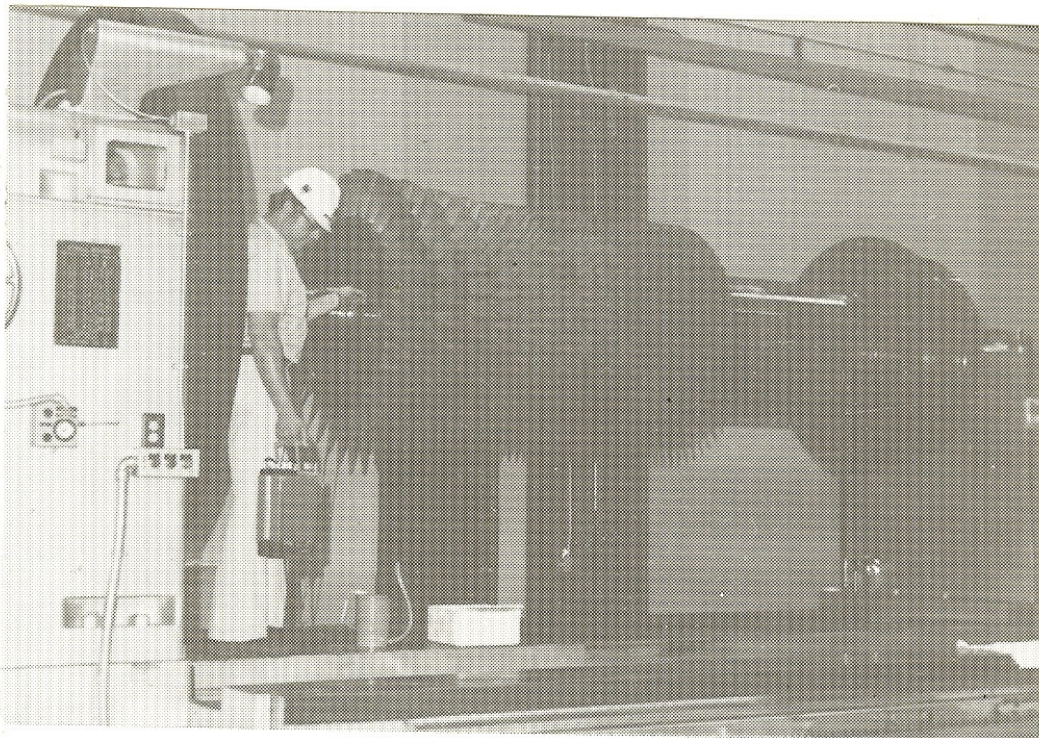


# Nondestructive Examination of Gas Turbine Rotors & Components

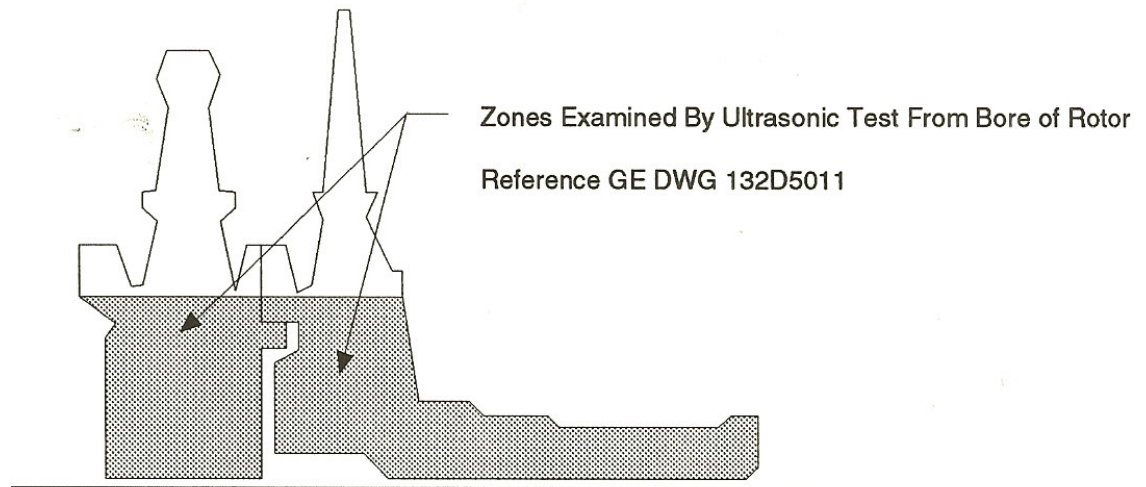
To provide industry with an impartial third party inspection of gas turbine rotors and components, REINHART & ASSOCIATES, INC. (R&A) has developed and is currently using a boreside visual, magnetic particle and ultrasonic inspection system. Since rapid response by R&A is usually required, and sometimes follows an inspection initially conducted by another group, the system was designed to be lightweight and air-transportable. This will normally allow the system to be used anywhere in the United States shortly after a call is received at the Austin, Texas office of R&A. Inspection procedures and techniques have also been developed for peripheral inspection of rotors from the outside surface. Inspection of blades, bolting and other components is also provided.



Ultrasonic examination of compressor through bolts of gas turbine.

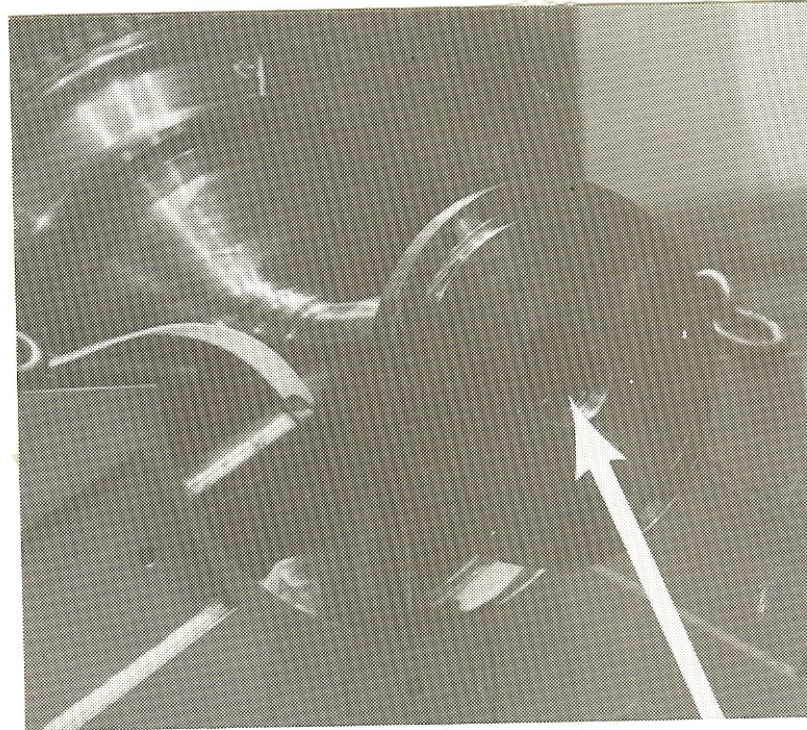
**REINHART & ASSOCIATES, INC.**  
*Nondestructive Evaluation Specialists*





Boreside ultrasonic inspection uses an inspection module containing search units which have been optimized for detecting flaws of an orientation that would most likely cause service failure (flaws growing in a radial direction out from the bore surface). Search units use focused shear and longitudinal wave techniques. By selecting the proper search unit combination and scan mode, the system can be used for both detection and analysis of reflectors. This system can detect 1/16 inch side drilled and flat bottomed holes at a metal depth of .100 inches from the rotor bore surface. Although initially designed for analysis of indications detected by others, the system can be used to perform a complete rotor examination in a short time and at competitive costs.

Since the inspector is the most important parameter in achieving a reliable examination, REINHART & ASSOCIATES, INC. uses at least one Level III inspector at all jobs. This inspector conducts site evaluation of indications and coordinates with stress-fracture mechanics analysts. A field report is delivered to the customer prior to leaving the job site.



Gas turbine rotor bore from which visual and ultrasonic examinations are performed.

In addition to boreside ultrasonics, peripheral ultrasonics can be performed using R&A developed calibration blocks. Magnetic particle and visual examination of the bore surface as well as bore preparation of a rotor can also be performed by R&A.

For more information contact:

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