UEBM000500

Shop Manual

KOMATSU®

PW170ES-6K

HYDRAULIC EXCAVATOR

SERIAL NUMBERS **PW170ES-6 -K30001** and up

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ACTION TAKEN BY CONTROLLER WHEN ABNORMALITY OCCURS AND PROBLEMS ON MACHINE

User code	Service code	Abnormal system	Nature of abnormality
E05	E308	Abnormality in fuel control dial input valvue	1. Short circuit in wiring harness between C03 (7) - (14), (7) - (17), (14) - (17) 2. Short circuit in wiring harness between E04 (1) - (2), (1) - (3), (2) - (3) 3. Short circuit in wiring harness between E06 (1) - (2), (1) - (3), (2) - (3) 4. Short circuit in wiring harness between C03 (7) - (4), (4) - (17) 5. Disconnection in wiring harness between C03 (7) - X07 (6) - E06 (1) 6. Disconnection in wiring harness between C03 (4) - X07 (5) - E06 (2) 7. Disconnection in wiring harness between C03 (17) X07 (4) E06 (3) 8. Defective fuel control dial 9. Defective contact of C03, X07, E06 connectors
	E317	Abnormality (disconnection) in motor drive system	1. Disconnection inside governor motor 2. Disconnection in wiring harness between C02 (2) - E05 (1) 3. Disconnection in wiring harness between C02 (4) - E05 (3) 4. Disconnection in wiring harness between C02 (3) - E05 (2) 5. Disconnection in wiring harness between C02 (5) - E05 (4) 6. Defective contact of E05 connector
	E318	Abnormality (short circuit) in motor drive system	1. Short circuit inside governor motor 2. Wiring harness between C02 (2) - E05 (1) and between C02 (4) - E05 (3) short circuiting with wiring harness between C02 (3) - E05 (2) 3. Wiring harness between C02 (4) - E05 (3) and between C02 (2) - E05 (1) short circuiting with wiring harness between C02 (5) - E05 (4) 4. Wiring harness in Items 2 and 3 short circuiting with ground

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METHOD OF USING TROUBLESHOOTING CHARTS

This troubleshooting chart is divided into three sections: **questions, check items, and troubleshooting.** The questions and check items are used to pinpoint high probability causes that can be located from the failure symptoms or simple inspection without using troubleshooting tools.

Next, troubleshooting tools or direct inspection are used to check the high probability causes to make final confirmation.

[Questions]

Sections Ⓐ + Ⓑ in the chart on the right corresponds to the items where answers can be obtained from the user. The items in Ⓑ are items that can be obtained from the user, depending on the user's level.

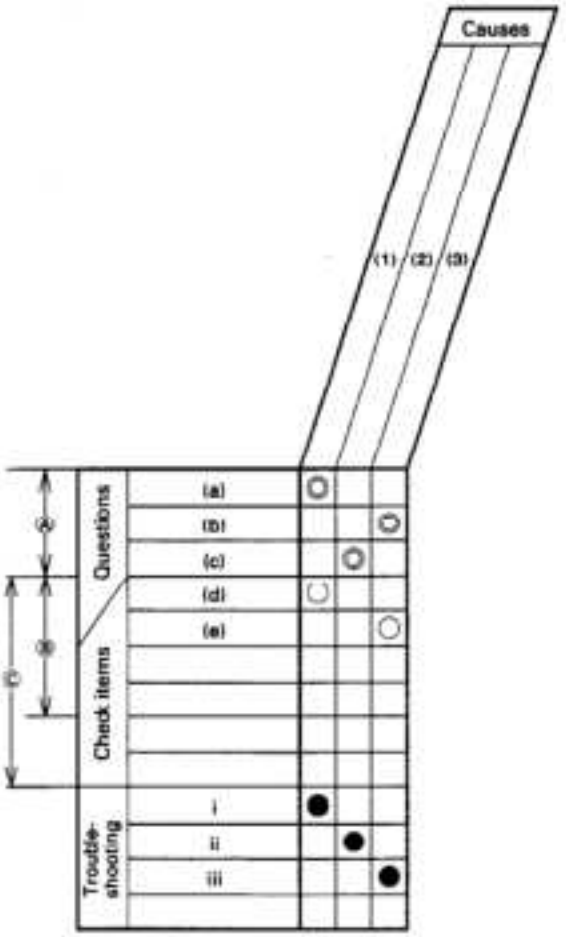
[Check items]

The serviceman carries out simple inspection to narrow down the causes. The items under Ⓒ in the chart on the right correspond to this.

The serviceman narrows down the causes from information Ⓐ that he has obtained from the user and the results of Ⓒ that he has obtained from his own inspection.

[Troubleshooting]

Troubleshooting is carried out in the order of probability, starting with the causes that have been marked as having the highest probability from information gained from **[Questions]** and **[Check items]**.



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ADAPTER WELDING INSTRUCTION - ELECTRODE WELDING

BE SAFE!

When performing the procedures described in this catalog, you should WEAR OSHA-approved hard hat, safety glasses, work gloves and safety shoes.

IMPORTANT!

ESCO weld-on Hellok adapters are hardened typically to 415BHN. In order to eliminate cracking commonly associated with welding steel at these hardness levels, follow these procedures carefully and employ good welding techniques and practices.

Summary of Welding Procedures

Mating surfaces to be welded should be shiny base metal, free of carbon arc surface, hardfacing, grease or dirt.

Use E-7016 or E-7018 low-hydrogen electrodes (keep dry!), or E-70T-5 low-hydrogen wire.

Preheat the lip and adapter to 200°F (95°C); 350° to 400°F (117° to 204°C) if surrounding air temperature is 40°F (5°C) or less. Measure temperature with a Tempilstik®.

Maintain preheat temperature while welding.

Maximum interpass temperature should not exceed 500°F (260°C).

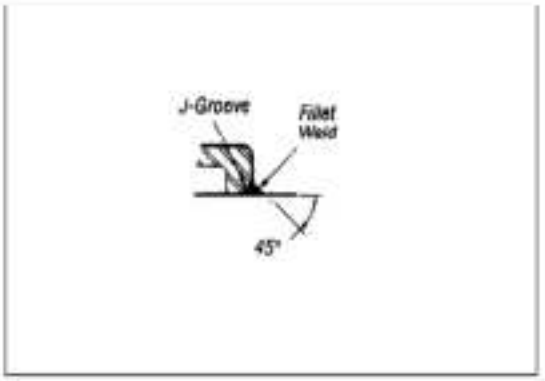
After welding, postheat to 350° to 400°F (117° to 204°C) if surrounding air temperature is 40°F (5°C) or less, then let air-cool. If air temperature is above 40°F, postheating is not necessary.

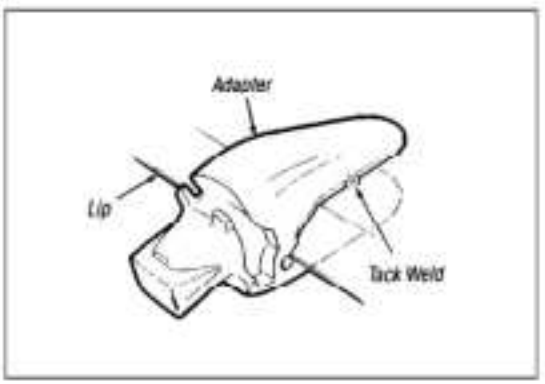
Welds should fill J-grooves to a 45° angle. If an adapter does not have a J-groove, apply fillet welds according to the following:

Bucket Size (volume)

Yards ^{3}	Meter ^{3}	Fillet Size
2	1.8	1/2" (13mm)
2 1/4 - 5	2 - 4.6	5/8" (16mm)
5 1/2 - 12	5 - 11	3/4" (19mm)
above 12	above 11	1" (25mm)

For complete welding information and procedures, refer to ESCO Products Maintenance Manual, Catalog 100-A, "How to weld ESCO alloy 12 series."

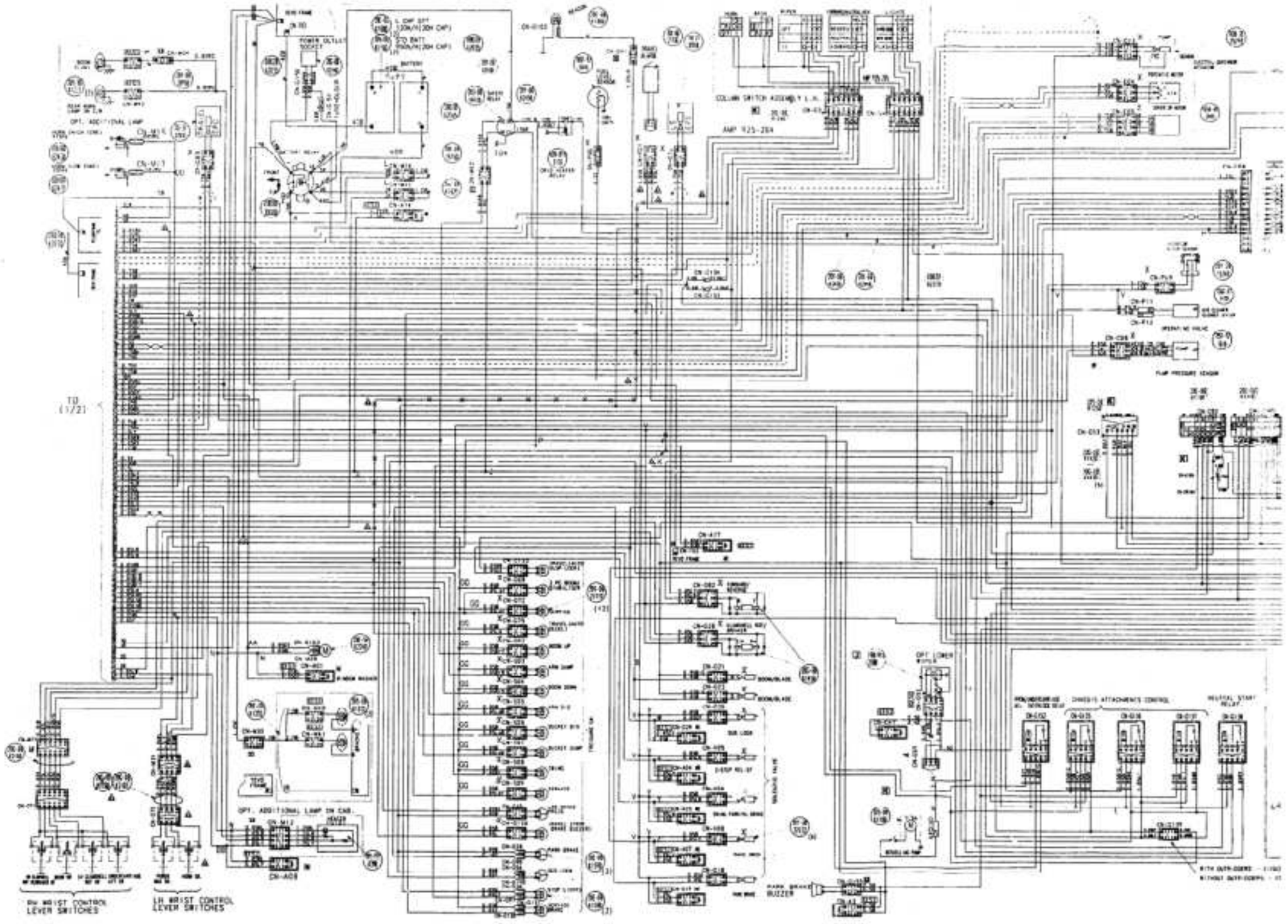




Lip Adapter Installation

1. Locate the adapters on a clean bucket, then tackweld them in place, followed by a root layer all the way around.

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