



## 1 General

PALFINGER has become aware of a design issue on the base of the PW crane range (base type S419).

Between the turntable and the balance of the base, we have seen indications that a very localized area is not resisting the stress of normal use over the calculated lifetime of the crane. As a result, some bases have cracked after a few years. Whether a crack develops is largely dependent on applied working cycles and slewing angles at which the crane has been used.

With the implementation of periodic visual inspections pursuant to instructions in the operator's manual, an immediate failure of the affected component can be prevented.

The performance of such periodic inspections can disclose the existence of a crack at its early, non-dangerous stage.

PALFINGER has decided to initiate mandatory inspections for cracks on the affected component. As described below, cracks smaller than a certain size can be repaired. Bases containing larger cracks must be replaced.

In addition, in order to improve the durability of all of these products, PALFINGER has decided to reinforce all existing bases in this product line. We hope this effort will show PALFINGER's dedication to customer satisfaction.

Any bases produced in PALFINGER's factories in Europe after August 15, 2021 have already been modified and do not need reinforcement.

## 2 Affected Products

Base **S419G30SA** and its updated design **S419G30SB**

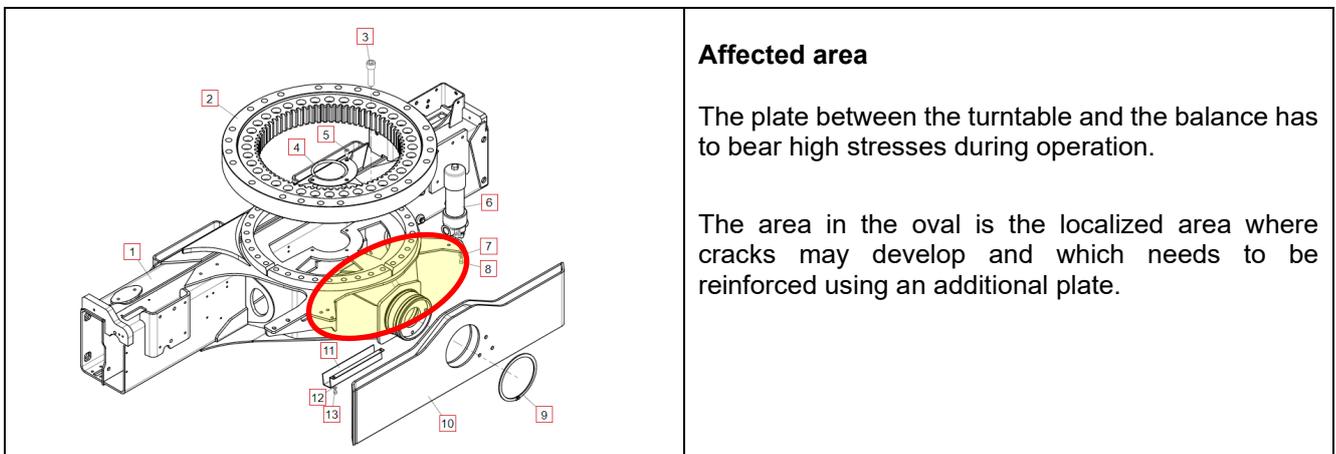
used on models PW 38001, PW 42001-SH, PW 38001EL, PW 50001-SH

## 3 Description

### 3.1 Location

The affected area is located between the turntable and the balance. This area is accessible for an inspection without removing the crane, if the crane is mounted behind the cab.

It might be necessary to remove the crane to carry out a repair or a reinforcement if the area is not sufficiently accessible (such as on installations behind the cab).





**3.2 Visual inspection**

PALFINGER has decided to order a **proactive visual inspection** on all possibly affected cranes on the market.

This must be carried out the following way:

- 1) Determine how many cranes are in your area of responsibility
  - Your cranes are set forth in the attached list of sold cranes, which has been prepared for you as an authorized PALFINGER Service Entity.
  - Understand that there is a higher priority on cranes with an “in-Service” date of **2018** and earlier and a lower priority on cranes sold **2019** and later.
- 2) Visit every customer for a visual inspection
  - Check higher priority cranes (2018 and older) first (refer to attached list of affected cranes)
  - Clean the affected area and check for the presence of a crack. The crack is visible when present and therefore a visual inspection is sufficient without additional methods.
  - To increase the visibility of a possible crack, extend the crane horizontally over the outrigger beam during this check (in the opposite direction of the balance; this is towards the rear of the truck in most cases).
  - The visual inspection can also be carried out by the end customer. In this case, your guidance is required to receive a clear result. Ensure that the “inspector” clearly understands the previous two bullet points.

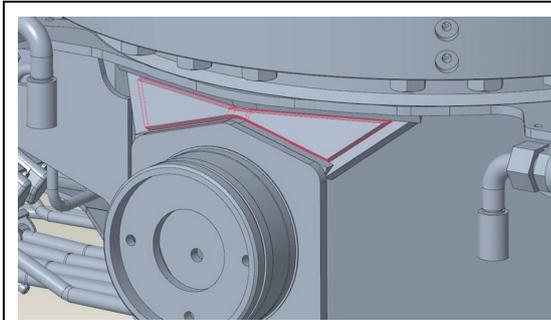
	<p><b>Above left:</b> Crane extended and ready for inspection (with load in this case, but the empty fork is enough)</p> <p><b>Above:</b> Inspection area, crane installed behind cab.</p> <p><b>Left (both pictures):</b> Examples of cracks.</p>
	<p>The first picture shows an already grown crack, easily visible.</p> <p>The second one a “young” crack, which is safe at this stage but more difficult to recognize.</p> <p>Look carefully!</p>



- **If no crack is visible**
  - Crane is safe to work. Arrange a workshop visit for a preventive repair within the next 6 months (refer to point 4.4). Ask the customer to carry out a visual inspection every month, as explained in the maintenance section of the operator's manual.
- **If a crack is found**
  - Prioritize the issue following point 4.1 – 4.3 depending on the size of the found crack
  - Arrange for and carry out a repair as soon as possible. If the total crack length is shorter than 3" and a repair is not immediately possible, **a dye penetration test** to clearly understand its dimension is additionally helpful (if this method is not clear, contact PALFINGER for guidance).
  - Follow point 4.1 – 4.3 based on the priority of the case

## 4 Repair procedure

PALFINGER has designed a reinforcement plate, which must get installed on all cranes on the market, whether a crack is found or not.



### Repair plate

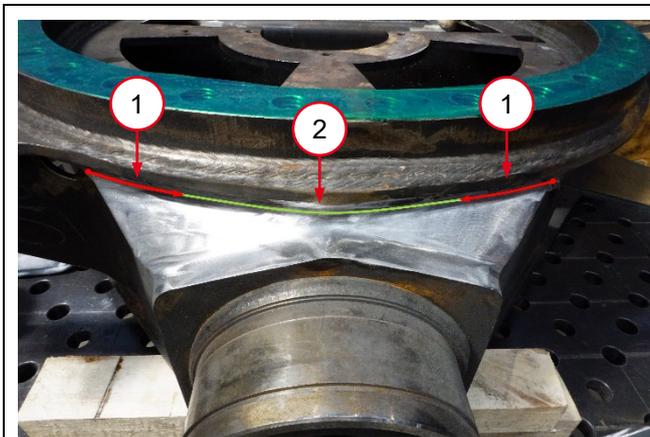
The reinforcement plate **HA22914** has been designed for repair and preventive reinforcement. The plate is available at the PALFINGER Parts Center (PPC).

Be sure to order the needed quantity to cover the upcoming repairs.

Based on the findings during the visual inspection (refer to point 3.2), the cranes must be prioritized for repair the following way:

- Priority "A": Crack in the **critical zone**. This is an unrepairable crack. Follow point 4.1.
- Priority "B": Crack longer than 3" but not touching the **critical zone**. Follow point 4.2.
- Priority "C": Crack 3" long or less. Follow point 4.3.
- Priority "D": No crack found. Follow point 4.4.

### Definition of the critical zone



Remove the paint before evaluating a crack for its priority. A crack is in the critical zone if it reaches into the critical area (1) in either the right or the left side.

This area (1) is **70 mm (2¾")** long on each side, measured on the welding seam from the outside towards the center.

If there is a crack that reaches into the critical area, the base cannot be repaired anymore. This is then a priority "A" case.

As long a crack is only present in the zone (2), a repair is possible.

In uncertain cases, use a dye penetration test to clearly identify whether a crack touches the zone or not.



#### 4.1 Priority “A”: Crack present in the critical zone

- If a crack is found in the critical zone, a repair is not possible anymore, the base must be replaced.
- PALFINGER calls this a **priority “A”** case.
- Tell the customer to **cease operation** and to ground the crane.
- Contact PALFINGER Service and order a new base (S419G30SB). When base arrives, check if it is a reinforced one, otherwise carry out the repair as explained in RA9-53 (most of bases will arrive reinforced from factory).
- Organize a repair immediately with the customer and **replace the base**.
- Document the case (refer to point 6) and claim it to PALFINGER (refer to point 7).

#### 4.2 Priority “B”: Crack present longer than 3”, not touching the critical zone

- If a crack is found over 3” long but does not touch the critical zone, a repair is possible. The crane is at a critical stage.
- PALFINGER calls this a **priority “B”** case.
- Tell the customer to **cease operation** and to ground the crane.
- Inform PALFINGER Service about the presence of the crack and **carry out the repair** according to the attached repair guideline (**RA9-53**) and the general PALFINGER welding instruction.
- Document the case (refer to point 6) and claim it to PALFINGER (refer to point 7).

#### 4.3 Priority “C”: Crack present with 3” length or less

- If a crack is found with a 3” length or less, a repair is possible. The crane is still safe to use.
- Tell the customer that a short crack is present and that a repair is required within 3 weeks.
- Inform the customer that the crane can still be used but the **crack must be observed daily**. If the crack grows over 3”, tell the customer to cease operation and to get in touch with PALFINGER.
- Organize a **repair within 3 weeks** and carry out the repair according to the attached repair guideline (**RA9-53**) and the general PALFINGER welding instruction.
- Document the case (refer to point 6) and claim it to PALFINGER (refer to point 7).

#### 4.4 Priority “D”: No crack found

- In this preferable and most common case, **no immediate action is needed**. A reinforcement repair must be scheduled for no later than 6 months after the inspection.
- Ask the customer to carry out a monthly visual inspection, as explained in the maintenance section of the operator’s manual.
- Arrange a date for this job, but reserve time and space for higher priority cases until all machines under your responsibility are checked. (Based on time and availability, the repair can be carried out immediately).
- Claim the repair to PALFINGER (refer to point 7).



## 5 Measures on market

- The **visual inspection** must be carried out as soon as possible, no later than the **End of September 2021**.
- Depending on the result of this inspection, the described type of repair has to be carried out (refer to the notes under point 4).
- If no crack is present, the reinforcement action has to be completed no later than the **End of March 2022**.
- PALFINGER tracks these repairs using claim management software. It is therefore essential to get every case reported as soon as possible after carrying out the repair (using a claim, refer to point 7).
- For cases without cracks found: If the crane is inspected but the repair is not carried out immediately, a claim reporting the visual inspection must be sent as well (refer to point 7).

## 6 Case documentation

- It is very important for PALFINGER to get proper documentation of all **inspections** and **repairs**.
- Therefore, the following things must be submitted with all claims (including visual inspections):
  - Overview picture of the truck (side view)
  - Picture of the area at inspection (with or without crack)
  - Picture of the crack before repair (if applicable)
  - Picture of the carried-out repair work before painting (if applicable)
  - Current Paltronic (PSY) file of the crane, taken at the time of the repair

## 7 Warranty handling

A warranty claim can be made to PALFINGER using the standard procedure (claim management system) under the conditions described below.

**Two prefilled claims** are already available for the repair under the equipment number, one for the inspection, one for the repair. Data must reflect the measurements taken during the inspection.

Mileage can also be claimed following the PALFINGER warranty guidelines.

### 1. For the visual inspection without repair (required for all cranes)

Labor time	<b>1 h</b> (no material to be added)
Fault code	<b>MGG 1240 / SON 1030</b>
Fault causing part	<b>R-NC-2103_Inspection</b>

### 2. For adding the reinforcement plate (with or without prior crack, priority B, C or D)

Material	<b>HA22914 (reinforcement plate)</b>
Labor time	<b>16 h</b> preparation, plate adding and painting <b>+8 h</b> if crane had to be dismantled from the truck
Fault code	<b>MGG 1240 / SON 1030</b>
Fault causing part	<b>R-NC-2103_Repair</b>

### 3. For base replacement (priority A)

Material	<b>S419G30SB</b>
Labor time	<b>60 h</b>
Fault code	<b>MGG 1240 / SON 1030</b>
Fault causing part	<b>R-NC-2103_Repair</b>



## 8 Attachments

1. Repair instruction RA9-53
2. List of the affected cranes

## 9 Release information

PALFINGER published this document in English. All other languages are translations.

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