



ANCHORAGE OF CENTRE PIVOT SYSTEM

Damages observed on Centre Pivot Systems in certain parts of the island after the passage of cyclone *Hollanda*, were closely related to the anchoring system.

It is very important for the Centre Pivot, with its tall and long structure, to have a proper anchoring system in order to resist cyclonic winds. It is also essential to have a well established cyclone precaution schedule bearing in mind the time required to bring the pivot to the parking area, especially if it is at the opposite end (180° from the parking area) at the time a first cyclone warning is issued.

1. The Cyclone Precaution Schedule

1.1 At the start of the cyclonic season

- Check the anchoring system (steel cables, cable tighteners, anchor blocks etc.)
- Proceed to any repair work **immediately** and replace any material if necessary.

1.2 When Class 1 warning is issued :

- Bring the Centre Pivot to the parking area
- Organize labour (5 men for 4 h work/pivot)
Labour is required for anchoring the pivot and owing to the urgent nature of the work, additional labour may sometimes be required, especially if several pivots have to be anchored at the same time.
- Stay on the alert.

1.3 When Class 2 warning is issued :

- Proceed to the actual anchoring.

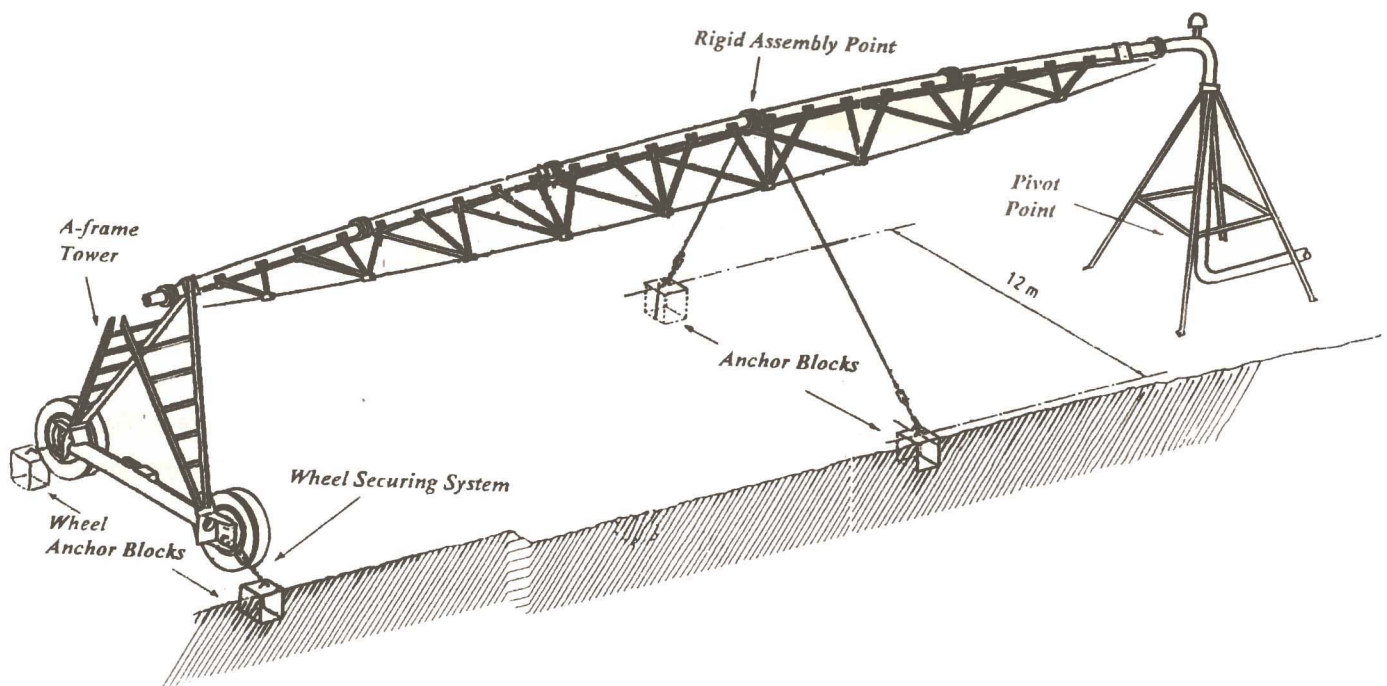


Fig. 1. Anchorage of the Centre Pivot Irrigation System

2. Anchoring procedure

- Fig. 1 shows the anchorage of one span
- Use steel cables (6 - 10 mm diam.) or nylon ropes (*nylon armé*, 20 - 25 mm diam.)
- One end of the cable is tightly fixed at the anchor point and the other end is attached on the lateral at the rigid (flange) assembly point located nearest to the mid position of the span (i.e. where two pipe elements are bolted together). Use cable tighteners (*tendeurs*) to secure the attachment. Attach on both sides of the lateral so as to obtain an inverted V).
- Secure the wheels by attaching the base of the A-frame towers to the anchor blocks. The attachment can also be made at the top of the towers but attachment at the middle of the tower frame should be avoided.
- Minimum requirement for the anchorage system :
 - each span requires at least one attachment point linked to two anchor blocks.
 - each tower requires two attachment points, one on each wheel linked to an anchor block.

3. Operating the Pivot after a cyclone

The extent of damage, if any, should be assessed and necessary repairs effected. If there are no apparent damages, the following tasks should be performed before starting irrigation :

- Check the couplings at the towers and the pivot point as well as the pivot attachment to the foundation base.
- Inspect all electrical connections and ensure that there is no water inside the protective boxes of the electrical equipment.
- Check the state of the motors by starting them and verify the alignment of the system.
- Flush the system and start irrigation (effective rainfall should be taken into consideration).

Note : A complete overhaul of the Centre Pivot installation is necessary if major cyclone damages are detected. In case of doubt, please call the supplier.