

Technical Service Bulletin No. 25-353-A

✓ PIP - Action required

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Recipients:

POTAIN crane service network and representatives, all regions.

Subject:

Reinforcing the diagonals of certain 3.33 meter panel masts.

K mast section models concerned:

- **K649 C** (3.33 x 2 meters)
- **KR849 C** (3.33 x 2.45 meters)

A	Technical Support	07/18/2025	Creation
Index	Written by	Date	Comment

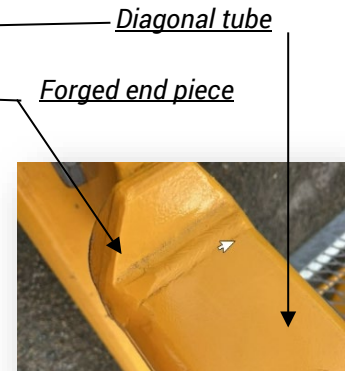
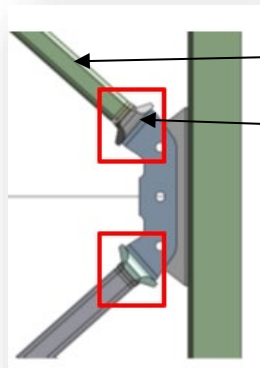
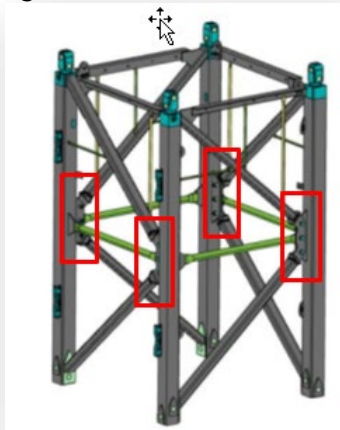
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Risk of cracking of diagonals with forged end pieces, which could compromise the integrity of the panel mast section.

1. Origin and description of the required update:

- 1.1. Due to cases of cracking in the weld between the forged end piece and the tube of the 3.33 meter panel mast diagonal, POTAIN is launching a preventive program to technically update the K649C and KR849C models produced since 2017.
- 1.2. The reinforcement operation must be carried out by a qualified welder, preferably with the mast section on the ground.



- 1.3. Each panel mast section is to be identified using the plate and its wire, provided by Potain. To obtain them, make a request via the email address europorange-pip@manitowoc.com



1.4. The operation consists in:

- 1.4.1. Grinding out and redoing the welds on the 8 forged end pieces of the panel mast section, and then
- 1.4.2. Welding two flats on the internal and external sides of each diagonal as a permanent reinforcement solution.

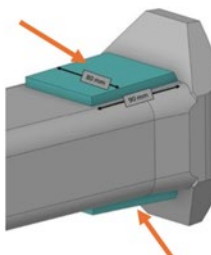
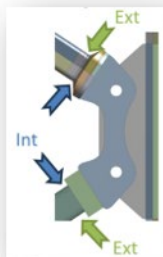
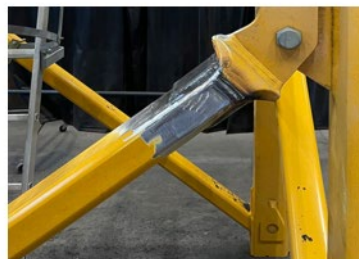


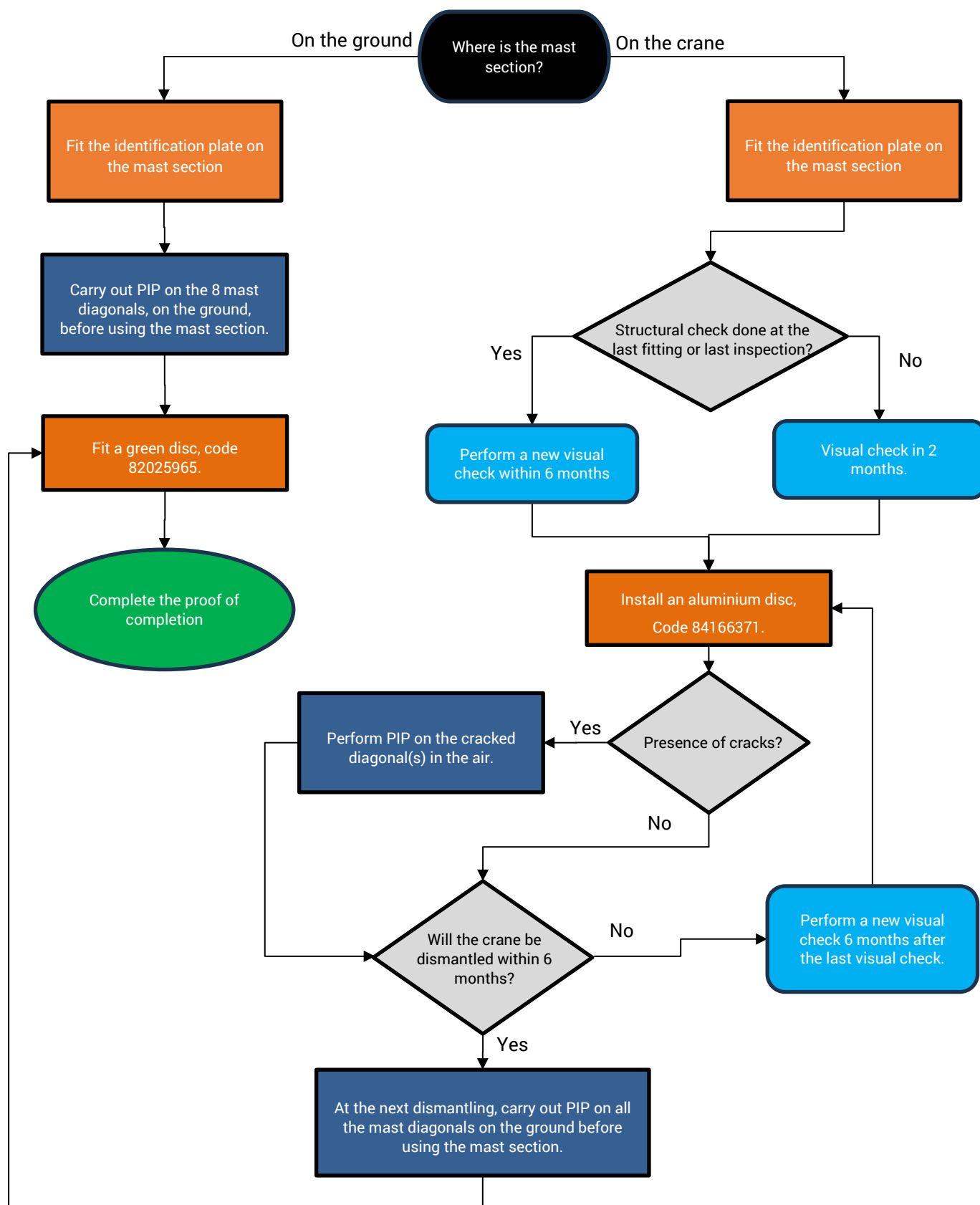
Illustration of the definitive Reinforcement



1.5. Consequently:

- 1.5.1. None of the panel masts of these two models in depots must be raised without having been reinforced beforehand.

1.5.2. The PIP execution process:



- 1.5.3. Panel masts **fitted under a crane in operation** must be visually inspected. The inspection date must be written on a aluminium disc that will be hung on the panel mast section with a wire.



Part designation	Quantity for 1 mast section	Code	Index
Aluminium Disc	Depending on the check number	84166371	A
Wire	Depending on the check number	84129921	A

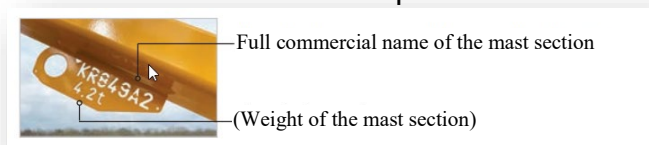
- 1.5.4. During the visual inspection of a mast section fitted under a crane, **any diagonal(s)** that is/**are cracked** must be repaired and reinforced in situ. The other diagonals can be reinforced on the ground later.

- 1.5.5. In the case of a cut diagonal, consult Technical Support.

2. Identification and location of panel masts to be reinforced

2.1 Identification:

The full commercial name of the panel masts to be reinforced is: K649 C2 and KR849 C2, as indicated on the plate welded onto one of the four panels:



2.2 The mast section panels, A, B, C and D, incorporate a welded plate engraved with the panel code:

Designation 3.33 m x 2 m	Code
MAST SECTION EQ K649C2	84041583
MAST PANEL A K649C2	84041584
MAST PANEL B K649C2	84041585
MAST PANEL C K649C2	84041586
MAST PANEL D K649C2	84041587
Designation 3.33m x 2.45 m	Code
MAST SECTION EQ KR849C2	84034849
PANEL In KR849C2	84034850
PANEL B KR849C2	84034851
PANEL C KR849C2	84034852
PANEL D KR849C2	84034853

2.3 Location:

- 2.3.1 The mast sections concerned, delivered with new cranes and as a spare part, were saved in GWX with the location identified during the initial order and a unique number in the format CK649C – XXXX or CKR849C – XXXX.
- 2.3.2 The service and distribution network must validate with the client the quantity of mast sections present on its territory and correct the figure if necessary.

3. Preparing for the operation and conditions for carrying it out:

3.1 Pre-requisites:

- 3.1.1 Operations shall ideally be carried out with the mast section on the ground rather than with the mast section fitted.
- 3.1.2 Reinforcement of the mast section fitted under the crane is possible and described later. It also requires:
 - A specific platform to be ordered from the Spare Parts Service,
 - The mandatory and simultaneous presence of two technicians, authorized to work at heights,
 - Additional working time.

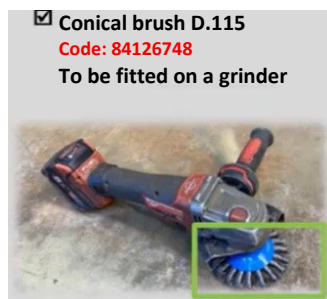
3.2 Welder qualification requested by Potain – BST11-046 Repair with arc welding

The technician carrying out the operation must be a welder qualified in:

- semi-auto welding methods (MAG), method 135, and/or shielded metal arc welding, method 111,
- **angle weld** configuration, and in the three positions: flat (PB/1G), vertical rising (PF/ 3F), and ceiling (PD/4F).

3.3 List of equipment required:

- In the workshop, a MAG welding set and welding wires for S355 steel.
- Outside, a stick welding set. For 1 mast section: 3 packets of sticks $\varnothing 2.5$.
- The wire and stick codes for orders from the Spare Parts service are updated in service bulletin BST11-046.
- A check disc, in aluminium color
- A green PIP completion disc.
- An identification plate and its wire.
- A handheld tool with a D.115 conical brush for stripping the paint.



- A portable grinder with a disc 6.5 mm thick to grind out the weld.
- Electrical extension cables
- Clamps or grips
- Paint for touch-up.
- Appropriate textile handling slings for turning the mast section over and rubber protectors for the sharp edges.
- Appropriate personal protective equipment for the work.

3.4 Additional instructions:

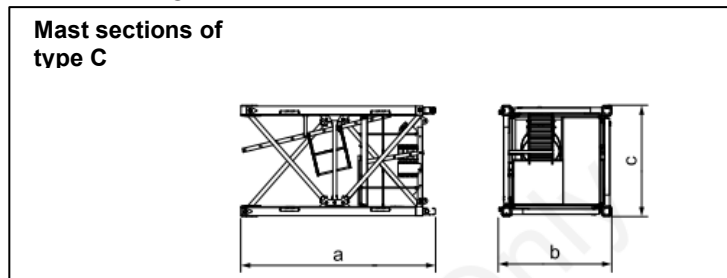
3.4.1 The service bulletins provided in POTAIN e-Tech must be made available to the technicians:

- Instructions and qualifications required for welding on tower crane parts: BST11-046.
- Instruction for paint touch-up: BST10-026.

3.4.2 Mechanical handling for K649 C:

- All handling of the mast section on the ground must be carried out by staff **qualified to drive rolling bridges and gantries** and trained in turning crane parts.
- During the reinforcement operations, the panel mast section must be rotated three times by a quarter turn.

Weight and dimensions of the mast section:



	K649C2
a	3,57 m
b	2,07 m
c	2,03 m
Mass	2 068 kg

4. Ground repair procedure for the K649 C:

4.1 Parts to be ordered from the Spare Parts service:

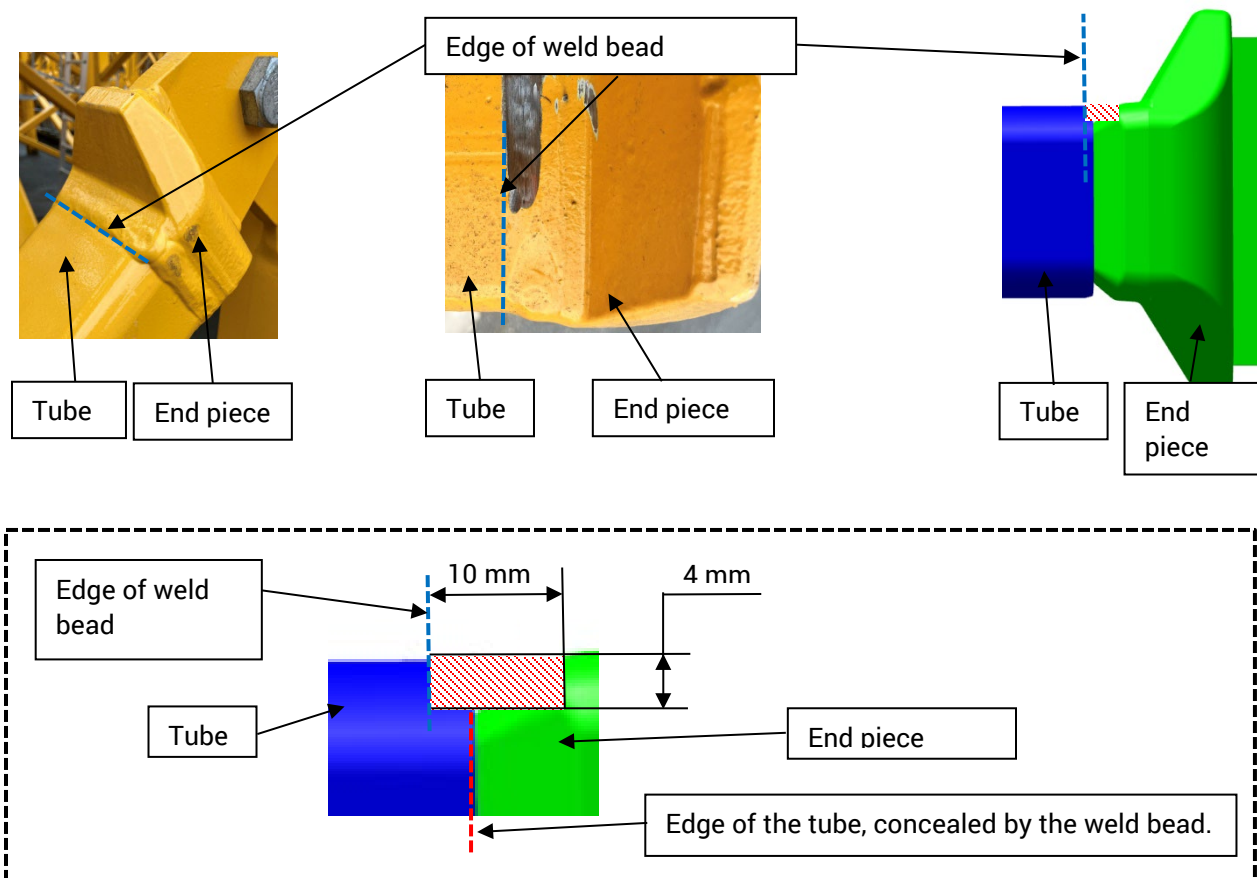
Designation	Quantity for 1 mast section	Code	Index
FLAT 80x90x8 mm Material: S355	16	84164785	A
Green disc	1	82025965	A
Wire	1	84129921	A

4.2 Procedure:

4.2.1 Identify the mast section with the plate and wire supplied by Potain.

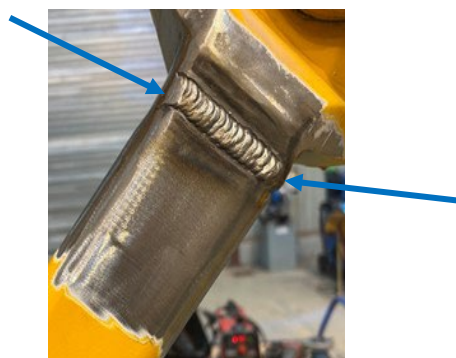
4.2.2 Grind out the welds around each of the 8 tubes:

- Grinding positioned as below, with a width of 10 mm from the edge of the weld bead and a depth of 4 mm:



4.2.3 Remove the paint from the areas to be welded.

4.2.4 Refill the groove with weld according to BST11-046, then grind the two large beads down flush so that the two flats can be placed on the tube.

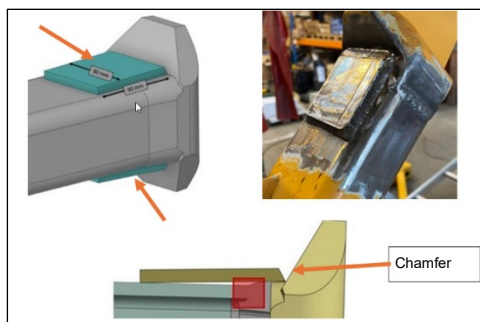


4.2.5 Weld 2 flats, code 84164785, onto each tube:

4.2.5.1 Centered on the 2 large sides of each tube.

4.2.5.2 Chamfer against the forged part.

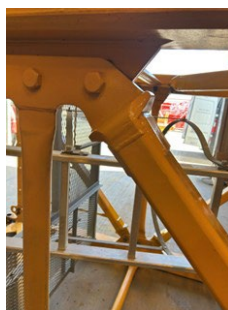
4.2.5.3 Peripheral weld = **a6**.



4.2.5.4 Pivot the mast successively by 1/4 turn to reinforce all the diagonals.

4.2.5.5 Carry out the finishing grinding

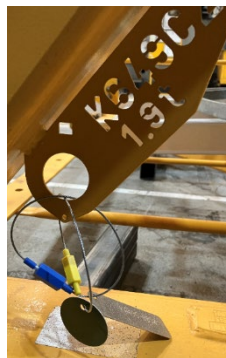
4.2.6 Repaint the zone according to BST10-026, for standard and Premium protections.



4.2.7 Check the tightening of the fishplate bolts for assembling the mast panels
According to the value in the crane manual.

Technical characteristics	
Tightening torque	1 100 N·m

4.2.8 Install a green disc using a wire.



4.2.9 Complete the proof of completion.

5. Ground repair procedure for the KR849 C:

The procedure, on the ground, is identical to that for the K649C panel masts.

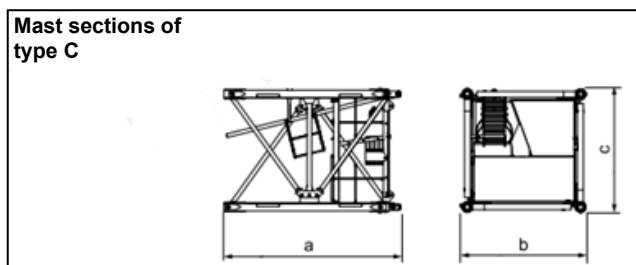
5.1 Parts to order from the Spare Parts service:

The parts to be ordered are the same (same code, same quantity) as for the K649C.

5.2 Mechanical handling for KR849C:

All handling of the mast section on the ground must be carried out by staff: **qualified to drive rolling bridges and gantries** and trained in turning crane parts.

Weight and dimensions of the mast section:



	KR849C2
Lower and upper fishplating diameters	60 mm
a	3,57 m
b	2.55 m
c	2,53 m
Mass	3 058 kg

6. Procedure for repairing one or more diagonals in situ:

The procedure for repair in situ applies to both panel mast section models, K649 C and KR849 C.

6.1 Parts to be ordered from the Spare Parts service:

Part designation	Quantity for 1 mast section	Code	Index
FLAT 80x90x8 mm Material: S355	16	84164785	A
Platform	1	84165805	A

6.2 Additional equipment for repair in situ:

- 6.2.1 Electrical extension cables, according to the height of the masts must be connected to a site power outlet and not to the crane.
- 6.2.2 Accessories for securing hand-held tools.
- 6.2.3 1 gaff hook and a manual chain hoist to position the platform.
- 6.2.4 Platform available as a Replacement part. It is designed to be fitted and dismantled using the crane hook and transported in a van.
 - Working surface area: 62 cm x 52 cm
 - Weight of the platform: 50 kg
 - Weight of the assembly: 110 kg



6.3 Installation of the platform:

- 6.3.1 Fit the platform using the crane hook and pull it into position with a gaff hook, or fit it using a crane truck if one is available.

6.4 Operation conditions:

- 6.4.1 The mast reinforcement principle is the same in situ as with the mast section on the ground.
- 6.4.2 The technicians involved must be qualified to work at height and must wear a safety harness.**
- 6.4.3 Before any operation, ensure that the crane is locked out at the base the isolator switch is turned off and that it is possible to work in complete safety.
- 6.4.4 Make sure that no object interferes with the work in situ, such as spotlights mounted on the last mast section; riser fixtures; trap doors or other anti-intrusion devices, etc.

6.5 Reinforcement procedure:

Follow the reinforcement procedure described in paragraphs nos 4.2.1 to 4.2.7.

7. Reimbursement – ET25-383:

POTAIN will reimburse parts, labor and travel expenses following the GWX procedure, according to the schedule below:

- **Parts** (flats, platform, disc): According invoice.
- **Travel expenses:** According to the current warranty schedule, for a maximum of four hours and 320 km.
- **Labor for reinforcement, mast on the ground:**
 - 2 days with a welder, i.e. 16 hours.
 - The assembly time for the four panels is not reimbursed.
- **Labor for reinforcement, mast in situ:**
 - Real cost, with receipts.

Cost reimbursement requests must be made as "PIP" warranty claims in GWX. The code "ET25-383" must be quoted in the "Claim" field, and the claim must be submitted within **36 months** of receiving this service bulletin, or by **07/17/2028** at the latest.

POTAIN will not accept any requests for reimbursement after that deadline.

The following must be attached to the warranty claim:

- PIP proof of completion.
- The receipts.

8. Reminder of obligations:

In accordance with the terms of the distribution contract signed with POTAIN, the Representative must perform, at the Company's request and within the time limits indicated, all PIP operations on the equipment in the distribution territory which it has been assigned.

Change of owner: As soon as the service and distribution network has been informed that equipment has been sold, it must provide Potain with the contact details of the old and new owners. Read service bulletin BST20-244.

For further information, please contact your usual "Potain Customer Support" agent or Tower Crane "Potain Product Support".