



Spot Weld Testing: Special Probe with 45° Mirror

Ultrasonic Application Solutions

Application

Testing of spot welds with ultrasonics has been successfully used for many years in automotive body shops. However, there are sometimes configurations which are difficult to access thus making probe positioning impossible on the spot weld, refer to Fig. 1. In this case we can see that a protruding bolt hinders a standard probe from being positioned vertically.



Figure 1: This spot weld can be easily tested

Solution

The GE European Solutions Center developed the special probe G 20 MN 3,2 x B2 in order to enable the inspection of spot welds, which are not accessible with the standard 13mm diameter probe (figure 2).

The probes includes PVDF element and contains an exchangeable water delay line with a flexible rubber membrane. This will ensure optimum ultrasound transmission even on a typical curved spot welding surface.

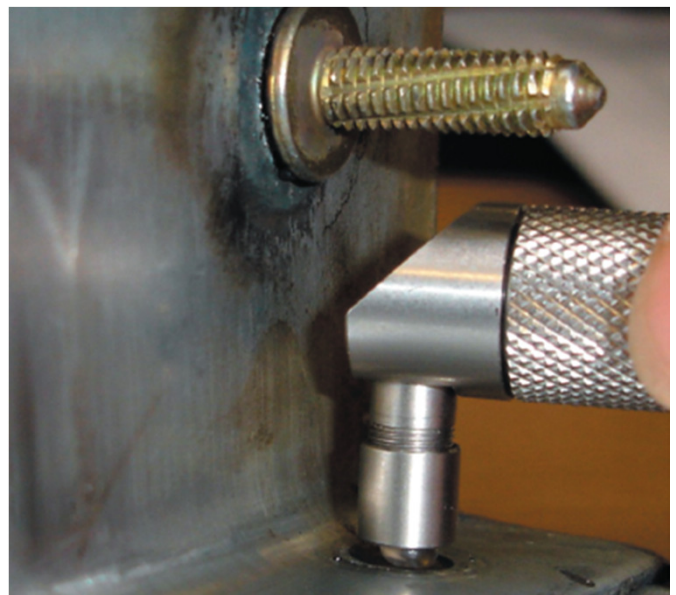


Figure 2: Probe for spot weld testing with 45° mirror



The G 20 MN with 45° mirror

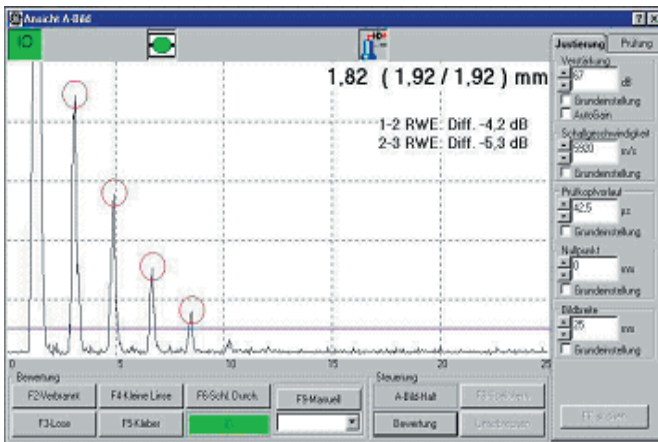


Figure 3: A-scan

As can be seen in figure 3, the sound propagation, pulse shape and sensitivity within the water chamber is not negatively affected by the 45° mirror.

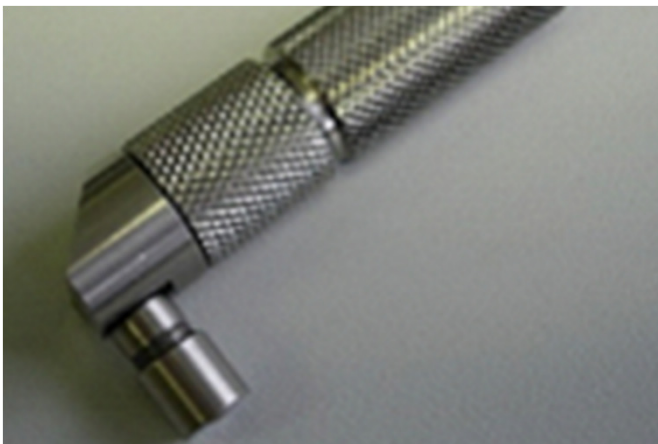


Figure 4: Spot weld probe with 45° mirror

The special probe G 20 MN 3,2 X B2 which is made of stainless steel, includes an element size of 3,2mm and a frequency of 20MHz.

The housing dimensions, element sizes and frequencies of this kind of probe can be adapted to specific customer needs.

General solution information

- Flaw detector SpotChecker
- Probe G 20 MN 3,2xB2 with 45° mirror
- The mirror can be supplied separately

Your benefit

- Optimum testing of all spot welds irrespective of position
- Improved testing at low cost
- Cost saving by avoiding destructive testing

Part numbers

G 20 MN 3,2xB2	0068635	SpotChecker	0036763
45° Mirror	0068675		

Contact the GE European Solutions Center for your individual inspection problems:

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