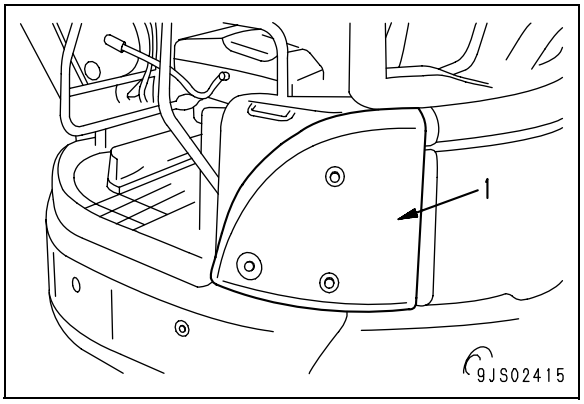
HOW TO OPEN AND CLOSE (TILT) FLOOR

★ When checking or maintaining the back side of the floor or inside of the revolving frame, open and close (tilt) the floor according to the following procedure.

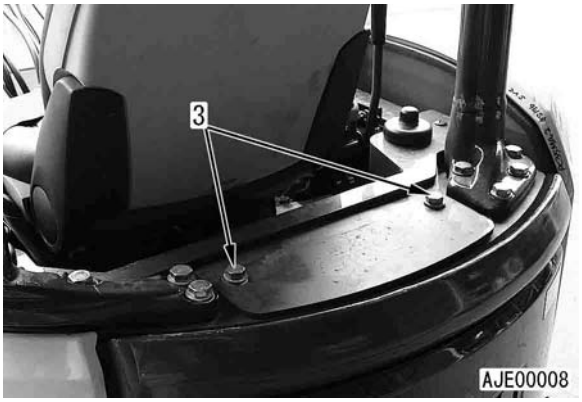
WHEN OPENING (TILTING OPEN)

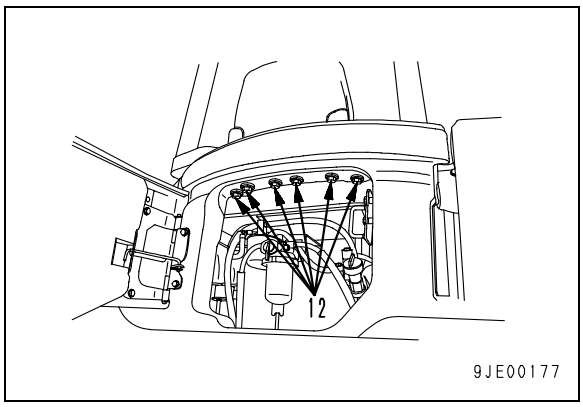
1. Move in the arm and lower the boom to lower the work equipment and blade to the ground.
2. Stop the engine, and set the work equipment lock lever in the LOCK position.
3. Put blocks in the front and rear of the track shoe to stop the machine.
4. Remove triangular cover (1).



5. Remove 2 bolts (3).
   (Only for PC27MR-2, Serial No. 17902 and up, and PC35MR-2, Serial No. 9242 and up for North America with the canopy specification.)

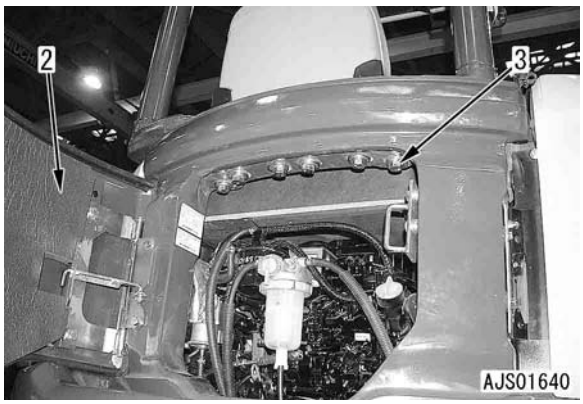
   ⚠ Do not remove canopy-mounting bolts (12) when the machine is equipped with a canopy. It can incur a danger as there is the possibility that the canopy slips off.





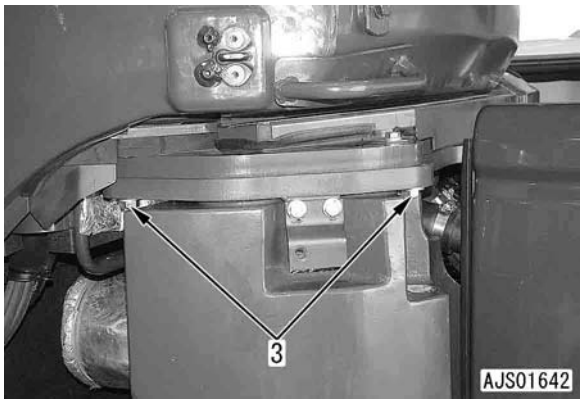
6. Cover and bolts.
   (Except PC27MR-2, Serial No. 17902 and up, and PC35MR-2, Serial No. 9242 and up for North America with the canopy specification.)
   1) Open cover (2) and remove 6 bolts (3).
      ★ The bolts are so designed that they will not be removed completely when they are simply loosened to prevent them from falling.
   2) Close cover (2).

PC27, 30, 35MR-2

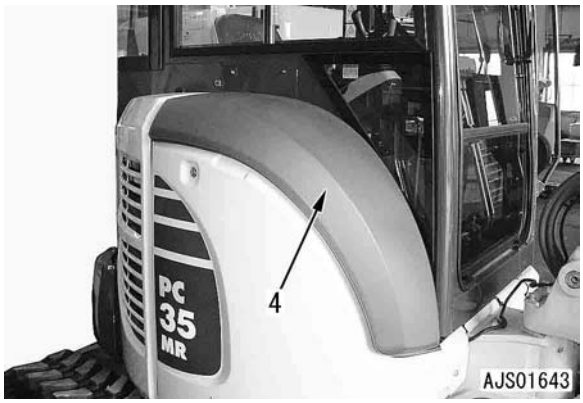


PC40, 50MR-2

PC40, 50MR-2



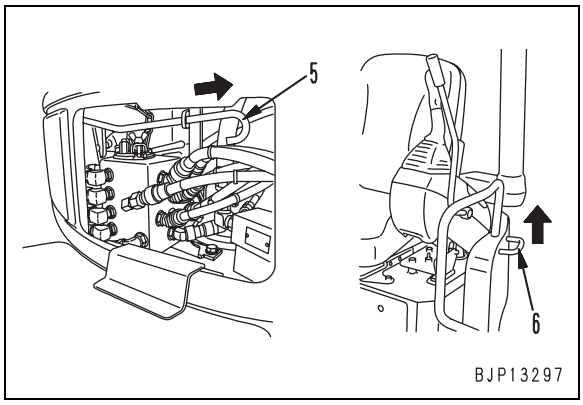
7. Open cover (4).
   ★ Perform this step for only PC27, 30, 35MR-2 with cab specification.



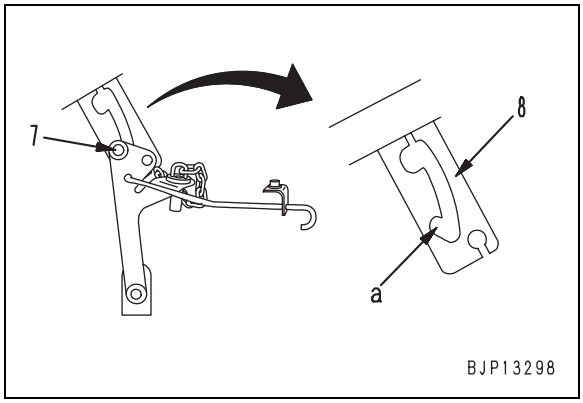
8. Open the inspection cover on the left side of the revolving frame.

9. While pulling floor lock release lever (5) toward the rear of the machine with the left hand, hold knob (6) with the right hand and push up the floor toward the front of the machine.

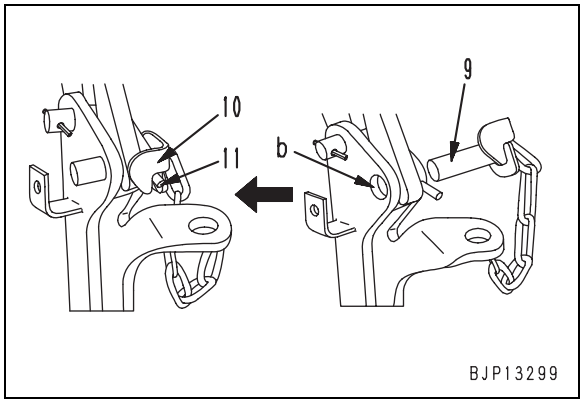
   ⚠ Do not put any part of your body under the floor while opening or closing the floor.
   ★ The floor tilts to about 45° toward the front of the machine.
   ★ If the floor does not rise, the release lever may not be in the release position.
   ★ Since the gas spring assists you in opening the floor, the operating effort is increased when the ambient temperature is low.



10. After the floor rises, push up knob (6) until lock pin (7) is fitted to lock groove (a) of lock plate (8).
    ★ When the lock pin moves to the lock groove, the 1st locking is completed.



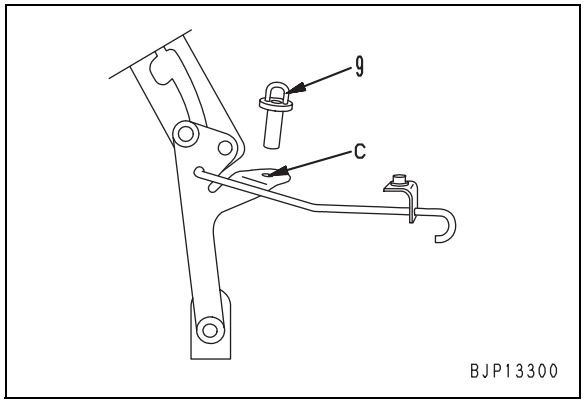
11. Insert 2nd lock pin (9) in lock hole (b) securely and rotate it until lock hook (10) is hitched on fixing pin (11) securely.
    ★ Check that the lock pin is hitched on the fixing pin and it does not come off.
    ★ The 2nd locking is completed and the floor opening (tiling open) work is finished.



WHEN CLOSING (TILTING CLOSE)

★ Before closing the floor, check that the wiring, piping, and seats on the back side and in the revolving frame are free from damage and abnormality.

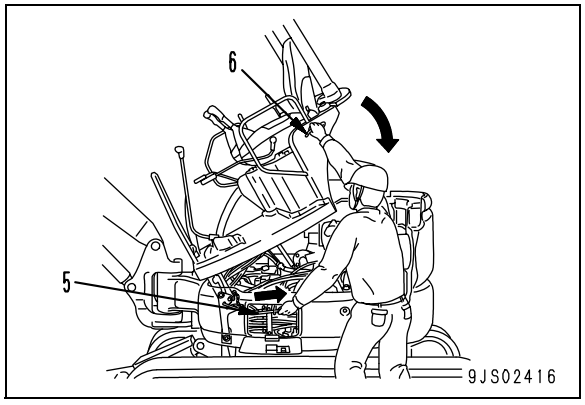
1. Remove lock pin (9) and insert it in storage hole (c).
   ★ If you cannot remove the lock pin, perform the following operation.
   Canopy specification:
   While holding the knob and pushing up the floor, pull out the lock pin.
   Cab specification:
   While holding the knob and pushing down the floor, pull out the lock pin.



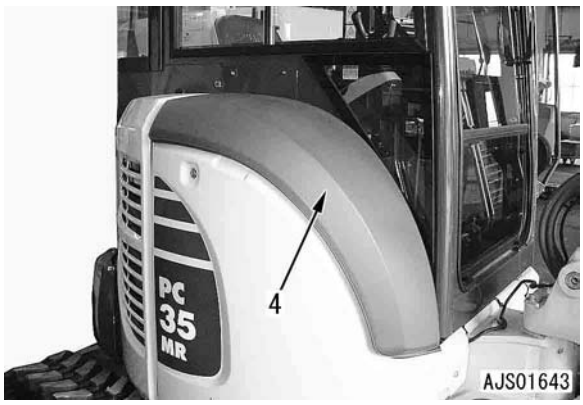
2. While pulling floor lock release lever (5) toward the rear of the machine with the left hand, hold knob (6) with the right hand and push down the floor toward the rear of the machine.

   ⚠ Do not put any part of your body under the floor while opening or closing the floor.

   ★ While checking that the wiring and piping are not caught or damaged, push down the floor slowly.



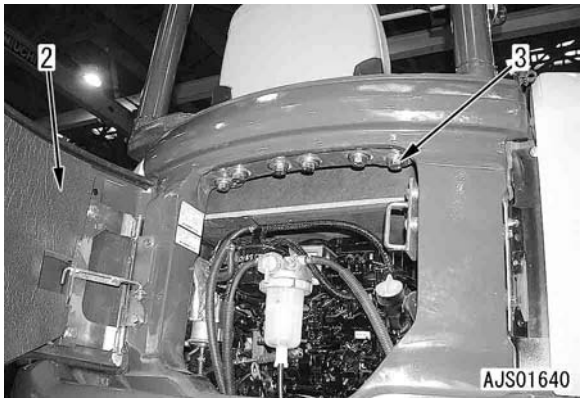
3. Close cover (4).
   ★ Perform this step for only PC27/30/35MR-2 with cab specification.



4. Cover and bolts.
   (Except PC27MR-2, Serial No. 17902 and up, and PC35MR-2, Serial No. 9242 and up for North America with the canopy specification.)
   1) Open cover (2) and tighten 6 floor fixing bolts (3).
      ★ If a fixing bolt has a flaw, replace it with a new one.

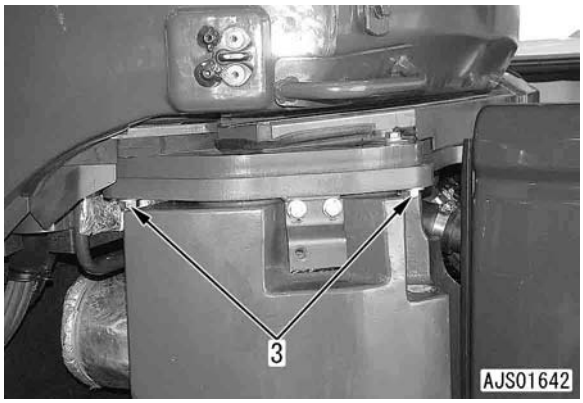
      Fixing bolt:
      156.8 – 196 Nm {16 – 20 kgm}
   2) Colse cover (2).

PC27 • 30 • 35MR-2

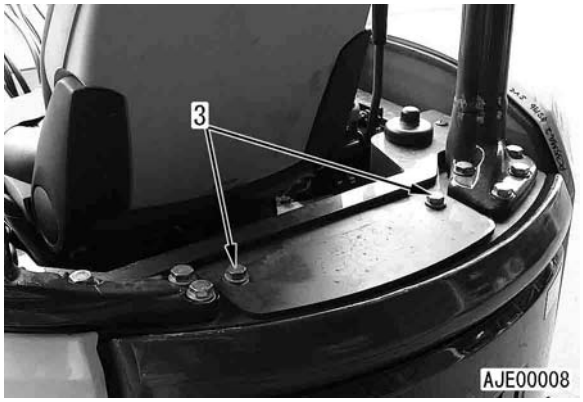


PC40 • 50MR-2

PC40 • 50MR-2

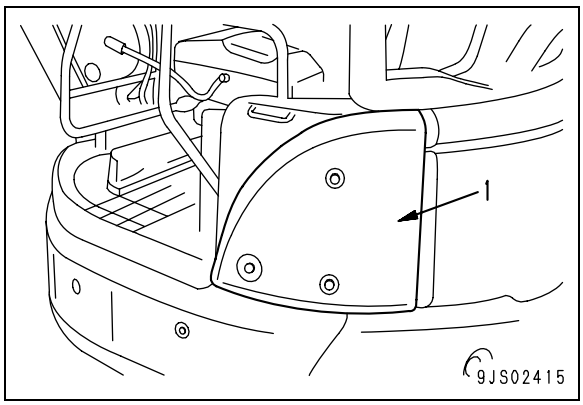


5. Tighten 2 bolts (3).
   (Only for PC27MR-2, Serial No. 17902 and up, and PC35MR-2, Serial No. 9242 and up for North America with the canopy specification.)



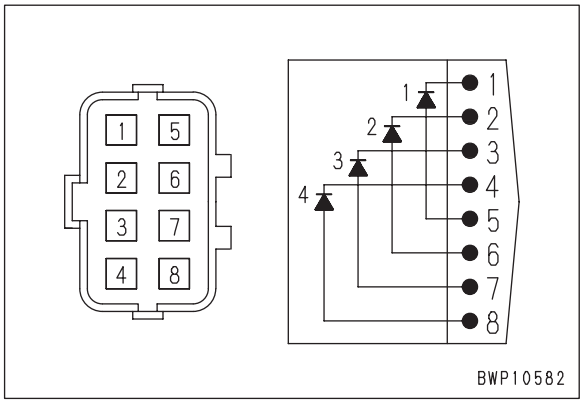
Fixing bolt:
156.8 – 196 Nm {16 – 20 kgm}

6. Install triangular cover (1).
   ★ The floor closing (tilting close) work is finished.

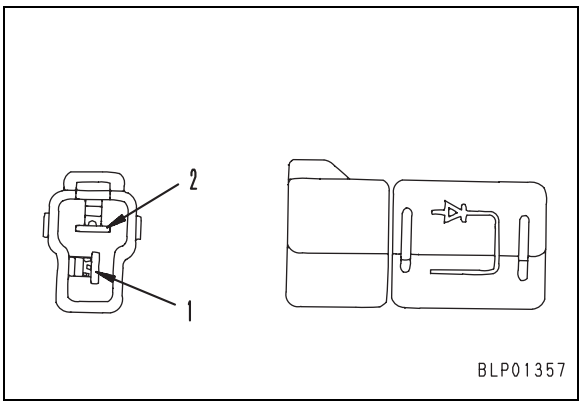


INSPECTION PROCEDURES FOR DIODE

★ Check an assembled-type diode (8 pins) and single diode (2 pins) in the following manner.



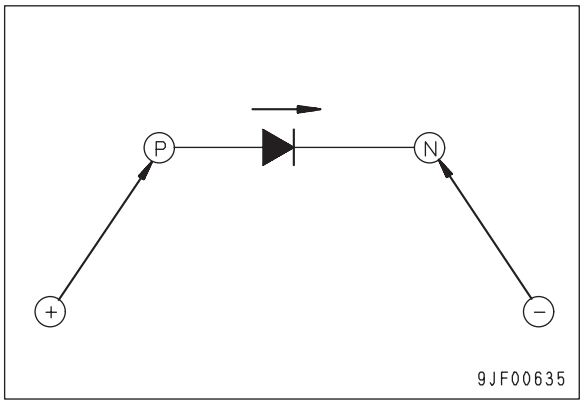
★ The conductive direction of each diode is marked on its surface as shown below.



1. When using digital type circuit tester

1) Switch the testing mode to diode range and confirm the indicated value.
   ★ Voltage of the battery inside is displayed with conventional circuit testers.
2) Put the red probe (+) of the test lead to the anode (P) and the black probe (–) to the cathode (N) of diode, and confirm the displayed value.
3) Determine if a specific diode is good or no good with the indicated value.
   - No change in the indicated value: No continuity (defective).
   - Change in the indicated value: Continuity established (normal) (Note)

   Note: A silicon diode shows a value between 460 and 600.



2. When using analog type circuit tester

1) Switch the testing mode to resistance range.
2) Check the needle swing in case of the following connections.
   i) Put the red probe (+) of the test lead to the anode (P) and the black probe (–) to the cathode (N) of diode.
   ii) Put the red probe (+) of the test lead to the cathode (N) and the black probe (–) to the anode (P) of diode.
3) Determine if a specific diode is good or no good by the way the needle swings.
   - If the needle does not swing in Case i), but swings in Case ii): Normal (but the breadth of swing (i.e. resistance value) will differ depending on a circuit tester type or a selected measurement range)
   - If the needle swings in either case of i) and ii): Defective (short-circuited internally)
   - If the needle does not swing in any case of i) and ii): Defective (short-circuited internally)

TROUBLESHOOTING

POINTS TO REMEMBER WHEN TROUBLESHOOTING

⚠ Stop the machine in a level place, and check that the safety pin, blocks, and parking brake are securely fitted.

⚠ When carrying out the operation with two or more workers, keep strictly to the agreed signals, and do not allow any unauthorized person to come near.

⚠ If the radiator cap is removed when the engine is hot, hot water may spurt out and cause burns, so wait for the engine to cool down before starting troubleshooting.

⚠ Be extremely careful not to touch any hot parts or to get caught in any rotating parts.

⚠ When disconnecting wiring, always disconnect the negative (–) terminal of the battery first.

⚠ When removing the plug or cap from a location which is under pressure from oil, water, or air, always release the internal pressure first. When installing measuring equipment, be sure to connect it properly.

The aim of troubleshooting is to pinpoint the basic cause of the failure, to carry out repairs swiftly, and to prevent reoccurrence of the failure.
When carrying out troubleshooting, and important point is of course to understand the structure and function.
However, a short cut to effective troubleshooting is to ask the operator various questions to form some idea of possible causes of the failure that would produce the reported symptoms.

1. When carrying out troubleshooting, do not hurry to disassemble the components.
If components are disassembled immediately any failure occurs:
- Parts that have no connection with the failure or other unnecessary parts will be disassembled.
- It will become impossible to find the cause of the failure.

It will also cause a waste of manhours, parts, or oil or grease, and at the same time, will also lose the confidence of the user or operator.
For this reason, when carrying out troubleshooting, it is necessary to carry out thorough prior investigation and to carry out troubleshooting in accordance with the fixed procedure.

2. Points to ask user or operator
1) Have any other problems occurred apart from the problem that has been reported?
2) Was there anything strange about the machine before the failure occurred?
3) Did the failure occur suddenly, or were there problems with the machine condition before this?
4) Under what conditions did the failure occur?
5) Had any repairs been carried out before the failure?
When were these repairs carried out?
6) Has the same kind of failure occurred before?

3. Check before troubleshooting
1) Check the oil level
2) Check for any external leakage of oil from the piping or hydraulic equipment.
3) Check the travel of the control levers.
4) Check the stroke of the control valve spool.
5) Other maintenance items can be checked externally, so check any item that is considered to be necessary.

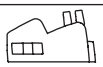
4. Confirming failure
- Confirm the extent of the failure yourself, and judge whether to handle it as a real failure or as a problem with the method of operation, etc.
  - ★ When operating the machine to reenact the troubleshooting symptoms, do not carry out any investigation or measurement that may make the problem worse.

5. Troubleshooting
- Use the results of the investigation and inspection in Items 2 – 4 to narrow down the causes of failure, then use the troubleshooting flowchart to locate the position of the failure exactly.
  - ★ The basic procedure for troubleshooting is as follows.
    1) Start from the simple points.
    2) Start from the most likely points.
    3) Investigate other related parts or information.

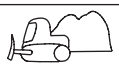
6. Measures to remove root cause of failure
- Even if the failure is repaired, if the root cause of the failure is not repaired, the same failure will occur again.
To prevent this, always investigate why the problem occurred. Then, remove the root cause.

SEQUENCE OF EVENTS IN TROUBLESHOOTING

Office, shop



TEW00180



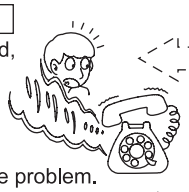
TEW00181

Jobsite

Step 1

Examination, confirmation of symptoms

1) When a request for repairs is received, first ask the following points.
   - Name of customer
   - Type, serial number of machine
   - Details of jobsite, etc.
2) Ask questions to gain an outline of the problem.
   - Condition of failure
   - Work being carried out at the time of the failure
   - Operating environment
   - Past history, details of maintenance, etc.



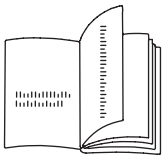
TEW00182

TEP01348

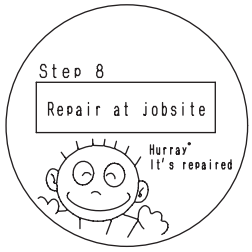
Step 2

Determining probable location of cause

1) Look at the troubleshooting section of the shop manual to find locations of possible causes.



TEP01350

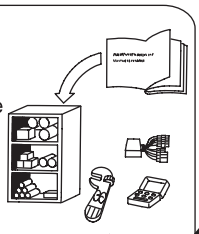


TEP01349

Step 3

Preparation of troubleshooting tools

1) Look at the table of troubleshooting tools in the shop manual and prepare the necessary tools.
   - T-adapter
   - Hydraulic pressure gauge kit, etc.
2) Look in the parts book and prepare the necessary replacement parts.

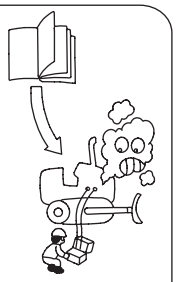


TEW00186

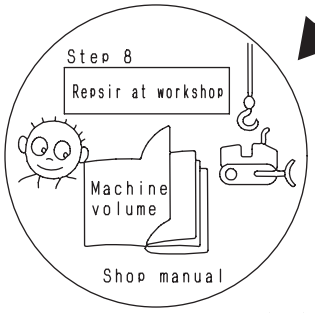
Step 7

- Pinpoint locations of failure (carry out troubleshooting)
- Decide action to take

1) Before starting troubleshooting, locate and repair simple failures.
   - Check before starting items
   - Other check items
2) See the Troubleshooting Section of the shop manual, select a troubleshooting flowchart that matches the symptoms, and carry out troubleshooting.



TEW00187



TEP01351

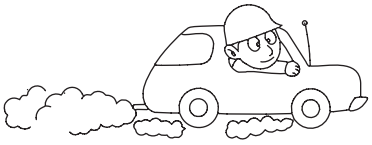
Step 6

Re-enacting failure

- Drive and operate the machine to confirm the condition and judge if there is really a failure.

Step 4

Go to jobsite

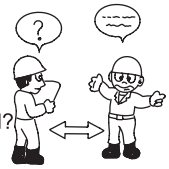


TEW00189

Step 5

Ask operator questions to confirm details of failure.

- Was there anything strange about the machine before the failure occurred?
- Did the failure occur suddenly?
- Had any repairs been carried out before the failure?



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