

## FT5195 Bosch Steering Gear Box Hardware Loose NYCT

**Technical writer name**  
Rajendra N M

**Manual section**                      **07**

First Level Parts		
Part Description	Part Number	QTY
-	-	-

**Nb hours Level 1**

0.75 hr

**MQR**

7621-2384

**Note: The test can be done only on 10 out of 110 buses**

Disposal of parts		
Removed parts are:		When the retained check box is checked, the parts must be retained and returned in accordance with the usual warranty procedure to be reimbursed.
Discarded	Retained	
-	-	

Jean-Nicolas Fournier

Digitally signed by Jean-Nicolas Fournier  
DN: cn=Jean-Nicolas Fournier, o=Nova Bus,  
email=jean-nicolas.fournier@volvo.com, c=CA  
Date: 2021.10.06 13:11:19 -0400

Client	Order	Road numbers		VIN		QTY	Lang.	Customer	Target market	Plant	Engine Config	Model	NR	R1
New York City Transit New York - NYCT	LC79	9624	9628	4RKYL82L3M9777783	4RKYL82L0M9777787	5	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9636	9637	4RKYL82LXM9777795	4RKYL82L1M9777796	2	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9639	9639	4RKYL82L5M9777798	4RKYL82L5M9777798	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9644	9644	4RKYL82L5M9777803	4RKYL82L5M9777803	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9648	9648	4RKYL82L2M9777807	4RKYL82L2M9777807	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9650	9650	4RKYL82L6M9777809	4RKYL82L6M9777809	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9652	9654	4RKYL82L4M9777811	4RKYL82L8M9777813	3	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9656	9674	4RKYL82L1M9777815	4RKYL82L3M9777833	19	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9676	9676	4RKYL82L7M9777835	4RKYL82L7M9777835	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9678	9678	4RKYL82L0M9777837	4RKYL82L0M9777837	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9680	9680	4RKYL82L4M9777839	4RKYL82L4M9777839	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9683	9683	4RKYL82L4M9777842	4RKYL82L4M9777842	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9691	9691	4RKYL82L3M9777850	4RKYL82L3M9777850	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9694	9694	4RKYL82L9M9777853	4RKYL82L9M9777853	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9698	9702	4RKYL82L6M9777857	4RKYL82L8M9777861	5	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9707	9707	4RKYL82L7M9777866	4RKYL82L7M9777866	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9710	9715	4RKYL82L2M9777869	4RKYL82L8M9777875	6	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9717	9721	4RKYL82L1M9777877	4RKYL82L3M9777881	5	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9723	9724	4RKYL82L7M9777883	4RKYL82L9M9777884	2	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9727	9727	4RKYL82L4M9777887	4RKYL82L4M9777887	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9731	9732	4RKYL82L6M9777891	4RKYL82L8M9777892	2	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9733	9736	4RKYL82L3M9777900	4RKYL82L9M9777903	4	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9739	9740	4RKYL82L4M9777906	4RKYL82L6M9777907	2	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9742	9742	4RKYL82LXM9777909	4RKYL82LXM9777909	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9745	9746	4RKYL82LXM9777912	4RKYL82L1M9777913	2	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9749	9754	4RKYL82L7M9777916	4RKYL82L4M9777923	6	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9756	9773	4RKYL82L8M9777925	4RKYL82LXM9777943	18	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9775	9780	4RKYL82L3M9777945	4RKYL82L7M9777950	6	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LC79	9782	9784	4RKYL82L0M9777952	4RKYL82L4M9777954	3	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LD64	9806	9806	4RKYL82L7M9777981	4RKYL82L7M9777981	1	E	NYCT	US	PLB	TD	40	X	

New York City Transit New York - NYCT	LD64	9812	9812	4RKYL82L3M9777993	4RKYL82L3M9777993	1	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LD64	9829	9832	4RKYL82L4M9778022	4RKYL82LXM9778025	4	E	NYCT	US	PLB	TD	40	X	
New York City Transit New York - NYCT	LD64	9844	9844	4RKYL82L1M9778043	4RKYL82L1M9778043	1	E	NYCT	US	PLB	TD	40	X	

# Service Instruction

## QJ 7621- 2384 Bosch Steering Hardware 10x Bus Survey FT5195

### GENERAL INFORMATIONS

Document	REV	Date	By
MQR 7621-2384 FT5195	1	10/8/21	

Order Affected / Effectivity	Road Number	Customers	QTY
10x bus survey from LC79 field campaign		NYCT	10

### SYSTEM and PARTS:

System Name	Bosch steering gear box
Option	07-302.33
Drawing	
Part	N92134 Bosch Steering Gear Box

#### Reason for Modification / Background:

Survey of 10x buses LC79 hybrids

### MATERIAL

Item	QTY	PART NO	REV	DESCRIPTION	REPLACES PART N°
LEVEL 1					
1	N/A	N/A	N/A	N/A	N/A
2					
3					

SRT	Type	Time
	Inspection ...	0.45 hr

### SPECIAL INSTRUCTION / IMPORTANTE NOTICE

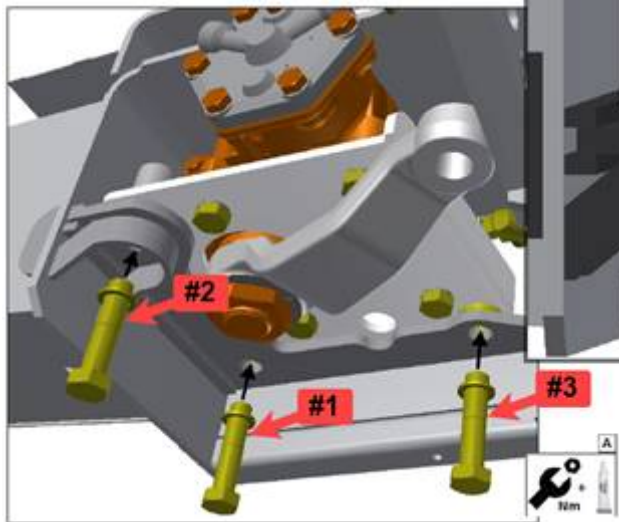
No	Tools Needed:
1	Sharpie / marker
2	Torque seal
3	Torque wrench and adapters

#### Important notices

**\*Document all results for each bolt**

## DESCRIPTION / WORK INSTRUCTION

- 1- Lift the bus and install proper jack stands
- 2- The torque range of the torque wrench should be noted.
- 3- Start with the 7/8" bolts (gearbox to structure assembly with 3x bolts)



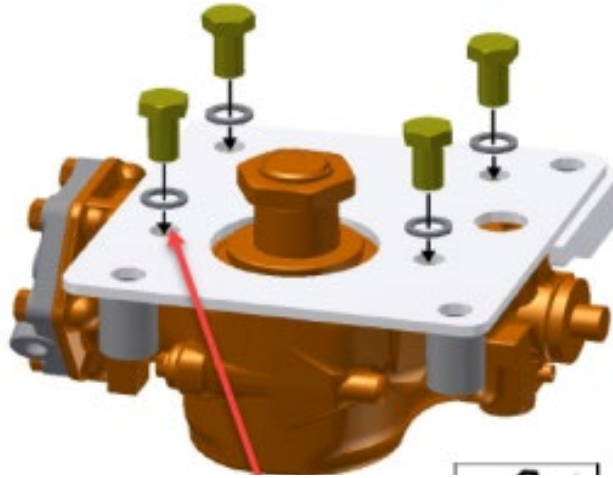
- 4- Verify that torque seal is not broken – It should be unbroken
  - a. If torque seal is **unbroken**, note it down and go to step 5
  - b. If torque seal is **broken**:
    - i. It must be noted and pictures of the assembly should be taken
    - ii. Inspect the area for any damage or impact marks
    - iii. Inspect the assembly and note any deficiencies
- 5- Remove torque mark
- 6- Mark the position of the bolt (sharpie or any marking) to validate the rotation of the bolt in the following steps
- 7- Set torque wrench to the **first** validation value (USE THE "VALIDATION VALUE" LIST BELOW)
- 8- Place torque wrench on bolt and apply **force slowly**
  - a. If the torque wrench **clicks** without rotation, proceed to the next validation value (use the "validation value" list below)
  - b. If the torque wrench **does not click** and a rotation is noted
    - i. Proceed until the torque wrench reaches target value (clicks)
    - ii. Remove torque wrench and **confirm rotation of the bolt with a physical rotation of the marking on the bolt** (see step 6)
    - iii. Note the rotation (estimated # of degrees i.e.: 0, 45, 90, 135, ... degrees)
    - iv. Take pictures and document any deficiencies
  - c. Final torque for the bolt should be set to 430+/-22Nm once completed and torque stripe to be added
- 9- Proceed to the next 7/8" bolt and repeat steps 4 to 8

### **Validation values:**

#### **7/8" bolts:**

- 300 Nm (starting value @ 25% below minimum specification torque value)
- 320 Nm
- 340 Nm
- 360 Nm
- 380 Nm
- 400 Nm
- 420 Nm
- 440 Nm

10- Move to the 20mm bolts (gearbox to bracket assembly with 4x bolts)



- 11- Verify that torque seal is not broken – It should be unbroken
  - a. If torque seal is **unbroken**, note it down and go to step 12
  - b. If torque seal is **broken**:
    - i. It must be noted and pictures of the assembly should be taken
    - ii. Inspect the area for any damage or impact marks
    - iii. Inspect the assembly and note any deficiencies
- 12- Remove torque mark
- 13- Mark the position of the bolt (sharpie or any marking) to validate the rotation of the bolt in the following steps
- 14- Set torque wrench to the **first** validation value (**USE THE “VALIDATION VALUE” LIST BELOW**)
- 15- Place torque wrench on bolt and apply **force slowly**
  - a. If the torque wrench **clicks without rotation**, proceed to the next validation value (use the “validation value” list below)
  - b. If the torque wrench **does not click** and a rotation is noted
    - i. Proceed until the torque wrench reaches target value (clicks)
    - ii. Remove torque wrench and **confirm rotation of the bolt with a physical rotation of the marking on the bolt** (see step 13)
    - iii. Note the rotation (estimated # of degrees i.e.: 0, 45, 90, 135, ... degrees)
    - iv. Take picture and document any deficiencies
  - c. Final torque for the bolt should be set to 500+-25Nm once completed and torque stripe to be added
- 16- Proceed to the next 20mm bolt and repeat steps 11 to 15

### **Validation values:**

#### **20 mm bolts:**

- 350 Nm (starting value @ 25% below minimum specification torque value)
- 370 Nm
- 390 Nm
- 410 Nm
- 430 Nm
- 450 Nm
- 470 Nm
- 490 Nm