

# For Earth, For Life



## KUBOTA Technical Support centre Europe

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Zweibrücken  
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### SERVICE – BULLETIN

Reference-N°: KTSE - SB - 2111

#### Broken Control Valve return Springs

|              |  |
|--------------|--|
| Approved by: | <input checked="" type="checkbox"/> International Quality Assurance department |
|              | <input type="checkbox"/> 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° |
|---------|-----------|
| KX015-4 | → 70138   |
| KX016-4 | → 70837   |
| KX018-4 | → 70900   |
| KX019-4 | → 71988   |
| KX027-4 | → 54288   |
| KX030-4 | → 51480   |
| U27-4   | → 67726   |

#### A. Subject

Cases of broken control valve return springs have been reported. This affects only mechanical controlled sections such as, depending on the model, the travel, track, dozer, AUX1 and swing functions. Investigations revealed that corrosion pits and their effects on the material strength caused the damage. As series countermeasures, the suppliers' inventory rust protection measures as well as its greasing process at assembly were improved. We herewith inform you about the measures to take in such a failure case.



## **B. Service Information**

### **! WARNING:**

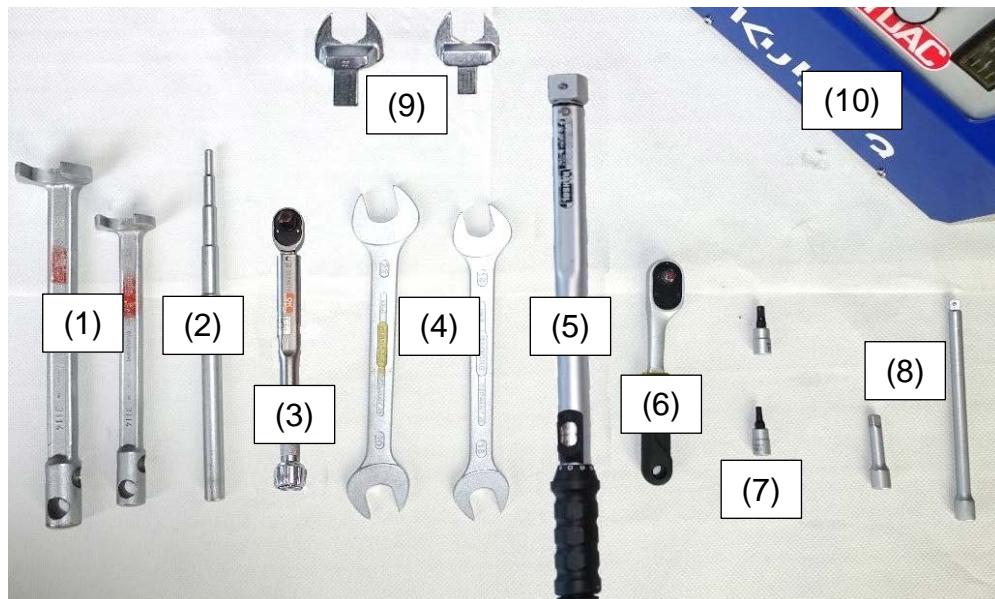
#### **To avoid personal injury:**

- 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:**

In cases of broken return springs of mechanical controlled control valve sections (such as, depending on the model, the travel, track, dozer, AUX1 and swing functions) replace the broken spring by the improved spring kit according to the following procedure. In case one travel section is affected, please install the improved spring kits of both RH and LH travel sections at once.

#### **Tools and consumables:**



- |   |                                     |
|---|-------------------------------------|
| (1) Crowfoot wrenches, 22, 27 mm          | (6) Ratchet 1/4"                    |
| (2) Handle                                | (7) Hex sockets, 4, 5 mm            |
| (3) Torque wrench, 1/4", 0,5 N·m - 20 N·m | (8) Extension bars 1/4", 50, 150 mm |
| (4) Spanners, 19, 22 mm                   | (9) Sockets, 19, 22 mm              |
| (5) Torque wrench, 20 N·m - 200 N·m       | (10) Vacuum pump with G3/4 adapter  |

#### **Not shown:**

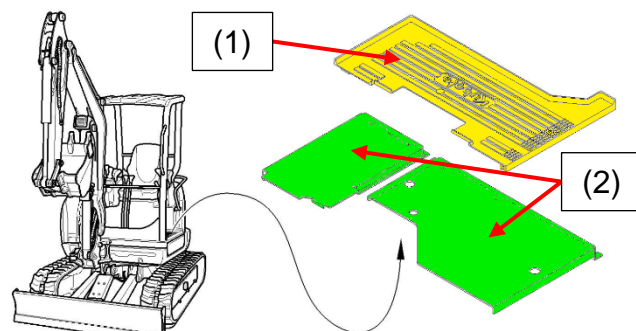
Thread locker (Loctite 542 or equivalent)  
Grease NLGI-2 (DIN51825, KP2K-30) or EP2  
Brake cleaner

**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:**

Remove the rubber mat (1) and the two floor plates (2).



**Step 2:**

(only for KX027-4, KX030-4 and U27-4)  
Open the RH top cover (1).

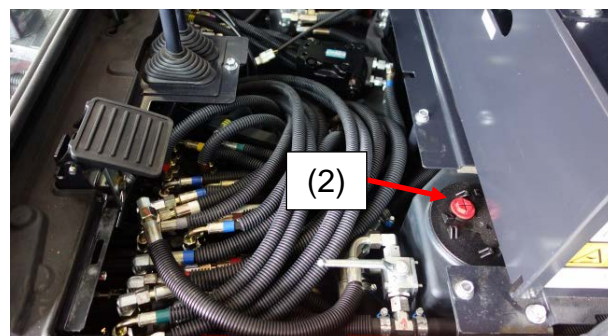
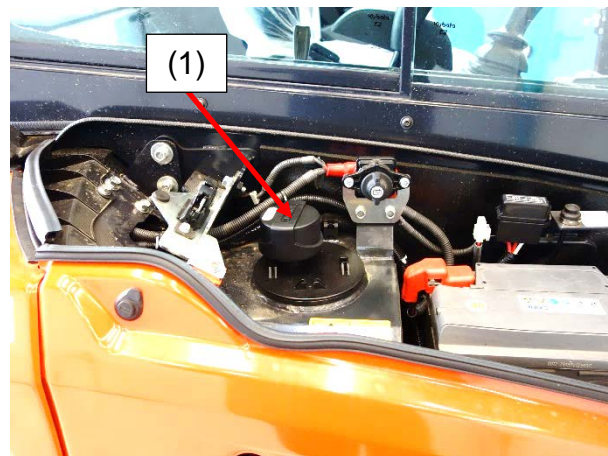


**Step 3:**

(for KX027-4, KX030-4 and U27-4)  
Remove the breather filter (1) from the hydraulic tank. Install the vacuum pump adapter and connect the vacuum pump.

(for KX015-4, KX016-4, KX018-4 and KX019-4)

Remove the red cap (2) from the hydraulic tank. Install the vacuum pump adapter and connect the vacuum pump.





**Step 4:**

Take notes of the hose connection of the affected section and disconnect the related hydraulic hoses to gain access to the affected section.

**Note:**

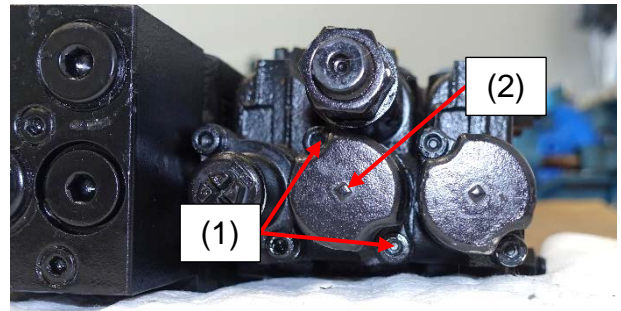
Depending on the model and the section, there are different hoses that need to be removed.

**Step 5:**

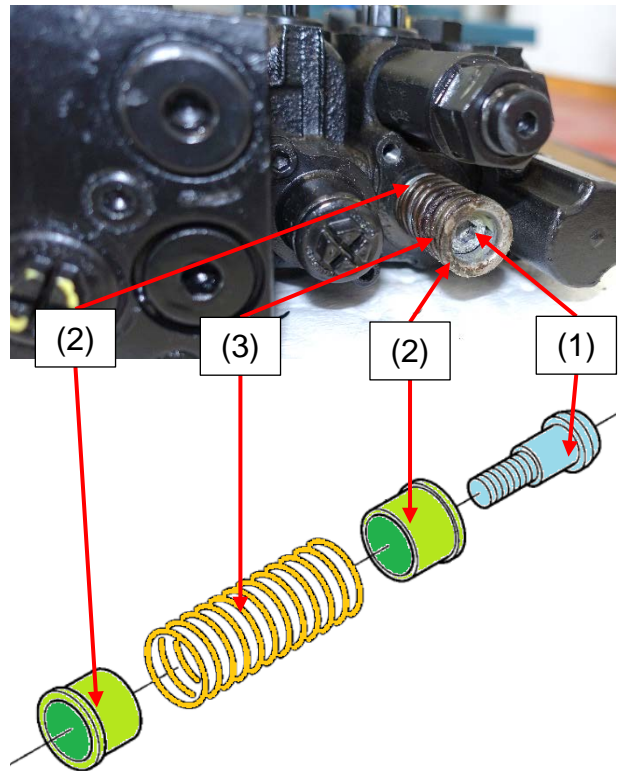
Remove the two bolts (1) and the cap (2) of the concerned section.

**Note:**

The bolts (1) and the cap (2) can be scrapped.

**Step 6:**

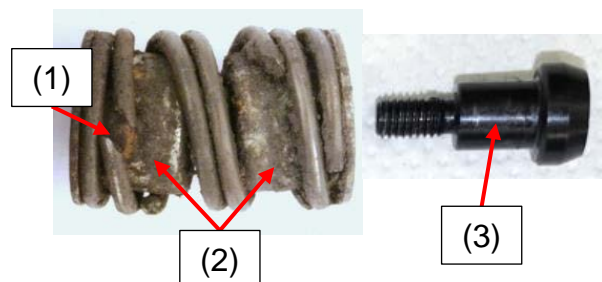
Remove the bolt (1), the two spring seats (2) and the spring (3).

**Step 7:**

Take a picture, clearly showing the broken spring (1).

**Note:**

The spring (1), the spring seats (2), and the bolt (3) can be scrapped.

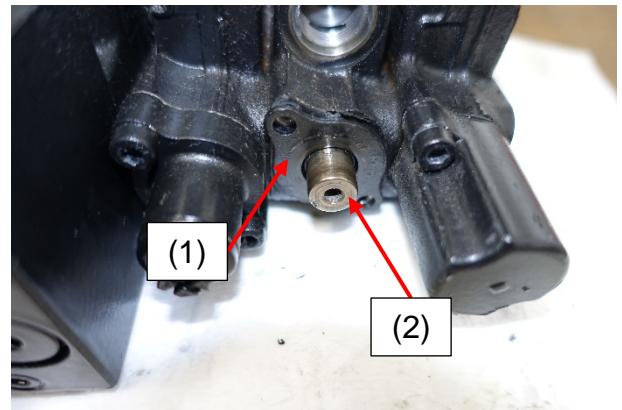


**Step 8:**

Remove the cover plate (1) and clean the protruding end of the spool (2).

**Note:**

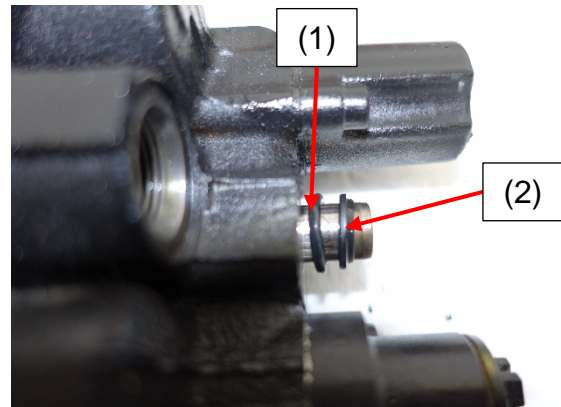
The cover plate (1) can be scrapped.

**Step 9:**

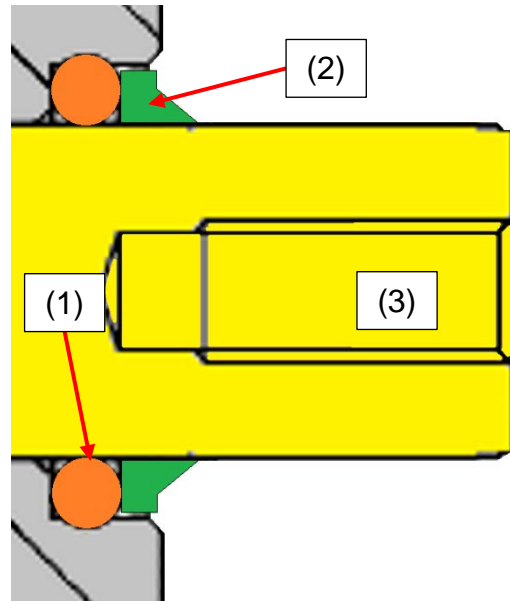
Remove the O-ring (1) and the seal (2).

**Note:**

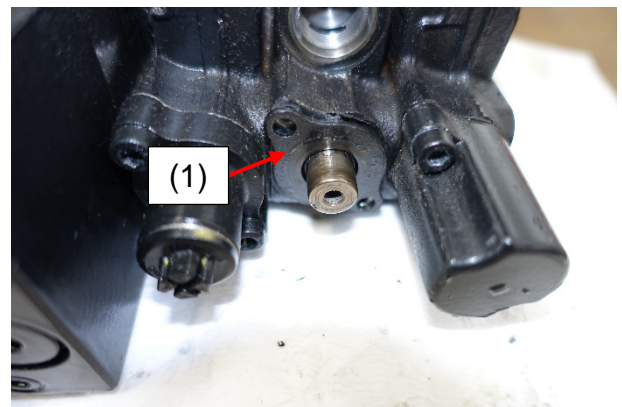
The O-ring (1) and the seal (2) can be scrapped.

**Step 10:**

Install the new O-ring (1) and the new seal (2) onto the spool (3) as shown in the illustration.

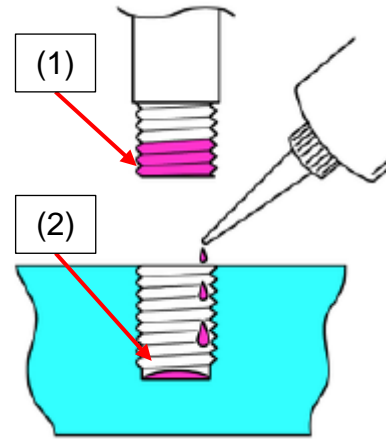
**Step 11:**

Install the new cover plate (1).



**Step 12:**

Apply thread locker all around the thread of the bolt (1) except of the top thread and the bolt hole (2).

**Step 13:**

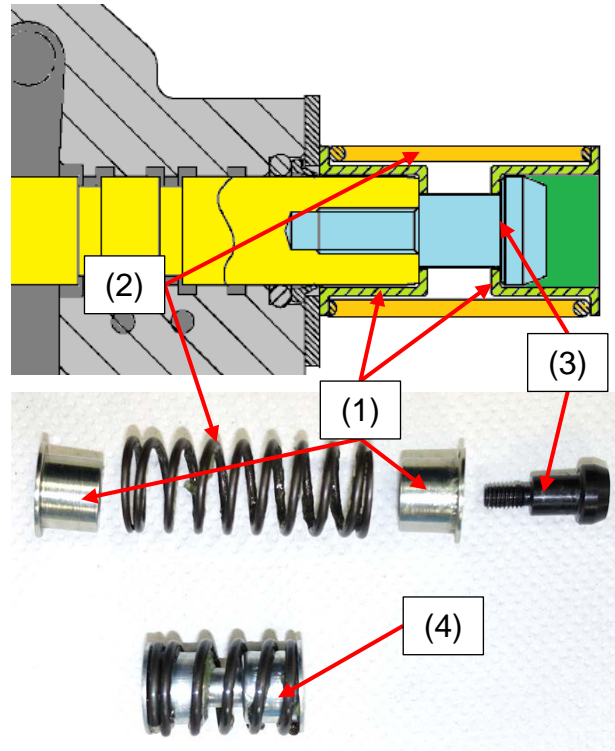
Assemble the new two spring seats (1) and the new spring (2) with the new bolt (3) as shown in the picture.

Tightening torque: 4,8 N·m - 5,2 N·m.

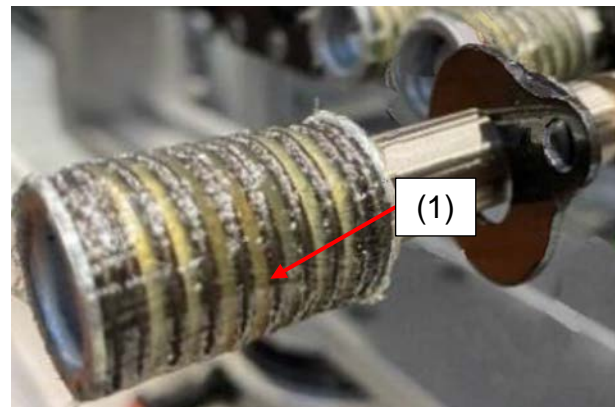
**Note:**

In the replacement spring kits RG468-9013-0 for the travel section and RG468-9014-0 for the dozer and track section, the spring seats (1) with the spring (2) and the bolt (3) are one unit (4).

In the replacement spring kit RG468-9012-0 for the swing and AUX1 section and RG468-9011-0 for the swing and boom section, the bolt (1) with the spring seats (2) and the spring (3) are separated.

**Step 14:**

Grease the spring (1). The entire interspace of the spring must be filled with grease.

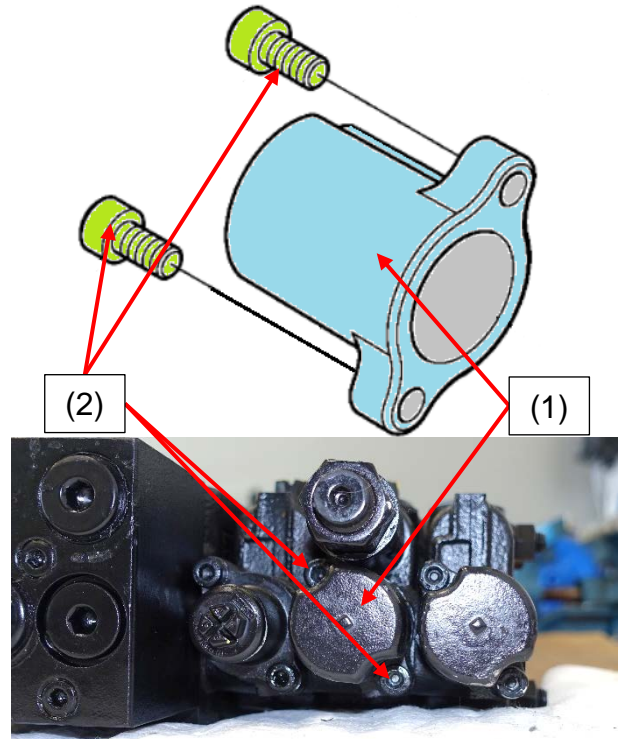




**Step 15:**

Install the new cap (1) with the new bolts (2).

Tightening torque: 4,8 N·m - 5,2 N·m.

**Step 16:**

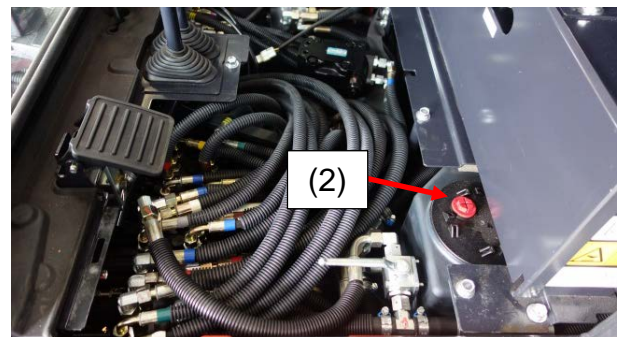
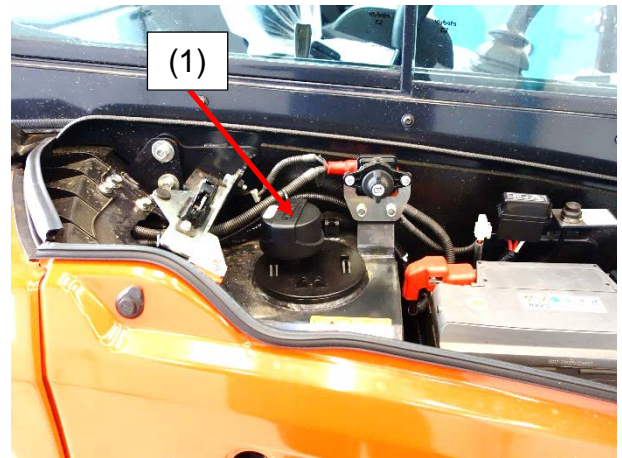
Reconnect the hydraulic hoses of the control valve according to your notes.


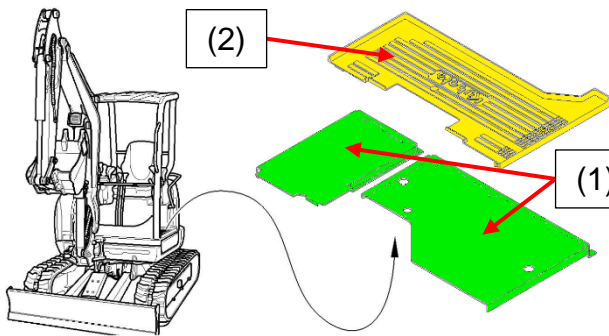
**Step 17:**

(for KX027-4, KX030-4 and U27-4)  
Disconnect the vacuum pump and reinstall the breather filter (1) of the hydraulic tank.

(for KX015-4, KX016-4, KX018-4 and KX019-4)

Disconnect the vacuum pump and reinstall the red cap (2) to the hydraulic tank.



|   |   |
|---|---|
| <p><b>Step 18:</b><br/>(only for KX027-4, KX030-4 and U27-4)<br/>Close the RH bonnet (1).</p>                                 |   |
| <p><b>Step 19:</b><br/>Start the machine at idle speed, operate the machine for a few minutes and check for oil leakages.</p> |   |
| <p><b>Step 20:</b><br/>Reinstall the two floor plates (1) and the rubber mat (2).</p>   |  |

### C. Spare Part Information

| Part number  | Part name                         | Qty | Remarks                                  |         |
|--------------|-----------------------------------|-----|--|---------|
|              |                                   |     | Model                                    | Section |
| RG468-9013-0 | Spring kit, travel section        | 2*  | All                                      | Travel  |
| RG468-9014-0 | Spring kit, dozer / track section | 1*  | KX016-4<br>KX018-4<br>KX019-4            | Track   |
|              |                                   |     | All                                      | Dozer   |
| RG468-9012-0 | Spring kit, swing / AUX1 section  | 1*  | KX015-4<br>KX016-4<br>KX018-4<br>KX019-4 | Swing   |
|              |                                   |     | All except Hi Spec                       | AUX1    |
| RG468-9011-0 | Spring kit, swing / boom          | 1*  | KX027-4<br>KX030-4<br>U27-4              | Swing   |

\*Depending on the affected model and section(s) of the control valve.



## **D. Warranty Information**

### **1. Conditions:**

*For this specific problem, up to 5 years after machine retail date:*

|                     |   |
|---------------------|---|
| Parts:              | Yes   |
| Labour:             | 2,0 hours for one section<br>+ 1,0 hour per each additional section |
| 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.