

PARTS & SERVICE NEWS

REF NO.	AT03102
DATE	Jun. 11, 2003

SUBJECT: REINFORCED PIN FOR WORK EQUIPMENT ON WA1200-3

PURPOSE: To introduce strengthened work equipment pin for use on WA1200-3 wheel loaders and the modification procedure to replace the pin

APPLICATION: WA1200-3 Wheel Loaders, Serial Nos. 50001 thru 50014

FAILURE CODE: 771EAA

DESCRIPTION:

1. Introduction

- 1) When the WA1200-3 wheel loaders are used under severe operating conditions, cracks may occur in the welded section of the work equipment pin cover section leading to an oil leakage failure. In case the above oil leakage occurs, replace the pin with the new pin with strengthened welded section.
When modifying the above pin while in use, follow the modification procedure outlined in this Service News.
- 2) While the machine is being used for well face digging, etc., when the bucket cylinder reaches its stroke end and when the overload relief does not work, the bucket cylinder pin may be overloaded and have cracks.
The new strengthened pin with increased wall thickness is introduced in this Service News.

2. List of parts

Introduction of strengthened parts
 (In case the aforementioned failure occurs to the work equipment pin, replace it with the new work equipment pin being introduced in this Service News.)
 It is not necessary to replace the work equipment pin if it is not broken.

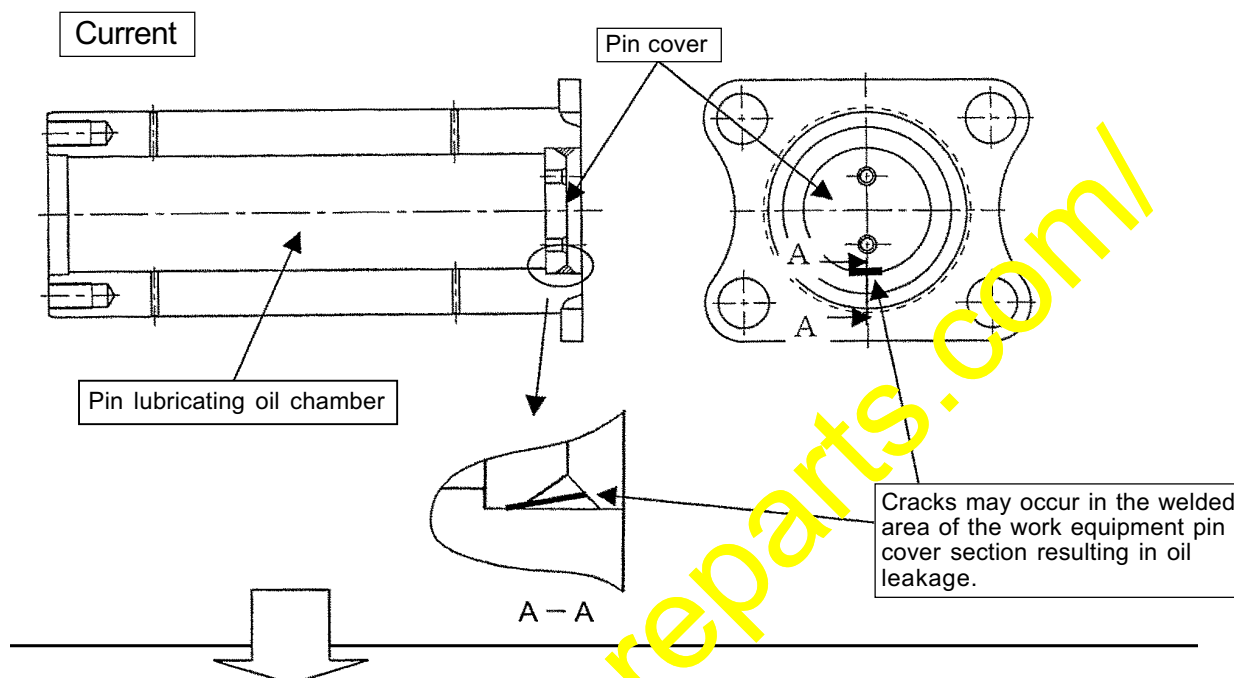
Part No.	Part Name	purpose of part	Q'ty	Remarks
42C-70-11213 (42C-70-11212)	Pin (Pin)	} Replacement	4 (4)	
42C-70-11223 (42C-70-11222)	Pin (Pin)		2 (2)	
42C-70-11233 (42C-70-11232)	Pin (Pin)		2 (2)	
42C-70-11243 (42C-70-11242)	Pin (Pin)		2 (2)	
42C-70-11253 (42C-70-11252)	Pin (Pin)		2 (2)	
42C-70-11263 (42C-70-11262)	Pin (Pin)		2 (2)	
42C-70-11273 (42C-70-11272)	Pin (Pin)		2 (2)	
42C-70-11283 (42C-70-11282)	Pin (Pin)		2 (2)	

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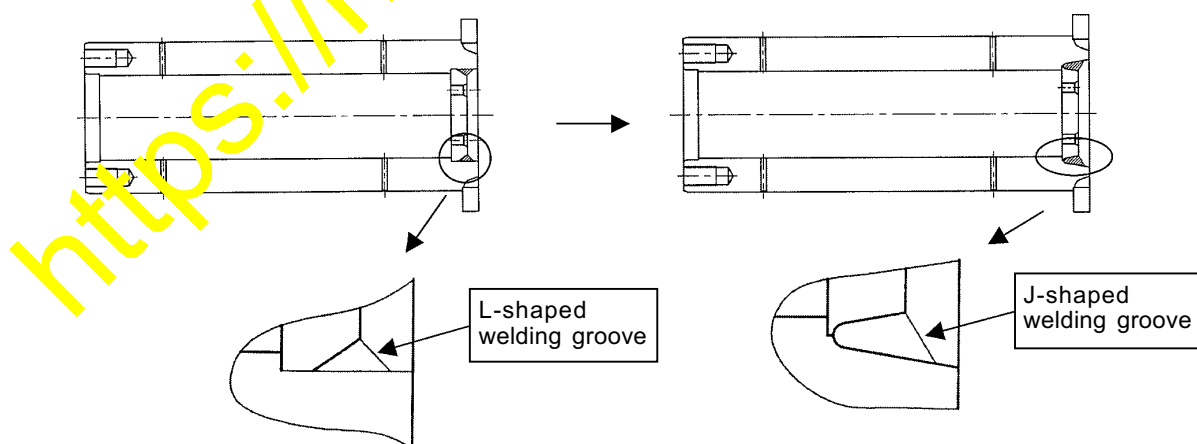
3. Details of the modification

(1) Strengthening of the welded section of the work equipment pin cover

- ① When the machine is used under severe conditions (in operations where the digging load is heavy and the frequency of such operation is also large), cracks may occur in the welded area of the work equipment pin cover section as shown in the drawing below resulting in oil leakage.

**New**

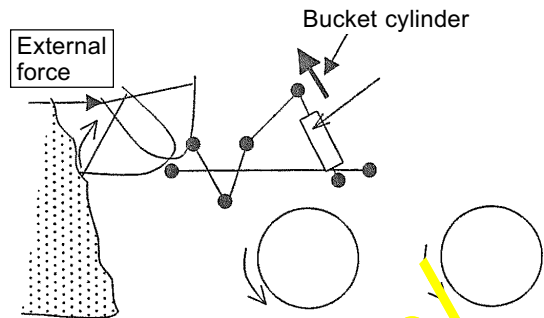
- ② The welding groove for the work equipment pin cover section has been changed from the L-shaped to the J-shaped, thus increasing the weld penetration volume to strengthen the welded section



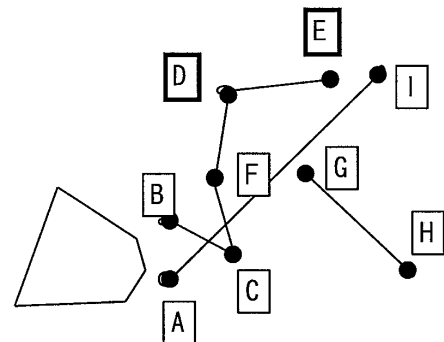
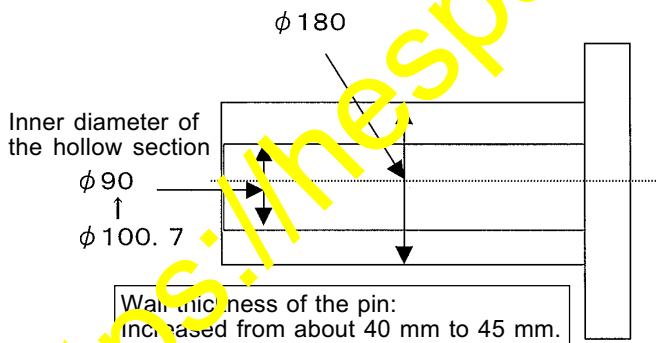
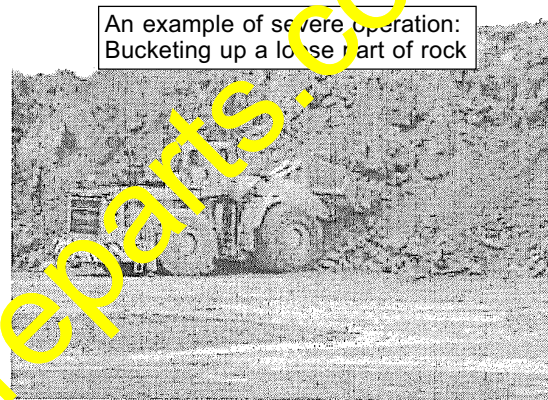
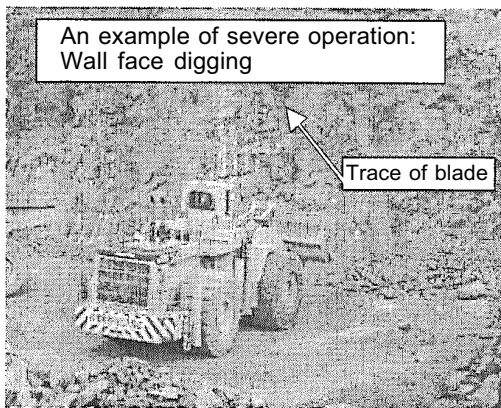
- ③ The similar reinforced work equipment pins have been registered for all the current work equipment.

- (2) While the machine is being used for wall face digging, etc., when the bucket cylinder reaches its stroke end and when the overload relief does not work, if those operations where the bucket is pushed against the wall face, the bucket cylinder mounting pin ("D" and "E" in the drawing shown on the RH side) are overloaded and cracks may occur in the pin.

By the excessive external force, the cylinder rod will be pulled out to its stroke end and excessive force will be applied to the pin.



The wall thickness of the pin has been increased to prevent occurrence of the aforementioned cracks.



The wall thickness has been increased of the pins "C", "D" and "E" with the outer diameter of 180 mm in the above drawing.

(3) Introduction of the improved pins

The part numbers and the positions of the improved pins are introduced in the table below.

Position	Part number of the reinforced pin	Pin diameter	Strengthened welding for the cover	Increased wall thickness of the pin
A	42C-70-11213	φ 240	○	—
B	42C-70-11273	φ 180	○	○
C	42C-70-11263	φ 180	○	○
D	42C-70-11243	φ 180	○	○
E	42C-70-11253	φ 180	○	○
F	42C-70-11213	φ 240	○	—
G	42C-70-11223	φ 240	○	—
H	42C-70-11233	φ 240	○	—
I	42C-70-11283	φ 280	○	—

○ mark: Applicable

— mark: Not applicable

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4. Modification method for the welded section of the work equipment pin cover

When cracks occur in the welded area of the work equipment pin cover section resulting in oil leakage, repair the pins by carrying out the following additional work.

(1) Remove the work equipment pin from the machine.

For the removal work, follow the instructions given in the local assembly procedure manual or the Shop Manual.

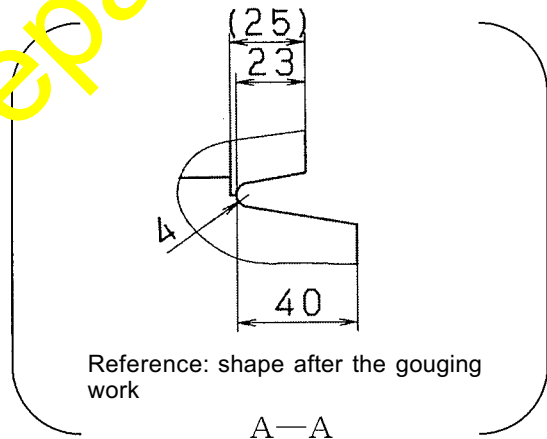
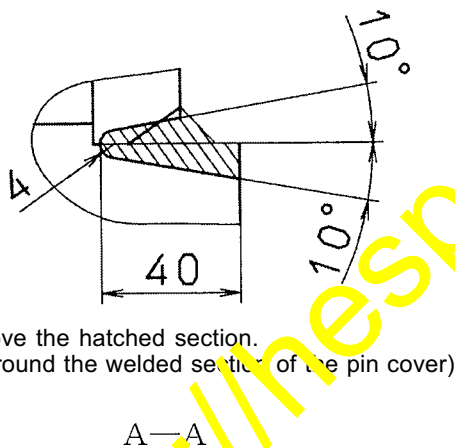
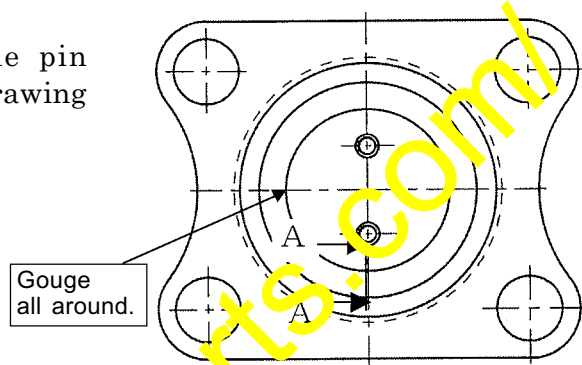
(An extract from the Shop Manual is attached on page 8.)

(2) Gouging of the cracked section

① Gouge the welded section of the pin cover to the shape shown in the drawing below.

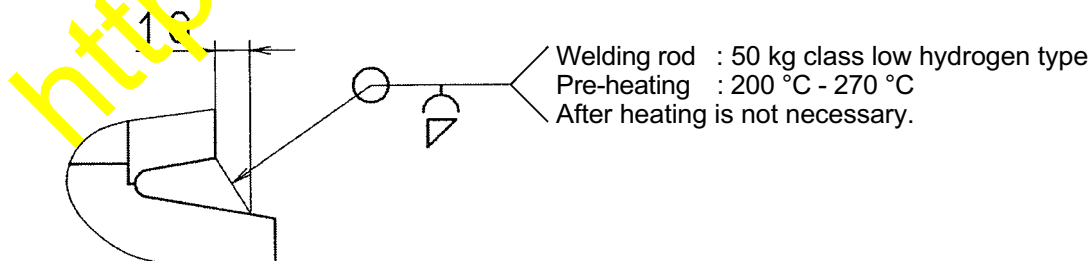
② Gouge all around.

(If the repair is made on the cracked section only, there will be a possibility of occurrence of cracks once again. Therefore, make this repair all around.)



(3) Welding of gouged section

Weld all around the gouged section of the pin cover as shown in the drawing below.



(4) Paint the additionally worked section.

(5) Installation of the work equipment pin

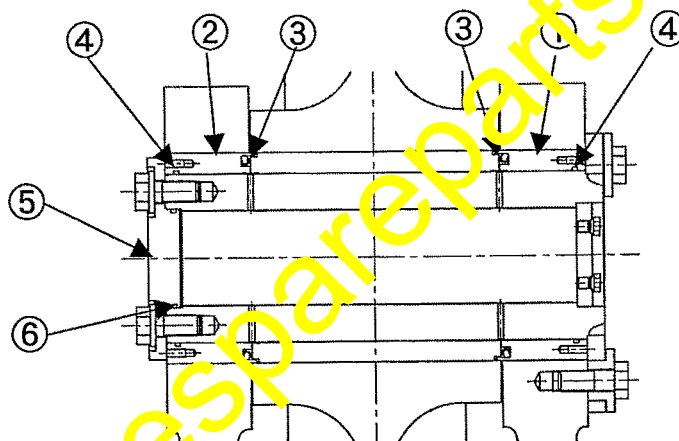
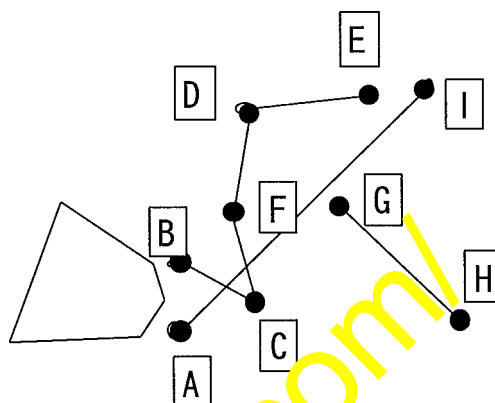
Install the work equipment pin to the machine and pour fill oil into it.

When installing the pin, follow the instructions given in the local assembly procedure manual or the Shop Manual.

5. Introduction of the part numbers of the reinforced pins

Introduced below are the part numbers of the reinforced pins and the positions where these pins are used

Position	Part number of the reinforced pin	Pin dia.
A	42C-70-11213	φ 240
B	42C-70-11273	φ 180
C	42C-70-11263	φ 180
D	42C-70-11243	φ 180
E	42C-70-11253	φ 180
F	42C-70-11213	φ 240
G	42C-70-11223	φ 240
H	42C-70-11233	φ 240
I	42C-70-11283	φ 280



Position	① Collar	② Collar	③ Seal	④ O-ring	⑤ Cover	⑥ O-ring
A	42C-70-11373	42C-70-11373	42C-70-11421	07000-15240	42C-70-11451	07000-15130
B	42C-70-11353	42C-70-11353	42C-70-11411	07000-15180	42C-70-11440	07000-12100
C	42C-70-11353	42C-70-11353	42C-70-11411	07000-15180	42C-70-11440	07000-12100
D	42C-70-11353	42C-70-11353	42C-70-11411	07000-15180	42C-70-11440	07000-12100
E	42C-70-11353	42C-70-11363	42C-70-11411	07000-15180	42C-70-11440	07000-12100
F	42C-70-11373	42C-70-11373	42C-70-11421	07000-15240	42C-70-11451	07000-15130
G	42C-70-11711	42C-70-11711	42C-70-11421	07000-15240	42C-70-11451	07000-15130
H	42C-70-11383	42C-70-11373	42C-70-11421	07000-15240	42C-70-11451	07000-15130
I	42C-70-11393	42C-70-11393	42C-70-11431	07000-15280	42C-70-11461	07000-15170
Q'ty	2 pcs. each/unit	2 pcs. each/unit	4 pcs. each/unit	4 pcs. each/unit	2 pcs. each/unit	2 pcs. each/unit

1. Install O-ring (A) to collar (B) and insert them into pin (C).
2. Clean the bore and outer surface of bushing of assembling parts (boom, bellcrank, cylinder, bucket, bucket link) after inspection of damage or dent. Apply the gear oil (API, GL-5, 80W/90) to outside of pin lightly.
3. Install O-ring (E) to collar (D).

Important

4. Install seal (F) to collar (A) and (D).
Direction of seal is as follows. (The black surface of seal to be toward the collar)
(Pay attention to the direction of the seal.)

5. Clean the bore of pin (boom, bellcrank, frame, bucket) after inspection of damage or dent. Apply the anti seizing coat (LC-G or LM-P) to inside of bore lightly.

6. Put the ring (Q) which has installed in ring (P) at section G-G. See following dwg.

7. Overlap both center of pin (C) ass'y and collar (D) ass'y to the center of bore of pin. And insert them into the bore.
If the collar ass'y (D) put into the bore, see Fig. 4.

8. Install pin by bolt (H) and spacer (G).
Rotate the pin to vertical position of oil filler holes at section D-D.

9. Install O-ring (K) to flange (K), and install to pin.

10. Cap the bottom filler hole by plug (M). And fill the gear oil (API, GL-5, 80W/90) up to the upper fill hole.

11. Cap the upper filler hole by plug (N).
Tightening torque: 157 - 255 Nm {16 - 26kgm}

12. See the part No. on each section drawings.
Unspecified tightening torque shall be conform to KES. 04. 123. 1. (Impact wrench table)

13. Inspect the less of oil leakage. Squeaking and heating at pin portion.
If find out of order, decompose at pin portion.

14. Oil type of sealed pin
Grade: API, GL-5, viscosity: 80W/90, outside temperature: -30°C - +50°C

