



WE FORM IDEAS

wm dudek manufacturing company

Idea Forming Case Study 40

TITLE: Dovetail Increases Form Strength

APPLICATION: Electrical Connector

MATERIAL: AISI-1050 ASTM A684 .048 Thick

SPECIAL CHARACTERISTICS: Hole in overlapping surfaces is tapped with a 5/16 - 24 thread
Austempered to Rc 40-44

CHALLENGE: Keep overlapping surfaces from separating during assembly

BENEFIT: Increased assembly rate enabled by higher strength form not separating during fastener insertion.

Before –

When our customer changed the drivers used for screw insertion they found the two overlapping sections of material separating.

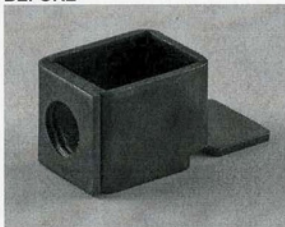
The initial cause was thought to be inadequate heat treat. Through extensive testing this cause was ruled out.

Upon investigation of the new drivers being used in assembly it was found that to increase assembly speed higher torque drivers were employed.

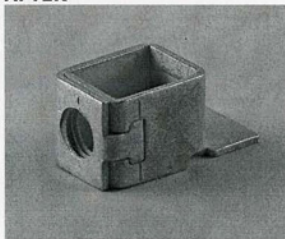
After -

Working with the customer's engineering group wm dudek mfg's design team proposed adding a dovetail feature to the part which tied the two overlapping surfaces together. The result was a connector with superior strength that could be assembled at a faster rate decreasing the unit's cost.

BEFORE



AFTER



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