

293-4072 Common Rail Injector Technical File

SKU: K30000C92934072

COMMON RAIL INJECTORS



0445110
0445120

X1 X2 C7
G2 G3 G4

E1 E3
C9 C-9

M11 N14
XPI 320D

293-4072 Common Rail Injector Technical File

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293-4072 Common Rail Injector Technical File

1. 293-4072 Common Rail Injector Introduction

1.1. 293-4072 Common Rail Injector Basic Information

Title	293-4072 Common Rail Injector C9 Series China Made New
SKU	K30000C92934072

1.2. 293-4072 Common Rail Injector Common Part Number

1) 293-4072 Common Rail Injector Exchange Information

Common Rail Injector Part Number	Re-manufactured Part Number	OE Number
293-4072	/	/
2934072	/	/

2) 293-4072 Common Rail Injector Matching Information

Car Model	Engine Model	Engine Model	Engine Model	Engine Model
Motor graders	140M	160M	/	/
Crawler loaders	973C	/	/	/
PETROLEUM PRODUCTS	C9	/	/	/
WHEELED EXCAVATOR	M330D	/	/	/
Wheeled bulldozers	814F II	/	/	/
Wheeled self-propelled scraper	627G	637D	637E	637G
ENGINE - INDUSTRIAL	C9	/	/	/
Products for forestry	2390	2391	521	522
	532	541	551	552
Earthmoving compactors	815F II	816F II	/	/
EXCAVATOR	330D	330D FM	330D L	330D LN
	330D MH	336D	336D L	/

1.3. 293-4072 Common Rail Injector Part Number Common Writing

293-4072, 293 4072, 2934072

1.4. 293-4072 Common Rail Injector Parameter

Common Rail Injector Adaptation System: [HEUI System](#)

Common Rail Injector Series: [C9 Series](#)

Common Rail Injector Type: [Electromagnetic Common Rail Injector](#)

Vehicle Configuration Information: [C9 Engines](#)

Common Rail Injector Size: [35cm* 14cm *14cm](#)

Common Rail Injector Net Weight: [1.9kg](#)

Common Rail Injector Gross Weight: [2kg](#)

Common Rail Injector Quality: [China Made New](#)

Common Rail Injector Package Size: [38cm* 15cm *15cm](#)

Common Rail Injector Type: [Diesel Common Rail Injector](#)

Common Rail Injector MOQ: [4 Pieces](#)

1.5. 293-4072 Common Rail Injector Quality Control

1) Common Rail Injector Testing

All common rail injectors are tested for electrical characteristics, accuracy, high temperature, low temperature, withstand voltage, leakage, durability, and various working conditions.

2) Common Rail Injector Assembling

For quality control during the production and installation process of common rail injectors, our company strictly follows the standard product installation data and product installation steps for installation and testing, such as injector stroke test, injector solenoid valve tightening torque test, injector nozzle tightening torque test, etc.

3) Common Rail Injector Inspection

The factory inspection of the common rail injector is undergone full inspection, random inspection, and batch inspection three inspections. Different brands of test benches are used to test the same common rail injector for a total of more than three times for factory inspection, and the common rail injector installation testing environment are progressed in dust-free workshop.

1.6. 293-4072 Common Rail Injector Customized Service

1) Common Rail Injector Customized Service Coverage: Meet the customized needs of OEM manufacturers for shell lettering, logo engraving, common rail injector internal packaging, common rail injector external packaging and labels customized, etc.

No.	1	2
Image		
Name	Common Rail Injector Nozzle Engraving	Common Rail Injector House Lettering And QR Code
No.	3	4
Image		
Name	Common Rail Injector Solenoid Valve Engraving	Common Rail Injector Box And Label

2) Common Rail Injector Customized Service Requirements:

The purchase of [customized common rail injectors](#) are not less than **10 pieces**.

The purchase of [customized common rail injector packages](#) are 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 common rail injector is sold, it cannot be returned or exchanged if there is no quality problems.**

1.7. 293-4072 Common Rail Injector Packing List and Package Size

1) Common Rail Injector Spare Parts List

No.	1	2	3
Image			
Name	Common Rail Injector	O-ring	Nozzle Protective Cover
Description	Common rail injector part number 293-4072	Ensure to meet the standard of the sealing performance between the common rail injector and the engine	Protect nozzle holes from being polluted and blocked
No.	4	5	6
Image			
Name	VCI Anti-rust Bag	Common Rail Injector Packing Box	Nozzle Washer Shim
Description	Prevent common rail injector from rusting	Package for common rail injector and common rail injector accessories	Used to ensure the tight fit between the nut end of the common rail injector and the engine

▲ Minors are forbidden to use the common rail injector assembly, O-ring, gasket, nozzle protective cover, common rail injector 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 common rail injector 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 common rail injector and the installation parts should be coated with appropriate sealing oil during installation.

2) Common Rail Injector Box Size



Pic No.1

No.	Name	Common Rail Injector Package Size (cm)
1	Common Rail Injector Box	38*15*15

1.8. 293-4072 Common Rail Injector Testing Standard and Certificate

We can provide the factory quality inspection test report of each common rail injector to ensure that each common rail injector 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: _____		检测单位: _____			
电话: _____		客户姓名: _____			
传真: _____		检测日期: _____			
检测名称: _____					
型号-零件号: _____					
检测地点: _____					
检测结果					
检测标准号: CRI002-6511					
	检测项目	检测结果	标准范围	检测结果	合格/不合格
ICAR TEST:	38	4.5	4.5	20.0±1.0	✓
Back:	38	4	15.0	20.0±1.0	✓
WPRM:	38	147.3±18.5	0.0	-----	✗
Max:	291.0	218.5±14.4	0.0	-----	✓
TL:	28.4	25.0±8.5	0.0	-----	✓
UL:	14.1	11.0±4.8	0.0	-----	✓
VE:	4.9	4.5±1.6	0.0	-----	✓
检测员: _____					
检测日期: _____					
检测地点: _____					

Pic No.2

1.9. 293-4072 Common Rail Injector Warranty Instructions

1) Product Warranty Conditions and Instructions

It is necessary to provide pictures, videos, or test reports detected by the common rail injector inspection equipment as evidence to feed back to the salesman when the common rail injector is abnormal during using.

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) Common Rail Injector Warranty Coverage

Within 15 days after customer receives the 293-4072 common rail injector, if there is a performance failure and the product has no appearance damage, customer can choose to replace it or repair it;

If the 293-4072 common rail injector has performance problems during the warranty period (6-12 months), and it is confirmed that it is product's 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 common rail injector 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) Common Rail Injector Out of Warranty Coverage

- ① The warranty period has expired.
- ② Common rail injector failure caused by high temperature, high pressure, humidity, rain and snow, saline-alkali land, earthquake, and used in abnormal environment.
- ③ Customer disassembles or repairs the common rail injector personally resulting in damage to the common rail injector.
- ④ Common rail injector damage caused by man-made reasons (throwing, strong magnetic field magnetization, set fire).
- ⑤ Common rail injector failure or common rail injector damage caused by non-fuel injector design, technology, manufacturing, quality and other issues.
- ⑥ Common rail injector failure due to system pressure exceeding system approved pressure.
- ⑦ Common rail injector failure caused by system voltage exceeding approved voltage.
- ⑧ Common rail injector failure caused by impurities (water, lead, aluminum powder, iron powder, sulfide) in the system fuel exceeding the standard requirements.
- ⑨ Common rail injector 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).
- ⑩ Common rail injector failure caused by not following the installation angle specified in the vehicle engine maintenance manual.
- 11 Common rail injector failure caused by not following the cleaning requirements specified in the vehicle engine maintenance manual.
- 12 Common rail injector failure caused by failure to replace consumable parts as specified in the vehicle engine maintenance manual.
- 13 Common rail injector failure caused by not complying with the intake system fit clearance and exhaust system fit clearance requirements specified in the vehicle engine maintenance manual.
- 14 Failure to replace the consumable parts and the fitting clearance of the oil inlet system pipeline and the common rail injector connection in accordance with the fuel intake system specified in the vehicle engine maintenance manual.

2. 293-4072 Common Rail Injector Technical Support

2.1. 293-4072 Common Rail Injector Part Number Location

E.g.: See the common rail injector part number as follows:

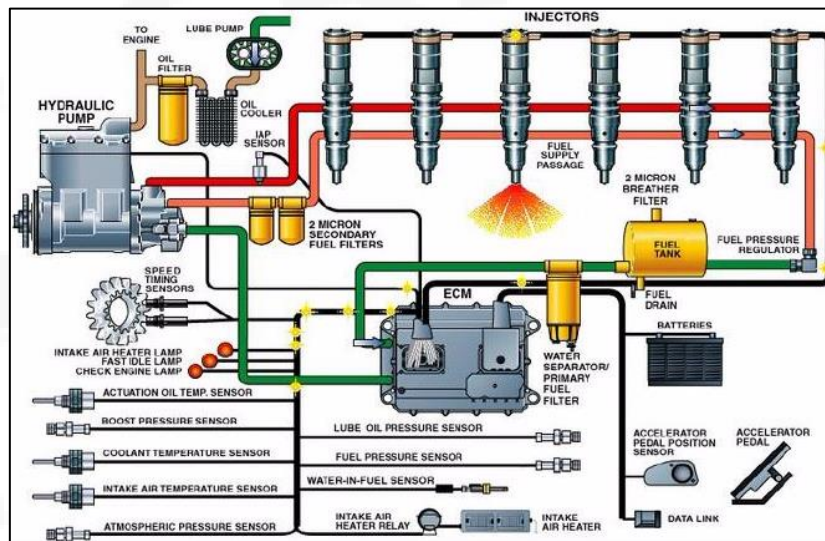


Pic No.3

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

2.2. 293-4072 Common Rail Injector Application Scenarios

Matching Car Model: Caterpillar C9 **Engines**



Pic No.4

2.3. 293-4072 Common Rail Injector Installation Precautions

- 1) The replacement of the common rail injector 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;
- 2) Replacement of wearing parts of the fuel system, cleaning requirements for the connection between the fuel system and the common rail injector, the fitting clearance of the common rail injector connection, the installation angle and tightening torque of the common rail injector, 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 common rail injector.

- 3) When installing the common rail injector on the engine, it is necessary to clean the engine block, cylinder head and other parts connected to the common rail injector, and ensure that there is no dust, carbon deposits, water, rust spots, etc.
- 4) Before installing, check whether the common rail injector nozzle gasket has been replaced and installed on the common rail injector.
- 5) When installing the common rail injector, apply lubricant between the common rail injector, fuel nozzle sealing gasket and O-ring.
- 6) Failure to replace the gasket with a new one may result in: 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 common rail injector and nozzle to break and cause damage to the engine.
- 7) When installing the common rail injector on the engine, please carefully check the components related to the installation of the common rail injector, such as the common rail injector pressure plate, screw, common rail injector rod and other accessories are not deformed, and install it in strict accordance with the operation steps of the engine maintenance manual.
- 8) It is forbidden to operate the bare common rail injector for a long time in an environment with serious dust pollution and corrosion to iron products.
- 9) It is forbidden to operate the bare common rail injector for a long time in a strong magnetic field environment.

2.4. Reasons for 293-4072 Common Rail Injector 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 is damaged.
- 4) There is a short circuit, cutting out and poor contact in the wiring harness connected to the common rail injector of the vehicle.
- 5) The long-term placement of the common rail injector 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 common rail injectors are damaged so as to prevent the common rail injector from not working properly after being replaced.

2.5. Causes of 293-4072 Common Rail Injector Being Damaged

- 1) Failure to operate correctly according to the engine maintenance manual during disassembly and assembly resulted in damage to the common rail injector.
- 2) The fuel used for the vehicle does not meet the standard, causing damage to the common rail injector, 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 common rail injector.
- 4) The abrasion of the oil pump produces iron powder and aluminum powder enter the common rail

injector and cause damage to the common rail injector.

- 5) The deformation and abrasion of fuel tank result in iron powder or aluminum powder entering the common rail injector and causing damage to the common rail injector.
- 6) The common rail injector is damaged due to replacement or adjustment of the relevant parts of the common rail injector. 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 common rail injector fails to meet the original standard.
- 7) The engine is overheated and overloaded for a long time working results in damage to the common rail injector.
- 8) The common rail injector will be damaged naturally at the end of its working life.
- 9) The common rail injector is magnetized (common rail injector parts' magnetic exceeded) causing the common rail injector to not work properly.

▲ Before replacing the common rail injector, please check the engine parts carefully according to the engine maintenance manual to avoid the common rail injector being damaged again after replacement.

2.6. 293-4072 Common Rail Injector Storage Standard

1) Choose a Suitable Storage Place

The warehouse and cargo yard where the common rail injector is stored should be kept clean and dry, and away from the factory buildings that generate harmful gases and dust; do not mix with acid, alkali, salt 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 common rail injectors 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 common rail injectors must be protected from damage.

3) Keep the warehouse dry and preventing moisture

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

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

If the common rail injector 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 common rail injector exposed in the air for a long time.

▲ It is forbidden to store acid, alkali, salt and other substances together with the common rail injector.

▲ The unpacked common rail injector must be rust-proof during secondary storage.

2.7. 293-4072 Common Rail Injector Technical Support Obtaining Methods

- 1) Common Rail Injector Technical Data: <https://www.commonrailinjectors.com/download/>
- 2) Common Rail Injector Videos: <https://www.commonrailinjectors.com/videos/>
- 3) Common Rail Injector Encyclopedia: <https://www.commonrailinjectors.com/category/news/encyclopedia/>

3. 293-4072 Common Rail Injector Purchase and Delivery

3.1. 293-4072 Common Rail Injector Purchase Payment Term

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

▲ Please contact our salesmen for specific payment information.

3.2. 293-4072 Common Rail Injector Main Sales Markets

Common Rail Injector Main Sales Markets: Asia, Europe, North America, South America, Africa etc.

3.3. 293-4072 Common Rail Injector Declaration Requirements

We 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.

3.4. 293-4072 Common Rail Injector 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's Areas: DHL, UPS, FedEx, TNT air, ocean or other shipping methods required by customers.

3.5. 293-4072 Common Rail Injector Lead time

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

3.6. 293-4072 Common Rail Injector Logistics Time for Destination Out of China's 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's Mainland	7 Days	7 Days	8 Days	8 Days	8-12 Days	7-10 Days

UPS Logistics Time: Country or Region of Departure: China's 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 and is subject to the actual arrival.

3.7. 293-4072 Common Rail Injector Packing

Domestic Express Packaging: Usually wrapped in waterproof scotch tape.

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

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, 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.

No.	1	2	3
Image			
Name	Domestic Express Packaging	International Express Packaging	Pallet Shipping
Description	Wrapped by transparent tape	Wrapped with yellow tape after wrapping black protective film	Use pallet that meet export requirements, and use white wrapping protective film to wrap and bind with cable ties

4. Company Information



Pic No. 6

4.1. Company Introduction

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

 **HK Telephone:** +852-67653519

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

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

 **Shenzhen Office:** Exit C, Qiao Touxu Metro Station, NO. 66 Chongqing Road, Fuhai 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. 293-4072 Common Rail Injector Warranty Instructions](#))

4.2. Contact Information

Name	WeChat/ WhatsApp
Ruby	+86-13410541523

5. Copyright Statement

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