

Portable PEENING tool (designed and produced by MPI)

Basic information (from one of MPI's clients) is here:

<http://lets-global.com/ultrasonic-peening-equipment/> (do not contact the client because he will not be happy to have future competitors)

Specification, advantages and properties:

1. MPI peening tool has 2 times higher, initial oscillating amplitude of ultrasonic transducer, compared to any other peening tool produced worldwide (meaning hammering, penetration impact depth can be very high and strong).
2. MPI's peening operating regime can be frequency-modulated what has advantages regarding faster and stronger stress relief (compared to competitors).
3. Operating life: almost unlimited. Apparatus is very robust and almost indestructible, compared to competitors. Applicable in very long continuous operating regimes (it has forced air cooling for very long and heavy duty operations).
4. Modular design concept, with easy replaceable hammering pins, and handy for manual operations.
5. Can be applied with robotic arm.
6. Pictures and applications: see attached literature.
7. Rated watt consumption 400-600W.
8. Operation ultrasonic frequency 20 kHz.
9. Bias current 7A.
10. Oscillation amplitude of wave guide edge 25-30 μm .
11. Treatment speed in manual mode 0,3 - 0,7 m/min.
12. Overall dimensions of manual tool 455x180x75 mm.
13. Manual tool's weight 3,5 kg.
14. Tool's axial clamping force 20-40 N.
15. Cooling air input.
16. Needle diameter 2 to 5 mm

Ultrasonic generator:

17. Output voltage 600-1200 V
18. Main supply voltage 230V 50/60 Hz
19. Operational frequency range 17.5 - 21 KHz

Comment: We could combine mechanical or ultrasonic peening tool with electromagnetic field, stress relief coil, for active demagnetization and magnetic shocking in order to maximize stress relief effects. This will help us to create our new, very original patent (united ultrasonic and electromagnetic peening).