

ENGINEERING CASE STUDY

CHALLENGE:

A MANUFACTURER OF RV ROOFTOP AIR CONDITIONERS REQUESTED ENGINEERING ASSISTANCE IN PERFECTING A CONFINED-SPACE SHEET METAL APPLICATION. IN THE APPLICATION, A BOLT NEEDED TO BE RETAINED INTO A SMALL CORNER IN THE INTERIOR OF THE AIR CONDITIONING UNIT. THE BOLT RETAINED AN EXTERIOR SHROUD THAT NEEDED TO BE REMOVED DURING SERVICING. DESIGN CONSIDERATIONS INCLUDED:

- HIGHLY LIMITED ACCESS AREA.
- REUSABILITY SO THAT THE SHROUD COULD BE REATTACHED FOLLOWING REGULAR SERVICE INTERVALS.
- SIMPLICITY OF DESIGN SO THAT UNSKILLED CONSUMERS COULD REMOVE THE SHROUD ON A SELF-DIRECTED BASIS.

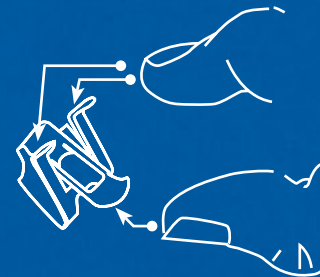
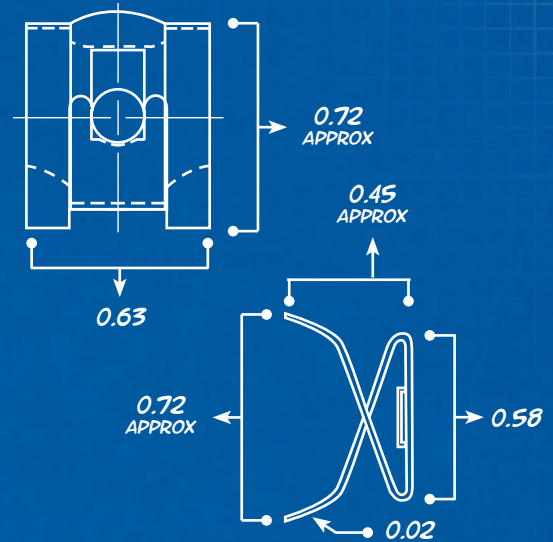
SOLUTION:

G.L. HUYETT'S ENGINEERING SUPPORT TEAM RECOMMENDED A PINCH-RELEASE BOLT RETAINER MANUFACTURED BY A RAYMOND TINNEMAN. THE PINCH-RELEASE YIELDED HAND-HELD APPLICATION SO NO TOOLS WOULD BE REQUIRED IN THE CONFINED INSTALLATION AREA. AS THE PINCH-RELEASE RETAINER IS VISUALLY-DESCRIPTIVE IN DESIGN, ITS UTILITY IS INTUITIVE AND QUITE SIMPLE. G.L. HUYETT SALES MANAGERS FACILITATED DESIGN AND PROCUREMENT THROUGH A G.L. HUYETT AUTHORIZED DISTRIBUTOR, SO THAT PROCUREMENT OF THE PART COULD BE INTEGRATED INTO OTHER FASTENERS SPENDING BY THE MANUFACTURER, AND MARKETING CHANNEL INTEGRITY COULD BE MAINTAINED.

RESULTS:

IN SUMMARY THIS WAS A WIN FOR ALL. A RAYMOND TINNEMAN GAINED A NEW APPLICATION; THE RV PRODUCTS MANUFACTURER CONQUERED A COMPLICATED ENGINEERING CHALLENGE; AND THE FASTENER DISTRIBUTOR GAINED A NEW CUSTOMER.

REDESIGNED METHOD



STEP #1
GRASP SPEED NUT BY PLACING THUMB ON THE SINGLE WING AND INDEX FINGER ON THE TWO OPPOSING WINGS



STEP #2
APPLY SLIGHT FINGER PRESSURE ON THE OPPOSING WINGS AND SLIDE NUT OVER THREADED STUD



STEP #3
ROTATE SPEED NUT 1/2 TURN TO LOCK ON SCREW

1

2

3

4

5

6

7

Drawing No.:

GLH-MCS-004-R01

Case No.:

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Case Description:

**PINCH-RELEASE
BOLT RETAINER**

Drawn By:

BJH

Verified By:

GLH

Revision Notes:

REVISION NO. R01

NOT DRAWN TO SCALE

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