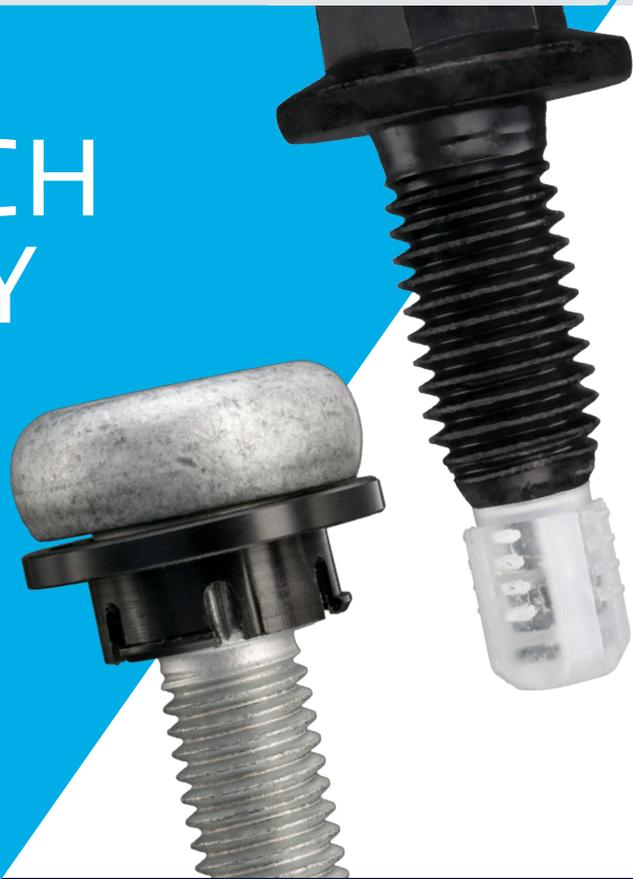


ONE TOUCH ASSEMBLY



FASTENING SYSTEMS

For ergonomic and efficient assembly

SPEED UP YOUR PRODUCTION WITH ONE TOUCH ASSEMBLY SYSTEMS

Cost-efficient and functionally reliable fastening devices can make a real difference in terms of mass production productivity.

As assembly times are planned by seconds, pre-assembled components are the natural choice.

In order to offer better ergonomics, reduced assembly time and workload to the automotive industry, Bulten has developed two fastening systems with pre-assembled fasteners within the "One Touch Assembly" family: The Seat Belt Fastener and the Clip Screw.



CLIP SCREW

Bulten Clip Screw is currently used in serial production by automotive manufacturers for the assembly of inflatable curtains and seat belts.

The tip of the screw is equipped with a pin, on which a plastic clip is moulded. The screw is a thread forming Taptite® or has a POWERLOK® prevailing torque thread.

ASSEMBLY

Clip Screws are pushed directly into the weldnut with a single thumb operation. The plastic clip grips and remains attached.

Once installed, Clip Screw is ready for the assembly tool. No pre-assembling by hand is required.



ADVANTAGES

- No other "third hand" feature or holes in BIW needed. This reduces the number of operators and assembly time.
- The screw is self centering, even when load is applied. This prevents cross threading.
- No pre-assembling by hand is required.
- When using eyelets, no rotation stop is needed.
- Clip Screw supports both torque and angle monitoring to control assembly performance

SEAT BELT FASTENER

Traditionally, seat belt fastening involves 4 part numbers for pre-assembling the anchor plate or buckle. The assembly process is not failure-proof and the assembly is time-consuming.

Bulten designed an innovative seat belt fastener, on which a plastic retaining ring is pre-assembled on the screw prior to delivery.

The plastic retaining ring is pre-assembled on the screw before delivery by using cost efficient automation equipment. The process is quality-assured. The retaining ring is fixed on the screw by press fit.



ADDITIONAL FEATURES

- Anti-rattling
- Centering
- Bearing

CLIP SCREW EXAMPLE: CURTAIN AIR BAG ATTACHMENT

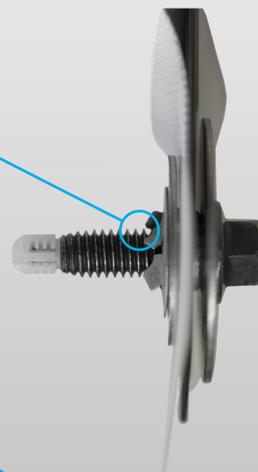


An inflator assembly is easily carried by two Clip Screws.

After installation, the Clip Screw is ready for tightening. No handstart is required.



Clip Screw pre-assembled in inflatable curtains delivered by Autoliv and finally assembled by Volvo Car Corp.



OTHER AREAS OF INTEREST

- Clip Screw is suitable for pre-assembly on components where the need of a "third hand operation" can be eliminated
- Clip Screw is also suitable for applications that are pre-assembled in one operation and tightened in a later operation
- The Seat Belt Fastener concept is extendable with features such as spacers and tolerance absorbers in order to protect interior panels on B-pillar etc.
- The One Touch concept allows guide pins, guide clips etc to be eliminated which reduces the overall cost for design and assembly.
- Pre-assembled One Touch products give a significantly more effective inbound logistic flow as several part numbers are eliminated.



THE ONE TOUCH APPROACH

Fast and accurate!



THE OLD "PICK 'N' MIX" APPROACH

Time consuming with room for error.



SEAT BELT FASTENER EXAMPLE:

ADVANTAGES

- Assembly of seat belt buckle fastener in anchor plate or pillar loop is fast and failure-safe
- Standardization, improves scale of economy and interchangeability
- Designed to fit. Bolt and clip is supplied as a tailor made unit to enable quick and robust assembly into anchor plate
- Improved logistics as the Tier 1 just needs to handle one part instead of four
- Eliminates squeak and rattling noises in the vehicle



YOUR FULL SERVICE PROVIDER

We are happy to complete your set-up with just the services you require. We're also ready to take charge of the entire chain, from conceptual ideas to deliveries straight into your production line.

As a true full service provider, Bulten is fully equipped to handle anything and everything

concerning development, testing, documentation, production and logistics, always adapted according to our customers' needs. That way, you free up more time to focus on core business applications.

Seat Belt Fastener and Clip Screw are developed and patented by Bulten and Autoliv.

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