



DATE: February 14, 1995

**SUBJECT:** GRASSHOPPER RIG-UP

**SERIAL NUMBERS:** 014, 016, 018, 019

**DISCUSSION:** Proper procedures must be followed to ensure that the grasshopper will not swing out of control during rigging-up. Failure to do so can result in personal injury and property damage.

- RECOMMENDATION:**
1. The safest method of rigging the grasshopper is with the use of a crane. The crane is generally able to lift from directly above the point of attachment of the cable to the grasshopper allowing the operator to control the movement of the grasshopper.
  2. When a crane is not available the following procedure must be followed to ensure that the grasshopper is rigged-up safely:
    - 2.1 With the grasshopper still in the laid down position, elevate the pole as required and rotate the entire assembly until section 1 (the inboard section) is in the required position. On 3 section grasshoppers it will be necessary to raise the junction box section prior to rotating.
    - 2.2 Anchor section 1 so that it will not rotate while raising sections 2. FAILURE TO DO SO MAY ALLOW THIS SECTION TO SWING UNCONTROLLABLY DURING THE REST OF THE RIG-UP.
    - 2.3 Attach the line to be used for raising sections 2.
    - 2.4 To control the swinging of the grasshopper a tag line must be attached from the outboard end of section 2 to a forklift, loader or similar vehicle. THE TAG LINE MUST BE ATTACHED PRIOR TO ATTEMPTING TO RAISE SECTION 2 OF THE GRASSHOPPER.
    - 2.5 Attach the line in a manner that will not allow it to slide along the grasshopper section.
    - 2.6 Position the vehicle so that it can provide a holdback force which will oppose the lift force as much as possible.
    - 2.7 The operator of the vehicle will keep the line between the vehicle and grasshopper taut at all times in order to provide a holdback force to control the swing of the grasshopper.
    - 2.8 THE SECOND SECTION OF THE GRASSHOPPER WILL HAVE A TENDENCY TO SWING ONCE IT IS LIFTED FROM ITS CRADLED POSITION IN SECTION 1. If the pull from the lifting winch is coming from one side of the grasshopper that is the direction in which it will swing. If the pull is directly along the grasshopper it could swing in either direction. Ensure that the person controlling the tag line is prepared and all personnel are standing clear.
    - 2.9 The operator of the vehicle attached to the tag line will be required to coordinate with the winch operator to control the swing of the grasshopper.

2.10 After section 2 has been raised to a vertical height that will allow it to clear section 1, it can be allowed to swing to a stable position by slowly and carefully slacking off the tag line while keeping section 2 raised above section 1 (i.e. do not allow section 2 to rest on section 1). Once section 2 has swung to its extreme continue the lift to be absolutely sure that there is no more tendency for it to swing. If the grasshopper is stable the tag line can be removed. The structure will remain stable the for the rest of the installation.

**INFORMATION:**

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