FE/FG FK/FM

FE.FG

SERVICE MANUAL
2008 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.

AUGUST 2007

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General

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MITSUBISHI FUSO TRUCK OF AMERICA, Inc.

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EQUIPMENT TYPE CODES LIST

Component	Name plate marking	Code description
Engine		
4M50T7	4 M 5 0 T 7	Power version number Turbocharged Order of development within same series Order of development among different series Diesel engine No. of cylinders (4)
Clutch		
C5W33	C 5 W 33	Disc outside diameter Facing material (W: Woven) Load carrying capacity of truck class (tonnage) on which the clutch is primarily used Initial letter of the clutch
Transmission		
M036S5W	M 036 S 5 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
Propeller shaft		
P3	P 3	Load carrying capacity of truck class (tonnage) on which the clutch is primarily used Initial letter of the propeller shaft
Front axle		
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
Rear axle		
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
Reduction and differential		
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

Vehicle model	Engine	Clutch	Transmission	Propeller shaft	Rear axle	Reduction & differential
FE83DDZSLSUH	4M50T8	Torque converter	M036A6	P3	R033T	D033H
FE83DEZSLSUH	4M50T8	Torque converter	M036A6	P3	R033T	D033H
FE83DGZSLSUH	4M50T8	Torque converter	M036A6	P3	R033T	D033H
FE84DDZSLSUH	4M50T8	Torque converter	M036A6	P3	R033T	D033H
FE84DEZSLSUH	4M50T8	Torque converter	M036A6	P3	R033T	D033H
FE84DGZSLSUH	4M50T8	Torque converter	M036A6	P3	R033T	D033H
FE84DHWSLSUH	4M50T8	Torque converter	M036A6	P3	R033T	D033H
FE84DJZSLSUH	4M50T8	Torque converter	M036A6	P3	R033T	D033H
FE85DDZSLSUG	4M50T8	C5W33	M036S6	P3	R035T	D035H
FE85DEZSLSUG	4M50T8	C5W33	M036S6	P3	R035T	D035H
FE85DGZSLSUG	4M50T8	C5W33	M036S6	P3	R035T	D035H
FE85DJZSLSUG	4M50T8	C5W33	M036S6	P3	R035T	D035H
FE85DKZSLSUG	4M50T8	C5W33	M036S6	P3	R035T	D035H
FE85DDZSLSUH	4M50T8	Torque converter	M036A6	P3	R035T	D035H
FE85DEZSLSUH	4M50T8	Torque converter	M036A6	P3	R035T	D035H
FE85DGZSLSUH	4M50T8	Torque converter	M036A6	P3	R035T	D035H
FE85DJZSLSUH	4M50T8	Torque converter	M036A6	P3	R035T	D035H
FE85DKZSLSUH	4M50T8	Torque converter	M036A6	P3	R035T	D035H
FG84DF6SLSUJ	4M50T7	C5W33	M036S5W	Front: P2 Rear: P3	R033T	Front: D1H Rear: D033H

HOW TO READ THIS MANUAL

This manual consists of the following parts:
- Specifications
- Structure and Operation
- Troubleshooting
- On-vehicle Inspection and Adjustment
- Service procedures

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

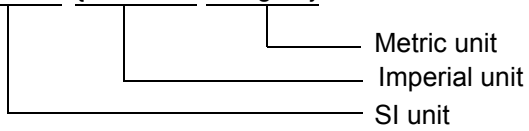
- Values are directly specified for out-of-standard tightening torques for bolts and nuts.
- Where there is no specified figure for tightening torque, follow the table covering standard tightening torques. (Values for standard tightening torques are based on thread size and material.)
- When the item 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 { }.

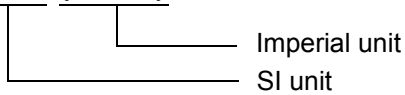
***SI: Le Système International d’Unités**

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^2}	98.0665 kPa {14.22 psi, 1 kgf/cm^2}
	Vacuum pressure	kPa {in.Hg, mmHg}	0.133322 kPa {0.03937 in.Hg, 1 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.}



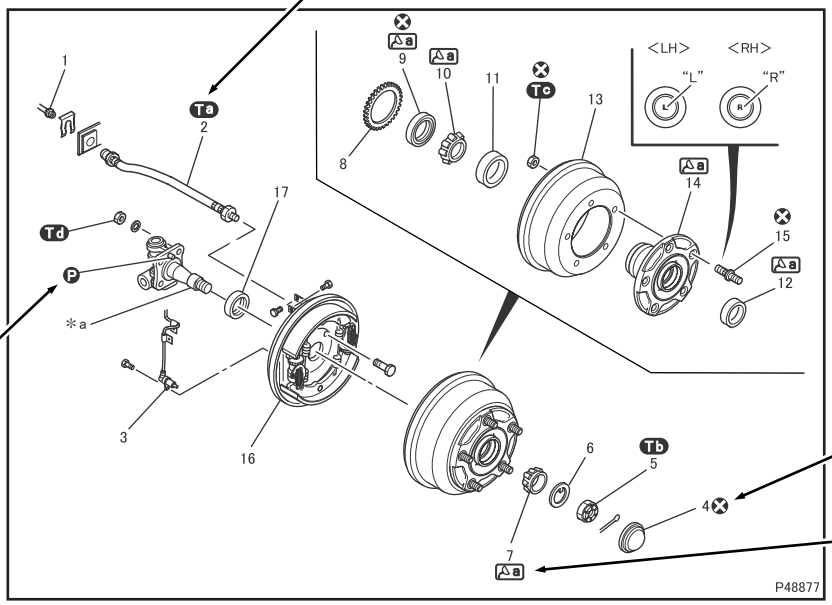
Unit	SI unit {imperial unit}	Conversion factor
Length	mm {in.}	1 mm {0.03937 in.}
	m {ft.}	1 m {3.2808 ft.}
	km {mile}	1 km {0.6214 mile}
Mass	kg {lb}	1 kg {2.2046 lb}
	g {oz}	1 g {0.035274 oz}
Temperature (in degree Celsius)	°C {°F}	1°C {(1°C × 1.8 + 32)°F}
Velocity	km/h {mph}	1 km/h {0.6214 mph}
	m/s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

HOW TO READ THIS MANUAL

Symbol	Denotation	Application	Remarks
Ta	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.
P	Locating pin	Parts to be positioned for installation	
⊗	Non-reusable parts	Parts not to be reused	
a	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.
a	Special tool	Parts for which special tools are required for service operation	Tool name/shape and part number are shown in table.
*a	Associated part	Parts associated with those removed/disassembled for servicing	

Denotes that tightening torque is specified.

WHEEL HUB AND BRAKE DRUM



Indicates position of locating pin.

Identifies non-reusable parts.

Denotes that coating with lubricant or sealant is required.

● Disassembly sequence

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

*a: Knuckle
P: Locating pin
⊗: Non-reusable parts

● 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
		Cylindricality	0.05 {0.0020}	0.05 {0.0079}	

These location numbers correspond with disassembly sequence numbers.

P58289N

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

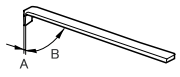
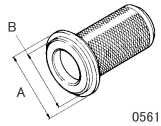
Tightening torque (unit: N·m {ft.lbs, kgf·m})

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

Lubricant and/or sealant

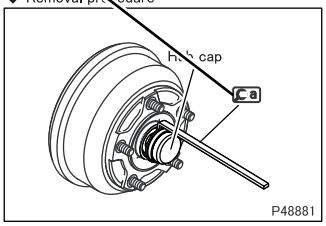
Mark	Point of application	Specified lubricant and/or sealant	Quantity
Sa	Between rolls of outer bearing inner race and inner bearing inner race	Mitsubishi wheel bearing grease	As required
	Inside wheel hub		395 ± 40 g {13.9 ± 1.41 oz}

Special tools (unit: mm {in.})

Mark	Tool name and shape	Part No.	Application
Ca	Hub Cap Wrench A: 0.5°, B: 78°  P49261	MB999108	Removal of hub cap
Cb	Oil Seal Installer A: ϕ84 {3.31}, B: ϕ70 {2.76}  05619	MB999097	Installation of oil seal

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

◆ Removal procedure



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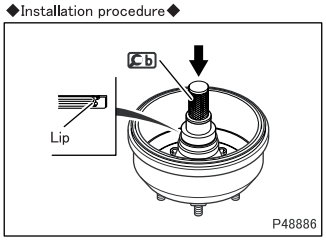
■Removal: Hub cap

◆Installation procedure◆



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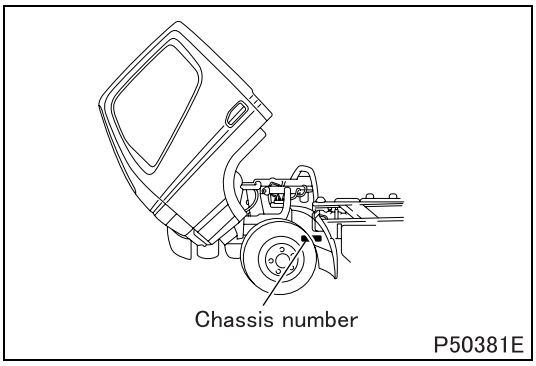
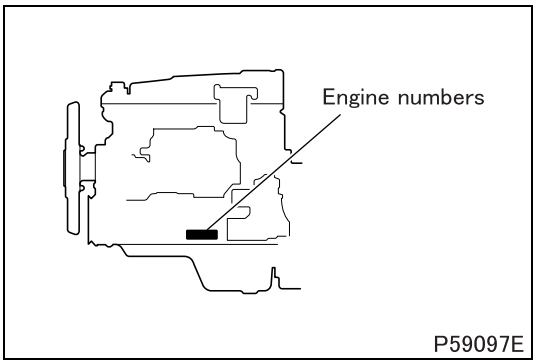
■Installation: Oil seal
Apply grease to the lip of the oil seal, then fit the oil seal onto the wheel huh in the illustrated direction.

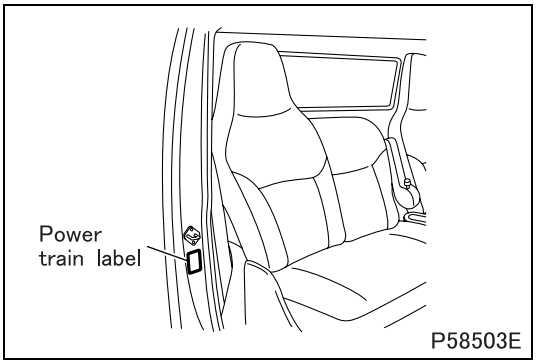
P58290N

CHASSIS NUMBER, ENGINE NUMBER, POWER TRAIN LABEL

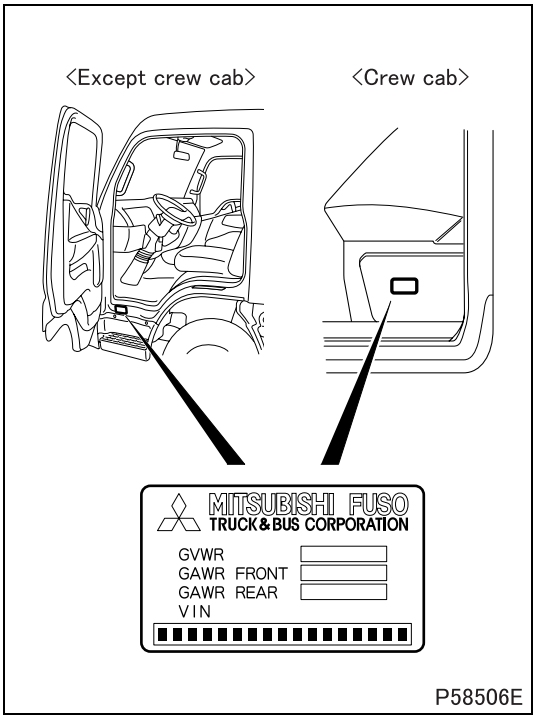
- Chassis and engine numbers are allocated to each vehicle and engine respectively in the order of production. These numbers are required at vehicle inspection for registration.







- Power train label located in the position illustrated indicates the vehicle model, chassis number and information relevant to the vehicle's power - train components.



- The vehicle identification number is punch-marked on the plate, which is attached in the position as illustrated.
  The vehicle identification number consists of a 17-digit set of alphanumeric characters. Each digit represents the following specifications.

J	L	6	A	A	D	1	S	■	9	K	■■■■■■
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)

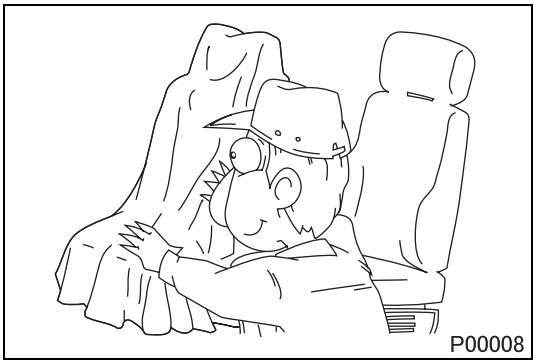
(1)	Country	J:	Japan
(2)	Make	L:	Mitsubishi Fuso
(3)	Type	6:	Incomplete vehicle
(4)	Gross vehicle weight / Brake system		
		A:	10,001 to 14,000 lbs. / Hydraulic
		B:	14,001 to 16,000 lbs. / Hydraulic
		C:	16,001 to 19,500 lbs. / Hydraulic
(5)	Line	A:	FE83D
		B:	FE84D
		C:	FE85D
		D:	FE84□W
		E:	FG84D
(6)	Series (Wheel base)	D:	2.9 to 3.19 m (9.51 to 10.46 ft.)
		E:	3.2 to 3.49 m (10.49 to 11.44 ft.)
		F:	3.5 to 3.79 m (11.48 to 12.43 ft.)
		G:	3.8 to 4.09 m (12.46 to 13.41 ft.)
		H:	4.1 to 4.39 m (13.45 to 14.40 ft.)
		J:	4.4 to 4.69 m (14.43 to 15.38 ft.)
		K:	4.7 to 4.99 m (15.41 to 16.37 ft.)
(7)	Cab chassis type	1:	Chassis cab
(8)	Engine	S:	4.899 L Diesel turbo charged and charge air cooled
(9)	Check digit		
(10)	Model year	9:	2009
(11)	Plant	K:	Kawasaki
(12)	Plant sequential number		

PRECAUTIONS FOR MAINTENANCE OPERATION

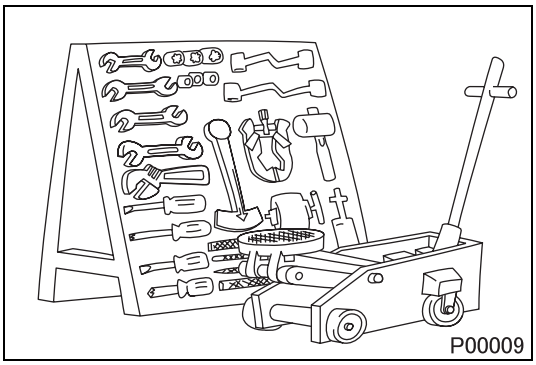
DANGER ⚠

- **This product contains or emits chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.**

- Before performing service operations, inquire into the customer's complaints and ascertain the condition by checking the total distance traveled, the conditions under which the vehicle is operated, and other relevant factors on the vehicle. And note the necessary information. This information will help you to service the vehicle efficiently.
  - Check the location of the fault, and identify its cause. Based on your findings, determine whether parts must be removed or disassembled. Then, follow the service procedure given in this manual.


P00008

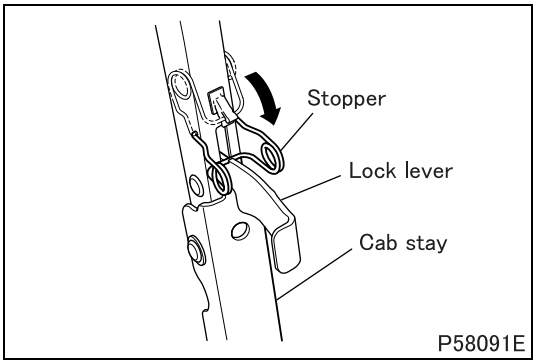
- Perform service operations on a level surface. Before starting, take the following preparatory steps:
  - To prevent soiling and damage, place covers over the seats, trim and floor in the cab and over the paintwork of the body.


P00009

- Prepare all the general and special tools necessary for the job.

WARNING ⚠

- **Special tools must be used wherever specified in this manual. Do not attempt to use other tools since they could cause injuries and/or vehicle damage.**



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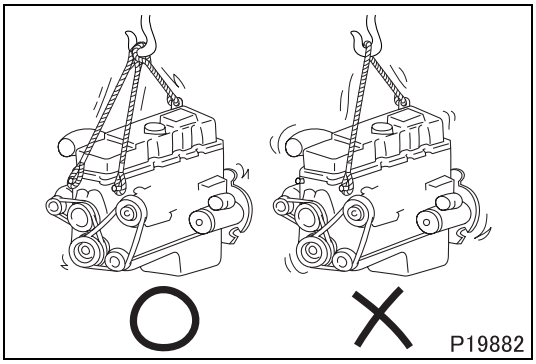
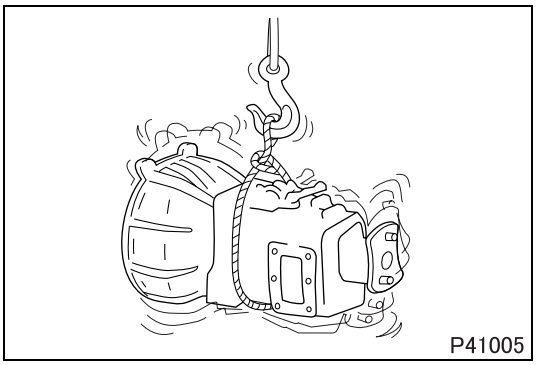
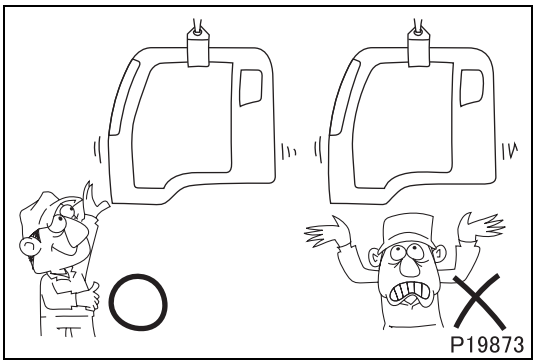
- After manually tilting the cab, be sure to engage the stopper with the lock lever to secure the cab stay in a rigid state.


P19882

- Take extreme care when removing/installing heavy items such as engine, transmission and axle. When lifting heavy items using a cable etc., observe the following precautions.
  - Identify the mass of the item being lifted. Use the cable that is strong enough to support the mass.


P41005

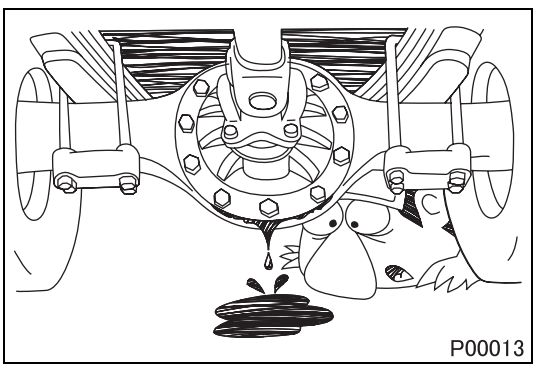
  - If lifting eyes are not provided on the item being lifted, tie a cable around the item taking into account the item's center of gravity.


P19873

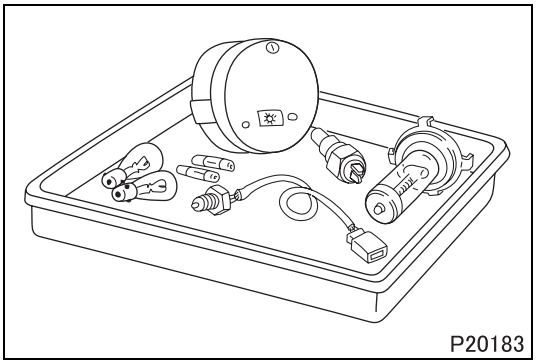
  - Do not allow anyone to pass or stay under a lifted item which may possibly fall.


P00012

- Never work in shoes that have oily soles.
  When working with a partner or in a group, use pre-arranged signals and pay constant attention to safety. Be careful not to touch switches and levers unintentionally.


P00013

- Inspect for oil leakage etc. before washing the vehicle. If the order is reversed, any oil leakage or fault that may exist could go unnoticed during inspection.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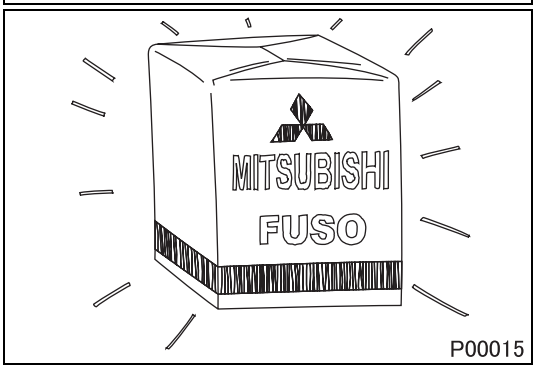
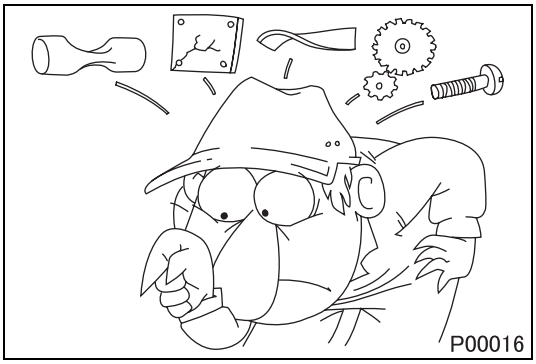
- Prepare replacement parts ready for installation.

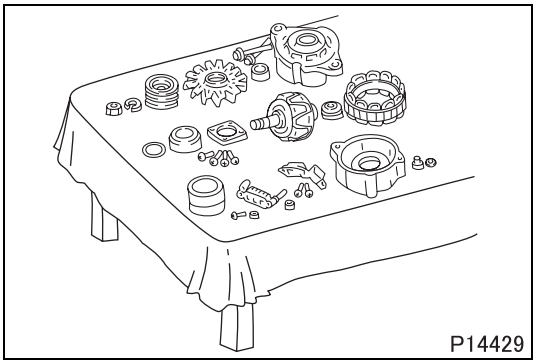


P00015

- Oil seals, packings, O-rings and other rubber parts, gaskets, and split pins must be replaced with new ones after removal. Use only genuine MITSUBISHI replacement parts.


P00016

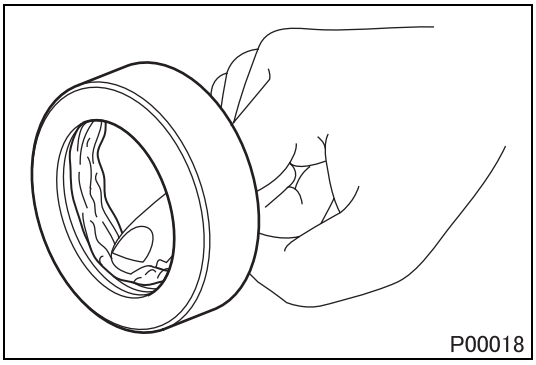
- When disassembling parts, visually check them for wear, cracks, damage, deformation, deterioration, rust, corrosion, defective rotation, fatigue, clogging and any other possible defect.


P14429

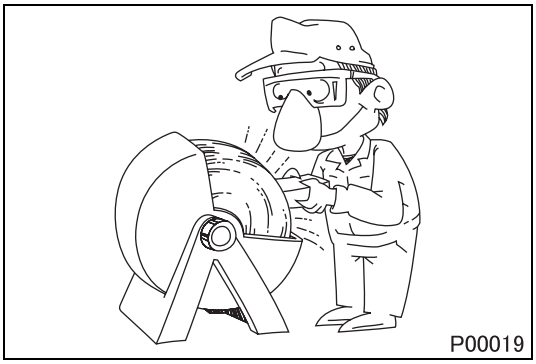
- To facilitate correct reassembly of parts, make alignment marks on them before disassembly and arrange disassembled parts neatly. Make punch marks and other alignment marks where they will not detract from parts' functionality and appearance.
- After removing parts from the vehicle, cover the area to keep it free of dust.

CAUTION ⚠

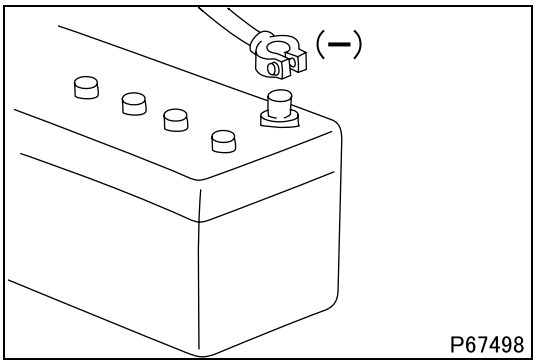
- **Be careful not to mix up identical parts, similar parts and parts that have left/right alignments.**
- **Keep new replacement parts and original (removed) parts separately.**


P00018

- Apply the specified oil or grease to U-seals, oil seals, dust seals and bearings before reassembly.
- Always use the specified oils and greases when performing inspection or replacement. Immediately wipe away any excess oil or grease with a rag.


P00019

- Wear safety goggles when using a grinder or welder. Wear gloves when necessary, and watch out for sharp edges and other items that might wound your hands.

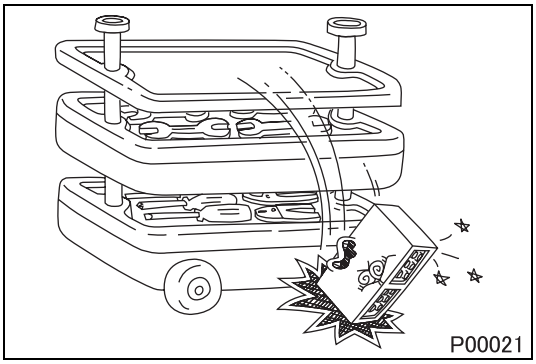


P67498

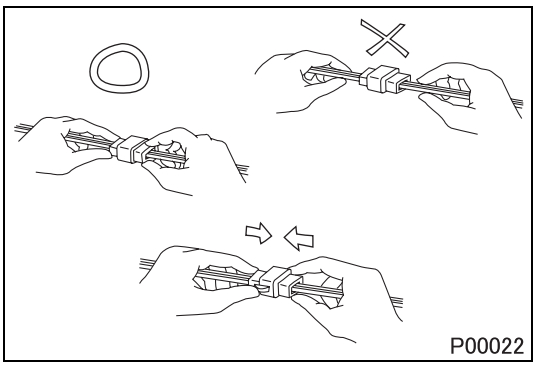
- Before working on the electrical system, disconnect the (–) battery cable to prevent short circuits.

CAUTION ⚠

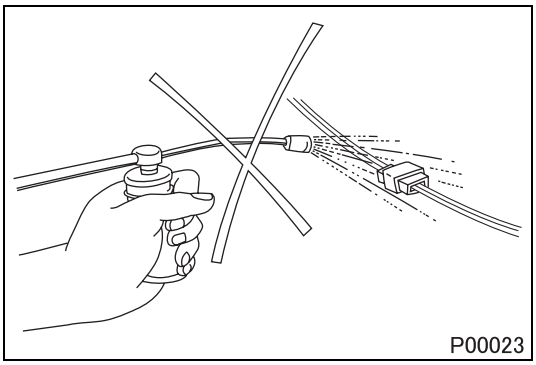
- **Make sure the starter switch and lighting switches are OFF before disconnecting or connecting battery cable. Semiconductor components may otherwise be damaged.**


P00021

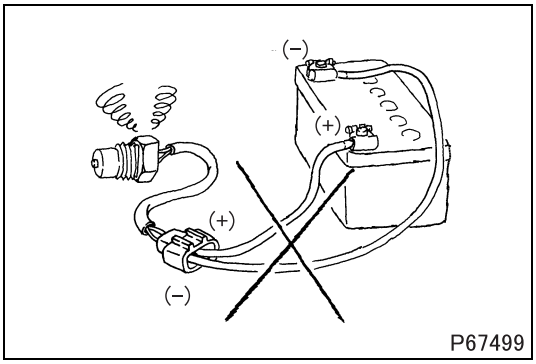
- Carefully handle sensors relays, and other items that are sensitive to shock and heat. Do not remove or paint the cover of any control unit.


P00022

- When separating connectors, grasp the connectors themselves rather than the harnesses.
- To separate locking connectors, first push them in the direction of the arrows. To reconnect locking connectors, push them together until they click.

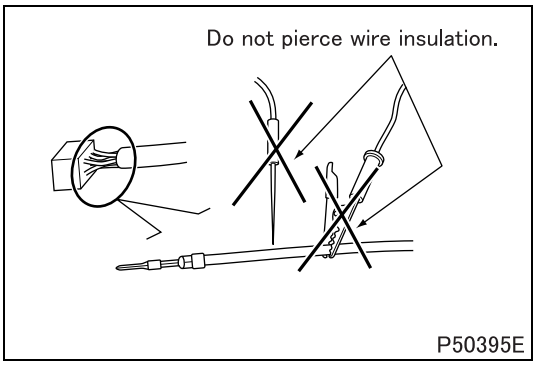

P00023

- Before washing the vehicle, cover electrical parts to keep them dry. (Use plastic sheets or the like.) Keep water away from harness connectors and sensors and immediately wipe off any water that gets on them.



- When applying a voltage to a part for inspection purposes, check that the (+) and (–) cables are connected properly then gradually increase the voltage from zero. Do not exceed the specified voltage.
  Remember that control units and sensors do not necessarily operate on the battery voltage.

1. Handling Precautions for Electric Circuits



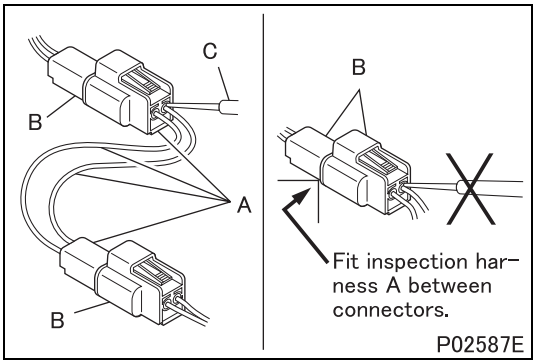
CAUTION ⚠

- **Do not pierce wire insulation with test probes or alligator clips when performing electrical inspections. Doing so can, particularly with the chassis harness, hasten corrosion.**

1.1 Inspection of harnesses

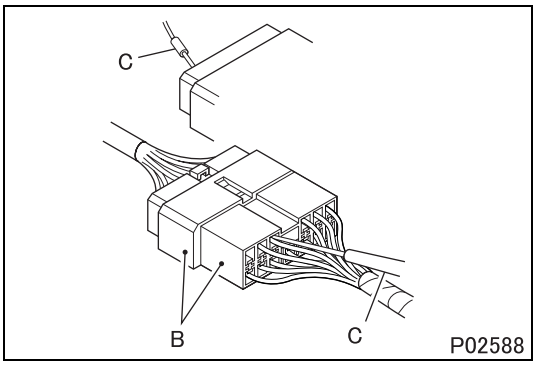
(1) Inspections with connectors fitted together

(1.1) Waterproof connectors

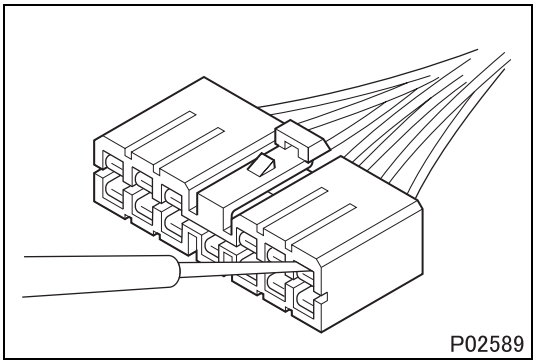


- Connect an inspection harness and connector A between the connectors B of the circuit to be inspected. Perform the inspection by applying a test probe C to the connectors of the inspection harness. Do not insert the test probe C into the wire-entry sides of the waterproof connectors since this would damage their waterproof seals and lead to rust.

(1.2) Non-waterproof connectors



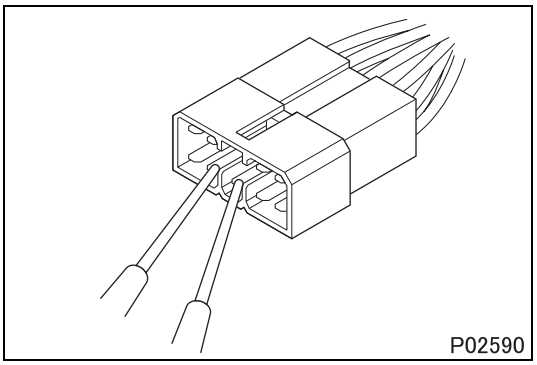
- Perform the inspection by inserting a test probe C into the wire-entry sides of the connectors. An extra-narrow probe is required for control unit connectors, which are smaller than other types of connector. Do not force a regular-size probe into control unit connectors since this would cause damage.


P02589

(2) Inspections with connectors separated

(2.1) Inspections on female terminals

- Perform the inspection by carefully inserting a test probe into the terminals. Do not force the test probe into the terminals since this could deform them and cause poor connections.

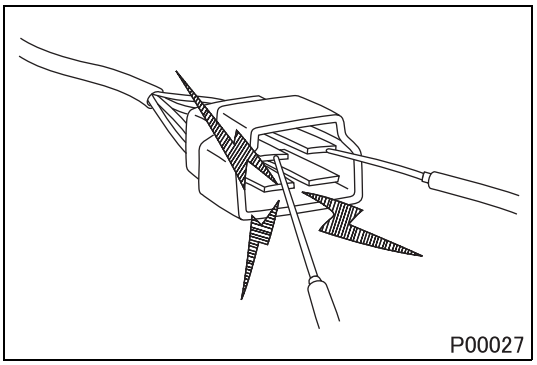

P02590

(2.2) Inspections on male terminals

- Perform the inspection by applying test probes directly to the pins.

CAUTION ⚠

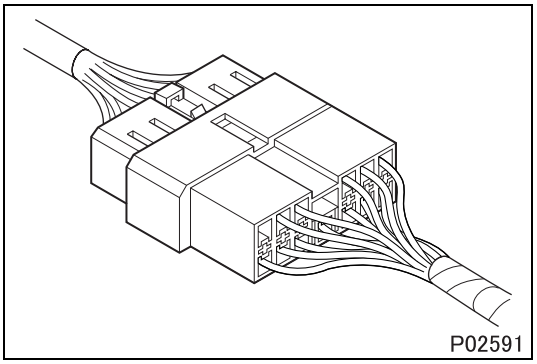
- **Be careful not to short-circuit pins together with the test probes. With control unit connectors, short-circuiting of pins can cause damage to the control unit's internal circuitry.**


P00027

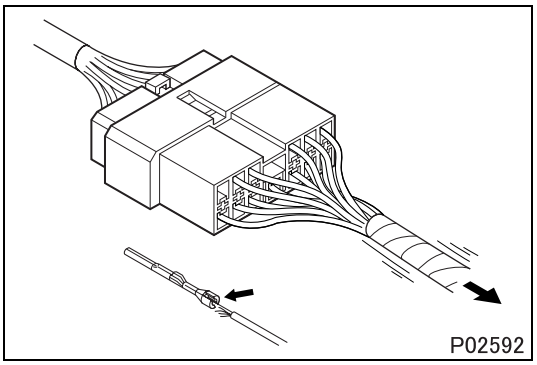
- When using a multimeter to check continuity, do not allow the test probes to touch the wrong terminals.

1.2 Inspection of connectors

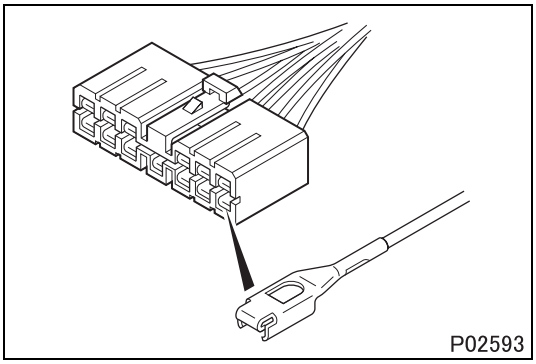
(1) Visual inspection


P02591

- Check that the connectors are fitted together securely.

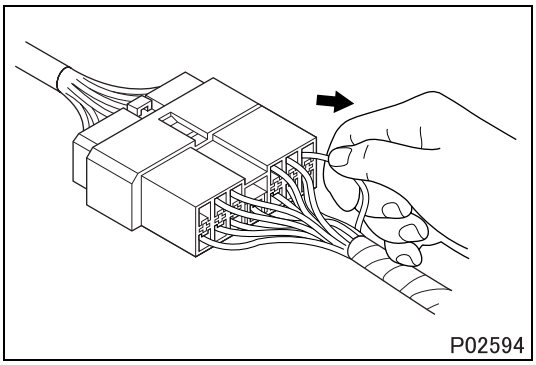

P02592

- Check whether wires have been separated from their terminals due to pulling of the harness.


P02593

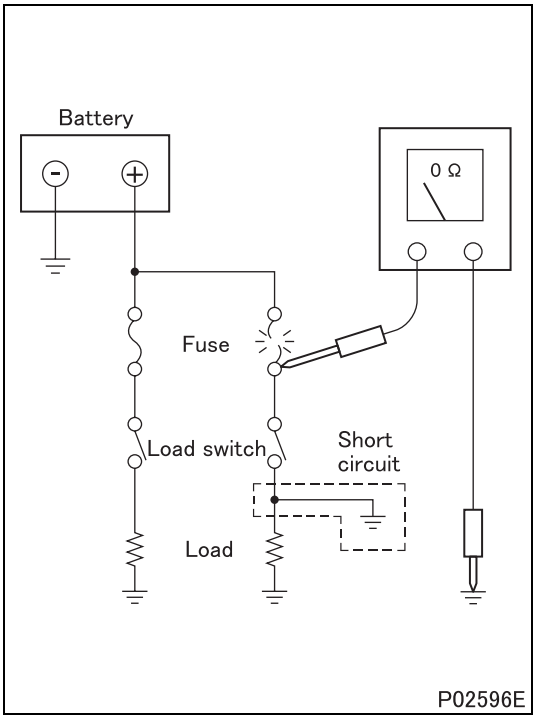
- Check that male and female terminals fit together tightly.

- Check for defective connections caused by loose terminals, by rust on terminals, or by contamination of terminals by foreign substances.


P02594

(2) Checking for loose terminals

- If connector terminal retainers become damaged, male and female terminals may not mate with each other when the connector bodies are fitted together. To check for such terminals, gently pull each wire and see whether any terminals slip out of their connector housings.

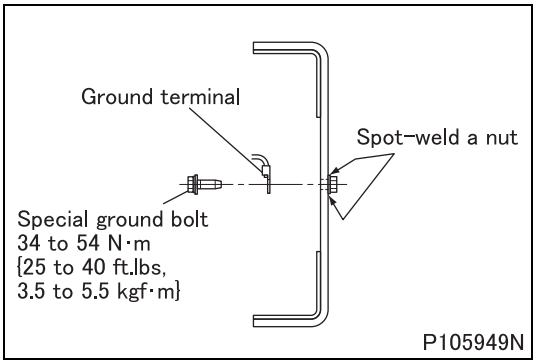


P02596E

1.3 Inspections when a fuse blows

- Remove the fuse, then measure the resistance between ground and the fuse's load side.
  Next, close the switch of each circuit connected to the fuse. If the resistance measurement between any switch and ground is zero, there is a short circuit between the switch and the load. If the resistance measurement is not zero, the circuit is not currently short-circuited; the fuse probably blew due to a momentary short circuit.

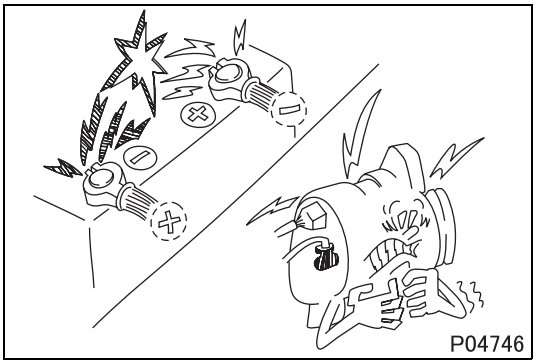
- The main causes of short circuits are as follows:
  - Harnesses trapped between chassis parts
  - Harness insulation damage due to friction or heat
  - Moisture in connectors or circuitry
  - Human error (accidental short-circuiting of components)



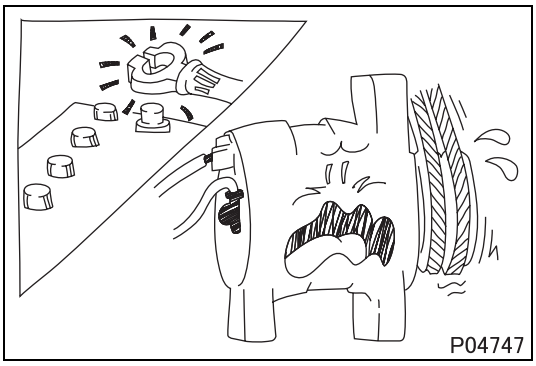
1.4 Inspection of chassis ground

- A special ground bolt is used to tighten a ground terminal. When servicing the ground point, be sure to follow the procedures described below:
  - When reinstalling the ground bolt
    Tighten the ground bolt to the specified torque.
  - When relocating the ground point
    A special ground bolt must be used. Spot-weld a nut to a frame and tighten the ground bolt to the specified torque. Be sure to apply touch-up paint to the welded point.

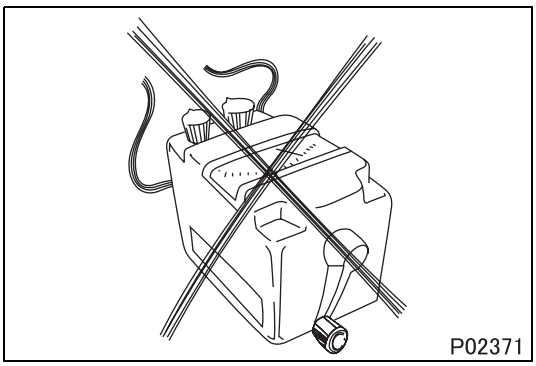
2. Service Precautions for Alternators



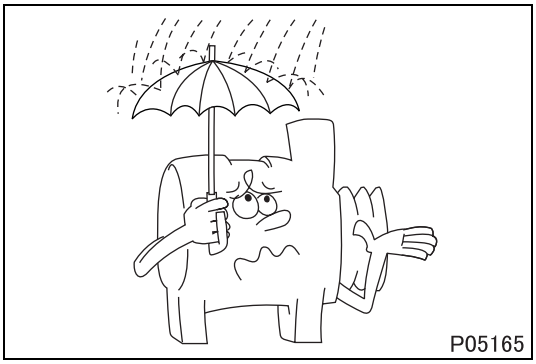
- When servicing alternators, observe the following precautions:
  - Never reverse the polarity of battery connections.
    If the polarity of the battery connections were to be reversed, a large current would flow from the battery to the alternator, damaging the diodes and regulator.



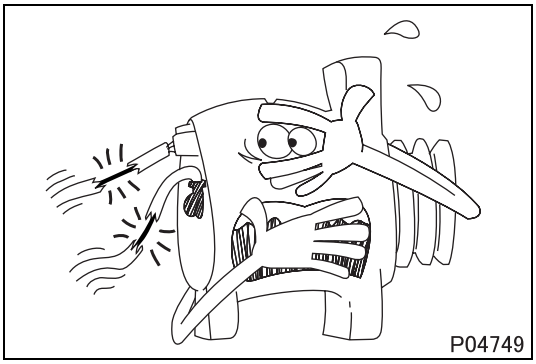
- Never disconnect the battery cables with the engine running.
  Disconnection of the battery cables during engine operation would cause a surge voltage, leading to deterioration of the diodes and regulator.



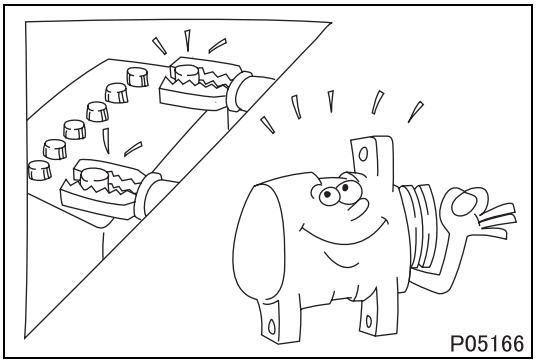
- Never perform inspections using a high-voltage multimeter.
  The use of a high-voltage multimeter could damage the diodes and regulator.



- Keep alternators dry.
  Water on alternators can cause internal short circuits and damage.

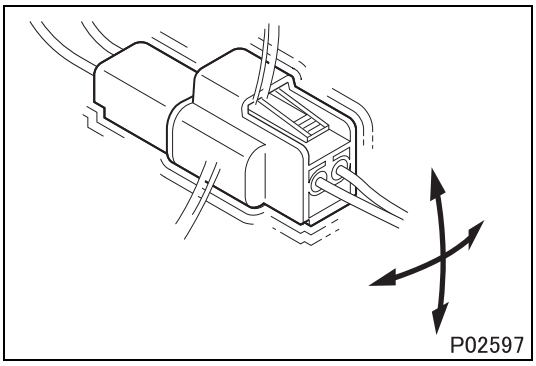


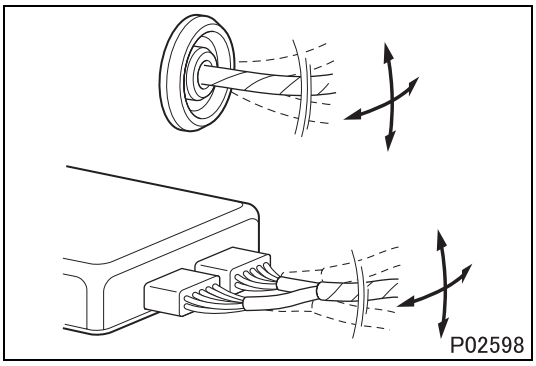
- Never operate an alternator with the B and L terminals short-circuited. Operation with the B and L terminals connected together would damage the diode trio.

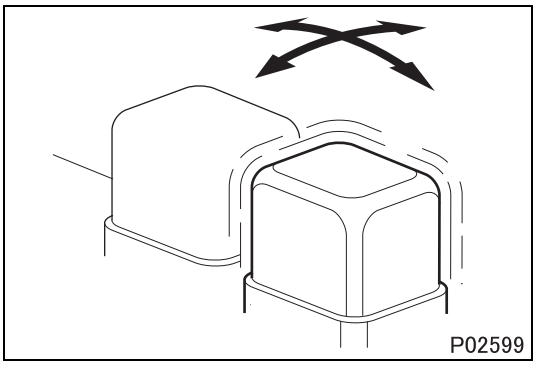


- Disconnect the battery cables before quick-charging the battery with a quick charger.
  Unless the battery cables are disconnected, quick-charging can damage the diodes and regulator.

3. Intermittent Faults





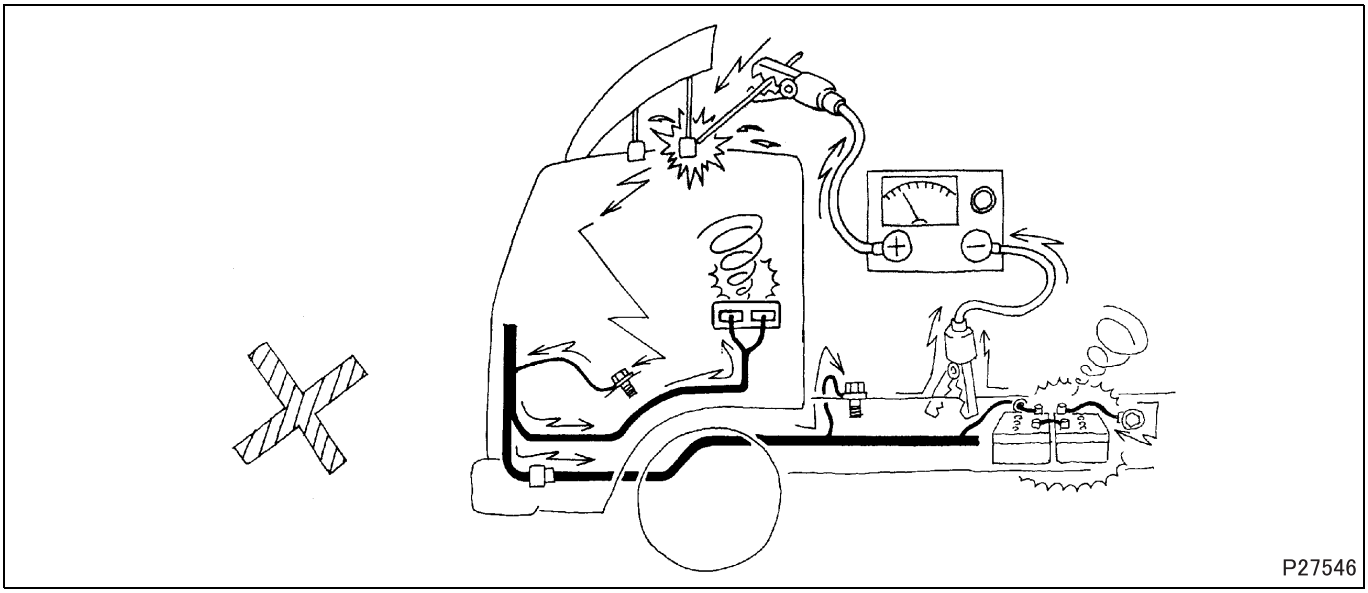


- An intermittent fault typically occurs only under certain operating conditions. Once these conditions have been identified, the cause of the intermittent fault can be ascertained easily. First, ask the customer about the vehicle operating conditions and weather conditions under which the fault occurs. Also ask about the frequency with which the fault occurs and about the fault symptoms. Then, reproduce the fault based on this information.
  In accordance with the conditions under which the fault occurs, determine whether the fault is caused by vibration, heat or other factors. if vibration is a possible factor, see if the fault can be reproduced by performing the following checks on individual connectors and other parts:
  - Gently move connectors up and down and to left and right.
  - Gently move wiring harnesses up and down and to left and right.
  - Gently wiggle sensors and other devices by hand.
  - Gently wiggle wiring harnesses on suspension systems and other moving parts.

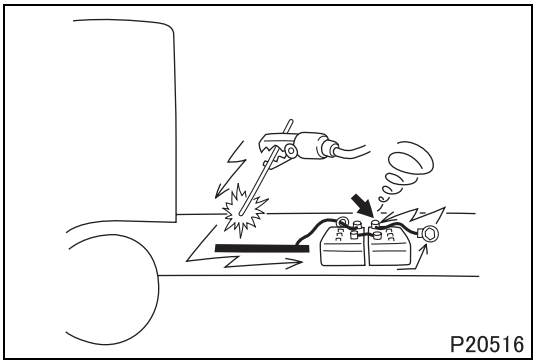
- Connectors and other parts to be checked are those included or given as likely fault locations in inspection procedures corresponding to diagnosis codes and/or fault symptoms.

4. Precautions for Arc Welding

- When arc welding is performed, current from the welder flows to ground via the vehicle's metal parts. Unless appropriate steps are taken, this current can damage control units, other electrical devices and wiring harnesses. And any electrical device near the point on the vehicle to which the (–) cable of the welder is connected, might be largely damaged.



- Current flows backward as shown below.



4.1 From battery (–) cable

To prevent damage to the battery and to electrical devices that are connected directly to the battery, it is essential to disconnect the battery's (–) cable.

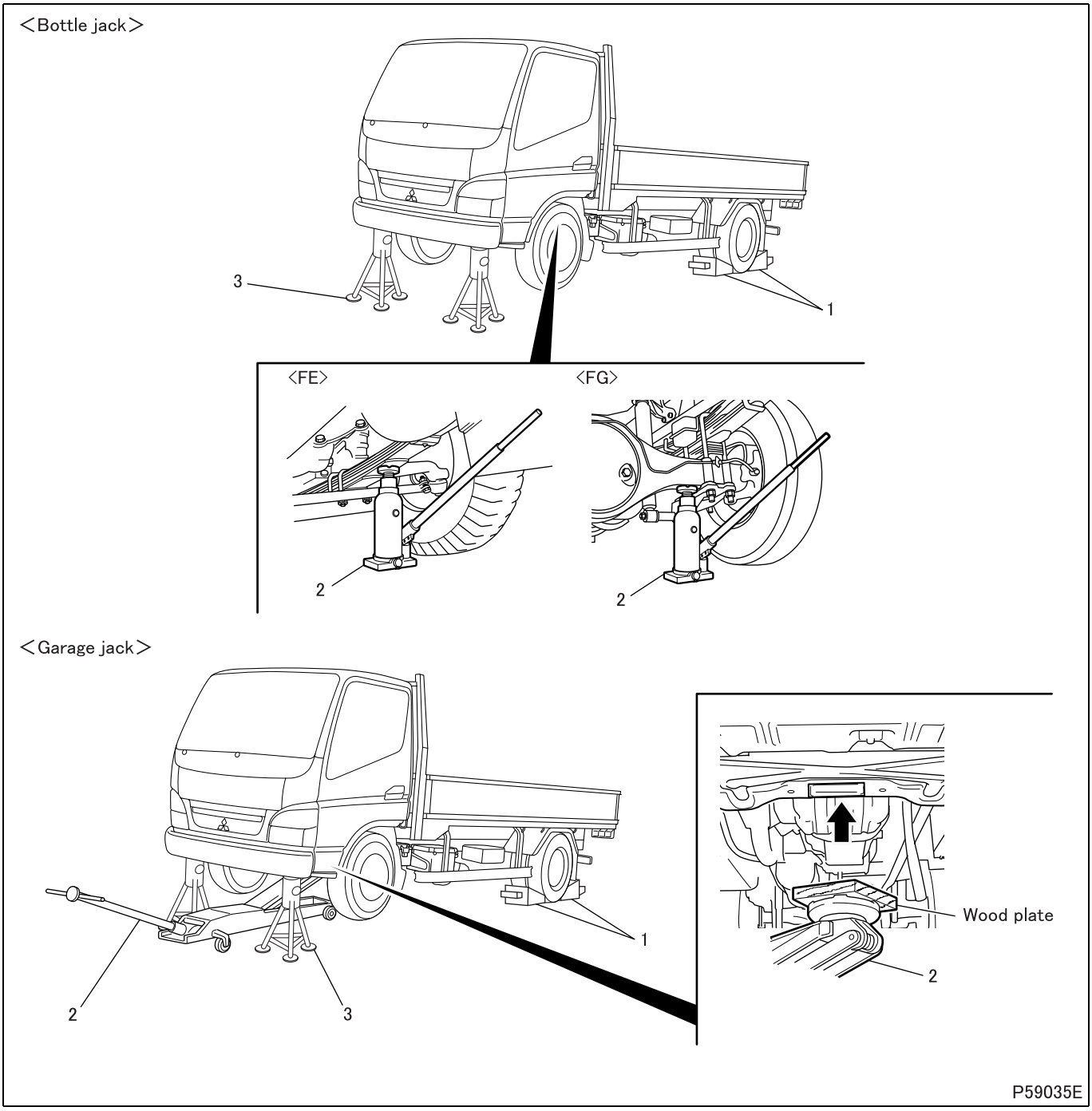
4.2 Procedure

- Turn the starter switch to the LOCK position.
- Disconnect the battery's (–) cable.
- Cover all parts of the vehicle that may be damaged by welding sparks.
- Connect the welder's (–) cable to the vehicle as close as possible to the area being welded. Do not connect the welder's (–) cable to the cab if the frame is being welded, and vice versa.
- Set the welding current in accordance with the part being welded.

M E M O

JACKING UP THE VEHICLE

<Front of Vehicle>



Jacking up procedure

1 Place chocks against the rear wheels.
2 Set a bottle jack or garage jack and jack up the front of the vehicle.
3 Support the front of the vehicle frame on jack stands.

WARNING ⚠

- **Chock the wheels firmly to prevent the vehicle from rolling away.**
- **Do not attempt to remove the chocks until the operation is completed.**
- **It is extremely dangerous to support the vehicle with only bottle jack or garage jack. Be sure to additionally support the front of the vehicle frame on jack stands.**
- **Never attempt to remove any of the bottle jack, garage jack, or jack stands until the operation is completed.**