FIA Theory & Application of Forging & Die Design Problem Solving Submission Form
(Form Useful for Arriving at Reasons for Performance Failure)

Companies are encouraged to submit a real-life problem for the problem-solving session. A brief statement of the problem, material being forged, drawings of parts and/or dies, sample part, (if size permits), and a description of effort (what has been tried that didn't work) will be needed. This information should be submitted to FIA, Attn: Gabby Schultz (gabby@forging.org), ASAP. **If your company wishes to be notified of the solution to the problem(s), please check this box.** ☐

NAME: _____ (please print)

Company: _____

Date: _____

Problem Statement:

_____
_____
_____
_____

Material Being Forged: _____

Material Specification: _____

Forging Steps (Bust, Block, Finish, etc.) *Provide Engineering Drawing of Each Step*
Provide Progression if available

_____
_____
_____
_____

Forging Equipment for each Step: _____

Equipment Size and Settings: _____

Heating Equipment: _____ Temperature (Min/Max): _____

Production Rate: _____ Continuous or Reheat: _____

Method of Part Ejection or Stripping from Die Cavity: _____

Forging Cooling Method after Forging: _____

If the parts are cleaned and inspected after each forging step, what method is used?

_____

Die Material: _____ Die Temper/Hardness: Initial: _____

At Failure: _____

Die Construction: _____

Is Weld Overlay used on Die Surface? ____ Weld Rod Material: _____

Other Die Surface Modification (Nitriding, etc.): _____

Surface Finish of Dies: _____ Die Finishing Method: _____

Die Temperature: ___ Die Preheating Method _____

Die Heating During Run: _____

How is Die Temperature Maintained if Production is Interrupted? _____

Lubrication Type: _____ Application Method: _____

At what angle (degrees) is Lubrication Sprayed on the Die? _____

Has lubrication ever dropped below 40˚F in storage? _____

What causes the die to be reworked or resunk?

_____

Wear (explain the location of out of tolerance wear and previous attempts to correct):

_____

Thermal Cracking: _____ Location of Cracks: _____

Type of Cracking: _____

Metal Flow Problem? _____

Lap Location: _____

Underfill Location: _____

Methods Tried To Correct Problem: _____

Other comments or information: _____

_____

_____

_____

_____

Return Completed Form Along with Drawings or Sketches of Parts and/or Dies, And A Sample Part if Size Permits To:

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