

TELECOPY TRANSMITTAL FORM FAX NUMBER: (319) 352-9378 07 (319) 352-5727

To (Company): GRUAS S.A.		FAX No. 9 011 511 464 7960
Attention:	David Melgarejo	DATE: March 3, 2000
Number of p	ages being sent: Cover + 0	
From:	George E. Green	Ext. No. (319) 352-9315

Special Instructions or message: RE: Your FAX of March 2rd

I received your report on the inspection of this crane. You have done a very thorough job and I commend you for it. Following are the nominal factory tolerances for new boom sections as measured with the sections supported and out of the sun:

- Over the entire length of the section a total gradual bow of 1/4" is allowed. This
 may be in the vertical plane, the horizontal plane, or a combination of the two. If
 both vertical and horizontal displacement are present, the total displacement
 from the theoretical position may not exceed 1/4".
- Boom sections which are in use in the field may continue to be used with an overall vertical bow only, (no significant horizontal component) of up to 3/8" so long as there is clearance (no contact) between the internal components.
 Ripple in the top, bottom, or side plates when measured peak to peak should a
- Ripple in the top, bottom, or side plates when measured peak to peak should not
 exceed '14" in depth. In the areas swept by slider pads as the boom is extended
 or retracted this should not exceed 1/8" (In certain areas of the side plates of
 some base boom sections this limit may be increased. See item 5.)
- Boom sections which have sharp bends, creases, or scratches deeper than 20% of the plate thickness are not suitable for continued use.

The third section appears to slightly beyond our nominal tolerances. However, the depth of the ripples that you show, 8 mm, is not enough to be of concern from a structural competence standpoint so long as the ripples are smooth and wave like in appearance. Abrupt changes in profile (depth) such as the impression of a wear pad would be cause for concern.

We see no reason to replace undamaged components in the boom unless they are worn to a point where replacement would soon be necessary anyway.

Generally speaking all components must be ordered indivitually. In the case of severely damaged booms our parts department does offer what are called tip over replacement booms at a cost significantly below the cost of the individual parts though I do not believe that would make sense here.