CASE

# REPAIR MANUAL

# Hydraulic Excavator

## CX20B
## CX22B
## CX27B

9-91841

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### 3.3.2 DETAIL DIMENSIONAL DRAWINGS OF LUG SECTION

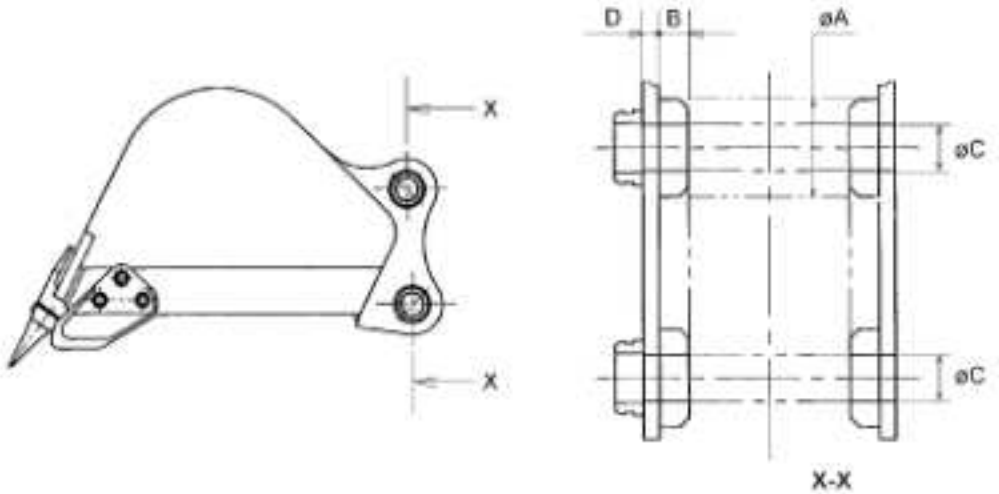



**Fig. 3-8 Dimension of lug section**

**Table 3-12**

Unit: mm (in)

| Portion | Plate outer dia. øA | Boss thickness B | Pin bore dia. øC | Lug plate thickness D |
|---|---|---|---|---|
| Dimensions | 80 (3.15) | 21 (0.83) | $35^{+1.3}_{0}$ ($1.378^{+0.0394}_{0}$) | 12 (0.472) |



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## 51.3 TROUBLESHOOTING

### 51.3.1 PREPARATION BEFORE TROUBLESHOOTING

If the signs of a trouble appear, it is important to lecture on the countermeasure and treatment before becoming a big accident not to shorten the engine life.
When the signs of a trouble appear in the engine or a trouble occurs, grasp the trouble conditions fully by the next point and find out the cause of sincerity according to the troubleshooting. Then repair the trouble, and prevent the recurrence of the trouble.

1. What's the occurrence phenomenon or the trouble situation? (e.g. Poor exhaust color)
2. Investigation of the past records of the engine
   Check a client control ledger, and examine the history of the engine.
   - Investigate the engine model name and the engine number. (Mentioned in the engine label.)
     Examine the machine unit name and its number in the same way.
   - When was the engine maintained last time?
   - How much period and/or time has it been used after it was maintained last time?
   - What kind of problem was there on the engine last time, and what kind of maintenance was done?
3. Hear the occurrence phenomenon from the operator of the engine in detail.
   5W1H of the occurrence phenomenon:
   the investigation of when (when), where (where), who (who), what (what), why (why) and how (how)
   - When did the trouble happen at what kind of time?
   - Was there anything changed before the trouble?
   - Did the trouble occur suddenly, or was there what or a sign?
   - Was there any related phenomenon,
     ...(e.g. Poor exhaust color and starting failure at the same time)
4. After presuming a probable cause based on the above investigation, investigate a cause systematically by the next troubleshooting guide, and find out the cause of sincerity.



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5. Regarding lamp control
   Once the charge lamp goes out after the start of charging, it does not come on again even if the engine speed falls and charging is insufficient. The lamp will not light again if the charging circuit is normal.
   The lamp only comes on during operation if the alternator itself is broken or the drive V-belt breaks. However, when an LED is used for the charge lamp, the LED will shine faintly even during normal operation. This is due to the control system for the alternator lamp and is not an abnormality.

6. Use of a non-specified V-belt
   Use of a non-specified V-belt will cause inadequate charging and shorten the life of the belt. Use a belt of the specified type.

7. Direct high pressure washing is prohibited
   Water will enter the brush if the alternator is washed directly at high pressure, causing inadequate charging. Warn users not to use direct, high-pressure washing.

8. Use of agricultural or other chemicals (direct contact or airborne)
   Adhesion of agricultural and other chemicals, especially those with high sulfur content, to the IC regulator corrodes the conductor on the substrate, leading to over-charging (battery boiling) and charging malfunctions. Consult with Yanmar prior to use in such an environment. Use without prior consultation removes any breakdown from the warranty.



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**Point 3**

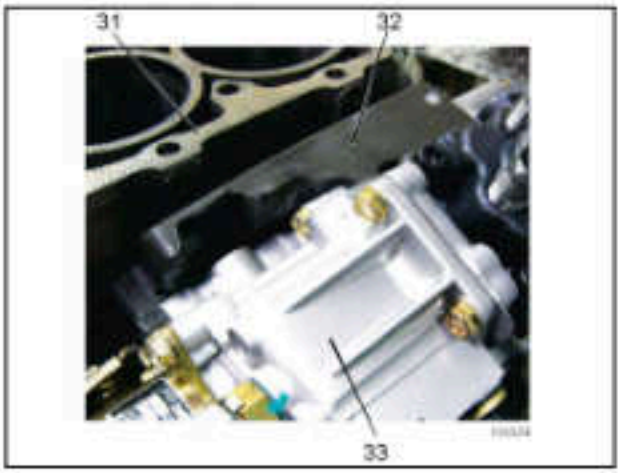
**Disassemble**

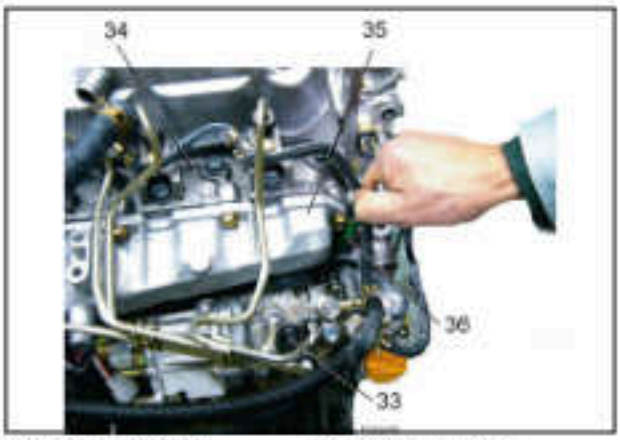
There is an acoustic material part to name as fuel pump spacer between the fuel pump and the cylinder block. Loosen fuel pump installation bolts with a closed wrench when disassembling a fuel pump.

**NOTE:** An intake manifold may obstruct the disassembly of the fuel pump by the engine model. Remove the fuel pump after removing the intake manifold first.

**Reassemble**

When installing a fuel pump on the gear case, put a fuel pump spacer between the cylinder blocks, and install it .



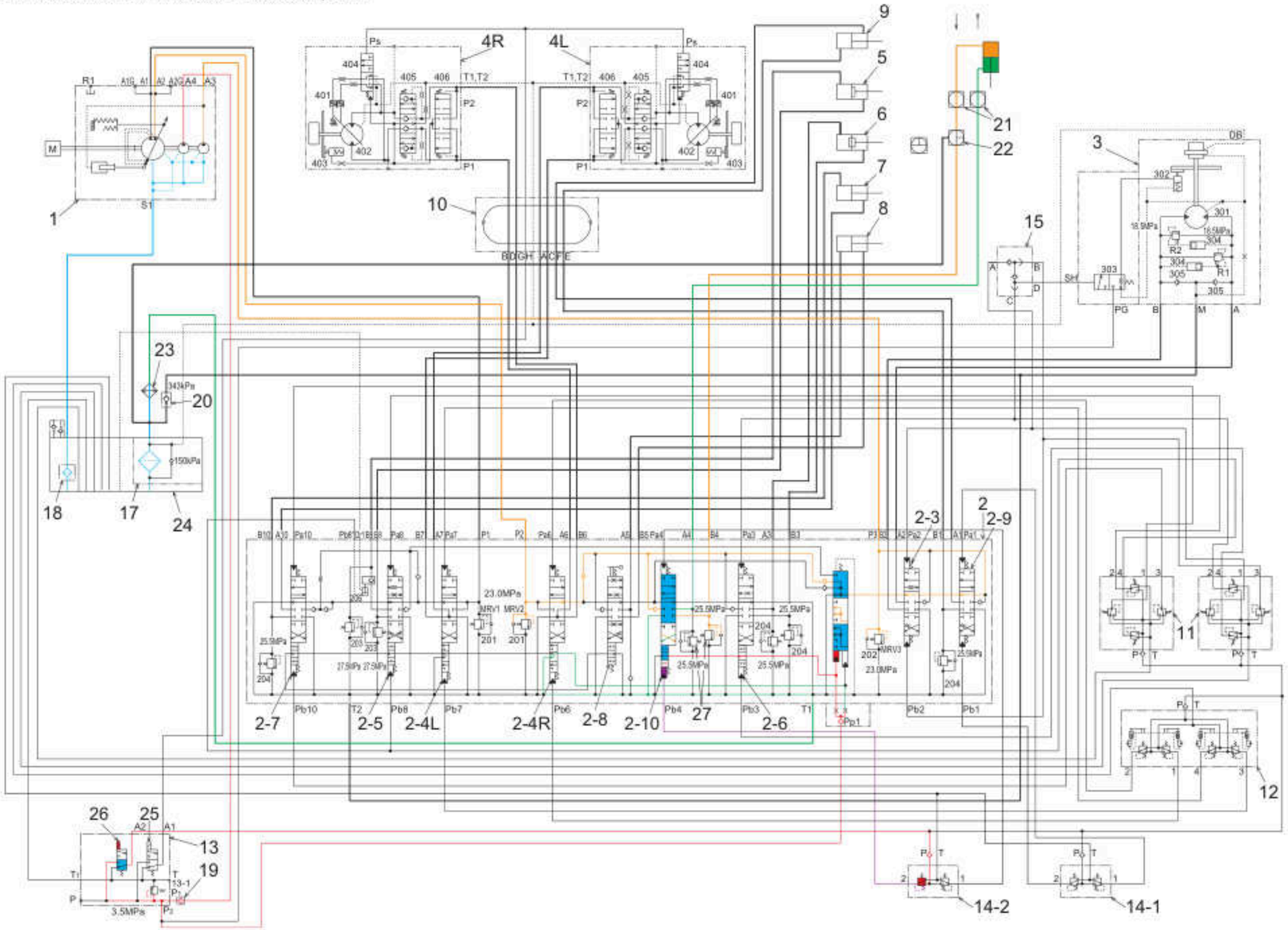




31. Cylinder block
32. Fuel pump spacer
33. Fuel pump
34. Cylinder head
35. Suction manifold
36. Closed wren



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(11) NIBBLER/BREAKER OPERATION CIRCUIT: Nibbler close operation




71-14

Fig. 71-12



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