NEW HOLLAND

# HYDRAULIC EXCAVATOR

# E18B TIER 4

## SERVICE MANUAL

S5PU0019E01

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NEW HOLLAND CONSTRUCTION

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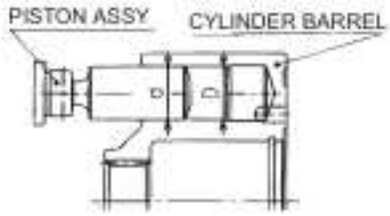
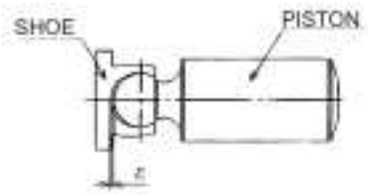

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### 33.2.1.3 MAINTENANCE STANDARD

**(1) Parts replacement standard**

| Item | | Replacement criterion | Remedy |
|---|---|---|---|
| Piston assembly and cylinder barrel |  | • Visual inspection<br>To be free from flaw, galling and wear.<br>(Especially the sliding section)<br>• Check clearance between the piston outer diameter and inner diameter of the cylinder block.<br>D-d≦0.05 mm (0.0020 in) | • Replace. |
| Piston shoe and piston |  | • Piston shoe and piston<br>• Check the play in the axial direction of the piston and shoe shaft.<br>ε≦0.2 mm (0.0079 in) | • Replace. |
| Shaft |  | • Shaft<br>• Check the wear of the oil seal.<br>Wear amount ≦0.025 mm (0.0010 in) | • Replace. |

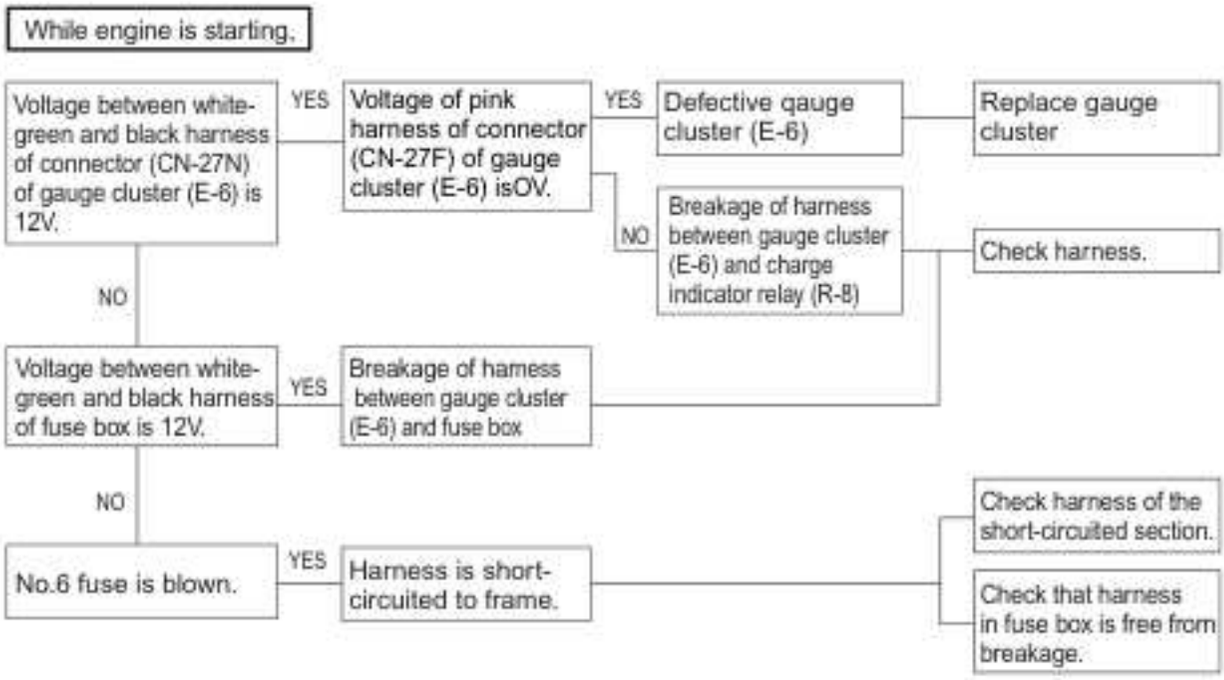
### 33.2.1.4 TROUBLESHOOTING

| Phenomenon | Causes | Corrective action |
|---|---|---|
| 1. Overload to engine | 1. Speed is higher than standard<br>2. Setting pressure is higher than specifications<br>3. Damage of internal parts of pump | 1. Readjust it as standard<br>2. Readjust it as spec<br>3. Repair or replace |
| 2. Low pump flow or low pressure | 1. Speed down of engine<br>2. Wrong coupling<br>3. Damage of internal parts of pump | 1. Readjust of engine speed<br>2. Repair or replace<br>3. Repair or replace |
| 3. Abnormal noise or abnormal vibration (Cavitations) | 1. Air in the oil<br>2. Water in the oil<br>3. Clog of suction filter<br>4. High suction pressure<br>5. Damage of piston shoe<br>6. Installation condition is no good<br>7. Wrong coupling | 1. Check piping<br>Bleed the air in the hydraulic circuit.<br>2. Replace oil<br>3. Clean or replace<br>4. Correction<br>5. Replace<br>6. Correction<br>7. Replace |
| 4. Oil leakage | 1. Damage of O-ring or packing<br>2. Loosened plug<br>3. Leaking from oil seal | 1. Replace<br>2. Tight up<br>3. Replace<br>Replace of oil seal |

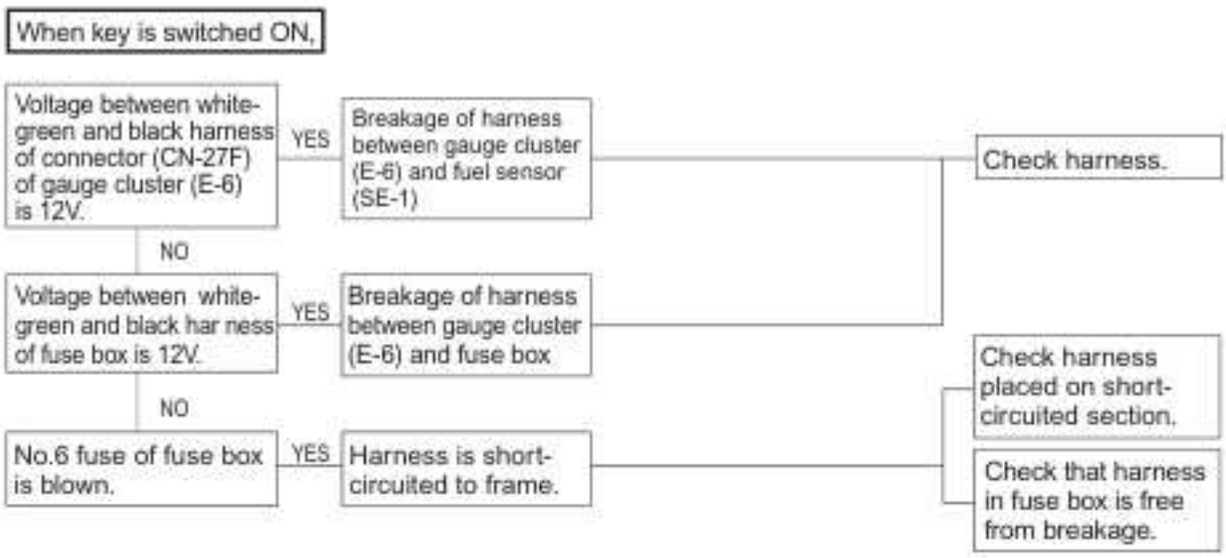


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### 43.2.1.4 HOURMETER DOES NOT ACTUATE.




### 43.2.1.5 FUEL GAUGE DOES NOT ACTUATE.






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### 4.9 Measuring clearance between main bearing and crankshaft journal

**CAUTION**

(a) When grinding crank journals, be sure to grind all the journals to the same size.

(b) Finish the fillet radius to the specified dimension.

(1) Reassemble main bearings.

(2) Tighten the main bearing caps to the specified torque.

(3) Measure the inside diameter of the main bearings.

(4) Measure the outside diameter of the crank journal.

(5) Calculate the clearance between the inside diameter of the main bearing and outside diameter of the crank journal.

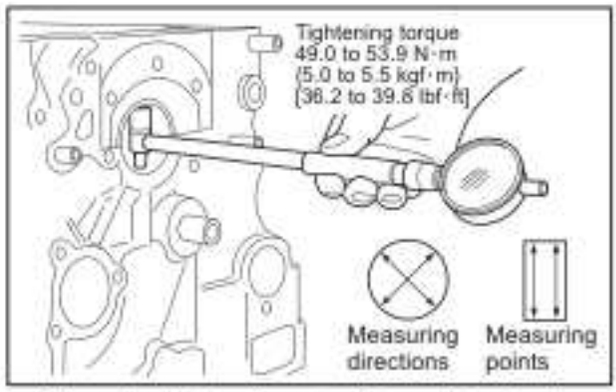
(6) Replace the main bearing if the clearance exceeds the limit.

(7) Measure the clearance between the main bearing cap and the crank journal again. Use the undersize bearing if the limit is exceeded.

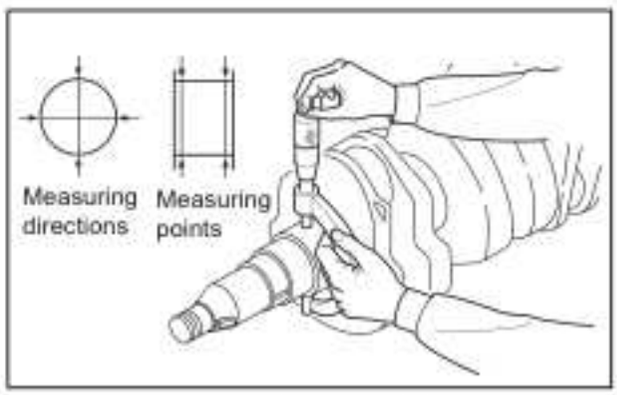
(8) If an undersize bearing is used, grind the crank journal to the specified undersize.

| Item | Nominal | Standard | Limit |
|---|---|---|---|
| Outside diameter of crankshaft journal (STD) | ø 43 mm [1.69 in.] | 42.965 to 42.980 mm [1.6915 to 1.6921 in.] | – |
| Clearance between main bearing and crankshaft journal | – | 0.030 to 0.075 mm [0.0012 to 0.0030 in.] | 0.10 mm [0.0039 in.] |

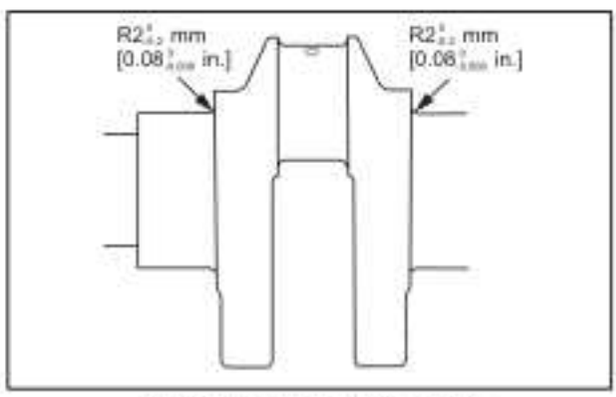
| Undersize grinding dimensions of crankshaft | | |
|---|---|---|
| Item | Undersize | Finish dimension |
| Crank journal undersize | 0.25 mm [0.0098 in.] | ø 42.75 $^{-0.025}_{-0.050}$ mm [1.6831 $^{-0.0010}_{-0.0020}$ in.] |
| | 0.50 mm [0.0197 in.] | ø 42.50 $^{-0.025}_{-0.050}$ mm [1.6732 $^{-0.0010}_{-0.0020}$ in.] |




Measuring inside diameter of lower hole of main bearing



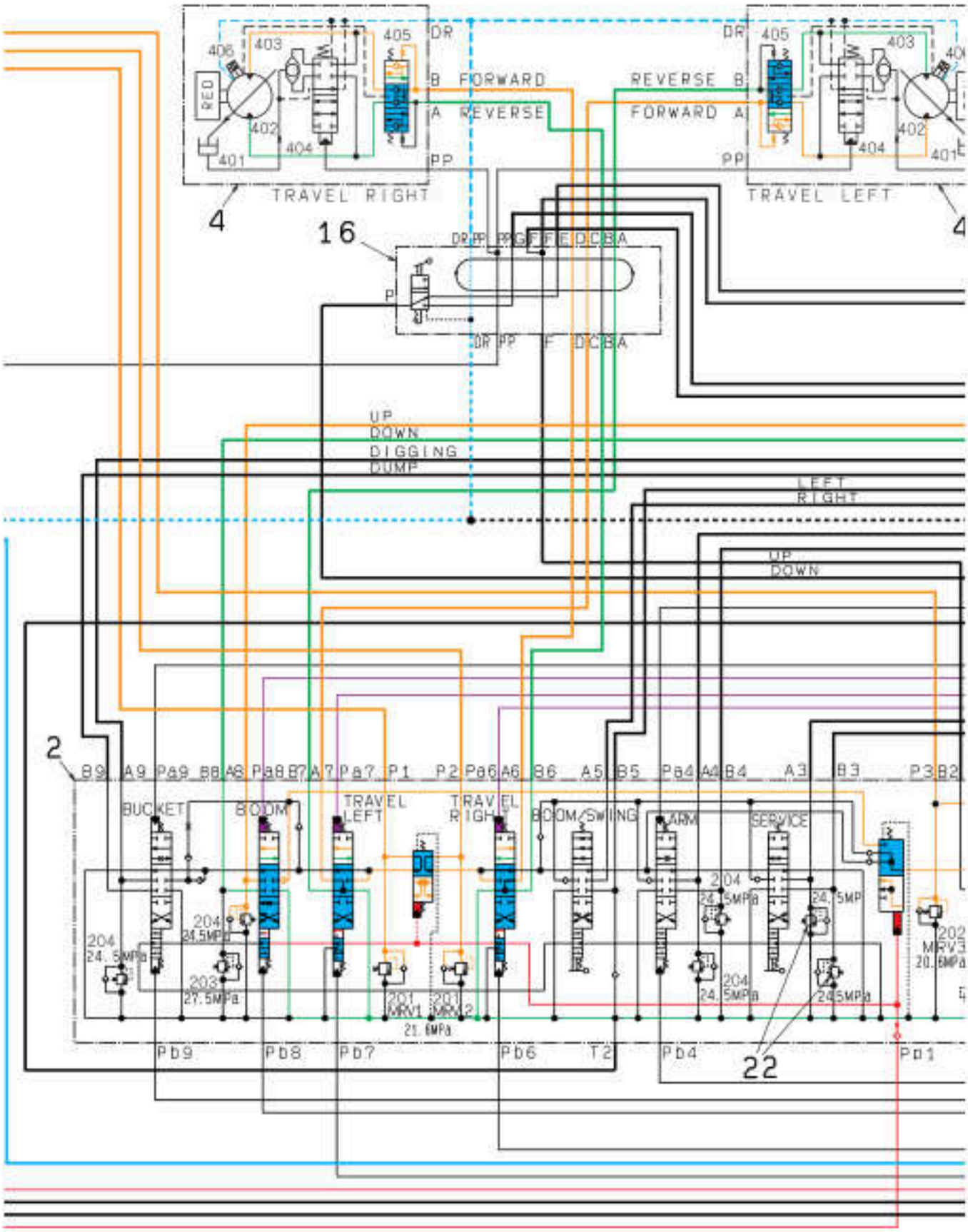

Measuring crank journal outside diameter




Finish dimension of fillet radius



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| No. | NAME | PRESSURE:MPa (psi) | No. | |
|---|---|---|---|---|
| 201 | MAIN RELIEF VALVE P1,P2 | 21.6 (3130) | 204 22 | OVER |
| 202 | MAIN RELIEF VALVE P3 | 20.6 (2990) | 304 | SLEW |
| 203 | OVER LOAD RELIEF VALVE | 27.5 (3990) | 13-1 | PILOT |

**Combined operation circuit : Travel (forward) 1st speed / Boom up operation**



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**⚠ CAUTION**

# About warning labels

## Maintenance of warning labels

Make sure all warning/caution labels are legible.

Clean or replace the warning/caution labels the description and/or illustration of which cannot be seen clearly.

For cleaning the warning/caution labels, use a cloth, water and soap. Do not use cleaning solvents, gasoline or other chemicals to prevent the letters from getting blurred or the adhesion from being weakened.

Replace damaged or fractured labels with new ones.

If any engine part on which a warning label is attached is replaced with a new one, attach a new identical warning label to the new part.

To obtain replacement warning labels, contact a Mitsubishi dealer.




Warning labeles

X

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