

Technical Tips

The Threaded Rivet—A Handy Fastener

By Chris Wantuck, Gettysburg Region A.A.C.A.

There are many tools, fasteners, and other supplies we use during the restoration of our collectible automobiles, and to this list we can add the threaded rivet. It is a simple fastener that has the appearance of a peened rivet, a domed head with no visual signs of using a tool to tighten its grip. Down its shank, it has standard U.S. threads to accept common nuts that can be used to fasten hardware, just as a regular screw might be used. The different head styles available give it an outside appearance of a regular rivet that was fitted using a buck and hammer. While the threaded rivet is not necessarily new, the use for trunk restoration is one application that car collectors should consider.

Threaded rivets are available in a variety of machine screw sizes of 3-48, 4-40, 6-32, 8-32, 10-32, 1/4-20, and 5/16-24, and most sizes have head shapes of either round or truss head. Lengths vary from 3/8 inch for the smaller sizes to over

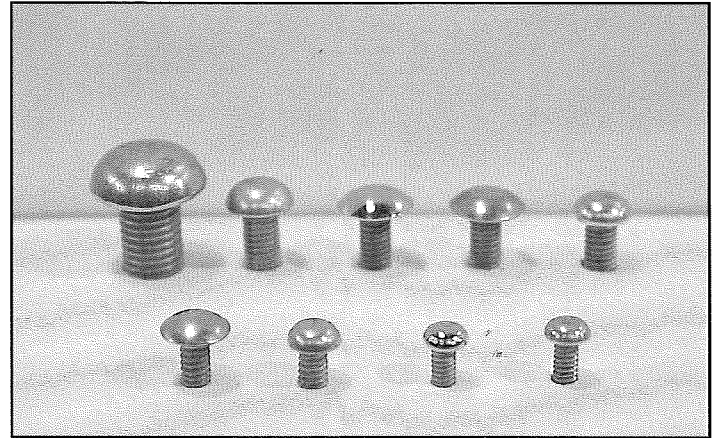


Photo 1: Examples of threaded rivets.

Back row (L to R): 5/16-24 stainless steel round head, 10-32 stainless steel round head, 8-32 polished stainless steel truss head, 8-32 stainless steel truss head, and 8-32 brass round head.

Front row (L to R): 6-32 stainless steel truss head, 6-32 stainless steel round head, 4-40 polished stainless steel round head, and 4-40 brass round head.

2 inches long for the largest, the 5/16-24 size. They are available in stainless steel for all sizes and head styles, and only the round head style in brass. Prices range from \$.45 to \$1.45 each depending on size and head style. **Photo 1** (above) shows both the round- and truss-head styles in stainless steel and brass. A significant advantage of using the stainless steel version is that they can be polished to provide a long lasting high luster "chrome-like" appearance. One supplier of threaded rivets is Restoration Supply Company, Escondido, California, and their complete size and head styles available from them are listed in the **Table** at left.

The application for threaded rivets on trunks is to fasten hardware components onto the trunk itself. Examples are the trunk handle loops, strap hinges, piano hinges, handles or pulls, latches & clasps, and decorative metal or leather straps. These are the pieces that would be fastened after the exterior of the trunk has been covered, but before the inside lining has been installed.

The technique presented here is using the threaded rivet with either brass threaded wood inserts or Tee nuts, available from the local hobby shop, directly from Du-Bro Products (**photo 2**), or the industrial supplier McMaster-Carr. The Du-Bro brand wood inserts are small and may suit the thin wood found on trunks better than other versions. Model airplane and boat builders use these small brass inserts wher-

STAINLESS STEEL			
SIZE	HEAD STYLE	BODY DIAM.	HEAD DIAM.
3-48 x 3/8"	Round	0.099"	0.187"
4-40 x 3/8"	Round	0.111"	0.204"
4-40 x 5/8"	Round	0.111"	0.204"
4-40 x 3/4"	Truss	0.111"	0.251"
6-32 x 1/2"	Truss	0.130"	0.312"
6-32 x 5/8"	Round	0.130"	0.245"
6-32 x 3/4"	Truss	0.130"	0.312"
8-32 x 5/8"	Round	0.158"	0.290"
8-32 x 5/8"	Truss	0.158"	0.378"
8-32 x 3/4"	Round	0.158"	0.290"
8-32 x 3/4"	Truss	0.158"	0.378"
8-32 x 1"	Round	0.158"	0.290"
8-32 x 1 1/2"	Round	0.158"	0.290"
10-32 x 5/8"	Round	0.178"	0.335"
10-32 x 5/8"	Truss	0.178"	0.430"
10-32 x 1"	Round	0.178"	0.335"
10-32 x 1 1/2"	Round	0.178"	0.335"
1/4-20 x 3/4"	Pan	0.250"	0.485
1/4-20 x 1"	Round	0.250"	0.450
5/16-24 x 2"	Round	0.312"	0.561"
BRASS			
3-48 x 3/8"	Round	0.099	0.187"
4-40 x 1"	Round	0.111	0.204"
8-32 x 1"	Round	0.158"	0.290"

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Threaded Rivets

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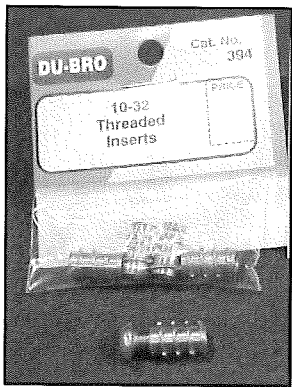


Photo 2: Threaded inserts shown with threaded rivets.

ever there is an application to repeatedly fasten and remove pieces.

Du-Bro's inserts are available in machine screw sizes 4-40, 6-32, 8-32, 10-32 & 1/4-20. To aid in tightening the threaded rivet, a high speed rotary tool such as a Dremel and thin cut-off wheel is used to cut a slot across the tip of the threads where a small slotted screwdriver can be used to tighten the rivet from the back side (*photo 3*). Small nuts and washers could also be used, but the benefit of using inserts and Tee nuts is to conceal them

into the wood (*photo 4*). Drilling and inserting the numerous brass inserts can seem time consuming, especially when a piano hinge is involved, but the finished results are outstanding. The holding strength of the threaded rivet is superior to that of nails, especially if the wood has been weakened from previous nail holes. The brass wood inserts are set by drilling the appropriately sized hole in the wood and using a regular machine screw to drive them slightly below the surface. Each insert should be trial fitted with either a machine screw or

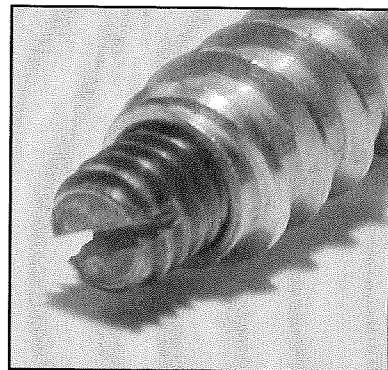


Photo 3: Slot cut across the tip of the threads for tightening with a screwdriver.

a threaded rivet to ensure no burrs developed while setting the brass insert (*photos 5 and 6*). Certain hasps or latches require careful fitting, so the use of machine screws to temporarily hold it maybe used while the mating piece is marked. Also, the use of Kwik-Poly may be considered to adhere the insert or improve the strength of weakened wood panels.

As mentioned earlier, the inserts are set prior to covering the exterior of the trunk. After the outer covering has been glued on, each of the holes can be located and a small hole cut using an Ex-acto knife. Each threaded rivet is set by first screwing it by hand and finish-tightening it using a small slotted screwdriver

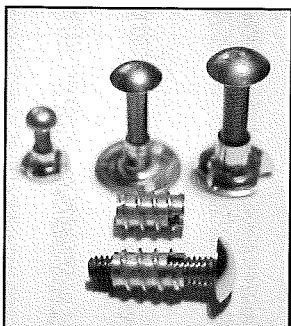


Photo 4: Use threaded rivets with either Tee nuts (top) or threaded inserts (bottom).

hand and finish-tightening it using a small slotted screwdriver

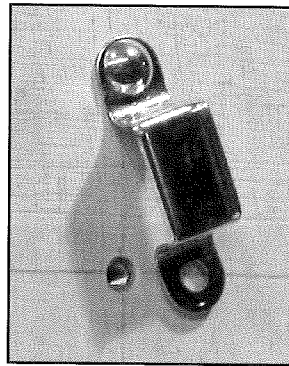


Photo 5: A trunk handle loop is fitted with a threaded rivet. Notice the brass insert is seated just below the surface.

(2) Du-Bro Products, Inc., P.O. Box 815, 480 Bonner Road, Wauconda, Illinois 60084. Phone (800) 848-9411 or (847) 526-2136. www.dubro.com.

(3) McMaster-Carr Industrial Supply, 6100 Fulton Industrial Blvd., Atlanta, Georgia 30374. Phone (404) 346-7000. www.mcmaster.com.

from the inside (i.e. unscrewing it). *Photos 7 and 8* show the finished results. The inside trunk material (cloth or paper) will eventually conceal these small holes.

SOURCES:

(1) Restoration Supply Company, 15182B Highland Valley Road, Escondido, California 92025. Phone (800) 306-7009 or (760) 741-4014. Internet: www.restorationstuff.com.

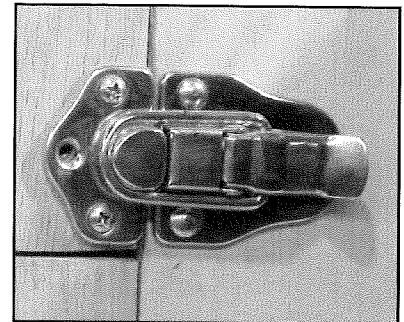


Photo 6: Temporarily using machine screws makes it easier to locate mating pieces during fitting. Screws will be replaced with threaded rivets after the trunk is covered.

(4) Kwik-Poly LLC, 4123 Chartley Drive, Bridgeton, Missouri 63044. Phone (313) 344-8881. Internet: www.kwikipolyllc.com. ■

◀ **Photo 7: Finished view of a strap hinge after trunk is covered. The hinge was plated and used polished stainless steel truss-head threaded rivets.**

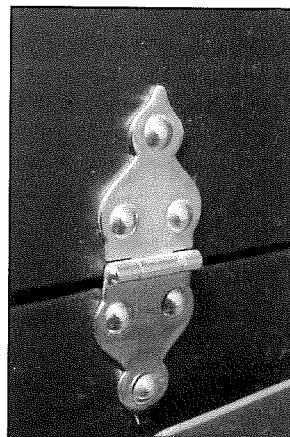


Photo 8: Finished view of a handle loop after the trunk is covered. ▶ This loop was plated and used polished stainless steel truss-head threaded rivets.

