JOINING PROCESS VALIDATION
ADAPTIVE DFS
for every assembly joint

- Feasibility analysis
- Accessibility check of the individual assembly points
- Process analysis
  - Determine the process parameters
- Process validation
  - Define the process parameters
- Process documentation
- Coupon tests
Feasibility analysis

- Check the feedability of the fastener
- Determine the suitable feeding technology
- Evaluate the material pairing/material strength

Accessibility check of the individual assembly points

- CAD-supported accessibility testing of every joint with rating, documentation and recommendation of needed modifications

Process analysis

- Parameter presetting and initial selection of the assembly program, utilizing the extensive DEPRAG data base
- Production environmental-, robot-supported assembly to determine the process parameters, based on the autonomous penetration-detection with closed loop parameter adjustment

Process validation

Define the following parameter for

- the controlled feed drive:
  - bit engagement
  - distance/time/force
  - spindle clamping force
- the controlled turn drive:
  - turn direction
  - speed
  - torque
  - angle
- the controlled downholder
  - down-hold load

Process documentation

- Process documentation for traceability
- Set of parameters for upload into your ADAPTIVE DFS
- Filing the parameter set into the DEPRAG data base

Coupon Tests

- ADAPTIVE DFS based coupon tests at laboratory conditions and based on the ascertained and set process parameters
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