

Campaign No. 2020060007, March 2021

## TO: ALL MERCEDES-BENZ and FREIGHTLINER SPRINTER CENTERS

# SUBJECT: Model 906 (Sprinter) Model Year 2016 Modification to the emissions control system

Daimler Vans USA, LLC ("DVUSA") and Mercedes-Benz USA, LLC ("MBUSA") are performing an emissions campaign on certain 906 Sprinter vehicles in order to modify to the vehicles' emissions control system. EPA and CARB have approved this emissions modification for these MY16 Sprinter (Model 906) vehicles. An authorized Mercedes-Benz or Freightliner Sprinter dealer will replace certain emissions control system components and update certain software in the affected vehicles at no cost to the owner of the vehicle.

Prior to performing this Emissions Campaign:

- Please check VMI to determine if the vehicle is involved in the emissions modification campaign and if it has been previously repaired. Always Check VMI for any open campaigns, and perform accordingly.
- Please review the entire Emissions Campaign bulletin and follow the repair procedure exactly as described.

Approximately 47 vehicles are involved.

Order No. V-RC-2020060007

This bulletin has been created and maintained in accordance with MBUSA-SLP S423QH001, Document and Data Control, and MBUSA-SLP S424HH001, Control of Quality Records.

**Emissions** Campa

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Emissions Campaign Bulletin

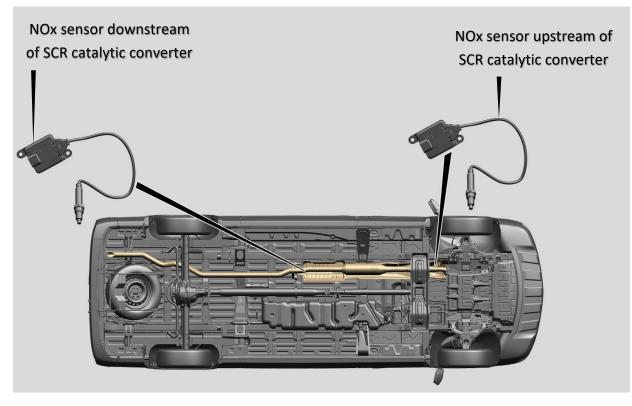
# Emissions Campaign 2020060007

- o Model: 906 Sprinter
- o Model Year: 2016
- o Engine: 4-Cylinder Diesel (OM 651)

# **Warranty Information**

Damage Code	Operation No.	Time	Operation Text				
Denial of AEM							
49 10N 01use operations for labor performedup to 2 hrDiagnosis time for pre-inspection if client decline to reverse non-compliant modifications							
Perform AEM							
07 972 54	5402 12221.4 hrPerform work package for field measure						
Additional: Mobi	Additional: Mobile AEM at customer location						
21 812 00 00 9627 +50% Mobile AEM Labor surcharge							
sublet \$75 travel allowance							
Additional: Mob	Additional: Mobile AEM at customer location requiring overnight accommodation						
21 813 00	00 9627	+50%	Mobile AEM Labor surcharge				
	sublet		\$100 travel allowance				

# **Parts Overview**



i Reference last page for complete list of parts to perform AEM

# Scope of Work Outline

i	Read an	d follow all pages of work instructions completely!	Page:
1.	Safety N	lotes	4-18
2.	Lifting a	nd Ramps	19-21
3.	Initial Q	uick Test	22-28
	a.	Upload print-out to paperless pXD	
	b.	Evaluate pre-existing faults (see Pre-Inspection Guide below)	
4.	Pre-Insp	pection Special Procedure	29-32
	a.	Includes visual inspection of Exhaust Aftertreatment system (see Pre-Inspection Guide below)	
5.	Replace	ment of AEM parts	33-38
	a.	NOx Sensor Upstream of SCR Catalytic Converter	
	b.	NOx Sensor Downstream of SCR Catalytic Converter	
6.	Executio	on of AEM Special Procedure	39-50
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	b.	Fill-out and Install AEM Label	
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	a.	Upload print-out to paperless pXD	
	b.	Erase stored faults caused by the workshop	
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# **Pre-Inspection Guide**

- 1. Pre-existing fault codes causing a Check Engine Light (CEL):
  - a. If component causing fault will be replaced as part of the AEM:
    - i. Perform AEM No additional action is needed
  - b. If component causing fault will be covered by the AEM Extended Warranty:
    - i. Perform AEM
    - ii. Perform repair of pre-existing fault
    - iii. Submit AEM Extended Warranty claims on a separate Repair Order after AEM claim is submitted
  - c. If component causing fault will not be replaced as part of AEM and not covered by AEM Extended Warranty:
    - i. Provide client with repair estimate, advise client AEM will not resolve Check Engine Light (CEL)
      - ii. Document on Repair Order if client approves or declines repairs
      - iii. Perform AEM regardless if client approves or declines repairs
  - d. A list of AEM Extended Warranty covered components is available in: XENTRY / CDI / Special Procedures / Exhaust Aftertreatment Service Measure / Extended Warranty

# 2. Non-Compliant Alterations to the Exhaust Aftertreatment system found during the visual Pre-Inspection:

- a. Document all non-compliant alterations to the Exhaust Aftertreatment system on the Repair Order
  - b. If altered component(s) will be replaced as part of the AEM:
    - i. Perform AEM
  - c. If altered component(s) inhibit AEM installation or will sustainably affect the operation of the AEM:
    - i. Provide client with a repair estimate to reverse non-compliant alterations
      - 1. If client approves repairs:
        - a. Reverse non-compliant alterations
        - b. Perform AEM
      - 2. If client refuses repairs:
        - a. Do not perform AEM Vehicle ineligible
        - b. Claim 'Denial of AEM' damage code and labor ops for diagnosis time performed
- 3. If technical assistance is needed, create a PTSS case

# **AEM installation Videos**

Exemplary videos of the AEM installation are available via the following:

- o XENTRY Workshop (XiW) / VAN / Emissions Modification Program
- o Scan the QR code below with a mobile device and log-in with your XENTRY credentials

Campaign 2020060007 Video:



Risk of injury. Skin or eye injuries may result when handling hot or glowing objects.

Risk of injury. Skin or eye	Wear protective gloves,	A Warning
injuries may result when	protective clothing and safety	
handling hot or glowing objects.	glasses, if necessary.	

## **Risk of injury**

Contact with hot or glowing objects without suitable protective clothing causes severe burns to skin and eyes.

When glowing objects come into contact with water, they produce hot steam or cause the water to splash, which can cause serious burns to skin or eyes.

If hot or glowing objects come into contact with unprotected skin or eyes, they can cause serious and even permanent injuries.

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There is a risk of fire when glowing objects come into contact with combustible material.

### Safety precautions/instructions

- Wear protective clothing, safety glasses and heatresistant gloves.
- Only transport hot or glowing objects with suitable aids.
- Avoid the formation of sparks and contact with combustible material when handling glowing objects.

## First aid measures

- Treat affected areas of skin with plenty of cold water and cover with sterile dressings.
- Consult a physician immediately.

Risk of accident from vehicle starting off by itself when engine running. Risk of injury (bruises and burns) resulting from working on the engine while it is being started or when it is running.

Risk of accident from vehicle starting off by itself when engine running. Risk of injury (bruises and burns) resulting from working on the engine while it is being started or when it is running.	closed and snug-fitting work clothes. Do not touch hot or	<u> M</u> Warning
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## Potential risks

## **Risk of accident**

Caused by the vehicle starting off by itself during the starting procedure

(e.g. during compression test) **due to engaged gear** or with the engine running and vehicles with automatic transmission **due to selector lever position "P" or** 

**"N"** not being engaged (except for vehicles that do not have selector lever position "P").

## **Risk of injury**

**Severe injuries** can be caused by freely rotating parts in the area of the running engine.

Because the engine heats up when operating, serious burns can be caused by touching unshielded parts.

## Safety instructions/precautions

- In general, only work on a running engine when it is absolutely necessary.
- Apply parking brake before starting the engine.
- The vehicle is to be secured against moving forwards or backwards.
- The person performing tests on a vehicle with the engine running must sit in the driver's seat to be able to prevent the vehicle from moving.

## First aid measures in the event of burns

• Do not rub the skin areas affected; rinse with plenty of cold water and cover skin with sterile dressings.

- It is not permitted for persons to be in the danger zone in front of or behind the vehicle while tests are being performed.
- Shift the gearshift lever to neutral on vehicles with manual transmission.
- On vehicles with automatic transmission, move selector lever into position "P" or "N" (except for vehicles that do not have selector lever position "P").
- On vehicles that do not have selector lever position "P", the selector lever is to be secured against unauthorized access.
- Wear closed and snug-fitting work clothes.
- Remove all jewelry such as necklaces, rings, etc.
- Wear suitable head wear to cover long hair.
- Before commencing any work on the running engine, familiarize yourself with the location of potentially hot parts.
- When carrying out work when starting the engine or when the engine is running, **do not touch any hot or rotating parts**.
- Use the exhaust extraction system.
- Consult a physician immediately.

Risk of injury. Moving parts can pinch, crush or, in extreme cases even sever extremities.

can pinch, crush or, in extreme cases even sever extremities.	No parts of the body or limbs should be within the operating area of mechanical components when moving components.	<b>小</b> Warning
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## Risk of injury

When working on components that can be moved either by hand, by means of electric motors, or hydraulically/ pneumatically via a connecting mechanism, serious injuries can occur due to body parts being cut, pinched or crushed.

### Safety instructions/precautions

• Monitor hazard area.

- Secure the operating area of mechanical components against interference when parts are in motion.
- Never touch the mechanism of a component while it is being actuated by electric motors via the diagnosis or by direct actuation (terminal 30).
- Choose a test cable of sufficient length.

Risk of death caused by vehicle slipping or toppling off of the lifting platform.

<b>Risk of death</b> caused by vehicle slipping or toppling off of the lifting platform.	Align vehicle between vehicle lift columns and position the four support plates at the vehicle lift support points specified by the vehicle manufacturer.	⚠Danger
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## Risk of accident and injury

Ensure that the vehicle is ideally aligned and secured against tilting according to the general safety specifications and regulations.

Non-observance of the safety specifications can cause the vehicle to **slip off** the lift system and thereby result in **life threatening** or **fatal** injuries.

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This list of hazards is not complete.

The safety specifications of the respective country are always valid. The user is personally responsible for complying with these. Risk of burn injuries and scalding when working at AdBlue® lines and the components attached to them. Risk of injury to skin and eyes when handling AdBlue®. Risk of poisoning caused by swallowing AdBlue®

Risk of burn injuries and         scalding when working at         AdBlue® lines and the         components attached to them.         Risk of injury to skin and eyes         when handling AdBlue®.         Risk         of poisoning caused by         swallowing AdBlue®	Pour AdBlue® into suitable containers only. Wait until the pressure is released before starting any work on the exhaust aftertreatment system.	<b>∱</b> Warning
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### **Potential risks**

### Risk of burn injuries and scalding

The AdBlue® lines and all components attached to them are under pressure during operation and remain so after the engine is switched off and may be hot. There is a risk of burn injuries. There is a risk of scalding caused by escaping hot AdBlue® when the line system is opened.

### **Risk of injury**

There is a risk of skin irritation and eye damage on contact with AdBlue.

### **Risk of poisoning**

There is a risk of poisoning if AdBlue® is swallowed.

### **Rules of conduct**

 On vehicles with electrical delivery pump, the AdBlue® is pumped from the line back into the AdBlue® tank after the engine is switched off.

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# Safety precautions for handling removed parts and working under the vehicle

- Wear suitable protective gloves
- · Wear protective clothing
- · Wear safety glasses

### **First aid measures**

Contact with skin: Wash the affected skin areas with plenty of clean water. Change wetted clothing as quickly as possible.

- On vehicles with a compressed air system, individual lines are flushed with compressed air after the engine is switched off. The engine must therefore be switched off for at least 5 minutes before work on the exhaust aftertreatment system may begin.
- Open connections and plugs on the system components slowly. Cover the connecting point with rags when opening.

Only pour AdBlue® into marked containers specially designated for the purpose. Do not pour AdBlue® into drinking containers.

• Wipe up any AdBlue® spills immediately as there is a high risk of someone slipping.

Contact with eyes: In the event of contact with eyes, immediately rinse eyes thoroughly with plenty of clear water; contact an eye doctor if necessary.

Ingestion: rinse mouth with clean water and drink large quantities of water. Immediately seek medical assistance.

### **Firefighting measures**

AdBlue® is not combustible. NH<sub>3</sub> (ammonia) can be released in the event of fire, causing a risk of poisoning. Firefighting measures must therefore be suited to the surroundings.

Risk of burn injuries, suffocation and poisoning when working on the exhaust system and the components connected to it. Risk of suffocation and risk of poisoning caused by inhalation of gaseous and solid components of the exhaust. Risk of poisoning caused by skin contact with solid components of the exhaust.

Risk of burn injuries, suffocation and poisoning when working on the exhaust system and the components connected to it. Risk of suffocation and ris of poisoning caused by inhalation of gaseous and solid components of the exhaust.Risk of poisoning caused by skin contact with solid components of the exhaust.	extraction system. Move people out of the hazard area.	<b>∱</b> Warning
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### **Risk of burn injuries**

The exhaust system and all components connected to it are very hot during operation and remain so after the engine is switched off. Do not touch hot parts.

### Risk of suffocation and poisoning

Exhaust gases may also cause cancer.

At higher concentrations, irritation of mucous membranes and headaches may occur. Carbon monoxide may cause damage to unborn children.

Avoid inhalation of exhaust gases; wear respiratory protection.

Use the exhaust extraction system.

### **Risk of injury**

Risk of injury to the eyes, skin, and respiratory paths due to contact with exhaust residues such as diesel particulates

and diesel soot. To prevent skin contact on hands, wear nitrile gloves.

### First aid measures

### In the event of inhalation:

Move victim from the hazard area to fresh air without endangering yourself and consult a physician immediately.

### After contact with skin:

Immediately wash affected areas of the body with plenty of soap and water. Employees who have experienced skin contact must consult a physician immediately.

#### After contact with eyes:

Rinse eyes thoroughly with running water for at least ten minutes with the eyelids wide open and contact an eye doctor immediately. Risk of explosion from explosive gas. Risk of poisoning and caustic burns from swallowing battery electrolyte. Risk of injury through burns to skin and eyes from battery acid or when handling damaged lead-acid batteries

Risk of explosion from explosive gas. Risk of poisoning and caustic burns from swallowing battery electrolyte. Risk of injury through burns to skin and eyes from battery acid or when handling damaged lead-acid batteries	No fires, sparks, open flames or smoking. Wear acid-resistant gloves, clothing and glasses. Only pour battery acid into suitable and appropriately marked containers.	<u> </u>
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### **Potential risks**

### **Risk of explosion**

When charging lead batteries with battery electrolyte containing sulfuric acid, a highly explosive oxyhydrogen gas mixture is created that ignites by means of fire, sparks, open flames and smoking.

### **Risk of injury**

The battery electrolyte contains diluted sulfuric acid that causes caustic burns to the skin, eyes and mucous membranes in the event of contact. Bonded electrolyte is just as caustic as liquid electrolyte. Battery electrolyte mist causes caustic burns to the eyes. If inhaled, this can result in caustic burns to the mucous membranes and respiratory paths. In the event of a short circuit from the battery positive to ground, battery terminals and conductive objects causing short circuit, e.g. tool or jewelry (watch band or

### Safety precautions/instructions

- Wear acid-resistant gloves and clothing and safety glasses with side guards.
- Only charge lead batteries in well ventilated rooms with appropriate voltage and appropriate current with approved chargers, taking into account the instructions of the battery and battery charger manufacturers.
- · No fire, sparks, open flames and smoking.
- Switch on the battery charger only after connecting to the terminals; switch off the battery charger before disconnecting from the terminals.
- Do not place any conductive objects on the battery and do not wear any conductive jewelry (risk of short circuit).
- Always disconnect the negative terminal first; always connect the positive terminal first (risk of short circuit caused by tool).
- Strict caution is required when handling damaged batteries (removing from vehicle damaged in accident) because of the sharp edges on the fractured housing and escaped electrolyte.
- Keep batteries and battery electrolyte away from unauthorized persons (especially children).

ring), become hot in seconds and red hot/liquid metal sprays are released.

### **Risk of burn injuries**

In the event of a short circuit from the battery positive to ground, battery terminals and conductive objects causing short circuit, e.g. tool or jewelry (watch band or ring), become hot in seconds and cause burns.

### **Risk of poisoning**

If battery electrolyte is swallowed, this can result in symptoms of poisoning such as headache, dizziness, stomach ache, respiratory paralysis, unconsciousness, vomiting, caustic burns and cramps. Absorption of lead in the body through contact with leaded components (battery terminals, lead plates in damaged batteries) damages the blood, nerves and kidneys; lead compounds are also toxic for reproduction.

- Only fill liquid battery electrolyte into suitable and appropriately marked containers.
- Only store, transport and install batteries with liquid battery electrolyte horizontally, otherwise battery electrolyte can escape from the degassing holes.
- Ensure that at least one degassing hole at the battery is not sealed, as otherwise overpressure builds that leads to bursting of the battery.
- Ensure proper connection of the degassing line to the degassing hole.
- Ensure the degassing line does not have any kinks and is not blocked at any point.
- Observe the instructions for use for the respective lead batteries and the operator's manual of the vehicle.
- The battery housing may become brittle over time, therefore do not expose the battery to direct sunlight.
- Discharged batteries may freeze and are thereby damaged, therefore always store batteries at a location protected against frost.

Risk of explosion from explosive gas. Risk of poisoning and caustic burns from swallowing battery electrolyte. Risk of injury through burns to skin and eyes from battery acid or when handling damaged lead-acid batteries

## First aid measures

### **Contact with eyes**

Rinse eyes immediately with plenty of water. •

### Contact with skin

- Remove wet clothing.
- Immediately neutralize battery electrolyte on the skin or clothing with acid neutralizer or soapy water and rinse off with plenty of water.
- Wash off lead on the skin immediately with water and soap.

### Inhalation of battery electrolyte mist

Take the affected person out into the fresh air. ٠

### Swallowing battery electrolyte

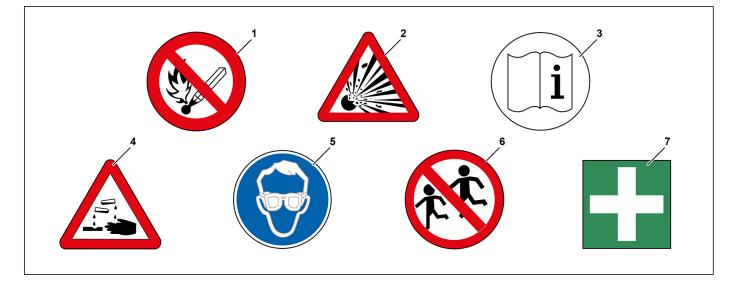
Have the person affected drink plenty of water with activated charcoal supplement.

As a general rule, the person affected should consult a medical service or physician after first aid has been rendered.

### **Fire protection measures**

Suitable extinguishing agents

CO2 and dry extinguishing agent



### Warning notes for lead batteries with battery electrolyte containing sulfuric acid

1	No fire, sparks, open flames or	4	Risk of caustic burns	6	Keep away from children
	smoking				
2	Risk of explosion	5	Wear eve protection	7	First aid

Risk of explosion 2 3

Observe operating instructions

Wear eye protection 5

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Risk of injury caused by contact with battery gel when handling damaged lead-gelbatteries

contact with battery gel when	No fires, sparks, open flames or smoking. Wear acid-resistant gloves, clothing and glasses.	<u>∧</u> Warning
gelbatteries		

## **Potential risks**

## **Risk of poisoning**

**Swallowing battery gel** can cause symptoms of poisoning such as headaches, dizziness, stomach aches, respiratory paralysis, unconsciousness, vomiting, caustic burns and cramps.

The absorption of lead in the body can cause damage to blood, nerves and kidneys; in addition, lead compounds are considered to represent a reproductive hazard.

## **Risk of injury**

The bonded electrolyte set free is just as caustic as a liquid electrolyte that can cause heavy caustic burns to skin and eyes. Strict caution is required when handling damaged lead-gel batteries (e.g. removing from vehicle damaged in accident) because of the sharp edges on the fractured housing and direct contact with the lead plates.

## Safety precautions and rules of conduct

No fires, sparks, open flames or smoking.

## First aid measures

## Contact with eyes

• Rinse out eyes immediately with plenty of water.

## Contact with skin

- Remove moistened clothing.
- Immediately neutralize drops of acid or gel on skin or clothing with acid neutralizer or soapy water and rinse off with plenty of water.

- Do not place any tool or other conductive object on the lead-gel battery (risk of short circuit!).
- Disconnect and remove lead-gel batteries for charging.
- Always disconnect the negative terminal first and always connect the positive terminal first .
- Only switch on the battery charger after connecting to the terminals and switch off before disconnecting.
- Keep lead-gel batteries away from unauthorized persons (especially children).
- Pay attention to instructions for use of the particular lead-gel battery and the operator's manual for the vehicle.
- Wear acid-resistant clothing and safety glasses with side guards.

• Only pour acid gel into suitable and appropriately marked containers.

### Swallowing battery gel

• Have the person affected drink plenty of water supplemented with activated charcoal.

# After performing first aid, always consult medical service or a physician.

## Fire protection measures

### Suitable extinguishing agents

CO2 and dry extinguishing agent

## Notes on avoiding damage through contamination and foreign objects

Note	es on avoiding damage	Topical note
thro	ugh contamination and	
fore	ign objects	

### Information on affected component parts

With each maintenance and repair work to the engine as well as to the ancillary assemblies and detachable parts comes the danger of property damage caused by contamination and foreign bodies.

Particularly at risk are:

- · Exhaust gas turbocharger
- Hot film mass air flow sensor
- Compressor
- · Emission control system
- All components involved in gas exchange

### Notes on removal/installation

Openings through which soiling or foreign objects are introduced into the engine, its ancillaries or detachable parts, must be sealed immediately.

For this purpose, suitable, clean covers and plugs or clean, lint-free rags are to be used.

## (1)

Do not forget to remove all covers, plugs or rags when assembling or when finalizing the work.

This avoids any damage and complaints about engine running characteristics.

## ∢

Before assembling or finalization work all components are to be checked for soiling, left-over foreign objects and any fluids, and if any are found they are to be removed.

### Information on cleaning

For cleaning, use only clean tools and clean, lint-free rags.

Residues of cleaning agents and removed contaminants must be cleared from the engine, ancillary assemblies and detachable parts.

(1)

Do **not** use compressed air for removing any soiling. Otherwise, components (e.g. the hot-wire element of the hot film mass air flow sensor) could be damaged or contamination could enter the engine, ancillary assemblies and detachable parts without being noticed.

## Notes on use, material properties and handling of AdBlue®

Notes on use, material	Topical note
properties and handling of	
AdBlue®	

### Tasks of AdBlue®

AdBlue® serves to convert nitrogen oxides into water vapor and nitrogen.

# Chemical characterization and composition of AdBlue®

The urea content is 32.5%. AdBlue® consists of urea dissolved in demineralized water. AdBlue® is not an additive.

Chemical formula: H2N-CO-NH2

Molecular weight (urea): 60.06 g/mol

### Physical and chemical properties of AdBlue®

State: Liquid

Color: Colorless, clear, light-yellow

Odor: Slight ammonia odor

pH value: 10 (aqueous solution, 10 %)

Crystallization temperature: -11 °C / 12 °F

Boiling point: 103 °C / 217 °F

Auto-ignition temperature: Not spontaneously inflammable

Density: approx. 1.09 g/cm<sup>3</sup> at 20 °C / 68 °F

Viscosity (dynamic): approx. 1.4 mPa\*s at 25 °C / 77 °F

### Handling contaminated operating fluids

It is essential that AdBlue® be kept separate from other operating fluids, fuels and lubricants such as coolant,

### Handling contaminated materials

It is essential that AdBlue® does not come into contact with materials used in the interior of the vehicle. AdBlue® exposed to air passes within just a few hours from a liquid state into the crystalline state and can therefore damage and destroy contaminated surfaces.

Textiles, e.g. the reversible mat in the luggage compartment, which have been fouled with AdBlue® should be alternately cleaned and then rinsed with water several times.

It must be ensured that there are no further traces of AdBlue® in the textiles.

## CAS (Chemical Abstracts Service) no.: 57-13-6

### Marking

AdBlue® dispensers are marked with the standard designation ISO 22241 or with the trade designations AdBlue® or Diesel Exhaust Fluid (DEF).

### Transport

In vehicles with BlueTEC technology,  $\mathsf{AdBlue} \circledast$  is carried in a tank.

engine oil, transmission oil, fuel, hydraulic fluid and brake fluid and not used in the same containers and collecting bowls. The smallest amounts of AdBlue® can damage thermostats or temperature sensors.

Operating fluids which contain traces of AdBlue® must not be used again.

### Handling contaminated AdBlue®

AdBlue® must be checked as per the repair instructions before every fill. Individual components of the exhaust aftertreatment system already react very sensitively with even the smallest traces of contaminants in AdBlue®. When handling AdBlue® it is important, therefore, to always use clean containers and collecting bowls which are only reserved for this purpose. Contaminated AdBlue® must not be used again.

### Handling contaminated tools

All tools coming into contact with AdBlue® must be thoroughly cleaned with water immediately after use!

Only fully dried measuring instruments and filling tools should be used so as not to dilute the AdBlue® concentration.

### Protecting components when working with AdBlue®

AdBlue® leads to corrosion on electronic components and strong fouling on all other materials. It is therefore necessary to cover up all components in the vicinity over the whole surface with plastic foil when working in circumstances where AdBlue® could leak out.

### Storage and packaging

Storage at temperatures between 0°C/32°F and 25°C/77°F should be ensured in order to avoid crystallization occurring

Notes on use, material properties and handling of AdBlue®

in AdBlue®. To avoid deterioration in quality due to contamination, AdBlue® must only be handled in storage and filling systems intended exclusively for AdBlue®. Suitable container materials are alloyed steel, various plastics and plastic coatings in metal containers.

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## Service life and durability

AdBlue® breaks downs during storage into ammonium hydroxide and carbon dioxide and then no longer fulfills the requirements of standard ISO 22241.

If the recommended storage temperature of a maximum of  $25^{\circ}$ C/77°F is maintained, the AdBlue® will fulfill the requirements of this standard for at least 18 months after manufacture. If this recommended storage temperature is exceeded then this period is reduced. Duration of storage and the temperatures to be used are given as guideline values at the end of the document. At temperatures below -11°C/12 °F, the AdBlue® freezes and becomes solid.

On warming up again the frozen AdBlue® becomes liquid again and can be reused without any loss of quality.

Not to be used are unalloyed steel, aluminum, copper, copper-containing alloys and zinc-dipped steel.

The maximum permissible service life of AdBlue  $\ensuremath{\mathbb{R}}$  can be taken from the **MB Specifications for Operating Fluids**.

### **Disposal and degradability**

Disposal of AdBlue®:

When disposing of AdBlue® the legal requirements of the country in which the AdBlue® is used must be observed.

Contaminated packaging/materials:

Packaging which contains residues of AdBlue® is to be handled like the substance itself. Packaging should emptied as well as possible; it can then be reused after appropriate cleaning with water.

**Constant ambient conditions** 

Storage temperature in °C/°F - Durability in months

≤10 / 50 - 36 ≤25 / 77 - 18 ≤30 / 86 - 12 ≤35 / 95 - 6 >35 / 95 - -- Information on preventing damage to electronic components due to electrostatic discharge

Information on preventing	Topical note
damage to electronic	
components due to electrostatic	
discharge	

### **Electrostatic charge**

Every contact and every physical separation of materials or every movement of solids, liquids or charged particlecontaining gases can generate electrostatic charge. Plastics generally produce the highest electrostatic charge.

We come across electrostatic charge or discharge in lots of everyday situations, e.g. with:

- Combs
- Walking on carpets or plastic floors
- Putting on and taking off textiles with synthetic fiber content
- · Disembarking from the vehicle
- Contact between various electrostatically chargeable packaging materials in shelves or in the transport container

The following electronic components listed as an example can be damaged by ESD:

- Airbag components
- Control units, in particular their bus connections Controller Area Network (data bus/CAN bus) (CAN),
- Local Interconnect Network (LIN) etc.
- Sensors
- Mechatronic component parts (actuators etc.)
- · Antenna amplifier
- Receivers and displays (Radio, TV, GPS, telephone etc.)

### Modes of behavior and safety precautions

- Electrostatic discharge of the technician (e.g. by briefly touching the vehicle body).
- Suitable clothing, e.g. made of cotton.
- Wear ESD safety shoes with conductive soles.
- Keep workplace clean and clear away unnecessary objects such as conventional plastics.
- Special antistatic seat cushion protectors should be used when performing repair work inside a vehicle.
- Leave replacement parts in the original packing for as long as possible, do not tear open seals but cut them open carefully.
- The ESD workplace must conform to the ESD guidelines.

The resulting electrostatic discharge (Electrostatic Discharge (ESD)) can be so strong that a small electric shock is detected. Even the smallest discharges which people cannot detect can cause lasting damage to electronic components and control units.

### Effects and consequences of ESD

Electronic components and control units are very sensitive to ESD. The damage is often not immediately obvious, but becomes apparent some time later. In order to avoid failures and damage due to ESD in vehicle electronics, various procedures and safety precautions must be taken into account and followed.

Risk of damage arises during the transportation, handling, testing, removal and installation of electronic components during production and repair work.

- The operation-specific documentation in the WIS must be observed and the specified special tools and/or workshop equipment must be used in each case.
- Before unpacking, discharge ESD protective packaging at the ESD workplace.
- Avoid any contact with electrostatic chargeable materials such as, e.g. polyethylene, PVC, styrofoam.
- Use only original packaging or specially labeled and defined packaging and transport materials.
- Electronic components which have been removed must be put down on an ESD workplace.
- Electrical connectors on electronic component parts and in the wiring harness should be touched by their housing only. Do not touch pins or contacts!
- Electronic components must be installed before they are connected so that potential equalization with the body can take place.
- Shelves and worktables must stand directly on the floor, there must not be any insulating materials between the base of the shelves/feet and the floor. If the above mentioned insulators cannot be removed, the shelves and work tables must be grounded (e.g. low-resistance electrical connection/line from metal shelf to a coolant pipe).
- Do not put down conductive containers/crates when insulated,
  - (e.g. on a wooden pallet), as otherwise potential equalization will not take place.

## Information on preventing damage to electronic components due to electrostatic discharge

 Do not place control units and electronic components removed from the vehicle on electrostatically chargeable materials, such as PE, PVC, styrofoam. The

### Training

It is strongly recommended that every company has an ESD officer trained in accordance with DIN EN 61340-5-1.

The ESD officer can carry out staff training courses.

The aim of the training measures is to communicate the main problems and effects of ESD to staff:

- Discharge generation
- Reasoning for safety precautions
- Effects and consequences of ESD
- · ESD rules of conduct and safety precautions

electrostatic charge is transferred to the control unit or electronic component. An ESD service kit or a connected ESD table mat must be used.

## -----

# Return of electronic components in warranty and goodwill cases

When returning electronic components it is absolutely essential to observe the procedure and safety precautions listed. The original fault may be falsified or hidden by electrostatic charge/discharge.

This can lead to distorted fault symptoms in the case of the fault analysis of the component concerned.

### Notes on carrying out repair work in the vehicle interior

Notes on carrying out repair	Topical note
work in the vehicle interior	

# In order to prevent soiling or damage, the following information must be observed:

- Before starting repairs in the vehicle interior, the corresponding protective covers must be provided in the repair area for the floor coverings, seats, steering wheel, etc. to prevent them from becoming dirty.
- Persons performing work in the vehicle interior should ensure they have clean work clothes, clean shows and clean hands.
- bench seat, roof lining, instrument panel etc.), always work with aid of at least a second person.Do not use dirty or unapproved tools. This prevents any,

When removing bulky or difficult to handle parts (e.g.

Always place removed interior parts on a clean and soft surface.

e.g. scratching or crazing of interior parts etc.

### **Further information:**

- Repair or replace damaged interior parts (particularly mounts such as retaining clips, Velcro fasteners etc.).
- When installing interior parts at the intended locations, install insulation material and/or protective foils, or, replace insulation material/protective foils as required in order to dampen vibrations and noise.
- Many equipment parts in the area of the vehicle interior have been installed or made specifically to the

customer's request, and cannot be replaced easily if damaged or soiled; for this reason, utmost care must be ensured when carrying out operations in the vehicle interior.

• Remove any dirt present with cleaners approved by Daimler and suitable for corresponding surfaces. When doing so, where possible, the compatibility of the cleaning agent should be tested at a concealed area of the part to be cleaned.

# Lift point locations

# i

When performing procedure on a vehicle lift

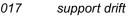
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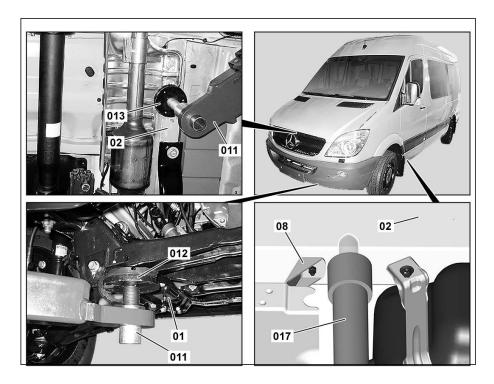
Vehicle must be in a ready to lift position before procedure is started.

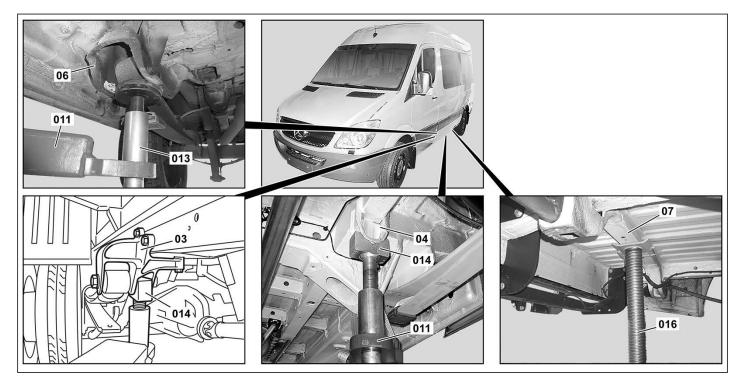
i Read the operating instructions for the vehicle lift.

## Lift mounting points on the vehicle in the area of the front axle

01	spring clamp plate
02	longitudinal member
08	bracket
011	arm of hydraulic lift
012	support plate
013	long support plate
017	support drift







## Lift mounting points on the vehicle in the area of the rear axle

- 03 front rear spring bracket
- 04 longitudinal member
- 06 front rear spring bracket
- 07 crossmember 011 arm of hydraulic lift
- 013 long support plate
- 014 v-block 016 prop

Picture reference	Pick-up point	
		Information
03	Support at rear to front rear spring bracket.	
04	Rear support at longitudinal member.	- If possible, always support at rear Install at longitudinal member (4).
06	Install on front rear spring bracket.	
012	Support plate.	- For front support to spring clamp plate (1). Unscrew support plate (012) at right and left an equal distance.
		- In vehicles with vehicle lift support point at integral carrier (5).
013	Long support plate.	- For front support at longitudinal member (2) and support at front rear spring bracket (6). Can be used alternatively to front support to spring clamp plate (1). Pull out long support plates (013) at right and left an equal distance.
		- In vehicles without a vehicle lift support point at the integral carrier (5) in the vicinity of the inner mounts of the semi-trailing arms.
014	V-block	- For rear support at front rear spring bracket (3) and rear support at longitudinal member (4). Pull v-block (014) at right and left rear out an equal distance.
016	Ram	- Vehicles with heavy bodies and panel vans/crewbuses with a long wheelbase at the crossmember (7) should be supported with a prop (016).
017	Support drift	<ul> <li>With soundproofing Ensure that support drift (017) does not make contact with bracket (8) of rear soundproofing. If necessary, loosen bracket (8), push towards the front as far as possible and retighten it. Otherwise the brackets (8) of the rear soundproofing and the longitudinal members may be damaged.</li> <li>For front support to longitudinal member (2). Unscrew support drift (017) at right and left an equal distance.</li> </ul>

Secure vehicle on lift.

(!)

Heavily loaded vehicles, vehicles with a heavy body and vehicles with unfavorable load distribution must be secured.

Otherwise these may fall.

# Instructions for driving onto ramps

## i

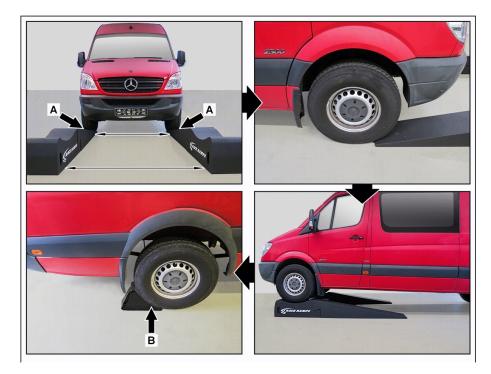
When performing procedure on ramps.

# i

Vehicle must be driven onto ramps before procedure is started, and may remain on ramps for the entire procedure.

# i

Race Ramps are available for order from MBUSA Standard Service Equipment Program (SSEP): www.mbusassep.com Part number: 784-RR-HTVR-RC-KIT



# i

Read the operating instructions provided by the manufacturer of the ramps. Since these are ramps that have not been built or tested by Mercedes Benz, no information can be given on safety. Mercedes Benz excludes all liability when using these ramps.

Place the vehicle on a clean, firm and level surface.
 i

Make sure that there is enough space to the front.

Place ramps in the middle (arrows A) of the front wheels.

The ramps must be aligned parallel to each other.

3

Drive the vehicle onto the ramps until it is positioned in the end position specified by the manufacturer of the ramps.

()

Drive the vehicle slowly and at a constant speed onto the ramps.

### Otherwise the vehicle may be damaged.

i

If necessary, include a helper to instruct you.

4

Secure the vehicle against rolling away.

i

For example, by applying the parking brake and by placing a wheel chock (arrow B) on the rear wheels.

# **Initial Quick Test**

- 1 Switch off the ignition.
- 2 Disconnect Geotab, Omni Track, Navigation or any aftermarket devices that are connected to the X11/4 diagnostic socket.
- 3 Open the hood.
- 4 Connect the battery charger to the vehicle's jump posts as indicated. (arrows)

(\$!)

A sufficient power supply to the vehicle on-board system must be ensured throughout the entire work procedure.

Otherwise any undervoltage that occurs may damage the control units.

# i

Do not connect the battery charger to the auxiliary battery in the engine compartment.

i

Follow the operating instructions for the battery charger.

# i

Use a Mercedes-Benz recommended battery charger to ensure an adequate voltage supply (min. 12.5 V) is provided for the on-board electrical system battery.





- 5 Ensure XENTRY is fully updated with the latest release and all available add-ons.
- 6 Connect the diagnostic system. Make sure that the OBD2 connection cable is connected directly to the factory X11 / 4 diagnostic socket and not via an adapter cable.
- 7 Switch on the ignition.

### i

The diagnostic system remains connected to the vehicle throughout the work procedure! Do not disconnect the diagnostic system's online connection.

8 Start the diagnostic system.

9

Run XENTRY and perform Quick Test. Upload Initial Quick Test print-out to paperless pXD.

# i

Pre-existing faults causing a Check Engine Light must be evaluated. Reference Pre-Inspection Notes on page 2.

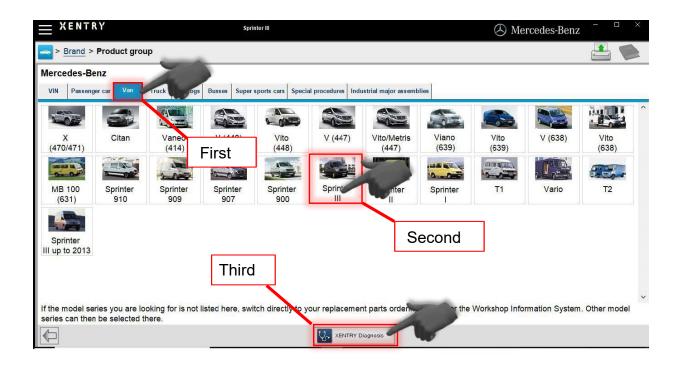
# i

The procedure via the diagnostic system is shown on the following pages.

10

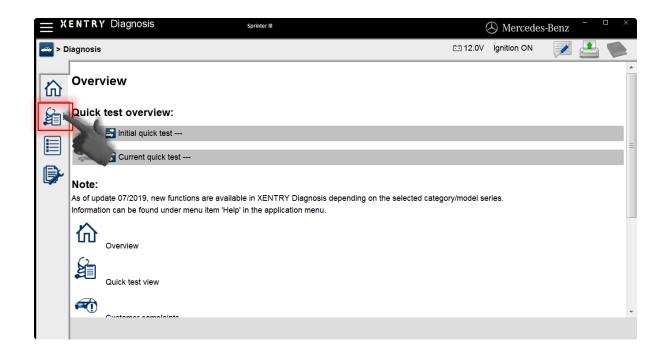
Perform Emissions Modification Pre-Inspection.





$\equiv X \text{ENTRY}$	Sprinter III	$\bigotimes$ Mercedes-Benz $ \square$ $\times$
> Brand > Product group > Vehicle		Z 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Model		
Please select a vehicle model designation from pro	oduct group 'Sprinter III'.	
You can now start XENTRY Diagnosis or select more	re vehicle data for other applications.	
All		
906.111 - 209/11/13/15 CDI FHS, 209/210/213/214/216	CDI Short Cab, 218 CDI FHS, 219 CDI FHS	
906.113 - 209/10/13/14/16 CDI Short Cab, 209/11/13/15	CDI FHS, 216 FHS, 218 CDI FHS, 219 CDI FHS,	224 FHS
906.131 - 309/11/13/15/16 CDI FHS, 309/310/313/314/3	16 CDI Short Cab, 311/315 CDI FHS, 318 CDI FH	S, 319 CDI FHS
906.132 - 309/11/13/15/16 CDI FHS, 309/310/313/314/3	16 CDI Short Cab, 318 CDI FHS, 319 CDI FHS	
906.133 - 309/11/13/15/16 CDI FHS, 309/310/313/314/3	16 CDI Short Cab, 311/315 CDI FHS, 313/314/31	6 CDI Short Cab, 316 FHS, 318 CDI FHS, 319 CDI FHS, 324 F
906.134 - 309/11/13/15/16 CDI FHS, 309/310/313/314/3	16 CDI Short Cab, 318 CDI FHS, 319 CDI FHS	
906.135 - 309/11/13/15/16 CDI FHS, 309/310/313/314/3	16 CDI Short Cab, 311/315 CDI FHS, 313/314/316	6 CDI Short Cab, 316 FHS, 318 CDI FHS, 319 CDI FHS, 324 F
906.136 - 309/11/13/15/16 CDI FHS, 309/310/313/314/3	16 CDI Short Cab, 318 CDI FHS, 319 CDI FHS	
906.153 - 411/15, 509/11/15 CDI FHS, 413/14/16, 509/5	10/13/14/16 CDI Short Cab, 418/518 CDI FHS, 41	9/519 CDI FHS, 511/515 CDI FHS, 513/514/516 CDI Short Cal
906.155 - 411/15, 509/11/15 CDI FHS, 413/14/16, 509/5	10/13/14/16 CDI Short Cab, 418/518 CDI FHS, 41	9/519 CDI FHS, 511/515 CDI FHS, 513/514/516 CDI Short Cal
906.211 - 209/10/13/14/16 CDI Long Cab, 209/11/13/15	CDI FHL, 218 CDI FHL, 219 CDI FHL	
906.213 - 209/10/13/14/16 CDI Long Cab, 209/11/13/15	CDI FHL, 216 FHL, 218 CDI FHL, 219 CDI FHL, 2	224 FHL
906.231 - 309/11/13/15/16 CDI FHL, 309/310/313//316 C	DI FHL, 311/315 CDI FHL, 318 CDI FHL, 319 CD	I, 319 CDI FHL
906.233 - 309/11/13/15/16 CDI FHL, 309/310/313/314/3	16 CDI Long Cab, 311/315 CDI FHL, 313/314/316	CDI Long Cab, 316 FHL, 318 CDI FHL, 319 CDI FHL, 324 FHI
		,
	XENTRY Diagnosis Jm	Continue

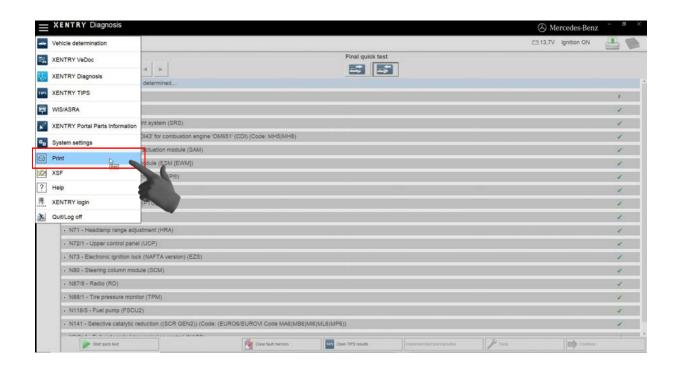
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4	> D	iagnosis É	Ĵ	Ignition			-	:
1	à	The diagnosis application is being started Progress (step 1 of 4):						*
100								
		The boundary conditions are recorded.     The simulation files are being copied     The control units are being initialized.     Check of VIN     Wait	)					
		Optional settings:						
		Automatically start quick test on completion of vehicle identificati	on.					
		Automatically start and print out quick test on completion of vehicle identificati	on.					
		Automatically start quick test on completion of vehicle identification and print out together with fault freeze frame data	ata.					
		Save quick test as PDF file instead of printing it	out.					
		Do you want to save the setting for future diagnosis session	ns?					
								Ŧ
		6				Continue		



			0	cedes-Benz		
> Diag	anosis		🗂 13.7V	Ignition	•	-
S	earch					-
1	4 >					
	1 - Instrument cluster (IC)					
	2/15 - Supplemental restraint system (SRS)					
	3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Code: MH5[MH8)					
	10 - Signal acquisition and actuation module (SAM)					
N	15/5 - Electronic selector module (ESM [EWM])					
	30/4 - Electronic stability program (ESP®)					
N	33/3 - Stationary heater (STH)					
N	33/4 - PTC heater booster (PTC)					
N	69/1 - Driver door (TSG)					
N	71 - Headlamp range adjustment (HRA)					
N	72/1 - Upper control panel (UCP)					
N	73 - Electronic ignition lock (NAFTA version) (EZS)					
N	80 - Steering column module (SCM)					
N	87/8 - Radio (RD)					
N	88/1 - Tire pressure monitor (TPM)					
N	118/5 - Fuel pump (FSCU2)					
	141 - Selective catalytic reduction ((SCR GEN2)) (Code: (EURO6/EUROVI Code MA6/MB6	6(MI6(ML6(MP6))				
	98 - Air conditioning (KLA)					
	3/8n4 - Fully integrated transmission control (NAG2)					

agnosis				A Mercedes-Ben	z - σ ×
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	st is being performed  Control unit 1 of 19  done: Inic Ignition lock (NAFTA version) (EZS) ielectronics "CD/43" for combustion entri- integrated transmission control conic selector module (ESM [E] conic stability program (ESP®) acquisition and actuation module (SAM)	Control unit 1 of 19 adons: hic ignition lock (NAFTA version) (EZS) electronics "CDI43" for combustion engine integrated transmission control conic salector module (ESM [E] wait wait	Control unit 1 of 19 s done: hic ignition lock (NAFTA version) (EZS) electronics 'CDI43' for combustion engli integrated transmission control onic salector module (ESM [E] Wait	Control unit 1 of 19 adona: hic ignition lock (NAFTA version) (EZS) electronics "CDI43" for combustion engle integrated transmission control onic salekctor module (ESM [E] Wait	st is being performed Control unit 1 of 19 a dones: Indegration lock (NAFTA version) (EZS) relectronics 'CDI43' for combustion engin integrated transmission control motic salector module (ESM [E] Wait onic salector module (ESM [E] Wait

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	+ A1 - Instrument cluster (IC)			1
	+ N2/15 - Supplemental restraint system (SRS)			1
	+ N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Code: MH5)MH8)			1
	+ N10 - Signal acquisition and actuation module (SAM)			1
	+ N15/5 - Electronic selector module (ESM [EWM])			1
	+ N30/4 - Electronic stability program (ESP®)			1
	+ N33/3 - Stationary heater (STH)			1
	+ N33/4 - PTC heater booster (PTC)			1
	+ N69/1 - Driver door (TSG)			1
	+ N71 - Headlamp range adjustment (HRA)			1
	+ N72/1 - Upper control panel (UCP)			1
	+ N73 - Electronic ignition lock (NAFTA version) (EZS)			1
	+ N80 - Steering column module (SCM)			1
	+ N87/8 - Radio (RD)			1
	+ N88/1 - Tire pressure monitor (TPM)			1
	+ N118/5 - Fuel pump (FSCU2)			1
	+ N141 - Selective catalytic reduction ((SCR GEN2)) (Code: (EURO6/EUROVI Code MA6/MB6/MI6/ML6/MP6))			1
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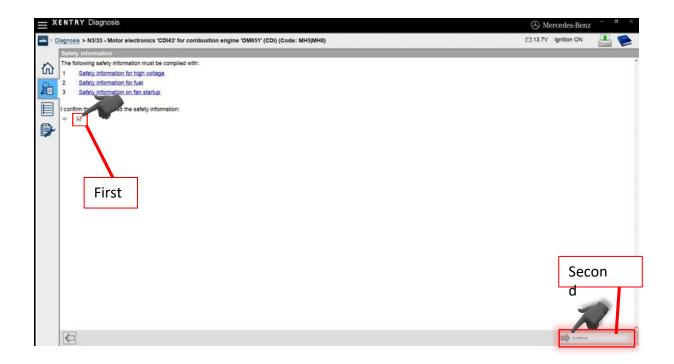
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+ N2/15 - Supplemental restraint system (SRS)	Screen	1
N3/33 - Motor electronics 'CDI43' for combustio     N10 - Signal acquisition and actuation module (	Initial multicleast	1
+ N15/5 - Electronic selector module (ESM [EWM		A
+ N30/4 - Electronic stability program (ESP®)	Final quick test with fault freeze frame data	
+ N33/3 - Stationary heater (STH)	And pages.	1
+ N33/4 - PTC heater booster (PTC)	O Printer: Microsoft XPS Document Writer	
+ N69/1 - Driver door (TSG)	Hit	Þæt ^Áðr HÁ EH%
+ N71 - Headlamp range adjustment (HRA)	• Cutput to file:	ÉH%
+ N72/1 - Upper control pa	QT1	LII /0 ×
+ N73 - Electronic ignition I Third	Output in English	4
+ N80 - Steering column module (SCM)	Print Abort	1
+ N87/8 - Radio (RD)	Fourth	1
+ N88/1 - Tire pressure monitor (TPM)	Fourth	×
+ N118/5 - Fuel pump (FSCU2)		
+ N141 - Selective catalytic reduction ((SCR GEN	2)) (Code: (EURO6/EUROVI Code MA6[MB6[MI6]ML6[MP6]))	1
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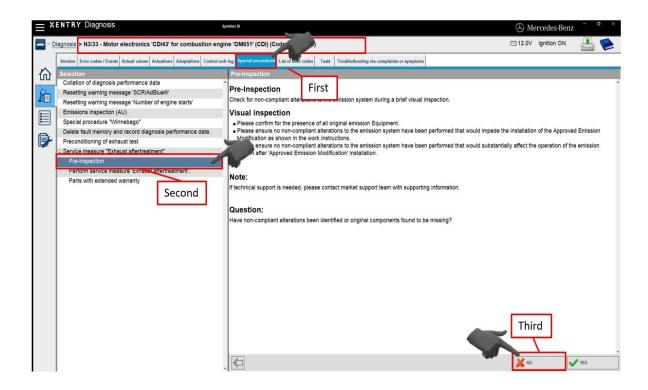
# i

Pre-existing faults causing a Check Engine Light must be evaluated. Reference Pre-Inspection Guide on page 2.

# DfY!=bgdYWIjcb Special Procedure

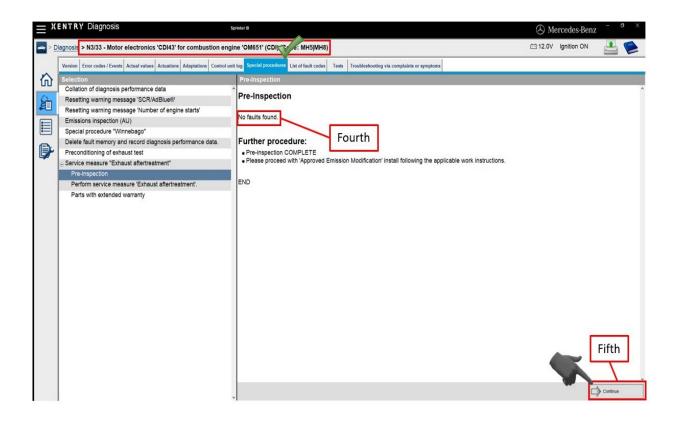
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	+ A1 - Instrument cluster (IC)						4
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	+ N3/33 - Motor electronics 'CDI43' for combustion engin	e 'OM651' (CDI) (Code: MH5 MH8)					+
	+ N10 - Signal acquisition and actuation module (SAM)						+
	+ N15/5 - Electronic selector module (ESM [EWM])						4
	+ N30/4 - Electronic stability program (ESP®)						+
	+ N33/3 - Stationary heater (STH)						1
	+ N33/4 - PTC heater booster (PTC)						4
	+ N69/1 - Driver door (TSG)						1
	+ N71 - Headlamp range adjustment (HRA)						1
	+ N72/1 - Upper control panel (UCP)						1
	+ N73 - Electronic ignition lock (NAFTA version) (EZS)						4
	+ N80 - Steering column module (SCM)						1
	+ N87/8 - Radio (RD)						1
	+ N88/1 - Tire pressure monitor (TPM)						1
	+ N118/5 - Fuel pump (FSCU2)						1
	+ N141 - Selective catalytic reduction ((SCR GEN2)) (Ca	ode: (EURO6/EUROVI Code MA6 MB6	MI6(ML6(MP6))				1
	Start quick test	Clear fault memory	Open TIPS results	Implement test previousles	Je rain	Continue	

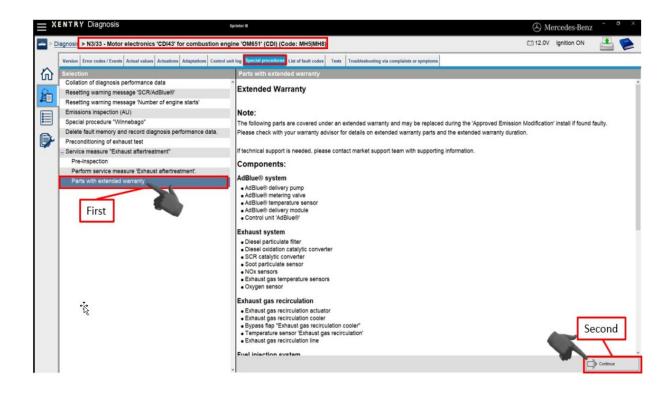




# i

If Non-Compliant alterations are found, reference the Pre-Inspection Guide on page 2 for next steps.





## 11 End the XENTRY session.

Х	ENTRY Diagnosis	(A) Me	crcedes-Benz	- 0
	mos	🟥 13.7V	Ignition ON	-
2	Final quick test			
	+ S98 - Air conditioning (KLA)			F
	+ A1 - Instrument cluster (IC)			1
-	+ N2/15 - Supplemental restraint system (SRS)			1
4	+ N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Code: MH5/MH8)			1
	+ N10 - Signal acquisition and actuation module (SAM)			1
1	+ N15/5 - Electronic selector module (ESM [EWM])			1
	+ N30/4 - Electronic stability program (ESP®)			1
	+ N33/3 - Stationary heater (STH)			1
	+ N33/4 - PTC heater booster (PTC)			1
	+ N69/1 - Driver door (TSG)			1
	+ N71 - Headlamp range adjustment (HRA)			1
	+ N72/1 - Upper control panel (UCP)			1
	+ N73 - Electronic ignition lock (NAFTA version) (EZS)			1
	+ N80 - Steering column module (SCM)			1
	+ N87/8 - Radio (RD)			1
	+ N88/1 - Tire pressure monitor (TPM)			1
	+ N118/5 - Fuel pump (FSCU2)			1
	+ N141 - Selective catalytic reduction ((SCR GEN2)) (Code: (EURO6/EUROVI Code MA6(MB6(MI6(ML6(MP6))			1
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	XENTRY Diagnosis					🛞 М	ercedes-Benz	- (	σ×
-	Vehicle determination					🗂 13.7V	Ignition ON	-	
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ų.	XENTRY Diagnosis	determined							
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單	WIS/ASRA							1	
×	XENTRY Portal Parts Information	int system (SRS)						1	
•••	System settings	0143' for combustion engine 'O	M651' (CDI) (Code: MH5 MH8)					1	
_		actuation module (SAM)						4	
	Print	odule (ESM [EWM])						1	
10	XSF	rogram (ESP®)						1	
?	Help	TH)						1	
帰	XENTRY login	(PTC)						4	
×	Quit/Log off							1	
	+ N71 - Headlamp range adju	ot RA)						1	
	+ N72/1 - Upper control pane							1	
	+ N73 - Electronic Ignition loc	bn) (EZS)						1	
	+ N80 - Steering column mod	ule (SCM)						4	
	+ N87/8 - Radio (RD)							1	
	+ N88/1 - Tire pressure monit	or (TPM)						4	
	+ N118/5 - Fuel pump (FSCU	2)						4	
	+ N141 - Selective catalytic m	+ N141 - Selective catalytic reduction ((SCR GEN2)) (Code: (EUROS/EUROVI Code MA6)/MB6)/MI6/ML6/MP6))							
	MARY FALLEN INTERNET INTERNET								-
	Start quick test		Clear fault memory	Open TIPS results	Preparated test processing	Tetts	Contrast		

≡×	ENTRY Diagnosis	Sprinter III	•		🕗 М	ercedes-Benz		
	Diagnosis				🗂 12.0V	Ignition ON		-
	A1 - Instrument cluster (IC) A2/30 - Navigation module (NAV) B84/8 - Multifunction camera (MFK) B84/11 - eCall Russia (E-Call-RU) B161/1 - Outer right rear intelligent radar sensor B161/2 - Left side intelligent radar sensor B161/3 - Right side intelligent radar sensor B161/4 - Outer left rear intelligen	ayr H ns rs us us rC [EGS])	low do you want to proceed? Close XENTRY.	×	≅ 12.0V	Ignition ON		
	N26/15 - Parameterizable special module N28/1 - Trailer recognition (Trailer recogn N30/4 - Electronic stability program (ESP@ N33/2 - Heater booster (HB) N33/3 - Stationary heater (STH) N33/4 - PTC heater hooster (PTC)	tion module 1 )	It memory	Implement test prerequisites	P	Tests	Continu	Je Ja

- 12 Switch off the ignition.
- 13 Disconnect the diagnostic system.
- 14 Disconnect battery charger.

# **Replacement of AEM Parts**

15

Lift:

Raise the vehicle. **i** A description of the lift points is available on pages 19-20.

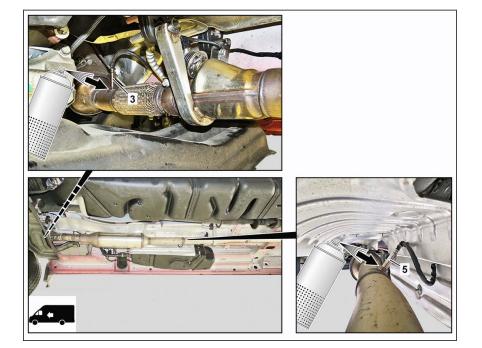
Ramps: Vehicle may remain on ramps.

Spray penetrating oil on the threads of the  $NO_x$  sensor upstream (3) and downstream (5) of SCR catalytic converter, as shown.

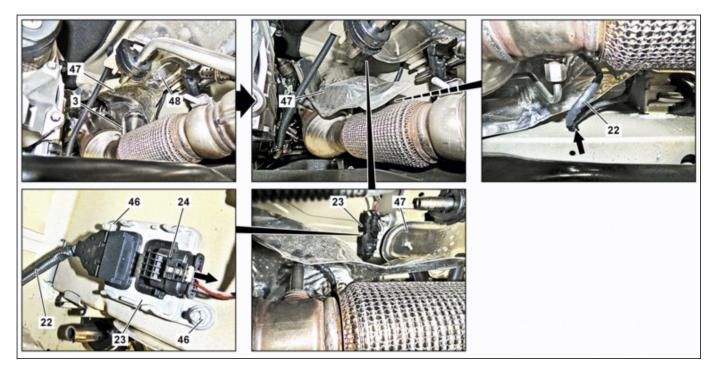
Exhaust system should be cold in order to carry out the next steps. This avoids injuries.

## i

Observe the wait period and details provided by the manufacturer of the penetrating oil!



## **Removal of Upstream NOx Sensor**



- 17 Loosen the heat shield (47).
- 18 Bend the heat shield (47) down until the NOx sensor control unit upstream of the SCR catalytic converter (23) is accessible.
- 19 Disconnect the electrical plug connection (24) NOx sensor control unit upstream of the SCR catalytic converter (23).
- 20 Remove the NOx sensor control unit upstream of the SCR catalytic converter (23) from the frame.
- 21 Remove and dispose the cable ties and retaining clips (arrows) from harness (22) of the NOx sensor control unit upstream of the SCR catalytic converter (23).
- 22 Remove NOx sensor upstream (3) of the SCR catalytic converter.

## i

The control unit and the  $NO_X$  sensor upstream (3) of the SCR catalytic converter are a single unit.

i

Return the NOx sensor upstream of SCR catalytic converter (3) to the originating parts department.

23 Clean the threads and the contact surfaces on the exhaust pipe.

# i

This is done by bending up the individual locking fins with a screwdriver and unscrew the clamping nut (48) in a counter-clockwise direction with a screwdriver.

# i

To do this, unlock the gray retaining tab by moving in the direction of the arrow.

# i

To do this, remove and dispose nuts (46)



Observe state-specific regulations for disposal.





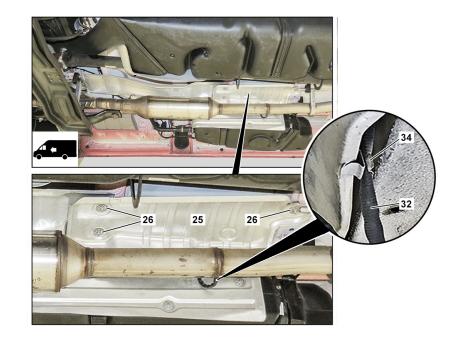
# **Removal of Downstream NOx Sensor**

24 Remove and dispose mounting tab (34) from harness (32).

Observe state-specific regulations for disposal.

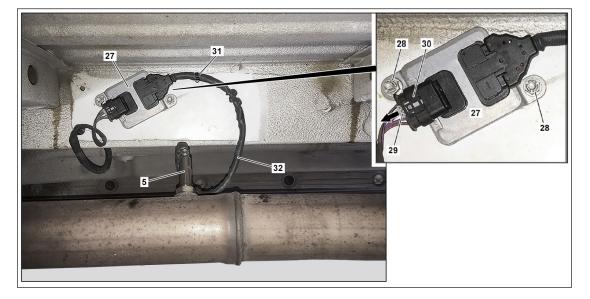
25 Remove and dispose of the clamping nuts (26).

**i** This is done by bending up the individual locking fins with a screwdriver and unscrew the clamping nuts (26) in a counterclockwise direction with a



26 Remove the heat shield (25).

screwdriver.



- 27 Disconnect the electrical plug connection (30) at the NO<sub>X</sub> sensor control unit downstream of the SCR catalytic converter (27).
- Remove the NOx sensor control unit downstream of the
   SCR catalytic converter (27).
- 29 Remove the NO<sub>X</sub> sensor downstream of the SCR catalytic converter (5).

# i

The control unit and the  $NO_x$  sensor downstream of the SCR catalytic converter (5) are a single unit.

# i

Return the NOx sensor downstream of the SCR catalytic converter (5) to the originating parts department.

# i

To do this unlock the gray locking device (29) by moving in the direction of the arrow.

# i

To do this, remove and dispose the nuts (28) and cable tie (31).



Observe state-specific regulations for disposal.



#### Installation of Upstream NOx Sensor

30 Install new NOx sensor upstream of SCR catalytic converter (3).

#### i

A 000 905 80 11 80 (included in package A 651 905 10 00 85)

 $NO_X$  sensor upstream of SCR catalytic converter: Torque to 60 Nm / 44.3 ft·lb

31 Install the NO<sub>X</sub> sensor control unit upstream of the SCR catalytic converter (23) on the frame.

i

Use new nut fasteners (46): N 000000 003477

NO<sub>X</sub> sensor control unit: Torque to **9 Nm / 6.6 ft·lb** 

32 Connect the electrical plug connection (24).

#### i

Push the gray retaining tab (24.1) in the direction of arrow A to lock.

33 Secure the harness (22) with a cable tie. (arrow B)

i

A 007 997 56 90 (1x)

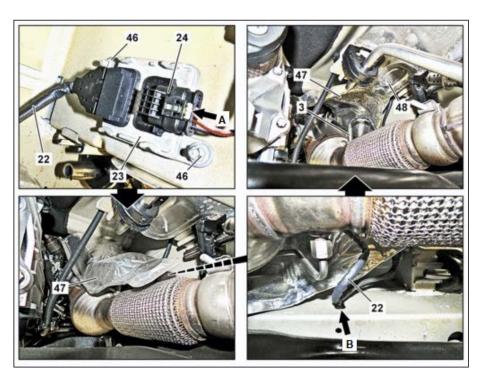
34

Bend the heat shield (47) back into old position and install a new clamping nut (48).

#### A 000 994 32 11

i

To do this, place the clamping nut (48) centrally on the pin, as shown, and slide up to the stop using a socket wrench.





# Installation of Downstream NOx Sensor

28 30 31 27 27 28 29 32 5

37

35

Install new NOx sensor control unit downstream of the SCR catalytic converter (27).

## i

A 000 905 80 11 80 (included in package A 651 905 10 00 85)

Use new nut fasteners: N 000000 003477

NO<sub>X</sub> sensor control unit: Torque to 9 Nm / 6.6 ft·lb

36

Install the new NO<sub>x</sub> sensor downstream of the SCR catalytic converter (5) on the new SCR catalytic converter.

# i

NO<sub>x</sub> sensor downstream of catalytic converter: Torque to 60 Nm / 44.3 ft·lb Connect and lock the electrical plug connection (30). i

Push the gray locking piece (29) in the direction of the arrow to lock.

Secure harness (32) with cable tie (31). 38

A 007 997 56 90 (1x)

# (\$!)

i

Do not route the harness (32) under tension. Otherwise damage could occur.



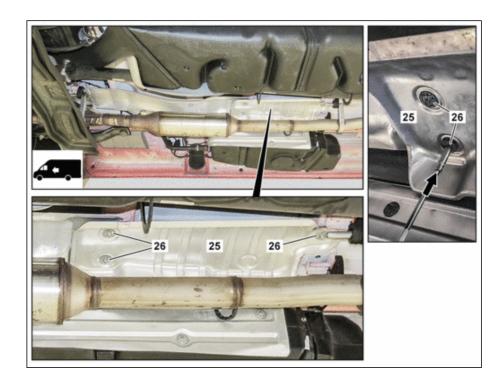
39

Install the heat shield (25).

### i

To do this, place the new clamping nuts (26) centrally on the pin, as shown, and slide up to the stop using a socket wrench.

<u>i</u> A 000 994 32 11



40 Install the new mounting tab (34) on the heat shield (25).

# i

### A 220 546 18 43

41

Clip the harness (32) into the mounting tab (34).

#### (\$!)

Do not kink the harness (32) and make sure it is not routed so as to be abraded.

This prevents damage.

The harness (32) must not touch heat shield (25). This prevents damage.

## i

Lift:

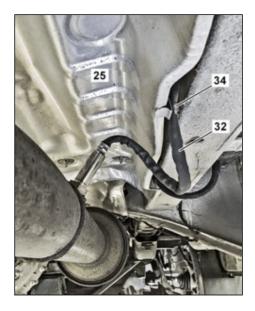
The layout schematic of the harness (32) has changed on account of the changed position of the  $NO_x$  sensor downstream of the SCR catalytic converter (4).

#### 42

Lower the vehicle.

#### Ramps:

Vehicle may remain on ramps



# **Execution of the AEM Special Procedure**

43 Connect the battery charger to the vehicle's jump posts as indicated. (arrows)

A sufficient power supply to the vehicle on-board system must be ensured throughout the entire work procedure.

Otherwise any undervoltage that occurs may damage the control units.

### i

Do not connect the battery charger to the auxiliary battery in the engine compartment.

## i

Follow the operating instructions for the battery charger.

# i

Use a Mercedes-Benz recommended battery charger to ensure an adequate voltage supply (min. 12.5 V) is provided for the on-board electrical system battery.





44 Connect the diagnostic system.

**i** The diagnostic system remains connected to the vehicle throughout the work procedure!

Do not disconnect the diagnostic system's online connection.

- 45 Switch on the ignition.
- 46 Start the diagnostic system.
- 47 Run XENTRY and start special procedure of customer service measure.

#### i

To do this, select the following menu items: Control unit view  $\rightarrow$  N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Code: MH5|MH8)  $\rightarrow$  Special procedures $\rightarrow$  Service measure "Exhaust gas after-treatment"

#### i

The process starts automatically after starting the special procedure. The operation steps must be performed exactly as per the diagnostic system.

If a fault arises during the special procedure, repeat the procedure. If the fault persists, create a PTSS case or XSF-ticket including the following:

- Initial Quick test
  Current Quick test
  Control unit log
  AEM Baseut Baser
- •AEM Result Report
- Support Packag

A result report is displayed at the end of the special procedure. Upload this report to paperless pXD. The report must indicate "OK" for all items. Otherwise, the procedure must be repeated. The vehicle can only be returned to the customer after successfully completing the special procedure.

### i

Parts of the procedure via the diagnostic system are shown on the following pages.



$\equiv XENTR$	(Y		Sprir	iter III				🕗 Me	rcedes-Benz	- D	×
<mark>&gt; Brand</mark> >	Product grou	q									
Mercedes-Be	enz										
VIN Passeng	er car Van	Truck ogs	Busses Super s	sports cars Speci	al procedures Ind	ustrial major asseml	blies	1			
	-			A 03							Í
X (470/471)	Citan	Vaneo (414)	First	Vito (448)	V (447)	Vito/Metris (447)	Viano (639)	Vito (639)	V (638)	Vito (638)	
		100					-				
MB 100 (631)	Sprinter 910	Sprinter 909	Sprinter 907	Sprinter 900	Sprint III	uter II	Sprinter I	T1	Vario	T2	
Sprinter III up to 2013						S	econd				
			Third								
				-							
If the model set series can then			listed here, swit	ch directly to y	our replaceme	nt parts order	or the	Workshop Info	rmation Systen	n. Other model	
						Diagnocio					

$\equiv XENTRY$	Sprinter III		🕗 Mercedes-Benz	- 🗆 ×
> Brand > Product group > Ve	hicle			
Model				
	esignation from product group 'Sprinter III'.			
(i) You can now start XENTRY Dia	agnosis or select more vehicle data for other applica	ations.		
All				
906.111 - 209/11/13/15 CDI FHS, 20	09/210/213/214/216 CDI Short Cab, 218 CDI FHS,	219 CDI FHS		
906.113 - 209/10/13/14/16 CDI Shor	rt Cab, 209/11/13/15 CDI FHS, 216 FHS, 218 CDI F	HS, 219 CDI FHS, 224 FHS		
906.131 - 309/11/13/15/16 CDI FHS	, 309/310/313/314/316 CDI Short Cab, 311/315 CD	I FHS, 318 CDI FHS, 319 CDI FHS		
906.132 - 309/11/13/15/16 CDI FHS	, 309/310/313/314/316 CDI Short Cab, 318 CDI FH	IS, 319 CDI FHS		
906.133 - 309/11/13/15/16 CDI FHS	, 309/310/313/314/316 CDI Short Cab, 311/315 CD	I FHS, 313/314/316 CDI Short Cab	316 FHS, 318 CDI FHS, 319	CDI FHS, 324 FI
906.134 - 309/11/13/15/16 CDI FHS	, 309/310/313/314/316 CDI Short Cab, 318 CDI FH	S, 319 CDI FHS		
906.135 - 309/11/13/15/16 CDI FHS	, 309/310/313/314/316 CDI Short Cab, 311/315 CD	I FHS, 313/314/316 CDI Short Cab	316 FHS, 318 CDI FHS, 319	CDI FHS, 324 FI
906.136 - 309/11/13/15/16 CDI FHS	, 309/310/313/314/316 CDI Short Cab, 318 CDI FH	S, 319 CDI FHS		
906.153 - 411/15, 509/11/15 CDI FH	IS, 413/14/16, 509/510/13/14/16 CDI Short Cab, 41	8/518 CDI FHS, 419/519 CDI FHS,	511/515 CDI FHS, 513/514/51	6 CDI Short Cat
906.155 - 411/15, 509/11/15 CDI FH	IS, 413/14/16, 509/510/13/14/16 CDI Short Cab, 41	8/518 CDI FHS, 419/519 CDI FHS,	511/515 CDI FHS, 513/514/51	6 CDI Short Cat
906.211 - 209/10/13/14/16 CDI Long	g Cab, 209/11/13/15 CDI FHL, 218 CDI FHL, 219 C	DI FHL		
906.213 - 209/10/13/14/16 CDI Long	g Cab, 209/11/13/15 CDI FHL, 216 FHL, 218 CDI F	HL, 219 CDI FHL, 224 FHL		
906.231 - 309/11/13/15/16 CDI FHL	, 309/310/313//316 CDI FHL, 311/315 CDI FHL, 31	8 CDI FHL, 319 CDI, 319 CDI FHL		
906.233 - 309/11/13/15/16 CDI FHL	, 309/310/313/314/316 CDI Long Cab, 311/315 CD	I FHL, 313/314/316 CDI Long Cab, 3	316 FHL, 318 CDI FHL, 319 C	DI FHL, 324 FHL
•				Þ
		RY Diagnosis Im		Continue

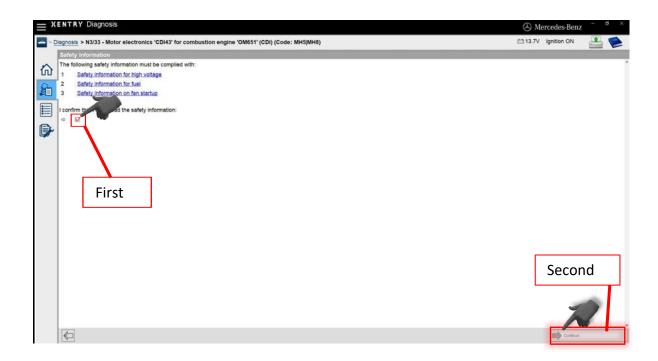
≡ ×	ENTRY Diagnosis Sprinter III	( Mercedes	-Benz	
	iagnosis 🗂	Ignition	1	
	The diagnosis application is being started Progress (step 1 of 4): • The boundary conditions are recorded. • The simulation files are being copied • The control units are being initialized. • Check of VIN Wait	)		
	Optional settings:			
	Automatically start quick test on completion of vehicle identification			
	Automatically start and print out quick test on completion of vehicle identification			
	Automatically start quick test on completion of vehicle identification and print out together with fault freeze frame data			
	Save quick test as PDF file instead of printing it ou			
	Do you want to save the setting for future diagnosis sessions	?		
				-
	6		Continue	,

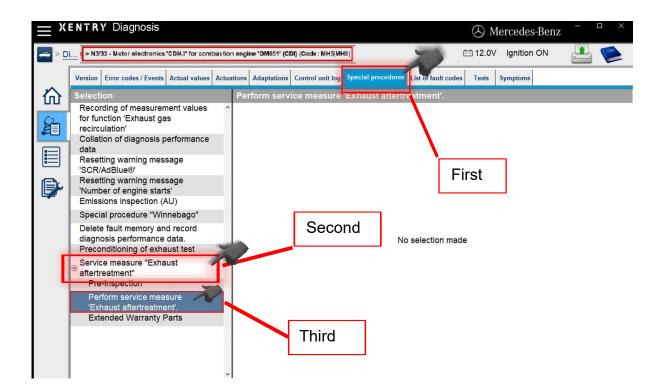
≡ ×	ENTRY	Diagnosis     Sprinter III	🕗 Mercedes-B	enz	-	
	iagnosis	亡 12.0V	Ignition ON			
佡	Over	view				
	Quick	test overview:				
		Current quick test				=
₿ <b>≻</b>		date 07/2019, new functions are available in XENTRY Diagnosis depending on the selected category/model se	eries.			
		on can be found under menu item 'Help' in the application menu. Overview				
	Ê	Quick test view				
	<b>F</b>	Quatamar complainta				Ŧ

N2/15 - Su N3/33 - Mo N10 - Sign N15/5 - Ele	ent cluster (IC) oplemental restraint system (SRS) for electronics "CDI43" for combustion engine "OM651" (CDI) (Code: MH5]MH8) al acquisition and actuation module (SAM)		
A1 - Instrur N2/15 - Su N3/33 - Mo N10 - Sign N15/5 - Ele	hent cluster (IC) plemental restraint system (SRS) for electronics 'CDI43 for combustion engine 'OM651' (CDI) (Code: MH5]MH8) il acquisition and actuation module (SAM)		
N2/15 - Su N3/33 - Mo N10 - Sign N15/5 - Ele	hent cluster (IC) plemental restraint system (SRS) for electronics 'CDI43 for combustion engine 'OM651' (CDI) (Code: MH5]MH8) il acquisition and actuation module (SAM)		
N2/15 - Su N3/33 - Mo N10 - Sign N15/5 - Ele	hent cluster (IC) plemental restraint system (SRS) for electronics 'CDI43 for combustion engine 'OM651' (CDI) (Code: MH5]MH8) il acquisition and actuation module (SAM)		
N2/15 - Su N3/33 - Mo N10 - Sign N15/5 - Ele	oplemental restraint system (SRS) tor electronics "CDI43" for combustion engine "OM651" (CDI) (Code: MH5 MH8) il acquisition and actuation module (SAM)		
N3/33 - Mo N10 - Sign N15/5 - Ele	tor electronics "CDI43 for combustion engine 'OM651' (CDI) (Code: MH5 MH8) il acquisition and actuation module (SAM)		
N10 - Sign N15/5 - Ele	Il acquisition and actuation module (SAM)		
N15/5 - Ele			
	ctronic selector module (ESM [EWM])		
	ctronic stability program (ESP®)		
and the second se	tionary heater (STH)		
and a second sec	C heater booster (PTC)		
	ver door (TSG)		
	lamp range adjustment (HRA)		
	ser control panel (UCP)		
Contraction of the second	ronic Ignition lock (NAFTA version) (EZS)		
	ing column module (SCM)		
N87/8 - Ra			
	a pressure monitor (TPM)		
N118/5 - F	iel pump (FSCU2)		
N141 - Sel	ctive catalytic reduction ((SCR GEN2)) (Code: (EURO6/EUROVI Code MA6[MB6[MI6]ML6[MP6])		
S98 - Air ce	nditioning (KLA)		
Y3/8n4 - Fi	Illy integrated transmission control (NAG2)		

Control unt doi:     Control unt 1 of 1     Control unt 1	= XENTRY Diagnosis	⊗ Mercedes-Benz <sup>−</sup> <sup>σ</sup> ×
Prograss Control unit 1 of 19 Control unit 1 of 19 V73-Electronic global lock (NAFTA version) (E25) V328-1 - Fully integrated transmission control V328-1 - Fully integrated transmission control N155-Electronic selector module (ESM (ESM (ESM (ESM (ESM (ESM (ESM (ESM	> Diagnosis	🗈 13.7V Ignition ON 🛛 🚨 🦔
	The quick test is being performed  Propress Control unit 1 of 19 Control units done: N3/33 - Motor electronics 'CDI43' for combustion ego V3/Brd - Fully integrated transmission control N15/5 - Electronic selector module (ESM [E Wait N5/5 - Electronic stability program (ESP@)	2013.7V Ignition ON

E XENTRY Diagnosis				e	Mercedes-Benz	
> Diagnosis				<b>1</b>	3.7V Ignition ON	
Search		Final quick test				
Repair forecasts are being determined						
+ S98 - Air conditioning (KLA)						F
+ A1 - Instrument cluster (IC)						1
+ N2/15 - Supplemental restraint system (SRS)		-				1
+ N3/33 - Motor electronics 'CDI43' for combustion	on engine 'OM651' (CDI) (Code: MH5 MH8)					1
+ N10 - Signal acquisition and actuation module	(SAM)					1
+ N15/5 - Electronic selector module (ESM [EWI	M])					1
+ N30/4 - Electronic stability program (ESP®)						1
+ N33/3 - Stationary heater (STH)						1
+ N33/4 - PTC heater booster (PTC)						1
+ N69/1 - Driver door (TSG)						1
+ N71 - Headlamp range adjustment (HRA)						1
+ N72/1 - Upper control panel (UCP)						1
+ N73 - Electronic ignition lock (NAFTA version)	(EZS)					1
+ N80 - Steering column module (SCM)						1
+ N87/8 - Radio (RD)						1
+ N88/1 - Tire pressure monitor (TPM)						1
+ N118/5 - Fuel pump (FSCU2)						1
+ N141 - Selective catalytic reduction ((SCR GE	N2)) (Code: (EURO6/EUROVI Code MA6/MB6	(MI6(ML6(MP6))				1
Start quick that	Clear fault memory	Open TIPS results	Implement test prevequisites	Je rain	Continue	



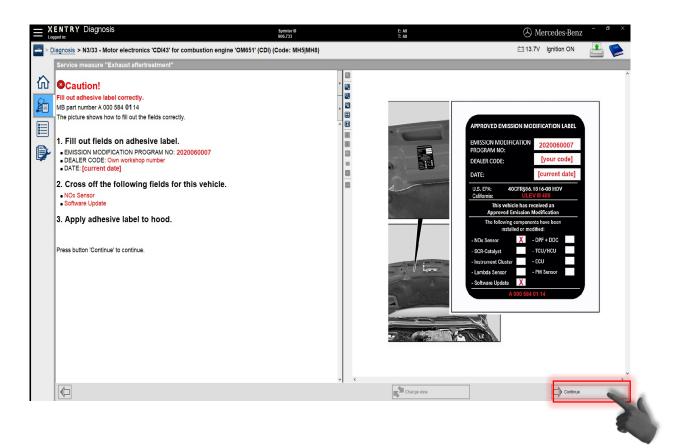


KENTRY Diagnosis	$\bigotimes$ Mercedes-Benz $\rightarrow$ $\sigma$
Diagnosis > N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Code: MH5 MH8)	🗈 13.7V Ignition ON 🛛 🚨 🦈
Service measure "Exhaust aftertreatment"	
Explanation The processes required for the service measure are provided.	
The following steps are performed:	
Step 1 • Check requirements.	
Step 2 Control unit programming N3/33 (CDI control unit) Control unit programming N3/84 (AdBlue® control unit) Control unit programming V3/84, (Fully integrated transmission control control unit) Control unit programming AdJ (instrument cluster)	
Step 3 Check of control unit software	
Question	
Do you want to perform the service measure now?	
	💥 NO 🖌 YES

≡×	ENTRY Diagnosis	() M	ercedes-Benz	-	a ×
-	Diagnosis > N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Code: MH5/MH8)	🗂 13.8V	Ignition ON	-	
	Service measure "Exhaust aftertreatment"				
奋	Establishment of test prerequisites				^
ហ	The following requirements must be satisfied:				
鉑	The correct component 'A97/1 (Control unit of NOx sensor upstream of SCR catalytic converter)' is installed.     The correct component 'A97/2 (NOx sensor control unit downstream of SCR catalytic converter)' is installed.				
	Note				
	Refer to the work instructions for the conditions for performing the service measure.				
	Are the requirements met?				
				TAN	6
		ND .	VYES	/ "	Ĭ
	Lana ( Contraction of the Contra			_	

CENTRY Diagnosis		Aercedes-Benz	- 0
Disgnosis > N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Code: MH5/MH8)		13.7V Ignition ON	- 🚢 📢
Selected mode: All steps are carried out with Internet connection.			
Online Support	Make sure it's unchecked	$\sim$	
Carry out all actions Assistance from unline. User Help Class			
Requirements 🔘 All preconditions are satisfied.			
Control number residence (C) There are currently no unread maintenance notifications.			
Notes on process			

	ENTRY Diagnosis Sprinter III	$\bigcirc$ Mercedes-Benz $ \square$ $\times$
	i > N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Co	🗂 13.1V Ignition ON 🛛 🗾 ⊵
~	N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CD	DI) (Code: MH5 MH8)
命	Seaution!	
	The variant of control unit 'N3/33 (CDI control unit)' has changed.	
•		
50		
		1
		Continue



Complete the information on the APPROVED EMISSION MODIFICATION LABEL and attach it to the hood near the hood lock.

#### 

The attachment areas must be entirely free from dust and grease.

Otherwise, adequate adhesion cannot be ensured.

### i

Fill in Emission Modification Program No., your dealer code, the date of the repair and mark the components that have been installed or modified. Use a black ultra fine point permanent marker.

i

A 000 584 01 14

### i

Failure to comply may result in dealer debit and/or possible fines.





Diagnosis > N3/33 - Motor electronics 'CDI43' for combustion engin	e 'OM651' (CDI) (Code: MH5(MH8)	🗂 13.8V Ignition ON 🖊 🐣
Service measure "Exhaust aftertreatment"		
Service measure "Exhaust aftertreatment" The procedure was completed successfully. Overview Control unit N333 (CDI control unit) N141 (ABIUeS control unit) N141 (ABIUeS control unit) A971 (Control unit of Nox sensor upstream of SCR catalytic converte A9712 (Nox sensor control unit downstream of SCR catalytic converte VeDoc Code OA0	Verify completed successfully	Status 'Service measure' CURRENT CURRENT CURRENT CURRENT OK OK OK OK
VeDoc Code OC2		OK.
	Software version	
VeDoc Code OC2 Detailed view N333 (ODi control unit) MB object number for software MB object number for software MB object number for software	Software version Software version	OK
VeDoc Code OC2  Detailed view N333 (CDI control unit) MB object number for software MB object number for software SCN coding  N141 (AdBlue® control unit) (GEN2) MB object number for software MB object number for software		OK Status of software V V V V Status of software V

KENTRY Diagnosis		le Mercedes-Benz
Dis sis > 13/33 - Motor electronics 'CDI43' for com	bustion engine 'OM651' (CDI) (Code: MH5 MH8)	🗂 13.8V Ignition ON
See Sure "Exhaust aftertreatment"		
Sure "Exhaust aftertreatme	ent"	
Control unit		Status 'Service measure'
(Naraa (CDI control unit)		CURRENT
N141 (AdBlue® control unit) (GEN2)	- 14	CURRENT
Y3/8n4 (Fully integrated transmission control control ur A1 (Instrument cluster)	nit)	CURRENT
A97/1 (Control unit of NOx sensor upstream of SCR ca	faith dia ta ann an Anna	OK
A97/2 (NOx sensor control unit downstream of SCR ca		OK
VeDoc Code OA3	talytic converter)	OK
VeDoc Code OA0 VeDoc Code OC2		OK OK
VeDoc Code OC2 Detailed view		lok
VeDoc Code OC2 Detailed view N333 (CDI control unit)	Software version	OK Status of software
VeDoc Code OC2 Detailed view N333 (CDI control unit) MB object number for software	Software version	OK Status of software
VeDoc Code OC2  Detailed view  N3/33 (CDI control unit)  MB object number for software MB object number for software	Software version	OK Status of software
VeDoc Code OC2 Detailed view N333 (CDI control unit) MB object number for software	Software version	OK Status of software
VeDoc Code OC2 Detailed view N3/33 (CDI control unit) MB object number for software MB object number for software SCN coding		OK Status of software * * *
VeDoc Code OC2 Detailed view N3/33 (CDI control unit) MB object number for software MB object number for software SCN coding N141 (AdBlue® control unit) (GEN2)	Software version Software version	OK Status of software
VeDoc Code OC2 Detailed view N3/33 (CDI control unit) MB object number for software MB object number for software SCN coding N141 (AdBlue® control unit) (CEN2) MB object number for software		OK Status of software 
VeDoc Code OC2 Detailed view N3/33 (CDI control unit) MB object number for software MB object number for software SCN coding N141 (AdBlue® control unit) (GEN2)		OK Status of software
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VeDoc Code OC2 Detailed view N3/33 (CDI control unit) MB object number for software MB object number for software SCN coding N141 (AdBlue® control unit) (GEN2) MB object number for software MB object number for software MB object number for software	Software version	OK Status of software * * * * * * * * * * * * * * * * * * *
VeDoc Code OC2  Detailed view N333 (CDI control unit) MB object number for software MB object number for software SCN coding  N141 (AdBlue® control unit) (GEN2) MB object number for software MB object number for software Y3/804 (Fully integrated transmission control cont	Software version	OK Status of software

≡×	ENTRY Diagnosis					🕗 Me	ercedes-Benz	- 0	×
	Vehicle determination	bustion engine 'O	M651' (CDI) (Code: MH5 MH8)			C3 13.8V	Ignition ON	-	2
	XENTRY VeDoc	ent"							
V~	XENTRY Diagnosis								_
TIPS	XENTRY TIPS	nit)			Status 'Service me CURRENT CURRENT CURRENT	easure'			
<b>\$</b>	WIS/ASRA	talytic converter) talytic converter)			OK OK OK				
×	XENTRY Portal Parts Information				OK OK				
**	System settings								
0	Print		Software version	Statu V V	s of software				
	XSF			×					=
?	<u>H</u> elp		Software version	Statu V V	s of software				
<i>.</i> ??	XENTRY login	rol unit)	5	Statu	s of software				_
×	Quit/Log off			×					
	A1 (instrument cluster)		Software version	Statu	s of software		Continue		

ENTRY Diagnosis		🛞 Mercedes-Benz 🌷 🖻
Diagnosis > N3/33 - Motor electronics 'CDI43' for c	ombustion engine 'OM651' (CDI) (Code: MH5 MH8)	🗈 13.8V Ignition ON 🛛 🚨 🥣
Service measure "Exhaust aftertreatment"		
Service measure "Exhaust aftertreat	ment" Fi	irst
Overview	Document selection	<u>^</u>
Control unit	Whole page	Status 'Service measure'
N3/33 (CDI control unit) N141 (AdBlue® control unit) (G Secon	Screen Screen	CURRENT
Y3/8n4 (Fully integrated transmined transmin		CURRENT
A97/1 (Control unit of NOv sensor unstream of SCE	<sub>R catelytic cor</sub> Initial quick test	OK
A97/2 (NOx sensor control unit downstream of SCR VeDoc Code OA3	t catal fic con Initial quick test with fault freeze frame data	OK
VeDoc Code OA0	Final quick test	OK
VeDoc Code OC2	Final quick test with fault freeze frame data	lok
	Wiring diagram	
Detailed view		Name file:
N3/33 (CDI control unit)	Output to file:	Status of
MB object number for software MB object number for software	O Printer:	AEM Results
MB object number for software	Diagnosis PDF Printer	
SCN coding	File name	
N141 (AdBlue® control unit) (GEN2)	AEM confirmation	Status of software
	AEM commination	Status of software
MB object numbe	Output in English	
		Fifth
	Help Print Abort	Fifth Status of software
MB object numbe Third	Help Print Abort	Fifth
MB object numbe Third Y3/8n4 (Fully Integrated transmission control of	Help Print Abort	Fifth

# **Final Quick Test**

49

Perform a final quick test and upload to paperless pXD.

### i

Faults stored in the memory Ánust be deleted from the fault memory after completing the work.

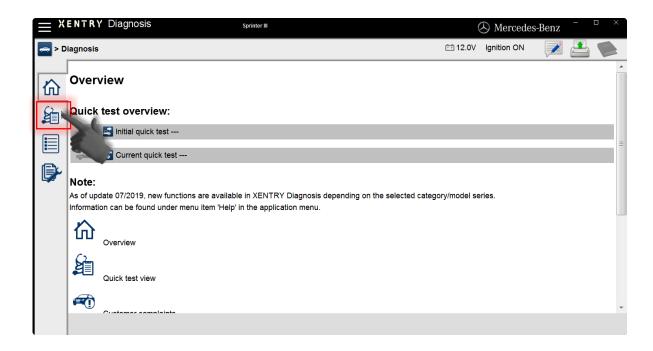
### i

If faults are current and stored in the updated control modules they need to be addressed. If technical hardships occur create a PTSS ca•^È

# i

The procedure via the diagnostic system is shown on the following pages.

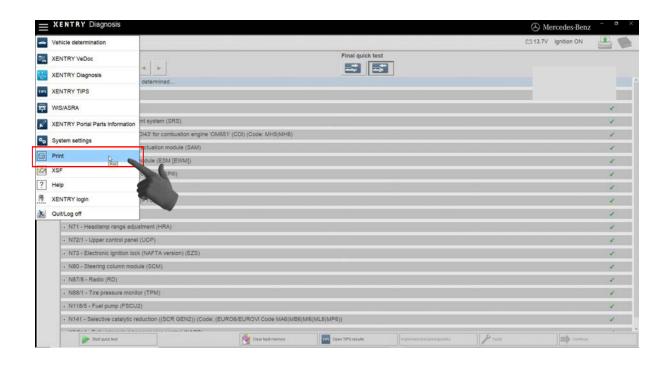
XI	ENTRY Diagnosis						$\odot$ N	Mercedes-B	Benz –	
Di	<u>I</u>					Ē	12.0	/ Ignition O	N 📑	1
	Version Error codes / Events Actual values	Actuation	Adaptations	Control unit log	Special procedures	List of fault codes	Tests	Symptoms		
	Selection	Pe	erform serv	ice measure	'Exhaust aftertr	eatment'.				
	Recording of measurement values for tion 'Exhaust gas ion' diagnosis performance data Resetting warning message 'SCR/AdBlue®' Resetting warning message 'Number of engine starts' Emissions inspection (AU) Special procedure "Winnebago" Delete fault memory and record diagnosis performance data. Preconditioning of exhaust test				No	o selection made				
	Service measure "Exhaust aftertreatment" Pre-Inspection Perform service measure 'Exhaust aftertreatment'. Extended Warranty Parts									



N2/15		
A1 - In N2/15	strument cluster (IC)	
A1 - In N2/15	strument cluster (IC)	
A1 - In N2/15		
	- Supplemental restraint system (SRS)	
N3/33		
	- Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Code: MH5 MH8)	
N10 -	Signal acquisition and actuation module (SAM)	
N15/5	- Electronic selector module (ESM (EVM))	
N30/4	- Electronic stability program (ESP®)	
N33/3	- Stationary heater (STH)	
N33/4	- PTC heater booster (PTC)	
N69/1	- Driver door (TSG)	
N71 -	Headlamp range adjustment (HRA)	
N72/1	- Upper control panel (UCP)	
N73 -	Electronic Ignition lock (NAFTA version) (EZS)	
N80 -	Steering column module (SCM)	
N87/8	- Radio (RD)	
N88/1	- Tire pressure monitor (TPM)	
N118/	5 - Fuel pump (FSCU2)	
N141	- Selective catalytic reduction ((SCR GEN2)) (Code: (EURO6/EUROVI Code MA6/MB6/MI6/ML6/MP6))	
S98 -	Air conditioning (KLA)	
Y3/8n	4 - Fully Integrated transmission control (NAG2)	

Deprese   Control unit 1 of     Abdor electronic sylicito (Abd TA version) (EZ)     Vata - Leilly indegreted transition control     Vata - Leilly ind	≡ ^	CENTRY Diagnosis	le Mercedes-Benz	
Proposi Control unit 1 of 19 Control units done: N73 - Electronic stol/3 for combuston exponsion: V38-4 - Fully Integrated transmission control N185 - Electronic stol/9 regram (ESPN) N10 - Signal acquisition and actuation module (SAM) N10 - Signal acquisition and actuation module (SAM)	> 0	Diagnosis	🗈 13.7V Ignition ON 🛛 🚨	
Control unit 1 of 19 T33-Electronic ghtlion lock (NAFTA version) (E25) N33-A Hour selectronic stability program (SDP8) N34-A Fully integrated transmission control N34-A Electronic stability program (SDP8) N10- Signal acquisition and actuation module (SMH)		The quick test is being performed		_
Control units done: N73 - Electronic splanion lock (NAFTA version) (E25) V3:R4 - Fully Indigrated transmission control N156 - Electronic stability program (ESP) N10 - Signal acquisition and actuation module (SAM)	10			
N73 - Electronic ignition lock (NAFTA version) (EZS)         N333 - Motor electronics CO43 for combusion spin         V384 - Fully integrated transmission control         N156 - Electronic selector module (ESM [EN]         N304 - Electronic selector module (ESM [EN]         N106 - Signal acquisition and actuation module (SAM)	111			
N333 - Motor electronics 'CD/43' for combustion energy V378-4 - Fully integrated transmission contra V378-4 - Electronic setability program (ESP®) N304 - Electronic setability program (ESP®) N10 - Signal acquisition and actuation module (SAM)				
V3864 - Fully integrated transmission contra N156 - Electronic selector module (ESM PENNO N10 - Signal acquisition and actuation module (SAM)	100			
N 15/5 - Electronic stability program (ESP8)     Walt       N30/4 - Electronic stability program (ESP8)     N10 - Signal acquisition and actuation module (SAM)	E	V2/Ref. Eully integrated transmission control		
N304 - Electronic stability program (ESP6) N10 - Signal acquisition and actuation module (SAM)		13/5/5 - Funy integrated parameters of condo		
N10 - Signal acquisition and actuation module (SAM)	EL.	N30/4 - Electronic stability program (ESP®)		
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≡ ×	ENTRY Diagnosis	🕗 Mercedes-Benz	- 0 ×
	nos	EB 13.7V Ignition ON	🚢 🛸
ŝ	Final quick test		
8	+ S98 - Air conditioning (KLA)		F
	+ A1 - Instrument cluster (IC)		1
	+ N2/15 - Supplemental restraint system (SRS)		1
	+ N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (CDI) (Code: MH5(MH8)		1
	+ N10 - Signal acquisition and actuation module (SAM)		1
	+ N15/5 - Electronic selector module (ESM [EWM])		1
	+ N30/4 - Electronic stability program (ESP®)		1
	+ N33/3 - Stationary heater (STH)		1
	+ N33/4 - PTC heater booster (PTC)		1
	+ N69/1 - Driver door (TSG)		1
	+ N71 - Headlamp range adjustment (HRA)		1
	+ N72/1 - Upper control panel (UCP)		1
	+ N73 - Electronic ignition lock (NAFTA version) (EZS)		1
	+ N80 - Steering column module (SCM)		1
	+ N87/8 - Radio (RD)		1
	+ N88/1 - Tire pressure monitor (TPM)		1
	+ N118/5 - Fuel pump (FSCU2)		1
	+ N141 - Selective catalytic reduction ((SCR GEN2)) (Code: (EURO6/EUROVI Code MA6/MB6/MI6/MI6/MI6/MI6))		1
	Dear Total Technology Clear South memory Important South Clear South memory Important South Clear South South Clear South Sout	Contrus	



E XENTRY Diagnosis		⊗ Mercedes-Benz <sup>−</sup> <sup>∞</sup> ×
> Diagnosis		🗂 13.8V Ignition ON 🚨 🐲
Search	Final quick test	
Repair forecasts are being determined		*
+ N2/15 - Supplemental restraint system (SF	Post	1
+ N33/3 - Stationary heater (STH) Second	Document selection	1
+ N15/5 - Electronic selector module (ESM [EWM])	Whole page Screen	4
+ N30/4 - Electronic stability program (ESP®)	Control unit log First	4
+ N33/4 - PTC heater booster (PTC)	Initial quick test	
+ A1 - Instrument cluster (IC)	Initial quick test with fault freeze frame data Final quick test	1
+ N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651' (		- /
+ N10 - Signal acquisition and actuation module	Weing story and	
+ N69/1 - Driver door (TSG)	O Printer:	
N71 - Headlamp range adjustment (HRA)	Microsoft XPS Document Writer	Name file: EH'&
	Heit	Name file: EH&
+ N72/1 - Upper control panel (UCP)	CT2	=
+ N73 - Electronic ignition lock	Output in English	
+ N80 - Steering column mod. Third		1
+ N87/8 - Radio (RD)	Print Aport	✓
+ N88/1 - Tire pressure monitor (TPM) FO	urth	1
+ N118/5 - Fuel pump (FSCU2)		1
+ N141/1 - Selective catalytic reduction ((SCR GEN2)) (Code: (EUR	O6/EUROVI Code MA6jMB6jMl6jML6jMP6j))	1
+ S98 - Air conditioning (KLA)		1
		nes Press
Start quick test	Clear fault memory Open TIP'S results Insternent test pre-span	altes Testa Continue

### 50 End the XENTRY session

	ENTRY Diagnosis				(	B Mercedes-Benz	
	Thos				E3	13.7V Ignition ON	
仚	••		Final quick test				
£	Reparate or recasts are being determined						
8	+ S98 - Air conditioning (KLA)						F
	+ A1 - Instrument cluster (IC)						1
	+ N2/15 - Supplemental restraint system (SRS)						1
	+ N3/33 - Motor electronics 'CDI43' for combustion engine 'OM651	(CDI) (Code: MH5 MH8)					1
	+ N10 - Signal acquisition and actuation module (SAM)						1
	+ N15/5 - Electronic selector module (ESM [EWM])						1
	+ N30/4 - Electronic stability program (ESP®)						1
	+ N33/3 - Stationary heater (STH)						1
	+ N33/4 - PTC heater booster (PTC)						1
	+ N69/1 - Driver door (TSG)						1
	+ N71 - Headlamp range adjustment (HRA)						1
	+ N72/1 - Upper control panel (UCP)						1
	+ N73 - Electronic ignition lock (NAFTA version) (EZS)						1
	+ N80 - Steering column module (SCM)						1
	+ N87/8 - Radio (RD)						1
	+ N88/1 - Tire pressure monitor (TPM)						1
	+ N118/5 - Fuel pump (FSCU2)						1
	+ N141 - Selective catalytic reduction ((SCR GEN2)) (Code: (EUR	O6/EUROVI Code MA6 MB6	MI6(ML6(MP6))				1
		<b>8</b>		10	& Testi		
	Start quick test	Clear fault memory	Open TIPS results	Implement test prerequisites	7+20	Control Contro	

	XENTRY Diagnosis	(C) Mercedes-Benz		ø ×
-	Vehicle determination	E3 13.7V Ignition ON	-	
	XENTRY VeDoc	Final quick test		
Q.	XENTRY Diagnosis	determined		
TIPS	XENTRY TIPS			
韗	WIS/ASRA		1	
×	XENTRY Portal Parts Information	nt system (SRS)	1	
•••	System settings	DH3" for combustion engine 'OM551' (CDI) (Code: MH5)MH8)	1	
_		actuation module (SAM)	1	
	Print	odule (ESM (EWM))	1	
12	XSF	ogram (ESP®)	1	
?	Help	TH)	1	
帰	XENTRY login	PTC)	4	
×	Quit/Log off		1	
	+ N71 - Headlamp range adju	nt RA)	1	
	+ N72/1 - Upper control pane		1	
	+ N73 - Electronic Ignition loc	on) (EZS)	1	
	+ N80 - Steering column mod	le (SCM)	1	
	+ N87/8 - Radio (RD)		1	
	+ N88/1 - Tire pressure monit	xr (TPM)	1	
	+ N118/5 - Fuel pump (FSCU		4	
	Contraction of the second	duction ((SCR GEN2)) (Code: (EURO6/EUROV/ Code MA6/MB6/M/6/ME6/M/6))	1	
	inter Particulation			-
	Start quick test	Cost fault memory .		

≡×	ENTRY Diagnosis	Sprinter III	•		🕭 Me	ercedes-Benz			
	iagnosis				🗂 12.0V	Ignition ON			1
	Search A1 - Instrument cluster (IC) A2/30 - Navigation module (NAV) B84/8 - Multifunction camera (MFK) B84/11 - eCall Russia (E-Call-RU) B161/1 - Outer right rear intelligent radar sensor sy B161/2 - Left side intelligent radar sensor sy B161/3 - Right side intelligent radar sensor sy B161/4 - Outer left rear intelligent radar sensor si B161/4 - Outer left rear intelligent radar sensor si B162 - Control unit 'COLLISION PREVENTION N2/15 - Supplemental restraint system (SRS N3/35 - Motor electronics 'CDI60' for combus N10 - Signal acquisition and actuation modul N15/3 - Electronic selector module (ESM [EN N26/15 - Parameterizable special module (P N28/1 - Trailer recognition (Trailer recognition N30/4 - Electronic stability program (ESP®) N33/2 - Heater booster (HB)	Ho Yes [EGS]) VM]) SM)	ow do you want to proc Close XENTRY.	eed?	12.0V	Ignition ON			
	N33/3 - Stationary heater (STH) N33/4 - PTC heater honster (PTC) Start guick test	Clear fault	memory Open TIPS res	ults Implement test	P	Tests	Continu	ue	,

- 51 Switch off the ignition.
- 52 Öãr&{}}^&ok@Áåãæť}[•ãrÁ^•ơ{È
- 53 Öãr&[}}^&ok@Akaæer^\^A&@eet\*^\È
- 54 Close the hood.
- 55 Connect any aftermarket devices that were connected to the X11/4 diagnostic socket before.

#### 56 Ramps:

Remove wheel chocks, release parking brake, and drive the vehicle off the ramps.

Drive the vehicle slowly and at a constant speedoff the ramps. Otherwise the vehicle may be damaged.

# Replacement parts 2020060007

Part No.	Designation	Quantity
A 651 905 10 00 85	NOx Sensor Package	1
N 000000 003477	Nut Fastener	4
A 000 994 32 11	Lock Pin	4
A 000 584 01 14	APPROVED EMISSION MODIFICATION LABEL (ULEV III 400)	1
A 220 546 18 43	Mounting Tab	1
A 007 997 56 90	Cable Tie With Clip	2