



IAG Turbo Oil Feed & AVCS Line For Ball Bearing Turbochargers

Part# IAG-ENG-2072

Tools Required: Ratchet, Torque wrench

Sockets: 14mm, 17mm

Wrenches: 10mm, 17mm, $\frac{9}{16}$ "

Thank you for choosing the IAG Turbo Oil Feed and AVCS Line. This installation manual is intended to guide you through the removal of the factory hard line and the installation of the IAG braided line. This part is intended for use with aftermarket turbochargers that utilize a male - 4AN restrictor fitting for the oil feed.



Parts List		
Part Name	Quantity	Notes
"Tee" Fitting	1	1 Female and 2 Male
Straight Braided Line	2	-4 Female Swivel Ends
12mm Copper Washer	4	
12mm Thick Copper Washer	1	
12mm Banjo Fitting	2	
12mm Oil Plug	1	

The turbo oil feed and AVCS line kit is designed to fit all 2004+ STI's and 2006+ WRX's. However, there are several variations to the factory set-up. To determine how to install your kit, you first need to identify the factory style hard line used on your vehicle.

Style A:

Uses a common oil feed port out of the **back** of the cylinder head. One side of the hard line travels across the top of the cylinder head to the AVCS port. The other side points straight up towards the turbo oil feed line.





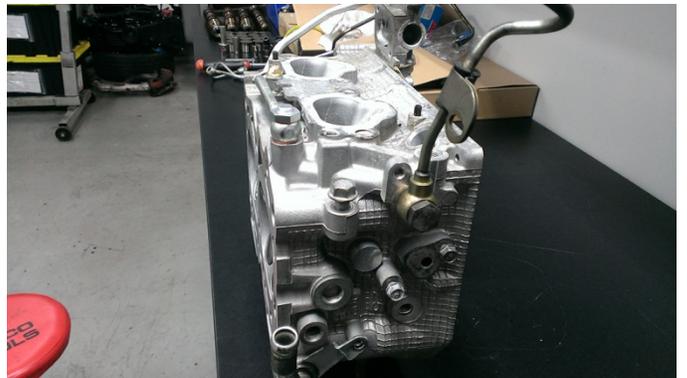
Style B:

Uses a common feed port out of the **top** of the cylinder head. One side of the hard line travels across the top of the cylinder head to the AVCS oil feed entrance. The other side bends down then straight up towards the turbo oil feed line. The back oil galley port is plugged.



Style C:

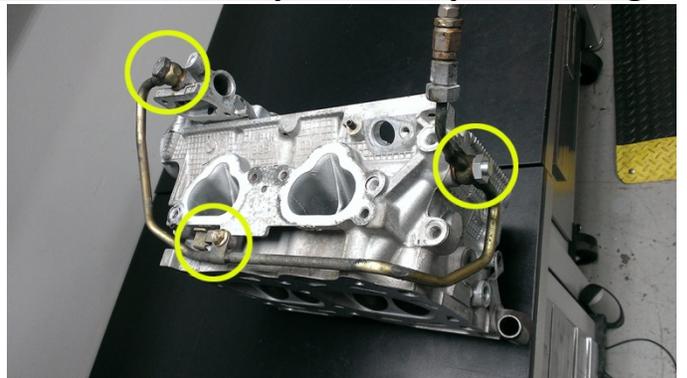
Utilizes **two separate lines**. The oil galley on the top of cylinder head feeds a hard line that runs to the AVCS port. The oil galley on the back of the cylinder feeds a separate hard line that runs to the turbo oil feed port.



Removal and installation for style A: please read all steps before proceeding

1. Remove the 2 banjo bolts with a 17mm wrench and remove the 6mm bolt with a 10mm wrench. Remove the hard line from the engine. Please note the specific banjo fittings of each port, they must return to their original port location.

Remove the 10mm banjo bolt from the top of your turbocharger with a 14mm socket. Remove the hard line.



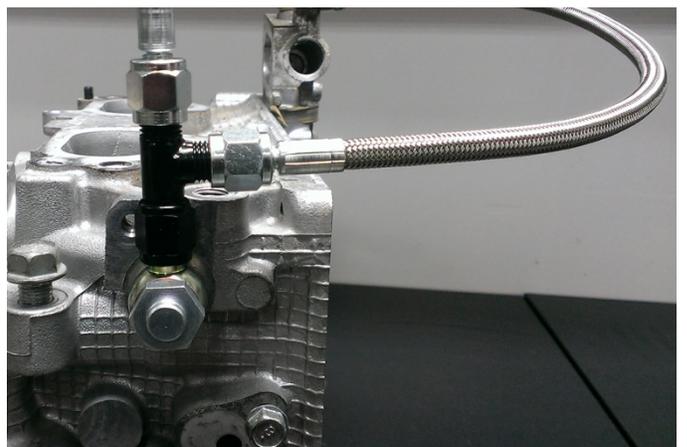
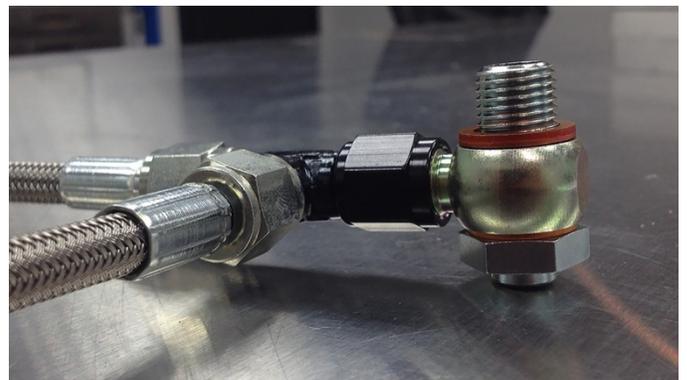
2. Assemble one 12mm banjo on the bottom port of the tee fitting. The braided line with the straight fittings is installed on the middle port and the braided line with the 90° fitting is installed on the top port as shown. The 90° fitting will be installed on the top of the turbo. It is important that the face of the banjo fitting be parallel with the side of the t-fitting. Tighten all 3 fittings with a $\frac{9}{16}$ " wrench.

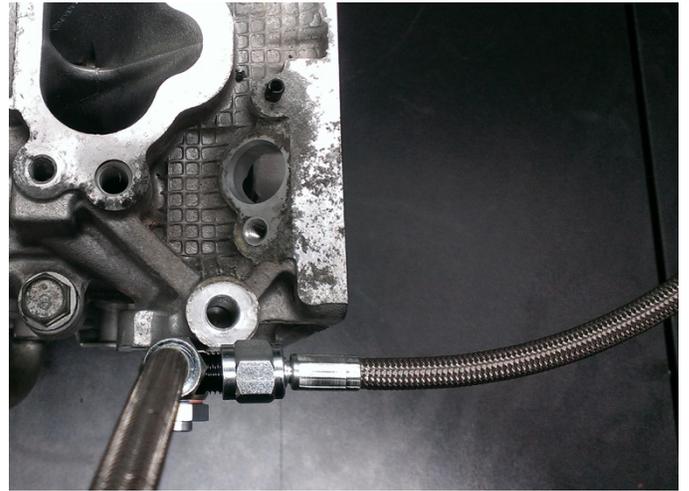


3. Using the banjo bolt that came out of the back of the head, assemble the tee fitting on the back oil port of the head as shown. Use a thinner washer between the head of the banjo bolt and the banjo. Then use the thicker washer between the banjo and the engine. This is the only place to use a thick washer.

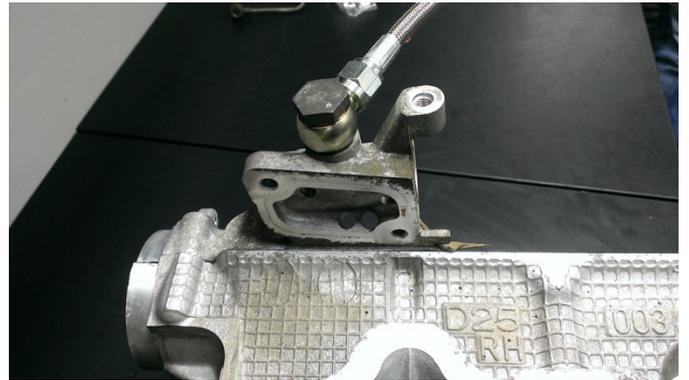


Keep the top port of the tee fitting pointing straight up and keep the side of the tee fitting parallel with the back of the head. Torque the banjo bolt to 24 ft/lbs .

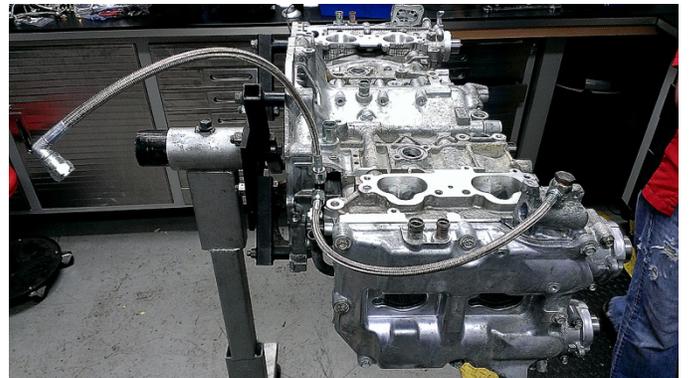




4. Install a 12mm banjo fitting on the AVCS port and point the male fitting away from the cylinder head. Run the braided line that comes out of the side of the tee fitting to the banjo fitting. Tighten the line with a $\frac{9}{16}$ " wrench. Torque the banjo bolt to 24 ft/lbs .



5. Install the 90° -4 AN fitting onto the oil restrictor on the top of the turbo. Tighten the line with a $\frac{9}{16}$ " wrench.

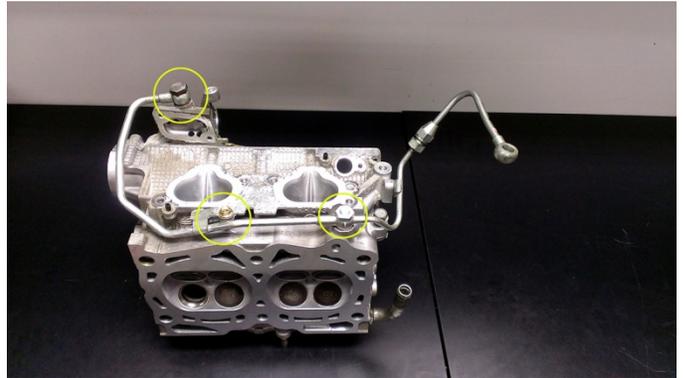


Removal and installation for style B: please read all steps before proceeding

1. Remove the 2 banjo bolts with a 17mm wrench and remove the (2) 6mm bolts with a 10mm wrench. Remove the hard line from the engine. Please take note of which banjo came from which port.

Remove the 10mm banjo bolt from the top of your turbocharger with a 14mm socket. Remove the hard line.

Remove the oil galley plug (on the back of the cylinder head) with a 17mm wrench.



2. Install the supplied oil plug in the **top** oil port. Use a 12mm crush washer between the head and plug. Torque the plug to 24 ^{ft}/_{lbs}.



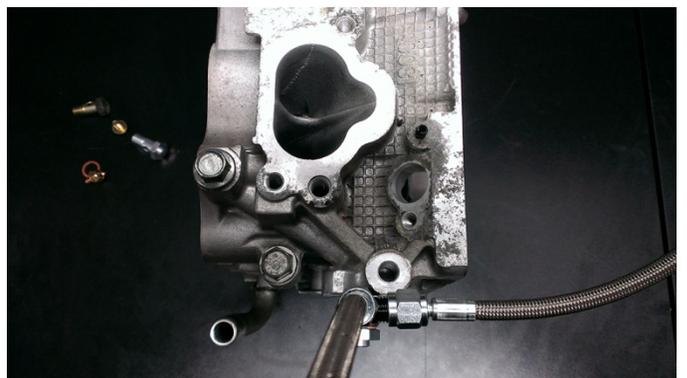
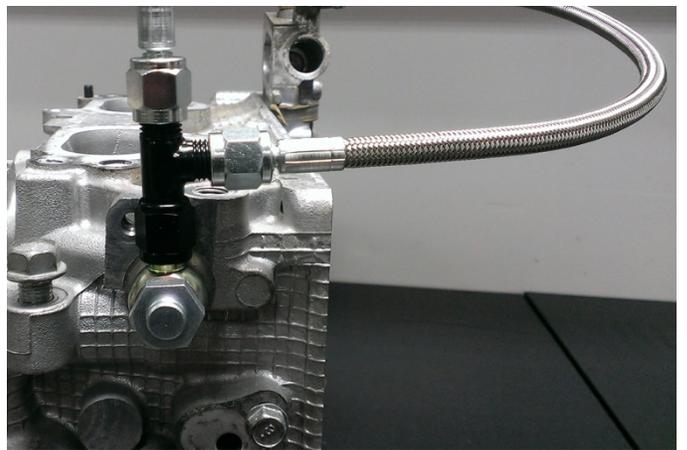
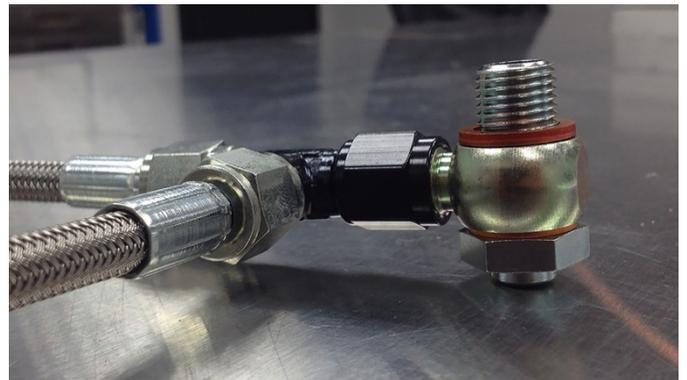
3. Assemble one 12mm banjo on the bottom port of the tee fitting. The braided line with the straight fittings is installed on the middle port and the braided line with the 90° fitting is installed on the top port as shown. The 90° fitting will be installed on the top of the turbo. It is important that the face of the banjo fitting be parallel with the side of the t-fitting. Tighten all 3 fittings with a ⁹/₁₆" wrench.





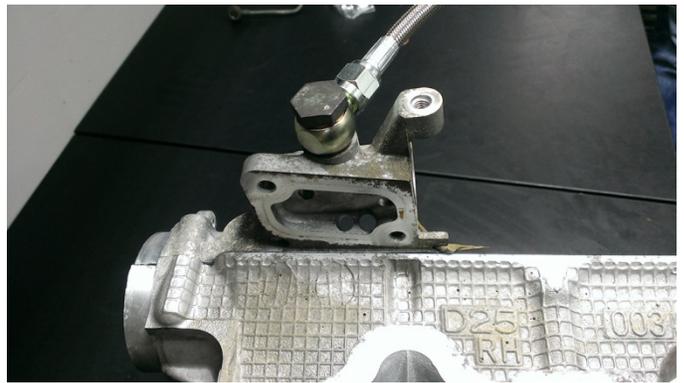
4. Using the banjo bolt that came out of the back of the head, assemble the tee fitting on the back oil port of the head as shown. Use a thinner washer between the head of the banjo bolt and the banjo. Then use the thicker washer between the banjo and the engine. This is the only place to use a thick washer.

Keep the top port of the tee fitting pointing straight up and keep the side of the tee fitting parallel with the back of the head. Torque the banjo bolt to 24 ^{ft}/lbs.

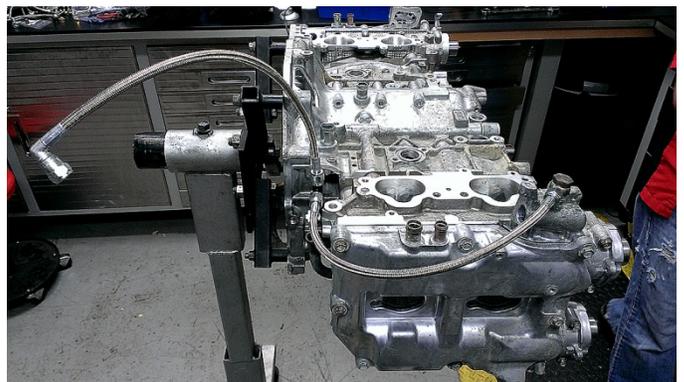




5. Install a 12mm banjo fitting on the AVCS port and point the male fitting away from the cylinder head. Run the braided line that comes out of the side of the tee fitting to the banjo fitting. Tighten the line with a $\frac{9}{16}$ " wrench. Torque the banjo bolt to 24 ft/lbs.



6. Install the 90° -4 AN fitting onto the oil restrictor on the top of the turbo. Tighten the line with a $\frac{9}{16}$ " wrench.



Removal and installation for style C: please read all steps before proceeding

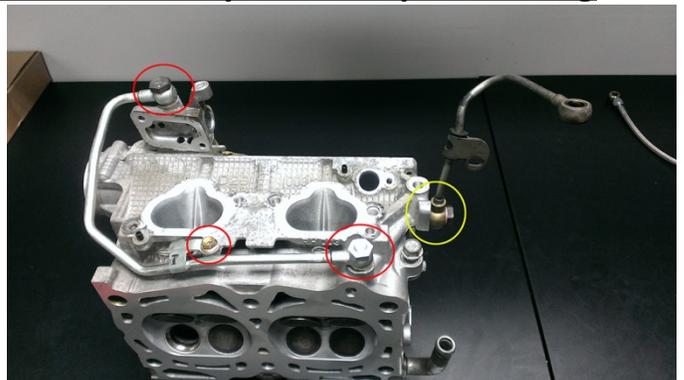
Note: if your vehicle uses the style C factory lines and the oil feed is the only line that is damaged, it is not necessary to remove the AVCS line. Steps 1-4 will cover just the replacement of the turbo oil feed line.

1. Remove the banjo bolt (circled in yellow) at the back of head with a 17mm wrench.

Remove the 10mm banjo bolt from the top of your turbocharger with a 14mm socket. Remove the hardline.

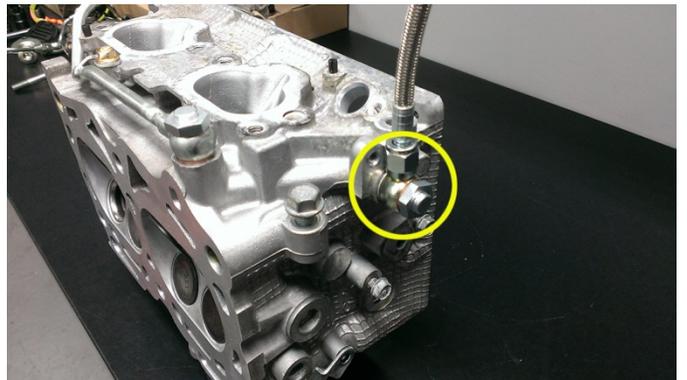
2. Install a 12mm banjo on the straight end of the braided line that features a 90° swivel fitting

Using a $\frac{9}{16}$ " wrench, tighten the side of the braided line that attaches to the 12mm banjo.





3. Using the banjo bolt that came out of the back of the head, assemble the banjo on the back oil port of the head as shown. Use a thinner washer between the head of the banjo bolt and the banjo. Then use the thicker washer between the banjo and the engine. This is the only place to use a thick washer. Torque the banjo bolt to 24 ^{ft}/lbs.

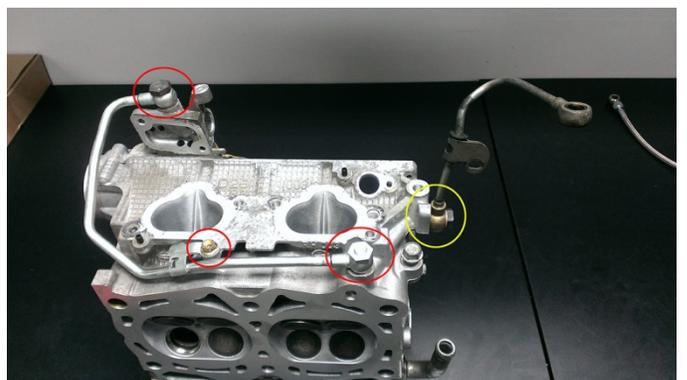


4. Run the other end of the braided line to the turbo oil feed restrictor. Tighten the 90° fitting with a ⁹/₁₆" wrench.
Note: if your vehicle uses style C of the factory lines and you wish to replace both the oil feed line and the AVCS line please follow the instructions below.

5. Remove the banjo bolt (circled in yellow) at the back of head with a 17mm wrench.

Remove the 10mm banjo bolt from the top of your turbocharger with a 14mm socket. Remove the hard line.

On the top of the head, remove the 2 banjo fittings with a 17mm wrench and the 6mm bolt with a 10mm wrench (circled in red).



6. Install the supplied oil galley plug in the **top** oil feed port. Use a 12mm crush washer between the head and plug. Tighten with a 17mm wrench.

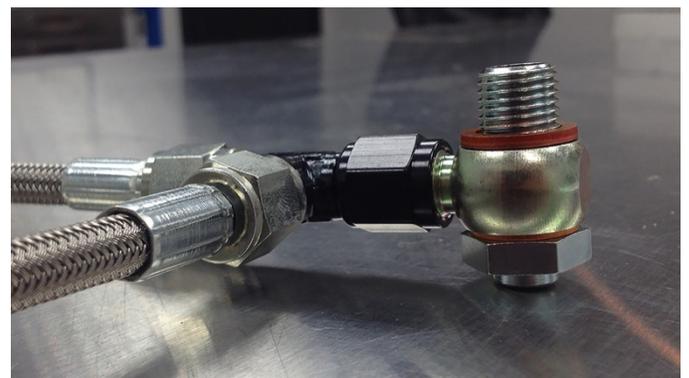


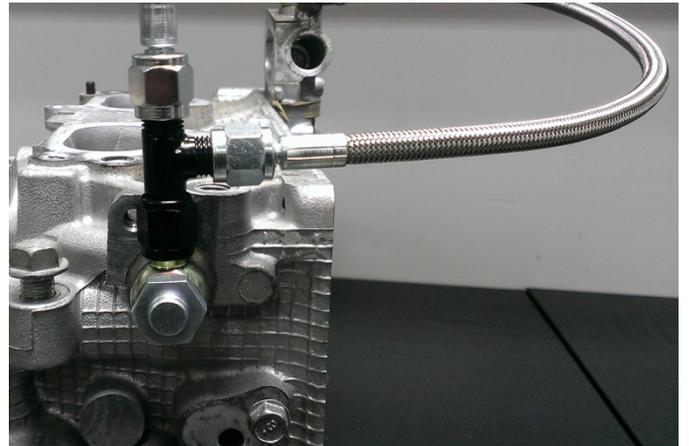
7. Assemble one 12mm banjo on the bottom port of the tee fitting. The braided line with the straight fittings is installed on the middle port and the braided line with the 90° fitting is installed on the top port as shown. The 90° fitting will be installed on the top of the turbo. It is important that the face of the banjo fitting be parallel with the side of the t-fitting. Tighten all 3 fittings with a $\frac{9}{16}$ " wrench.



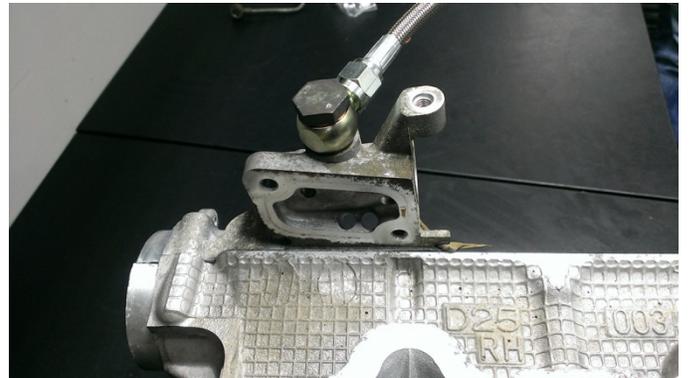
8. Using the banjo bolt that came out of the back of the head, assemble the tee fitting on the back oil port of the head as shown. Use a thinner washer between the head of the banjo bolt and the banjo. Then use the thicker washer between the banjo and the engine. This is the only place to use a thick washer.

Keep the top port of the tee fitting pointing straight up and keep the side of the tee fitting parallel with the back of the head. Torque the banjo bolt to 24 $\frac{ft}{lbs}$.





9. Install a 12mm banjo fitting on the AVCS port and point the male fitting away from the cylinder head. Run the braided line that comes out of the side of the tee fitting to the banjo fitting. Tighten the line with a $\frac{9}{16}$ " wrench. Torque the banjo bolt to 24 ^{ft}/lbs.



10. Install the 90° -4 AN fitting onto the oil restrictor on the top of the turbo. Tighten the line with a $\frac{9}{16}$ " wrench.

