



Service Manual

Chassis & Mast

MC

FG15N	CF25C-55001-59999
FG15ZN	CF34-52001-59999
FG18N	CF25C-75001-79999
FG18ZN	CF34-72001-79999
FG20CN	CF34-22001-29999
FG20N	CF17D-10001-19999
FG20ZN	CF35-10001-19999
FG25N	CF17D-60001-69999
FG25ZN	CF35-60001-69999
FG30N	CF13F-40001-49999
FG35N	CF13F-60001-69999

FGE15N	CF34-00001-09999
FGE18N	CF34-40001-49999
FGE20CN	CF34-30001-39999
FGE20N	CF17D-20001-29999
FGE20ZN	CF35-20001-29999
FGE25N	CF17D-70001-79999
FGE25ZN	CF35-70001-79999
FGE30N	CF13F-10001-19999
FGE35N	CF13F-80001-89999

FD15N	CF16D-54001-59999
FD18N	CF16D-74001-79999
FD20CN	CF16D-24001-29999
FD20N	CF18C-20001-29999
FD25N	CF18C-70001-79999
FD30N	CF14E-10001-19999
FD35N	CF14E-80001-89999

6.2 Seat Belt Warning Light, Checking the Operation

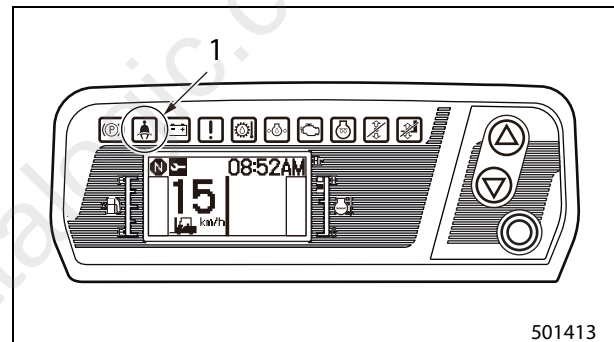
- (1) Connect the service tool to the VCM-1M controller.
- (2) Turn the key switch to the ON position and start the engine.
- (3) Display the input monitor screen of the service tool.
- (4) Make sure that the seat switch status is turned OFF when the seat belt is not fastened or not buckled properly. Also check that the seat belt warning light in the meter panel glows.

Input Monitor		
Item	Normal Range	Value
Seat Switch	* - *	ON
Seat Switch timer	* - *	ON
Seatbelt Switch	* - *	OFF
Accel Switch	* - *	ON
Park brake Switch	* - *	ON
Direction lever F	* - *	OFF
Direction lever N	* - *	ON
Direction lever R	* - *	OFF
FNR lever	* - *	Neutral
Joystick (Lift lever 1) signal [%]	-100 - 100	0
Joystick (Lift lever 1) status	* - *	Normal
Joystick (Lift lever 2) signal [%]	-100 - 100	0
Joystick (Lift lever 2) status	* - *	Normal
Joystick (Tilt lever 1) signal [%]	-100 - 100	0
Joystick (Tilt lever 1) status	* - *	Normal
Joystick (Tilt lever 2) signal [%]	-100 - 100	0
Joystick (Tilt lever 2) status	* - *	Normal
Joystick (ATT1 lever 1) signal [%]	-100 - 100	0
Joystick (ATT1 lever 1) status	* - *	Normal
Joystick (ATT1 lever 2) signal [%]	-100 - 100	0
Joystick (ATT1 lever 2) status	* - *	Normal
Joystick (ATT2 lever 1) signal [%]	-100 - 100	0
Joystick (ATT2 lever 1) status	* - *	Normal
Joystick (ATT2 lever 2) signal [%]	-100 - 100	0

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If Seat belt switch does not indicate ON

Check the seat belt switch operation and wiring connections by referring to 4-38 "Harness Codes", 4-40 "VCM-1M Controller", and 4-44 "Seat Switch".



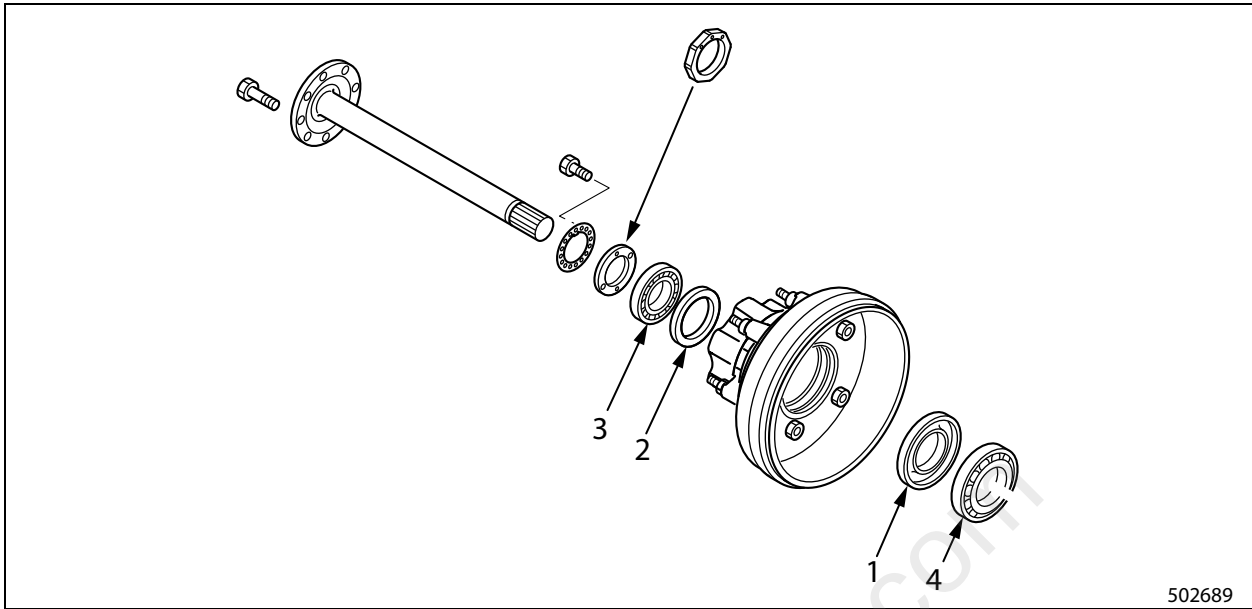
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1. Lighting

- (5) Make sure that the seat belt switch turns ON and the seat belt warning light in the meter panel goes out when the seat belt is properly fastened.

Input Monitor		
Item	Normal Range	Value
Seat Switch	* - *	ON
Seat Switch timer	* - *	ON
Seatbelt Switch	* - *	ON
Accel Switch	* - *	ON
Park brake Switch	* - *	ON
Direction lever F	* - *	OFF
Direction lever N	* - *	ON
Direction lever R	* - *	OFF
FNR lever	* - *	Neutral
Joystick (Lift lever 1) signal [%]	-100 - 100	0
Joystick (Lift lever 1) status	* - *	Normal
Joystick (Lift lever 2) signal [%]	-100 - 100	0
Joystick (Lift lever 2) status	* - *	Normal
Joystick (Tilt lever 1) signal [%]	-100 - 100	0
Joystick (Tilt lever 1) status	* - *	Normal
Joystick (Tilt lever 2) signal [%]	-100 - 100	0
Joystick (Tilt lever 2) status	* - *	Normal
Joystick (ATT1 lever 1) signal [%]	-100 - 100	0
Joystick (ATT1 lever 1) status	* - *	Normal
Joystick (ATT1 lever 2) signal [%]	-100 - 100	0
Joystick (ATT1 lever 2) status	* - *	Normal
Joystick (ATT2 lever 1) signal [%]	-100 - 100	0
Joystick (ATT2 lever 1) status	* - *	Normal
Joystick (ATT2 lever 2) signal [%]	-100 - 100	0

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- | | |
|-------------|---------------------------|
| 1. Oil seal | 3. Tapered roller bearing |
| 2. Oil seal | 4. Tapered roller bearing |

Special tool (Installer)		Truck classifications	
		1 ton class	2, 3 ton classes
1	Oil seal	91A68-00500	
2	Oil seal	91B68-00900	91E68-00700
3	Tapered roller bearing		91E68-00900
4	Tapered roller bearing		91E68-00800

- Apply sealant (ThreeBond 1184) to the flange surfaces of the axle shaft.

Note: DO NOT apply grease or oil to outer peripheral portion of oil seal when installing.

17. Lift cylinders, Removing (Second Cylinder for Duplex Mast)

17.1 Disassembly Sequence



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- | | |
|------------------------------|-------------------|
| 1. Holder subassembly | 12. Rod |
| 2. Head subassembly | 13. Piston |
| 3. Piston rod subassembly | 14. Slide ring |
| 4. Cylinder tube subassembly | 15. Set screw |
| 5. Holder | 16. Check valve |
| 6. Wiper ring | 17. Cushion spool |
| 7. Back-up ring | 18. Spring |
| 8. U-ring | 19. Snapring |
| 9. O-ring | 20. Tube assembly |
| 10. Head | 21. Plug |
| 11. Bushing | |

17.2 Suggestions for Disassembly

Removing piston

Be careful not to damage the piston seals and cylinder bore surface when pulling out the piston from the cylinder.

18. Lift Cylinder (Second for Duplex Mast), Inspecting

Cylinder tube

- Check the bore surface for excessive wear, scratches and rust.
- Check welds for cracks or dents.

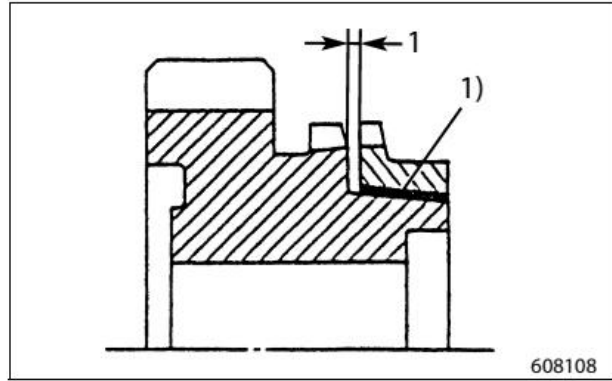
Piston rod

- Check rod deflection.
- Check the rod surface for scratches, rust or wear.

Rings, packings and threaded portions

- Check seal lips for damage, wear, or deterioration.
- Check threaded portions for damage.

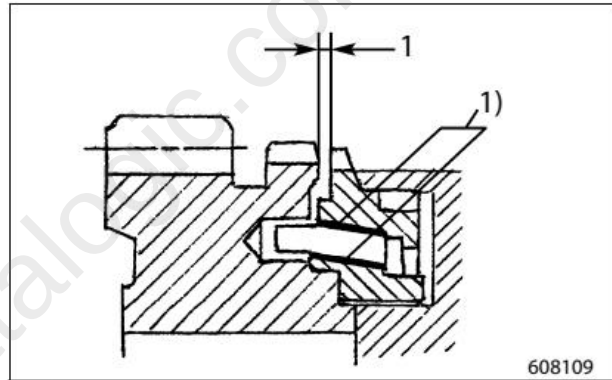
- (2) Check cones for wear or damage.
- (3) Measure the axial clearance between the gear and synchronizer ring.



H-L

1. Clearance (H-L)

1) Cone



F-R

1. Clearance (F-R)

1) Cone

Item		Ref.	Standard	Limit
Axial clearance between gear and ring	H-L	1	1.75 mm (0.0689 in.)	0 mm (0.00 in.)
	F-R	2	1.85 mm (0.0728 in.)	0.25 mm (0.0098 in.)

Full Version Available

Mitsubishi FGE20N Forklift Service Manual (99719-1F120)

Mitsubishi FGE20N forklift service manual PDF, covers LPG engine, hydraulics, drive train, and wiring for shop repairs. Instant PDF download.

VIEW THE FULL MANUAL

<https://machinecatalogic.com/mitsubishi-fge20n-forklift-service-manual-99719-1f120/>