PART NO. TT18J-E-00

HITACHI

Technical Manual

Troubleshooting

EX

1200-6

Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TO18J-E
Technical Manual (Troubleshooting)	: Vol. No.TT18J-E
Workshop Manual	: Vol. No.W18J-E

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SECTION 4
OPERATIONAL PERFORMANCE TEST



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DIG FUNCTION DRIFT CHECK

Summary:

1. Evaluate the internal oil leakage in the control valve, boom, arm, and bucket cylinders by measuring cylinder (dig function) drift with the bucket loaded.

2. When checking soon after cylinder replacement, slowly operate each cylinder for ten minutes to its stroke end and bleed air from the cylinder.



T145-05-03-020

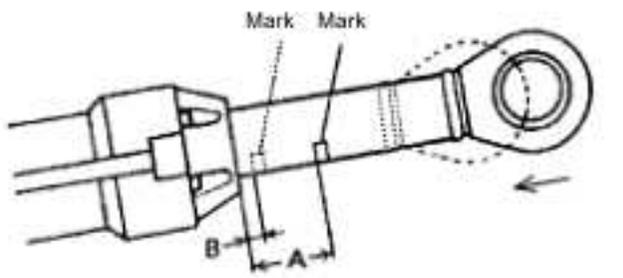


T145-05-03-021

Preparation:

1. Load the bucket fully. In lieu of loading the bucket, weight (W) of the following specification can be used.
   W = 7500 kg (16500 lb): Backhoe
   9750 kg (21500 lb): Loading shovel
2. Position the front attachment as followings.
   Backhoe:
   With the arm cylinder fully retracted, and the bucket cylinder fully extended, hold the bucket so that the height of the arm end pin is the same as the boom foot pin.
   Loading shovel:
   With the arm cylinder and the bucket cylinder fully extended, hold the bucket so that the height of the arm end pin is the same as the boom foot pin.
3. Position the arm cylinder with the rod 50 mm (2 in) extended from the fully retracted position.
   Position the bucket cylinder with the rod 50 mm (2 in) retracted from the fully extended position.
4. Maintain the hydraulic oil temperature at 50±5 °C (122±9 °F).

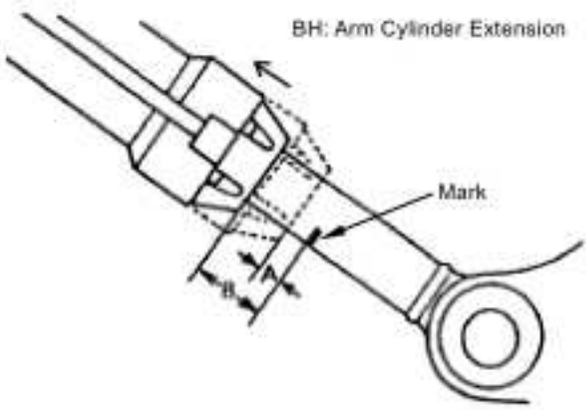
BH: Boom and Bucket Cylinders Retraction
LD: Boom, Arm, and Bucket Cylinders Retraction



T110-06-03-002

Measurement:

1. Stop the engine.
2. Five minutes after the engine has been stopped, measure the change in position of bottom of the arm tip, as well as the boom, arm and bucket cylinders.
3. Repeat the measurement three times and calculate the mean value.



T110-06-03-001

NOTE: When the bucket weight is increased by welding wear-resist plates, cylinder drift may increase.

Evaluation:
Refer to Operational Performance Standard in T4-2.

Solution:
Refer to Troubleshooting B in T5-5.

NOTE: BH: Backhoe
LD: Loading Shovel

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TROUBLESHOOTING B PROCEDURE (Machine Diagnosis by Using Trouble Symptom)

Refer to troubleshooting B for diagnosis by using trouble symptom. Apply troubleshooting B procedure when no fault code is displayed on the service menu (built-in diagnosing system) in monitor unit and the diagnosing by Dr. ZX although the machine operation is abnormal. When the fault code is displayed, refer to the troubleshooting A group and diagnose.

On the front section pages of this group are the tables indicating the relationship between machine trouble symptoms and related parts which may cause such trouble if failed.
Start the troubleshooting with more probable causes selected by referring to these tables.

● How to Read the Troubleshoting Flow Charts



After checking or measuring item (1), select either YES (OK) or NO (NOT OK) and proceed to item (2) or (3), as appropriate.

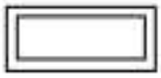


Special instructions or reference item are indicated in the spaces under the box. Incorrect measuring or checking methods will render troubleshooting impossible, and may damage components as well.

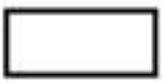
· Key switch: ON



Explanation of how to use test harness kit required. Refer to "Electrical System Inspection" group (Group 10) in this section.

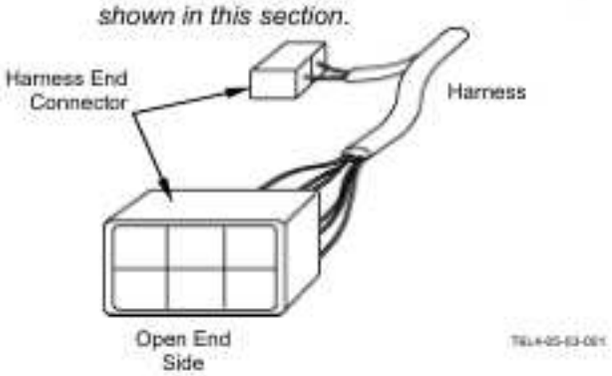


Use the service menu in monitor unit (Built-in diagnosing system) or Dr.ZX.



Causes are stated in a thick-line box. Scanning through thick-line boxes, possible causes can be seen without going through the flow chart.

NOTE: Harness end connector viewed from the open end side by the all connectors image shown in this section.



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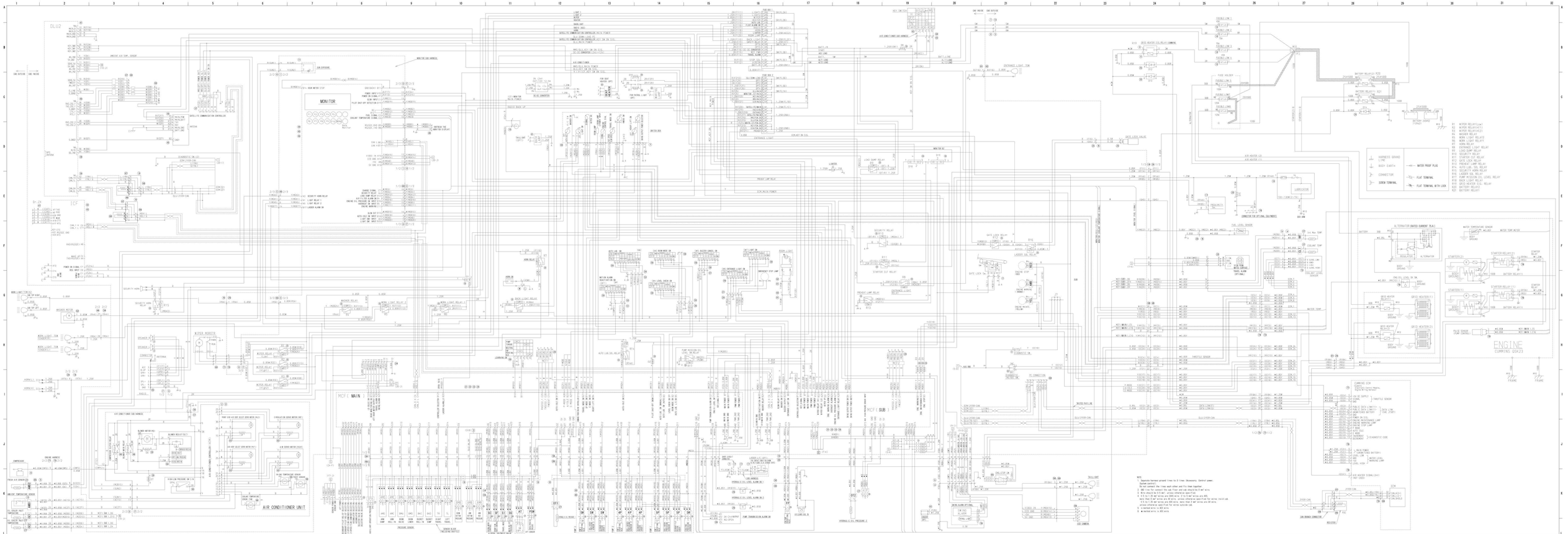
THE ATTACHED DIAGRAM LIST

(The following diagrams are attached to this manual.)

1. EX1200-6 HYDRAULIC CIRCUIT DIAGRAM (BACKHOE)
2. EX1200-6 ELECTRICAL CIRCUIT DIAGRAM
3. EX1200-6 UPPER CAB HARNESS
   EX1200-6 UNDER CAB HARNESS
4. EX1200-6 CONNECTORS

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EX1200-6 ELECTRICAL CIRCUIT DIAGRAM



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