



Product Installation Manual



For BMW F32 435I

Applicable Vehicle

BMW F32 435I

2013-12-11

IPE-Race

The complete range of part segments is listed below:

Catalyst Segment *1 PCS

Middle Segment *1 PCS

Barrel Body *1 PCS

Tail Decoration Pipe *1 SET

80 Sliding Sleeves *2 PCS

69 Tail Pipe Clamps *2

Valve Accessory Package *1

M8*50L*4 Sets

M8*20L*1 Set

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1. Preface

This document explains the installation procedures, and related setting and operation methods for the exhaust sold by IPE. There are a total of five procedures. The operating time necessary in accordance with the content of each procedure is as shown in Table 1.1 below. Times are calculated based on an experienced technician working with one assistant.

Job Content	Predicted Time
Remove the lower shield and the middle shield	0.5Hrs.
Remove the exhaust of the original vendor	1.0Hrs.
Install the IPE exhaust	1.5Hrs.
Wiring and setting	1.5Hrs.
Replace the lower shield and the middle shield	0.5Hrs.
Total	5Hrs.

Table 1.1

Please contact us if you find any wrong or unclear indications within this document.

1.1. Important Messages

IPE has developed the exhaust according to the improvement of the exhaust of the original vendor. Therefore, there will be no difference from the original vendor after installation.




There is an inductive power supply function between the car key and the car for many vehicle models. Therefore, the car key should be kept away from the car with a distance of at least five meters to maintain safe conditions.

The exhaust of a car immediately after being driven still has a high temperature. Thus, please wear heat insulating gloves to replace an exhaust, or wait to perform the replacement procedure until after the temperature has come down to avoid burns.

Since the valve is set to open automatically, do not let the valve open too early in order to prevent the generation of resonance. The opening of the valve is recommended to be set to 60% of throttle pedaling.

The IPE exhaust has been designed according to the engine data of the original vendor. If the horse power of the engine is increased through a computer upgrade, obvious resonance in conjunction with this exhaust could occur. IPE can also provide modified exhausts for such vehicles. Please contact us for further details.

1.2. Tools Necessary for Operation Procedures

NO.	Tool Name	Image
1	Star groove wrench, Star driver T45,T60,10mm	
2	Outer hexagonal wrench 8mm 10mm 13mm 16mm	
3	Torque wrench	

2. Description of Revisions and Conventions

Revision	Date	Description
00	Oct. 23, 2013	Initial Draft

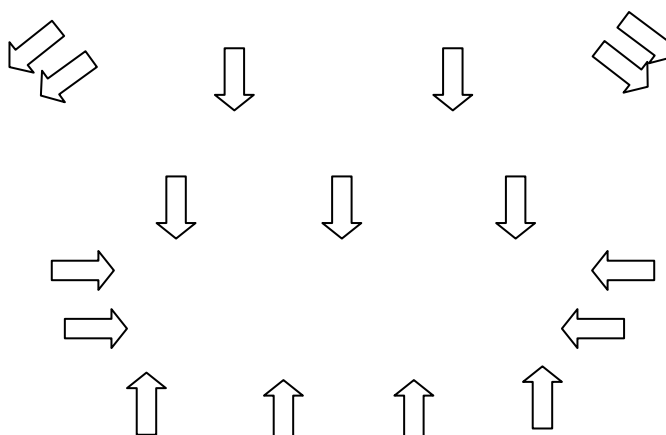
Description of Revisions

3. Remove Lower Shield and Middle Shield

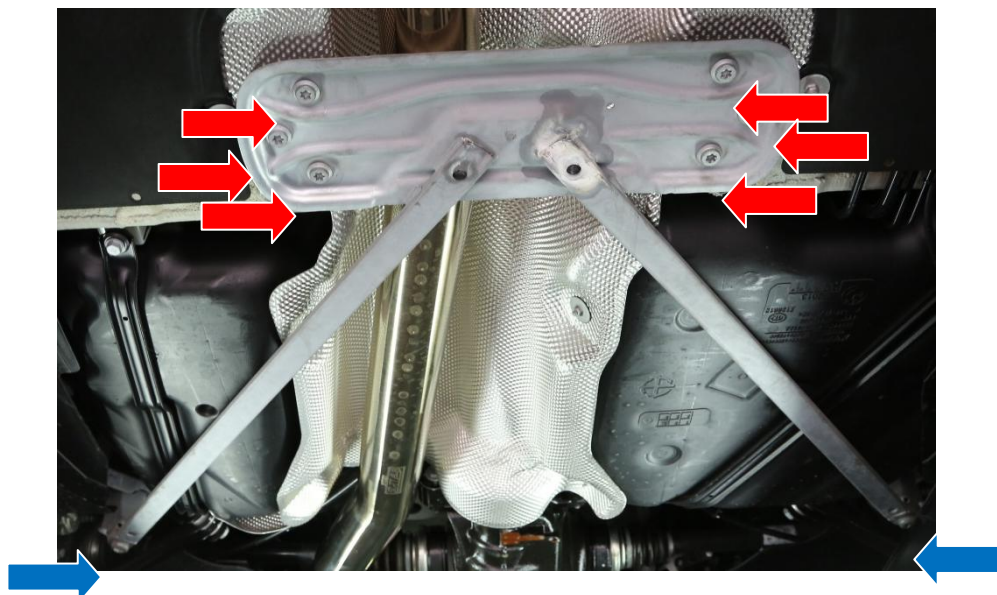
3.1. Remove Lower Shield



Demount the 23 screws indicated by the white arrows with an **M8 outer hexagonal wrench** in order to conveniently remove the catalyst segment exhaust.



3.2. Remove Middle Shield



Demount the 6 screws indicated by the red arrows with a T45 **star wrench**.

Demount the other 2 screws indicated by the blue arrows with a T60 **star wrench** in order to remove the middle shield.



Middle shield

4. Remove Exhaust of Original Vendor

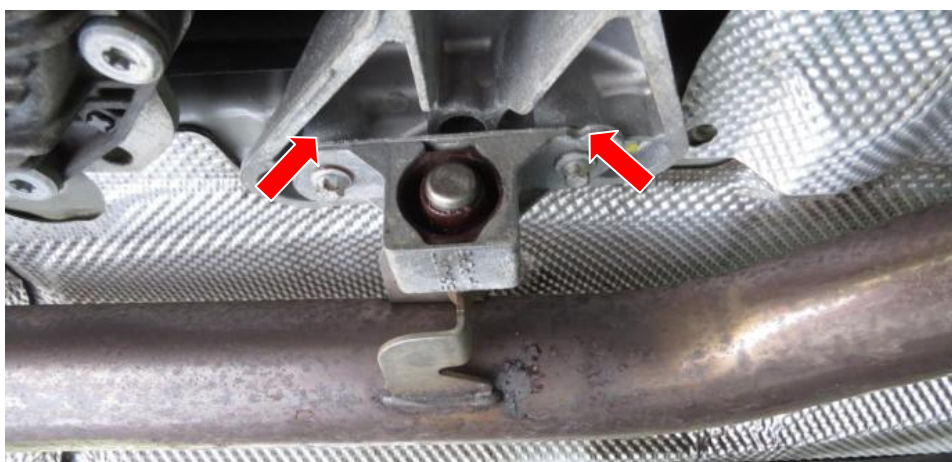
The exhaust of the original vendor can be divided into two segments from back to front, the tail segment and the head segment (catalyst segment). We also follow a sequence in order to remove the exhaust of the original vendor.

4.1. Remove Tail Segment



The tail segment and the head segment are linked with the clamp shown in the red circle. Thus, this clamp has to first be loosened with a **16mm outer hexagonal wrench** in order to detach it.

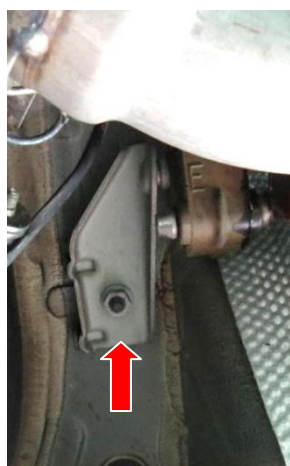
4.2. Remove Lifting Lug Retaining Seat



Use a 10mm star wrench to remove the lifting lug retaining seat, and then insert the retaining

seat into the lifting lug of the exhaust in IPE's middle segment, as indicated by the red arrows.

4.3. Remove Barrel Body Retaining Seat



L side

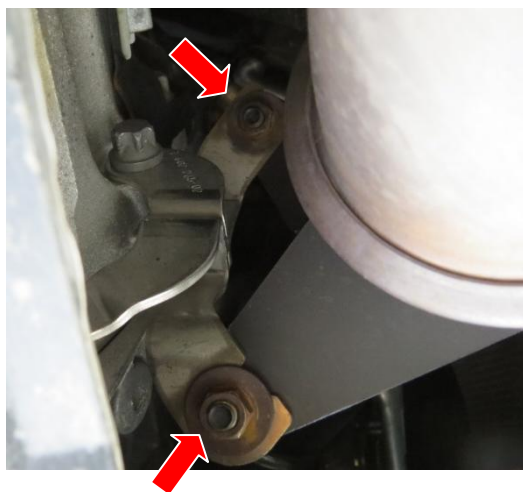


R side

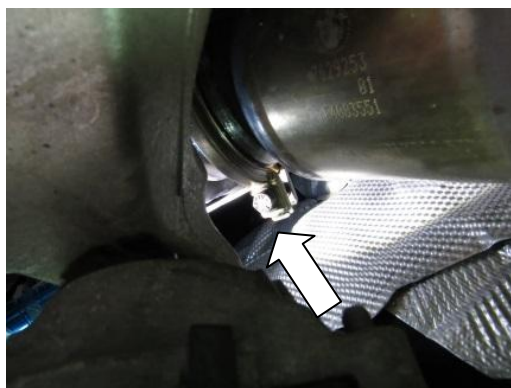
Use a **13mm outer hexagonal wrench** to remove the screw from the barrel body retaining seat for the tail segment to detach it from the automobile chassis, and then insert the retaining seat into the lifting lug of the exhaust of IPE's barrel body.

Before removing the head segment, the plug of the oxygen sensor has to be demounted in order to prevent the wire from breaking.

4.4. Remove Head Segment (Catalyst Segment)



Red arrows: use a **13mm outer hexagonal wrench** to remove the lifting lug screws from the catalyst segment.



Use a **13mm outer hexagonal wrench** to remove the clamp screw from the catalyst segment.

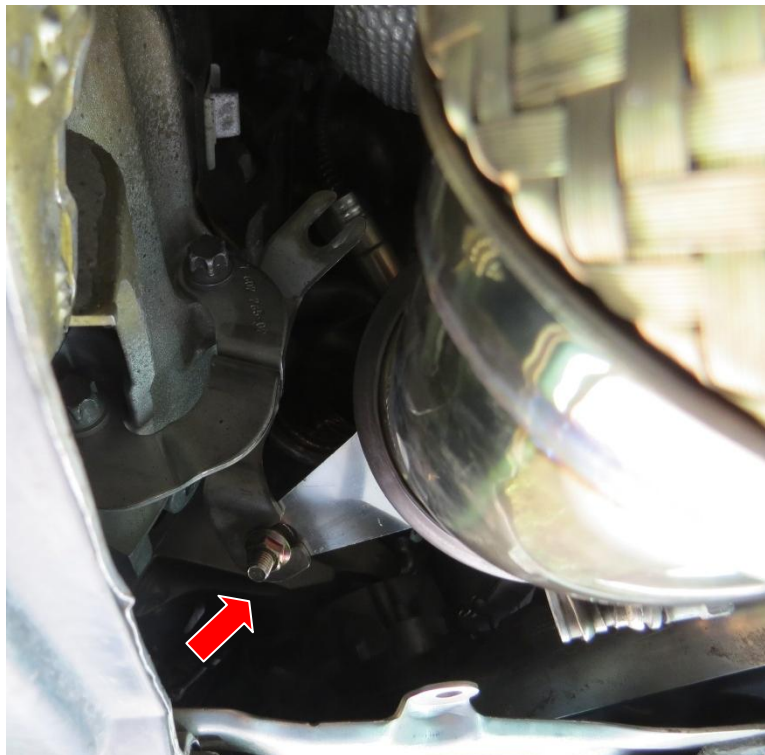
5. Install IPE Exhaust

The order for installing the IPE exhaust is inverted compared to that of the original vendor, with the head segment, tail segment and middle segment being installed in that order.

Fasten the screws on each of the portions into place. Install the full segment and adjust the full segment angle. Assure that the gap between each segment and the vehicle bottom is normal. After that, fasten the head segment, middle segment and barrel body sequentially with a torque wrench.

For the IPE head segment, the original clamp is sufficient for retaining. The torque wrench cannot be used here due to the very small installation space. Remember to assure that the clamp nut has been fastened tightly again, please.

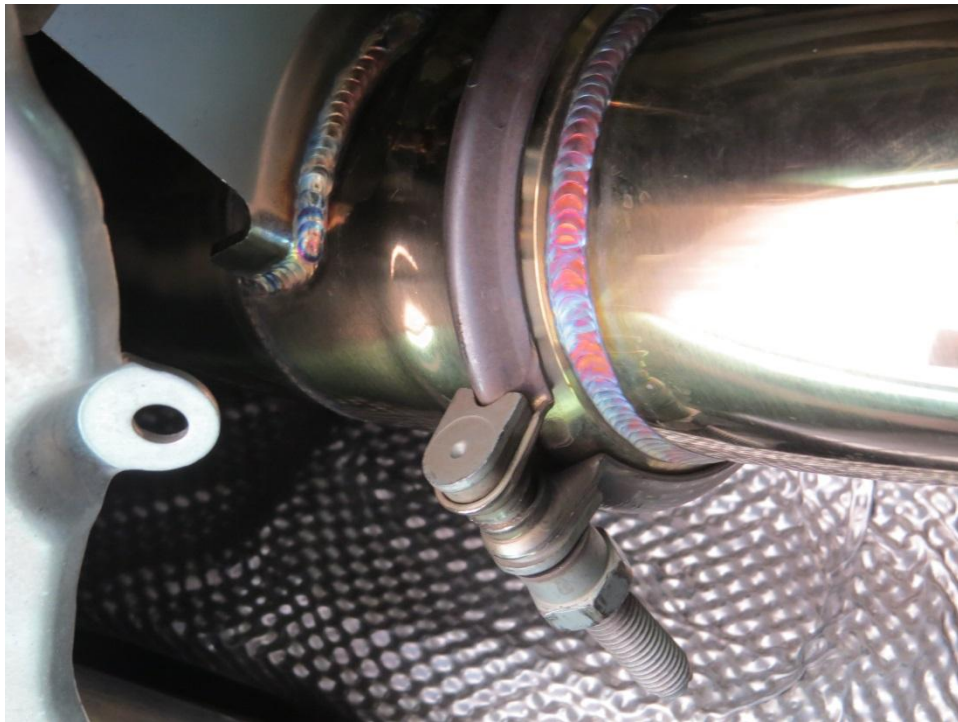
5.1. Install Head Segment (Catalyst Segment)



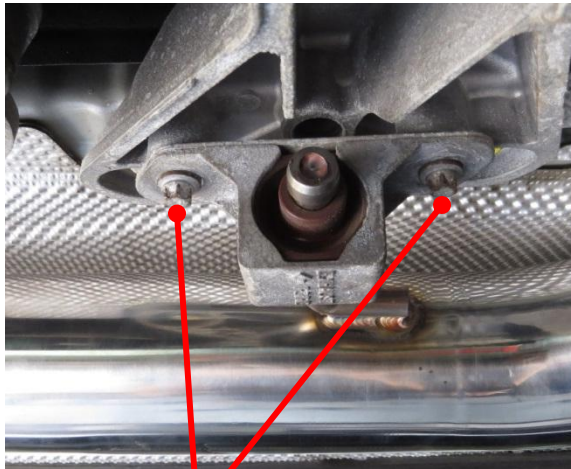
Fasten the lifting lug screw of the catalyst segment tightly with a **13mm outer hexagonal wrench**.

Please remember to reinstall the oxygen sensor before installing the IPE head segment.

5.2. Install Middle Segment



Retain the IPE middle segment and the catalyst segment with the clamp. Fasten the screw tightly. Once the full segment is properly installed, fasten the head segment, middle segment and barrel body with a torque wrench sequentially.

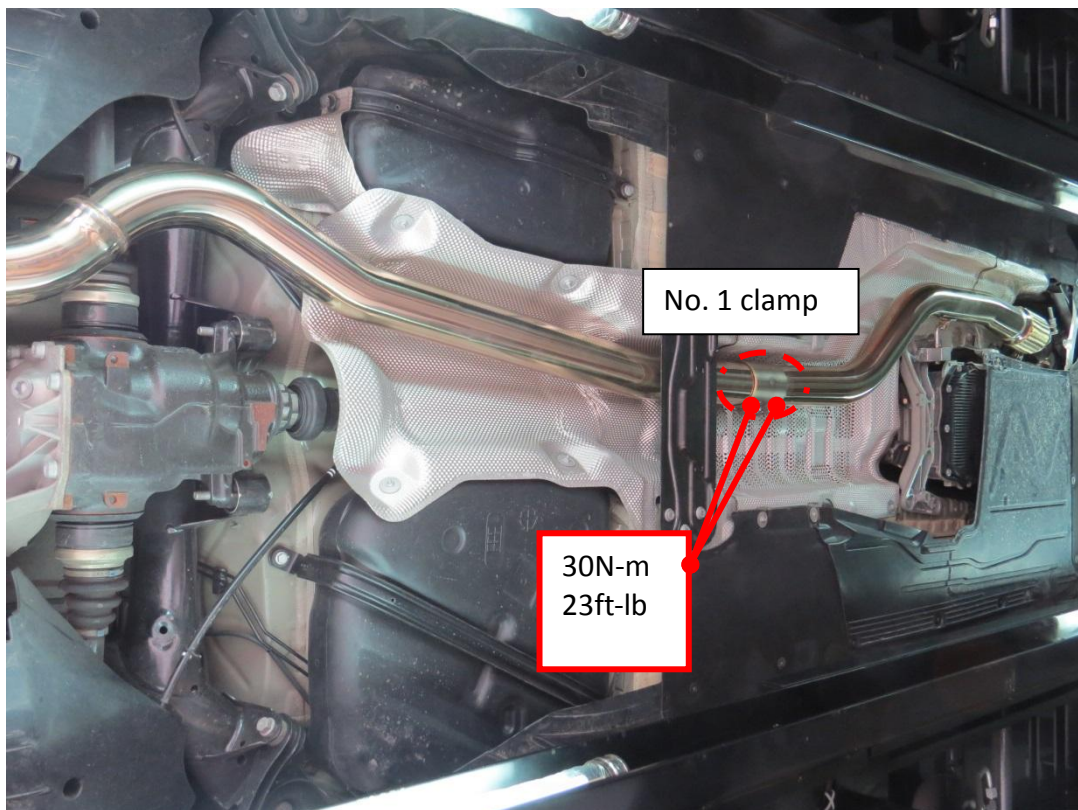


22N-m
16ft-lb



Must be parallel

Parts must be parallel for the lifting lug in the red circle.



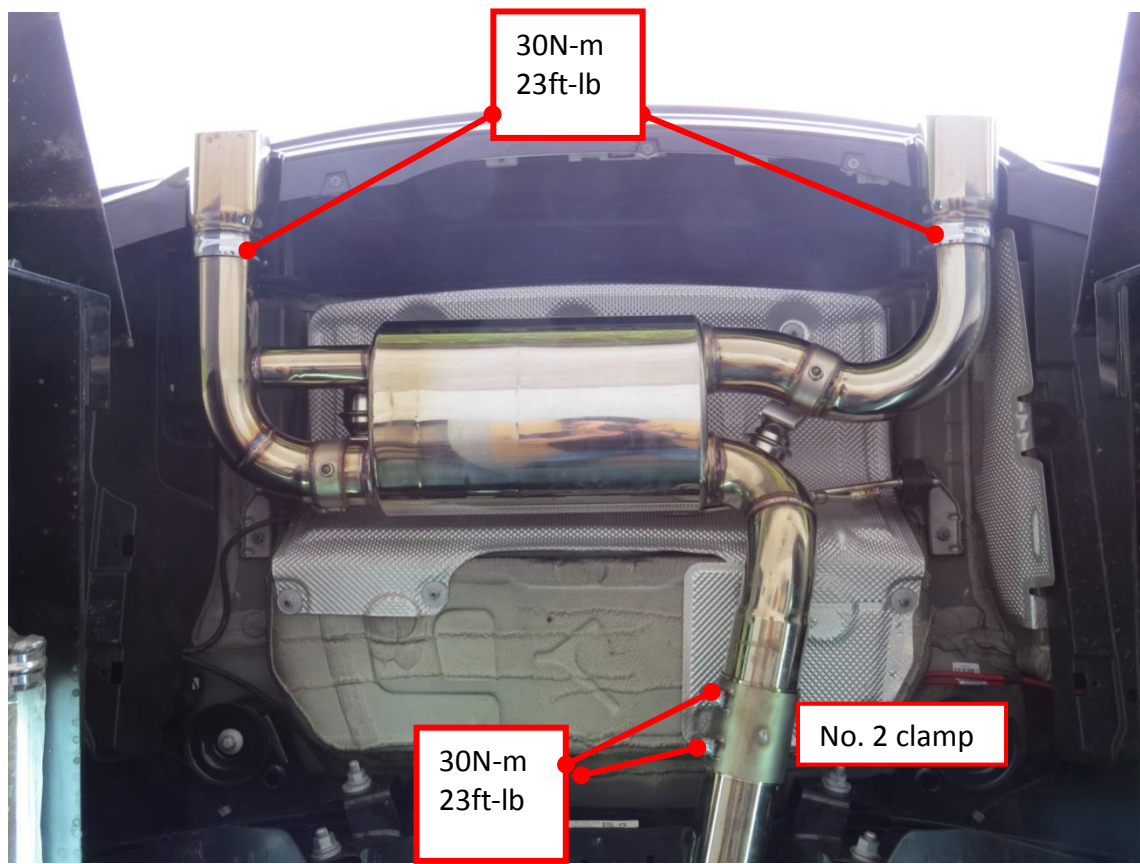
No. 1 clamp

30N-m
23ft-lb

First, insert the back segment into the No. 1 clamp, and then insert the middle segment and

the back segment into the clamp at about 40mm.

5.3. Install Tail Segment



Insert the No. 2 clamp into the joint pipe of the barrel body, followed by inserting the middle segment into the clamp, so that the insertion lengths on both sides are about 45mm.

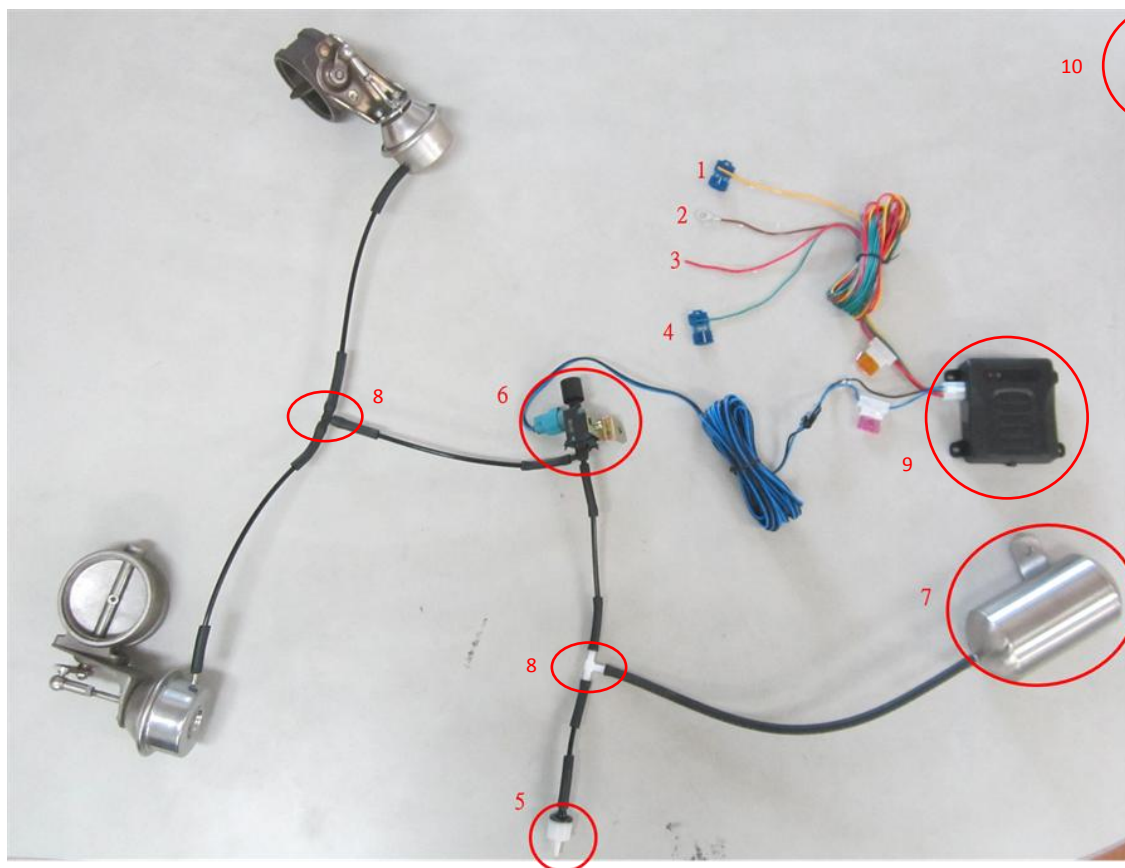
5.4 Install Tail Decoration Pipe



Adjust the tail decoration pipe in place, adjust it slightly again after fastening it, and finally lock it into its fixed point with a torque wrench 30N-m 23ft-lb. Even though the **tail decoration pipe** has been adjusted in the middle after installation, the IPE exhaust that has been used will result in partial deflection due to thermal expansion. Therefore, the car owner is recommended to return to the original installation site for a secondary adjustment of the **tail decoration pipe** on the third day after installation.

6. Wiring and Configuration

The parts of all control components and their interconnections are shown in the figure below. Descriptions for the related part names are listed in the table below.



NO.	Part Name	NO.	Part Name
1	Yellow Wire: TPS 0-5V	5	One Way Valve
2	Brown Wire: Ground \ominus	6	Electric Vacuum Valve
3	Red Wire: Power \oplus	7	Vacuum Canister
8	T-Type Three-Way	9	Control Box
10	Vacuum Accessory	11	Silicon Pipe: 5 meters

6.1. Install Vacuum Accessories

	
<p>The Electric Vacuum Valve and Vacuum Canister will be installed on the left side of the barrel body, so the cover that is there has to be removed.</p>	<p>After the cover is removed, install the Electric Vacuum Valve and Vacuum Canister here.</p>
	
<p>Picture for the installation of the Electric Vacuum Valve and Vacuum Canister, followed by fastening with an Mt screw.</p>	<p>Picture after completion</p>

Next Procedure



Open the engine hood.



Loosen the M10 screws on the top right side of the engine compartment.



Assemble the vacuum accessory.



Install the vacuum accessory as shown in the figure, and install the one-way valve.



Remove the screw, and demount the paddle.



Search for TPS throttle signal wire.



No. 4 is a white TPS wire.



Use a 12V voltage meter to identify the TPS throttle signal wire, and perform a voltage test.

Connect the blue bridge with the white wire, and connect the red bridge with the yellow wire of the control box.



Open the lower plate of the front passenger seat.





The bond strap position is shown.

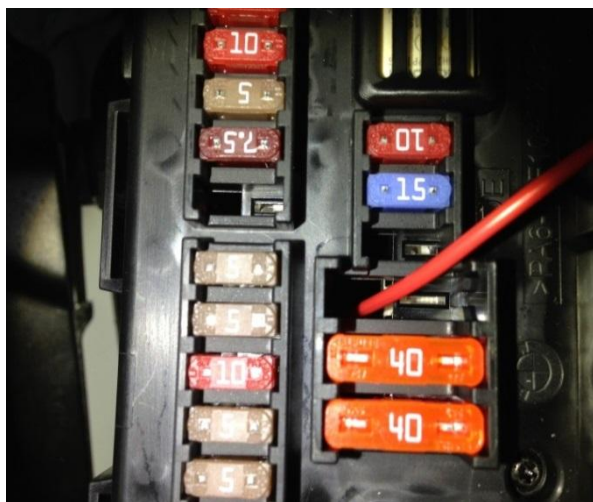


Connect the brown wire of the control box to the bond strap position on the front passenger seat.

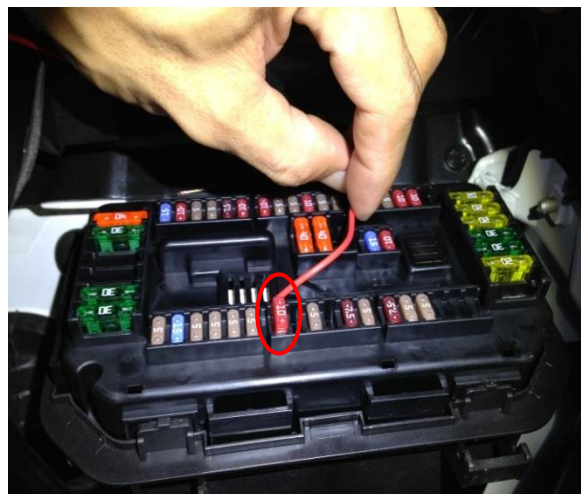
6.2. Install Wires

Find the fuse box and connect the power wire (red wire), suspend the body bond strap GND0, and connect the TPS 0~5V voltage of throttle valve.

	
<p>Open the engine hood, and remove the cover on the top left side.</p>	<p>Open the cover of the fuse box.</p>
	
	<p>Pass the red wires through the bottom of the front passenger seat to the fuse location.</p>



Go through here.



Connect to the location indicated by the red circle in the image above.

The wire of the red positive polarity \oplus is intended to select the power supply node regarding key control, such as a cigarette lighter or the car's audio. Because the fuse wiring areas vary slightly in different generations of vehicles, please find the appropriate power supply node in terms of the above directions if the fuse wiring area you install is somewhat different from what is shown in the following picture.

7. Replace Lower Shield and Middle Shield

Reverse aforementioned operations to replace the lower shield and the middle shield.

Picture of Entire F32-435 after Completion



Installation Manual				
Vehicle Model	BMW F32-435I			
Delivery Date	2013/12/11			
R&D Liability Window	De-Wei Wu			
General Manager	Vice GM	Supervisor of the Marketing Department	Supervisor of the R&D Department	Liability Window of the R&D Window
Comments				