



INSTRUMENT TECHNOLOGY, INC.

PROTECHT®

Every ITI articulating scope design is cycle tested 100,000 times with **PROTECHT**.



PROTECHT. Over-Torque Protection for Articulating Scopes

ITI Fiberscopes and Videoscopes with **PROTECHT**® have longer life and extended trouble free articulating cycles. Longer scope life results in **lower inspection costs, less downtime** and **lower total cost**.

Articulating fiberscopes and videoscopes suffer from a high rate of over-torque damage resulting in costly repair or destruction. ITI's patented **PROTECHT**® system significantly reduces accidental damage due to over-torque.

The articulating tips of fiberscopes and videoscopes are manipulated by cables that run through the scope "vertebrae", causing the tip to pivot. Extremely fine video and illumination fiber bundles (in the form of an Image Guide or Video Cable) also run through the scope to the articulating tip (see figure 1).

Accidental damage or breakage occurs when the resultant high tension load on the articulation cables eventually damage the vertebra column and/or the cables (see figures 2-3). Fiber bundles and video cable wires are then subject to damage resulting in serious (repairable), or permanent damage to the articulating tip.

PROTECHT virtually eliminates these types of accidental damage. Any undue force placed on the articulation cables is transferred to a proprietary (patented) load take-up spring connecting the articulation cables to the control knob. Excessive loads are transferred to the springs, protecting the vertebrae and image guide from damaging torque.



2 Operator attempts to force articulation when the tip is constrained and cannot move

3 An attempt is made to withdraw the scope from an access hole before the tip has been straightened



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