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A6



2.7T



SELECT

chips

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Intercoolers

By AWE Tuning

-  Maximum Side Mount Dimensions
-  Extremely Efficient Air to Air Design



Year(s)	Body	Drivetrain	Transmission	Part#	Price	
2000 - 2004	Sedan	Quattro	Tiptronic	2.7T Air to Air Intercooler Kit	\$1,395.95	Add to Cart
2000 - 2004	Sedan	Quattro	6 speed manual	2.7T Air to Air Intercooler Kit	\$1,395.95	Add to Cart

links

[Intercooler Pressure Drop Test Results](#)

[Intercooler Temperature Drop Test Results](#)

[Intercooler Dyno Test Results](#)

[Installation Instructions for AWE Tuning 2.7T Intercooler Kit](#)

[Dealer Inquiries](#) click here [Installation Available](#) 

After a lengthy R&D process, we are thrilled to offer the most effective and comprehensively tested intercooler kit on the 2.7T market.

The stock 2.7T intercoolers become a power handicap at high boost levels, which is not surprising considering that the stock 2.7T boost level is just 8-9 psi. Every chip on the market, let alone upgraded turbo kit, runs almost double this boost level. This results in tangible power losses, especially when the outside temperatures rise.

Our final intercooler design uses a closely stacked bar and plate type core, to minimize pressure drops while maximizing heat transfer. Our design target was to exceed the cooling and flow capabilities of the Audi RS4 intercoolers, and we are pleased to provide detailed test results proving our design's superiority. Our intercoolers equal the RS4 intercooler [flow rates](#) and definitively conquer the RS4 intercooler [temperature drops](#).



i **Why did we not choose a front mounted design (FMIC) for the 2.7T?**
[Click here.](#)

The construction of the AWE Tuning intercoolers is of the highest quality. Internal welds are hand finished to ensure maximum flow, and each intercooler assembly is pressure checked before it leaves our manufacturing facility.



[3/4 View](#)



[Internal Finish](#)



[Serial Badge](#)



[Hand Finishing](#)



[Weld Detail](#)



[Full Kit](#)

Not only did we want to produce an intercooler design that was clearly superior to the RS4 unit performance, but we also wanted to take the opportunity to design a kit that required very little modification to the US spec Audi 2.7T models during fitment. The RS4 intercooler units are made to fit the Europe only RS4, and mating them to a US spec 2.7T model requires significant cutting of both the intercoolers and the vehicle itself. Our design can be [fitted](#) in less than half the time of the typical RS4 kit. This means paying less for labor charges.

Some key fitment detail differences between our intercooler kit and the RS4 "kits":

- 100% coverage of the core face with our air ducts. RS4 kits leave gaps around face that lets cooling air escape
- No modification needed to the engine belly tray with our design
- Cores are 100% secure and supported with our design. RS4 kits have no way to secure the cores, resulting in the possibility of hose damage over time
- Our endtanks are hand finished sheet metal, which presents better flow characteristics vs rough casting surface of RS4 units
- No modification or cutting of bumper required with our design

RS4 units were never intended to be used on the US S4 chassis, which requires extensive modifying or tweaking of the areas around the intercoolers to wedge them in there. The AWE Tuning intercoolers were designed and built to fit the US S4 chassis, resulting in a much better, cleaner fit with very little modification required.

The bulk of our side mount intercooler testing was conducted on S4s with our [RSK04 kit](#) installed. This is important to consider, given that as boost rises, so will boost drop due to core restriction. Thus, an intercooler can perform well at relatively low boost levels, but can begin to perform worse than stock if the boost drop is high enough to negate any gains seen from temperature drops.

When investigating intercoolers, ask for data that demonstrates how the kit will perform at 20psi boost levels, which is the norm for most current 2.7T turbo kits. If you are running less boost than this, then you can rest assured that there is sufficient headroom in the design if you decide to upgrade your turbos.

Each kit comes complete with two intercoolers, AWE Tuning air ducts, special bracketry, and a detailed installation manual. No specialty tools are required for install.

Below is a brief synopsis of the currently available intercoolers for the Audi 2.7T models:



AWE Tuning Intercoolers

Core Dimensions

Height: 8.500"

Width: 8.560"

Depth: 3.500"

Exposed core volume: 254.660 cu/in

57% larger than RS4

65% larger than S4

Construction

Bar and plate core, welded aluminum end tanks,
15 charge rows.



RS4 Intercoolers

Core Dimensions

Height: 7.125"

Width: 9.125"

Depth: 2.500"

Exposed core volume: 162.540 cu/in

6% larger than S4

Construction

Tube and flange, cast aluminum end tanks,
15 charge rows.



S4 Intercoolers

Core Dimensions

Height: 8.500"

Width: 6.750"

Depth: 2.688"

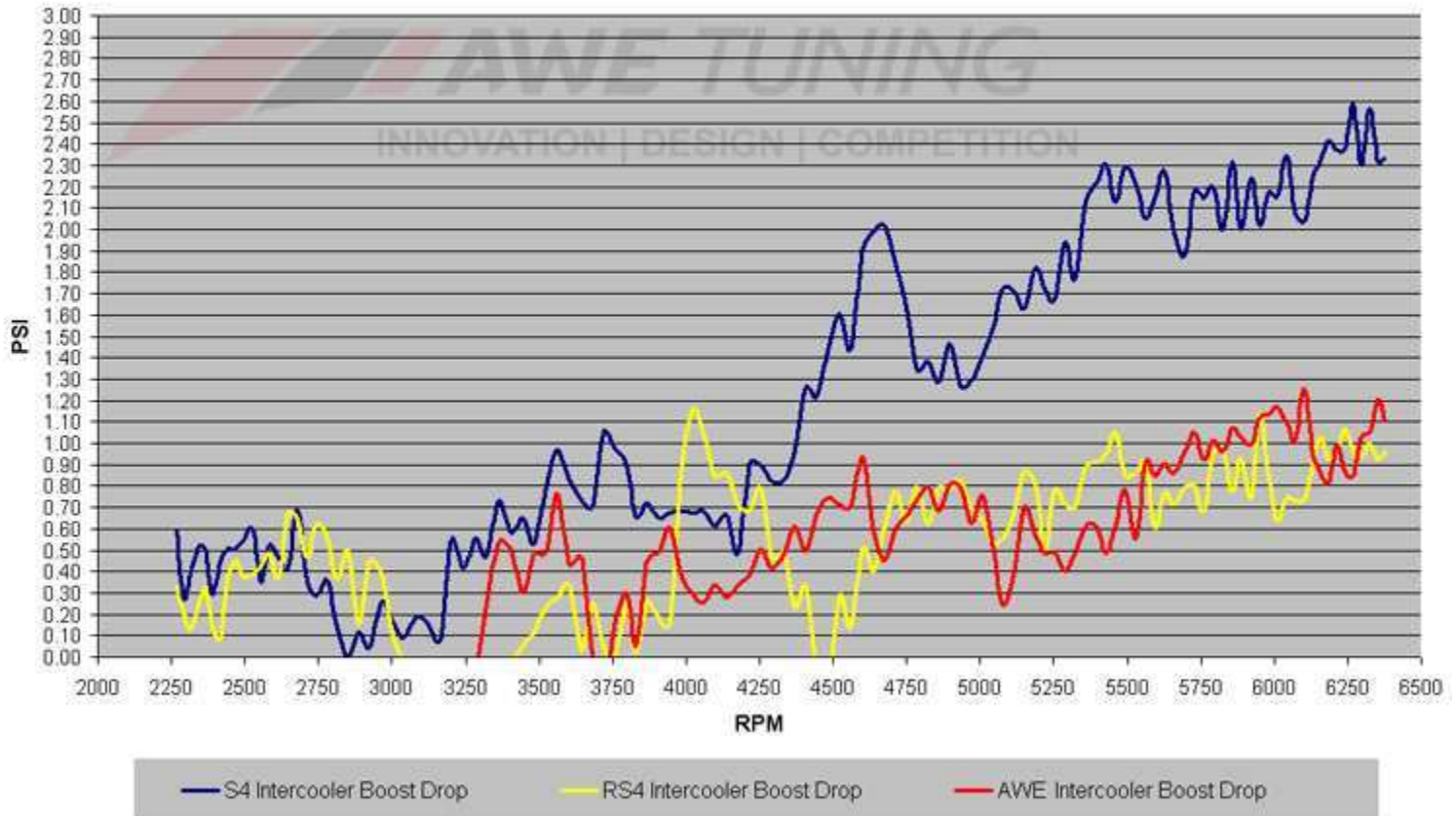
Exposed core volume: 154.224 cu/in

Construction

Tube and flange, plastic end tanks,
11 charge rows.

Intercooler Pressure Drop Curves

Tested with AWE RSK04 Turbo Kit



Tests were conducted on our Mustang MD-AWD-500-SE AWD dynamometer, using its integrated boost pressure sensor and data acquisition system. Boost pressure measurements were taken before and after each of the intercooler assemblies and averaged, with a graph of their deltas shown above. Our RSK04 turbo kit will produce boost pressures of ~20psi through most of the rpm range.

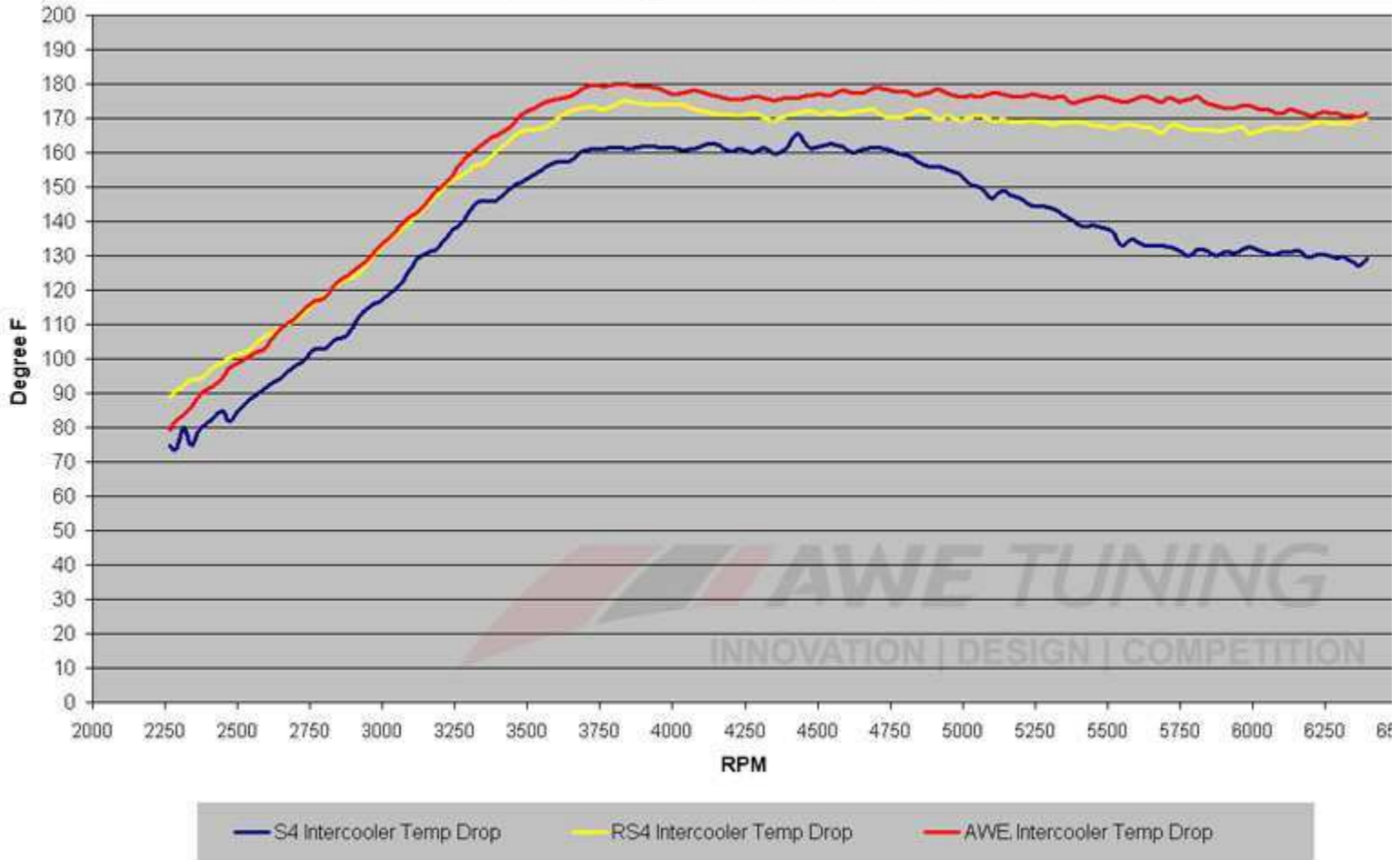
Note that the RS4 and AWE Tuning intercooler pressure drops (amount of pressure lost through the intercooler due to flow restrictions) are identical to each other, at approximately 1.00 psi max. However, the stock S4 intercoolers become quite restrictive at high boost levels, reaching approximately a 2.50 psi restriction to the turbos.

The lower the pressure drop, the less the turbos have to work to meet the chip's boost demand, ultimately resulting in less intake heat.



Intercooler Temperature Drop Curves

Tested with AWE RSK04 Turbo Kit



Tests were conducted on our Mustang MD-AWD-500-SE AWD dynamometer, using dual Omega DPi temperature meters and the dyno's int data acquisition. Several dyno runs were made recording temperatures before and after each of the intercooler assemblies and then averaged graph of their deltas shown above. Our RSK04 turbo kit will produce boost pressures of ~20psi through most of the rpm range. Test cell air temperature was ~80F for all the tests.

Note that the RS4 and AWE Tuning intercooler temperature drop curves are nearly identical up to approximately 3300 rpms, at which point the AWE Tuning units begin to show their superiority. From 3600 rpms and higher, the AWE Tuning units produce nearly an 8 degree F improvement in temperature drop near redline. The stock intercoolers, however, really show their inefficiencies at this high of a boost level, with intake temps drops approximately 50 degree F and 50 degree F lower than the RS4 and AWE Tuning units respectively after 5000 rpms. Even low rpms show the inferiority of the stock intercoolers when running higher boost levels.

The higher the temperature drop, the denser the air charge, resulting in more power and less tendency for detonation.



AWE Tuning Side Mount Intercoolers for the Audi 2.7 Twin Turbo

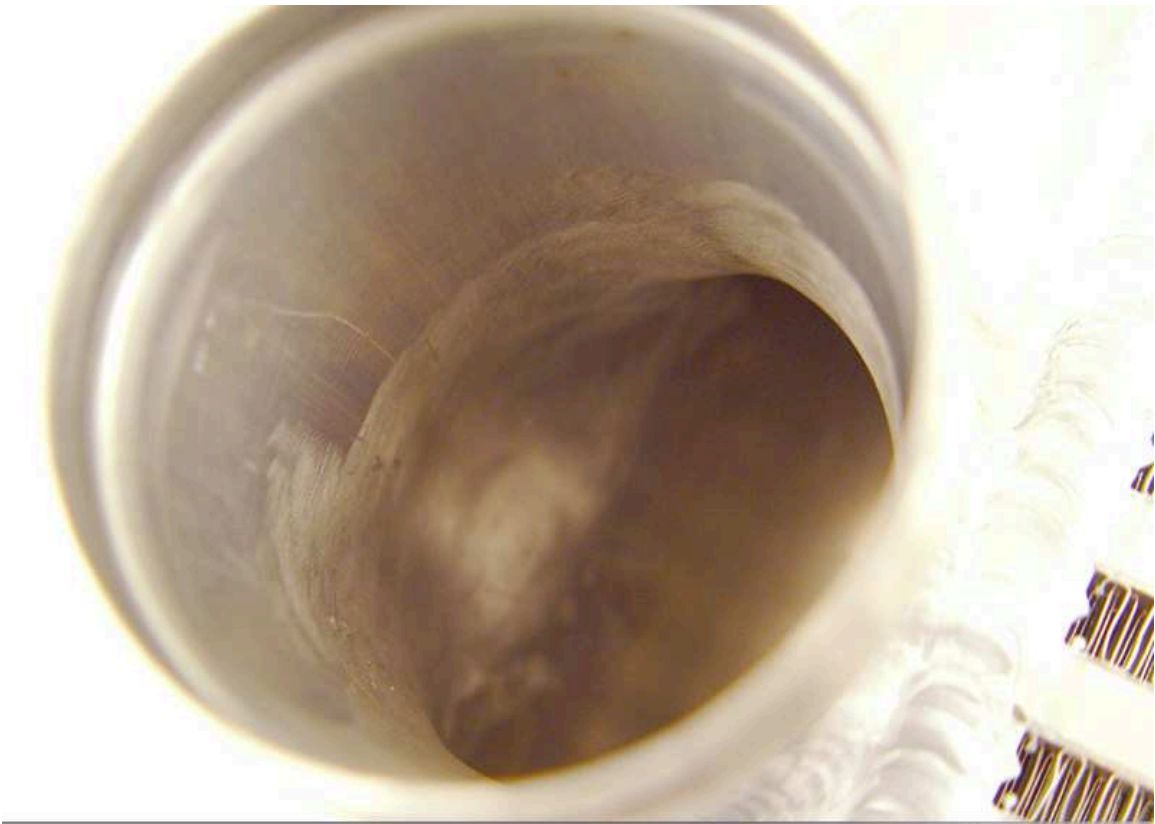





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AWE Tuning Air/Air Intercooler Kit for 2000-04 Audi 2.7T

Congratulations on your purchase of the AWE Tuning Intercoolers for your 2.7T Audi. Hundreds of hours of design and operational testing were spent to ensure maximum results without compromise. You have truly selected the best performing intercooler kit for the 2.7T engine.

While the install is fairly straight forward, please review these instructions carefully before attempting installation. If you do not feel comfortable installing this kit on your own, contact a professional installer in your area. While the car pictured is an Audi S4, installation except where noted is similar on both the A6 and allroad 2.7T.

Parts list:

- 1 Driver side intercooler
- 1 Passenger side intercooler
- 1 Driver side air duct
- 1 Passenger side air duct
- 1 Passenger side dowel bracket
- 1 40-60mm hose clamp
- 2 M8x30x1.25 bolt
- 2 M8x24x2mm flat washer
- 4 M6x20x1.00 bolt
- 8 M6 flat washer
- 4 M6 nylok nut
- 1 Adhesive backed foam square

Required tools and materials:

- Medium flathead screwdriver
- 10 mm, 13 mm sockets and ratchet
- T25, T30, T45 Torx bits
- 6mm Hex Bit
- Dremel/Whizzer with cut off wheel or Body saw
- Spray or brush on paint
- Felt tip marker

Estimated install time:

2.5 hrs

Step 1:

Remove the three T25 Torx head screws fastening the both the driver and passenger side bumper edges to the wheel wells. At arrows in Figure 1.

Remove under engine tray.



Figure 1

Step 2:

Remove front bumper grilles around foglights by grasping firmly and pulling forward away from car.

Remove front bumper bolts, at arrow in Figure 2, using 6mm hex bit tool.



Figure 2

Step 3:

Release the bumper from its clips on each side by pushing bumper towards rear of car, then grasping the upper edge of the bumper running along the side of the front fender and pulling downwards. Then grasp the lower edge of the bumper below and pull upwards. This is a tricky maneuver, and can be made easier with the help of a friend.

Pull the bumper forward to expose the headlight washer hoses by the driver side headlight. Push up on black clip (at arrow in Figure 3) to release the hose attached to the car. Have a pen cap or vise grips handy to close off this hose and keep washer fluid from draining.

Unplug foglights and remove bumper.

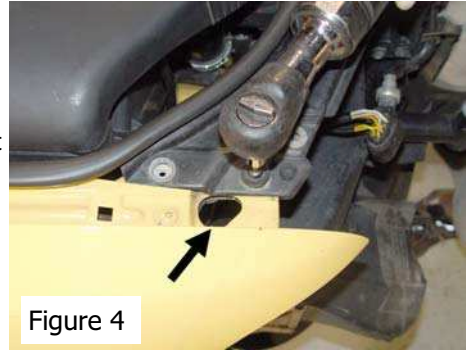


Figure 3

Step 4:

Remove both headlights. There are two T30 torx bolts each on top, and one in the access hole at the arrow in Figure 4.

Remove two upper T30 Torx bolts per side fastening the radiator support to each fender. See Figure 4.



Step 5:

Remove one Torx T30 bolt per side fastening the fender "wings" to the radiator support. See Figure 5.



Step 6:

Loosen all the hose clamps holding the boost hoses to the inlet and outlet of each intercooler, four total. Loosen the remaining hose clamp on the passenger side lower boost hose and remove this hose.

Pop off the air duct from the face of each intercooler.



Step 7:

Remove all four T45 Torx bolts fastening each bumper shock to the radiator support, eight total.



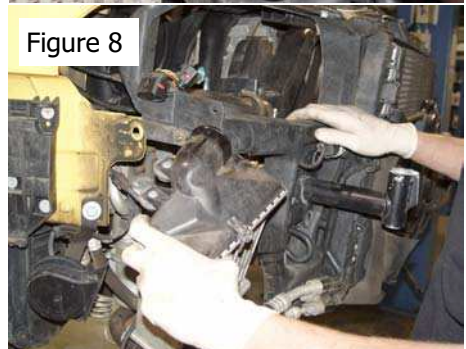
Step 8:

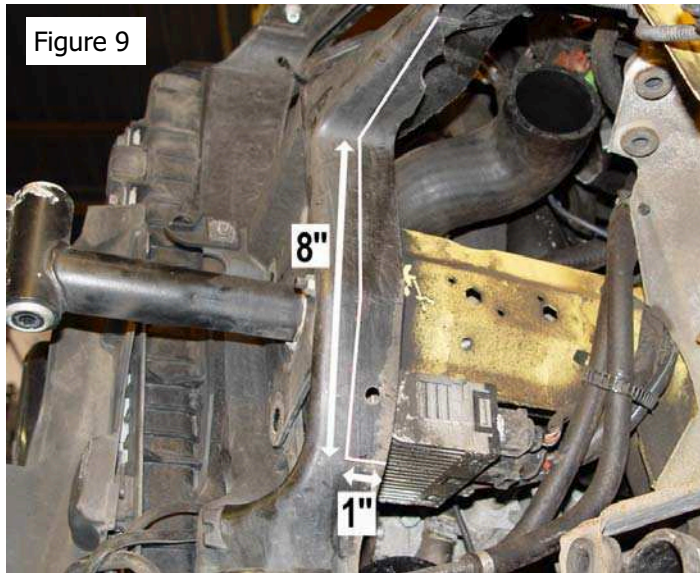
Remove both intercoolers. Pulling the radiator support outwards away from the front of the car will give more room to do so.

Grab the driver side intercooler by the bottom and pull it out towards the side of the car.

Grab the passenger side intercooler by the top and pull it out towards the side of the car. See Figure 8.

The passenger side intercooler will require more maneuvering to clear the A/C lines below it.





Step 9:

For Audi S4 only:

With a felt tip marker (or whiteout), mark a line on the radiator support as in Figure 9.

Cut along this line with a Dremel, cut-off wheel, or saw.

Repeat on the passenger side.

Step 10:

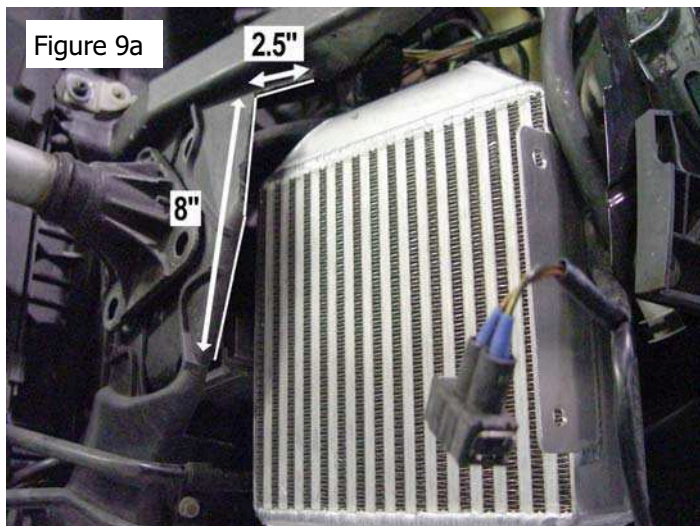
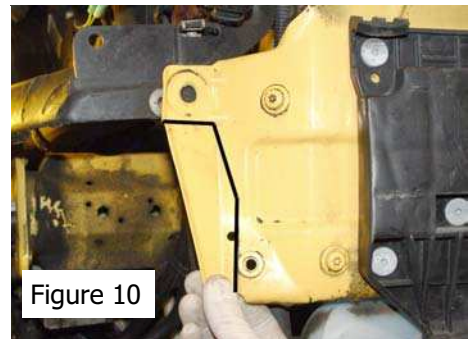
For Audi S4 only:

Unbolt the horn from the driver side fender "wing".

With a felt tip marker (or whiteout), mark a line on the the sheet metal as in Figure 10.

Cut along this line with a Dremel, cut-off wheel, or saw.

Paint the exposed edges and let dry.



Step 9a:

For Audi A6:

With a felt tip marker (or whiteout), mark a line on the radiator support as in Figure 9a.

Cut along this line with a Dremel, cut-off wheel, or saw (picture is shown with material already removed).

Repeat on the passenger side.

Step 11:

Install the passenger side AWE Tuning intercooler first.

Pull the radiator support upwards and outwards away from the front of the car as in Figure 11. Wiggle the intercooler in between the AC lines and the radiator support. It is a tight area, so have some patience.

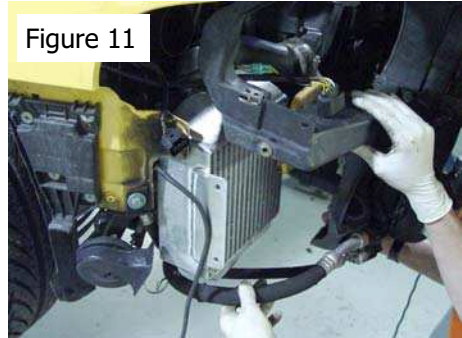


Figure 11

Step 12:

Once the passenger side intercooler is in place, install the dowel bracket as shown in Figure 12. Make sure that the dowel is seated in the factory bracket hole (center of Figure 12), and then clamp the bracket to the intercooler outlet tube with the 40-60mm hose clamp as shown in Figure 12. Leave approximately 1" exposed from the edge of the bracket to the outlet of the tube.

Reinstall the lower boost hose and attach the upper boost hose. Firmly tighten all hose clamps.



Figure 12

Step 13:

Install the driver side AWE Tuning intercooler next.

Ensure that the lower locating dowel is seated in the factory bracket hole as in Figure 13.

Reattach the upper and lower boost hoses and firmly tighten the hose clamps.



Figure 13

Step 14:**For Audi S4:**

Place the enclosed piece of adhesive backed foam between the end of the driver side frame rail and the face of the driver side intercooler, at arrow in Figure 14. This will ensure that the face of the core is not damaged from rubbing on the frame rail.

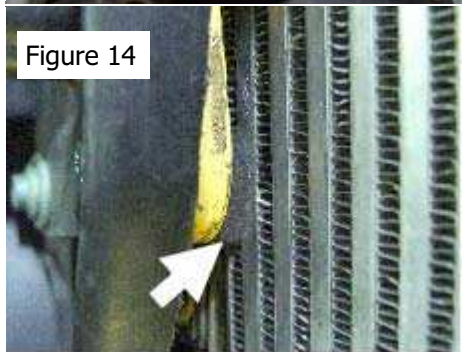


Figure 14

Step 15:

Route the foglight and horn wiring as shown in Figure 15. Ensure that the wiring is not being pinched.

Reattach the horn to the factory mounting point and attach wiring.



Figure 15

Step 16:

For Audi S4:

Check the upper left bolt hole on the passenger side bumper shock to ensure that the intercooler is not visible from behind. If it is, rotate the intercooler until the hole is clear.

Install all the bumper shock bolts, substituting the lower left bolt with the enclosed M8x30x1.25 bolt and M8 flat washer (at arrow in Figure 16).

Do the same on the driver side and then install all remaining bolts.

Step 17:

Install intercooler ducts as shown in Figure 17. Note that the flanges on the intercooler cores go to the outside of the ducts. Fasten the ducts to the flanges using the enclosed M6x20x1.00 bolts, M6 washers, and M6 Nylok nuts.

Make sure to route the foglight wire through the corner opening between the duct and intercooler, at arrow in Figure 17.

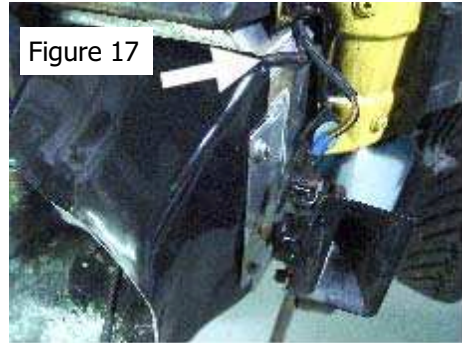
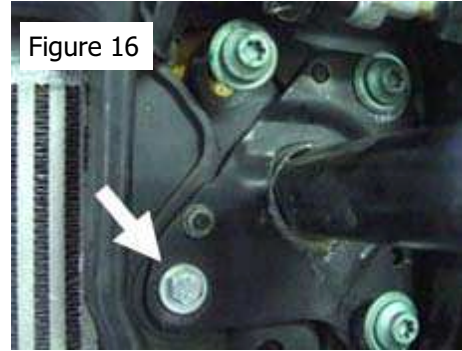
Step 18:

Reinstall the bumper, making sure that the intercooler ducts are sitting properly around the foglight grille openings (note that Figure 18 has the foglight removed for picture purposes).

Reinstall the headlights.

Reinstall the under engine tray.

Enjoy your AWE Tuningintercoolers!



Contact us with any questions:

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INNOVATION | DESIGN | COMPETITION

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Thank you for choosing A.W.E. Tuning as your performance automotive parts supplier. Please remember that a performance car is only as strong as its weakest link. Therefore, it is vital that you maintain your vehicle to factory specifications.

By installing or using the purchased product, the Consumer accepts this warranty and any specific Manufacturer warranties enclosed.

Limited Warranty

The following warranty is valid only in the United States and Canada.

The Manufacturer's full warranty applies to all products sold.

Secor Ltd. (AWE Tuning) warrants to the original retail purchaser (Consumer) AWE Tuning Intercoolers for 1 year after the purchase date for Manufacturer's defect.

Upon verification of warranty coverage, A.W.E. Tuning will replace the defective product without charge. This is the only remedy the Consumer has for any loss or damage, however arising, due to nonconformity in or defect of the product. This warranty does not cover consequential damage, loss of time or revenues, inconvenience, loss of use of vehicle, damage to the vehicle or components, or other incidental or indirect damage.

All warranties are void if the product was not installed by a certified auto mechanic, improperly serviced, modified, or used in a way not intended by the Manufacturer. The Consumer is responsible for ensuring that the product is installed in a safe and proper manner, and should cease usage of the product immediately if an unsafe or improper condition is noted. If an unsafe or improper condition is noted, the Consumer should then immediately contact the facility where the product was installed or A.W.E. Tuning.

Please contact us first for any warranty claims or explanations of this document.