

# Auveco®

## BODY HARDWARE DEFINITIONS AND USAGE

**Barrel Nuts:** They are used with either stud-type or threaded fasteners where the other side of the panel is inaccessible. Typical applications include automotive nameplates on fenders, trunks, etc. The nut snaps into a pre-drilled hole and the metal tabs lock it into place. Also called tubular nuts.



**Body Bolts:** Usually either a hex washer head or hex head Sems® with the most common thread types being USS coarse or metric regular pitch. They are used for attachment of fenders, radiators, hoods, trunks and general purpose fastening.



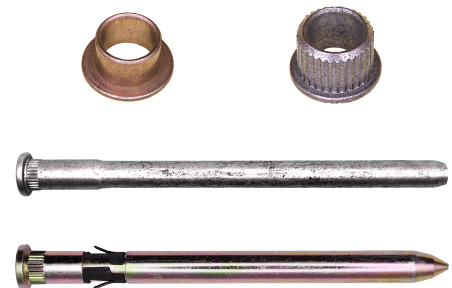
**Bumper Bolts:** Used to attach bumpers. They have either a USS coarse or metric regular pitch thread. Bumper bolts are usually zinc plated with a stainless steel capped head.



**Cable Straps (Releasable):** Made of either natural or black nylon. Used to bundle wires or harnesses. With a releasable tab that allows you to loosen or tighten the strap as needed.



**Door Hinge Pins & Bushings:** Components of the vehicle's door hinge assembly. Pins are made of steel or stainless steel. The bushings are made of bronze. The critical dimensions of the pins are the length, the diameter and the shoulder diameter (if applicable). The critical dimensions of the bushings are the inside diameter and the outside diameter. Some bushings have a splined outside diameter.



**Door Lock Rod Clips:** Used to attach the door lock rod to the door lock cylinder. The clips are made of either steel or nylon.



**Door & Window Crank Handle Retaining Clip:**

Usually made of copper plated spring steel, they are used to attach interior door and window crank handles.



**Double End Drill Bits:** For drilling holes for rivets or removing rivets. The double end feature gives you twice the “life” of the bit.



**Extruded U-Nuts:** Used on the edge of a panel so that the throat of the nut lines up with a hole in the panel. They allow for a certain degree of alignment before installation. The multi-thread feature gives it more strength and retention than a regular single thread U or J-nut. They have either a USS coarse thread or metric regular pitch thread. Extruded U-nuts are used with body bolts on door panels, hood hinges, fenders, radiators and for general purpose fastening.



**Flat Nuts:** Made of spring steel and used where the other side of the panel is easy to reach. They can be for either stud type or threaded fasteners. They are used throughout the car under the dashboard, in door panels, trunk area, fenders, etc.



**Free Spinning Washer Nut:** A hex nut with a captive free spinning washer. As the nut is tightened against a surface, a “wedging action” is produced to create a tight friction locking action. Some nuts may have grounding “teeth” on the underside of the washer. These nuts are available in both standard USS coarse and SAE fine thread as well as metric regular pitch. They are used with body bolts.



**Headlight Adjusting Screw Assemblies:** Two assemblies are usually required for each vehicle headlight. One assembly controls the vertical aiming and the other controls the horizontal aiming.



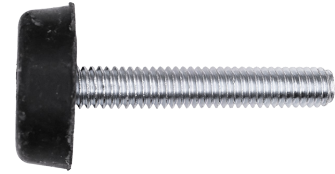
**Headlight Component Retaining Clip:** Used in the retention of Ford vehicle headlight components starting in 1989



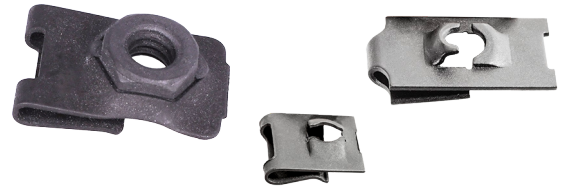
**Hex Flange Nuts:** A standard hex nut with a “washer” permanently attached. Provides for greater retention than a standard hex nut because of the larger load bearing area.



**Hood Adjusting Bolt & Bumper:** A threaded steel bolt with a “captive” rubber bumper head. The bolt screws into the vehicle body and the rubber bumper portion softens the impact when the vehicle hood is closed.



**J-Nuts:** Shaped like the letter J. They are used the same as extruded U-nuts on the edge of a panel. Depending upon the thread size, they can be used with tapping screws or body bolts in instrument panels, under the hood for light-duty applications and door panels.



**Expansion Nuts:** For attaching outside rear view mirrors, roof racks, etc. They are installed into the sheet metal and then as a bolt is tightened, the body of the expansion nut collapses to form legs which grip the inside of the sheet metal. Auveco has a installation tool available for installing multiple nuts in a short period of time. Sometimes they have a plastisol sealer around the exposed part to form a water-tight seal.



**License Plate Screws:** Used to attach license plates. Can have either a tapping screw thread or a machine screw thread. Made of either steel (plated) or nylon.



**Miscellaneous (Grille, Fascias, etc.) Fasteners:**

Usually made of steel and plated. There are numerous types of these fasteners that are used to attach radiator grilles, fascias, garnish moulding etc.



**Moulding Clips:** Used for attaching mouldings on doors, quarter panels, trunks, etc. They are made of nylon and are sometimes attached with a rivet or with a special tapping screw.



**Nylon Nuts:** Used with metal tapping screws throughout the car (interior & exterior) for attachment. As a tapping screw is installed, it cuts its own thread and spreads the bottom part of the nut apart securing it in place. Nylon nuts can be found in door panels, headlight/front-end applications, license plate brackets, arm rests, instrument panels and many other areas.



**Push-On Retainers:** A spring steel fastener that is pushed onto a non-threaded stud to grip it firmly.



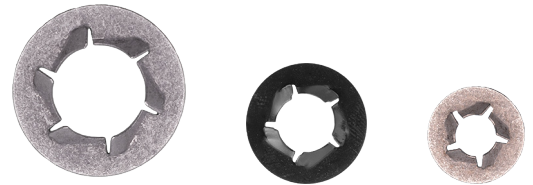
**Push-Type Retainers:** They work by pushing in the center pin which spreads the prongs. They are used for retaining bumper guards, various fascia, splash shields, shrouds, etc. While they are designed to be reusable, they are made of nylon and are usually destroyed in a collision. They are sometimes referred to as rivet retainers or drive-type retainers.



**Plug Buttons:** Made of black polyethylene. They are used to plug holes in body panels.



**Pushnut Bolt Retainers:** A spring steel fastener that is pushed onto a screw or bolt to temporarily hold it in place until final assembly. They slide down smoothly on either fine, coarse or regular pitch threads and hold firmly at any point.



**Retaining Clips:** Used for retaining door panels, interior trim, hood insulation, weatherstrip, splash guards, headliners and various fascia. Although OEM interior retainers come in a large variety of colors, the aftermarket parts are usually black or natural nylon. The body shop paints them to match the application as needed. There are several different variations of design. These parts are usually destroyed when removed.



**Reveal Moulding Clips:** Used for attaching reveal moulding around windshields, back and side windows. Clips are held in place with a tapping screw, stud or rivet. The moulding snaps onto the clip.



**Rivets:** Used for attachment in many different areas. The critical dimensions are the diameter of the rivet body and the grip range or panel thickness. There's no way to determine what the grip range is by measuring the rivet. That's an engineered specification that has to be given. Rivets can be made of steel, stainless steel, aluminum or nylon (usually black). The mandrel is the part that breaks off when the rivet is installed.



**Rubber Caps:** Made of special heat resistant EPDM rubber. Used for capping lines and hoses when testing carburetors, emission control systems, vacuum lines, etc. and to cover exposed threads.



**Screw Grommets:** A variation of the nylon nut. They are used with metal tapping screws throughout the vehicle (interior and exterior). They're installed in a pre-punched hole or slot in sheet metal. The tapping screw cuts its own thread as it's installed. They are mostly found in Japanese cars.



**Sems®:** A screw/bolt with a free spinning washer attached to it. As the screw is tightened a "wedging action" is produced to create a tight friction locking action. The Sems® feature is found on both body bolts and tapping screws.



**Shims:** Made of low carbon, non-heat treated steel. They are used for wheel alignment as well as spacers in the alignment of hoods, panels, etc. The critical dimensions are the thickness (1/64", 1/32", 1/16", 1/8") and the slot width.



**Speed Nut:** A term for a variety of types of nuts. Refer to flat nuts, barrel nuts, U-nuts, J-nuts, tubular nuts and extruded U-nuts.



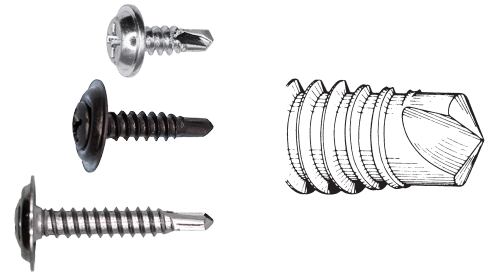
**Spin Lock Nuts:** A hex flange nut with serrations under the flange for locking purposes. The serrations or grooves dig into the bearing surface during final tightening. They are used with body bolts.



**Tapping or Trim Screws:** Generally used for retention of interior and exterior mouldings, trim, dash panels, etc. Can be used with nylon nuts, screw grommets or installed directly into sheet metal. They cut or form a thread when driven into a performed hole. There are many varieties available - Phillips flat top washer head, pan head, Phillips oval head, hex head, hex washer head, etc. you can have Phillips oval head screws with undersized heads such as a #8 screw with a #6 head. Such a screw is used where the original fasteners was a #6 screw but now needs to be replaced with a #8 screw yet the application still requires a #6 head.



**Teks®:** A screw with a drill point that drills its own hole as it is installed. Most Auveco Teks® screws have a #2 point which is recommended for material up to .110" thick. The higher the drill point number, the thicker that material it can drill through. Once the metal is penetrated, the Teks® fastener functions as a conventional tapping screws.



**Thread Cutting Nuts:** A flanged type fastener nut with a hex drive that cuts its own thread when installed on a mild steel, brass, aluminum or plastic stud. Because of their prevailing torque, they provide excellent vibration resistance. They can be found on instrument panels, trunk area, fenders, door panels, etc.



**Torx®:** A drive system on screws and bolts that features six points. Can be either an internal or external Torx®. The Torx® system is a more positive drive system than a Phillips or slotted.



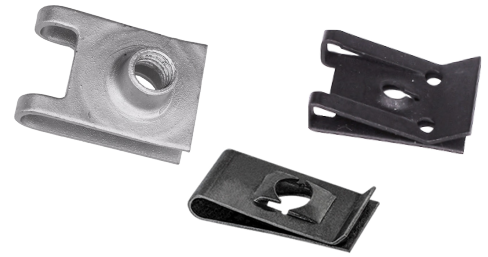
**Trim Panel Clips & Fasteners:** Can be made of metal or nylon. Used for retaining door and interior trim panels. The head of the fastener slides into a slit in the trim panel and then the fastener stem is pushed into a hole in the sheet metal. These parts are often damaged when removed.



**Tubular Nuts:** They are used with either stud-type or threaded fasteners where the other side of the panel is inaccessible. Typical applications include automotive nameplates on fenders, trunks, etc. The nut snaps into a pre-drilled hole and the metal tabs lock it into place. They are also called barrel nuts.



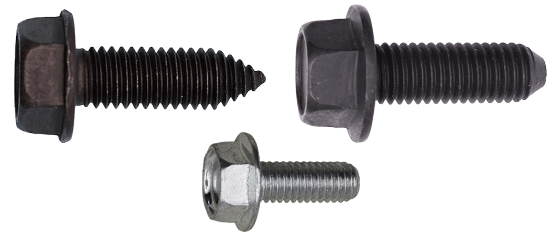
**U-Nuts:** Used the same as extruded U-nuts, on the edge of a panel, but do not possess the same “retention power” due to the lack of the extruded feature. Depending upon the thread size, can be used with tapping screws or body bolts in door panels, under the dash and light duty under the hood applications.



**Universal Moulding Fasteners:** A universal type of fastener for attaching older style mouldings that have lips or curls on the underside. The spring steel arm provides the tension holding the moulding strip. With the perforated plate type, you can break off the plate at 1/16” intervals to fit the moulding. You need to be able to access the back of the panel so you can install a hex nut.



**Washer Head:** A screw/bolt with the washer permanently attached to it. Also called flanged head. The washer head eliminates the need for a separate washer while increasing the load bearing area of the head. Used under the hood, on fenders, doors, front end applications, etc.



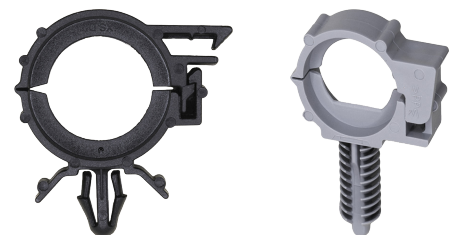
**Washer Lock Nuts:** Integral washers on these fasteners span slots or clearance holes. The spring locking action and the resilience of the washer provides a firm fastening when assembled with a screw or bolt. They are used in instrument panels, doors, trunks, etc.



**Rubber Nuts:** Primarily used to attach luggage racks but ideal for many other applications. Consists of a flanged neoprene rubber bushing with a brass machine nut molded into one end. Tightening a conventional machine screw threaded in the brass nut causes the insert to expand, making a secure fastening.



**Wire Loom Clips:** Used to hold wire loom (split flexible tubing) in place on underhood applications.



**“Xmas Tree” Retainers:** Used for retaining door panels, interior trim, hood insulation, weatherstrip, splash guards, headliners and various fascia. Although OEM interior retainers come in a large variety of colors, the aftermarket parts are usually black or natural nylon. The body shop paints them to match the application as needed. There are several different variations of design. The multi-head type twists into a slit on the trim panel and then the stem gets popped into a hole in the sheet metal. These parts are usually destroyed when removed.

