SUBJECT: VISUAL THREAD INSPECTION

1.0 SCOPE

1.1 This document sets forth the broad guidelines for the field visual thread inspection of Hunting's proprietary **TSHP and TSHD** threaded connections by independent inspection agencies.

2.0 DEFINITION

2.1 Visual thread inspection shall be defined as those inspections that may be performed on Hunting's proprietary connections without the use of proprietary thread element gages.

3.0 PIN END INSPECTION

3.1 Pin Face

3.1.1 Visually inspect the pin face for surface irregularities. Minor dents or dings to the pin face are not detrimental to the connection and most can be repaired by lightly filing to remove all protrusions. Dents or dings on the new pin face that are sufficiently deep to cause a raised area or protrusion on the seal surface are rejectable. The repair of such conditions during the running of the connection is at the discretion of Hunting's service representative.

3.1.2 The pin face, ID chamfer and OD chamfer should be smooth and free from burrs.

3.2 Seal Surface (14°)

3.2.1 Carefully place a straight edge across the seal surface. It should be a slightly tapered, flat surface. Galls, burrs, dents, or dings on a new seal surface is cause for rejection. The repair of such conditions during the running of the connection is at the discretion of the Hunting service representative.

3.2.2 Visually inspect the seal finish. The 14° seal should be uninterrupted from the pin face to the thread start diameter.

3.2.3 Repair of the seal surface by wire brushing, sanding or filing is unacceptable. Acceptable repair methods include polishing with 000 and 0000 steel wool, medium or fine grit Scotch Brite, #5 sugar sand blasting or phosphate coating.

3.3 Torque Shoulder (30°)

3.3.1 Visually inspect the 30° external torque shoulder. The torque shoulder height should be approximately the same height for 360°. It shall be free from protrusions due to corrosion pitting or impact damage and free from burrs for 360°.

3.4 Threaded Area (Both Steps)

3.4.1 Visually inspect the full threaded areas for damage. Small areas of impact damage or galls should be repaired. Field repairable thread damage should not exceed 0.125" in circumferential length or 0.005" in depth. All repaired areas should be covered with an anti-gall and anti-corrosion compound such as Moly-Kote.

3.4.2 Allowable corrosion pitting in the full form thread areas shall be as defined in the **DEFINITION OF TERMS** under Minor Pitting.

4.0 BOX END INSPECTION

4.1 Torque Shoulder (30°)

4.1.1 Visually inspect the 30° external torque shoulder. The torque shoulder width should be approximately the same height for 360°. It shall be free from protrusions due to corrosion pitting or impact damage and free from burrs for 360°.

4.2 Seal Surface (14°)

4.2.1 Visually inspect the seal surface. The thread pullout shall present a smooth, burr free transition from the threaded area to the seal surface. The seal shall be a slightly tapered, flat, smooth surface. Galls, burrs, dents or dings (hydrotest or drift created defects) on new box connectors are rejectable.

4.2.2 Visually inspect the seal surface. The 14° seal surface should be distinct and uninterrupted for the entire seal length.

4.2.3 Repair of box connector seal surfaces should not be attempted.

4.3 Threaded Area (Both Steps)

4.3.1 Visually inspect the full threaded areas for damage. Small areas of impact damage or galls should be repaired. Field repairable thread damage on new connectors shall not exceed 0.125" in circumferential length or 0.005" in depth. All repaired areas should be covered with an anti-gall and anti-corrosion compound such as Moly-Kote.

4.3.2 Allowable corrosion pitting in the full form thread areas shall be as defined in the **DEFINITION OF TERMS** under Minor Pitting.

4.4 Box Face

4.4.1 Visually inspect the box face and OD chamfer for impact damage. Impact damage that has caused the OD chamfer to be indented sufficiently to cause interference with the pin connector 30° shoulder on make-up is cause for rejection.

5.0 CONNECTION GAGING

5.1 The gaging of Hunting's proprietary connections shall only be performed by a Hunting Quality Assurance or Service Representative or an approved Licensee. Hunting personnel or Licensees are the only persons that have availability to the proprietary gages to which the products are manufactured.

6.0 THREAD/STORAGE COMPOUND

6.1 Upon completion of visual thread inspection verify appropriate thread or storage compound is being applied to both ends of the tube. The approved thread/storage compound shall be as stated in the applicable **"FIELD RUNNING AND HANDLING PROCEDURE".**

NOTE: Notify Hunting Northpoint, Houston, Texas, Quality Assurance Department immediately if thread/storage compound being applied is not listed in the applicable "FIELD RUNNING AND HANDLING PROCEDURE".

7.0 REJECTION

7.1 Any thread that does not meet the specified requirements, shall be considered a reject.

7.2 All rejects shall have the entire thread area painted red.

7.3 All rejects shall be clearly identified as "reject" to protect against out-of-tolerance material being shipped as prime material.

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7.4 Rejection may be reworked by removing the defective condition and re-threading the parts within the appropriate tolerances.

7.5 Any discrepancies shall be clarified and dispositioned by Hunting's Q.A. Department before any further processing or delivery.