



iPE Exhaust

Automotive exhaust
system engineering

Product installation
instructions

Applicable vehicle type:

BMW F82 M4

Foreword

This document is used to explain the installation process of the exhaust pipe sold by IPE, and the related settings and operation methods.

➤ Important Notice

- iPE developed this exhaust according to the improvement of stock . Therefore, there will be no effect of the car from the original manufacturer 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 right after driven is still in a high temperature. Thus, please wear heat insulating gloves to replace the exhaust, or perform the replacement after the temperature lowered to avoid burns.*
- For avoiding the generation of resonance, please don't let the valve open too early when setting the valve to open automatically. The opening of the valve is recommended to be set to 60% of gas pedaling. Please refer to page 21 for the explanation of detail setting.*
- iPE exhaust is designed according to the stock engine data. In case the engine computer upgraded for increasing horse power, obvious resonance in conjunction with this exhaust could occur. IPE also provide revised exhausts for such vehicles, please contact us for further details.*

TOOLS REQUIRED DURING OPERATION



Star sleeve
T30



Star sleeve
E10



Internal hexagonal
wrench
6mm



External
hexagonal wrench
8mm , 11mm ,
13mm
16mm , 22mm



Torque
wrench



Rust Preventive
spray

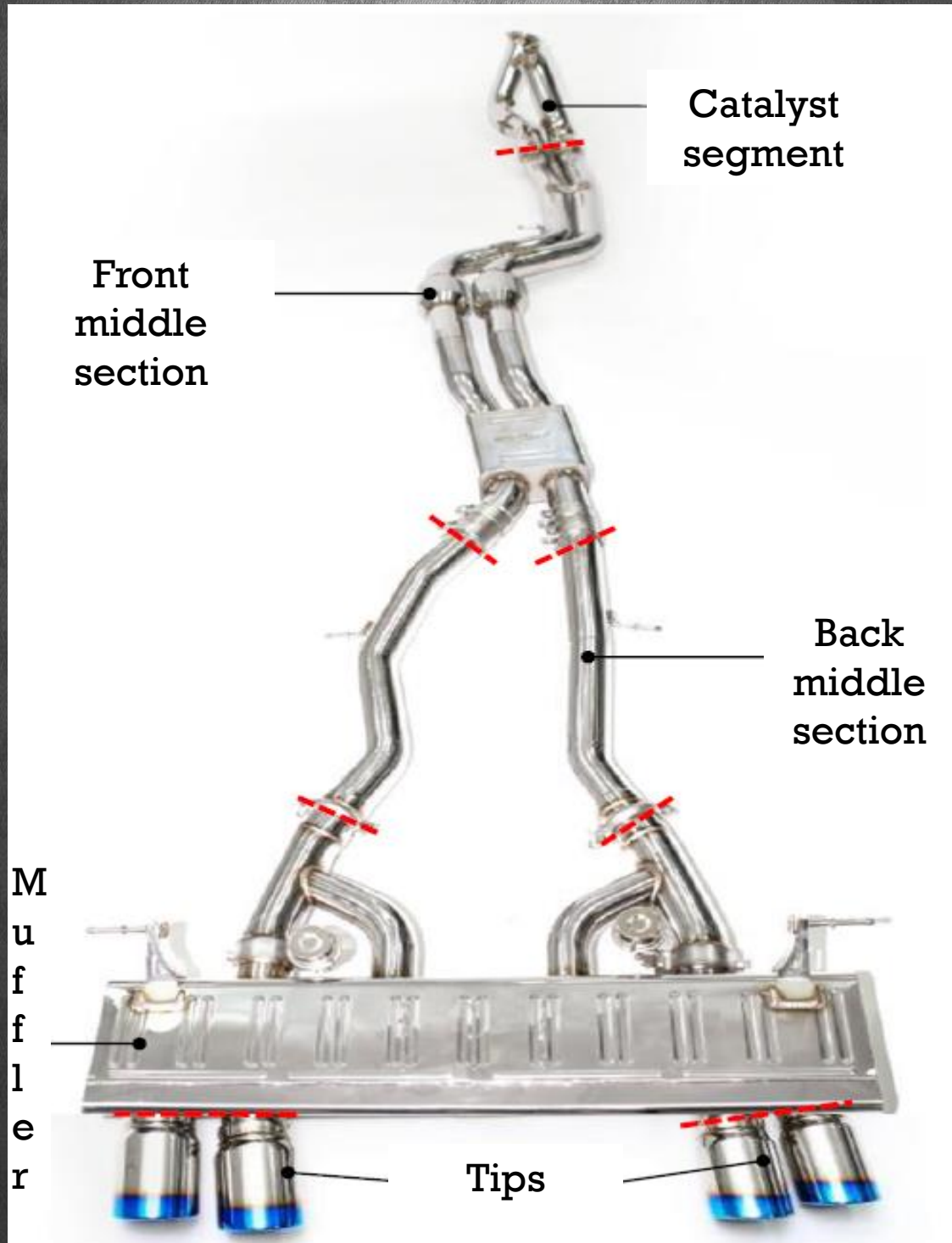


Installation process

- This document is used to explain the installation process of the exhaust pipe sold by iPE, and related settings and operation methods. The total can be divided into five processes, and the content of each process corresponds to the required operation time as shown in Table 1.1 below.
- The calculation of time is based on an experienced technician with an assistant.

Step	Work content	Estimated time
1	Remove the original exhaust pipe	2 hours
2	Install the iPE exhaust pipe	2 hours
3	Installing the control box and wiring	2 hours
Total		6 hours

IPE M4 PRODUCT ASSEMBLY APPEARANCE



FIRST, THE STEPS AND KEY POINTS OF DISMANTLING THE ORIGINAL EXHAUST.

1. Use the 8mm wrench to remove the lower guard. Figure 1-1

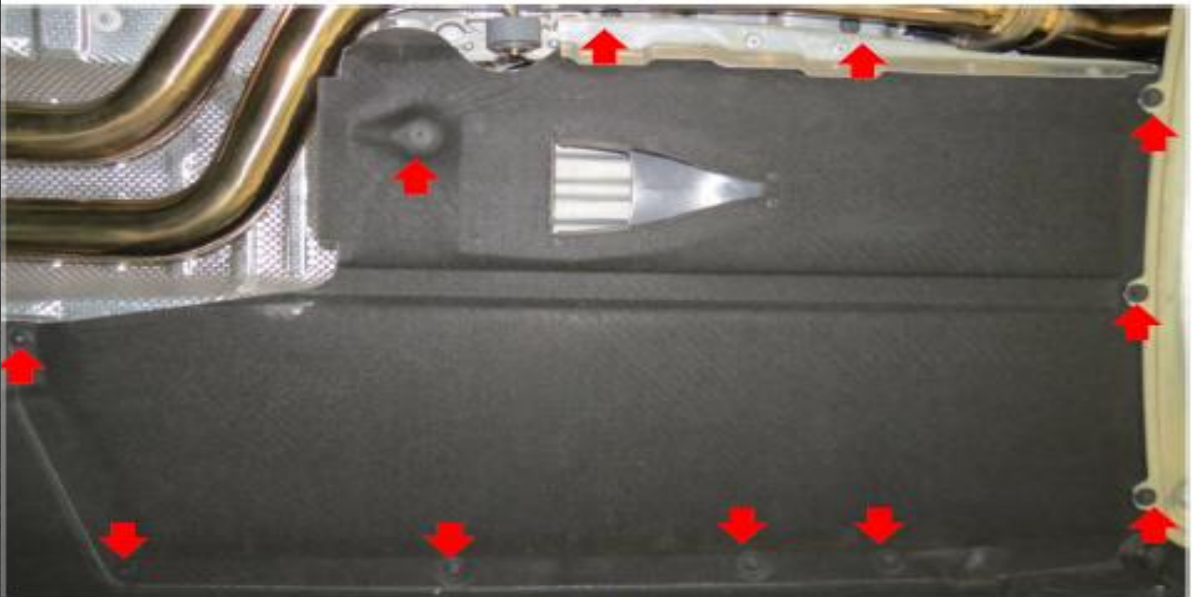


Figure 1-1

2. Use 8mm wrench & 13mm wrench to remove the lower shield.
Figure 1-2

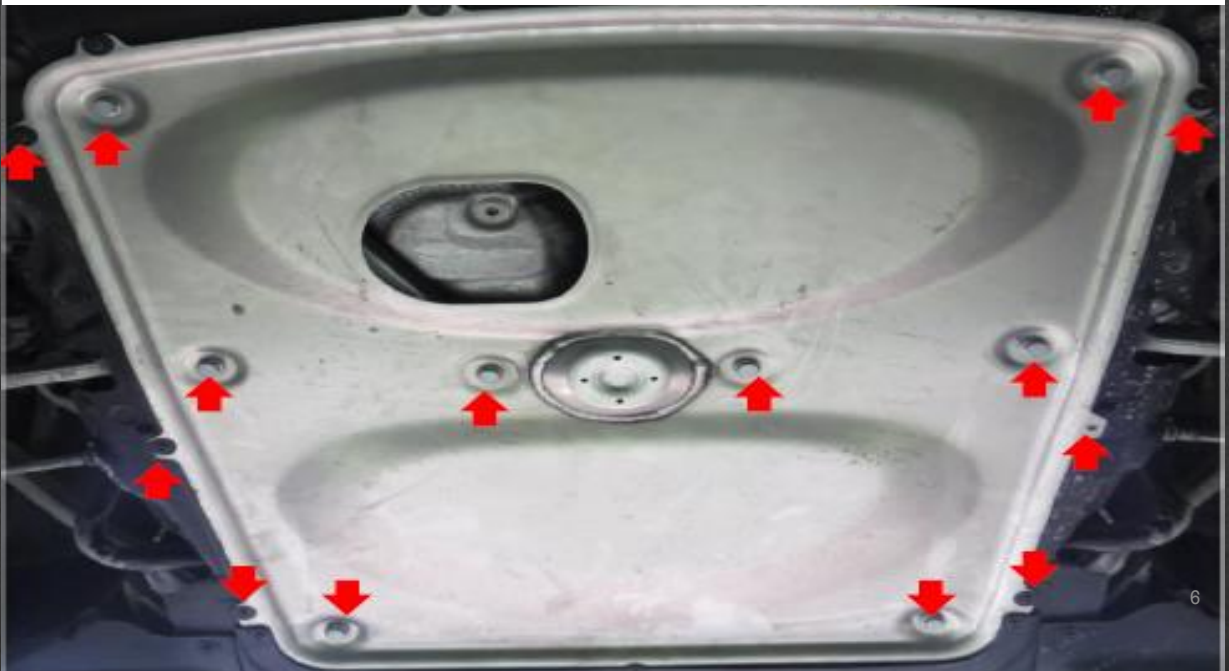


Figure 1-2

2. Use the 11mm wrench to remove the contact with the catalyst section. Figure 1-3 arrow

Use the E10 star wrench to remove the lifting lug. Figure 1-3 Red circle

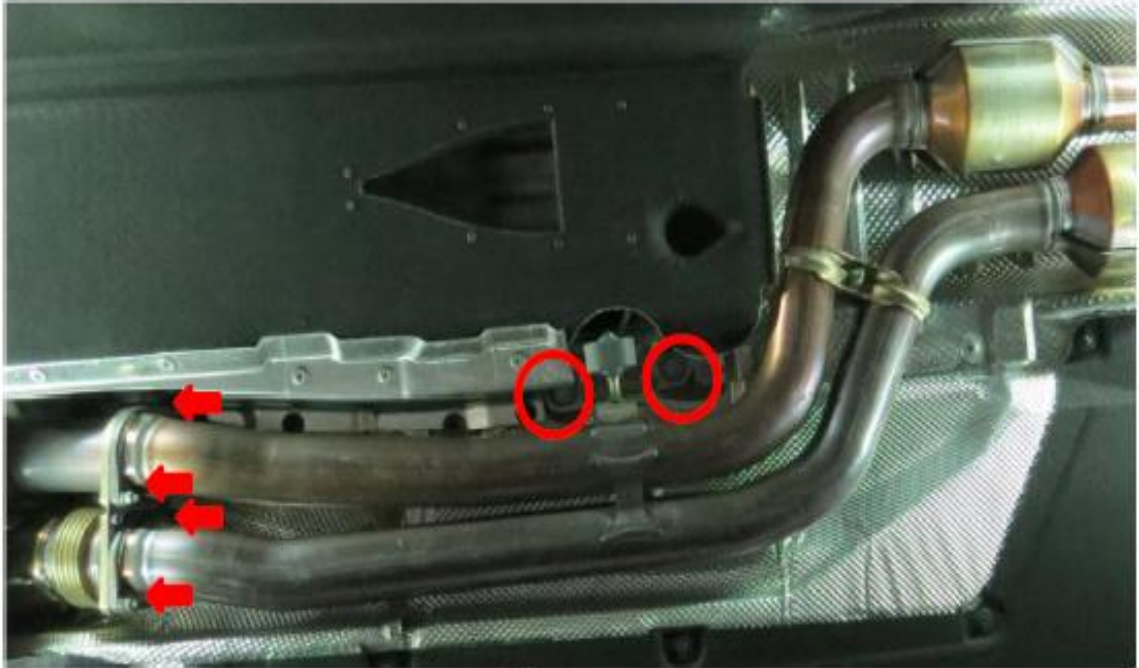


Figure 1-3

3. Remove the original electronic valve actuator connector and use the 13mm wrench to relax the rear lifting lug.

Figure 1-4 Red circle

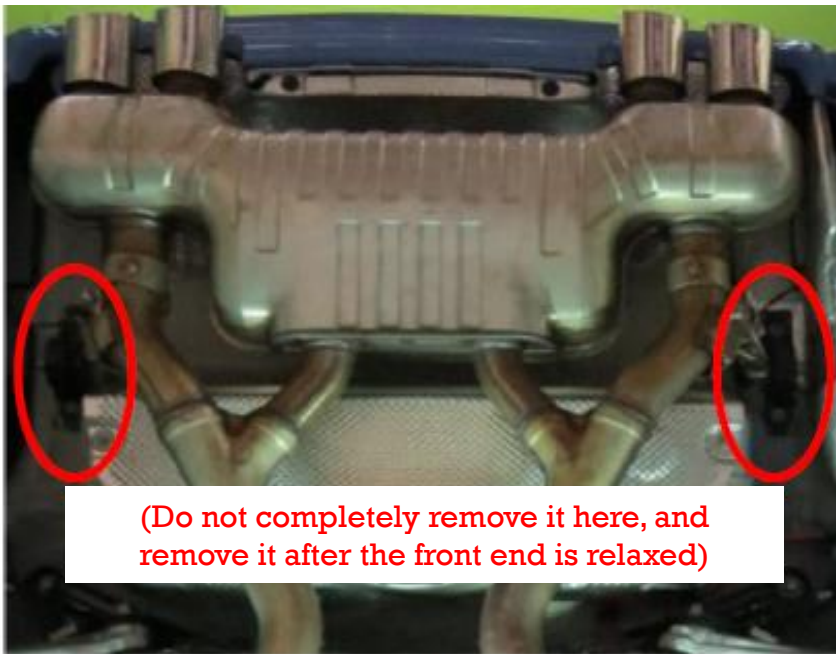


Figure 1-4

※The electronic valve plug must be fixed in the heat insulation board after the plug is removed to avoid the impact of the exhaust system. ※

4. Use the 6mm hex wrench to remove the lower fixing beam. Figure 1-5
Red circle

Remove the lifting lug screws using the 13mm wrench. Figure 1-5 arrow

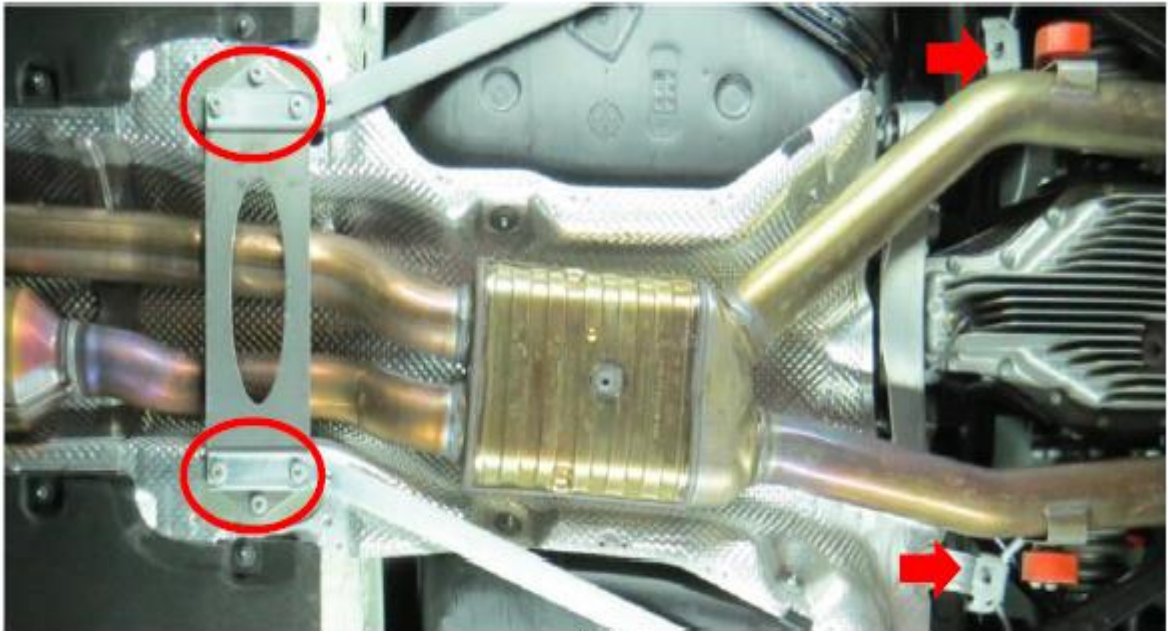


Figure 1-5

(After the screw is loosened, another assistant is required to remove the rear lifting eye screw and must be removed together with the front lifting eye)

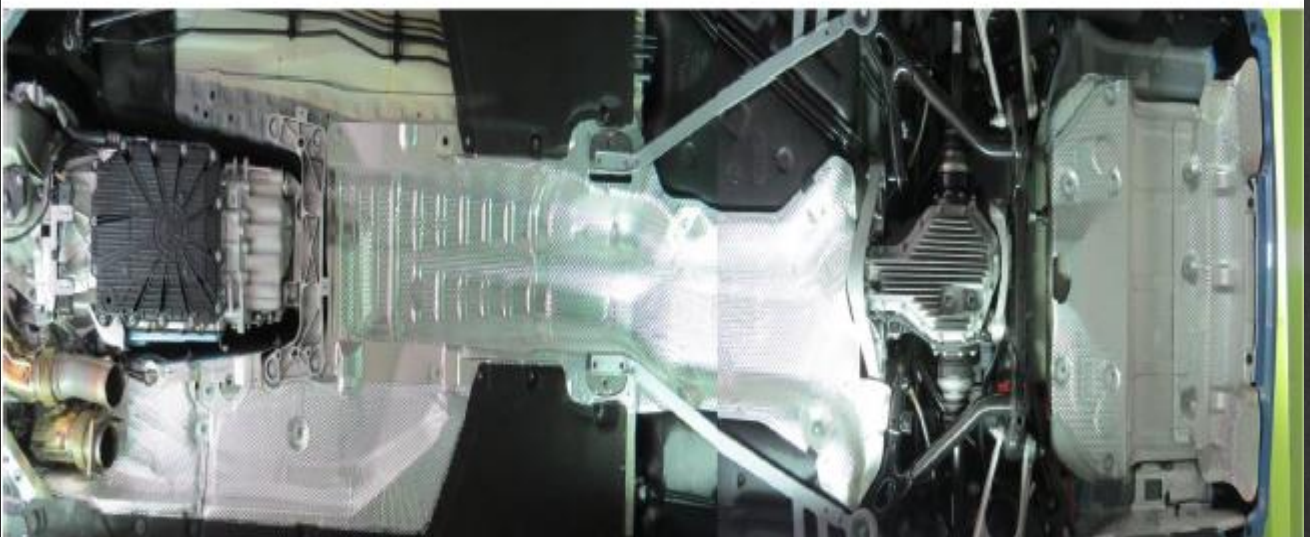


Figure 1-6

4. Use the T30 star wrench to remove the left and right catalyst segments.
Figure 1-7 arrow



Figure 1-7

5. First use the 22mm wrench and the fixed ring 13mm wrench to remove the oxygen sensor from the left catalyst section circle and 10mm fixed frame, and pull the catalyst slightly before . Figure 1-8 Red removing the oxygen sensor. Figure 1-8 arrow

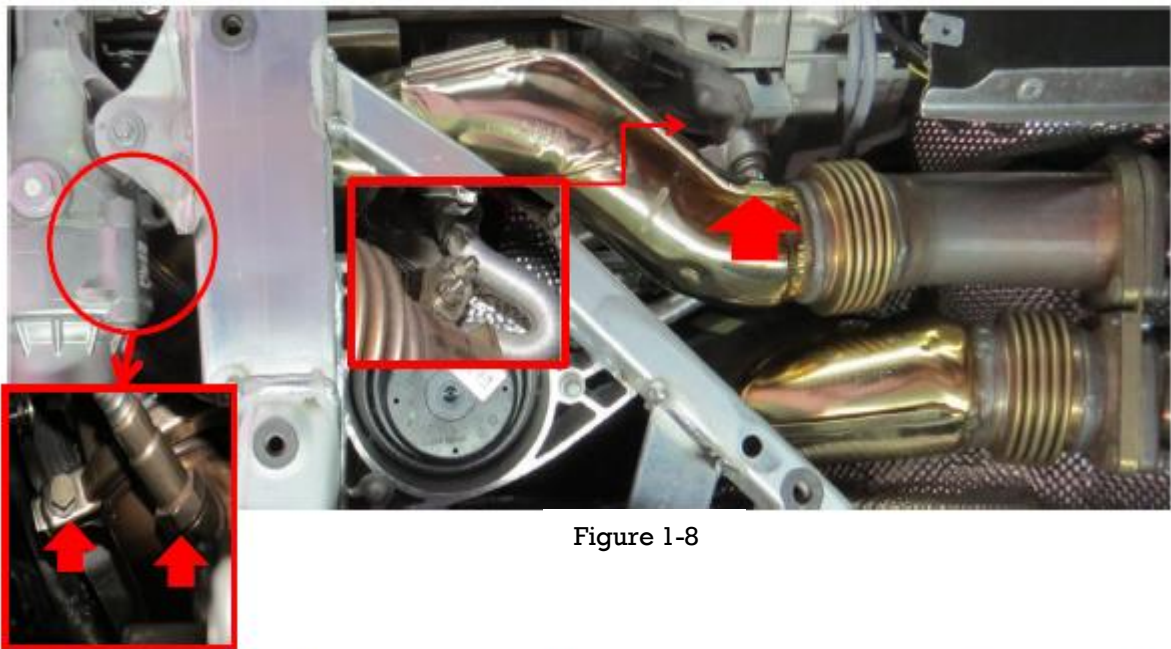


Figure 1-8

6. Use the 22mm wrench to remove the oxygen sensor from the right side of the catalyst section, then remove the retaining ring with a 13mm wrench, pull the catalyst section slightly, and then remove the front oxygen sensor from Figure 1-8.



Figure 1-8

Second, the steps to install iPE exhaust and related key points

1. Use the E10 star wrench to lock the middle and rear lifting lugs to the arrow at Figure 2-1.

Then use the 6mm hex wrench to lock the lower fixing beam to the red circle in Figure 2-1.

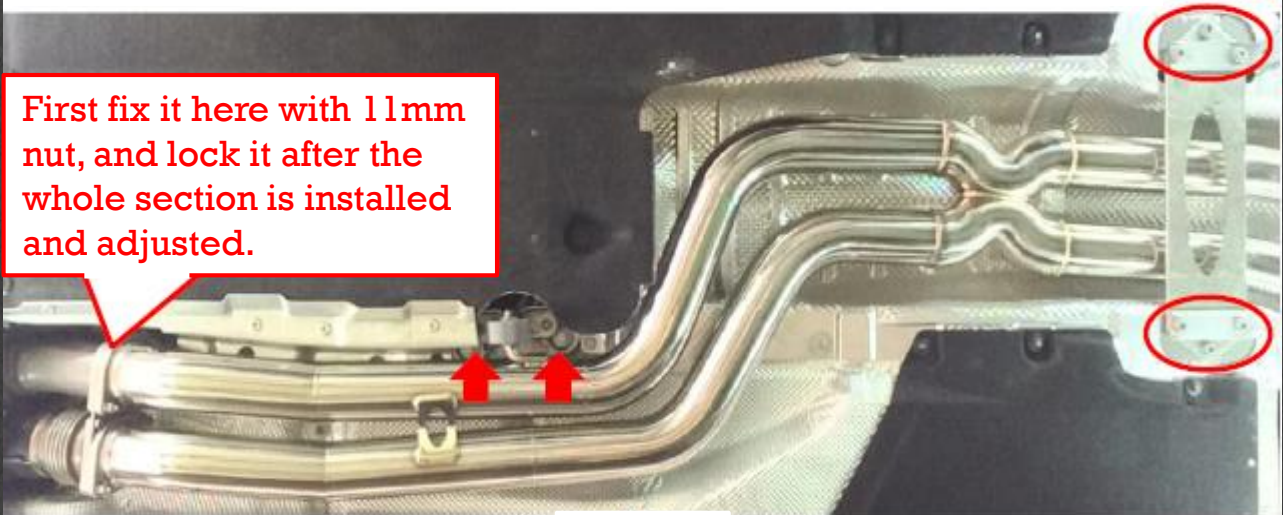


Figure 2-1

2. Use the 13mm wrench to lock the bucket body and the middle and rear lifting ears. Figure 2-2 Red circle

The middle and rear sections are fixed with the sliding sleeve and the collar. Figure 2-2 arrow

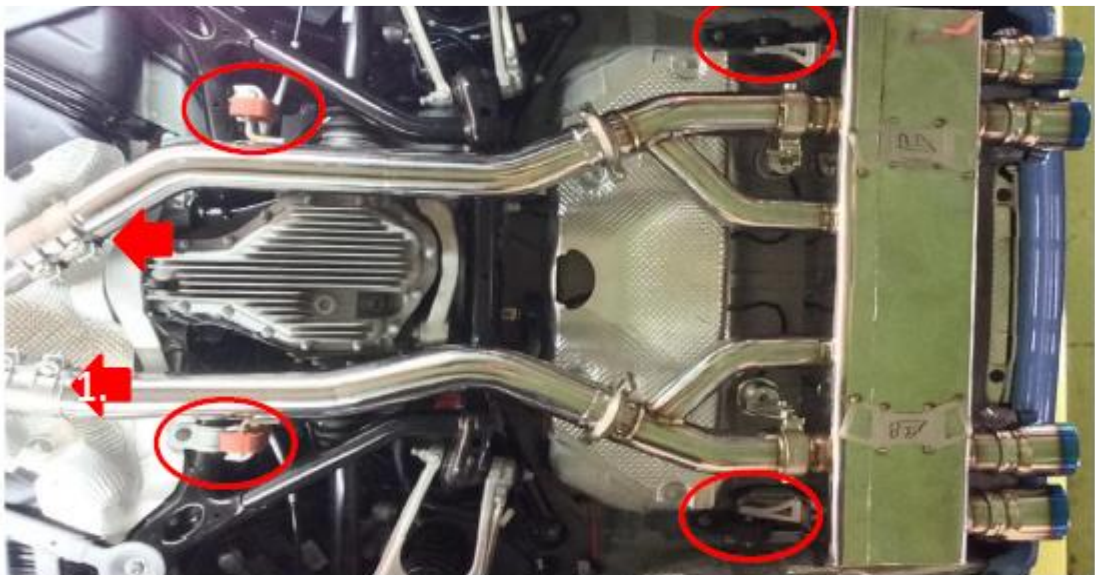


Figure 2-2

※Note: When installing the exhaust pipe, it is best to keep the exhaust pipe body and the car body at a distance of 10mm or more after completion, and adjust the chassis heat sink if necessary.

3. Lock the tips to adjust the position gap about 10mm.
Figure 2-3, 2-4

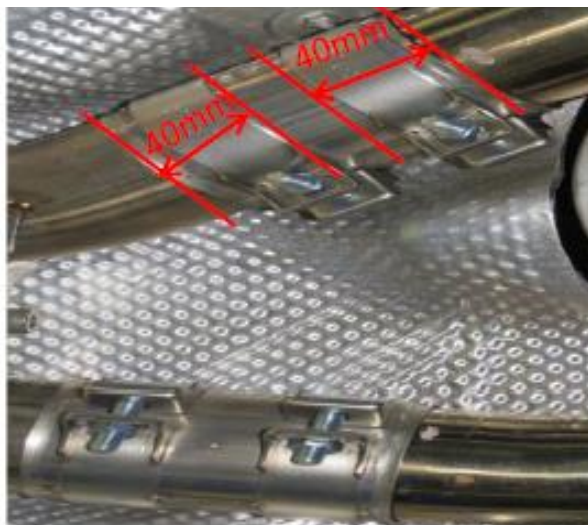


Figure 2-3



Figure 2-4

4. After the tail tips position is fixed, lock the front end connector in sequence. The insertion distance between the two tubes in the middle and rear sliding sleeves is about 40mm. Figure 2-5
Finally lock the tail tips.



22N-m
16ft-lb

Figure 2-5

Third, install the control box and wiring

Part drawing of the control element and corresponding connection method. Figure 3-1.

Related name description and number. Table 3-1

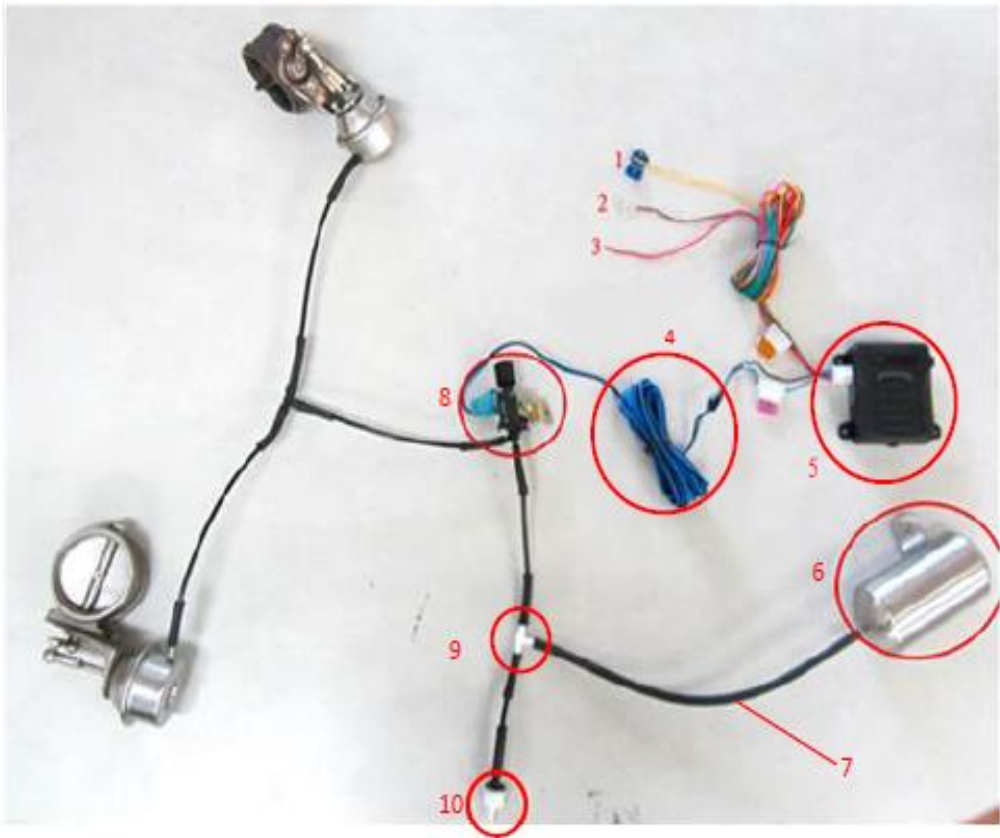


Figure 3-1

Number	Product name	Number	Product name
1	Yellow wire / throttle signal wire	6	Vacuum pressure reservoir
2	Brown wire / ground wire	7	Pressure line
3	Red line / power cord	8	Vacuum solenoid valve
4	Black blue wire / solenoid valve control wire	9	Three-way connector
5	Control host	10	Check valve

Figure 3-1

Fourth, iPE valve control components installation steps and related priorities

1. Remove the right side cover of the engine room and connect the vacuum source by the brake pump vacuum tube. Figure 4-1 arrow. Then, connect the check valve. Figure 4-1 red circle

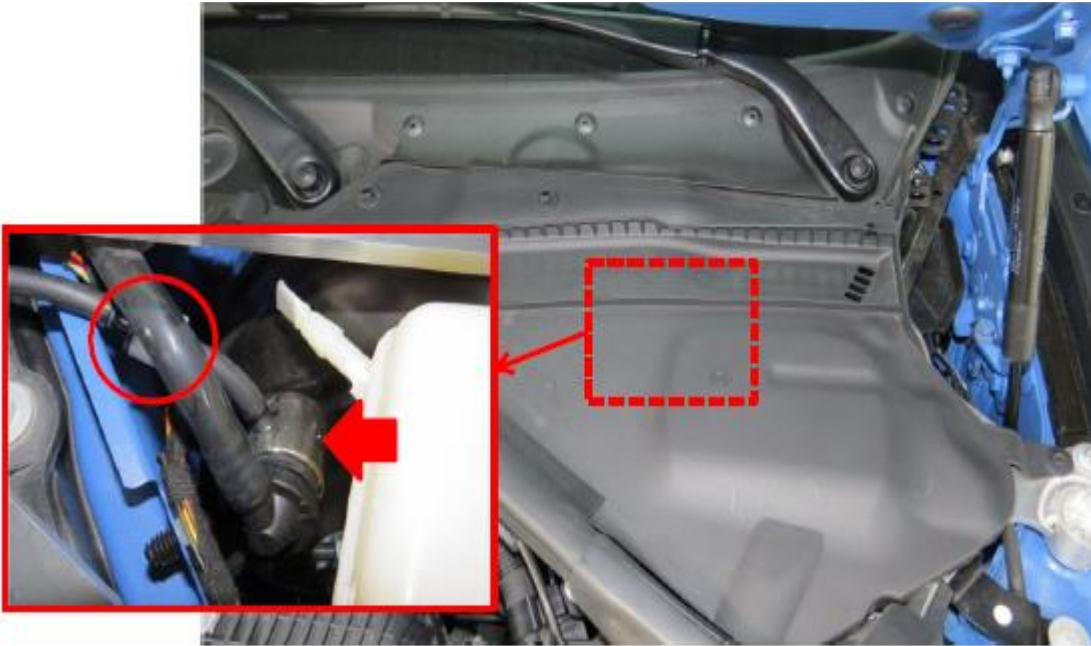
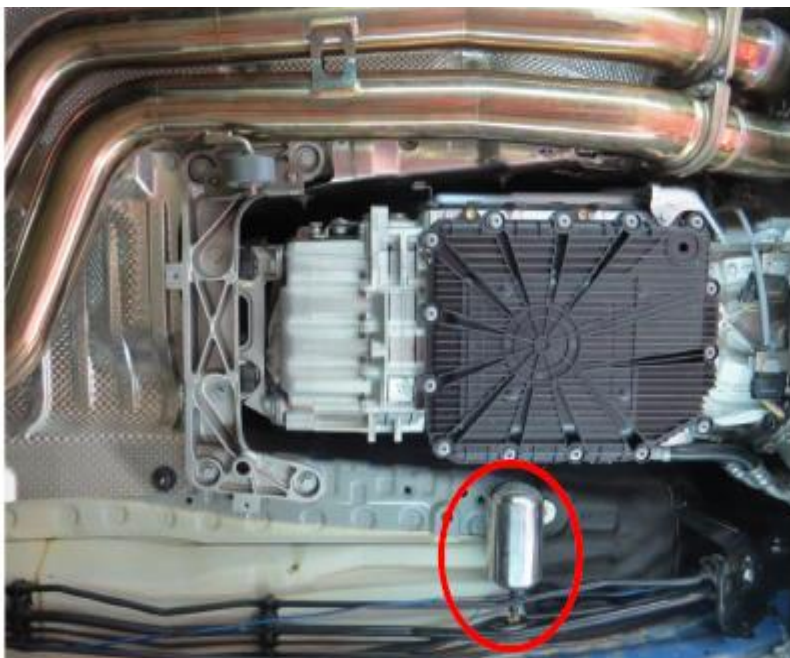


Figure 4-1

2. The pressure storage bucket is in the red circle inside the lower guard. Use the original nut to fix it.



3. Fix the solenoid valve at the red circle of the negative contact at the rear of the differential. Figure 4-3 Red circle
The receiver distributes the vacuum source to the left and right valves.

※ It is recommended to use a strap fastening at the joint end of the vacuum pressure pipe after installation to prevent air leakage ※



Figure 4-3

4. Take the solenoid valve control line along the bottom of the vehicle to the engine room and wear it into the cockpit. Figure 4-4



Figure 4-4

5. Use the **T30 star wrench** to remove the **accelerator pedal**

Figure 4-5,

In the side line group, the **white 4th line** crosses the throttle signal (Table 3-1 number 1 yellow line) to connect the control box. Figure 4-6

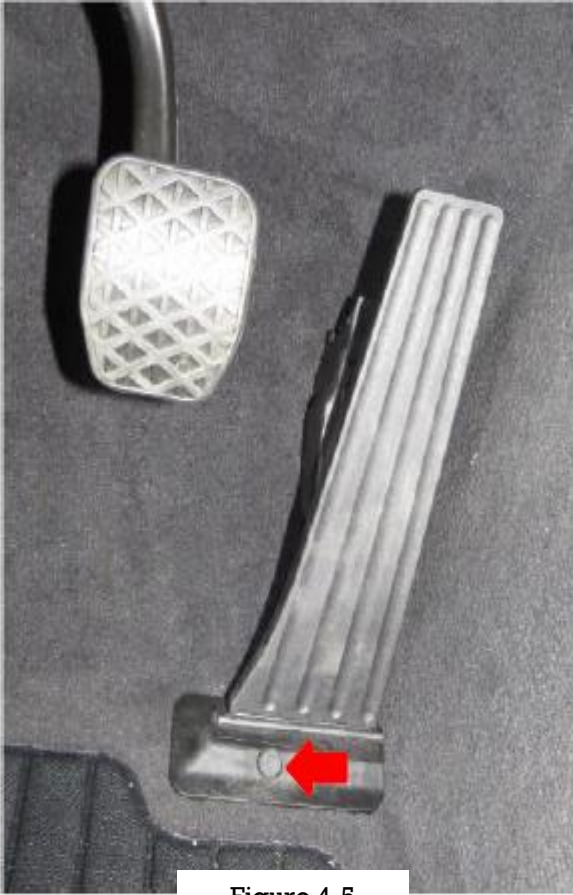


Figure 4-5

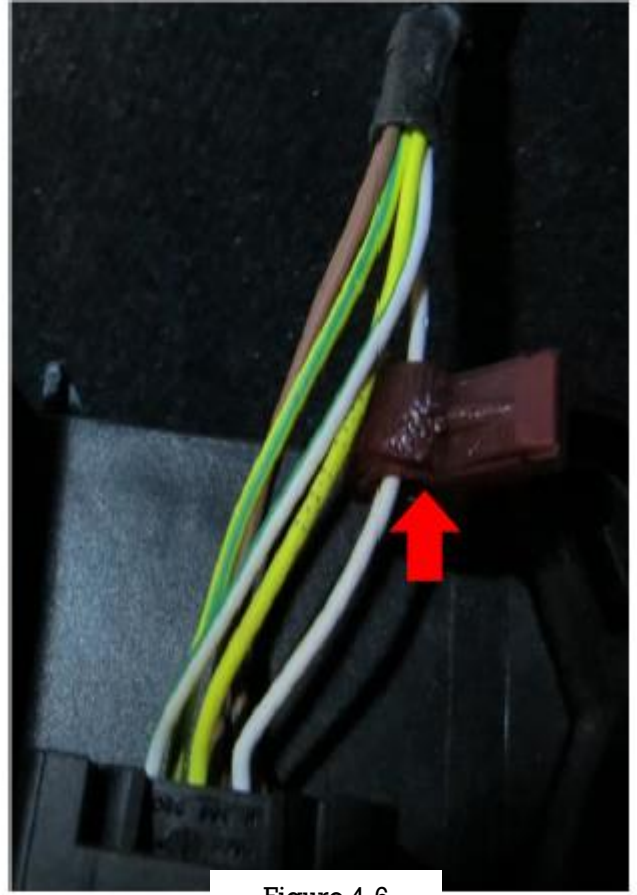


Figure 4-6

6. Control box line installation

(1) Positive pole (Table 3-1 No. 3 red line): Connect the fuse cable under the left cover of the engine compartment. Figure 4-7

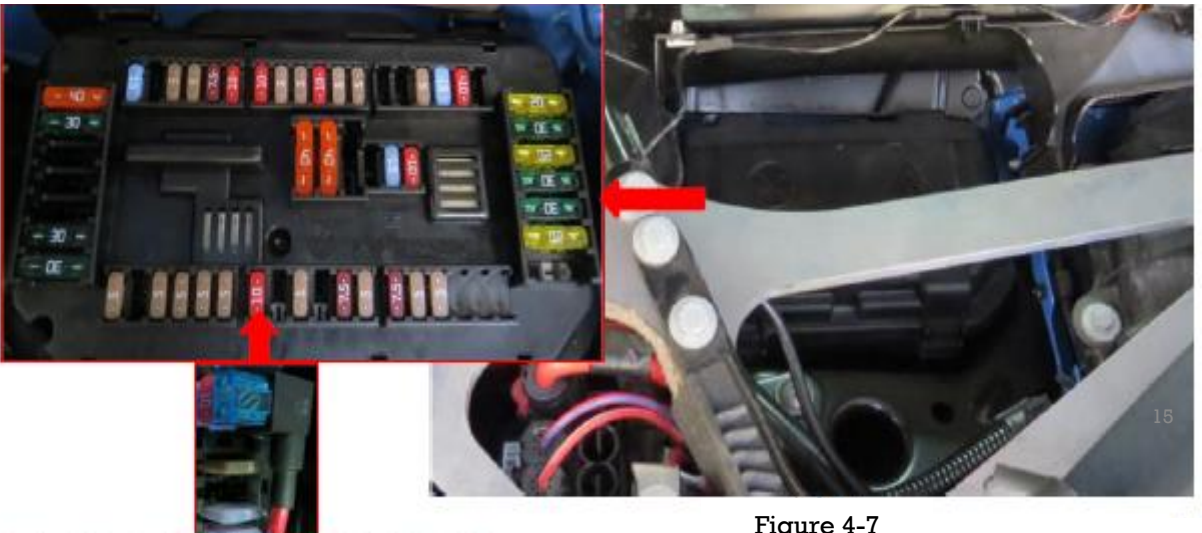


Figure 4-7

※The original car fuse needs to be plugged into the cable ※

(2) Negative electrode (Table 3-1 No. 2 brown line): Locked on the right side of the engine compartment on the grounding screw. Figure 4-8 Red circle



Figure 4-8

After the wiring is completed, follow the control box setting instructions to complete the installation process.