For Earth, For Life

KUBOTA Technical Support centre Europe

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Zweibrücken
08.06.2021

# S E R V I C E – B U L L E T I N

Reference-N°: KTSE - SB – 2110

## Scratches on Arm Cylinder Rod

| | |
|---|---|
| Approved by: | ☒ International Quality Assurance department |
| | ☐ Kubota Technical Support centre Europe |

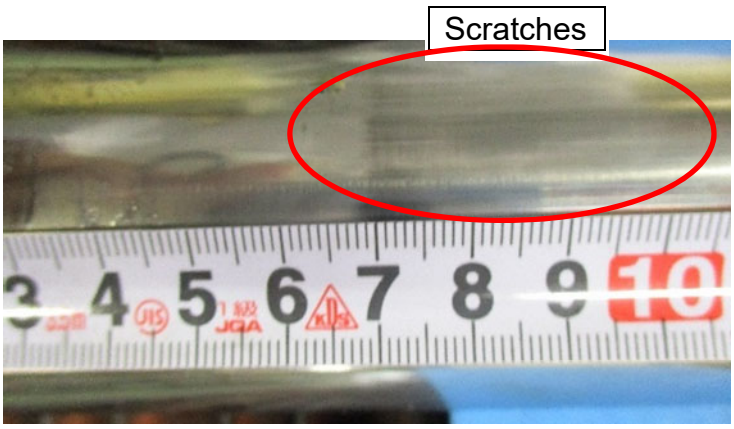
Affected distributors:
- ☒ KBD
- ☒ KE
- ☒ KUK

Classification:
- ☐ 1. Information
- ☐ 2. Fix on a failure basis
- ☐ 3. Recommended product improvement
- ☒ 4. Mandatory campaign

| Model | Serial N° |
|---|---|
| KX080-4Alpha2 | See list at the end of the bulletin |

### A. Subject

Cases of scratches on the arm cylinder rod have been reported. Investigations revealed that this was caused by a machining error cause misalignment between rod and cylinder head.
As series countermeasure, the machining quality control process was improved.
We herewith inform you the measures to take for machines in the field.



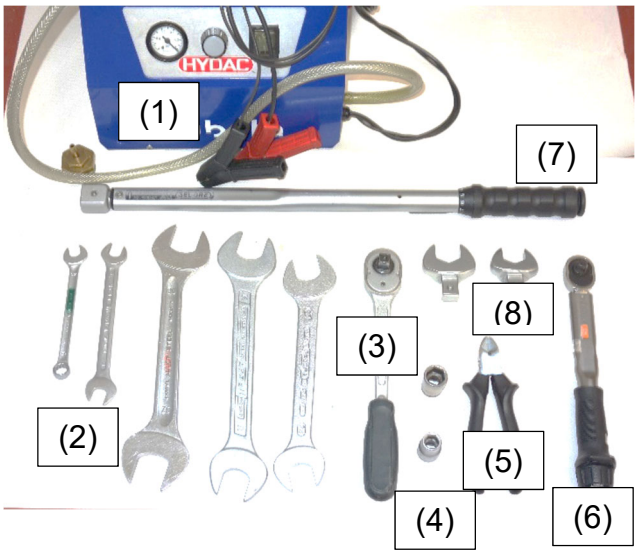

## B. Service Information

⚠ WARNING:
To avoid personal injury:

- Park the machine on a flat and level ground.
- Keep the bucket or other attachment down on the floor.
- Stop the engine and remove the starter key.
- Before any intervention on the hydraulic system, release the residual pressure from the hydraulic circuit.
- Use working clothes and personal protective equipment to avoid personal injury.
- Follow the local safety directives in your country.
- If you work with other persons, make sure your signals are fully understandable and mutually communicative for added safety.
- Hydraulic components and engine parts can be hot. Wait until all components cooled down to avoid burns.

Repair outline:
Replace the arm cylinder according to the following instructions.
The instructions describe the procedure for the most common version, which includes a safety valve on the arm cylinder. Depending on the version (e.g. without safety valve) and other options (e.g. Powertilt) installed, the procedure might slightly vary.
For this reason, we also recommend taking note of the original position of the cable ties so that they can be reattached in the correct position.

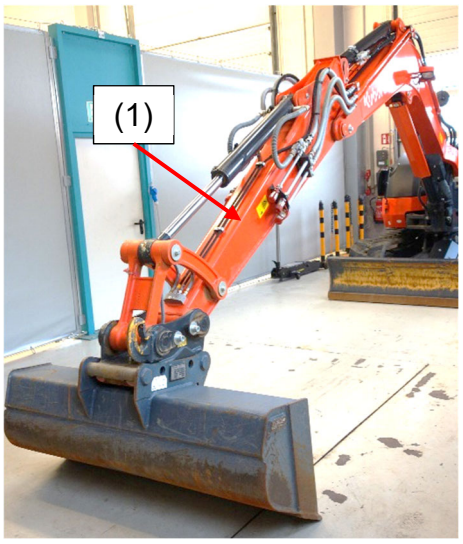
Tools and consumables:
(1) Vacuum pump with G ¾" adapter
(2) Spanners, 12, 14, 27, 2x 30 mm
(3) Ratchet ½"
(4) Sockets ½", 13, 17 mm
(5) Side cutter
(6) Torque wrench ½", 10 N·m - 50 N·m
(7) Torque wrench ½", 20 N·m - 150 N·m
(8) Sockets, 27, 30 mm




Not shown:
Oil tray,
Plug, male + female, 1-14 UNS, 1 pc. each
Double ladder,
Nylon sling, 200 kg, 1 m
Crane,
Clothes,
Grease gun,
Grease, EP2
Hammer, 500 g
Copper rod

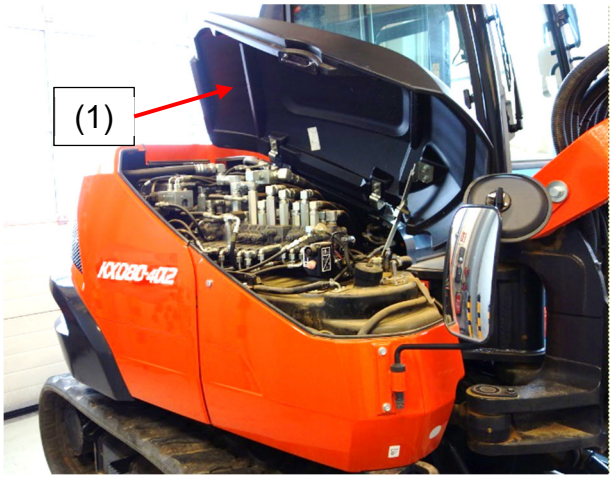
Note:
Tightening torques not indicated in the present service bulletin are to be taken from the torque specification tables of the machine workshop manual.

**Step 1:**
Extend the arm (1) fully and lower the bucket onto the ground.



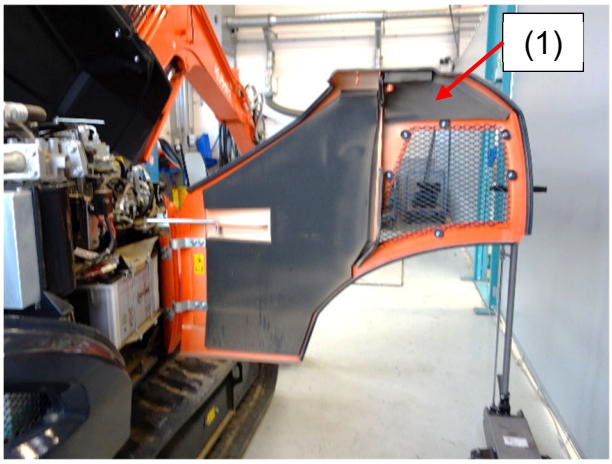

**Step 2:**
Stop the engine and release the residual pressure from the hydraulic system.

**Step 3:**
Open the RH top cover (1).



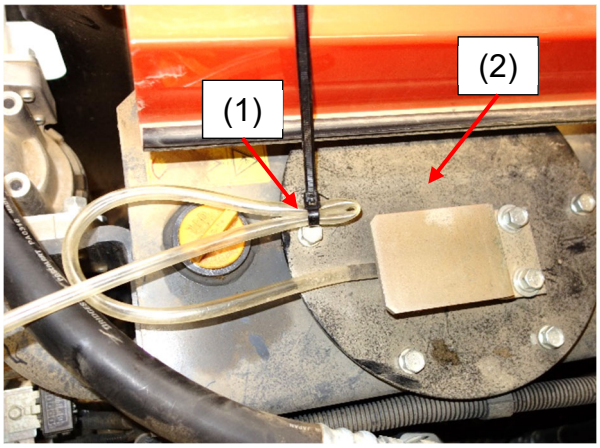

**Step 4:**
Open the engine bonnet (1).

**Step 5:**
Open the RH bonnet (1).



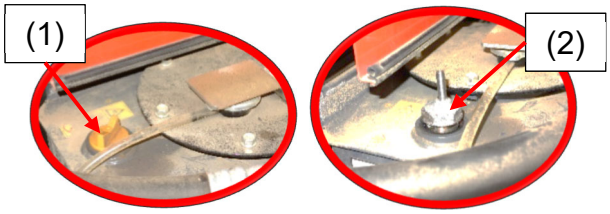

**Step 6:**
Pinch the ventilation hose (1) on the top side of the hydraulic oil tank (2) and tie it off with a cable tie for example, as shown in the picture.

Note:
If the breather hose is open, the vacuum pump cannot build up a vacuum.

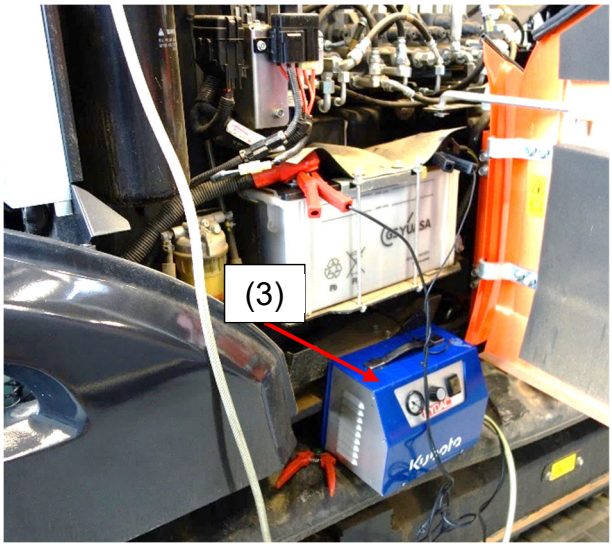


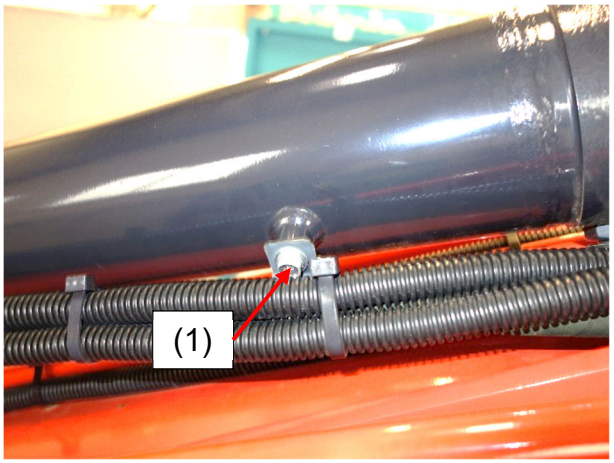
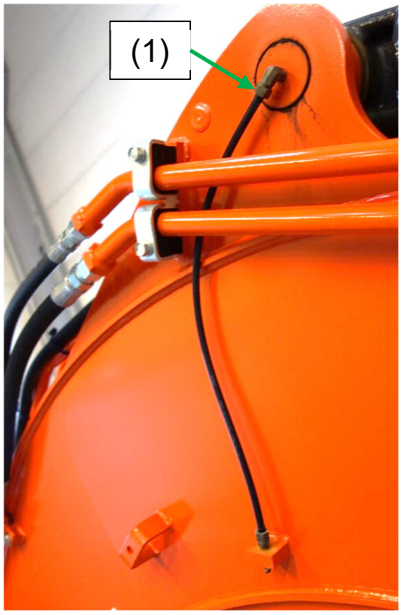
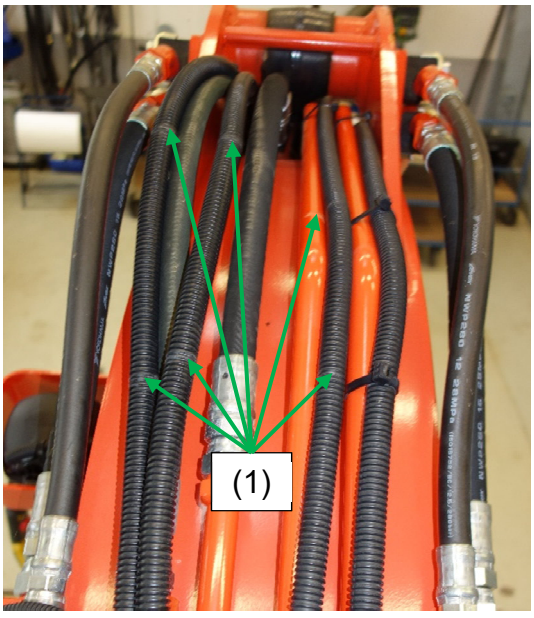

**Step 7:**
Remove the hydraulic tank cap (1).

Note:
The hydraulic tank system is slightly pressurized. Open the tank cap carefully and release the tank pressure before you unscrew the tank cap completely.



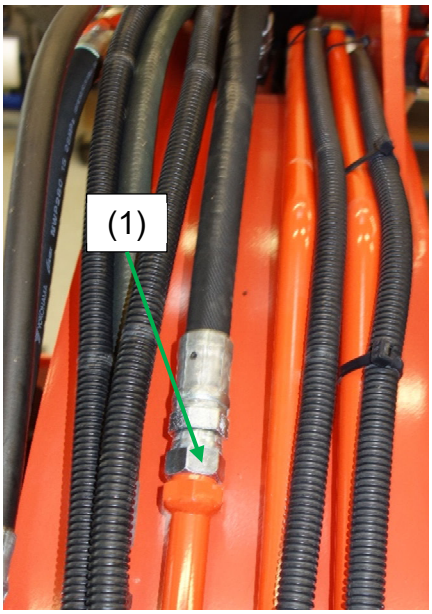

**Step 8:**
Install the vacuum pump adapter (2) and connect the vacuum pump (3).



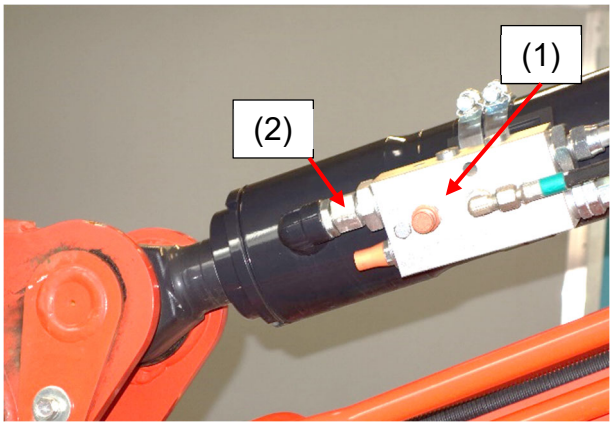
| | |
|---|---|
| **Step 9:**<br>Remove the bolt (1) of the hose clamp. |  |
| **Step 10:**<br>Remove the grease tube (1) from the arm cylinder pin, bottom side. |  |
| **Step 11:**<br>Remove the six cable ties (1) on the top of the boom. |  |

**Step 12:**
Disconnect the hydraulic hose (1) from the arm cylinder bottom side and plug the hose.

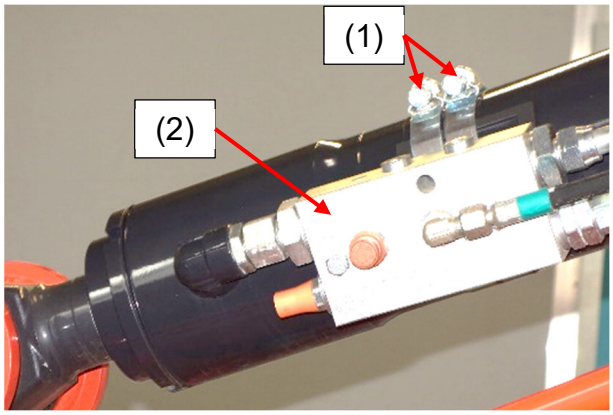
Note:
For easier assembling and reassembling of the hydraulic hose, it is separated on the top of the boom, as shown in the picture.




**Step 13:**
Disconnect the safety valve (1) from the arm cylinder rod side (2).

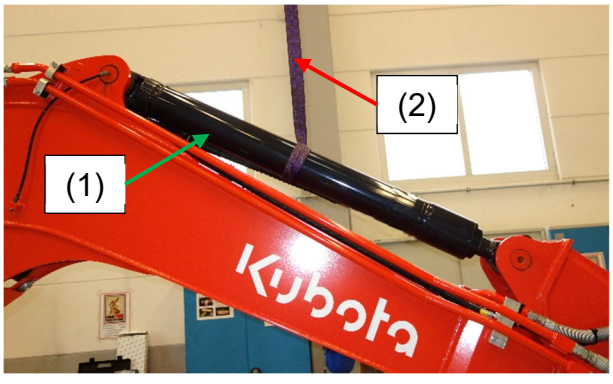



**Step 14:**
Remove the two hose clamps (1) and carefully place the safety valve (2) onto the arm.



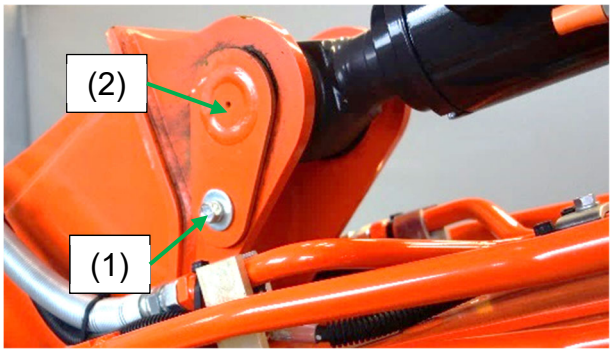

**Step 15:**
Suspend the arm cylinder (1) using the nylon sling (2) attached to the crane to avoid falling down when removing the pins.

Note:
The approximate weight of the arm cylinder is 80 kg.



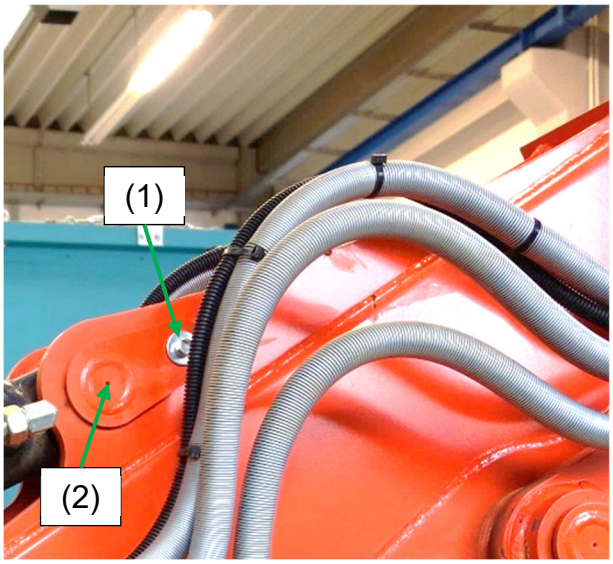
**Step 16:**
Remove the securing bolt (1) and the arm cylinder pin (2) on the arm cylinder rod side.

Note:
The shims and the securing bolt will be reused.




**Step 17:**
Remove the securing bolt (1) and the arm cylinder pin (2) to remove the arm cylinder.

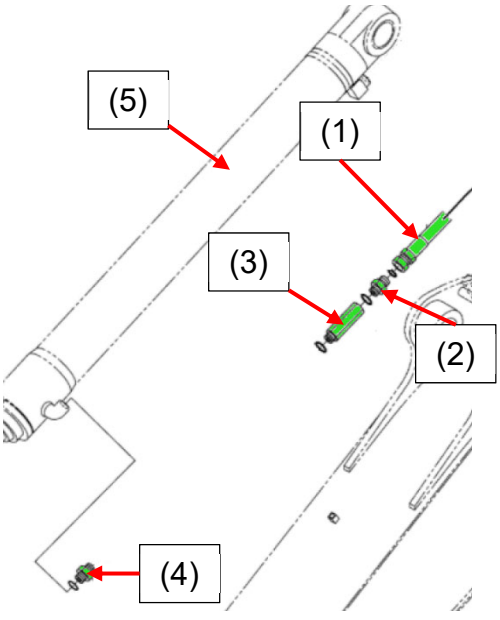
Note:
The shims and the securing bolt will be reused.




**Step 18:**
Remove the arm cylinder from the boom with a crane.

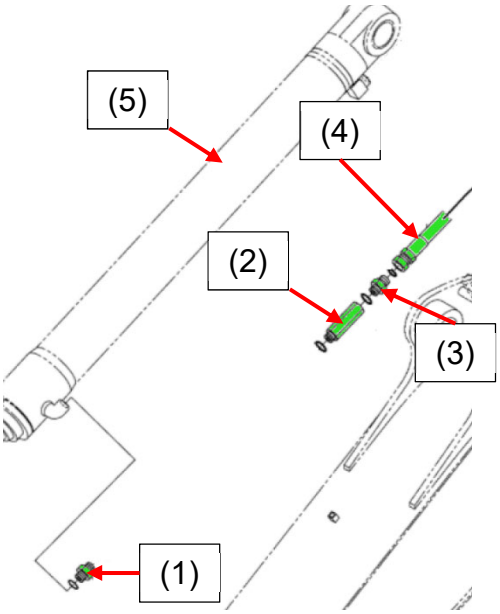
**Step 19:**
Remove the hydraulic hose (1) and the adapters (2), (3), (4) from the arm cylinder (5).

Note:
The arm cylinder can be scrapped.
The hose and the adapters will be reused.



**Step 20:**
Attach the adapters (1), (2), (3) and the hydraulic hose (4) to the new arm cylinder (RD839-6760-0) (5).

Tightening torques:
(1), (2), (3) 58,8 N·m – 63,7 N·m
(4) 80,0 N·m – 90,0 N·m



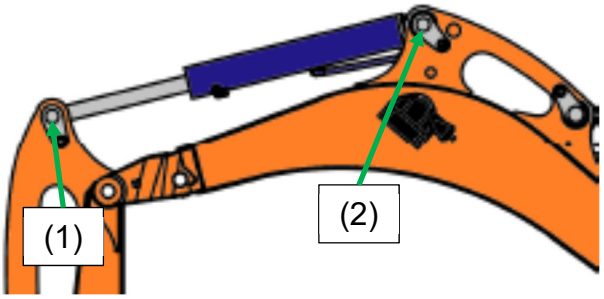

**Step 21:**
Hoist the new arm cylinder with the crane to the top of the boom.

**Step 22:**
Install the arm cylinder pins (1) and (2).

**Step 23:**
Adjust the thrust play at cylinder rod pin side (1) as well as bottom pin side (2) by inserting shims (RD809-6694-0 for 0,5 mm, RD809-6695-0 for 1 mm).

Thrust play: max. 0,5 mm

Note:
The shims' thickness is 0,5 mm or 1,0 mm. If possible, reuse the shims removed in step 17.

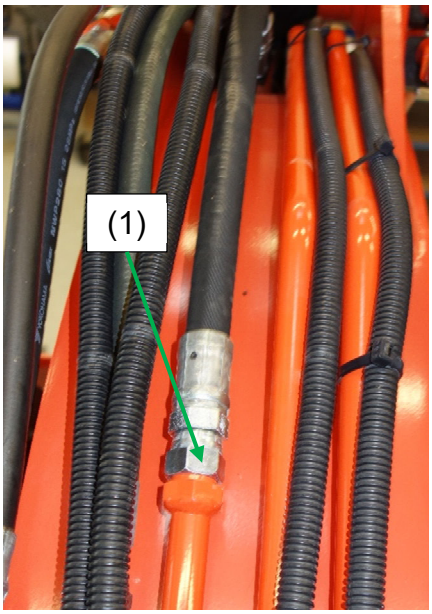



**Step 24:**
Mount the securing bolts (1) and (2).

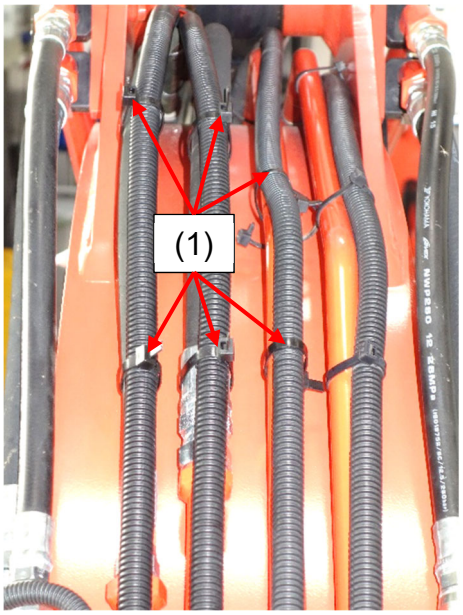
Tightening torque: 78 ~ 90 N·m

**Step 25:**
Remove the plug and connect the hydraulic hose (1) from the arm cylinder bottom side on the top of the boom.

Tightening torque: 105,8 N·m – 129,4 N·m

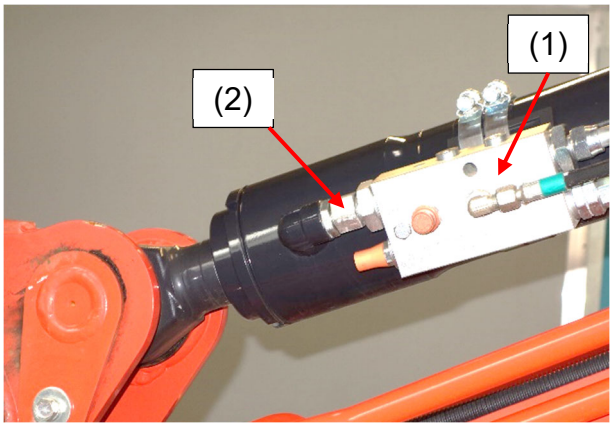



**Step 26:**
Attach the hoses with the six cable ties (1) (69481-1119-0) as shown in the photo.



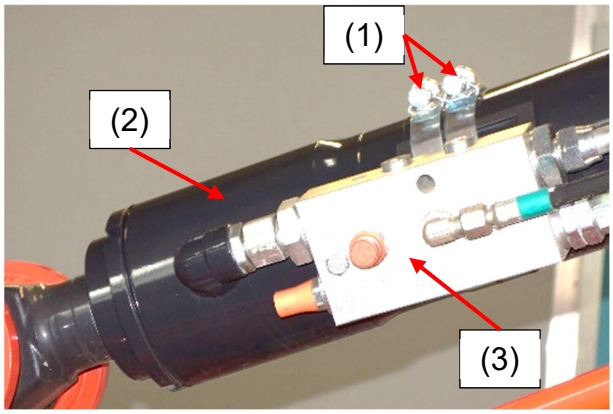

**Step 27:**
Connect the safety valve (1) to the arm cylinder rod side (2).

Tightening torque: 58,8 N·m – 63,7 N·m

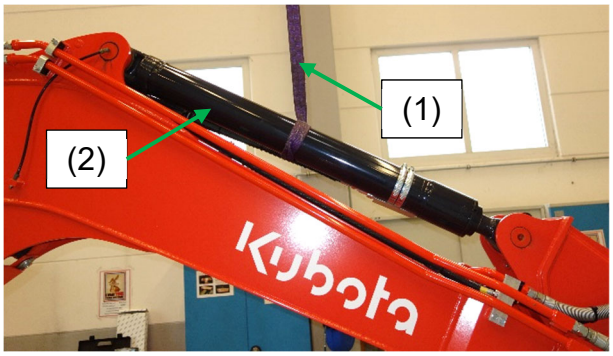


**Step 28:**
Attach the two hose clamps (1) to the arm cylinder (2) to fix the safety valve (3).

Tightening torque: 13,0 N·m – 17,0 N·m




**Step 29:**
Remove the nylon sling (1) from the arm cylinder (2).

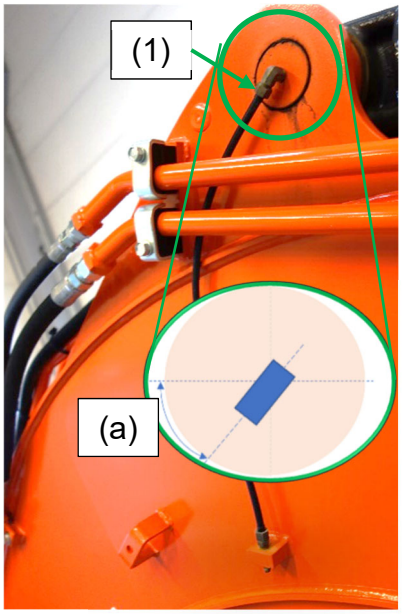



**Step 30:**
Attach the grease tube (1) to the arm cylinder pin, bottom side.

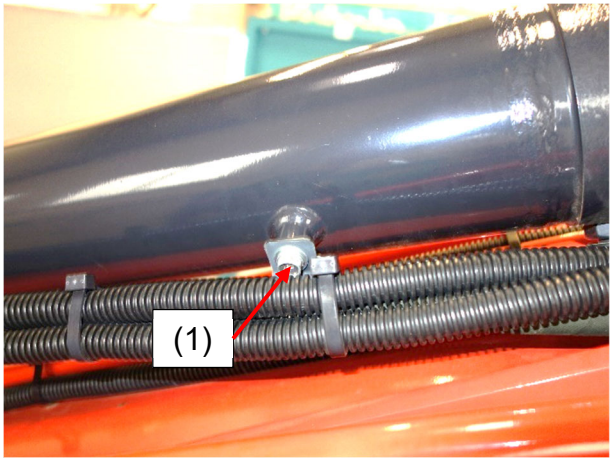
(a): 45° - 60°

Tightening torque: 15,0 N·m – 20,0 N·m

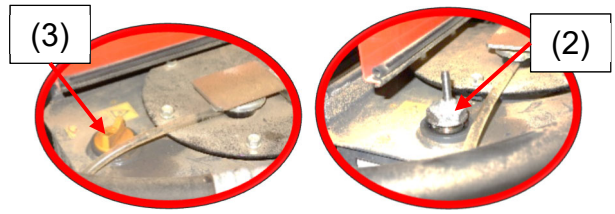
Note:
The grease hose must not have any contact with the clamps or the hydraulic tubes.

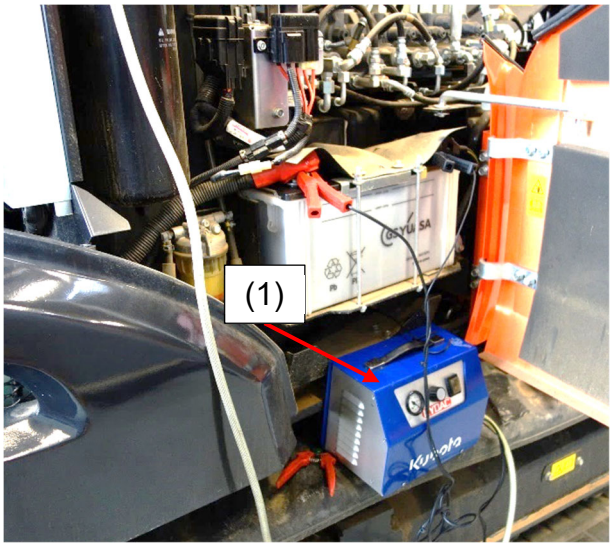



**Step 31:**
Attach the hose band to the cylinder with the bolt (1).

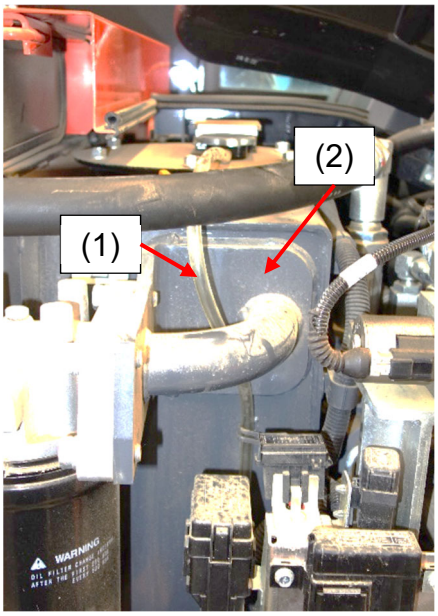


**Step 32:**
Disconnect the vacuum pump (1) and remove the vacuum pump adapter (2) from the hydraulic oil tank. Install the tank cap (3).

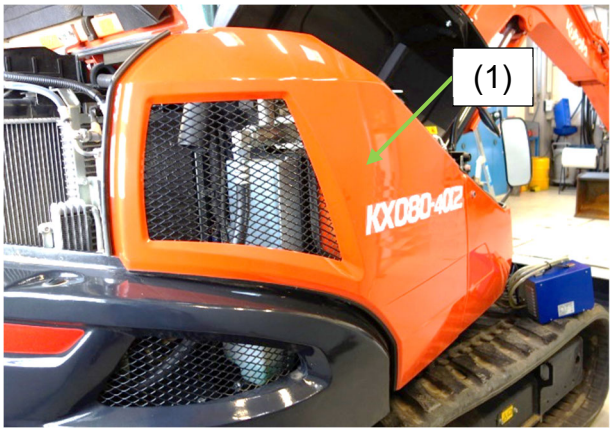


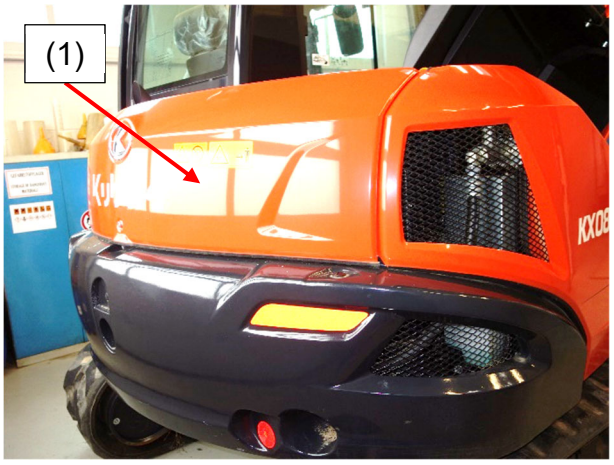

**Step 33:**
Open the ventilation hose (1) on the top side of the hydraulic oil tank (2) and route it downwards as shown in the photo.



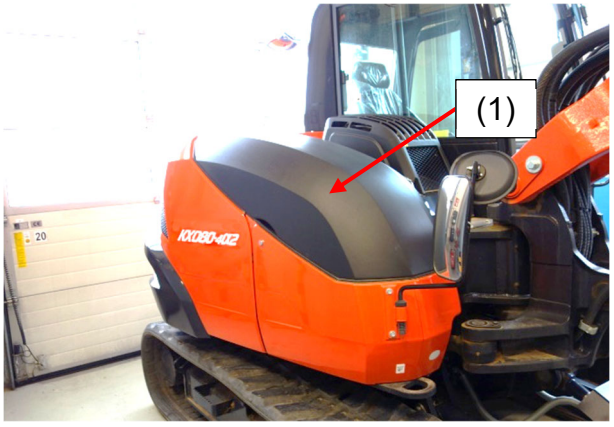

**Step 34:**
Close the RH bonnet (1).



**Step 35:**
Close the engine bonnet (1).




**Step 36:**
Close the RH top cover (1).




**Step 37:**
Grease the arm cylinder pins on rod side and bottom side.

**Step 38:**
Start the engine with idle rpm and move the arm cylinder slowly against the end stroke in crowding and dumping direction several times to bleed the air from the cylinder. Check for oil leakages.

**Step 39:**
Check the hydraulic oil level at the hydraulic tank according to the operator's manual.

## C. Spare Part Information

| Part number | Part name | Qty |
|---|---|---|
| RD839-6760-0 | Cylinder, arm | 1 |
| 69481-1119-0 | Cable tie | 7 |
| RD809-6694-0 | Shim (0,5 mm) (as required) | - |
| RD809-6695-0 | Shim (1,0 mm) (as required) | - |

## D. Warranty Information

1. Conditions:

   Case A
   Parts: Yes
   Labour: 1,3 hours
   Mileage: Yes
   Campaign allowance: Yes

2. Replaced parts:

   ☐ Return ☐ Store ☐ Attach photos to claim, then scrap ☒ Scrap

   *This instruction has priority to the ones given by Kubota Net at time of claim posting.*

Ensure to mention this bulletin's reference number on the related warranty claim.

## E. Target date

This campaign must be completed as soon as possible and with the highest priority.

Target date: **1 year after the bulletin's publication date.**

## F. List of concerned machines

| Sales Company | Model | Serial number | Material code |
|---|---|---|---|
| KBD | KX080-4Alpha2 | 71640 | W29RD84904 |
| | | 71642 | W29RD84904 |
| | | 71644 | W29RD84904 |
| | | 71646 | W29RD84904 |
| | | 71647 | W29RD84904 |
| | | 71649 | W29RD84904 |
| | | 71653 | W29RD84904 |
| | | 71661 | W29RD84904 |
| | | 71663 | W29RD84904 |
| | | 71665 | W29RD84904 |
| | | 71667 | W29RD84904 |
| | | 71674 | W29RD84904 |
| | | 71686 | W29RD84904 |
| | | 71693 | W29RD84904 |
| | | 71694 | W29RD84904 |
| | | 71695 | W29RD84904 |
| | | 71696 | W29RD84904 |
| | | 71698 | W29RD84904 |
| | | 71699 | W29RD84904 |
| | | 71700 | W29RD84904 |
| KE | KX080-4Alpha2 | 71651 | W29RD84901 |
| | | 71654 | W29RD84901 |
| | | 71656 | W29RD84901 |
| | | 71658 | W29RD84901 |
| | | 71668 | W29RD84901 |
| | | 71672 | W29RD84901 |
| | | 71675 | W29RD84901 |
| | | 71679 | W29RD84901 |
| | | 71681 | W29RD84901 |
| | | 71682 | W29RD84901 |
| | | 71736 | W29RD84901 |
| KUK | KX080-4Alpha2 | 71660 | W29RD84902 |
| | | 71670 | W29RD84902 |