

# STUCK STUD SOLUTIONS



## Welcome to your one source for field services in the energy industries.

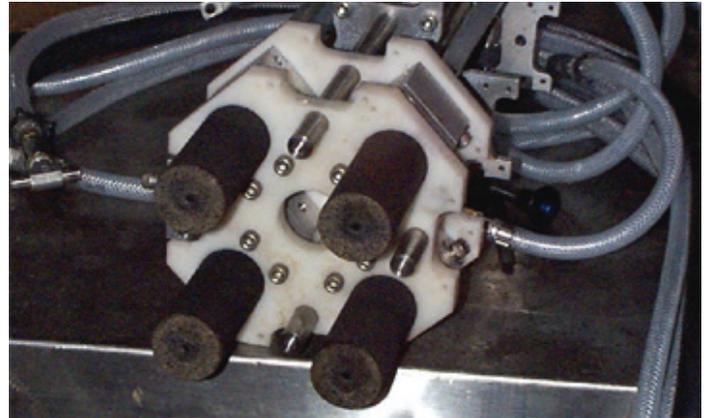
Stuck studs can easily ruin the best-planned outage schedule. When detorquing fails to remove them, critical path tasks grind to a halt. Historically, the problem has been attacked by brute force: larger torque multipliers, liquid nitrogen thermal shocks, and ultimately drilling out the studs using ever larger and more powerful drills. However, there are a number of uncertainties connected with brute force drilling:

- How hard are those studs after all those years in service?
- Will drilling leave threads undamaged?
- What if a drill bit breaks off in the hole?
- Will it really work?
- How long will it take?

The best solution to stuck stud problem would be fast and predictable, would not depend on stud metallurgy, and would be certain not to damage hole threads-criteria which are unlikely to be met by drilling.

## Our Solution

Metal Disintegration Machining (MDM) is a very successful stud removal system. WEC Welding and Machining utilizes a graphite electrode to cut out the core of the stud. The next step is to MDM a wide slot in the remaining stud remnant. A special tool is then used to peel the remaining strip of material. Once the strip is removed, the stud remnant can be collapsed and removed.



Metal Disintegration Machining (MDM)

### MDN

### Drilling

Dependent on stud metallurgy?	NO. The process is actually faster & more efficient the harder the material.	YES The harder the material, the slower the progress.
Can threads be damaged?	UNLIKELY. While possible, the risk of thread damage is very slight.	YES. Risk of thread damage is very high.
What if a drill bit breaks off in the hole?	Does not employ a drill bit.	Can take hours to remove the broken bit.
Will this approach work?	YES. Every time, the FIRST time.	YES. Requires more time, with high risk of delays.
How long will it take?	2 TO 3 HOURS (Per 2-1/4" X 3" stud)	4 TO 8 HOURS or more (Per 2-1/4" X 3" stud)