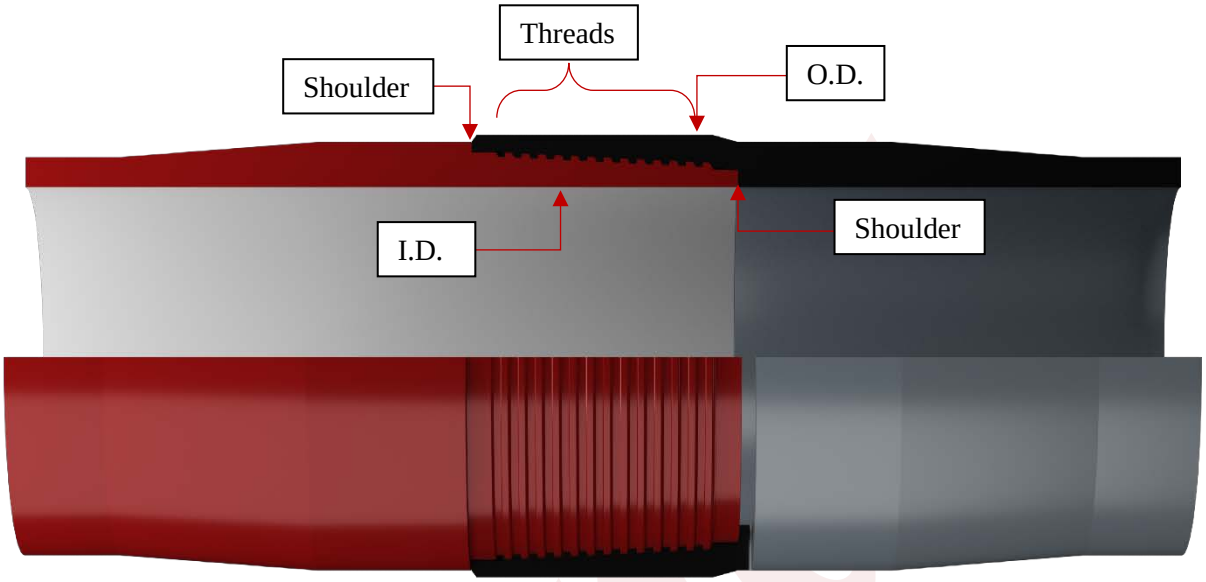
Field Inspection of EUI Connection

Slight damages to EUI connections caused by handling or operational use may be acceptable depending on the severity. In order to perform a visual inspection, it is essential to possess a thorough understanding of the basic design features.



EUI Connection

EUI PR Connection

The **threads** are tapered, and interference. The threads are intended to provide a liquid tight seal and hold the pin and box together with adequate contact of the shoulders.

The **shoulders** are the primary source of torque and controls the position of the pin relative to the box.

The **O.D.** is the largest diameter of both the pin and the box and may be located on either the pin or box

The **I.D.** is the smallest diameter of both the pin and the box and may be located on either the pin or box

The optional **"PR" (Protective Ring) groove** is located on the internal of the box connection and provides for the installation of a Teflon (PTFE) "protective" ring. During make-up the ring is compressed and locked into the groove. The PR feature completes the coating on internally-coated tubing and effectively protects the internal metal-to-metal connection seals against corrosive fluids and gases on coated or uncoated tubing.

Prior to performing visual inspection or field repair, the threads and seals must be thoroughly cleaned.

Visually inspect the entire diameter of the connection for the following conditions:

1. **Threads**
   -- Galling – *Not acceptable – except for very minor tearing that can be effectively cleaned up.
   -- Mashes or dents on the threads – Not acceptable
   -- Excessive rust or pitting on the threads or shoulders – Not acceptable

   *Minor damages in the thread area such as dings, nicks, and light scratches may be acceptable, provided they do not form bulges, protrusions, galling, slivers, or surface irregularities which could affect connection make-up. Repair of some minor damages using a small 3-corner file, die grinder equipped with a fine-grit rubberized abrasive wheel, and/or 120-grit or finer emery cloth, is acceptable provided the finished product is free of the offending defect and the thread form is not otherwise changed.
2. **Shoulders**
   -- **Dents and/or mashes - Minor defects may be field repaired as described in (1) above.
   -- **Galling, Rolling or flaring caused by excessive torque

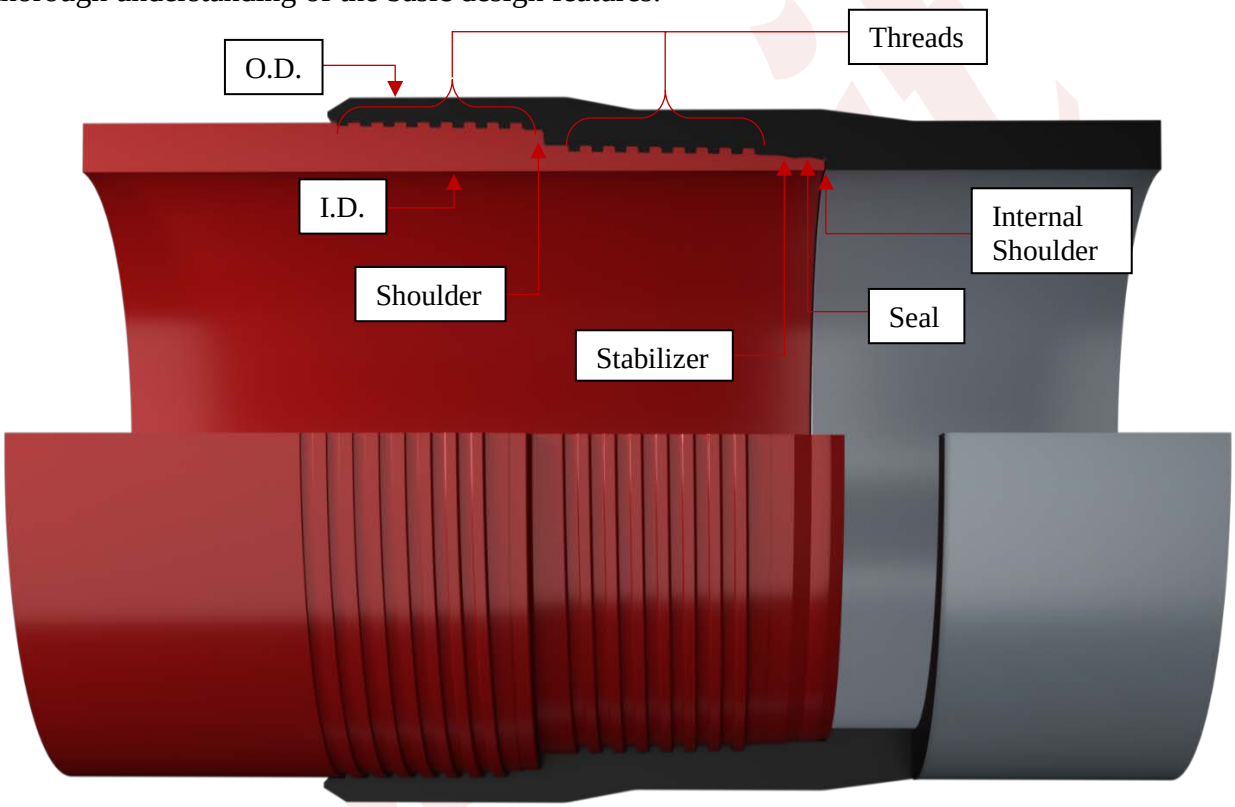
   **These conditions generally suggest more severe damage that may not be visually detected and normally are not field repairable.
3. **Pin/Box I.D.**
   -- Mashes which would prevent drifting – Evaluate for drifting – "No-Drift" not field repairable.
   -- Washout areas – Not repairable

4. **Pin/Box O.D.**
   -- Dents and mashes – API defect acceptance criteria.

5. **PR Groove**
   -- Rust or scale buildup in groove – Remove – evaluate for pitting, not to exceed 0.005".
   -- Excessive plastic coating in groove that would prevent ring from being installed – Not field repairable

Field Inspection of HSF Connection

Slight damages to HSF connections caused by handling or operational use may be acceptable depending on the severity. In order to perform a visual inspection, it is essential to possess a thorough understanding of the basic design features.



HSF Connection

The **threads** are tapered, and interference. The threads are intended to hold the pin and box together with adequate contact of the shoulders.

The **shoulder** is the primary source of torque and controls the position of the pin relative to the box.

The **internal shoulder** may contact during torque process.

The **O.D.** is the largest diameter of both the pin and the box and may be located on either the pin or box

The **I.D.** is the smallest diameter of both the pin and the box and may be located on either the pin or box.

The **seal** is the feature that is the primary means of sealing. This only occurs when adequate interference is present between the box seal face and pin seal face.

The **stabilizer** is the feature that is intended to relieve excessive loads from damaging the seal. This only occurs when adequate contact is present between the and the pin at this location during loading.

Prior to performing visual inspection or field repair, the threads and seals must be thoroughly cleaned.

Visually inspect the entire diameter of the connection for the following conditions:

1. **Threads**
   -- Galling – *Not acceptable – except for very minor tearing that can be effectively cleaned up.
   -- Mashes or dents on the threads – Not acceptable
   -- Excessive rust or pitting on the threads or shoulders – Not acceptable

   *Minor damages in the thread area such as dings, nicks, and light scratches may be acceptable, provided they do not form bulges, protrusions, galling, slivers, or surface irregularities which could affect connection make-up. Repair of some minor damages using a small 3-corner file, die grinder equipped with a fine-grit rubberized abrasive wheel, and/or 120-grit or finer emery cloth, is acceptable provided the finished product is free of the offending defect and the thread form is not otherwise changed.
2. **Shoulders**
   -- **Dents and/or mashes - Minor defects may be field repaired as described in (1) above.
   -- **Galling, Rolling or flaring caused by excessive torque

   **These conditions generally suggest more severe damage that may not be visually detected and normally are not field repairable.

(2) **Seal & Stabilizer**
   -- Excessive pits, rust, or scale
   -- Galling
   -- Cuts and scratches
   -- Dents and/or mashes

-- Flared shoulder on pin or box (both caused by excessive torque)
-- crimped or flared internal shoulder (both caused by excessive torque)

Damage to seal areas is not acceptable and generally not field repairable. BTS® connections with damaged seals should be returned to Benoit®, or to a licensed facility, for repair.

3. **Pin/Box I.D.**
   -- Mashes which would prevent drifting – Evaluate for drifting – "No-Drift" not field repairable.
   -- Washout areas – Not repairable

4. **Pin/Box O.D.**
   -- Dents and mashes – API defect acceptance criteria.