

with Installation Instructions

Owner's Manual

Banks Techni-Cooler® Charge Air Cooler Assembly

**2009 Dodge 6.7L Cummins (24-valve)
ISB Pickup Trucks**

USE WITH SYSTEM P/N 25985

Gale Banks Engineering
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bankspower.com

General Installation Practices

Dear Customer,

If you have any questions concerning the installation of your Banks Techni-Cooler, please call our Technical Service Hotline at (888) 839-2700 between 7:00 am and 5:00 pm (PT). If you have any questions relating to shipping or billing, please contact our Customer Service Department at (888) 839-5600.

Thank you.

1. Before starting work, familiarize yourself with the installation procedure by reading all of the instructions.
2. Throughout this manual, the left side of the vehicle refers to the driver's side, and the right side to the passenger's side.
3. Disconnect the negative (ground) cable from the battery (or batteries, if there are two) before beginning work.
4. Route and tie wires and hoses a minimum of 6" away from exhaust heat, moving parts and sharp edges. Clearance of 8" or more is recommended where possible.
5. When raising the vehicle, support it on properly weight-rated safety stands, ramps or a commercial hoist. Follow the manufacturer's safety precautions. Take care to balance the vehicle to prevent it from slipping or

falling. When using ramps, be sure the front wheels are centered squarely on the topsides. When raising the front of the vehicle, put the transmission in park (automatic) or reverse (manual), set the parking brake, and block the rear wheels. When raising the back of the vehicle, be sure the vehicle is on level ground and the front wheels are blocked securely.

CAUTION! Do not use floor jacks to support the vehicle while working under it. Do not raise the vehicle onto concrete blocks, masonry or any other item not intended specifically for this use.

6. During installation, keep the work area clean. Do not allow anything to be dropped into intake, exhaust, or lubrication system components while performing the installation, as foreign objects will cause immediate engine damage upon start-up.

Tools Required:

- Drive ratchet
- Ratchet extensions
- Inch and metric deep sockets
- Torx & Allen bits
- Flat blade screwdriver

Highly recommended tools:

- Torque wrench
- Silicon lubricating spray

Disclaimers

THIS IS A HIGH PERFORMANCE PRODUCT. USE AT YOUR OWN RISK. Do not use this product until you have carefully read the following agreement.

This sets forth the terms and conditions for the use of this product. The installation of this product indicates that the BUYER has read and understands this agreement and accepts its terms and conditions.

Disclaimer of Liability

Gale Banks Engineering Inc. and its distributors, employees, and dealers(hereafter "**SELLER**") shall in no way be responsible for the product's proper use and service. The **BUYER** hereby waives all liability claims.

The **BUYER** acknowledges that he/she is not relying on the **SELLER's** skill or judgment to select or furnish goods suitable for any particular purpose and that there are no liabilities which extended beyond the description on the face hereof and the **BUYER** hereby waives all remedies or liabilities, expressed or implied, arising by law or otherwise, (including without any obligations of the **SELLER** with respect to fitness, merchantability, and consequential damages) whether or not occasioned by the **SELLER's** negligence. The **BUYER** is responsible to fully understand the capability and limitations of his/her vehicle according to manufacturer specifications and agrees to hold the **SELLER** harmless from any damage resulting from the failure to adhere to such specifications.

The **SELLER** disclaims any warranty and expressly disclaims any liability for personal injury or damages.

The **BUYER** acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the **BUYER** agrees to indemnify the **SELLER** and to hold the **SELLER** harmless from any claim related to the item of the equipment purchased. Under no circumstances will the **SELLER** be liable for any damages or expenses by reason of the use or sale of any such equipment.

The **BUYER** is responsible to obey all applicable federal, state, and local laws, statutes, and ordinances when operating his/her vehicle, and the **BUYER** agrees to hold **SELLER** harmless from any violation thereof.

The **SELLER** assumes no liability regarding the improper installation or misapplication of its products. It is the installer's responsibility to check for proper installation and if in doubt, contact the manufacturer.

The **BUYER** is solely responsible for all warranty issues from the automotive manufacturer.

Limitation of Warranty

Gale Banks Engineering Inc. (hereafter "**SELLER**"), gives Limited Warranty as to description, quality, merchantability, fitness for any particular purpose, productiveness, or any other matter of **SELLER's** product sold herewith. The **SELLER** shall be in no way responsible for the product's open use and service and the **BUYER** hereby waives all rights except those expressly written herein. This Warranty shall not be extended or varied except by written instrument signed by **SELLER** and **BUYER**.

Please see enclosed warranty information card, or go to www.bankspower.com/warranty for warranty information regarding

Intercooler Assembly Installation

- 1.** Disconnect the negative battery cables from both batteries
- 2.** Disconnect the Inlet Air Temperature/ Pressure Sensor connector located on the air box cover. The connector is shown in **Figure 1**.
- 3.** Remove the nut that fastens the air filter housing to the radiator cross brace.
- 4.** Loosen the hose clamp that secures the air inlet duct to the turbocharger inlet. Disconnect the inlet duct from the turbocharger.
- 5.** Remove the air box and inlet duct to turbocharger as an assembly. The air box is held in place with re-usable push-in fasteners and can be pulled out vertically.

- 6.** Remove the passenger side boost tube. The boost tubes are the charge air ducting that route air from the turbocharger to the Charge Air Cooler (CAC) and from the CAC to the intake manifold.

- 7.** Remove the driver side boost tube.

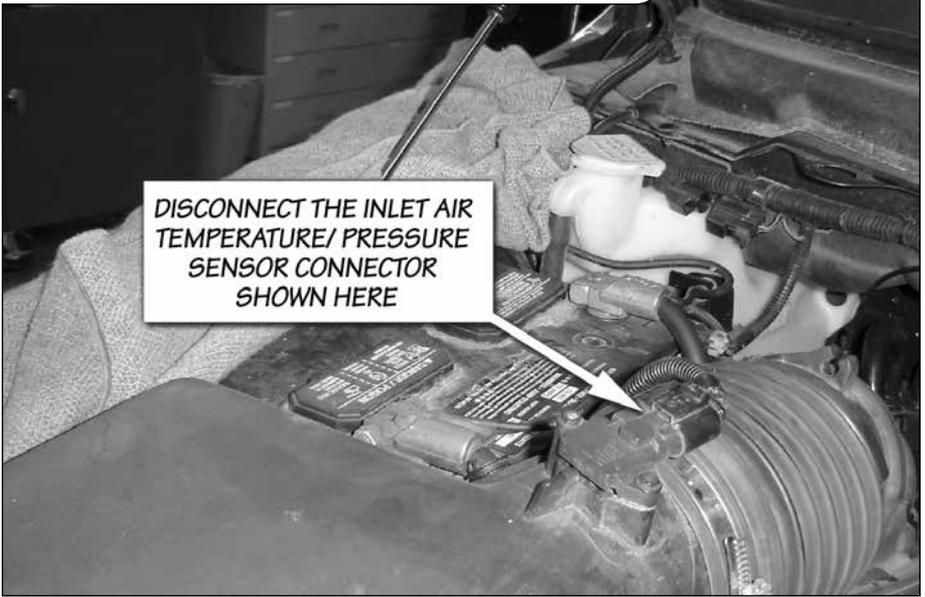
NOTE: Cover the intake manifold and turbocharger inlet and outlet with a rag to prevent foreign debris from entering during installation.

- 8.** Remove the two upper radiator attachment bolts.

- 9.** Remove the two upper CAC attachment bolts.

- 10.** Remove the 4 bolts (2 per side) that retain the upper radiator cross brace, then remove the upper radiator cross brace. The brace is shown in **Figure 2**.

Figure 1 Location of the Inlet Air Temp/Pressure Sensor



11. Remove the hex head bolts that attach the lower two A/C condenser mounting brackets to the CAC. Remove the torx head bolts that fasten the lower two mounting brackets to the A/C condenser. Discard the stock lower mounting brackets, but retain the torx head bolts for re-use.

12. Remove the hex head bolts that attach the upper A/C condenser mounting brackets to the CAC.

13. Swing the A/C condenser upward as shown in **Figure 3**, then out away from the vehicle as shown in **Figure 4**.

CAUTION: Minimize the amount of stress to the A/C condenser fluid lines to prevent damage.

An assistant could be helpful to hold the A/C condenser while the stock CAC is being removed and the Banks Techni-Cooler is being installed.

14. Remove the stock CAC from the vehicle.

15. Remove the lower saddle mount rubber bushings from the stock CAC and install them on the Banks Techni-Cooler.

16. Remove the upper rubber isolators from the stock CAC and install them on the Banks Techni-Cooler.

17. Install the Banks Techni-Cooler in the vehicle.

18. Remove all of the factory brackets from the condenser, retain the torx head bolts for reassembly. The Banks condenser brackets are stamped such that "R.U." means Right (Passenger Side) Upper and that the "R.U." is visible when the condenser is installed. Install Banks condenser brackets in the same locations as the old factory brackets. See **Figure 5**.

NOTE: Before installing the Right

Figure 2 Upper Radiator Cross Brace

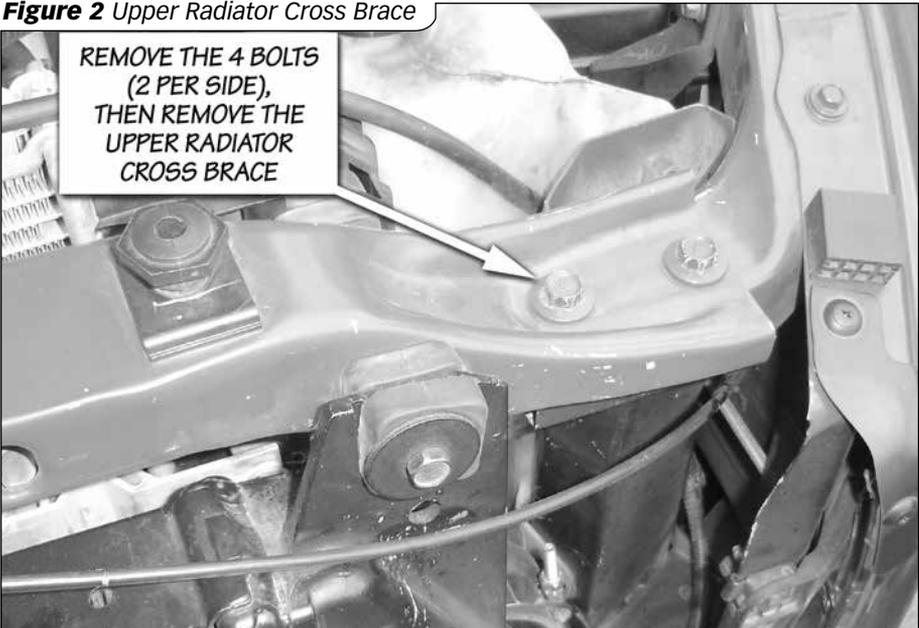


Figure 3 A/C Condenser Removal Procedure

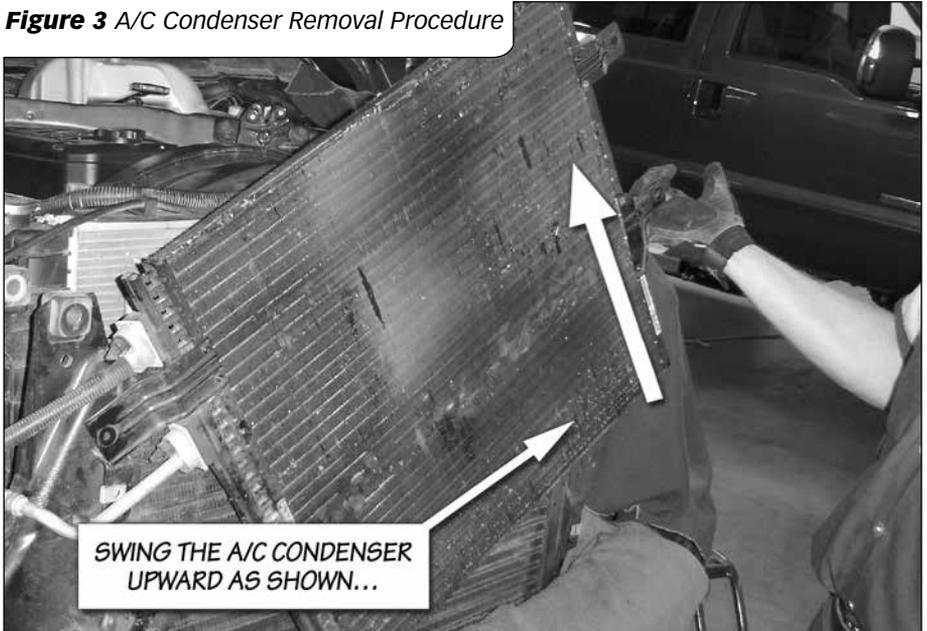


Figure 4 A/C Condenser Removal Procedure

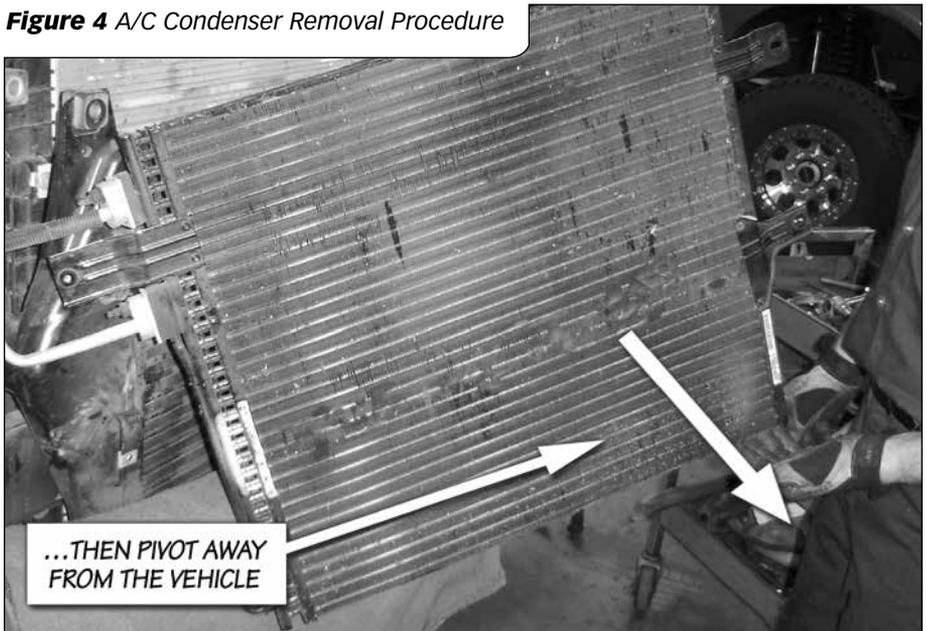


Figure 5



*Lower (RL) bracket gentle bend the condenser line so that it runs behind the bracket as shown in **Figure 6**.*

19. Place the A/C condenser back in front of the Techni-Cooler and assemble the condenser to the banks intercooler using the 5/16" bolts and washers supplied with the Banks Techni-Cooler system. Keep the bolts loose to adjust the A/C condenser.

20. Install the upper radiator cross brace. Leave the bolts loose to aid in the alignment of the cross brace with the radiator and Techni-Cooler.

21. Loosely install the upper CAC mounting bolts.

22. Loosely install the upper radiator mounting bolts.

23. Push the cross brace back and tighten the radiator cross brace bolts. Torque the bolts to 21 ft-lbs.

24. Tighten the upper CAC mounting

bolts and torque to 8 ft-lbs (96 in-lbs).

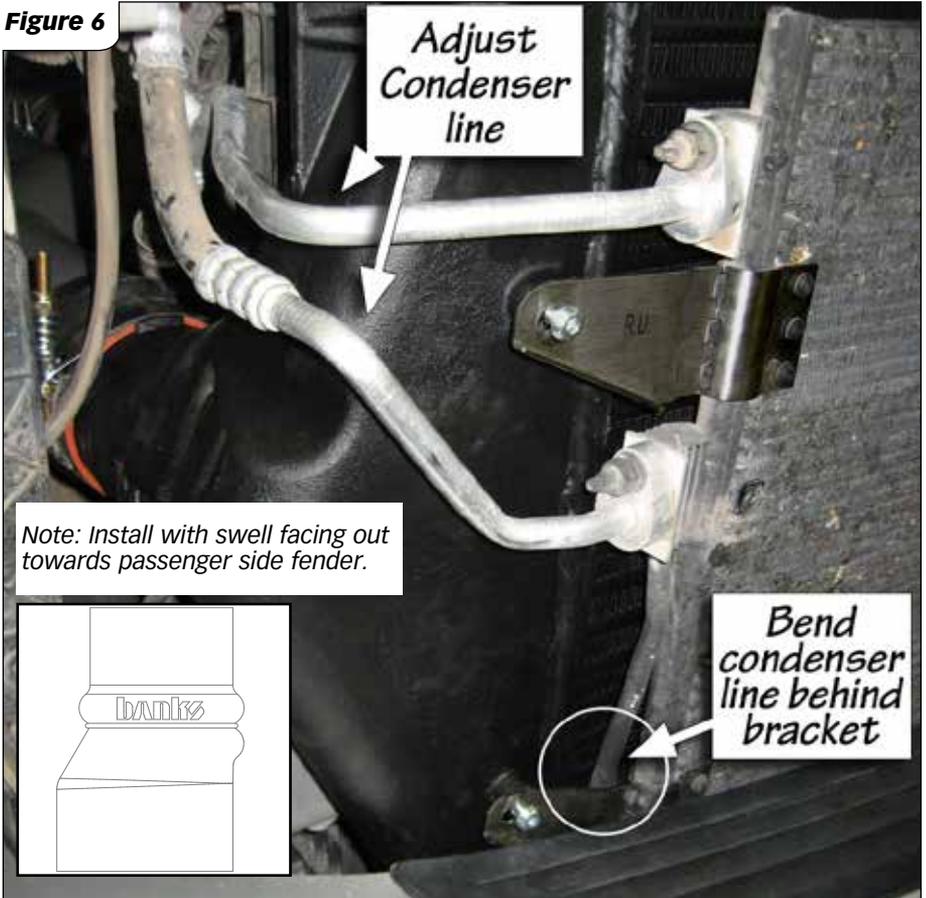
25. Tighten the upper radiator mounting bolts and torque to 8 ft-lbs (96 in-lbs).

26. Tighten the torx head bolts on both of the lower and the upper A/C mounting brackets.

27. Adjust the condenser and condenser lines and close the hood. There may be some rubbing of the condenser lines and grill due to vehicle variance. Open the hood and make adjustments as necessary to the condenser lines and the back of the grill. After making all the necessary adjustment, tighten the 5/16" bolts at each of the A/C mounting brackets and torque to 19 ft-lbs.

28. Install the passenger side boost tube. The passenger side uses a 2.75 to 3.5 inch diameter hump at the turbocharger connection as shown in Figure 6. Install offset with swell facing towards passenger fender. There is a

Figure 6



3.5 inch diameter hump hose at the CAC connection. The passenger side tube is most easily installed by placing the 2.75 to 3.5 inch hump hose as it will normally reside on the boost tube when installed on the vehicle. Then slide the 3.5 inch diameter hose all the way onto the boost tube. Install the boost tube in the vehicle, make the attachment to the turbocharger, then slide the 3.5 inch diameter hose towards the Techni-Cooler to complete the installation. Install the hose clamps

on the passenger side boost tube as shown in **Figure 7** to avoid clearance issues. The clamps should be tightened to 5 ft-lbs (60 in-lbs).

Figure 7 Orientation of the Passenger Side Hose Clamps to avoid clearance issues.

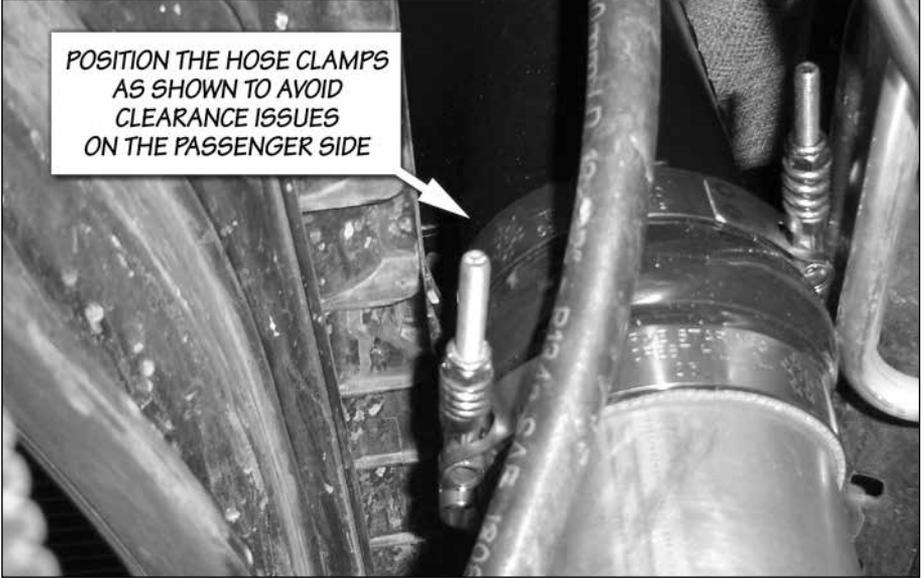
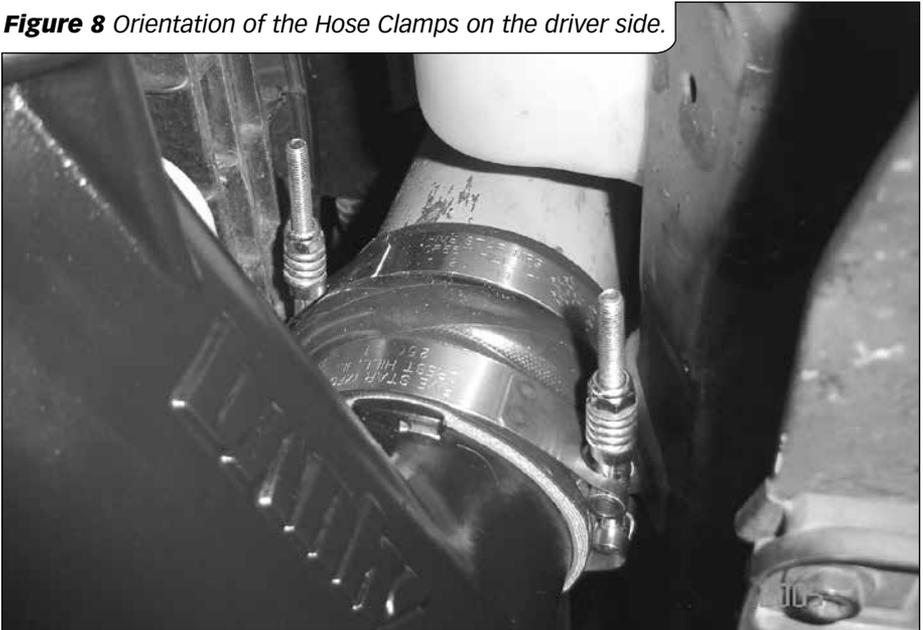


Figure 8 Orientation of the Hose Clamps on the driver side.



NOTE: Before installing any boost tubes into position, remove rag(s) covering the intake manifold and turbocharger outlets.

29. Install the driver side boost tube. The driver side tubes uses a 3.5 inch diameter straight hose at the intake manifold and a 3.5 inch diameter hump hose at the CAC. The orientation of the hose clamps should be as shown in **Figure 8** to avoid clearance issues.

NOTE: To provide additional clearance for installation of boost tube on driver side, remove fuse box.

30. Make the connection between the driver side boost tube and the intake manifold. Tighten all the driver side hose clamps to 5 ft-lbs (60 in-lbs).

31. Re-install the air box and inlet tube assembly. Secure the air box at the radiator cross brace with

the factory nut that was previously removed. Re-connect the Air Inlet Temperature/ Pressure sensor at the air box cover. Re-connect the air inlet duct to the turbocharger inlet. Tighten the hose clamp at the turbocharger inlet to 8 ft-lbs (96 in-lbs).

32. Your system contains a CARB EO label for emissions purposes. This label should be placed on the grill/radiator cross member inside the engine compartment, so that it is easily seen by an emissions technician.

33. Re-connect the negative battery cables.

WHAT'S INCLUDED

Item #	Description	Part #	QTY
1	Techni-Cooler Assembly	25538	1
2	Decal, CARB EO D-161-109	96026	1
3	Bracket, L-Lwr	25546	1
4	Bracket, L-Lwr	25547	1
5	Bracket, L-Lwr	25548	1
6	Bracket, L-Lwr	25549	1
7	Boost Tube, Left - Red	41334-R	1
8	Boost Tube, Right - Red	41337-R	1
9	Washer, AN, S/S - 5/16	91201	4
10	Cap Screw, Button Head, Zinc 5/16-18 x 1/2	91222	4
11	Hose Clamp, 3.0 Spring Loaded	92860	1
12	Hose Clamp, T-Bolt Style, Spring Loaded, 3.78-4.08	92901	7
13	Hose, 3.5 x 3.25	94215	1
14	Hose, 3.5 x 3.5	94293	2
15	Hose, Reducer, Offset, 2.75 to 3.5 x 6" long	94328	1

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