



## **Version 2.0 Top Mount Intercooler and Diverter**

051507

Thank you for purchasing the ALTA Performance Version 2.0 Top Mount Intercooler kit. Persons experienced in the proper operation of Mini engines should only perform this installation. Please read through all the instructions before performing the installation.

**WARNING!!! THIS INTERCOOLER IS NOT INTENDED FOR 6SPD AUTOMATIC TRANSMISSION MINI COOPERS!**

### **Special Notes:**

- Please take time with installing the Intercooler. Taking the extra time to remove material from the inner 3 posts will make the install go much smoother and prevent damage to the hood. Removing too material is better than not enough!
- Taking the time to trim hood scoop will make the install look much more professional.
- Convertible models will need an auxiliary pump to hookup water squirter properly.

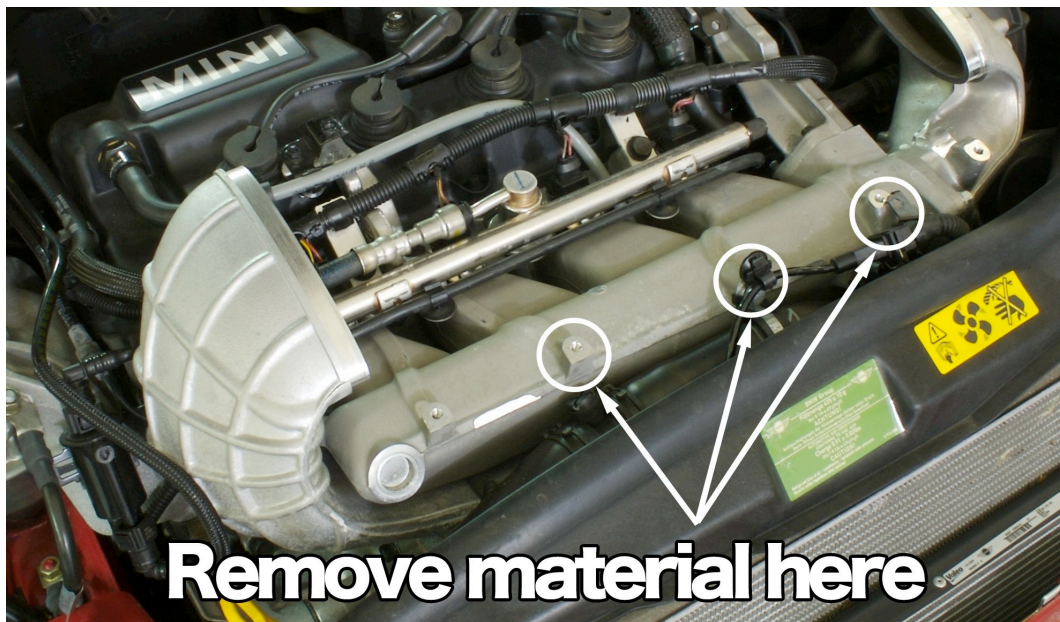
### **Parts included with the ALTA Intercooler are:**

- Version 2.0 Intercooler
- Sprayer nozzle
- (2) Trim Brackets
- (24") Side Bubble Trim
- (9") Top Bubble Trim
- (6') 5/32" hose
- (1) 3/16 tee

Checked By \_\_\_\_\_

### **Removal of factory air diverter & intercooler:**

1. Remove (4) screws attaching plastic diverter to intercooler and remove diverter. Use T30 torx bit to remove.
2. Remove (8) screws and (4) clamps holding factory intercooler couplers. Use T30 torx bit to remove.
3. Remove intercooler hold down brackets located at front of vehicle. Use 8mm socket to remove bolts.
4. Remove intercooler from car. Some stretching of intercooler couplers may be necessary.
5. Remove (2) black rear intercooler brackets from engine. Use 8mm socket to remove bolts.
6. Remove plastic hood scoop diverter attached to hood. Use Phillips screwdriver and 8mm socket to remove.
7. Remove all plastic fasteners holding hood liner to hood, and remove liner from hood. This will allow access nuts holding scoop to hood. Use Phillips screwdriver to remove fasteners.
8. Using a sharpie, trace line on bottom of hood scoop, where sheet metal meets plastic. This line, indicates where hood scoop needs to be trimmed to open up Intercooler intake. Remove scoop from hood, and trim as necessary. Use a die grind tool or dremel tool to remove plastic.
9. Install scoop back onto hood, and tighten using (4) OEM 8mm nuts.
10. Locate and remove coolant hose tie down on front of manifold. This needs to be removed to clear bottom of IC. Use supplied zip ties to hold wire away from any moving engine parts. Use 10mm socket to remove bracket from manifold.



11. Locate (5) posts where intercooler tie down brackets and coolant hose tie down were bolted. Remove at least .375" from top of 2 inner intercooler tie-down posts, and most all the material from center coolant tie down boss. Using a straight edge, double check that all (3) bosses are flat to one another. Use a die grinder or dermal with suitable bit, to remove material. *Its better to remove too much than not enough. Do not remove material below the surface of the manifold as this could lead to a hole in manifold.*
12. Install OEM rubber intercooler couplers onto ends of intercooler. DO NOT INSTALL CLAMPS YET. Slider intercooler over OEM boost manifolds. The use of a bent awl will help greatly with ensuring couplers are not folded under manifold or intercooler.
13. Install and tighten OEM intercooler clamps around coupler. When tightening clamps hold intercooler onto manifold (on the ground down posts). This will ensure the intercooler has the most clearance possible to hood.
14. Install supplied trim brackets to threaded posts (ones not ground down) using OEM bolts removed earlier.
15. Locate Side bubble trim, and install it across intercooler top, and trim to fit to both the left and right trim brackets.
16. Install Bubble on top trim to side diverters on intercooler. The trim will need to be cut to length, and notched out on the inside of the curve.

### Installation of intercooler and diverter:

1. Insert squirter nozzle into diverter. Aim slots toward center of intercooler. Tighten using supplied nut.
2. Install supplied hose onto squirter, and route to right side window cowl. Secure with supplied cable ties.
3. Route squirter hose through small factory hole at bottom of plastic shroud. (pic-14)
4. Place factory intercooler couplers over aluminum manifold flanges, making sure to push them past the stops on the flanges to ease installation. Place clamp bottoms in stock locations before installing intercooler!
5. Install new intercooler onto engine by sliding intercooler toward right side of vehicle first and install clamps onto intercooler. Install left side of intercooler same way. Now slide couplers over ALTA Intercooler flanges and install clamp tops. Use of a bent awl or other similar tool will aid in sliding couplers over the aluminum flanges. NOTE: MAKE SURE NOT TO PUNCTURE COUPLERS WHEN INSTALLING USING A BENT AWL!
6. Re-tighten coupler clamps, making sure rubber couplers are fully seated around intercooler and flanges.
7. Install supplied trim brackets to outer Intercooler tie down bracket posts as shown in picture. Use 8mm Socket and OEM bolts removed earlier to secure.
8. Install side bubble trim to intercooler, and route to trim brackets. Cut side bubble trim to length using side cutters.
9. Install top bubble trim to built-in diverter. Cut to length using side cutters. Note: Notching trim will aid in turning the corners.
10. Check for hood clearance prior to completely shutting hood. **Hood can be damaged if not enough clearance exists between intercooler and hood. Ensure that enough material was removed from the posts in step #11.**
11. If intercooler has clearance problems with hood, the engine being rotated toward firewall may be the problem. This is caused by improper supercharger pulley **re-installation**. Loosening of motor mounts and twisting the engine back into place, then re-tightening mounts is necessary to fix the problem.

### Connection of water sprayer:

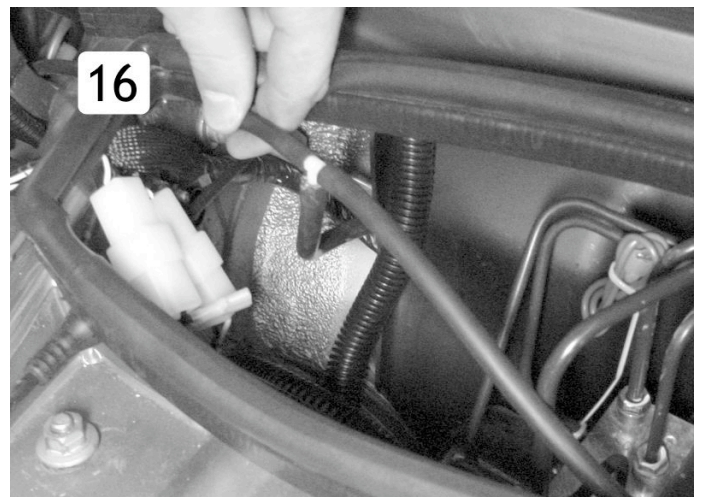
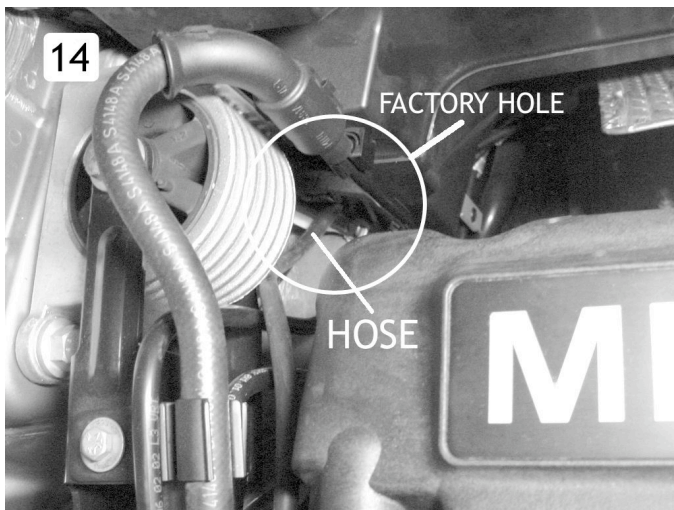
1. Water spray feed tube can be found at back right side of fire wall.
2. There is a one to one plastic "T" fitting in the rear window washer feed line just below hood seal where feed line enters the engine compartment. (pic-17)
3. You have two options to integrate squirter mechanism into existing washer system.

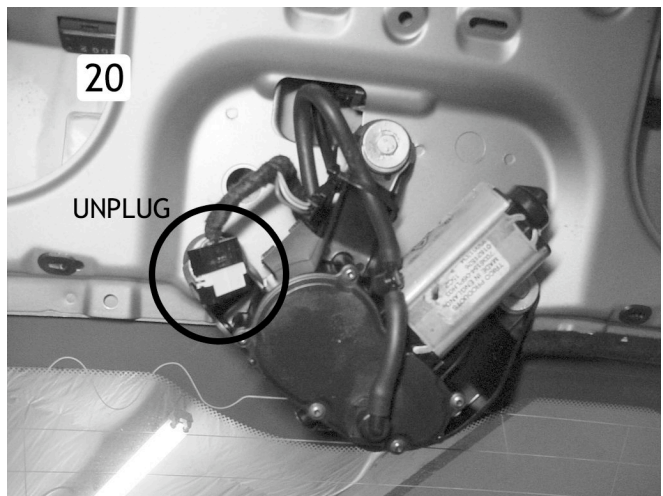
#### OPTION ONE: **Sprayer will be activated simultaneously with rear wiper/squirter.**

1. Insert supplied "T" fitting between rear sprayer hose and factory pump.
2. Connect supplied hose from squirter to "T" fitting. (pic-16)
3. Check for proper operation after installation is complete.

#### OPTION TWO: **Sprayer will be activated using factory rear wiper switch. Rear wiper will NOT be activated. NOTE: This option will completely disconnect rear wiper/washer combination.**

1. Disconnect rear washer supply hose.
2. Connect hose to diverter squirter using factory one to one "T" fitting. (pic-17)
3. Open rear hatch.
4. Remove (6) screws and interior trim panel. (pic-18, pic-19)
5. Disconnect wiper motor. See picture. (pic-20)





### **Common Questions**

1. My intercooler is very close to the hood, can I add clearance? Yes, by removing more material from the 2 inner posts.
2. My stock IC is full of oil, will my new IC become full of oil? Yes unless you purchase an oil catch can, the engine blow by will produce an oily film. If oil catch can isn't purchased, we recommend cleaning out the intercooler every 3 months with non-chlorinated brake cleaner.
3. My doesn't idle very smooth? One of the rubber couplers may not be seated onto manifold correctly causing a vacuum leak.

### **ALTA Suggests These Parts to Compliment Your New Intercooler:**

- **ALTA oil catch can**
- **ALTA 15%, 17%, or 19% smaller Supercharger pulley.**
- **ALTA +2%, 3%, or 4% larger Crank pulley**

**For questions & comments please contact**  
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