



# *2012 to 2016 Service Manual*

*Publication Numbers:*

*00ELT0001 (2012)*

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*00ELT0032 (2014 1/2)*

*00ELT0059 (2015-2016)*

*Revised 01/2015*



# FE.FG

## SERVICE MANUAL 2012 Model FOREWORD

This Service Manual contains maintenance and repair methods for the Mitsubishi Fuso Truck FE. FG Series. Read this manual carefully as an aid in providing correct, efficient maintenance. Please note that the information and specifications contained within this manual may change without notice. This is due to product modifications and continued vehicle improvements that are made throughout the model years. Should you encounter any discrepancy in the information provided, please do not hesitate to contact your nearest Mitsubishi Fuso Dealer or Mitsubishi Fuso Truck of America, Inc.

MARCH 2011

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# **MODIFICATION SUMMARY**

**2013 MODEL YEAR**

**2014 MODEL YEAR**

**2014<sup>1</sup>/<sub>2</sub> MODEL YEAR**

**2015 TO 2016 MODEL YEARS**

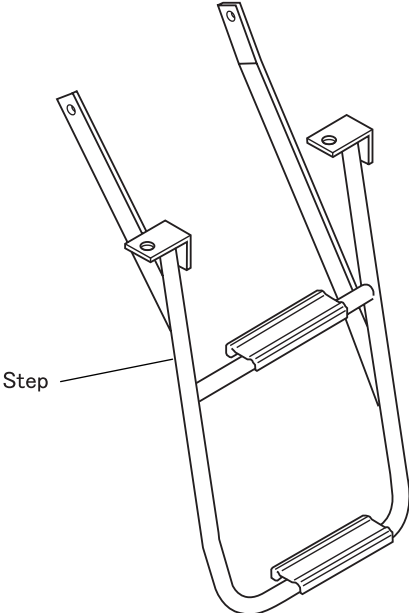
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# **MODIFICATION SUMMARY**

**2013 MODEL YEAR**

# MODIFICATION SUMMARY

- This section describes only the difference from FE.FG SERVICE MANUAL 2012 Model (Pub.No.00ELT0001).
- Be sure to check the differences described in the following before servicing.

Group	Contents of different points	Service procedure
00 GENERAL	Removal and installation procedures for battery in PRECAUTIONS FOR MAINTENANCE OPERATION are changed because the dual battery system is newly adopted.	See Gr00.
22 TRANSMISSION <DUONIC®>	Hose clip is added to the transmission power take-off <Large-capacity type>.	See Gr22.
51 EXTERIOR	<p>The rear step (crew cab) is different.</p>  <p style="text-align: right;">P50926E</p>	-
52 INTERIOR	The driver seat and the passenger seat are different.	See Gr52.

Group	Contents of different points	Service procedure
54-01 POWER, CHARGE AND GROUND CIRCUIT	<p>The dual battery system is newly adopted. The connection diagram is as follows. (The section enclosed with a dashed line shows additions.)</p> <p><b>Battery → high-current fuse → SAM</b></p> <p style="text-align: right;">110-C07348ALL-2013</p>	See (110).
	<p>The dual battery system is newly adopted. The illustration showing an ground point is as follows.</p> <p>[11]to[17] Chassis ground</p> <p>* : The installation position is different depending on the specification.</p> <p style="text-align: right;">54-L05232GND-2-2013</p>	See (130).

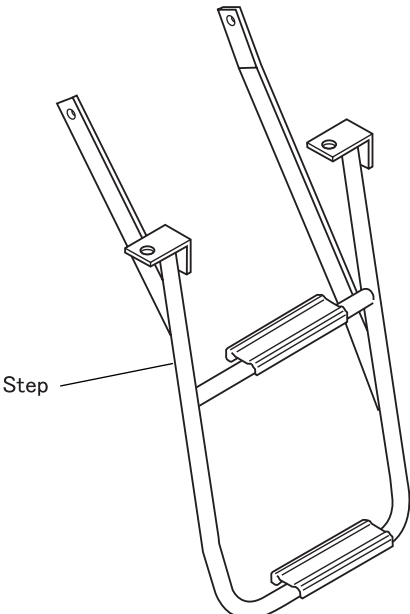
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# **MODIFICATION SUMMARY**

**2014 MODEL YEAR**

# MODIFICATION SUMMARY

- This section describes only the difference from FE.FG SERVICE MANUAL 2012 Model (Pub.No.00ELT0001).
- Be sure to check the differences described in the following before servicing.

Group	Contents of different points	Service procedure
00 GENERAL	(1) Removal and installation procedures for battery in PRECAUTIONS FOR MAINTENANCE OPERATION are changed because the dual battery system is newly adopted. (2013 Model) (2) The symbols of model year 2013 and 2014 are added to the VEHICLE IDENTIFICATION NUMBER. (3) FUSO Diagnostics version is revised in the DIAGNOSIS CODES. (4) The standard tightening torques for bolts and nuts of strength 8.8 are added to the TABLE OF STANDARD TIGHTENING TORQUES.	See Gr00.
22 TRANSMISSION <DUONIC®>	Hose clip is added to the transmission power take-off <Large-capacity type>. (2013 Model)	See Gr22. (Issued for 2013 Model)
51 EXTERIOR	The rear step (crew cab) is different. (2013 Model)  	-
52 INTERIOR	The driver seat and the passenger seat are different. (2013 Model)	See Gr52. (Issued for 2013 Model)



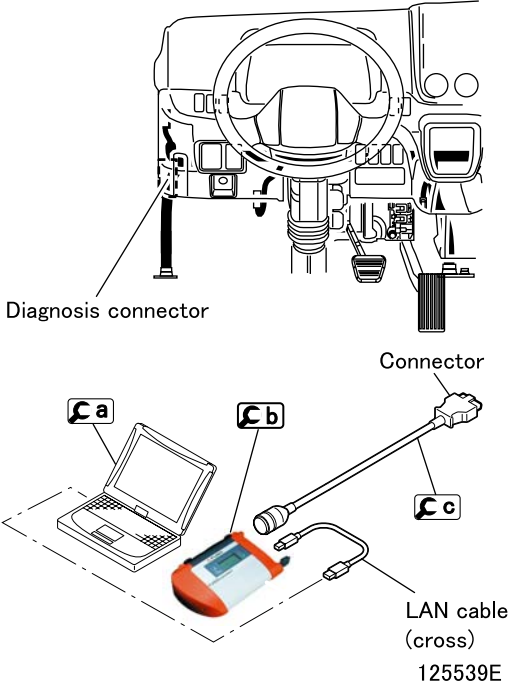
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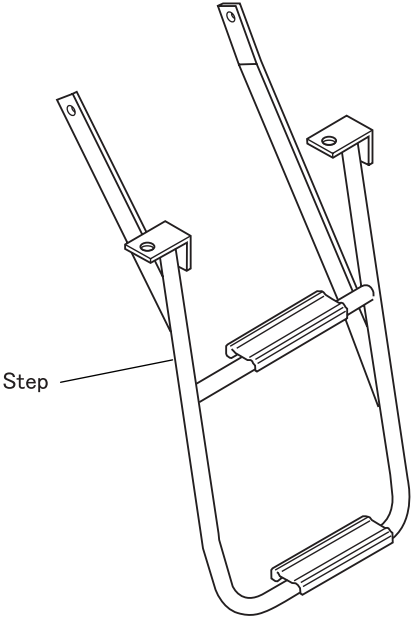
# MODIFICATION SUMMARY

2014<sup>1</sup>/<sub>2</sub> MODEL YEAR

# MODIFICATION SUMMARY

- This section describes only the difference from FE.FG SERVICE MANUAL 2012 Model (Pub.No.00ELT0001).
- Be sure to check the differences described in the following before servicing.

Group	Contents of different points	Service procedure
00 GENERAL	<p>(1) Removal and installation procedures for battery in PRECAUTIONS FOR MAINTENANCE OPERATION are changed because the dual battery system is newly adopted. (2013 Model)</p> <p>(2) The symbols of model year 2013 and 2014 are added to the VEHICLE IDENTIFICATION NUMBER. (2014 Model)</p> <p>(3) FUSO Diagnostics version is revised in the DIAGNOSIS CODES. Applicable version is FDS-R10-2-2 or higher.</p> <p>(4) The position of the diagnosis connector is changed.</p>  <p>(5) The standard tightening torques for bolts and nuts of strength 8.8 are added to the TABLE OF STANDARD TIGHTENING TORQUES. (2014 Model)</p>	-
13E ENGINE CONTROL	<p>(1) The group title is changed to ENGINE CONTROL.</p> <p>(2) The contents of TROUBLESHOOTING are revised.</p> <p>(3) The following items are moved to Gr54.</p> <ul style="list-style-type: none"> <li>• INSPECTION OF ELECTRICAL EQUIPMENT</li> <li>• INSTALLED LOCATIONS OF PARTS</li> <li>• ELECTRIC CIRCUIT DIAGRAM</li> </ul>	See Gr13E.
14 COOLING	<p>(1) Assembly procedure of the radiator hose clamp is added.</p> <p>(2) Disassembly and assembly procedures for the radiator are changed.</p> <p>(3) Instruction for Flywheel Retainer (special tool) is changed.</p>	See Gr14.
15 INTAKE AND EXHAUST	<p>(1) Installation procedure for the air flow sensor is changed.</p> <p>(2) Overhaul procedures for the exhaust manifold and turbocharger are changed.</p> <p>(3) New steps are added to the removal and installation sequence of EBS valve.</p> <p>(4) The clamp for the intercooler hose is changed.</p> <p>(5) Disassembly and assembly procedures for the front pipe is changed.</p>	See Gr15.
17 EMISSION CONTROL	<p>(1) Disassembly procedure for the urea tank and related parts is changed.</p> <p>(2) Disassembly and assembly procedures for the diesel particulate filter and related parts are changed.</p> <p>(3) Disassembly and assembly procedures for the selective catalytic reduction system and related parts are changed.</p>	See Gr17.
17E BlueTec® SYSTEM	BlueTec® system is different.	See Gr17E.

Group	Contents of different points	Service procedure
22 TRANSMISSION <DUONIC®>	(1) Hose clip is added to the transmission power take-off <Large-capacity type>. (2013 Model) (2) The companion flange mounting lock plate on the extension housing is changed.	See Gr22.
22E DUONIC®	(1) The contents of TROUBLESHOOTING are revised. (2) The following items are moved to Gr54. • INSPECTION OF ELECTRICAL EQUIPMENT • INSTALLED LOCATIONS OF PARTS • ELECTRIC CIRCUIT DIAGRAM	See Gr22E.
35E ANTI-LOCK BRAKE SYSTEM (ABS)	(1) The contents of TROUBLESHOOTING are revised. (2) The following items are moved to Gr54. • INSPECTION OF ELECTRICAL EQUIPMENT • INSTALLED LOCATIONS OF PARTS • ELECTRIC CIRCUIT DIAGRAM	See Gr35E.
51 EXTERIOR	The rear step (crew cab) is different. (2013 Model)    P50926E	-
52 INTERIOR	The driver seat and the passenger seat are different. (2013 Model)	See Gr52. (Issued for 2013 Model)
54 ELECTRICAL	(1) On 2014 models, all the contents are revised to conform with OBD2013. (2) The following items are moved from Gr13E, Gr22E, Gr35E and Gr55E. • INSPECTION OF ELECTRICAL EQUIPMENT • INSTALLED LOCATIONS OF PARTS • ELECTRIC CIRCUIT DIAGRAM (3) The following items are moved to each indicated Group. • IMMOBILIZER → Gr54EI • METER CLUSTER → Gr54EM • SIGNAL DETECT AND ACTUATION MODULES → Gr54ES	See Gr54.
54EI IMMOBILIZER	IMMOBILIZER is moved from Gr54.	See Gr54EI.
54EM METER CLUSTER	METER CLUSTER is moved from Gr54.	See Gr54EM.
54ES SIGNAL DETECT AND ACTUATION MODULES	SIGNAL DETECT AND ACTUATION MODULES is moved from Gr54.	See Gr54ES.

# MODIFICATION SUMMARY

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Group	Contents of different points	Service procedure
55E FULL AUTOMATIC AIR- CONDITIONER	(1) The contents of TROUBLESHOOTING are revised. (2) The following items are moved to Group 54. <ul style="list-style-type: none"><li>• INSPECTION OF ELECTRICAL EQUIPMENT</li><li>• INSTALLED LOCATIONS OF PARTS</li><li>• ELECTRIC CIRCUIT DIAGRAM</li></ul>	See Gr55E.

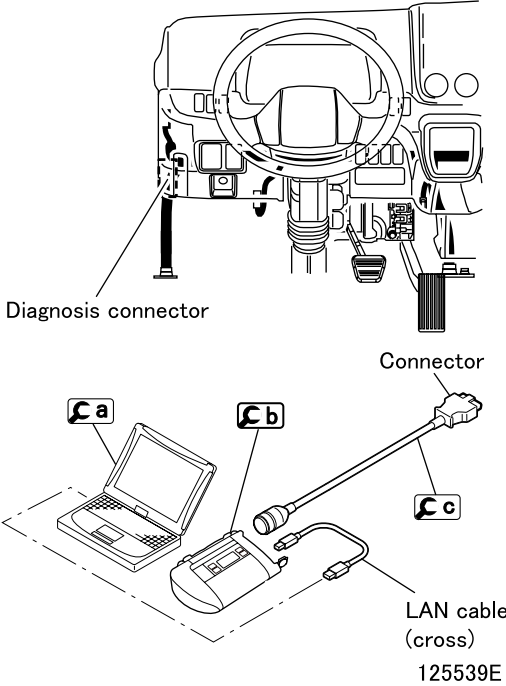
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# **MODIFICATION SUMMARY**

**2015 TO 2016 MODEL YEARS**

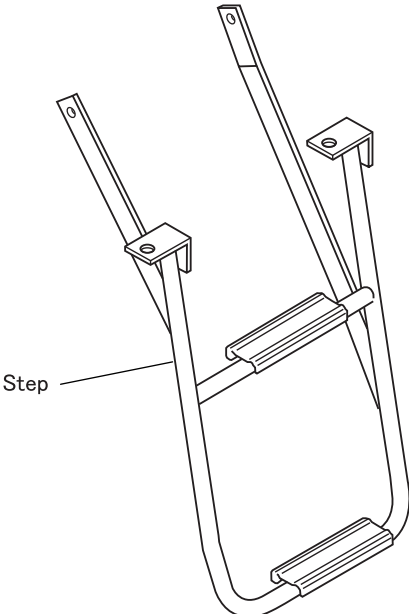
# MODIFICATION SUMMARY

- This section describes only the difference from FE.FG SERVICE MANUAL 2012 Model (Pub.No.00ELT0001).
- Be sure to check the differences described in the following before servicing.

Group	Contents of different points	Service procedure
00 GENERAL	<p>(1) Removal and installation procedures for battery in PRECAUTIONS FOR MAINTENANCE OPERATION are changed because the dual battery system is newly adopted. (2013 Model)</p> <p>(2) The symbols of model year 2013, 2014 and 2015 are added to the VEHICLE IDENTIFICATION NUMBER.</p> <p>(3) FUSO Diagnostics version is revised in the DIAGNOSIS CODES. Applicable version is FDS-R13-1.4 or higher. (2014 Model OBD2013)</p> <p>(4) The position of the diagnosis connector is changed. (2014 Model OBD2013)</p>  <p>(5) The standard tightening torques for bolts and nuts of strength 8.8 are added to the TABLE OF STANDARD TIGHTENING TORQUES. (2014 Model)</p>	-
01 MAINTENANCE SCHEDULE	<p>(1) The contents of MAINTENANCE SCHEDULE TABLE are revised.</p> <p>(2) The contents of LUBRICATION TABLE are revised.</p>	See Gr01.
13E ENGINE CONTROL	<p>(1) The group title is changed to ENGINE CONTROL.</p> <p>(2) The contents of TROUBLESHOOTING are revised.</p> <p>(3) The following items are moved to Gr54.</p> <ul style="list-style-type: none"> <li>• INSPECTION OF ELECTRICAL EQUIPMENT</li> <li>• INSTALLED LOCATIONS OF PARTS</li> <li>• ELECTRIC CIRCUIT DIAGRAM</li> </ul> <p>(4) Engine protection system and Idle limiting system is added.</p>	See Gr13E.
14 COOLING	<p>(1) Assembly procedure of the radiator hose clamp is added.</p> <p>(2) Disassembly and assembly procedures for the radiator are changed.</p> <p>(3) Instruction for Flywheel Retainer (special tool) is changed.</p>	See Gr14. (Issued for 2014 Model OBD2013.)
15 INTAKE AND EXHAUST	<p>(1) Installation procedure for the air flow sensor is changed.</p> <p>(2) Overhaul procedures for the exhaust manifold and turbocharger are changed.</p> <p>(3) New steps are added to the removal and installation sequence of EBS valve.</p> <p>(4) The clamp for the intercooler hose is changed.</p> <p>(5) Disassembly and assembly procedures for the front pipe is changed.</p>	See Gr15. (Issued for 2014 Model OBD2013.)
17 EMISSION CONTROL	<p>(1) Disassembly procedure for the urea tank and related parts is changed.</p> <p>(2) Disassembly and assembly procedures for the diesel particulate filter and related parts are changed.</p> <p>(3) Disassembly and assembly procedures for the selective catalytic reduction system and related parts are changed.</p>	See Gr17. (Issued for 2014 Model OBD2013.)

Group	Contents of different points	Service procedure
17E BlueTec <sup>®</sup> SYSTEM	BlueTec <sup>®</sup> system is different.	See Gr17E. (Issued for 2014 Model OBD2013.)
22 TRANSMISSION <DUONIC <sup>®</sup> >	<p>(1) Hose clip is added to the transmission power take-off &lt;Large-capacity type&gt;. (2013 Model)</p> <p>(2) The companion flange mounting lock plate on the extension housing is changed.</p> <p>(3) The inspection plug at the side of the clutch housing is changed to the type with inspection window. In accordance with this change, the tightening torque of the inspection plug is changed.</p> <p><b>CAUTION</b>  _____</p> <p><b>Overtightening the inspection plug may break its window. Be sure to tighten the inspection plug to the specified torque.</b></p> <p>(4) The clutch control fluid filter is added to the transmission oil cooler circuit. In accordance with this change, the total quantity of the clutch control oil is changed.</p>	See Gr22. (Issued for 2014 Model OBD2013.)
22E DUONIC <sup>®</sup>	<p>(1) The contents of TROUBLESHOOTING are revised.</p> <p>(2) The following items are moved to Gr54.</p> <ul style="list-style-type: none"> <li>• INSPECTION OF ELECTRICAL EQUIPMENT</li> <li>• INSTALLED LOCATIONS OF PARTS</li> <li>• ELECTRIC CIRCUIT DIAGRAM</li> </ul>	See Gr22E. (Issued for 2014 Model OBD2013.)
26A FRONT AXLE <FE>	The specifications and the steering angle of FECX are the same as that for FEC7 and FEC9.	–
27 REAR AXLE	<p>(1) The specifications for FECX are the same as that for FEC9.</p> <p>(2) The service procedure for hub bolt is revised.</p>	See Gr27.
31 WHEEL AND TIRE	The tire sizes for FECX are the same as that for FEC7 and FEC9.	–
33 FRONT SUSPENSION	The removal and installation procedures of the leaf spring are revised.	See Gr33.
34 REAR SUSPENSION	The stabilizer and the leaf springs for FECX are the same as that for FEC7 and FEC9.	–
35 BRAKE	<p>(1) The specifications of the front and rear disk brakes for FECX are the same as that for FEC7 and FEC9.</p> <p>(2) The installed height of the brake pedal is revised.</p> <p>(3) The vacuum pressure of the vacuum booster for FECX is added.</p>	See Gr35.
35E ANTI-LOCK BRAKE SYSTEM (ABS)	<p>(1) The contents of TROUBLESHOOTING are revised.</p> <p>(2) The following items are moved to Gr54.</p> <ul style="list-style-type: none"> <li>• INSPECTION OF ELECTRICAL EQUIPMENT</li> <li>• INSTALLED LOCATIONS OF PARTS</li> <li>• ELECTRIC CIRCUIT DIAGRAM</li> </ul>	See Gr35E. (Issued for 2014 Model OBD2013.)
42 CAB	The shape of the lock handle unit for the cab tilt link mechanism is revised.	See Gr42.

# MODIFICATION SUMMARY

Group	Contents of different points	Service procedure
51 EXTERIOR	<p>The rear step (crew cab) is different. (2013 Model)</p>  <p style="text-align: right;">P50926E</p>	-
52 INTERIOR	The driver seat and the passenger seat are different. (2013 Model)	See Gr52. (Issued for 2013 Model.)
54 ELECTRICAL	<p>(1) On 2014 models, all the contents are revised to conform with OBD2013.</p> <p>(2) The following items are moved from Gr13E, Gr22E, Gr35E and Gr55E.</p> <ul style="list-style-type: none"> <li>• INSPECTION OF ELECTRICAL EQUIPMENT</li> <li>• INSTALLED LOCATIONS OF PARTS</li> <li>• ELECTRIC CIRCUIT DIAGRAM</li> </ul> <p>(3) The following items are moved to each indicated Group.</p> <ul style="list-style-type: none"> <li>• IMMOBILIZER → Gr54EI</li> <li>• METER CLUSTER → Gr54EM</li> <li>• SIGNAL DETECT AND ACTUATION MODULES → Gr54ES</li> </ul>	See Gr54. (Issued for 2014 Model OBD2013.)
54EI IMMOBILIZER	IMMOBILIZER is moved from Gr54.	See Gr54EI. (Issued for 2014 Model OBD2013.)
54EM METER CLUSTER	METER CLUSTER is moved from Gr54.	See Gr54EM. (Issued for 2014 Model OBD2013.)
54ES SIGNAL DETECT AND ACTUATION MODULES	SIGNAL DETECT AND ACTUATION MODULES is moved from Gr54.	See Gr54ES. (Issued for 2014 Model OBD2013.)
55E FULL AUTOMATIC AIR-CONDITIONER	<p>(1) The contents of TROUBLESHOOTING are revised.</p> <p>(2) The following items are moved to Group 54.</p> <ul style="list-style-type: none"> <li>• INSPECTION OF ELECTRICAL EQUIPMENT</li> <li>• INSTALLED LOCATIONS OF PARTS</li> <li>• ELECTRIC CIRCUIT DIAGRAM</li> </ul>	See Gr55E. (Issued for 2014 Model OBD2013.)





**Group 00 - General**

**2012 Model Year**

**2013 Model Year**

**2014 Model Year**

**2015 to 2016 Model Years**





# Group 00

# General

# 2012 Model Year

 **MITSUBISHI FUSO TRUCK OF AMERICA, Inc.**

Pub.No.00ELT0001-00

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# EQUIPMENT TYPE CODES LIST

Component	Name plate marking	Code description
<b>Engine</b>		
4P10T5	4   P   1   0   T   5	
		Power version number Turbocharged Order of development within same series Order of development among different series Diesel engine No. of cylinders (4)
<b>Transmission</b>		
M038S6W	M   038   S   6   W	
		Variation (W: With directly-mounted transfer) Forward speeds Type of mesh (S: Synchromesh) Load carrying capacity of truck class (tonnage) on which the clutch is primarily used Initial letter of the transmission
<b>Propeller shaft</b>		
P3	P   3	
		Load carrying capacity of truck class (tonnage) on which the clutch is primarily used Initial letter of the propeller shaft
<b>Front axle</b>		
F200T	F   200   T	
		Vehicle type (T: Truck) Load carrying capacity of truck class (tonnage) on which the clutch is primarily used Initial letter of the front axle
<b>Rear axle</b>		
R033T	R   03   3   T	
		Vehicle type (T: Truck) Order of development within same series Load carrying capacity of truck class (tonnage) on which the clutch is primarily used Initial letter of the rear axle
<b>Reduction and differential</b>		
D033H	D   03   3   H	
		Tooth profile (H: Hypoid gear) Order of development within same series Load carrying capacity of truck class (tonnage) on which the clutch is primarily used Initial letter of the reduction & differential

# POWER TRAIN TABLE

00

Vehicle model	Engine	Clutch	Transmission	Propeller shaft	Rear axle	Reduction & differential
FEC52CL3SUHD	4P10-T5	–	M038S6	P3	R033T	D033H
FEC52EL3SUHD	4P10-T5	–	M038S6	P3	R033T	D033H
FEC52GL3SUHD	4P10-T5	–	M038S6	P3	R033T	D033H
FEC72CL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC72EL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC72GL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC72HL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC72KL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC72HL3WUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC72KL3WUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC92CL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC92EL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC92GL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC92HL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FEC92KL3SUHD	4P10-T5	–	M038S6	P3	R035T	D035H
FGB72EL3SUHD	4P10-T5	–	M038S6W	Front: P2 Rear: P3	R035T	Front: D1H Rear: D035H

# HOW TO READ THIS MANUAL

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This manual consists of the following parts:

- Specifications
- Structure and Operation
- Troubleshooting
- Circuits
- Electrical Equipment Installation Positions
- Inspection of Electrical Equipment
- On-vehicle Inspection and Adjustment
- Connector configuration chart

## On-vehicle Inspection and Adjustment

- Procedures for inspection and adjustment of individual parts and assemblies as mounted on the vehicle are described including specific items to check and adjust. Specified or otherwise, inspection should be performed for looseness, play, backlash, crack, damage, etc.

## Service procedures


- Procedures for servicing components and parts off the vehicle are described centering on key points in their removal, installation, disassembly, reassembly, inspection, etc.


## Inspection


- Check items subject to “acceptable/unacceptable” judgement on the basis of service standards are all given.
- Some routine visual checks and cleaning of some reused parts are not described but must always be included in actual service work.

## Caution

- This service manual contains important cautionary instructions and supplementary information under the following four headings which identify the nature of the instructions and information:

**DANGER**  ———— Precautions that should be taken in handling potentially dangerous substances such as battery fluid and coolant additives.

**WARNING**  ———— Precautionary instructions, which, if not observed, could result in serious injury or death.

**CAUTION**  ———— Precautionary instructions, which, if not observed, could result in damage to or destruction of equipment or parts.

**NOTE** ———— Suggestions or supplementary information for more efficient use of equipment or better understanding.

## Terms and Units

- Front and rear  
The forward running direction of the vehicle is referred to as the front and the reverse running direction is referred to as the rear.
- Left and right  
Left hand side and right hand side, when facing the forward running direction of the vehicle, are respectively left and right.

## Standard value

- Standard value dimensions in designs indicating: the design dimensions of individual parts, the standard clearance between two parts when assembled, and the standard value for an assembly part, as the case may be.

**Limit**

- When the value of a part exceeds this, it is no longer serviceable in respect of performance and strength and must be replaced or repaired.

**Tightening torque**

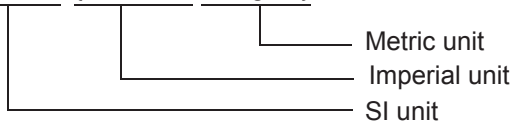
- Values are directly specified for out-of-standard tightening torques for bolts and nuts.
- Where there is no specified figure for tightening torque, follow the table covering standard tightening torques. (Values for standard tightening torques are based on thread size and material.)
- When the item is to be tightened in a wet state, "wet" is indicated. Where there is no indication, read it as dry.

**Units**

- Tightening torques and other parameters are given in SI\* units with imperial unit and metric units added in brackets { }.

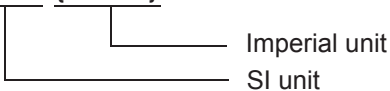
**\*SI: Le Système International d'Unités**

Example: 390 N·m {290 ft.lbs, 40 kgf·m}



Unit	SI unit {imperial unit, metric unit}	Conversion factor
Force	N {lbs, kgf}	9.80665 N {2.2046 lbs, 1 kgf}
Moment of force	N·m {ft.lbs, kgf·m}	9.80665 N·m {7.2329 ft.lbs, 1 kgf·m}
Pressure	Positive pressure	kPa {psi, kgf/cm <sup>2</sup> }
	Vacuum pressure	kPa {in.Hg, mmHg}
Volume	J {BTU, kcal}	4186.05 J {3.96825BTU, 1 kcal}
Heat quantity	W {BTU/h, kcal/h}	1.16279W {3.96825BTU/h, 1 kcal/h}

Example: 30 mm {1.18 in.}



Unit	SI unit {imperial unit}	Conversion factor
Length	mm {in.}	1 mm {0.03937 in.}
	m {ft.}	1 m {3.2808 ft.}
	km {mile}	1 km {0.6214 mile}
Mass	kg {lb}	1 kg {2.2046 lb}
	g {oz}	1 g {0.035274 oz}
Temperature (in degree Celsius)	°C {°F}	1°C {(1°C × 1.8 + 32)°F}
Velocity	km/h {mph}	1 km/h {0.6214 mph}
	m/s {ft/s}	1 m/s {3.281 ft/s}
Volume	L {qts, L {gal}}	1 L {1.05336 qts, 1 L {0.2642 gal}}
	cm <sup>3</sup> {cu.in.}	1 cm <sup>3</sup> {0.061023 cu.in.}
Area	m <sup>2</sup> {in <sup>2</sup> }, m <sup>2</sup> {ft <sup>2</sup> }	1 m <sup>2</sup> {1.550 × 10 <sup>3</sup> in <sup>2</sup> }, 1 m <sup>2</sup> {1.076 × 10 ft <sup>2</sup> }

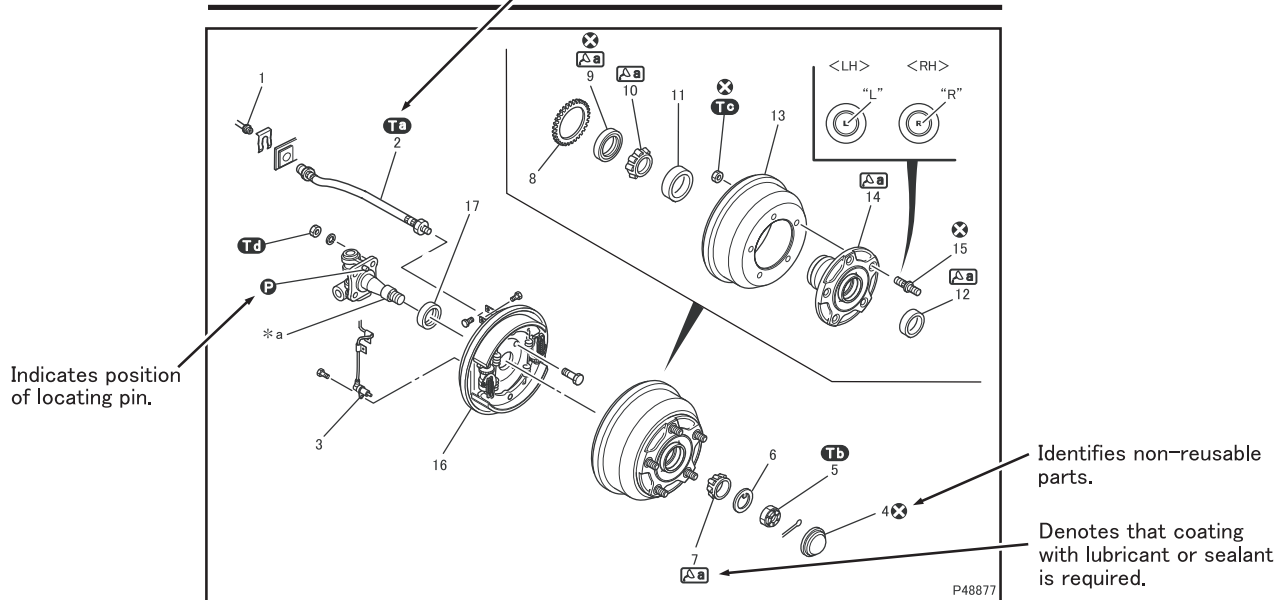
# HOW TO READ THIS MANUAL

## Illustrated Parts Breakdown and Service Procedures

Symbol	Denotation	Application	Remarks
<b>Ta</b>	Tightening torque	Parts not tightened to standard torques (standard torques specified where necessary for servicing)	Specified values shown in table See Table of Standard Tightening Torques for parts for which no tightening torques are specified.
<b>P</b>	Locating pin	Parts to be positioned for installation	
<b>X</b>	Non-reusable parts	Parts not to be reused	
<b>△a</b>	Lubricant and/or sealant	Parts to be coated with lubricant or sealant for assembly or installation	Necessary lubricant and/or sealant, quantity required, etc. are specified in table.
<b>Ca</b>	Special tool	Parts for which special tools are required for service operation	Tool name/shape and part number are shown in table.
<b>*a</b>	Associated part	Parts associated with those removed/disassembled for servicing	

Denotes that tightening torque is specified.

### WHEEL HUB AND BRAKE DRUM



#### ● Disassembly sequence

- |                            |                                |                                     |
|----------------------------|--------------------------------|-------------------------------------|
| 1 Brake pipe               | 8 Anti-lock brake system rotor | 16 Front drum brake<br>(See Gr.35A) |
| 2 Brake hose               | 9 Oil seal                     | 17 Spacer                           |
| 3 Wheel speed sensor       | 10 Inner bearing inner race    |                                     |
| 4 Hub cap                  | 11 Inner bearing outer race    |                                     |
| 5 Lock nut                 | 12 Outer bearing outer race    |                                     |
| 6 Lock washer              | 13 Brake drum                  |                                     |
| 7 Outer bearing inner race | 14 Wheel hub                   |                                     |
|                            | 15 Hub bolt                    |                                     |

#### ● Assembly sequence

Follow the disassembly sequence in reverse.

Service standards (unit: mm [in.])

Location	Maintenance item	Standard value	Limit	Remedy	
7, 10, 11, 12	Starting torque of wheel hub bearing (Tangential force at hub bolt position with oil seal fitted in)	1 to 3.5 N·m {0.7 to 2.6 ft.lbs. 0.10 to 0.35 kgf·m (Tangential force: 8.8 to 28.4 N {2.0 to 6.4 lbs, 0.9 to 2.9 kgf})	-	Adjust or replace	
14	Brake drum	Inside diameter	320 [12.6]	322 [12.7]	Repair or replace
		Cylindricity	0,05 [0,0020]	0,05 [0,0079]	

These location numbers correspond with disassembly sequence numbers.



"Wet" is indicated when part is to be tightened with oil or grease applied to its threads.

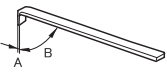
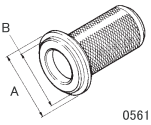
Tightening torque (unit: N·m {ft.lbs, kgf·m})

Mark	Part to be tightened	Tightening torque	Remarks
<b>Ta</b>	Brake force tightening	13 to 17 [9.6 to 13, 1.3 to 1.7]	-
<b>Tb</b>	Lock nut	113 ± 15 [83 ± 11, 11.5 ± 1.5]	Wet
<b>Tc</b>	Nut (brake drum and wheel hub mounting)	343 ± 39 [250 ± 29, 35 ± 4]	-
<b>Td</b>	Nut (front drum brake mounting)	118 ± 20 [87 ± 15, 12 ± 2]	-

Lubricant and/or sealant

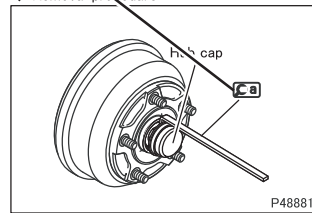
Mark	Point of application	Specified lubricant and/or sealant	Quantity
<b>Aa</b>	Between rolls of outer bearing inner race and inner bearing inner race	Mitsubishi wheel bearing grease	As required
	Inside wheel hub		395 ± 40 g [13.9 ± 1.41 oz]

Special tools (unit: mm {in.})

Mark	Tool name and shape	Part No.	Application				
<b>Ca</b>	<p>Hub Cap Wrench</p> <table border="1"> <tr> <td>A</td> <td>B</td> </tr> <tr> <td>0.5°</td> <td>78°</td> </tr> </table>  <p>P49261</p>	A	B	0.5°	78°	MB999108	Removal of hub cap
A	B						
0.5°	78°						
<b>Cb</b>	<p>Oil Seal Installer</p> <table border="1"> <tr> <td>A</td> <td>B</td> </tr> <tr> <td>φ 84 [3.31]</td> <td>φ 70 [2.76]</td> </tr> </table>  <p>05619</p>	A	B	φ 84 [3.31]	φ 70 [2.76]	MB999097	Installation of oil seal
A	B						
φ 84 [3.31]	φ 70 [2.76]						

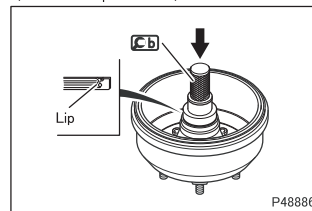
Identification marks for special tools are the same as used in the text.

◆ Removal procedure



■ Removal: Hub cap

◆ Installation procedure ◆



■ Installation: Oil seal

Apply grease to the lip of the oil seal, then fit the oil seal onto the wheel hub in the illustrated direction.

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