



Innotech Performance  
Exhaust  
Vehicle exhaust system  
technology

# Product Installation Manual

Applicable model: Mercedes  
Benz CLA45 /A45

[WWW.IPE-f1.com](http://WWW.IPE-f1.com)

Version 1

Issue Date : 2014/05/19

## **Preface**

This document explains installation procedures that relates setting and operation methods for the exhaust sold by IPE.

## **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.

## Tools required for Operating Procedures



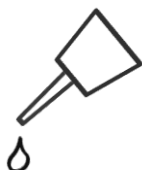
**Star groove wrench, star  
driver  
E10 、 E14**



**Outer hexagonal  
wrench  
13mm 、 14mm  
16mm**



**Torque wrench**

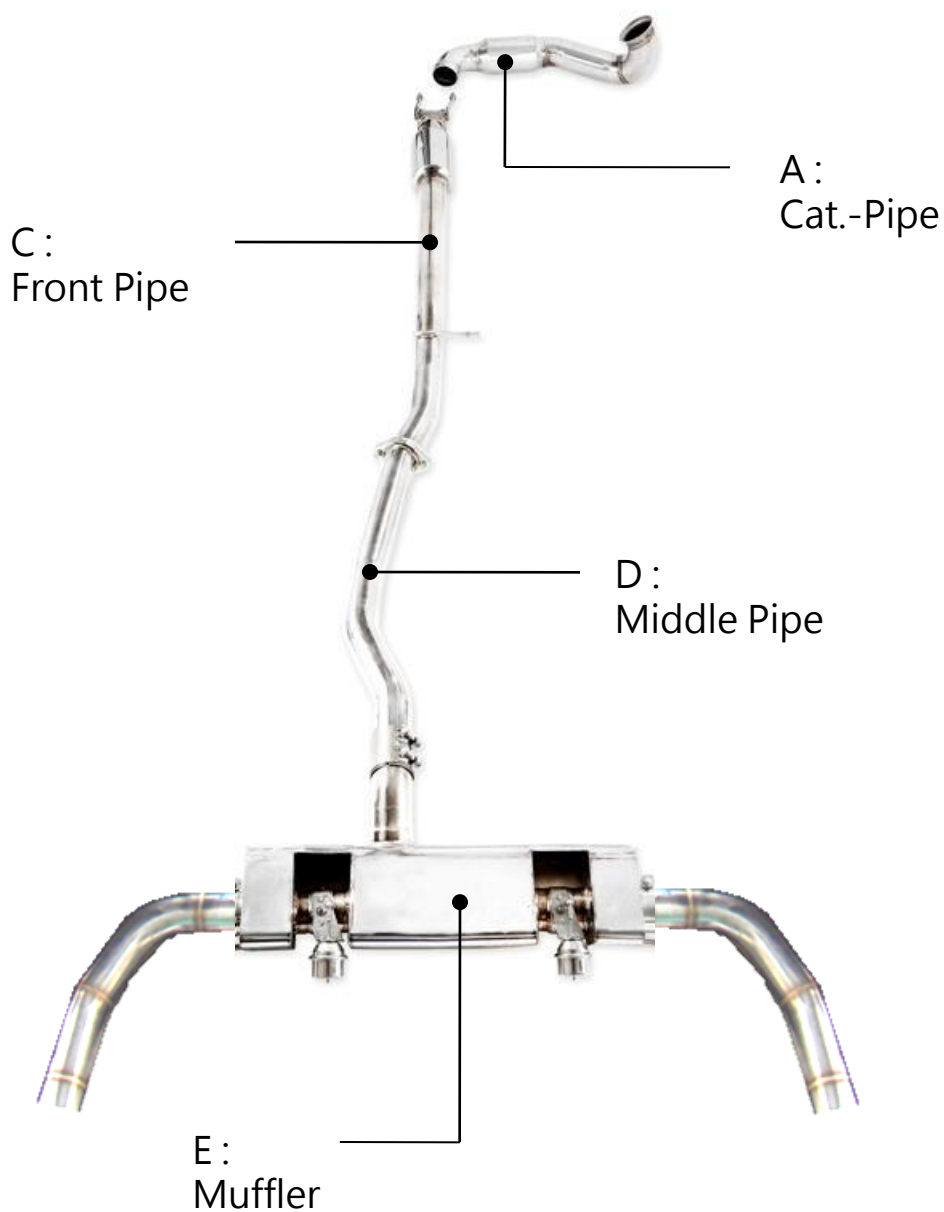


**Rust Preventive spray**



## **iPE CLA45 Assembly of product appearance**

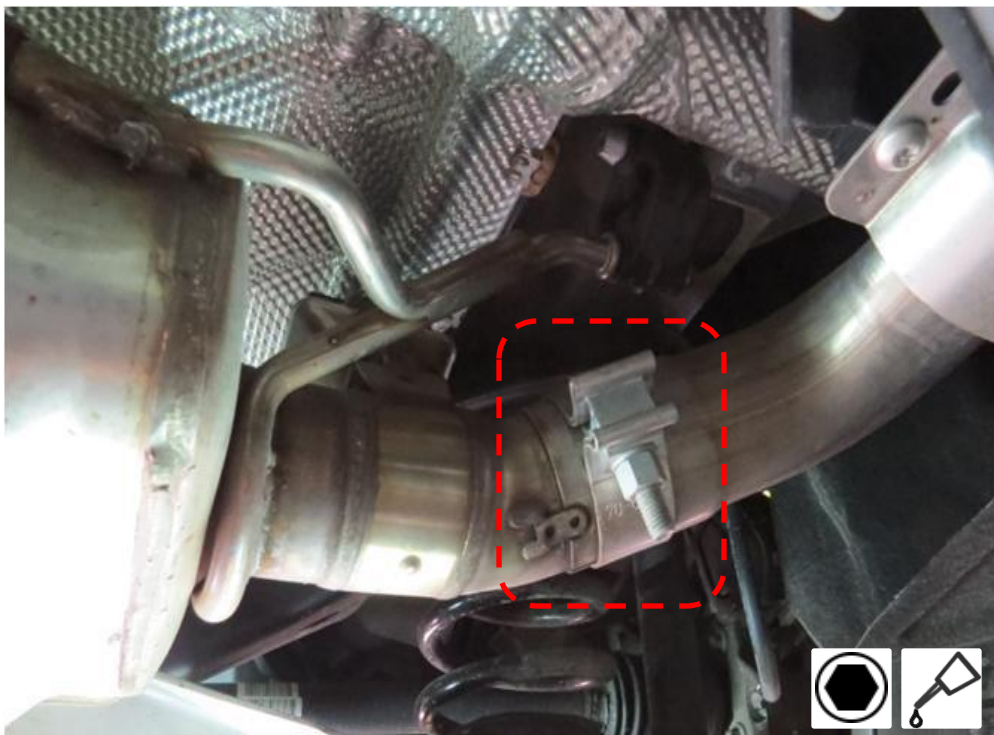
(The product excluding flexible pipe)



## Procedures and related points for Demounting Stock Exhaust

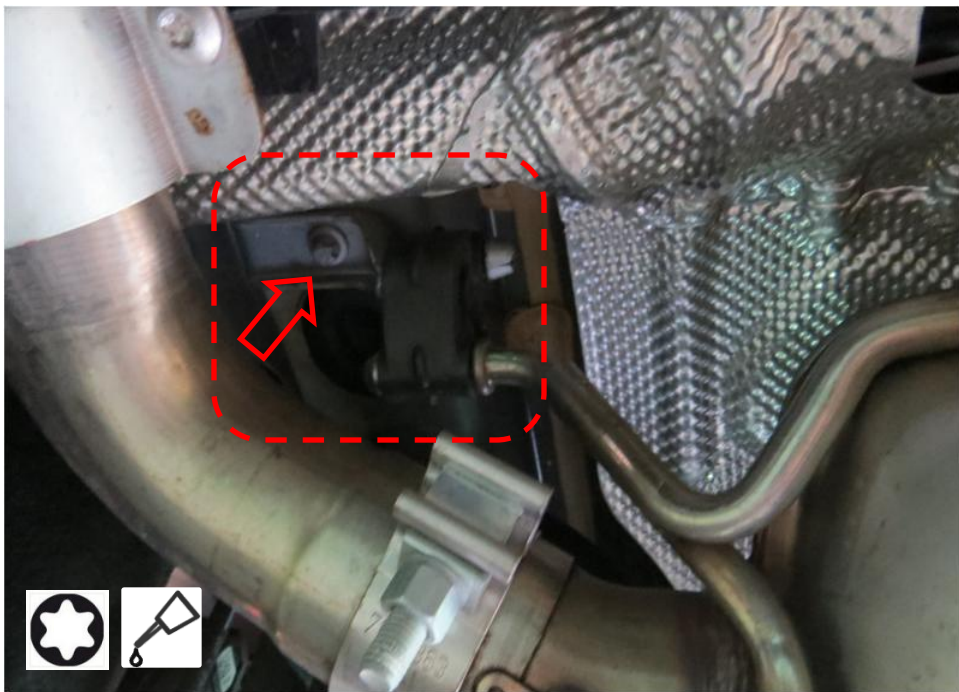
### 1. Demounting the rear muffler

- (1) Loosening both side tip clamps
- (2) Please apply lubricant on screws if necessary



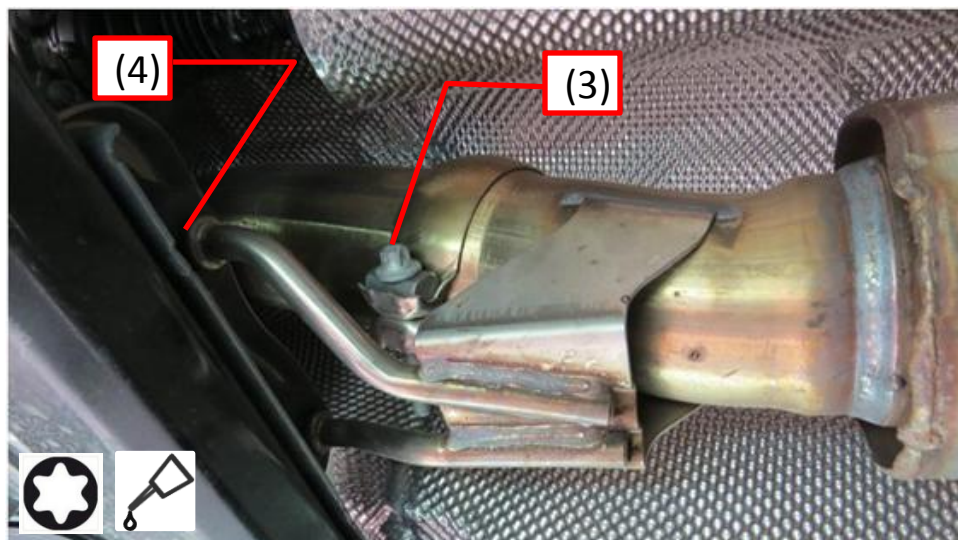
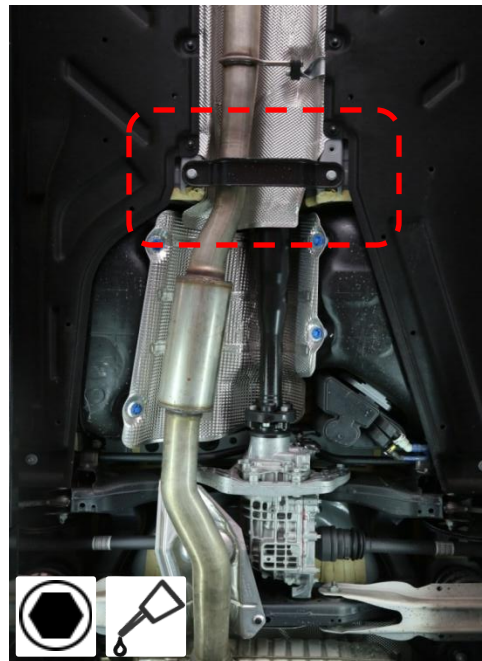
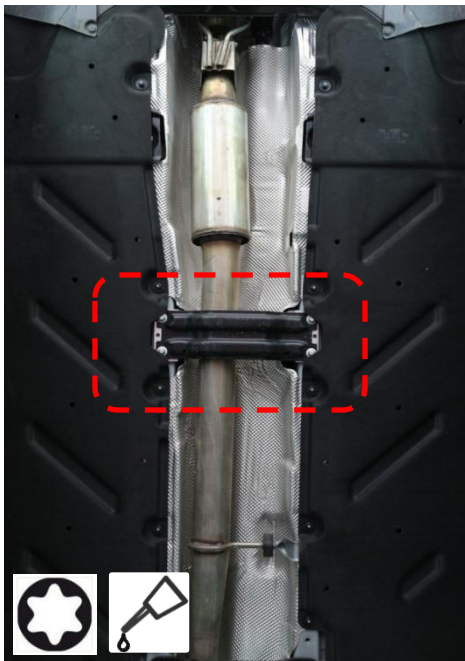
## 2. Demounting rear muffler hangers

- (1) Loosening hangers for pull out hanging lugs or remove hanger retaining seats directly as show as following picture.



### 3. Demounting Front Pipe

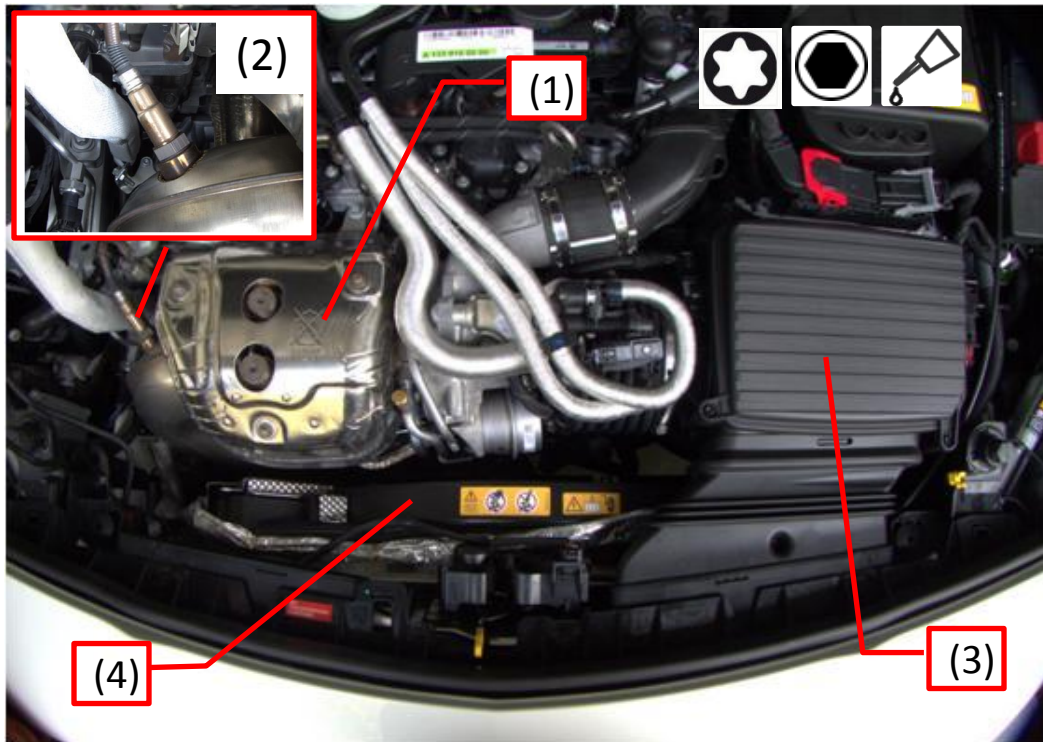
- (1) Demounting reinforcement, 2pcs
- (2) Please apply lubricant on screws if necessary
- (3) loosening screws
- (4) Demounts front hanger by loosening screws then detach these hanging lugs.





#### 4. Notice of removing Cat. Pipe:

- (1) Demounting protection shield
- (2) Demounting oxygen sensors (2pcs)
- (3) Demounting air filter box
- (4) Demounting cooling fan

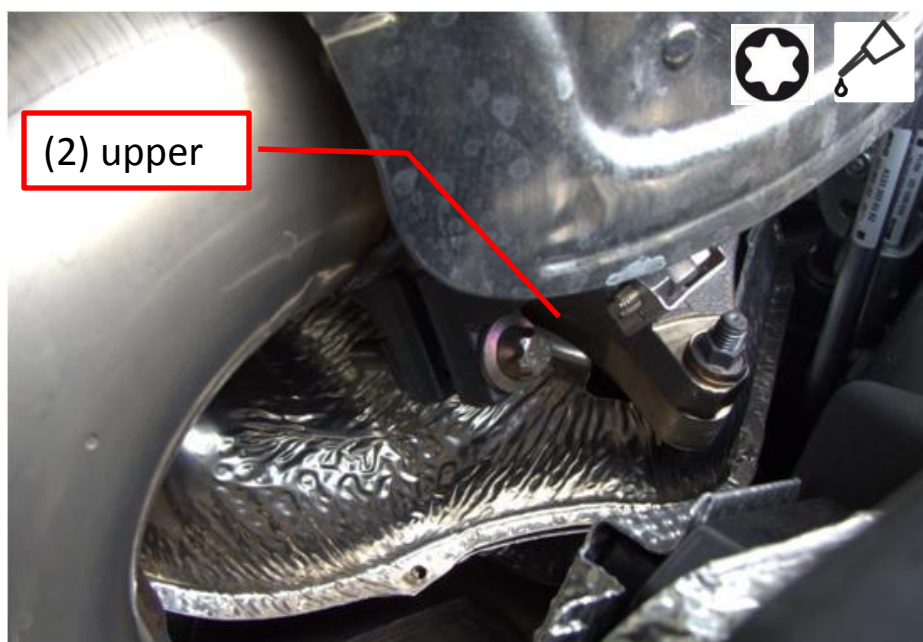
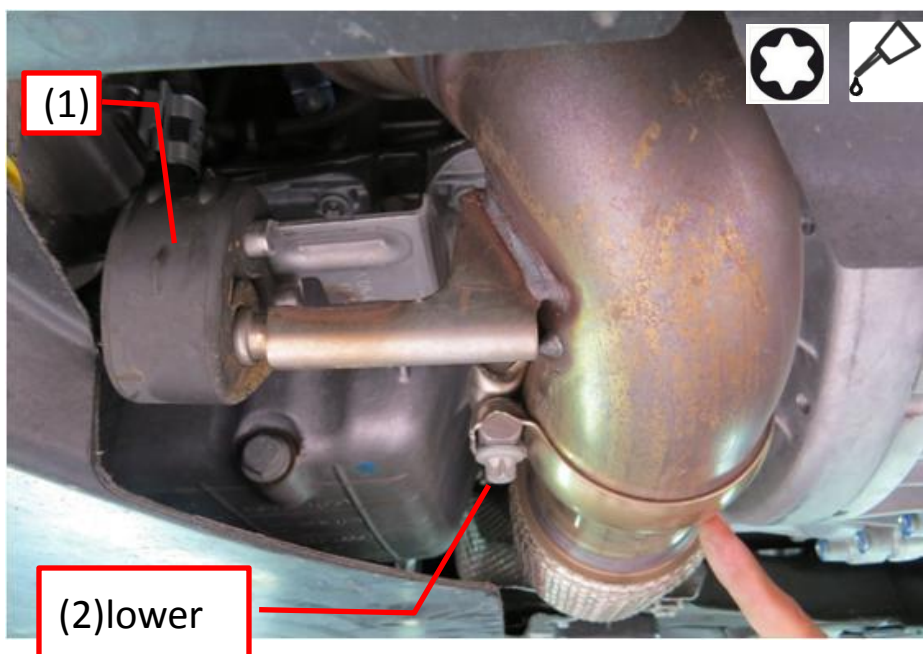




## 5. Demounting clamp and hanger link with cat. pipe

(1) Demounting upper clamp and lower hanger , clamp

(2) Please apply lubricant on screws if necessary



## Procedures and related points of iPE

### Exhaust installation

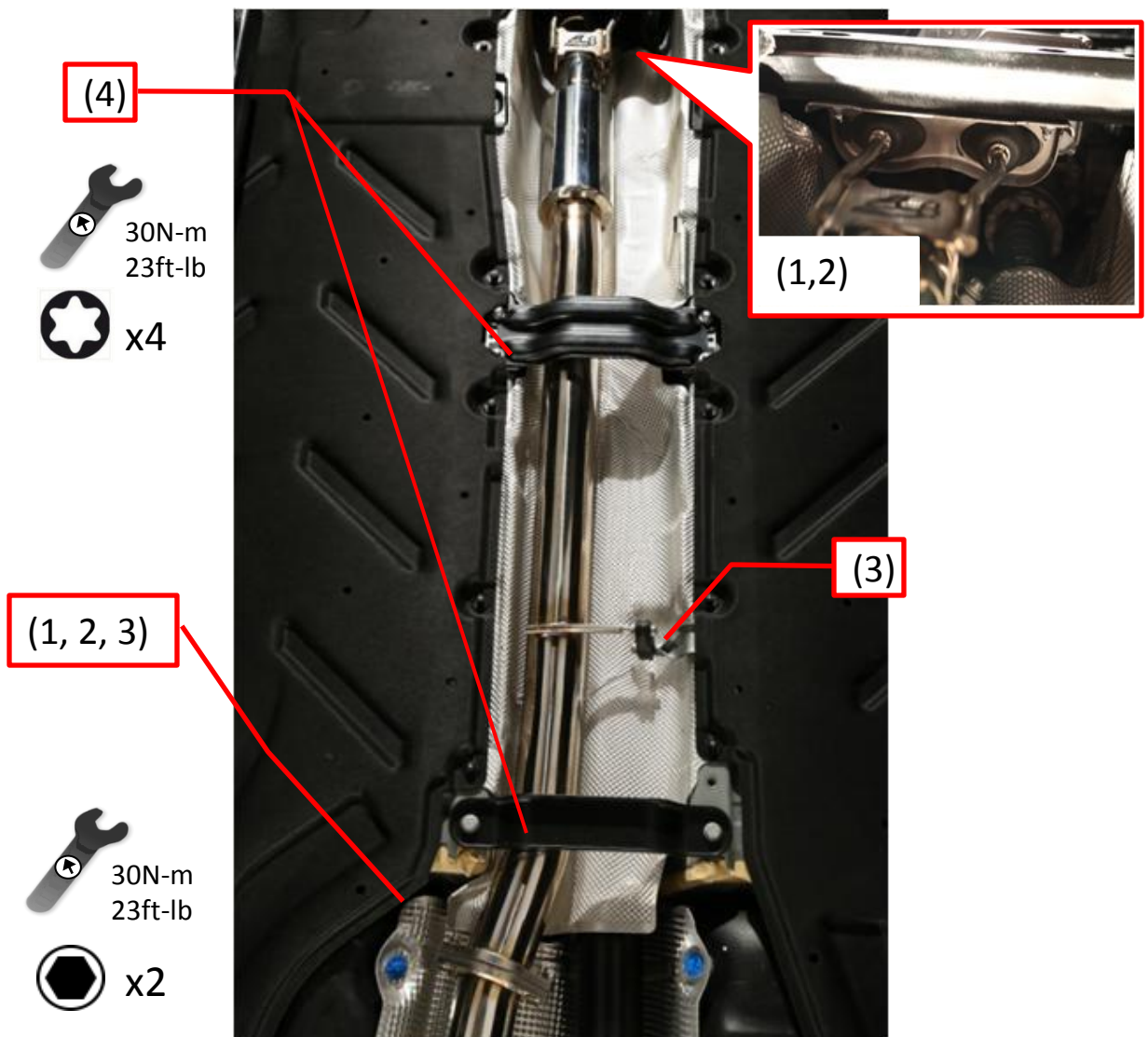
#### 1. Cat. Pipe installation.

Please reverse these orders of demounting cat. Pipe, by referring to page no. 8.



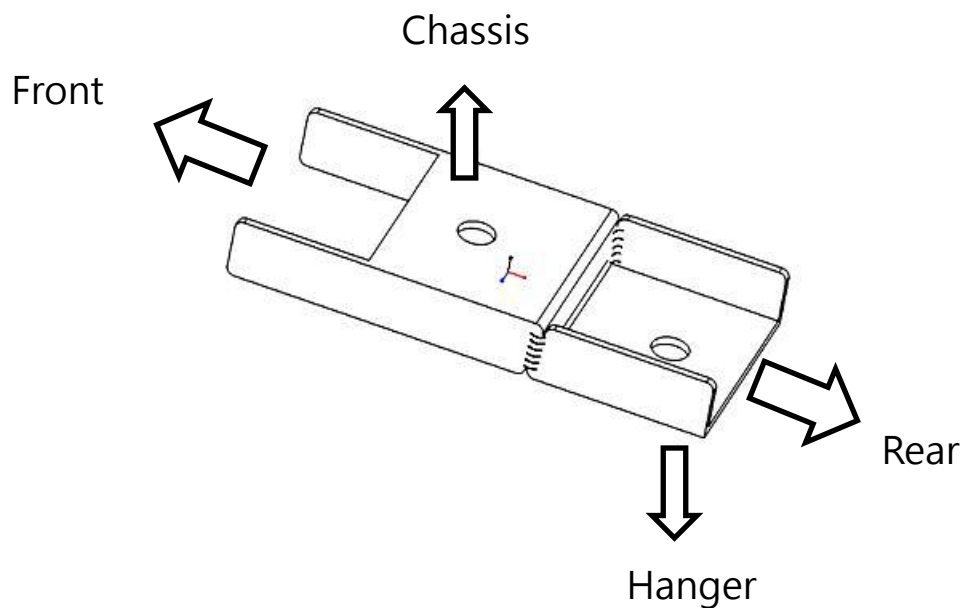
## 2. Middle pipe installation

- (1) Assembly the middle-front and middle-rear first, then the module assembled with car
- (2) Inserting the fork-shape hanger
- (3) Inserting the hanger
- (4) Fastening the reinforcement (2 x set)



### 3. Muffler installation

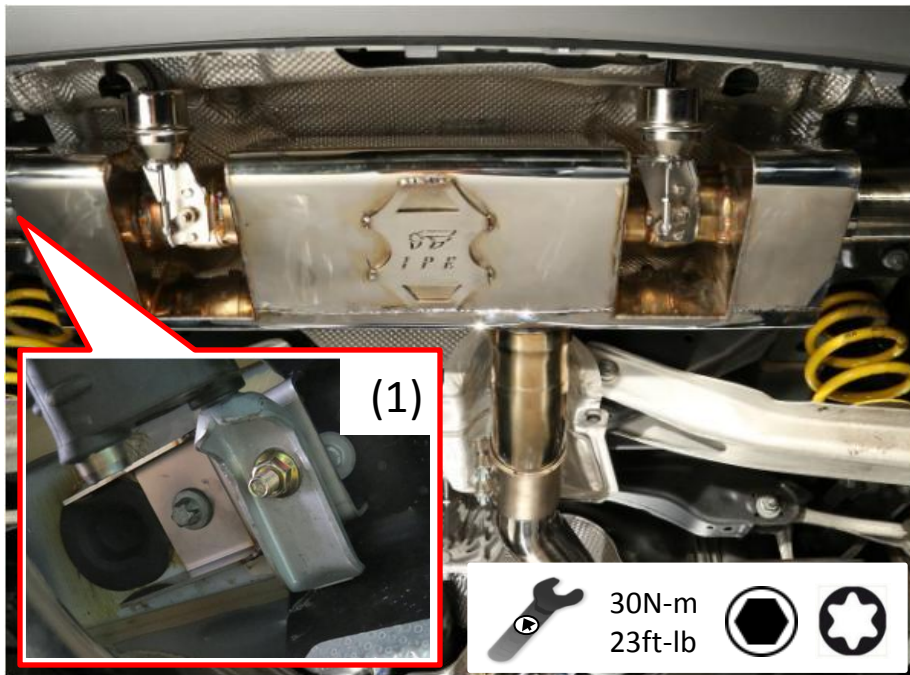
IPE muffler could be compatible for A45 and CLA45,  
The only difference is to add IPE-designed Hanger-extension when installing CLA45 °



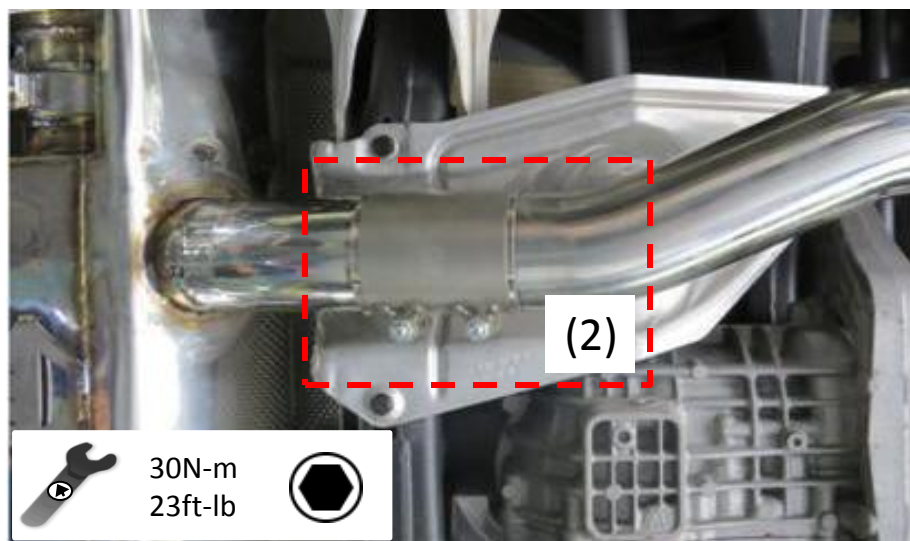
CLA45 Hanger-extension

- ※ Inserting the IPE middle pipe into hanger in advance then fastening hanger screws slightly . When fully assembled, torque-wrench to fasten Cat-Convert, middle segment and muffler sequentially.

(1) Installing the hanger extension (both sides)

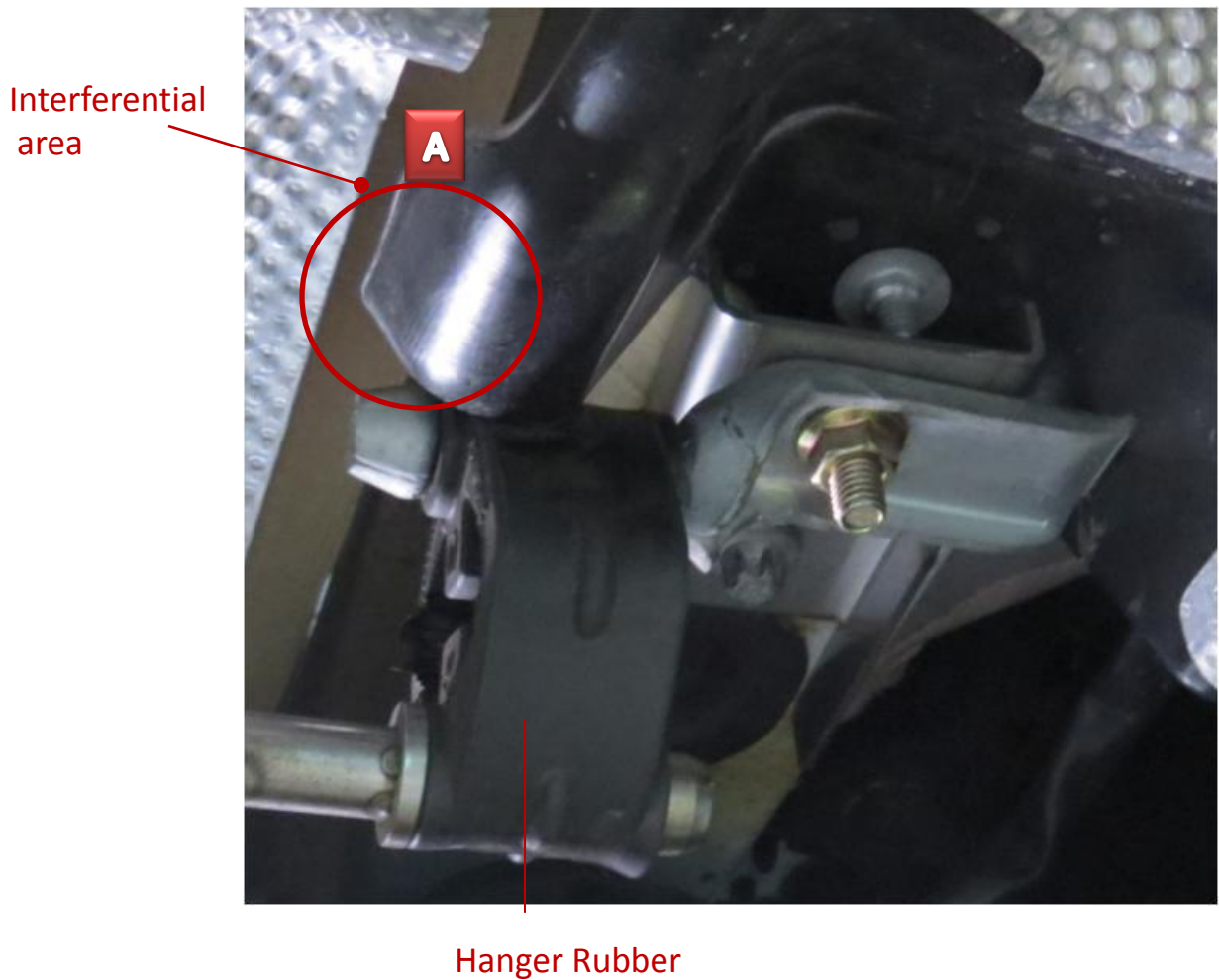


(2) Fastening the band clamp





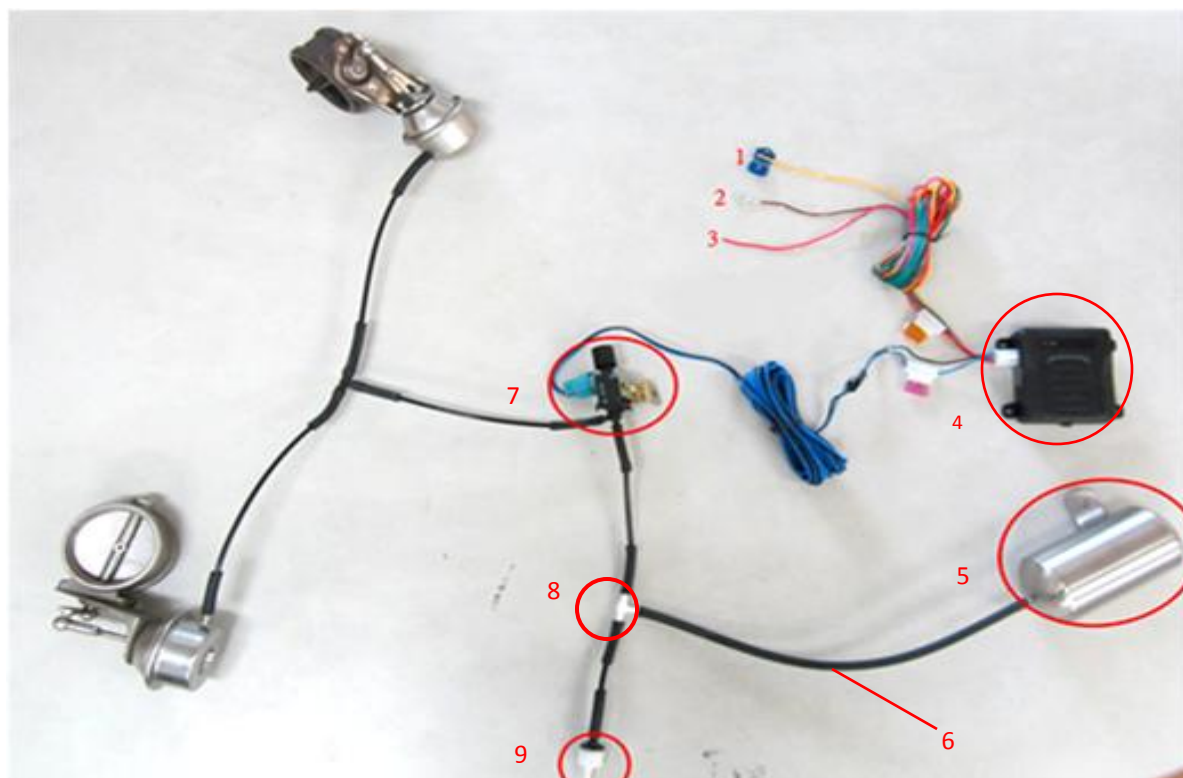
- (3) These both side hanger-extensions will push neighbor plastic shields are normally, it won't raise any anomaly affections. Advised can cut off the interferential area(A) at your will!





# Wiring-harness and Setting

Listed are all parts of control-component and inter-connection, description as indicated °



No.	Description	No.	Description
1	Yellow wire / Gas paddle pressing signal wire	6	Vacuum hose
2	Brown wire / Ground wire	7	Valvetronic solenoid valve
3	Red wire / B+ wire	8	Three-way branch
4	Valvetronic control box	9	One-way valve
5	Vacuum tank		

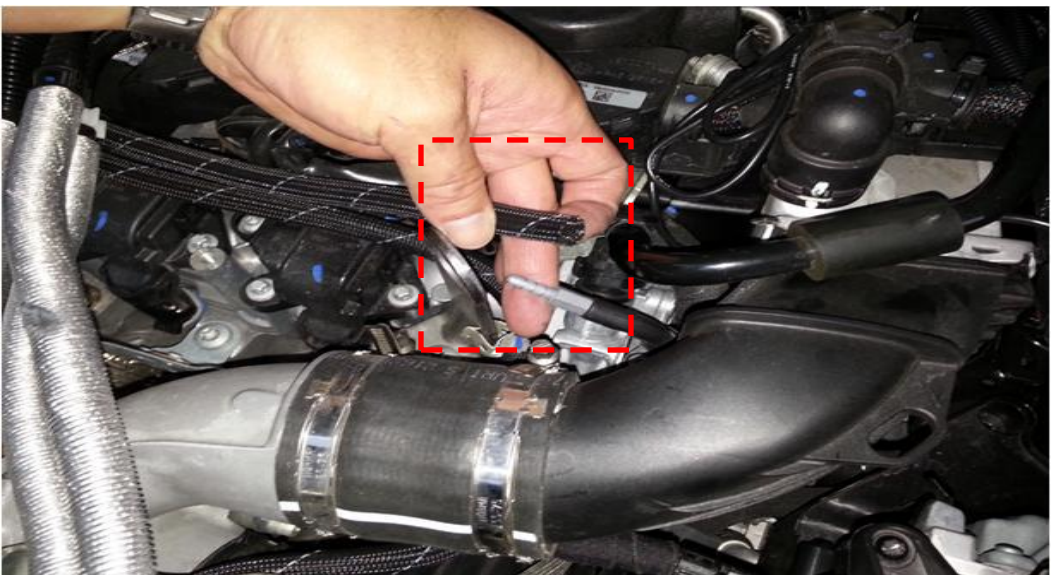
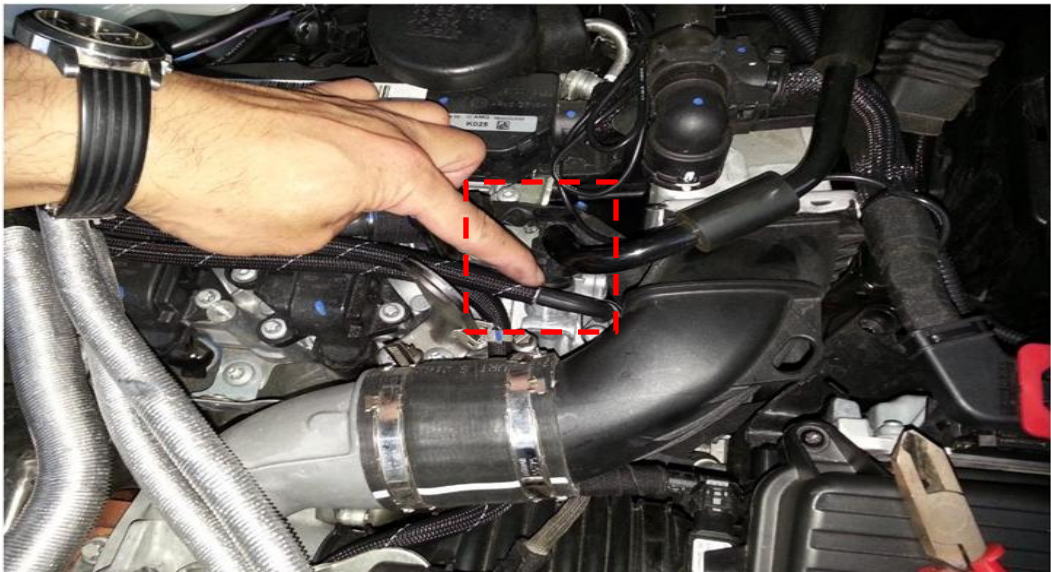
# Installing IPE valvetronic system and related key-points

## 1. Installing the vacuum accessory

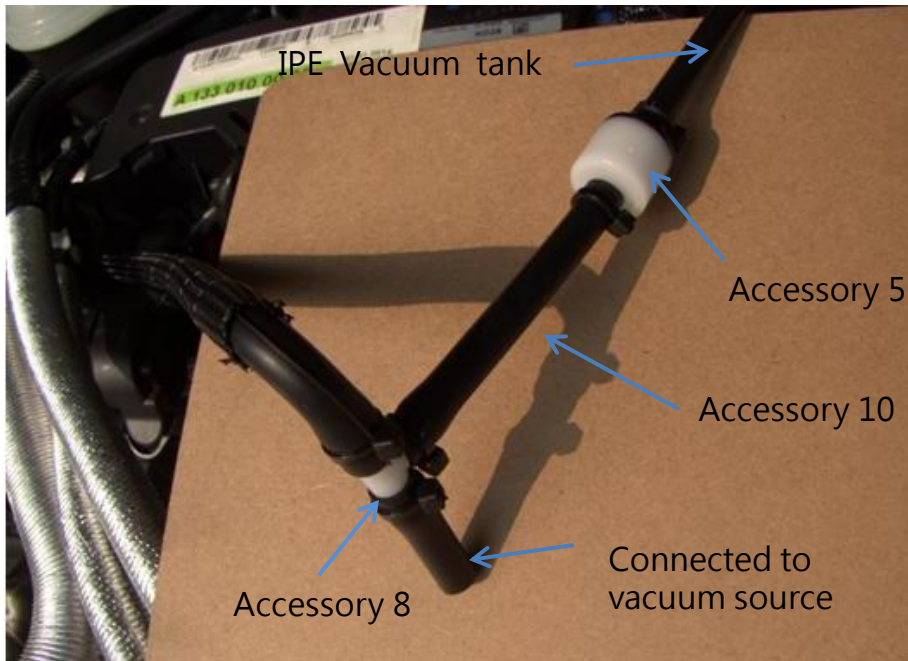
※ Always tighten the connection on vacuum to prevent any air-leakage.

(1) Search out the vacuum source, shows as indicated

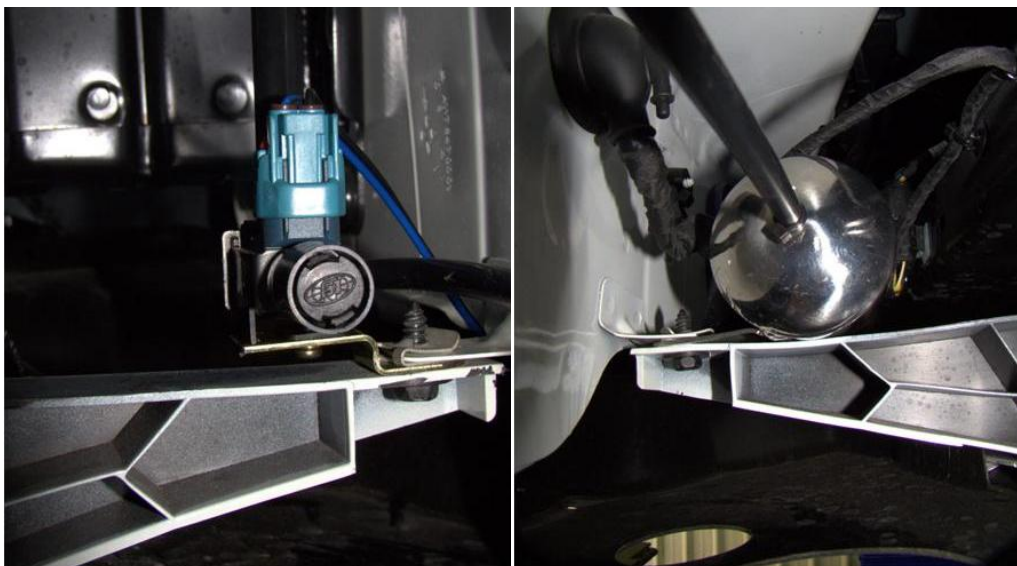
(2) Dismantle the vacuum connection, it's One-way valve.



(3) Dismantle the original L-connection, and install iPE 3 way branch ( no. 8 ) 、 One-way valve and vacuum hose(no. 10) , the excessive hose connects to vacuum tank(no. 7) ◦

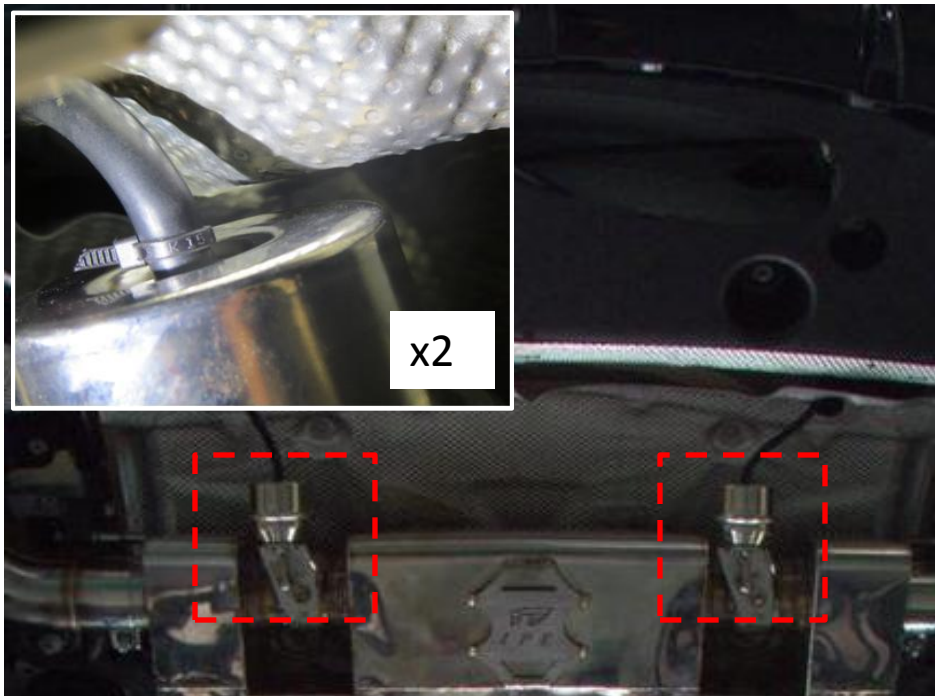


(4) Valvetronic control solenoid valve and vacuum tank could be fastened the internal bracket on rear bumper · 2 x bracket · one piece each side ◦





(5) Connect the ElectroMagnetic valve and the ventilation hole on muffler's valve ( both sides )

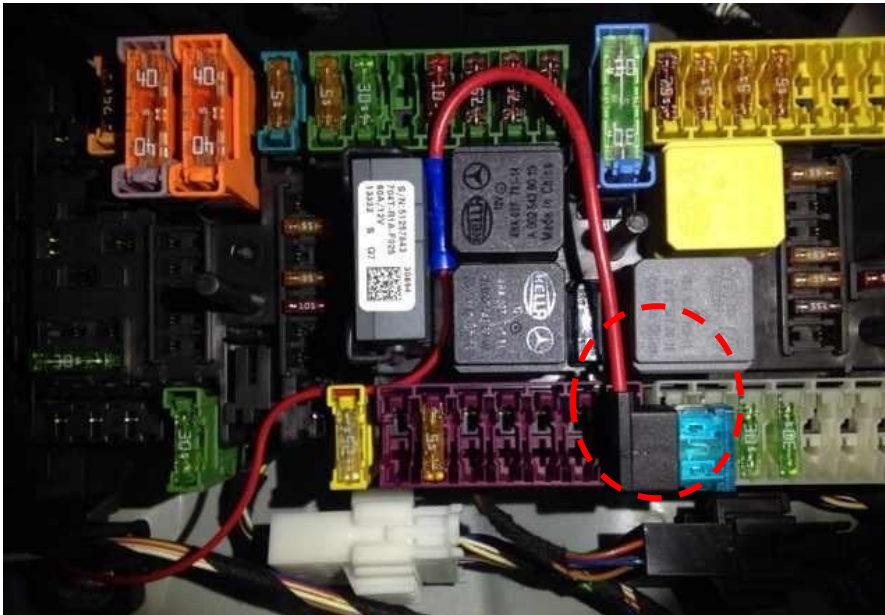


## 2. Installation of Control-box circuit

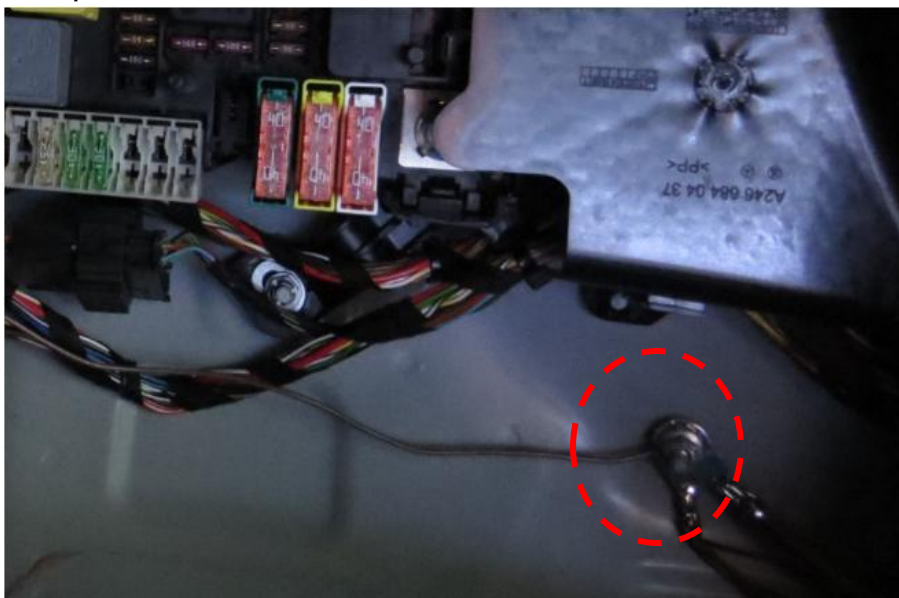
(1) Find out the Fuse-box at the floor mat of co-pilot's seat



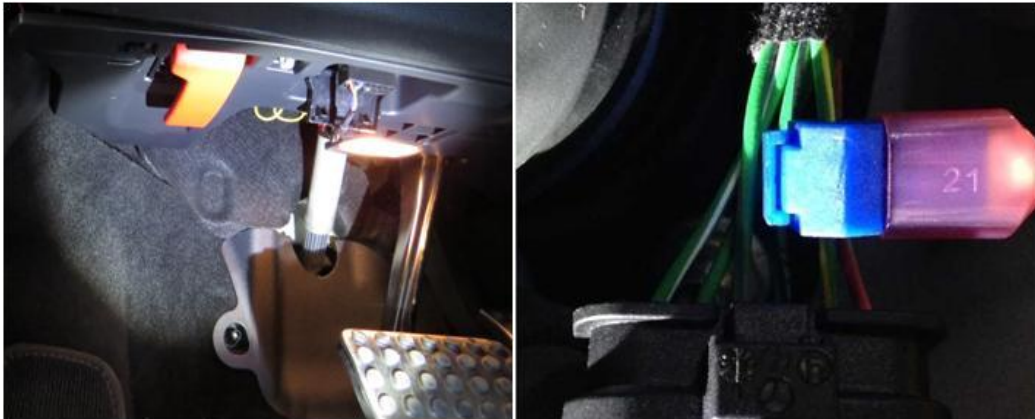
- (2) +15 ⊕ (power on when key on , power off when key off )  
it could be used the related power supply after key control (Fuse No.70 +12v power socket) °



- (3) Find the ground point and fasten the brown wire on ground point °



- (4) Dismantling the cover under gas paddle · find out the signal wire ( yellow-green ) · connects the yellow-wire on valvetronic box (no. 1) °



- (5) Laying the valvetronic control solenoid valve control wire (blue-black/ 2 x wire) properly near to rear bumper °





### 3. Setting the valvetronic valves actuating timing

Setting the voltage value on gas paddle, which correspond to actuate these valvetronic valves.

Formula :  $V3 = (V2 - V1) \times 0.6(\text{gap pad stepped } 60\%) + V1$

Voltage on gas paddle

