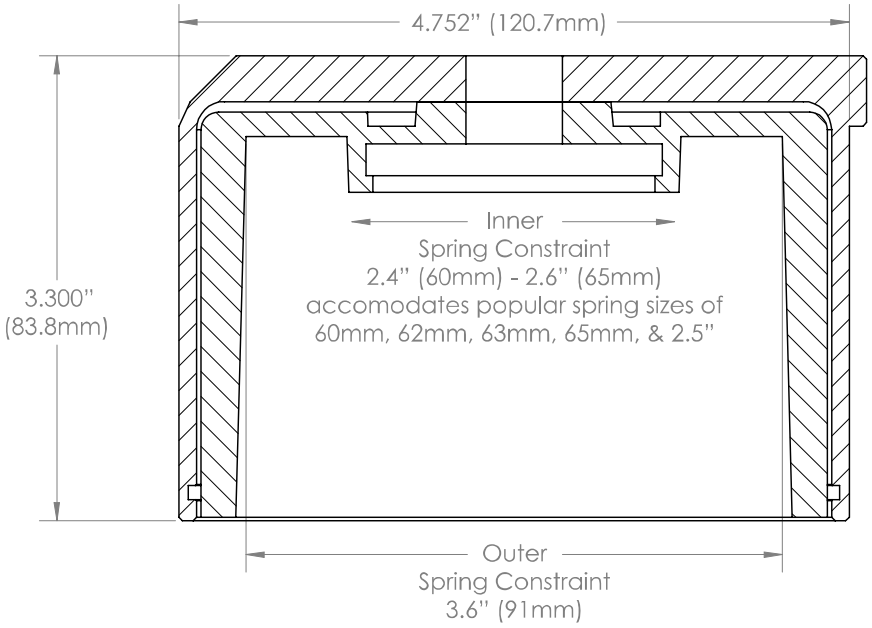
1. Straight Springs Required

The iLIFT Suspension Lift System actuators are designed for straight springs as shown. Factory style tapered springs and barrel springs are not compatible with iLIFT Suspension Lift System. Factory springs with a tapered or barrel shape can often be changed to a straight spring - however, this requires knowledge of the existing spring rate and may require a custom lower mount made to work with your shock absorber.



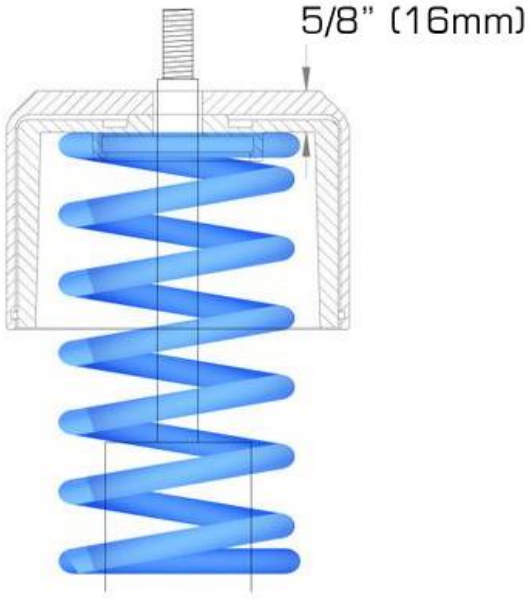
2. Clearance for Springs & Chassis

For the actuator to fit, it must allow the spring to fit into the actuator and the actuator must be able to be installed without hitting the chassis. The iLIFT actuator is compatible with springs with an inner diameter of 60-65mm – and is compatible with popular springs including 60mm, 62mm, 63mm, 65mm, and 2.5". To determine your spring inner diameter, measure the inside of the spring with a caliper, or contact your coilover manufacturer. The spring's outer diameter cannot exceed 3.6" (91mm).



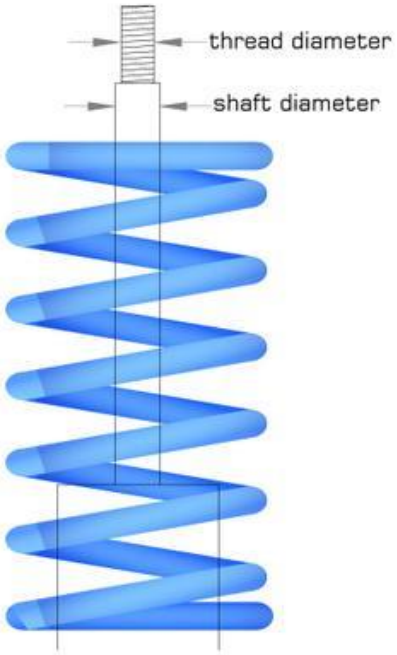
3. Installation Height

The iLIFT Actuator adds only 5/8" (16mm) of height to your spring. This requires a threaded body shock absorber with enough threads to lower the spring or modification of the lower mount to move the spring down 5/8".



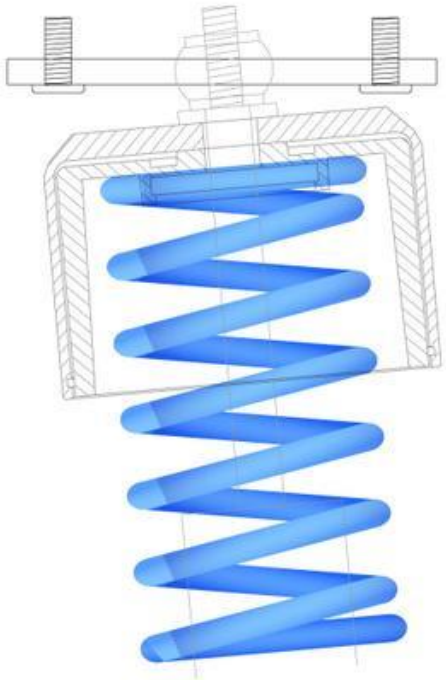
4. Compatible Shock Absorber Shaft Diameter

So that we may provide compatible components, you must provide your shock absorber's shaft and thread diameter. Measure the shaft on your shock absorber using a caliper. iLIFT Actuators are available for shock absorbers with 12mm, 12.5mm (1/2"), 13mm, 14mm, 15mm, 16mm, 18mm, 20mm, 24mm, and 25mm shaft diameters.



5. Top Mount Fitment

The shock absorber's top mount must be able to accommodate the iLIFT Actuator. In addition, the iLIFT Actuator must remain parallel to the shock absorber, while the shock absorber must be able to pivot in the top mount to allow the suspension to pivot along the suspension's movement. This may require a custom top mount or adapters in order to work with your existing top mount.



3. Actuator Installation

3a. Check Ride Height

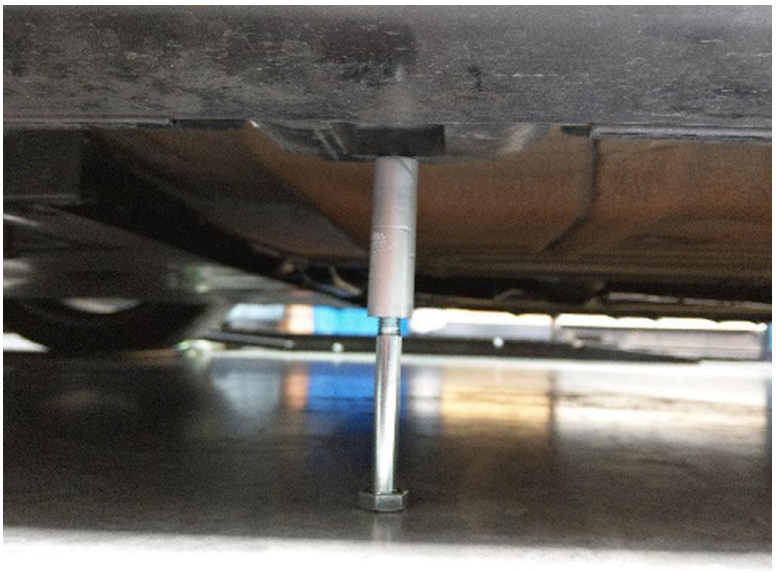
- Before raising vehicle, measure factory ride height at jack points on all four corners on flat level ground. A bolt and threaded shaft as shown can be used to gauge ride height. Record ride height:

  _____ Front Left

  _____ Front Right

  _____ Rear Left

  _____ Rear Right



3b. Remove Shock Absorbers

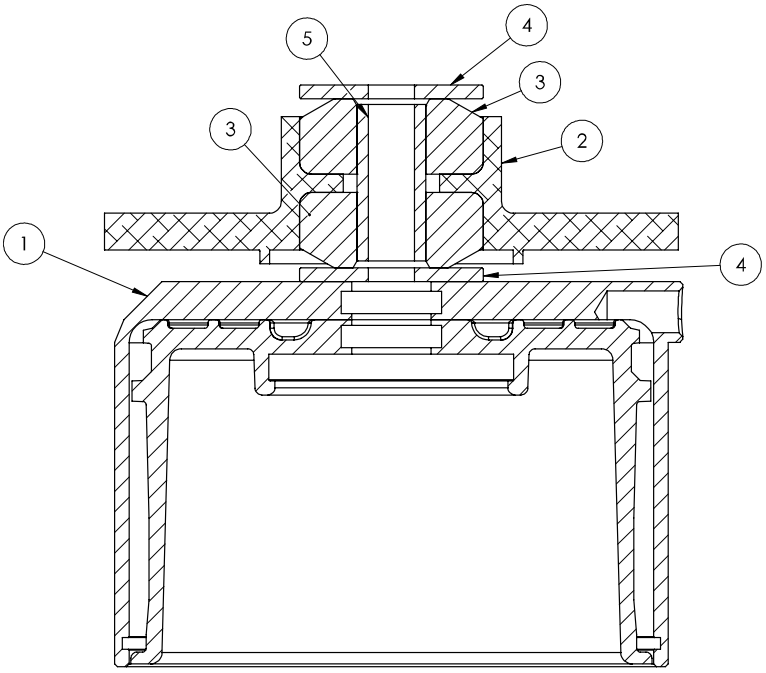
- Remove shock absorbers (consult factory service manual for procedures).
- If installing a shock absorber like KW, which uses the factory top mounts, compress the factory shock absorber springs using a spring compressor to remove the top mounts.

3c. Assemble Actuators to Shock Absorbers

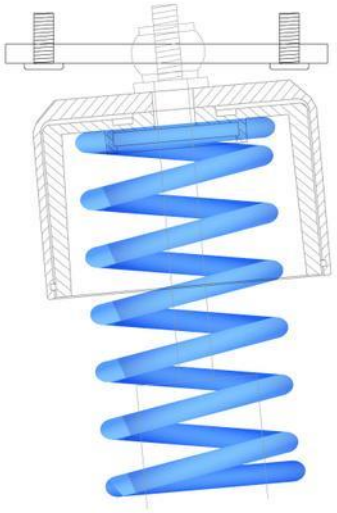
- Measure the current position of the shock absorber adjustable perch. They will need to be lowered by 5/8” / 16mm from the current position when installed to maintain the existing ride height.
- Once measured and recorded, thread the perches down by an inch or two.
- Install the supplied top spring bushing in to the spring (for springs larger than 60mm). This locates the spring in the iLIFT actuator piston.
- Insert the supplied iLIFT bump stop (20mm front, 40mm rear) in to the iLIFT piston by pushing the bump stop in to the bottom of the piston. It will clip in to place.
- Apply oil (engine oil is acceptable) in the inner diameter of the seal in the piston (black) and in the cylinder (silver aluminum).
- Install the supplied assembly installation cone tool on the shock absorber as shown.
- This cone tool will allow the iLIFT actuator’s seal to slide over the shock shaft.
- Carefully slide the actuator over the cone installation tool. The oil applied to the seal should allow the actuator’s seals to slip over the shaft with minimal effort.
- If resistance is felt, remove and inspect the actuator and seals. Make sure the cone tool is installed properly and lubricated. Do not allow the seal to catch on the shoulder of the shock absorber or damage to the seal can result.
- Remove cone installation tool.

- Assemble top mount to shock absorber. If using iLIFT-supplied top mount bushing kit, or top mount kit, install as shown:

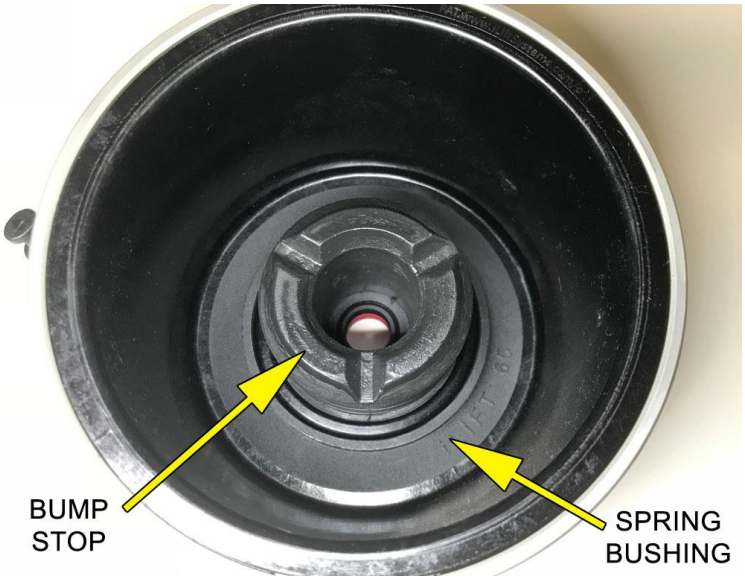
  1: iLIFT actuator
  2: top mount
  3: bushing
  4: 10mm ID support washers
  5: sleeve
- Apply a liberal amount of grease (copper anti-seize is acceptable) around bushing outer surface and inner surface to reduce noise during suspension movement.
- If using the factory top mount, a 5/8” / 16mm slotted hole must be cut in to the top mount to allow the actuator’s fitting to clear.



- Make sure that the shock absorber can articulate in the top mount with out the actuator hitting the top mount. See diagram at the beginning of this guide for more information.
- Raise perch to height recorded and lower by 5/8” / 16mm to account for additional thickness of iLIFT actuator.
- Re-install shock absorbers to vehicle.



- Install the bump stop (20mm in front, 40mm in optional rear).
- Install spring bushing as shown.

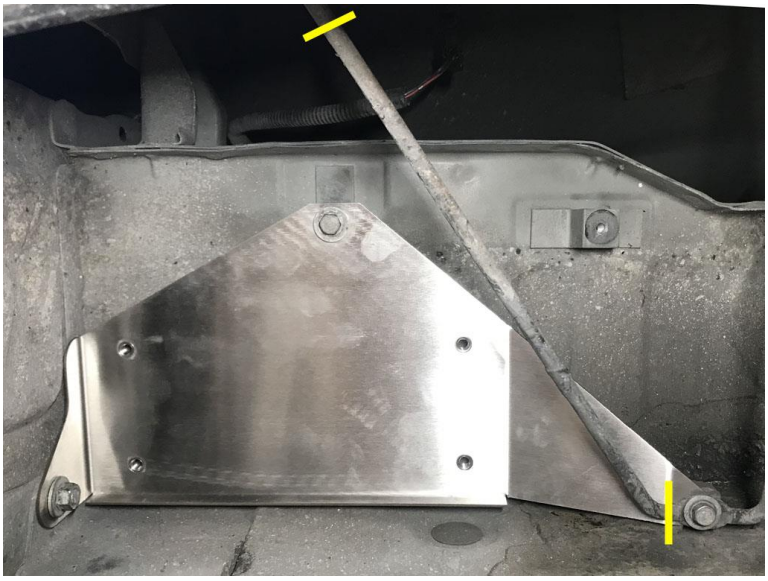


- For shock absorbers with 50mm or smaller bodies, and 65mm or greater inner spring diameter, the optional dust boots can be used.
- Push the supplied dust boot on to the bump stop as shown. Push all the way down so that the dust boot is clipped in to the highest retaining groove on the bump stop. The reinforcement rings mounted on the dust boots are left in place.

4. Compressor Installation

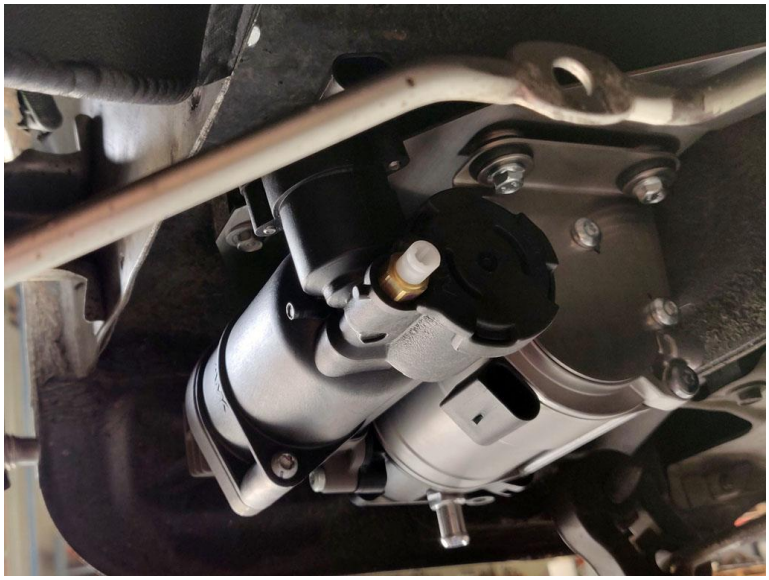
The air compressor is mounted under the on the rear right side using the supplied mounting bracket. It attaches to factory mounting locations. The compressor installation requires the removal of the bumper splash shield and removal or cutting one leg of the rear fender support bracket (instructions follow).

- Remove rear right wheel & fender liner.
- Remove right bumper splash shield.
- Install the bracket as shown, reusing the factory hardware.
- Cut the one leg of the factory bracket as shown by the yellow lines.



- The rear mounting tab secures to the rear bumper beam mounting point. If needed, the supplied M8 washer can be installed behind the bracket to shift the bracket forward.

- Install the compressor in the orientation shown using the supplied four M6x16 hex flange bolts and M6 oversized washers.
- Apply medium (blue) thread locker compound to threads of M6x16 hex flange bolts.
- Place the supplied M6 oversized washer under the head of the M6x16 bolts.
- Torque = 12 Nm (8.9 lbf/ft).

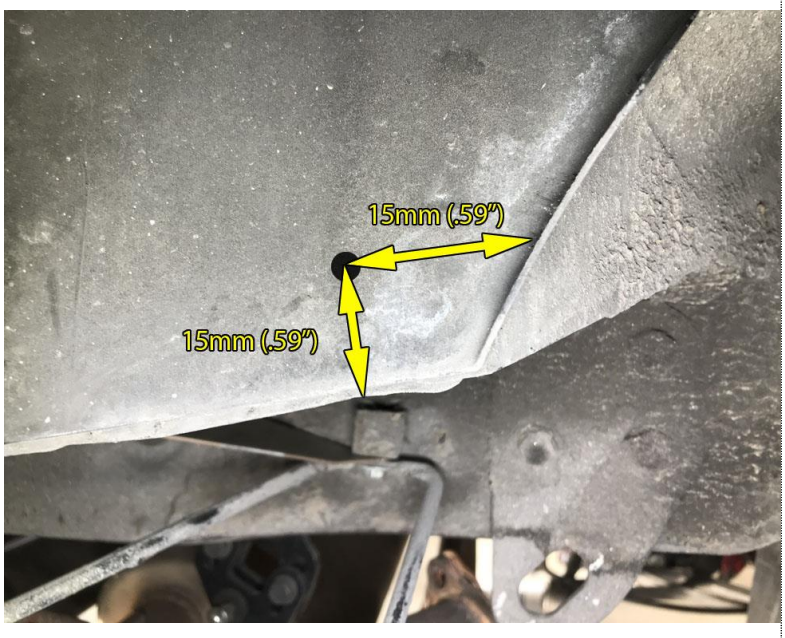


5. Air Tank w/ Air Control Assembly & Installation

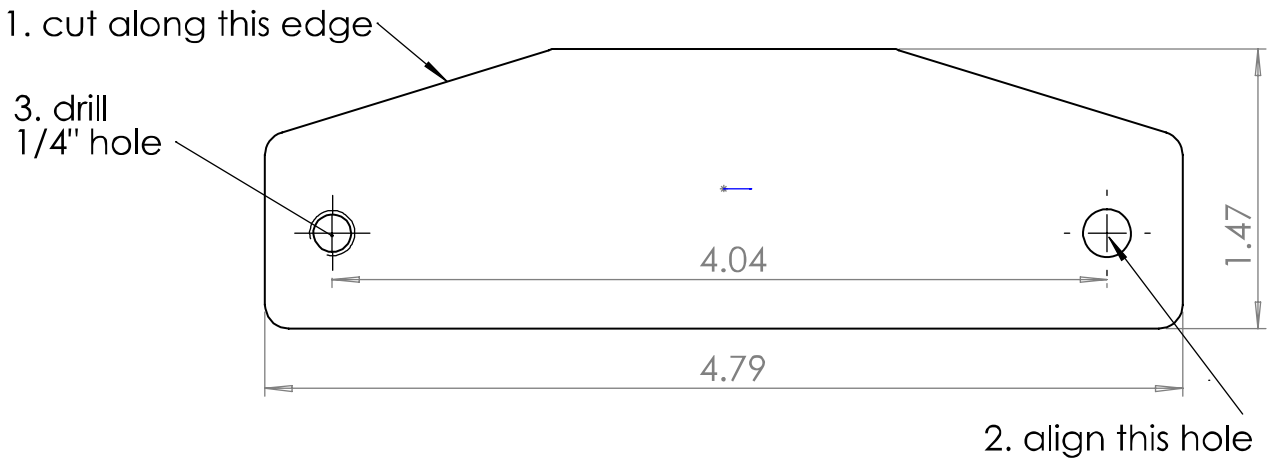
5a. Air Tank Installation

- The air tank will be installed to the right side rear fender area as shown.

- Drill ¼” hole 15mm (.59”) from edges shown.



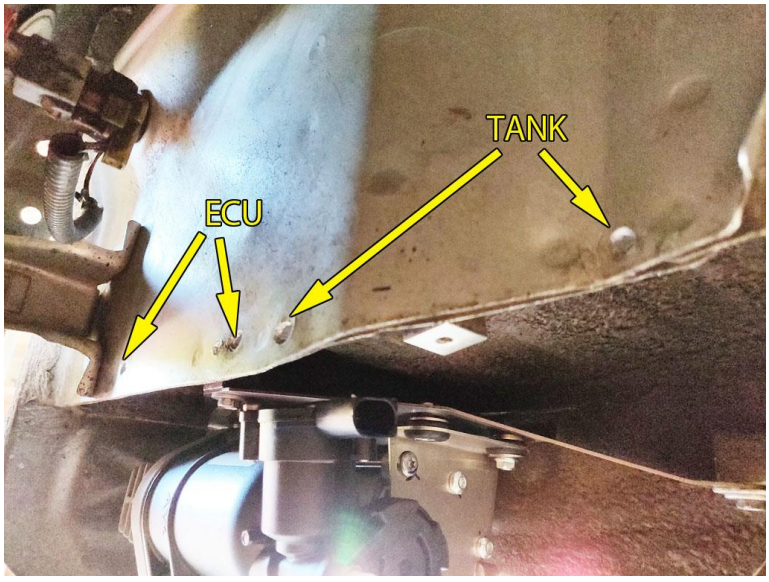
- Cut out the template below along the outer edge. This template is a representation of the tank's lower mounting bracket.
- Using a razor, cut out the front hole (where "2. align hole" points to.
- Using the supplied M6x45 hex flange bolt, 1.25" long spacer, and M6 flange nut – "install" the template to the front hole.
- With the front hole in alignment, drill a ¼" hole to the rear location.



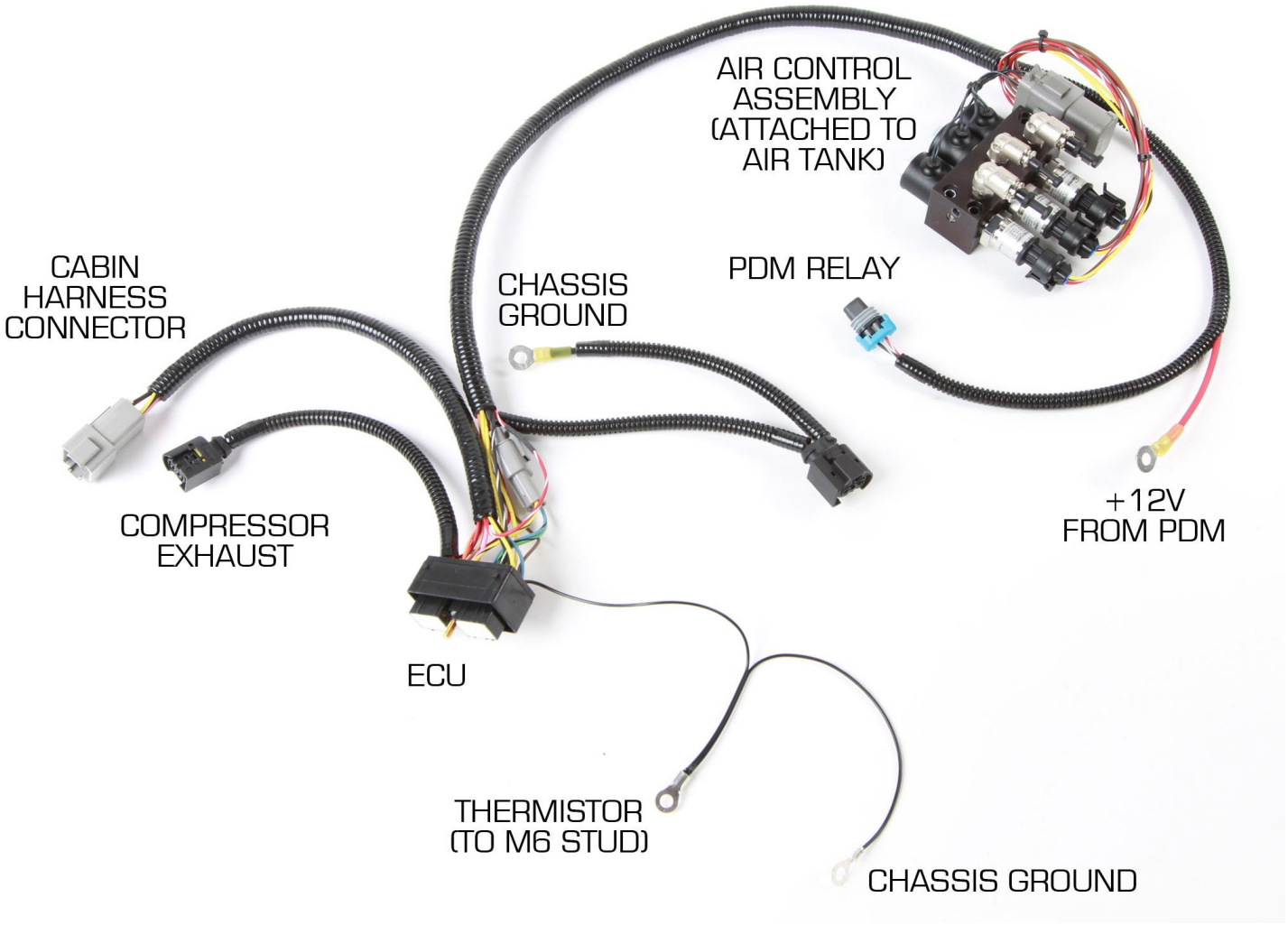
- With the two bottom holes drilled, the tank can now be installed.
- Use the supplied M6x45 hex flange bolt, 1.25" long spacer, and M6 hex flange nut to secure the front hole. The M6x45 hex flange bolt passes through the hole in the chassis first, then the spacer, then is secured to the tank's bracket using the M6 hex flange nut.
- The rear mounting hole is secured using the supplied M6x12 hex flange bolt and passes through the hole in the chassis first, then threads into the threaded hole in the bracket's rear mounting hole.
- With the tank in place, use a scribe to mark the top hole.
- Remove the tank and drill a ¼" hole in the location marked.
- The top bracket is secured with the supplied M6x20 hex flange bolt & M6 hex flange nut.

- The ECU is mounted to the same sheet metal edge as the air tank immediately behind the air tank.
- Install the ECU connector to the ECU, then position the ECU in place as shown (the location of the ECU is not critical as long as the ECU's position allows the harness to freely connect.

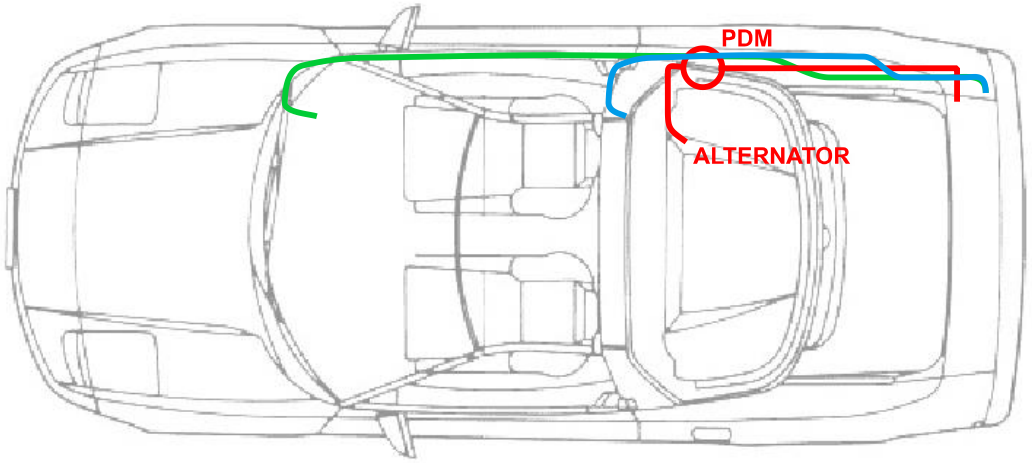
- Drill the two holes for the ECU (note, the hole centers for the ECU are 101.6mm (4.0") apart. The photo shows the tank and ECU holes drilled, with components removed.
- Mount the ECU.



5b. PDM & Air Control Assembly Wire Harness



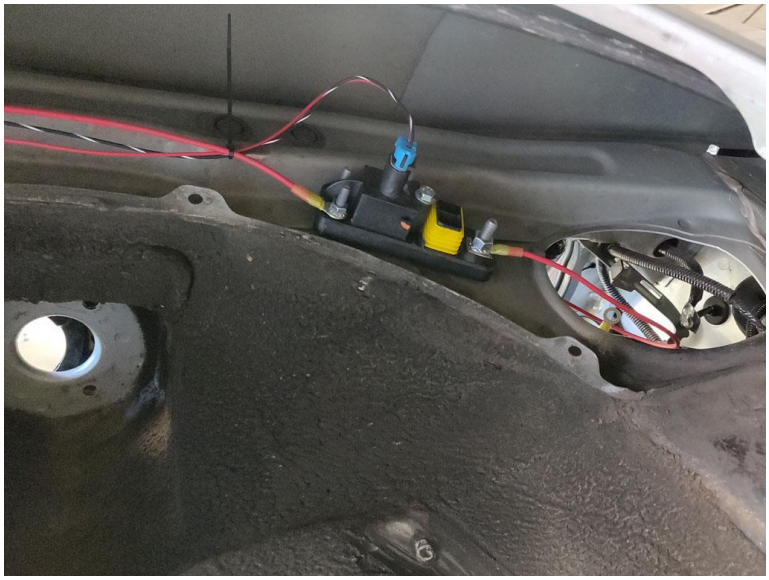
AIR CONTROL ASSEMBLY HARNESS (PRE-INSTALLED TO AIR TANK)



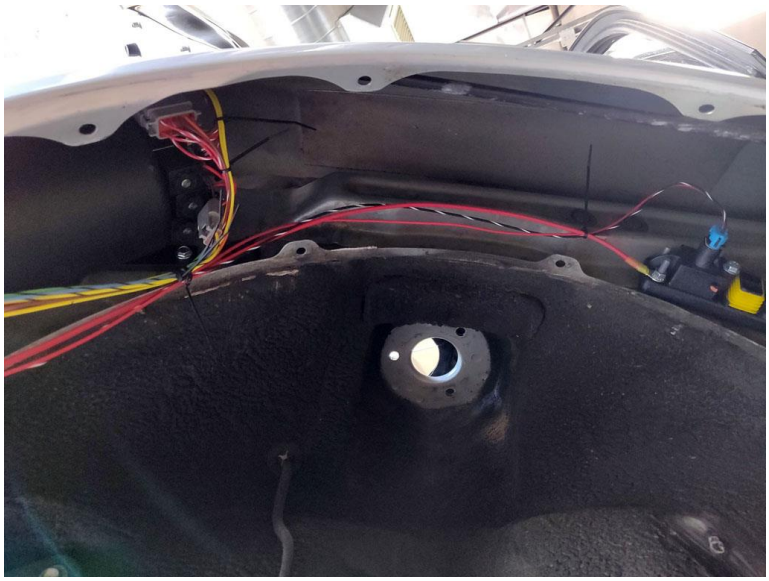
NSX Wiring Diagram

red = compressor power to fuse box, blue = interior cabin harness to ECU, green = 1991-94 cruise control

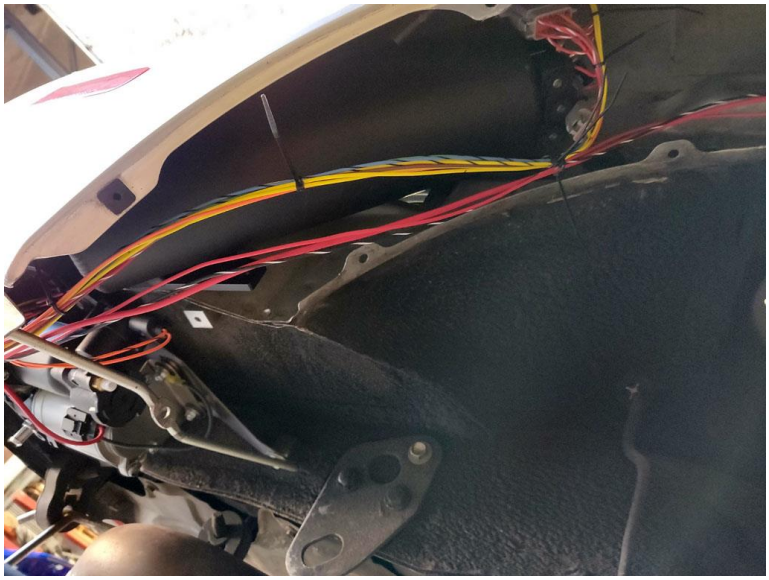
- Install the power distribution module (PDM) to the factory hole using the supplied M6x45 hex flange bolt and M6 hex flange nut.
- Two loose power cables in the “PDM & Accessories” bag are supplied. Each has one M8 and one M6 ring terminal. Install one M8 ring terminal to the alternator output.
- Attach the M6 side to one of the MIDI inline fuse holder studs with the MIDI fuse installed. Attach the other cable’s M6 ring terminal to the other MIDI fuse holder’s stud with the fuse installed.
- IMPORTANT! The remaining ring terminal is now hot! Be careful to not short it on the body.
- Route the cable through the hole in the engine bay to the PDM as shown. Attach the ring terminal to the PDM’s larger M8 stud.
- Connect the power lead (M6 ring terminal) from the iLIFT wire harness to the bottom stud on the PDM.
- Install the supplied 40 amp JCASE fuse to the lower position (same side as the stud that the wire was just connected to).
- Install the PDM relay connector on the air control assembly harness to the PDM as shown, and zip tie the assembly in to place.



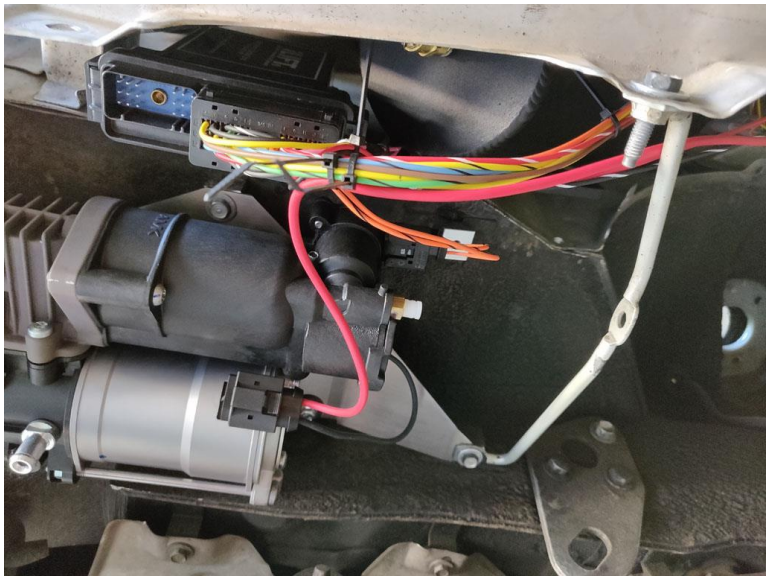
- Route the wires on top of the fender well as shown, securing with the supplied 5.5” zip ties.



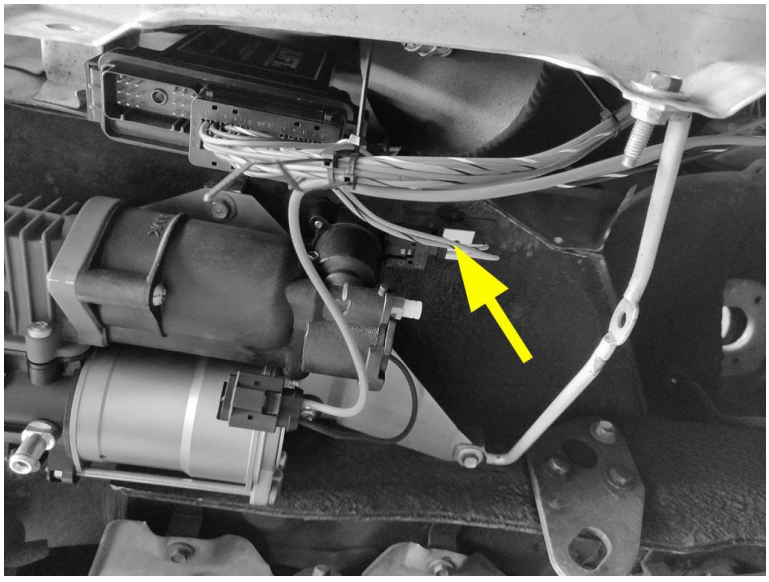
- Route wires under tank as shown.



- Attach connector to ECU (1/4” nut driver).
- Attach 18 position connector with plugs if the optional automatic sensor package is not purchased (included in box 3).
- Attach compressor power (larger) connector (force is required to push on the connector for the first time) and solenoid (smaller) connector to the air compressor. See next step for removal instructions.
- Attach the thermistor ring terminal (ring terminal with two wires) to the M6 stud on the top of the air compressor (a M6 hex flange nut is pre-installed).
- Attach the cabin harness to the cabin harness connector.

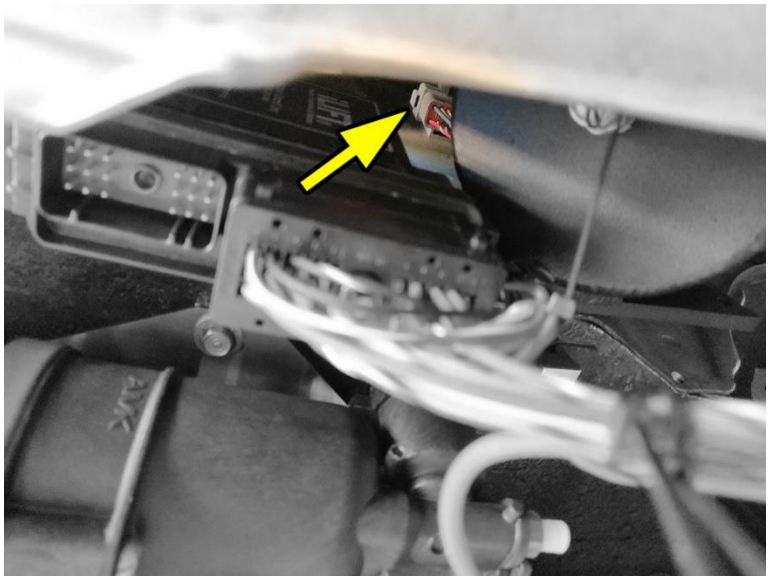


- Using the supplied M6x12 hex flange bolt, attach the three chassis grounds (the two ring terminals on the air control harness – one heavy gauge, one light gauge - and the one ring terminal on the cabin harness) to the threaded boss indicated with the arrow.

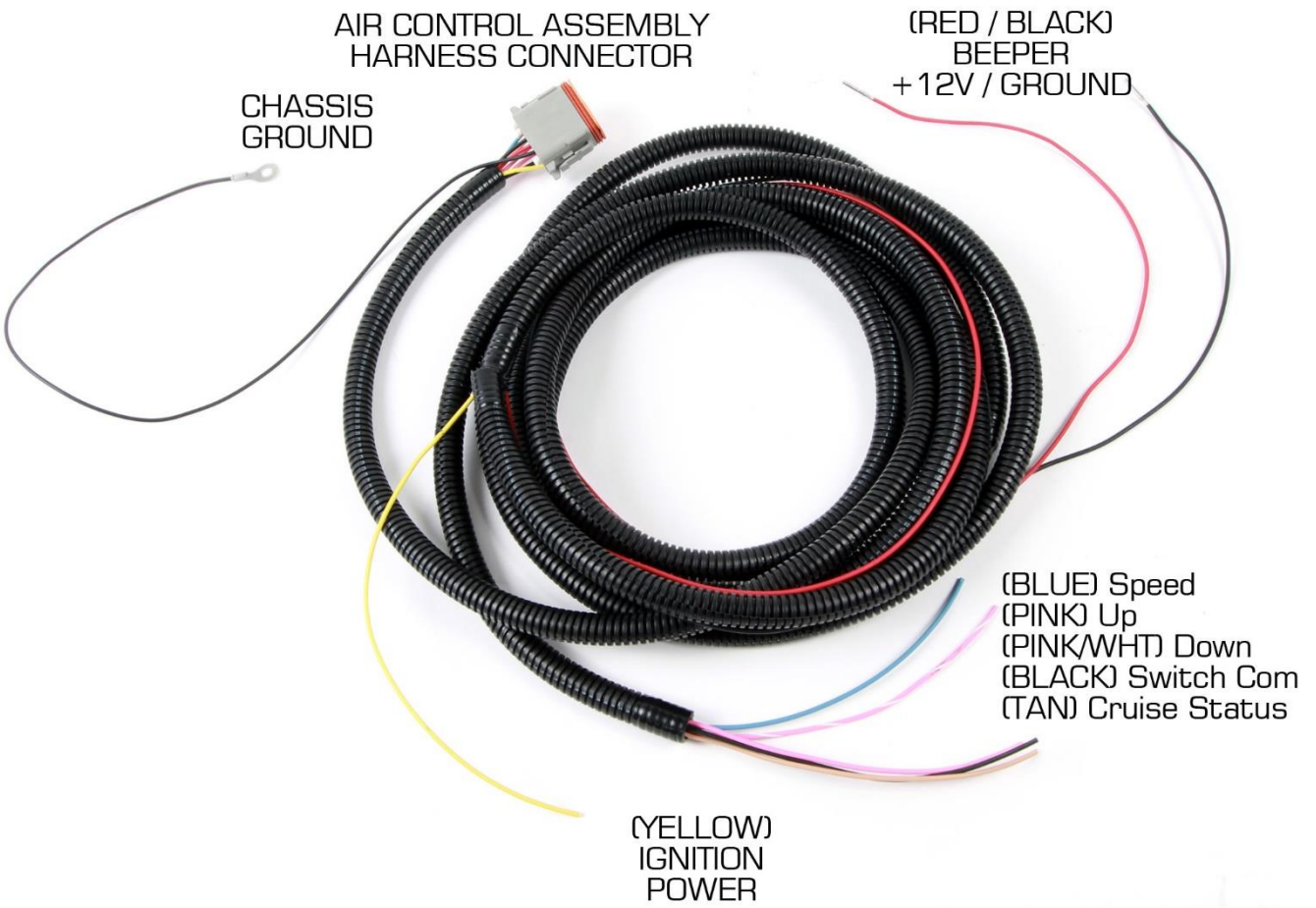


- If the compressor power connector needs to be disconnected from the compressor, use a flat blade screw driver under the retainer and pull the compressor off.

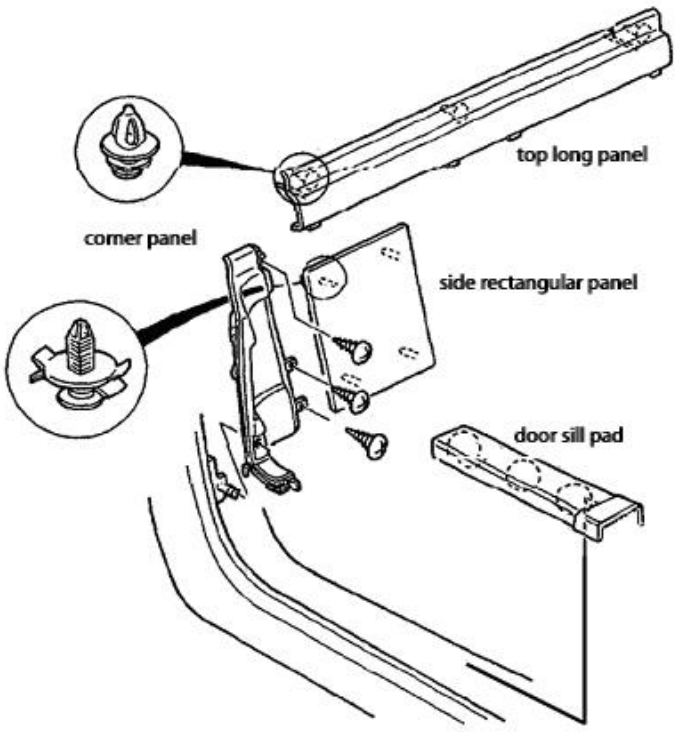
- A plastic bracket, M6x20 flat socket bolt, and M6 hex flange nut are supplied to secure the connectors where the air control assembly wire harness and cabin harness mate. This bracket is positioned above the ECU as shown.
- With the harnesses connected, test fit the bracket to any location that allows the harnesses to be routed freely. Drill a ¼" hole, and mount the bracket with the M6x20 hex flange bolt and M6 hex flange nut.
- Secure the connector to the bracket as shown.



5c. Interior Cabin Wire Harness

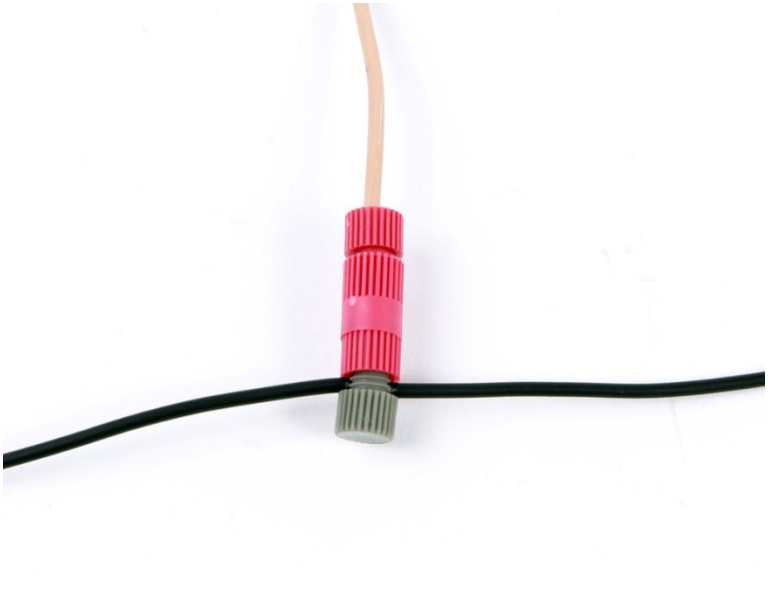


- Remove the following interior panels (located behind seats):
  Top long rectangular panel – pull on top of panel to release clips on top left, center, and right. Then pull up.
  Vehicle's right side rectangular panel – pull on corners of panel to release clips.
  Vehicle's right side door sill panel – pull up to release clips.
  Right side corner panel – unscrew panel at corners and remove.
- Attach the cabin wire harness' 12 position male connector to the female connector mounted on the manifold.



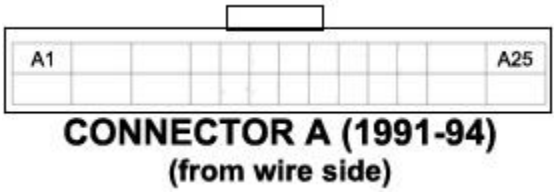
- Use a razor to create a slit in the grommet located in the trunk's right side as shown.
- Push the wires through. Be careful with the terminals terminated to the red and black wires. Push terminals through the grommet with a pick.
- Route harness along engine bay (reference the wire routing diagram on page 7).
- See the attached "NSX Wiring Diagram" on a prior page. The interior cabin wire harness is routed along the path of the blue and green lines. Route the harness through the right side of the trunk into the engine bay, and in to the interior cabin's right side grommet as shown.

- The following wires will be tapped:
  - Ignition power
  - Speed
  - Cruise Status (optional: required only if cruise control switches are used)
  - Cruise up / down switches (optional)
- Wires are tapped using the supplied wire taps (spares are supplied).
- To use the supplied taps, first unthread the red end. Insert the iLIFT wire (tan in this example) through the hole in the red end and then strip off ¼". Place the wire strands in to the tap, and replace the red end by threading on. Next, unthread the grey end and place it around the factory wire (black in this example). Screw the grey end back to the tap, and the tap will pierce the wire making the connection.



1991-94:

- **Ignition power**
  ECU terminal: A25 (1991-94), wire color: yellow/black to iLIFT wire color: yellow
- **Speed**
  ECU terminal: C2 (red/yellow) to iLIFT (blue)

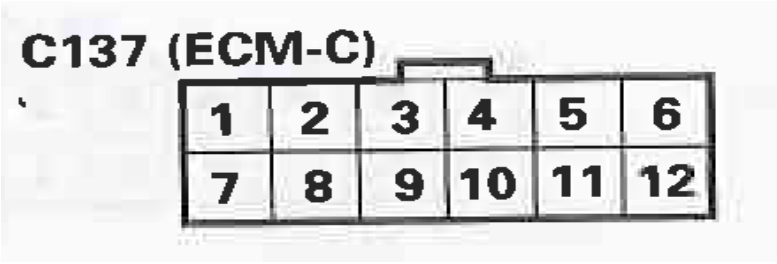


CONNECTOR A (1991-94)
(from wire side)

CONNECTOR C (1991-94)
(from wire side)

1995-2005:

- **Ignition power**
  ECU terminal: C1 (1995-05), wire color: yellow/black to iLIFT wire color: yellow
- **Speed**
  ECU terminal: C7 (orange) to iLIFT (blue)



CONNECTOR C (1995-05)
(from wire side)

Switches:

- The supplied switch, or the factory cruise control switch can be used for activating iLIFT. If using the supplied switch, connect the switch's center terminal to chassis ground. Connect "up" to pink and "down" to pink/white.
- The system is pre-configured to use the factory cruise control switch for activation. See the section "Wireless Configuration" if you will be using the aftermarket switch instead.

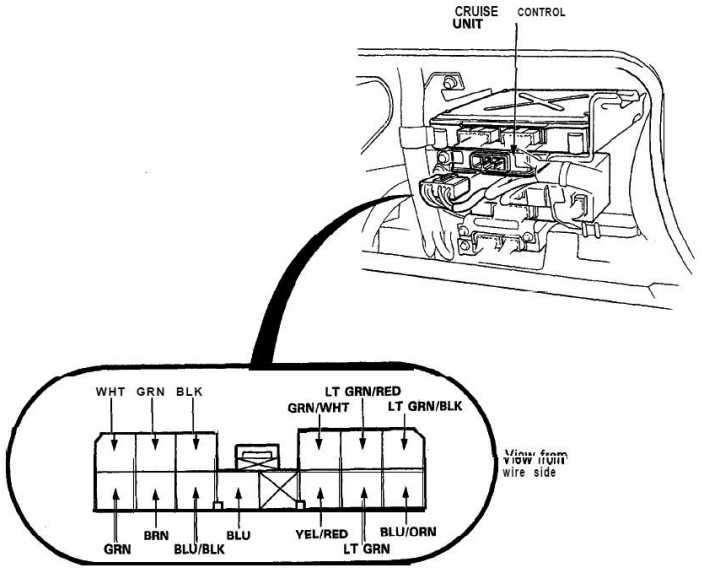
1991-94: optional cruise control switch

- Locate cruise control module in passenger's kick well.
- Remove right side door sill panels & route wires under carpet to behind glove box.
- Remove glove box to access cruise control module.

1. cruise status
Cruise wire color: light green to iLIFT tan

2. resume (iLIFT Up)
Cruise wire color: light green / black to iLIFT pink

3. set (iLIFT Down)
Cruise wire color light green / red to iLIFT pink/wht



CRUISE CONTROL CONNECTOR
(from wire side)

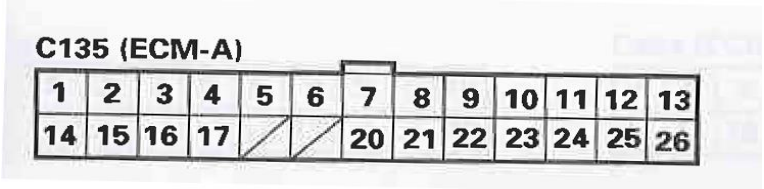
1995-05: Optional cruise control switch use:

- These connections are made at the ECU. Trim off the excess tan, pink, and pink/white iLIFT wires if using the cruise control switches.

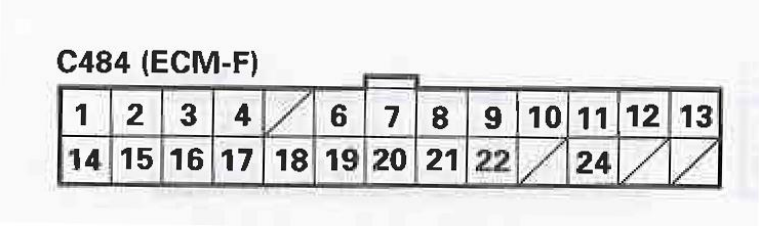
1. cruise status
ECU terminal: F9 (light green) to iLIFT (tan)

2. resume (iLIFT Up)
ECU terminal: F7 (light green / black) to iLIFT (pink)

3. set (iLIFT Down)
ECU terminal: F8 (light green / red) to iLIFT (pink/wht)



CONNECTOR A (1995-05)
(from wire side)



CONNECTOR F (1995-05)
(from wire side)

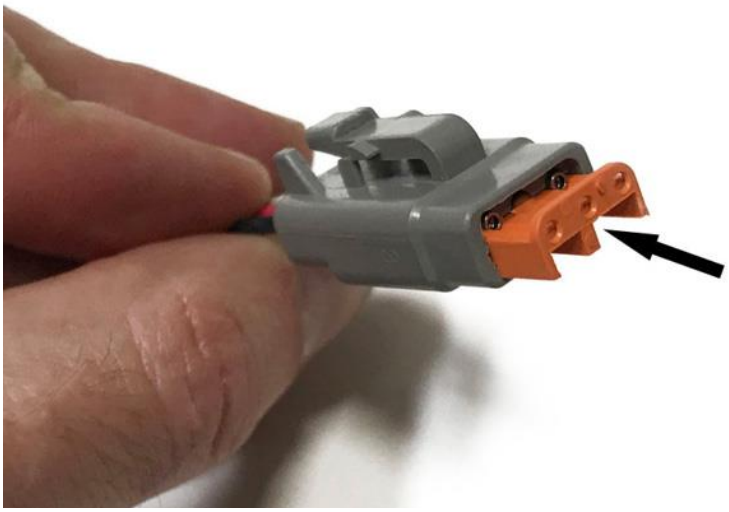
5d. Beeper Installation:

- Locate red and black wire on interior wire harness. These wires power the beeper to alert the driver of iLIFT System status.
- Remove the orange seal from the back of the connector with a pick.
- Install the terminals through the seal then in to the connector as shown. The terminal positions are stamped on the connector (1 on one side, 3 on the other side).
- Push terminal in from the rear with a pick.

  1 – black
  2 – not used
  3 – red

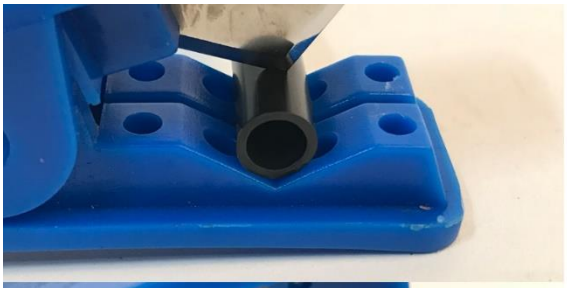
- The beeper can be cable tied to the factory wire harness along the rear interior firewall. Push terminals in from rear of the connector until terminals click in to place.

- Insert the supplied wedge as shown.
- Mate the connector to the beeper.
- Reinstall interior panels in reverse order of removal.



6. Air Tube Routing

- **Important!** When cutting tube, use only the supplied tube cutter. Do not use a razor or other cutting instruments, which can distort the tube when cutting, causing the o-ring in the fittings to fail.
- When cutting tube, make sure the tip of the blade is centered on the tube before cutting. This will prevent the tube from bending while being cut.

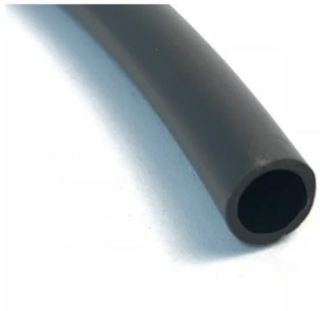


NO

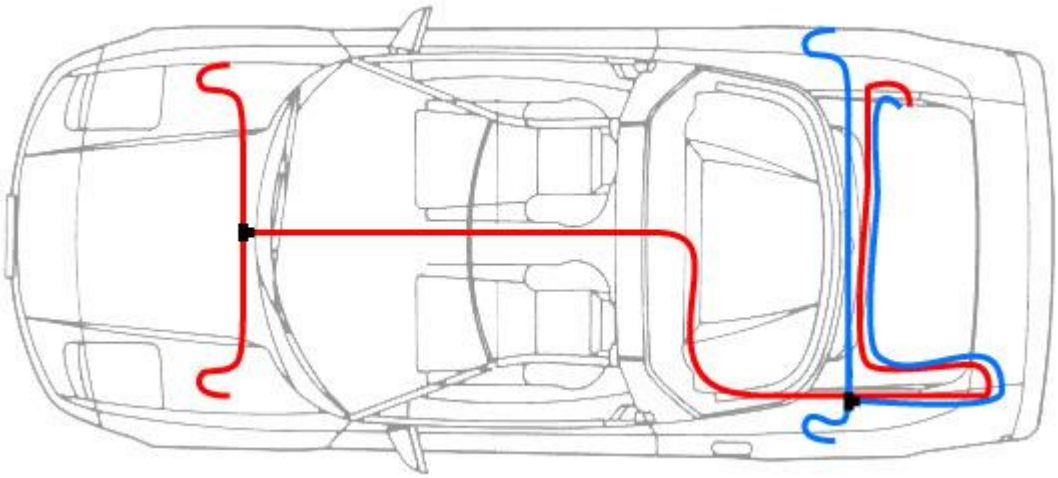
YES

- **Important!** The tube must have a clean, burr-free surface without being distorted in order for the o-ring in the fittings to not be damaged.

NO

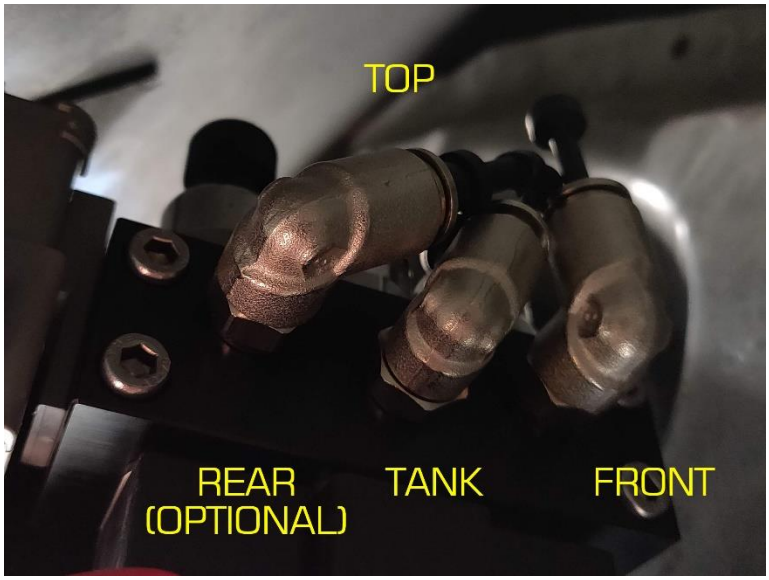


YES

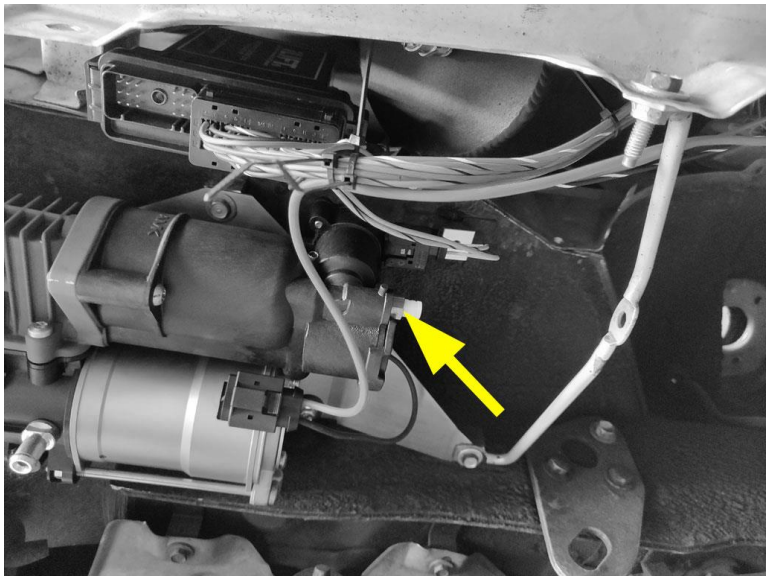


NSX Air Tube Routing Diagram
red = front, blue = rear (optional)

- Using supplied 5/16” air tube and supplied 5/16” tee fittings, complete routing of air tube as shown in the diagram.
- Install 2’ of supplied protective sleeve to each tube connecting to the actuator to protect against damage from brake heat.
- Tee front air tubes in front compartment, and route air tube through center tunnel. Install supplied protective sleeve to protect against heat damage from coolant tubes.
- The optional rear actuators can be teed on the vehicle’s left side as shown in the diagram. The front and rear tubes can then travel through the brake tube grommet in the rear left fender well, along the trunk’s rear surface (with protective sleeve mounted around each tube), and exit through the right side air duct hole. Route the tubes under the tank then loop above the tank to meet the fittings in the air control assembly manifold.
- Use cable ties to secure air tubes.



- Remove the plastic plug from the compressor’s inlet.
- Unthread the fitting (12mm hex) 1-2 full rotations counter-clockwise. Trim off the end of the supplied M6 tube and insert the tube into the fitting until the tube bottoms out.
- Thread the fitting until it is snug. The ferrule in the fitting will crimp down on the tube to secure it in place.
- Route the M6 tube above the tank to the tank’s center fitting. Trim the tube to length, then insert in to the fitting.



- Attach the curved hose from the air intake to the air compressor.
- Zip tie the filter to the wire harness under the ECU (the rubber cover has a slotted hole that can be used for attachment).
- Route the long hose up along the wire harness loosely securing it in place taking care to not pinch the hose.

7. ECU Wireless Configuration

- A mobile phone, tablet, or laptop is required to connect to the iLIFT ECU for configuration changes.
- To make configuration changes, please visit this website for instructions: https://iliftsystems.com/support/ecu-instructions/
- Contact iLIFT Systems (info@iLIFTSystems.com) if you have questions on configuring the iLIFT ECU.
- The iLIFT ECU is pre-configured for your application. Only these items need to be programmed:
    - Calibrate speed – the ECU will be configured when driving at 15 mph.
    - Switches:
        - If the factory cruise control switches are used (default configuration):
            - Cruise control status input: +12V
            - Switch Up: +12V
            - Switch Down: +12V
        - If the supplied aftermarket switch is used:
            - Cruise control status input: disabled
            - Switch Up: ground
            - Switch Down: ground

8. Verify Operation & Reassemble

Pressurize system for the first time:

- Connect the battery ground terminal.
- ECU is switched on with ignition power. A series of beeps will be heard. One long – indicating the ECU has powered on, then one to three short beeps indicating Mode (see details on Mode below).
- Start engine. The air compressor will start after 10-20 seconds. Note that the compressor is designed to start only when the voltage is greater than 12.5v, which usually requires the engine to be running.
- The compressor will run and pressurize the tanks to 180 PSI (approximately 1.5 – 2 minutes).
- Inspect for leaks between the manifold and air compressor.
- Allow the compressor to cool for at least 5-10 minutes before activating the actuators. The first fill from 0 PSI requires a compressor run time that is unusually long. Subsequent partial fills require less time.
- If the compressor does not turn on, see troubleshooting below.

To activate actuators (with wheels off, allowing for inspection):

- Do this step with the wheels still off.
- The system is activated by the cruise control switch while the vehicle is traveling at or below 25 mph with the cruise control system off and ignition power on.
- Make sure cruise control is off.
- Press and hold (1-2 seconds) the cruise control switch in the “accelerate” or up position to raise the vehicle. The piezo beeper will signal to confirm the raise command.
- If the vehicle is equipped with the optional rear lift kit, continue pressing up (additional 1-2 seconds) to activate the rear actuators.
- With the actuators activated, inspect for leaks between the manifold and the actuators.
- Press and release the cruise control switch in the “resume” or down position to lower the vehicle. The piezo beeper will signal to confirm the lower command. If the actuators do not activate, see troubleshooting below.
- Note: during troubleshooting, if multiple activations are required, the compressor may reach a limit in time or cycles that prevents it from running until 10 minutes has elapsed (see section “Operating Instructions: Compressor Safety Feature”). Allow the compressor to cool between multiple cycles. The iLIFT system is intended only for intermittent use.

Reassemble:

Once operation is verified, replace underbody panels, fender liners, and wheels.

9. Operating Instructions:

Installer: Please review these instructions with customer. Provide this booklet with take-off parts to customer when complete.

To Raise:

- The system is activated by the cruise control switch (or supplied rocker button switch) while the vehicle is traveling at or below 25 mph with the cruise control system off. Make sure cruise control is off.
- Press and hold (1-2 seconds) the cruise control switch up (accelerate) (or supplied rocker switch) position to raise the vehicle. The piezo beeper will signal to confirm the raise command.
- If the vehicle is equipped with the optional rear lift kit, continue pressing up (additional 1-2 seconds) to activate the rear actuators.
- The system will beep every 15 seconds (default setting) when the system is raised.
- The system will not allow activation with the cruise control system in the on position.
- The system will not activate above 25 mph.
- The system will automatically lower itself if you drive above 25 mph.

To Lower:

- Press & hold the cruise control switch down (resume position) (or supplied rocker switch).
- The system will automatically lower itself if you drive above 25 mph.

Compressor Safety Feature:

- The iLIFT system is intended only for intermittent use.
- To prevent overheating of the compressor, the ECU limits the compressor to run up to 2 minutes every 10 minutes. In addition, the compressor is limited to run up to 4 times every 10 minutes.
- iLIFT Systems are designed to work intermittently. The system is designed to allow the vehicle to lift and raise approximately ten (4 wheel lift) to twenty (2 wheel lift) times in a 10 minute span. The iLIFT ECU (electronic control unit) has built in compressor overheat protection. It will allow up to five compressor activations for up to 2 minutes of run time every 10 minutes. In addition, your system includes a thermal sensor that will prevent the compressor from turning on if it detects the compressor is getting too hot. The iLIFT system will continue to function to raise the vehicle even if the compressor does not run (as long there is sufficient air pressure).

Mode Control: Toggling between Manual, Automatic, and Disable modes (as of firmware version 1283):

- Using the activation switch, the system can be toggled between manual, automatic, and disable.
- To toggle, press and hold the down switch for 5 seconds until you hear a confirmation beep, this enters “mode control”.
    - Automatic with Manual Mode: press and hold down one time to activate.
    - Manual Only: press switch down twice, holding on the second press.
    - Disable: press switch down three times, holding on the third press.
- A 1, 2, or 3 beep will be heard to confirm selection. The system saves your selection even if the ignition is turned off, and confirms your current selection each time the ignition is turned on.
- It is recommended to disable to automatic sensors when driving in rain / muddy conditions. Sensors should be periodically cleaned.

10. Troubleshooting

- **System does not activate when cruise control (or supplied rocker) switch is pressed up:**

  This may be caused by:
  1. Cruise control system is on.
  2. System is off (see “Mode Control” section below).
  3. Vehicle speed is greater than 25 mph.
  4. System has not been configured properly (see “Wireless ECU Configuration” section).
  5. CAN / switch wires installed improperly.

  If you have verified these requirements and the system does not activate, please contact iLIFT Systems for assistance.

- **Compressor does not turn off:**
  The ECU monitors the air tank pressure, then shuts off the compressor once tank pressure reaches 180 PSI. If the system continues to run, it is because there is a leak and the compressor cannot fully pressurize the tank, or there is a problem with the pressure signal from the tank. If you have verified there are no leaks, contact iLIFT Systems for assistance.

- **Air compressor will not turn on to fill air tanks:**

  This may be caused by:
  1. Voltage is below 12.6v.
     The system requires a steady 12.6 volts to operate in order to maintain sufficient power to the air compressor. This usually requires the engine to be running (place the NSX mode control switch to “Sport+” to keep the engine from shutting off). The air compressor uses 18-22 amps while operating. Turn the engine on to supply required voltage. If the tank is not full, and the air compressor does not turn on, check the power distribution module’s 6mm output stud. If there is not +12v when the engine is running, check the fuse (it should be located on the same side of the 6mm stud you are checking). Contact iLIFT Systems for assistance.
  2. Compressor safety feature has been activated.
     See “Operating Instructions: Compressor Safety Feature”.

- **The optional automated sensors are activating the system improperly:**

  This may be caused by:
  1. The calibration is too sensitive.
     Recalibrate the sensors and move the target closer to the sensors. Also, test increase filtering to reduce false activations.
  2. The sensor lens is dirty or wet.
  3. Clean the sensor lens with a soft cloth and mild glass cleaner. Driving in the rain may cause false activations, especially if dirty spray is kicked up on the sensors in the wet. Disable automatic activation when driving in the rain (see “Mode Control” in Operating Instructions).