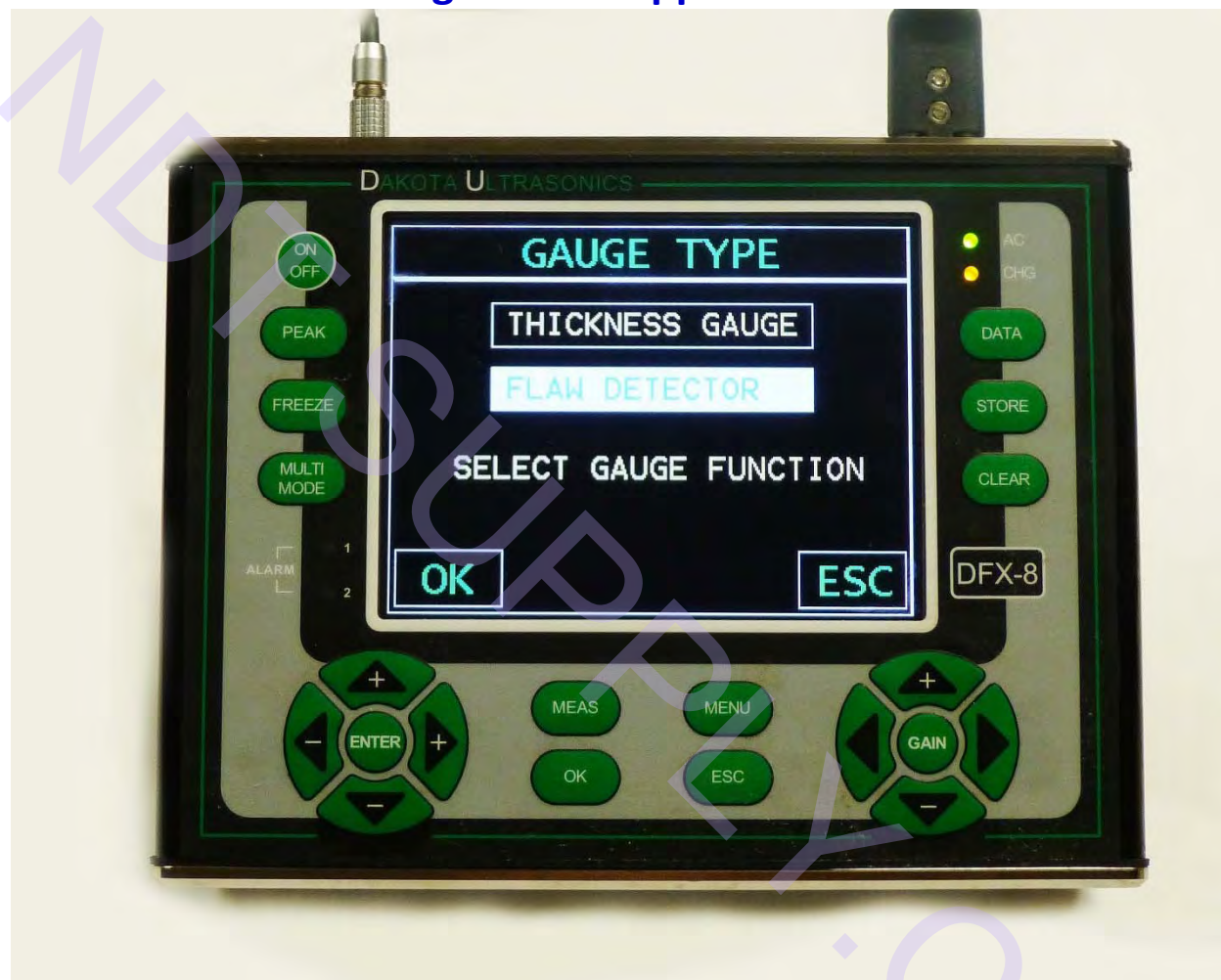


## Demonstration of Dakota FX80 Angle Beam Applications



### The Dakota FX80 is 2 instruments in 1

- Select Thickness Gauge for a Multi-Mode Thickness Gauge
- Select Flaw Detection Mode for a very capable Ultrasonic Flaw Detector

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## Demonstration of Dakota FX80 Angle Beam Applications

### FX80 ANGLE BEAM APPLICATIONS INDEX

1. Angle Beam Application – Introduction
2. Index
3. Calibration AWS Probe, 5" & 10" Ranges
4. Angle Beam Trig
5. AWS D1 Calibrations
6. AWS Flaw Rating
7. AWS Weld Inspection Example – 1
8. AWS Weld Inspection Example – 2
9. DAC
10. Demo Rail Bolt Hole Crack – Peak Mode

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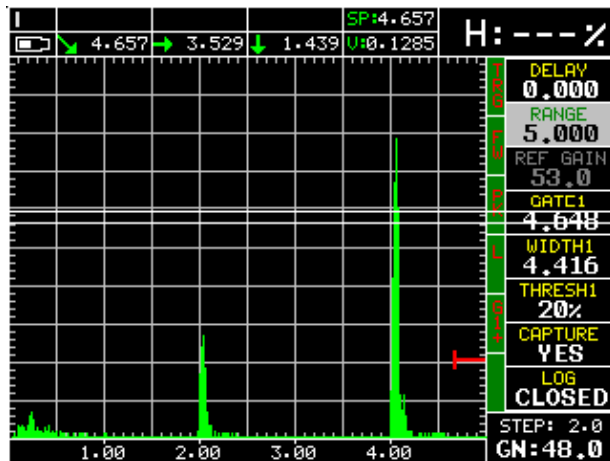
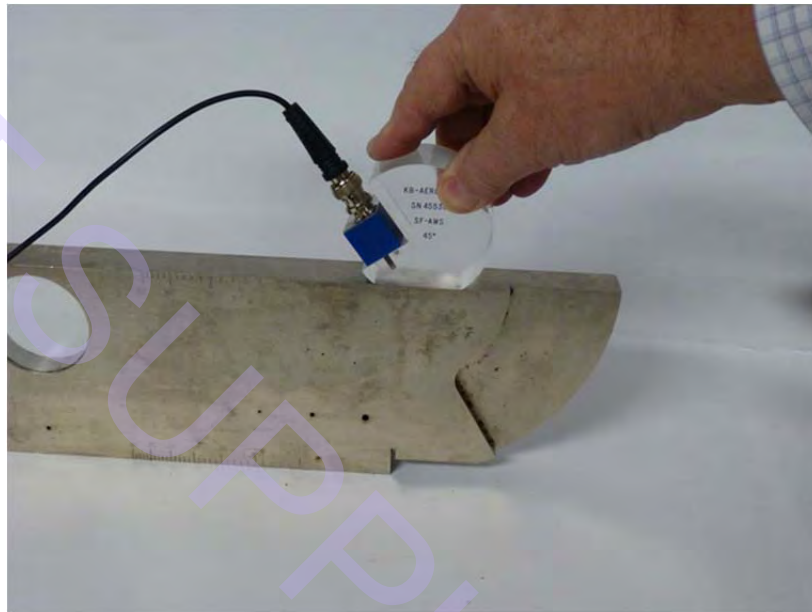
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## Demonstration of Dakota FX80 Angle Beam Applications

Angle Beam – AWS 2.25 MHz 5/8" x 3/4" Probe, IIW-2 Calibration Block, Steel



5" Range



10" Range

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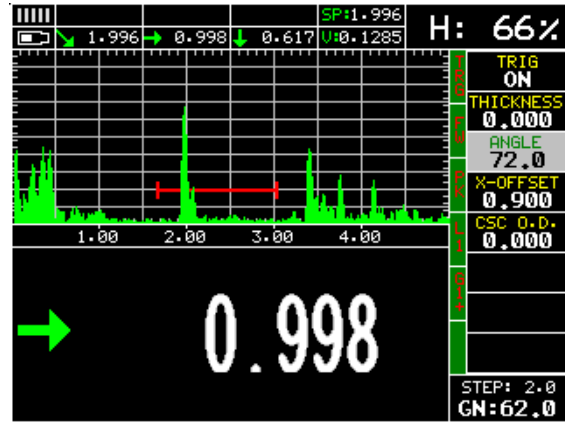


## Demonstration of Dakota FX80 Angle Beam Applications

### Angle Beam Trig



Sound Path Distance



Reduced Surface Location (less "X" value)



Depth

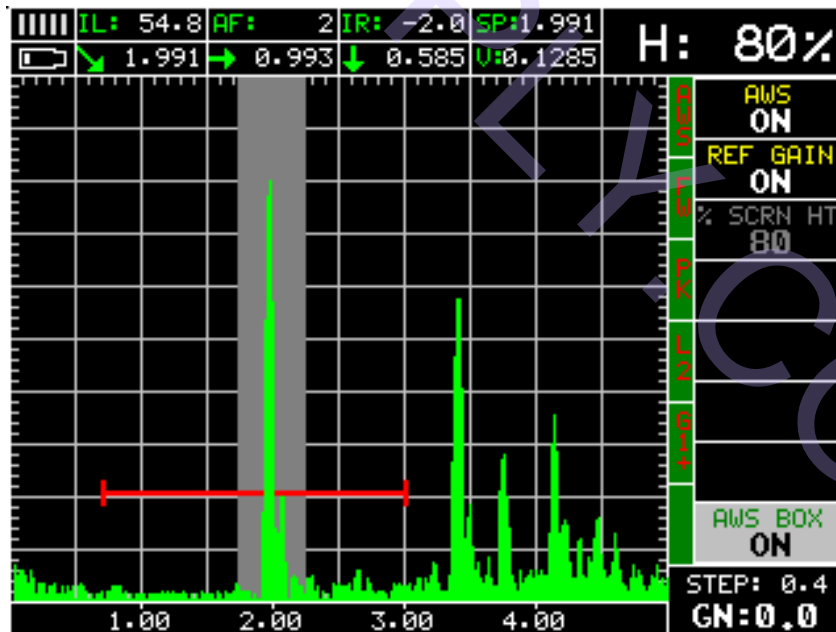
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## Demonstration of Dakota FX80 Angle Beam Applications

### AWS Calibration



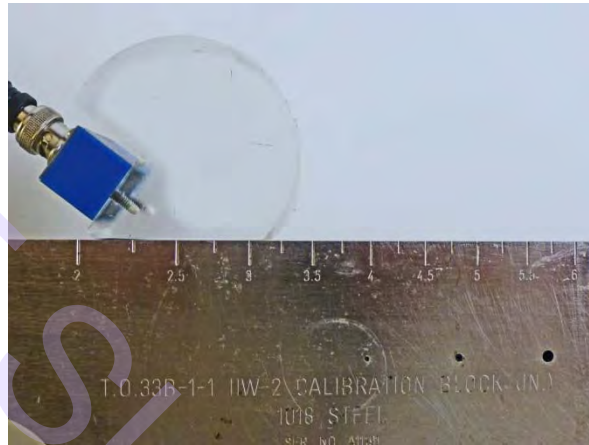
Reference Reflector 0.060" Side Drilled Hole. Set as Reference Echo (IL)

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## Demonstration of Dakota FX80 Angle Beam Applications



3/64" SDH @ 4" IR (Indication Rating) 4.3



5/64" SDH @ 4" IR (Indication Rating) 0.5



8/64" SDH @ 4" IR (Indication Rating) -0.9

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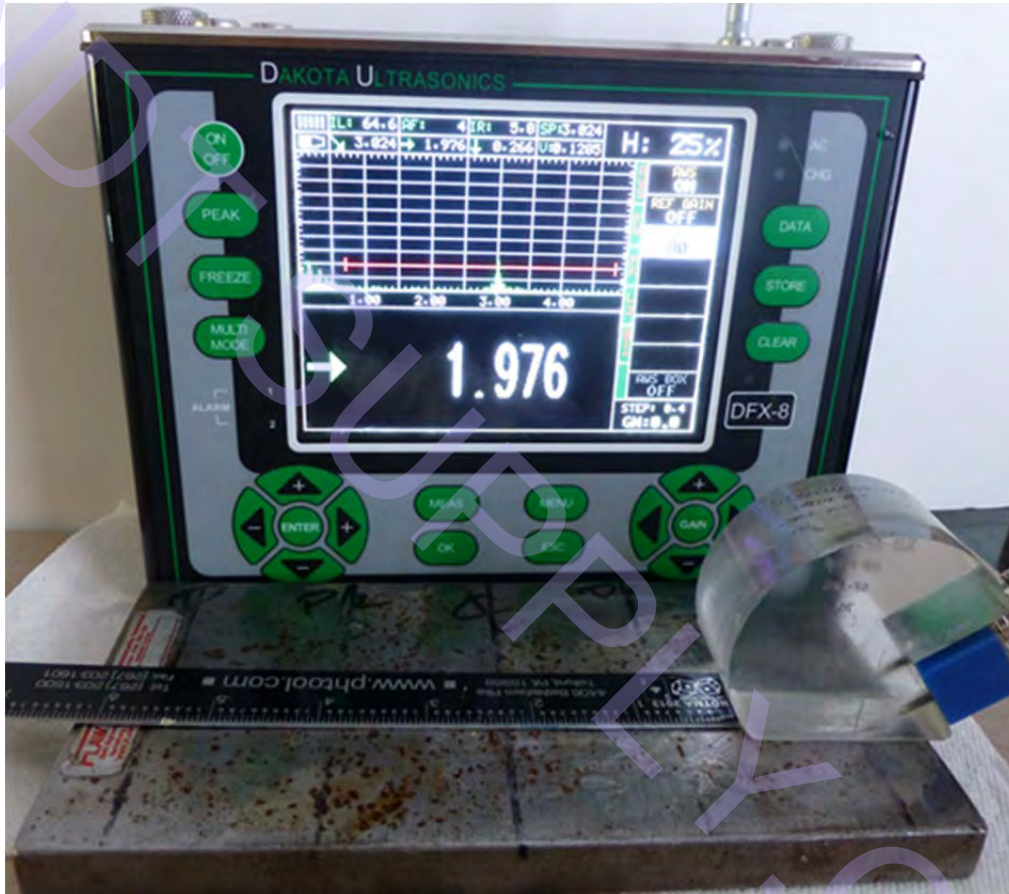
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## Demonstration of Dakota FX80

### Angle Beam Applications

Examples of AWS Weld Inspection



Indication Rating = IR = 5.8

Sound Path = SP=3.24"

Reduced Projection Distance = RPD=1.976"

Depth = D=0.266"

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## Demonstration of Dakota FX80 Angle Beam Applications



Indication Rating = IR = 8.2  
Sound Path = SP=3.052  
Reduced Projection Distance RPD=2.002"  
Depth = D=0.257"

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## Demonstration of Dakota FX80 Angle Beam Applications

### Angle Beam DAC



DAC Curves can be selected:

- Reference -2, -6, -10, (-6/-12), (-6/-14), (-2/-6/-10) dB.
  - Amplitude displayed in %DAC, dB, or %FSH.

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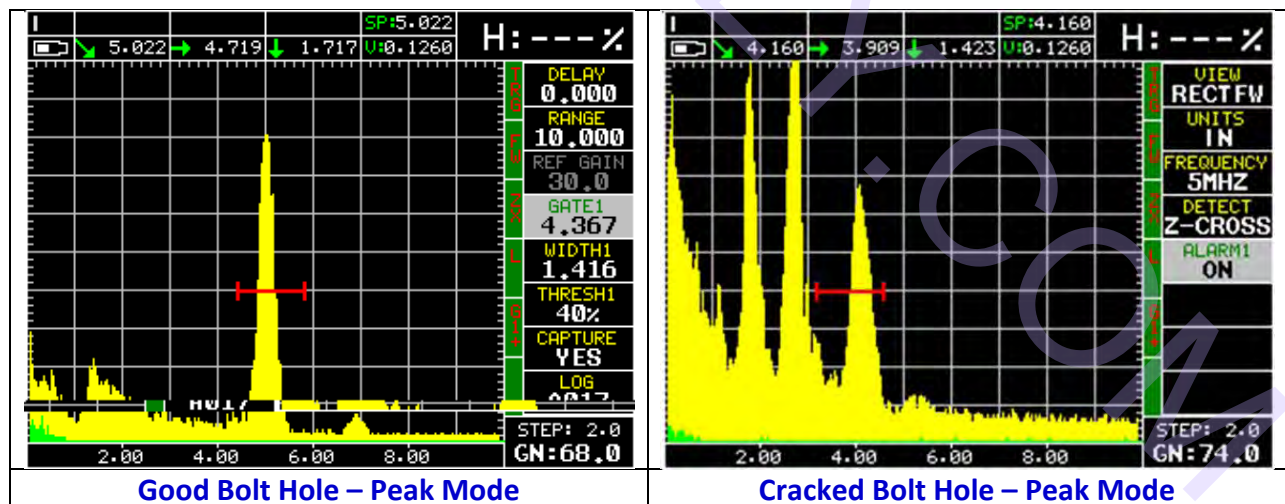
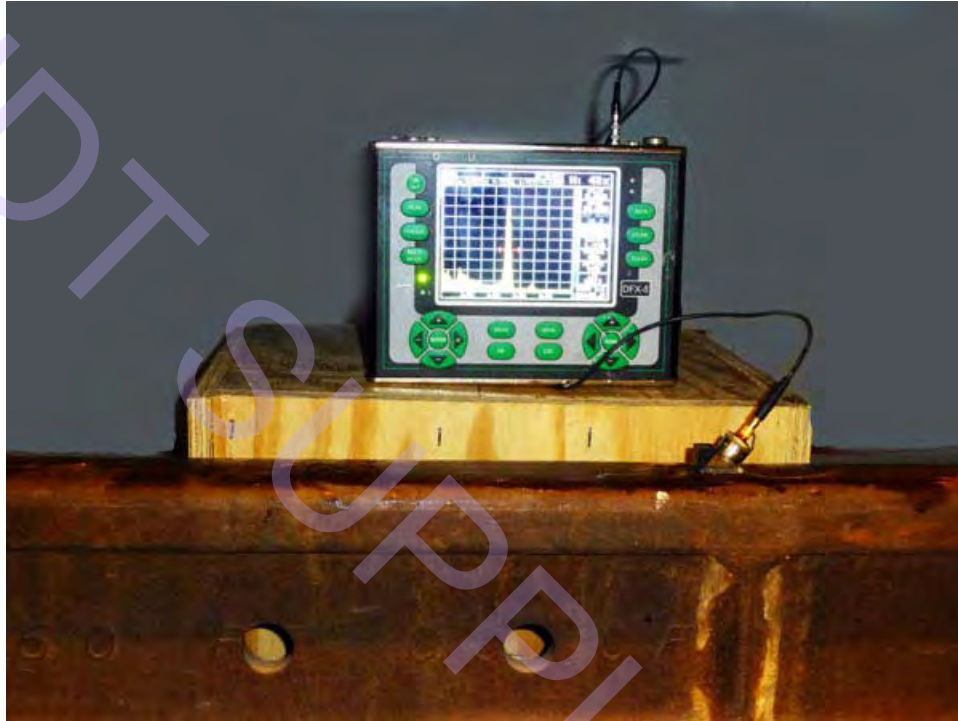
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## Demonstration of Dakota FX80 Angle Beam Applications Rail Testing Bolt Hole Angle Beam Test



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