



110 INJECTOR

Carfuelinjection

Common Rail Fuel Injection **0445110603** Technical File

Content

1. 0445110603 Fuel Injection Introduction	3
1.1. 0445110603 Fuel Injection Basic Information	3
1.2. 0445110603 Fuel Injection Common Part Number	3
1.3. 0445110603 Fuel Injection Matching Information	3
1.4. 0445110603 Fuel Injection Parameter	3
1.5. 0445110603 Fuel Injection Specifications and Dimensions	3
1.6. 0445110603 Fuel Injection Quality Control	4
1.7. 0445110603 Fuel Injection Customized Service	4
1.8. 0445110603 Fuel Injection Packing List and Package Size	4
1.9. 0445110603 Fuel Injection Testing Standard and Certificate	6
1.10. 0445110603 Fuel Injection Manufacturer	6
1.11. 0445110603 Fuel Injection Warranty Instructions	6
2. 0445110603 Fuel Injection Technical Support	7
2.1. 0445110603 Fuel Injection Part Number Location	7
2.2. 0445110603 Fuel Injection Application Scenarios	8
2.3. 0445110603 Fuel Injection Installation	9
2.4. 0445110603 Fuel Injection Causes of Damage	9
2.5. 0445110603 Fuel Injection Reasons for Not Working Normally	10
2.6. 0445110603 Fuel Injection Technical Support Obtaining Methods	10
3. 0445110603 Fuel Injection Storage Standard	10
4. 0445110603 Fuel Injection Purchase and Delivery	11
4.1. 0445110603 Fuel Injection Purchase Payment Term	11
4.2. 0445110603 Fuel Injection Main Sales Markets	11
4.3. 0445110603 Fuel Injection Declaration Requirements	11
4.4. 0445110603 Fuel Injection Shipping Ways	11
4.5. 0445110603 Fuel Injection Lead time	11
4.6. 0445110603 Fuel Injection Logistics Time for Destination Out of China Areas	11
4.7. 0445110603 Fuel Injection Packing	12
5. Company Information	13
5.1. Company Introduction	13
5.2. Contact Information	14
6. Copyright Notice	14

Common Rail Fuel Injection 0445110603 Technical File**1. 0445110603 Fuel Injection Introduction****1.1. 0445110603 Fuel Injection Basic Information**

Title	Common Rail Fuel Injection 0445110603 CRI2-16 China Made New
SKU	G1W20445110603

1.2. 0445110603 Fuel Injection Common Part Number**(1) Fuel Injection Exchange Information**

Fuel Injection Part Number	Re-manufactured Part Number
0445110603	/

(2) Fuel Injection Application Information

Fuel Injection Part Number	MITSUBISHI HEAVY Car Model
0445110603	32R61-10010

(3) Fuel Injection Part Number Common Writing

32R6110010,32R61-10010,0445110603,0 445 110 603,0 445 110603,0 445110603,0445 110 603,
0445110 603,0445 110603

1.3. 0445110603 Fuel Injection Matching Information

Car Brand	Series	Car Model	Engine Model	Batch Production Date	Power (KW)	Horsepower	Emission Standard	Manufacturer	Emission Volume (L)	Cylinder	Voltage (V)
/	/	/	/	/	/	/	/	/	/	/	/

1.4. 0445110603 Fuel Injection Parameter

Adaptation System: Common Rail System

Fuel Injection Series: 110 Series

Parameter Performance: CRI2-16

Matching Accessories: /

Fuel Injection Type: Electromagnetic Fuel Injection

Support System Maximum Pressure: 1600

Vehicle Configuration Information: MITSUBISHI HEAVY

1.5. 0445110603 Fuel Injection Specifications and Dimensions

Fuel Injection Size: 21cm*7 cm *6cm= 882cm³ (L*W*H=V)

Fuel Injection Net Weight: 0.45kg

Gross Weight: 0.6kg

Fuel Injection Quality: China Made New

Package Size: 28cm*7 cm *7 cm = 1372 cm³

Fuel Injection Type: Common Rail Fuel Injection

MOQ: 4 Pieces

1.6. 0445110603 Fuel Injection Quality Control**(1) Fuel Injection Testing**

All fuel injection spare parts are tested for electrical characteristics, accuracy, high temperature, low temperature, withstand voltage, leakage, durability, and various working conditions.

(2) Fuel Injection Assembling

And the quality control of the fuel injection production and installation process, our company strictly follows the standard product installation data and product installation steps to install, such as fuel injection stroke test, fuel injection solenoid valve tightening torque, fuel injection nozzle tightening torque,

(3) Fuel Injection Inspection

The factory inspection of the fuel injection is undergone full inspection, random inspection, and batch inspection three inspections. Different brands of test benches are used to test the same fuel injection for a total of no less than three times for factory inspection, and the fuel injection installation testing environment are progressed in dust-free workshop.

1.7. 0445110603 Fuel Injection Customized Service

(1) Fuel Injection Customized Service: Meet the customized needs of OEM manufacturers for shell lettering, logo engraving, fuel injection internal packaging, fuel injection external packaging and labels customized, etc.

No.	1	2	3
Image			
Name	Fuel Injection Nozzle Engraving	Fuel Injection Solenoid Valve Engraving	Fuel Injection Box And Label

(2) Fuel Injection Customized Service Requirements:

The purchase of **customized fuel injection** are not less than **10 pieces**.

The purchase of **customized fuel injection packages** no less than **1000 pieces**.

When the customized products involve the need of specify logo, the OEM manufacturer is asked to provide trademark authorization and the sample of logo image file.

⚠ **Once the customized fuel injection is sold, it cannot be returned or exchanged if there is no quality problems.**

1.8. 0445110603 Fuel Injection Packing List and Package Size**(1) Fuel Injection Spare Parts List**

No.	1	2	3
Image			
Name	Fuel Injection	O-Ring	Gasket F 00V C17 503
Description	Part number: 0445110603	Ensure to meet the standard of the sealing performance between the Fuel Injection and the engine	Made of brass, used to ensure the tight fit between the fuel injection cap end and the engine
No.	4	5	6
Image			
Name	Nozzle Protective Cover Cap	Fuel Injection Oil Inlet Protective Cover Cap	Oil Return Hole Protective Cap
Description	Protect nozzle holes from being polluted and blocked	Protect oil inlet from being polluted and blocked	Protect the oil return hole being polluted and blocked
No.	7	8	9
Image			
Name	VCI Anti-rust Bag	Bubble Bag	Fuel Injection Packing Box
Description	Prevent Fuel Injection from rusting	Prevent the Fuel Injection from being damaged by external forces	Place Fuel Injection and Fuel Injection accessories

⚠ Minors are forbidden to use the fuel injection assembly, O-ring, gasket, nozzle protective cover, Fuel Injection house protective cover, solenoid valve protective cover, VCI anti-rust bag, and air bubble bag to avoid personal injury.

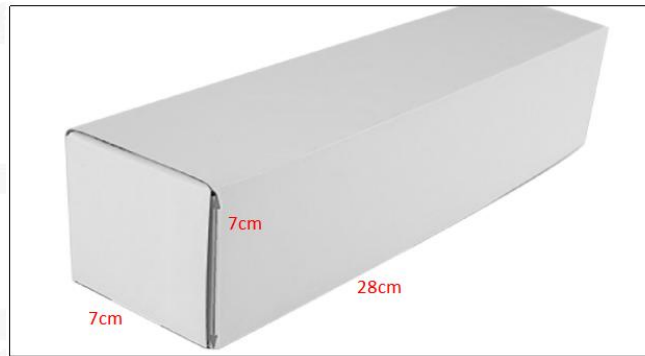
⚠ O-ring and gasket are disposable installation accessories, and need to be replaced for re-installation.

⚠ The nozzle protective cover, the Fuel Injection house protective cover, and the solenoid valve protective cover are recyclable accessories that can be reused.

⚠ VCI anti-rust bags and bubble bags are non-degradable materials, please dispose of them properly after using.

⚠ The fuel injection and the installation parts should be coated with appropriate sealing oil during installation.

(2) Fuel Injection Box Size



Pic No.1

No.	Name	Fuel Injection Package Size (cm)
1	Fuel Injection Box	28*7*7

1.9. 0445110603 Fuel Injection Testing Standard and Certificate

We can provide the factory quality inspection test report of each fuel injection to ensure that each fuel injection delivered meets the engine performance indicators.

BOTEN		测试报告		4.05.2019 10:42:09	
企业名称: _____ 电话: _____ 地址: _____ 传真: _____ 检测人: _____ 客户地址: _____ 电话: _____ 检测单位: _____ 传真: _____ 客户姓名: _____ 检测描述: _____ 检测名称: 检测器 型号-零件号: _____ 配置号: _____					
检测结果					
检测标准号: C94002-6511 检测标准号: 检测标准号: 检测标准号: 检测标准号:					
ICAR TEST:	3E	4	4.5	4.5	✓
Back:	3E	4	4.5	4.5	✓
WAFER:	3E	4.5	4.5	4.5	✓
Max:	2915	2915	2915	2915	✓
TL:	284	284	284	284	✓
TL:	141	141	141	141	✓
VE:	4.5	4.5	4.5	4.5	✓

Pic No.2

1.10. 0445110603 Fuel Injection Manufacturer

Fuel Injection manufacturer: Shenzhen Shumatt Technology Co., Ltd

1.11. 0445110603 Fuel Injection Warranty Instructions

(1) Product Warranty Conditions and Instructions

It is necessary to provide pictures, videos, or test reports detected by the fuel injection inspection equipment when the fuel injection is abnormal during use as evidence to feed back to the salesman.

Abnormal conditions are properly explained such as : 1.Smoke, 2. Engine shake, 3. Difficulty starting the engine, 4. Engine noise, 5. oil leakage etc.

(2) Fuel Injection Warranty Coverage

Within 15 days after customer receives the 0445110603 fuel injection, if there is a performance failure and the product has no appearance damage, customer can choose to replace it or repair it;

If the 0445110603 fuel injection has performance problems during the warranty period (6-12 months), and it is confirmed that it is product problems after testing, you can contact our salesmen to replace the same model or a reworked product with the same performance for free;

If the fuel injection house has obvious scratches, it can only be repaired and it will be returned as it is if the product is confirmed to be fault-free.

⚠ Tips: For products not covered by warranty, our company can provide paid maintenance services. For products after paid repaired, the same performance problem will have a free warranty period within 3 months from the date of repairing.

(3) Fuel Injection Out of Warranty Coverage

- The warranty period has expired.
- Fuel injection failure caused by high temperature, high pressure, humidity, rain and snow, saline-alkali land, earthquake, and used in abnormal environment.
- Customer disassembles or repairs the Fuel Injection personally resulting in damage to the Fuel Injection.
- Fuel injection damage caused by man-made reasons (throwing, strong magnetic field magnetization, set fire).
- Fuel injection failure or Fuel Injection damage caused by non-Fuel Injection design, technology, manufacturing, quality and other issues.
- Fuel injection failure due to system pressure exceeding system approved pressure.
- Fuel injection failure caused by system voltage exceeding approved voltage.
- Fuel injection failure caused by impurities (water, lead, aluminum powder, iron powder, sulfide) in the system fuel exceeding the standard requirements.
- Fuel injection failure caused by not installing according to the tightening torque specified in the vehicle engine maintenance manual (the tightening torque is too large or too small).
- Fuel injection failure caused by not following the installation angle specified in the vehicle engine maintenance manual.
- Fuel injection failure caused by not following the cleaning requirements specified in the vehicle engine maintenance manual.
- Fuel injection failure caused by failure to replace consumable parts as specified in the vehicle engine maintenance manual.
- Fuel injection failure caused by not complying with the intake system fit clearance and exhaust system fit clearance requirements specified in the vehicle engine maintenance manual.
- Failure to replace the consumable parts and the fitting clearance of the oil inlet system pipeline and the Fuel injection connection in accordance with the fuel intake system specified in the vehicle engine maintenance manual.

2. 0445110603 Fuel Injection Technical Support

2.1. 0445110603 Fuel Injection Part Number Location

E.g.: The fuel injection part number see as follows

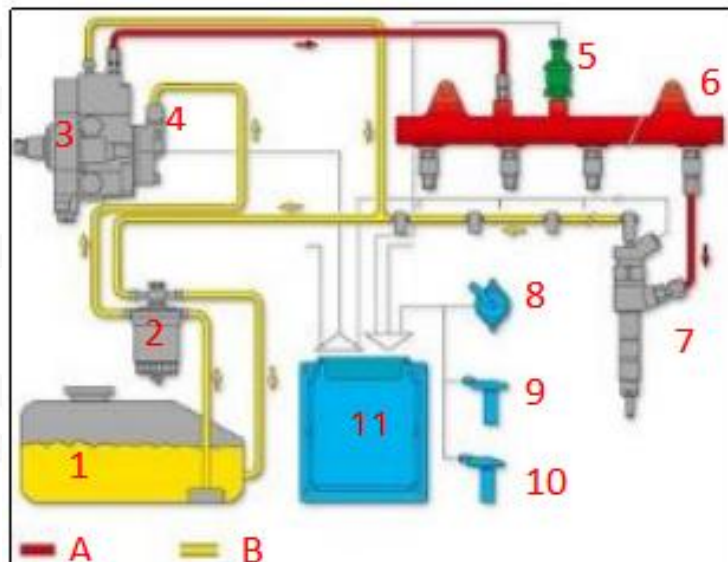


Pic No.3

No.	Name
A	brand, logo, part number, series number
B	nozzle part number

2.2. 0445110603 Fuel Injection Application Scenarios

Common rail system is an oil supply method refers to the diesel oil from the fuel tank sucked out by the gear pump through the oil-water separator and the gear pump to diesel fine filter, high-pressure pump, common rail pipe, and fuel injection, all together with the closed-loop fuel supply system composed of sensors and ECU that completely separates the generation of injection pressure and the injection process from each other.



Pic No. 4

No.	Name	No.	Name	No.	Name	No.	Name
1	Tank	5	Common Rail Pressure Sensor	9	Engine Crankshaft Sensor	A	High Pressure Oil Circuit
2	Diesel Filter	6	Common Rail Pipe	10	Camshaft Sensor	B	Low Pressure Oil Circuit
3	High-Pressure Pump	7	Fuel Injection	11	ECU Electronic Control Unit		
4	Fuel Gear Pump	8	Accelerator Pedal				

2.3. 0445110603 Fuel Injection Installation

0445110603 Fuel Injection Installation Precautions:

- The replacement of the fuel injection must strictly follow the electrical system, the approved pressure of the low-pressure fuel intake system, the approved pressure of the high-pressure fuel circuit system, and fuel system replacement consumables requirements (including the low-pressure fuel circuit system filter and the high-pressure fuel circuit) specified in the vehicle engine maintenance manual,
- Replacement of wearing parts of the fuel system, cleaning requirements for the connection between the fuel system and the fuel injection, the fitting clearance of the fuel injection connection, the installation angle and tightening torque of the fuel injection, the fitting clearance of the intake system, and the fitting clearance of the exhaust system to ensure the service life of the engine and the normal operation of the fuel injection.
- When installing the fuel injection on the engine, it is necessary to clean the engine block, cylinder head and other parts connected to the fuel injection, and ensure that there is no dust, carbon deposits, water, rust spots, etc.
- Before installing, check whether the fuel injection nozzle gasket has been replaced and installed on the fuel injection.
- When installing the fuel injection, apply lubricant between the fuel injection, fuel nozzle sealing gasket and O-ring.
- Without replacing new gasket can lead to: deformation of the tight cap of nozzle, deformation of nozzle, deformation of nozzle orifice, oil leakage and air leakage, which will cause serious damage to the fuel injection and nozzle to break and cause damage to the engine.
- When installing the fuel injection on the engine, please carefully check the components related to the installation of the fuel injection, such as the fuel injection pressure plate, screw, fuel injection rod and other accessories are not deformed, and install it in strict accordance with the operation steps of the engine maintenance manual.
- It is forbidden to operate the bare fuel injection for a long time in an environment with serious dust pollution and corrosion to iron products.
- It is forbidden to operate the bare fuel injection for a long time in a strong magnetic field environment.

2.4. 0445110603 Fuel Injection Causes of Damage

- (1) Didn't operate properly according to engine maintenance manual during disassembly or installation, resulting in damage to the fuel injection .
- (2) The fuel oil used for the vehicle does not meet the standard cause damage to the fuel injection, such as: the water content in the fuel oil exceeds the standard, iron powder, aluminum powder, sulfide impurities exceed the standard, etc.
- (3) The engine is not regularly maintained according to the engine maintenance manual (please refer to the vehicle maintenance manual for the maintenance mileage). For example, failure to replace the lubricating oil of the engine system for a long time will cause abnormal wear of the engine, excessive exhaust gas volume or a large amount of carbon deposits inside the engine. The filter is not replaced during maintenance or the replaced filter cannot reach the original filter standard. all above reasons can cause damage to the fuel injection.
- (4) The abrasion of the oil pump produces iron powder and aluminum powder enter the fuel injection and cause damage to the fuel injection.
- (5) The deformation and abrasion of fuel tank result in iron powder or aluminum powder entering the fuel injection and causing damage to the fuel injection.

- (6) The fuel injection is damaged due to replacement or adjustment of the relevant parts of the fuel injection. For example, the valve clearance does not meet the standard after the engine is repaired, the replacement or modification of the wiring harness connected to the fuel injection fails to meet the original standard.
- (7) The engine is overheated and overloaded for a long time working results in damage to the fuel injection.
- (8) The fuel injection will be damaged naturally at the end of its working life.
- (9) The fuel injection is magnetized (fuel injection parts' magnetic exceeded) causing the fuel injection to not work properly.

⚠ Before replacing the fuel injection, please check the engine parts carefully according to the engine maintenance manual to avoid the fuel injection being damaged again after replacement.

2.5. 0445110603 Fuel Injection Reasons for Not Working Normally

- (1) There is air in the oil circuit of the engine fuel system.
- (2) Vehicle oil pump oil supply system is not normal.
- (3) Engine common rail system oil leakage or pressure limiting valve damage.
- (4) There is a short circuit, cutting out and poor contact in the wiring harness connected to the fuel injection of the vehicle.
- (5) The long-term placement of the fuel injection causes the anti-rust oil to solidify, and the internal components are stuck or the oil holes are blocked.

⚠ Before installing, carefully check whether other components in the common rail system except the fuel injection are damaged so as to prevent the fuel injection from not working properly after being replaced.

2.6. 0445110603 Fuel Injection Technical Support Obtaining Methods

- (1) Fuel Injection Technical File , visit <http://shumatt.com> to get the technical file.
- (2) Fuel Injection Technical Videos

Facebook: Visit <https://www.facebook.com/hison.li> to get the technical videos, constantly follow can get more information.

YouTube : https://www.youtube.com/channel/UCByvYBx7VjV_mAfxh_Hu-aw to get the technical videos, constantly follow can get more information.

Shumatt: Visit <http://shumatt.com> to get the technical videos.

(3) Fuel Injection Information Query Software
TruckBook Parts EPC APP, Android/Apple App Store download and install, visit <http://shumatt.com> to get the download and installation tutorial

(4) Search The fuel injection test data through TruckBook Parts EPC APP.

3. 0445110603 Fuel Injection Storage Standard

(1) Choose a Suitable Storage Place

The warehouse and cargo yard where the fuel injection is stored should be kept clean and dry, and away from the factory buildings that generate harmful gases and dust; do not mix with acids, alkalis, salts and other substances; the storage place should have a good drainage system; the cargo yard should be flattened with gravel or furnace ash etc. to enhance the water permeability of the surface layer to keep the reservoir area dry.

(2) Strict Requirements of Warehousing

Strict inspections should be carried out when the fuel injections are put into storage, the surface cleaning work should be done well to remove water traces, oil stains, ash and other dirt, remove the rust

and do anti-rust treatment in time. Packaged fuel injections must be protected from damage.

(3) Keep The Warehouse Dry And Preventing Moisture

The relative humidity is usually below 70% for the fuel injections placed in the room, and the corrosion of the fuel injections is significantly reduced.

fuel injections must be stored in the warehouse, and they are forbidden to store in the same warehouse with commodities with high water content.

(4) Stack Properly

After the fuel injection is exposed to rain, the corrosion rate will increase significantly. The purpose of sealing is to isolate the fuel injection from rainwater and humid air, so the warehouse window should be checked in time to avoid rainwater entering the warehouse

If the fuel injection package is damaged, it should be repaired or replaced; when the package is damp, the packaging material should be dried; if the original anti-corrosion and oil applied at the factory is found to be damaged or dried up, it should be cleaned and re-applied oil in time.

- ⚠ It is forbidden to leave the fuel injection exposed in the air for a long time.
- ⚠ It is forbidden to store acids, alkalis, salts and other substances together with the fuel injection.
- ⚠ The unpacked fuel injection must be rust-proof during secondary storage.

4. 0445110603 Fuel Injection Purchase and Delivery

4.1. 0445110603 Fuel Injection Purchase Payment Term

Payment Terms: T/T, PayPal, Alipay, WeChat

Please contact our salesmen for specific payment information.

4.2. 0445110603 Fuel Injection Main Sales Markets

Fuel Injection main sales markets: Asia, Europe, North America, South America, Africa etc.

4.3. 0445110603 Fuel Injection Declaration Requirements

Shumatt can assist customers to provide the following documents for import customs clearance: contract, invoice, packing list, bill of lading, insurance policy, certificate of origin, etc.

4.4. 0445110603 Fuel Injection Shipping Ways

Destination in China areas: SF Express, Debon Express, the corresponding logistics company can be provided according to customer requirements in special cases.

Destinations out of China areas: DHL, UPS, FedEx, TNT air, ocean or other shipping methods required by customers.

4.5. 0445110603 Fuel Injection Lead time

Lead time: Send out within 3 – 7 working days after receiving payment (Except for special products and special cases) .

4.6. 0445110603 Fuel Injection Logistics Time for Destination Out of China Areas

DHL Logistics Time :

Country or Region of Departure	Hong Kong, China	Other Countries or Regions of Asia	Australia and New Zealand	Europe	America	Other Countries
China Mainland	7 Days	7 Days	8 Days	8 Days	8-12 Days	7-10 Days

UPS Logistics Time: Country or Region of Departure: China Mainland

Country of Destination	Estimated Arrival Time	Country of Destination	Estimated Arrival Time	Country of Destination	Estimated Arrival Time
Japan	3 Days	UK	5-7Days	Egypt	5-7 Days
Turkey	5-7 Days	Singapore	3 Days	Switzerland	5-7 Days
Bahrain	5-7 Days	Latvia	7-10 Days	New Zealand	7-10 Days
Sri Lanka	5-7 Days	Thailand	3 Days	Austria	5-7 Days
Romania	5-7 Days	Vietnam	3-5 Days	Estonia	5-7 Days
Malaysia	3-5 Days	Israel	5-7 Days	Mexico	7-10 Days
France	5-7 Days	America	5-7 Days	United Arab Emirates	5-7 Days
Italy	5-7 Days	Netherlands	5-7 Days	Bengal	7-10 Days
Lebanon	5-7 Days	Philippine	3-5 Days	Greece	7-10 Days
South Korea	3 Days	Spain	5-7 Days	Myanmar	5-7 Days
Canada	5-7 Days	Germany	5-7 Days	Saudi Arabia	7-10 Days
Portugal	5-7 Days	Australia	5-7 Days	South Africa	7-10 Days
Denmark	5-7 Days	Belgium	5-7 Days	Ukraine	7-10 Days
India	7-10 Days	Qatar	7-10 Days	Poland	5-7 Days
Indonesia	3-5 Days	Morocco	7-10 Days	Pakistan	7-10 Days
Kuwait	7-10 Days	/	/	/	/

The logistics time is for reference only , subjects are according to the actual arrival.

4.7. 0445110603 Fuel Injection Packing

Domestic express packaging: Usually wrapped in waterproof scotch tape, such as picture No.5.

International express packaging : Wrapped with waterproof yellow tape After wrapping the black protective film, such as picture No. 6.

Pallet Shipping : Use fumigation free and recycling trays that meet export requirements, and use white wrapping protective film to wrap and bind with cable ties for the outside, such as picture No. 7, also, the products can be packaged according to customers' requirements.

- ▲ The packing tray is made of plastic and can be recycled.
- ▲ Transparent tape, yellow tape, black wrapping protective film, white wrapping protective film are non-degradable materials, please dispose of them properly.
- ▲ Minors are prohibited from using transparent tape, yellow tape, black wrapping protective film, and white wrapping protective film to avoid personal injury.



Pic No. 5

Domestic Express Packaging:
Wrapped with Transparent tape



Pic No. 6

International Express Packaging:
Wrapped with yellow tape after wrapping black protective film



Pic No. 7

Pallet Shipping: Use pallet that meet export requirements, and use white wrapping protective film to wrap and bind with cable ties

5. Company Information



Pic No. 8


5.1. Company Introduction

Chinese Name: 深圳市舒马特科技有限公司

English Name: Shenzhen Shumatt Technology Co., Ltd

 **Mob Phone/WeChat:** +86-13410541523

 **HK Telephone:** +852-67653519

 **Telephone:** +86-755-23215133

 **Email:** ruby@shumatt.com



www.carfuelinjection.com

 **Website:** www.shumatt.com

📍 **Shenzhen Office:** 11-12, Floor 14, Building 13, Qinchengda Building, Exit A, Honglang North Subway Station, Bao'an District, Shenzhen, China Mainland

📍 **Shenzhen Office:** No.66 Chongqing Raod, Fuyong Avenue, Bao'an District, Shenzhen, China Mainland

📍 **Hong Kong Office:** Jianfa Street Industrial Zone, Tuen Mun, New Territories, Hong Kong, China

📍 **After-sales Service Address:** Please contact our salesmen to obtain and provide the corresponding product maintenance reasons (Reference: [1.9. 0445110603 Fuel Injection Warranty Instructions](#).)

5.2. Contact Information

Name	WeChat/WhatsApp	Email
Ruby	+86-13410541523	hison@shumatt.com

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