G3S22 Liwei Injector Nozzle Technical Instructions

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G3S22 Liwei Injector Nozzle Technical Instructions

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G3S22 Liwei Injector Nozzle Technical Instructions

1. G3S22 Liwei Injector Nozzle Introduction

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Injector nozzle is one of the main working parts of the fuel injector. It is responsible for injecting fuel into the combustion chamber and is a key component to achieve precise injection, oil mist formation.

1.1. G3S22 Li	wei Injector Nozzle's Basic Inform	mation	Joint South		
Title	Title China Made New Common Rail Liwei Injector Nozzle G3S22				
SKU1	G1Z170	China Made New			
1 2 G3\$22 Li	wei Injector Nozzle's Common W	ritton Port Number	Sale Sale		
			·····································		
	ei Injector Nozzle Order No.	Liwei Injector Nozzle En	graved No.		

1.3. G3S22 Liwei Injector Nozzle's Application Information for Injectors

(1) G3S22 Liwei Injector Nozzle's Application for Injectors' Part Number

Injector Part Number	Injector Series	System Pressure	Re-manufactured Part Number	System Pressure
295050-0401	G3 G3	Cont I Cont	South A south	ou Louis

(2) G3S22 Liwei Injector Nozzle's Car Model Matching Information

Injector Part Number	CAT Car Number	ISU	IZU Car Nu	ımber	
295050-0401	3707282	othe state		C.L.	

(3) G3S22 Liwei Injector Nozzle Part Number Common Writing 293400-0220, G3S22

1.4.G3S22 Liwei Injector Nozzle's Specifications and Dimensions Parameters Liwei Injector Nozzle Size: 6 cm*1.5 cm

Liwei Injector Nozzle Tube Dimensions: 7 cm *2 cm *2 cm

Liwei Injector Nozzle Net Weight: 0.03kg

Liwei Injector Nozzle Box: 10 cm *8 cm *4cm

Liwei Injector Nozzle Gross Weight (10 PCS): 0.3kg

Liwei Injector Nozzle Quality: China Made New

Liwei Injector Nozzle MOQ: 10 PCS

1.5.G3S22 Liwei Injector Nozzle Quality Control

(1) Liwei Injector Nozzle Testing

All parts of the Liwei Injector Nozzle are subjected to precision testing, high temperature testing, low temperature testing, withstand pressure testing, leakage testing, durability testing, and various working conditions testing.

(2) Liwei Injector Nozzle Inspection

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

(3) Liwei Injector Nozzle Installation

When matching the valve cap and valve steam, Shumatt strictly complies with the standard of valve cap and valve stem clearance technical indicators to ensure that each nozzle meets the factory standards and use standards.



Hent HER		
Name	Liwei Injector Nozzle Assy	Liwei Injector Nozzle Tube
Description	Liwei Injector Nozzle Part Number G3S22	Prevent nozzle being rusted and damaging from collision

		Lib wold	Libber	ww.liw	veinozzl	e.co	om	LIP NOL	Libb wold	Libb work	Lib Hot
A Stratt	No.	Libble of the	NOTIE	3	S Cont	L.	NOTAL	Liber		Liber	L'alter
il forme	Image	Line	Common Injector N ISD 9001:2008 Certified © CPIC Accept Insura	lozzle	तनि	100	NOPLE	Liber	Jul Sant	Libert	Libitions
Jul some	Liuf sont	JUE!	10 _{Pcs}	Liwei Fuel Inject	tion Co., Ltd. v.liwei.com.cn	10	HOTAL	Libert	Lib Frank	Libert	Libite of the
Home	Name	Nofile	Liwei Injeo	ctor Nozzle	Box		NOTALE	Nofile	- Hotel	States	None
De	scription	1 m	10	PCS/Box	VIE	J.		Lib		Lib	1

- A Minors are prohibited to use Liwei injector nozzle, nozzle packing box to avoid getting injury.
- Liwei injector nozzle box is recyclable and can be reused.
- Liwei injector nozzle tube is non-degradable material, please dispose of it properly after use.

1.8. G3S22 Liwei Injector Nozzle's Warranty Instructions

(1) Liwei Injector Nozzle's Warranty Conditions and Instructions

It is necessary to provide pictures, videos, or test reports detected by the injector nozzle inspection equipment when the nozzle 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) Liwei Injector Nozzle's Warranty Coverage

Within 15 days after customer receives G3S22 Liwei injector nozzle if there is a performance failure and the product has no appearance damage, customer can choose to replace it or repair it;

If the G3S22 Liwei injector nozzle 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 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.

(3) Liwei Injector Nozzle Out of Warranty Coverage The warranty period has expired.

Injector nozzle failure caused by high temperature, high pressure, humidity, rain and snow, saline-alkali land, earthquake, and used in abnormal environment.

Injector nozzle damage caused by man-made reasons (throwing, strong magnetic field magnetization, set fire).

Injector nozzle failure or injector damage caused by non-injector design, technology, manufacturing, quality and other issues.

Injector nozzle failure due to system pressure exceeding system approved pressure.

Injector nozzle failure caused by system voltage exceeding approved voltage.

Injector nozzle failure caused by impurities (water, lead, aluminum powder, iron powder, sulfide) in the

system fuel exceeding the standard requirements.

Injector nozzle 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).

Injector nozzle failure caused by not following the installation angle specified in the injector maintenance manual.

Injector nozzle failure caused by not following the cleaning requirements specified in the injector maintenance manual.

Injector nozzle failure caused by failure to replace consumable parts as specified in the injector maintenance manual.

1.9. G3S22 Liwei Injector Nozzle's Manufacturer

Injector nozzle's manufacturer: Shenzhen Shumatt Technology Co., Ltd

2. G3S22 Liwei Injector Nozzle Technical Support

2.1. G3S22 Liwei Injector Nozzle's Installation Precautions

- Clean the injector nozzle in an ultrasonic cleaner for 3-5 minutes before installation, so as to make the stains, dust, rust-proof oil oxides, paraffin base, naphthenic base, intermediate base, salt, lead naphthenate, zinc naphthenate, sodium petroleum sulfonate, barium petroleum sulfonate, calcium petroleum sulfonate, tallow diamine trioleate, rosinamine on the surface of the nozzle fall off.
 (2) Use personal deinte clean the sharing fluid attached to the performance of the nozzle fall off.
- (2) Use compressed air to clean the cleaning fluid attached to the surface of the nozzle after cleaning, and clean it up to the standard of use, as below.

2.2. G3S22 Liwei Injector Nozzle Inspection.

(1) Check whether there is deformation, cracking, thread damage, quenching, leakage and rust in the guide sleeve, spring, gasket and tight cap of the nozzle. The tight cap of the nozzle must be replaced after being disassembled for more than 5 times, as shown in the following.



- (2) Replace the tight cap of the nozzle and the copper gasket of the Liwei Injector Nozzle
- (3) Check whether the gap between the nozzle needle and the nozzle shell is within the standard range and whether it reaches the standard for use
 - All parts should be examined for wear under a microscope at least 20 times larger

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- Nozzle tight cap deformation, cracking, thread damage, quenching, leakage, will lead to black smoke vehicle cap, fuel injector damage.
- A Injector opening pressure greater than or less than the specified range may cause injector damage.
- Failure to replace wearing parts in time during maintenance may lead to fuel injector damage.

2.3. G3S22 Liwei Injector Nozzle Test Measurement

(1) Nozzle opening pressure test

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Test whether the opening pressure range of the nozzle is within the range specified in the injector maintenance manual (to be verified), if not within the normal range, adjust the nozzle spring to adjust the gasket

- If the value is greater than normal, reduce the oil nozzle spring adjusting gasket; if the value is less than normal, increase the oil nozzle spring adjusting gasket.
- (2) Stroke Measurement of Nozzle Needle Valve

Use a measuring tool to measure whether the stroke of the nozzle needle valve is within the range (15-45um) specified in the injector maintenance manual. If not, adjust the stroke of the nozzle to adjust the gasket.



If the value is greater than normal, thicken the gasket for oil-nozzle needle valve lift adjustment; if the value is less than normal, reduce the gasket for oil-nozzle needle valve lift adjustment

2.4. G3S22 Liwei Injector Nozzle's installation

(1) Tightening torque of injector nozzle

The torque lever and tightening moment specified in the injector maintenance manual must be installed when the injector nozzle is installed. (50Nm)



The tightening torque of the nozzle cap must be installed in accordance with the tightening torque specified in the injector maintenance manual

2.5. G3S22 Liwei Injector Nozzle Test After Maintenance(1) After installation, it needs to be tested on the test bench.



Website : www.liweinozzle.com

A The correct injector type should be selected for testing

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(2) The test results need to be ensured that the following items are within the standard data range of the test stand.

LEAK TEST: Test whether sealing test is up to standard or not

In this step, no injector collector should be installed at the nozzle during the test so as to observe whether the nozzle is dripping oil, meanwhile observe that all joints are no oil leaking.

The static oil return of the test should not exceed 8mm2/H, otherwise, you need to check whether the highpressure sealing ring, valve assembly, and stroke parameters of the injector are within the standard range.

VL: Test whether full load oil (main injection, high speed) is up to standard or not

This step needs to be combined with vehicle driving conditions, such as power, fuel consumption and smoke as well as the maintenance of the engine, if there is situation of insufficient power, fuel consumption is high, thick black smoke and irregularly maintenance of the engine, the engine needs to be maintained according to the maintenance handbook at very first time.

Each of injector part needs to be adjusted and checked if there is any damage according to above situations to ensure the injector is normal. After make sure the injector works normal, you need to reduce the armature stroke if too little oil injection, and increase the armature stroke if too little oil injection.

The error of each injector should be controlled in 6mm3/HH when adjusting.

TL\EM: Test whether the torque point, emission point, exhaust limit, fuel supply reach standard or not Through this test, it is detected that when the oil injection is too little, the engine's acceleration is slow, vice versa, when the oil injection is too much, the engine's acceleration will produce black smoke and the engine excessive exhaust emissions.

Injector nozzle spring force gasket, armature stroke, lift gasket and solenoid valve spring force gasket determine whether exhaust restriction and injector fuel supply reach standard

LL: Test if the idle fuel supply reached the standard

This test detects oil injection is too much will cause engine idle smoke, otherwise if the oil injection too little will cause engine idling easy to stall, or difficult to start.

The uneven of oil injection causes the unstable rotation speed of engine , making noise, and increase the engine swing in the acceleration process.

Each injector error should be controlled within 2mm3/HH when adjusting.

Idle speed fuel supply quantity mainly by adjusting the nozzle spring force gasket.

VE: Test whether the pre-injection meets the standard

This test detects when oil injection is too much will cause cylinder knocking while the engine is working and the exhaust emissions is not up to standard (smoke).

While when oil injection is too little will cause big noise while the engine is working, the engine is difficult to start, the engine weak acceleration, slow response of injector.

Each injector error should be controlled within 0.5mm3/HH when adjusting.

2.6. G3S22 Liwei Injector Nozzle List of Tools Used During Measurement and Installation

LIUEI	www.liweinozzle	e.com
Image	Shull for JI for	
SKU	CRT084	CRT220
Description	Torque wrench: 19-110nm 1/2 used to control tightening force and Angle during installation	Fuel injector stroke measuring tool: used to measure buffer stroke of fuel injector, armature stroke and remaining air gap
Image series		
SKU		CRT281
Description	Ultrasonic cleaning machine: used for cleaning fuel injector and parts	Common rail injector test equipment: check the injector working condition
ant Image with	Ruffent Shumatt	
SKU ser	CRT079	with the second se
Description	Micrometer: used to measure gasket thickness	

2.7. G3S22 Causes of Damage to Liwei Injector Nozzle

- (1) Liwei injector nozzle failure caused by impurities (water, lead, aluminum powder, iron powder, sulfide) in fuel exceeding standard requirements.
- (2) The nozzle is normally worn due to long time working under high temperature
- (3) Nozzle needle wear leads to oil hole blockage, insufficient fuel injection injector can not work properly.

Nozzle needle wear leads to oil hole blockage, insufficient fuel injection injector can not work properly.
 The wear of the nozzle nozzle leads to the increase of fuel quantity, resulting in black smoke of the vehicle, and the fuel injector can not work properly when it is serious.

▲ If the nozzle needle can not move smoothly stuck may cause serious damage to the Liwei injector nozzle.

- A The rusting of the nozzle spring leads to spring fracture and black smoke from the vehicle.
- The opening pressure of the nozzle decreases, and the oil quantity of the injector increases, leading to black smoke of the vehicle, and the injector can't work properly when it is serious.

• Oil-nozzle needle valve lift adjustment gasket wear oil-nozzle needle valve stroke becomes larger, the fuel injector oil quantity becomes larger, resulting in black smoke of vehicles, resulting in the fuel injector can not work properly when serious.

A The cracking of the nozzle cap is caused by high intensity work under high temperature.

2.8. G3S22 Liwei Injector Nozzle Technical Support Obtaining Methods

- (1) Liwei Injector Nozzle Technical File , visit http://shumatt.com to get the technical file
- (2) Injector Technical Videos

Live

Facebook:Visit https://www.facebook.com/hison.li constantly follow can get more information.YouTube:https://www.facebook.com/hison.li constantly follow can get more information.YouTube:https://www.facebook.com/hison.li constantly follow can get more information.YouTube:https://www.youtube.com/channel/UCByvYBx7VjV mAfxh Hu-awto get the technical videos, constantly follow can get more information.

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

(3) Liwei Injector Nozzle Information Query Software

TruckBook Parts EPC APP, Android/Apple App Store download and install, visit <u>http://shumatt.com</u> to get

the download and installation tutorial

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

3. G3S22 Liwei Injector Nozzle's Purchase and Delivery.

3.1. G3S22 Liwei Injector Nozzle's Purchase Payment Terms Payment Terms: T/T, PayPal, Alipay, WeChat Please contact our salesmen for specific payment information.

3.2. G3S22 Liwei Injector Nozzle's Main Sales Market.

Liwei injector nozzle's main sales markets: Asia, Europe, North America, South America, Africa etc.

3.3. G3S22 Liwei Injector Nozzle's 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.

3.4. G3S22 Liwei Injector Nozzle's Shipping Ways

Destination in China's 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. G3S22 Liwei Injector Nozzle's Lead Time

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

3.6. G3S22 Liwei Injector Nozzle's Logistics Time for Destination Out of China's Areas DHL Logistics Time:

Country or Regio Departure	on of	Hong Kong, Chi	Other Countries or Regions of Asia	Australia and N Zealand	lew	Europe	America	Other Countries
China's Mainla	ind	7 Days	7 Days	8 Days		8 Days	8-12 Days	7-10 Days
UPS Logistics	Time:	Country	or Region of Departu	re: China's Ma	inlan	d one	of the	e State
Country of		mated	Country of Destination	Estimated	Cou	ntry of Desti	nation	Estimated

Country of Destination	Estimated Arrival Time	Country of Destination	Estimated Arrival Time	Country of Destination	Estimated Arrival Time
Japan	3 Days	UK	5-7 Days	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 ^{work}	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

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	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	7
	Portugal	5-7 Days	Australia	5-7 Days	South Africa	7-10 Days	
2	Denmark	5-7 Days	Belgium	5-7 Days	Ukraine	7-10 Days	
Γ	India	7-10 Days	Qatar	7-10 Days	Poland	5-7 Days	7
-	Indonesia	3-5 Days	Morocco soft	7-10 Days	Pakistan	7-10 Days	7
	Kuwait	7-10 Days					

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

3.7. G3S22 Liwei Injector Nozzle's Packing

Live

Domestic express packaging: Usually wrapped in waterproof scotch tape, such as picture No.1. **International express packaging :** Wrapped with waterproof yellow tape After wrapping the black protective film, such as picture No. 2.

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. 3, Also, the products can be packaged according to customers' requirements.

A 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.1 Domestic express packaging: Wrapped by Transparent tape



Pic No.2 International express packaging: Wrapped with yellow tape after wrapping black protective film



Pic No.3

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

4.G3S22 Liwei Injector Nozzle's Storage Standard

(1) Choose a suitable storage place

The warehouse and cargo yard where the fuel 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 fuel 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 injectors must be protected from damage.

(3) Keep the warehouse dry and preventing moisture

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

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

If the fuel 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 injector exposed in the air for a long time.
- lacksquare It is forbidden to store acid, alkali, salt and other substances together with the injector
- A The unpacked fuel injector must be rust-proof during secondary storage.

5.Company Information

Office Locations

iME

Global Exhibitions

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 Website: www.chumatt.net

Website: www.shumatt.net

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 : Room 428-430, Building B, Huafeng Zhigu Technology Industrial Park, Exit B, Fuyong Metro Station, Bao'an District, Shenzhen, China's 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: <u>1.8. G3S22 Liwei Injector Nozzle's Warranty Instructions</u>)

5.2. Contact Information

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

6. Copyright Statement

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