1. Scope

This document is to be used for field make-up acceptance of the Bushmaster® SP Connection.

This procedure shall be used in conjunction with FT-RP-000 General Running Procedure and the latest revision of the Connection Data Sheet (CDS). Where conflicts exist, this connection-specific running procedure and CDS shall govern.

1.1. Product Description

Bushmaster® SP Connection:

- Threaded and Coupled
- Constrictor® wedge locking thread form
- Thread sealing

Figure 1 – Product Image

1.2. Approvals

Created	Angela Hill – Product Engineer	4/13/2026
Reviewed	Israel Martinez – Quality Director	4/23/2026
Approved	Wesley Ott – Director of Engineering	4/23/2026

1.3. Contents

1.4. Reference Documents

Document Number	Document
FT-RP-000	General Running Procedure
FT-FI-001	Fermata Connections Field Visual Inspection and Repair Requirements

Available online: fermata-connections.com/running-procedures/

*Always confirm the most current Running Procedure through the online portal or by contacting Field Service.

2. Connection Running

For general running see FT-RP-000 General Running Procedure

Fermata® strongly recommends using a Fermata® certified thread representative for all casing runs. If not used, the operator is responsible for ensuring all make-ups meet Fermata® criteria.

See Section 4.1 in the FT-RP-000 General Running Procedure for Field Service details.

2.1. Connection Compatibility

- Common box connection for multiple pin weights.
- Different pin weights have different wall thickness and critical sections while box is unchanged.
- Different weights have different make-up torques. See CDS for torque range.

Table 1: Interchangeability Chart

OD (inches)	Compatible Weights (lb/ft)
4.500	10.50
	11.60
	12.60
	13.50
	15.10
5.000	15.00
	18.00
	21.40
	23.20
5.500	17.00
	20.00
	23.00
	26.00

OD (inches)	Compatible Weights (lb/ft)
7.000	23.00
	26.00
	29.00
	32.00
	35.00

Confirm compatibility in Table 1 and performance properties prior to running. Careful consideration of the performance properties of the weakest connection must be made by the operator.

2.2. Thread Compound Application

See FT-RP-000 General Running Procedure Section 4.2 for thread compound application.

2.2.1. Approved Compounds

- Fermata® Constrictor® Advanced Thread Sealant.

2.2.2. Compound Amount

Refer to Table 2 for the required thread compound volume:

Table 2: Thread Compound Amount

OD (inches)	Volume (mL)
4.500	4.0
5.000	4.5
5.500	5.0
7.000	7.0

2.2.3. Thread Compound Application

- Apply thread compound only on the box connection.
- Coat full thread form (flanks, roots, and crests).

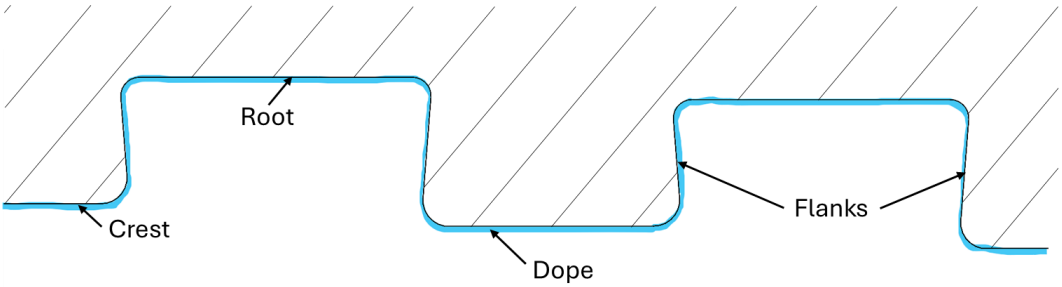


Figure 2 – Thread Form

See Figure 3 and Figure 4 for visual reference.

Figure 3 – Pin Connection (no compound)

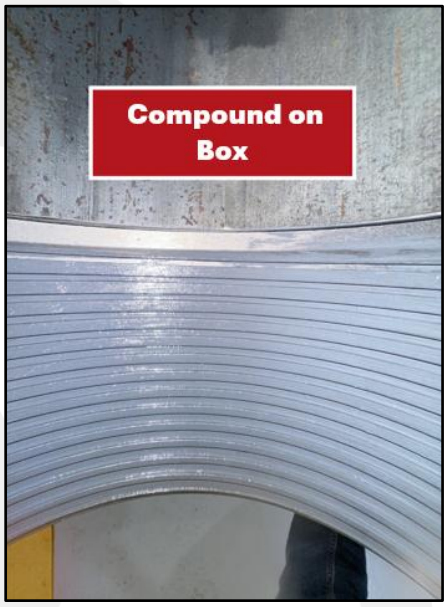


Figure 4 – Box Connection Application

2.3. Connection Make-Up

2.3.1. General

See FT-RP-000 General Running Procedure

2.3.2. First Article Make-up

Bushmaster® SP requires First Article Make-Up, see FT-RP-000 General Running Procedure Section 4.4.3 for the detailed process.

2.3.3. Bushmaster® SP Torque-Turn Plot

- Verify the make-up result against Figure 5.
- For Bushmaster® SP, the Constrictor® Lock Point is defined as the point where the slope changes from curved to linear. Maintain the Constrictor® Lock Point between 5% and 80% of makeup torque.

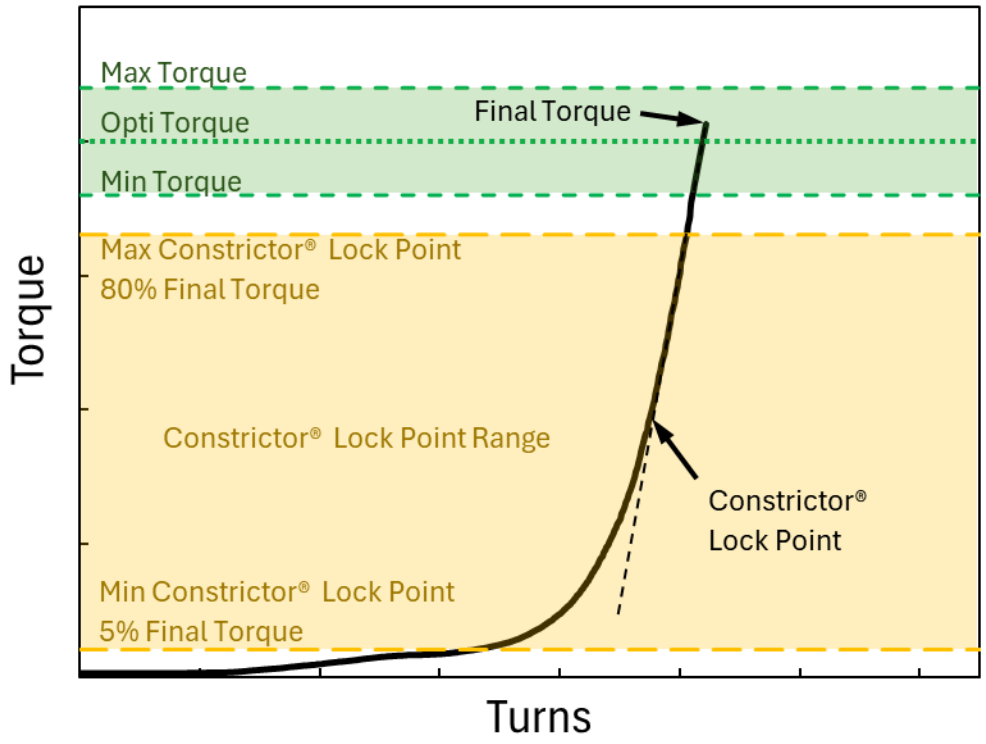


Figure 5 – Bushmaster® SP Torque-Turn Signature

2.3.4. Make-up Acceptance Criteria

Connections are accepted based on required graph elements (2.3.3), and Knurling/Triangle stamp make-up indicators.

2.3.4.1. Make-up Indicator

Verification of connection make-up can be made by checking the triangle stamp or knurling.

Triangle:

- To locate the triangle there is a 1" wide X 24" long white paint stripe is applied to the field end pin.
- After make-up, the box face must be at least to the base of the triangle but not past the tip.

Knurl:

- The knurl is applied around the circumference of the pin.
- After make-up, locate a region around the circumference that has full knurl width indented. The box face must be at least to the base of the knurl but not pass over full width.

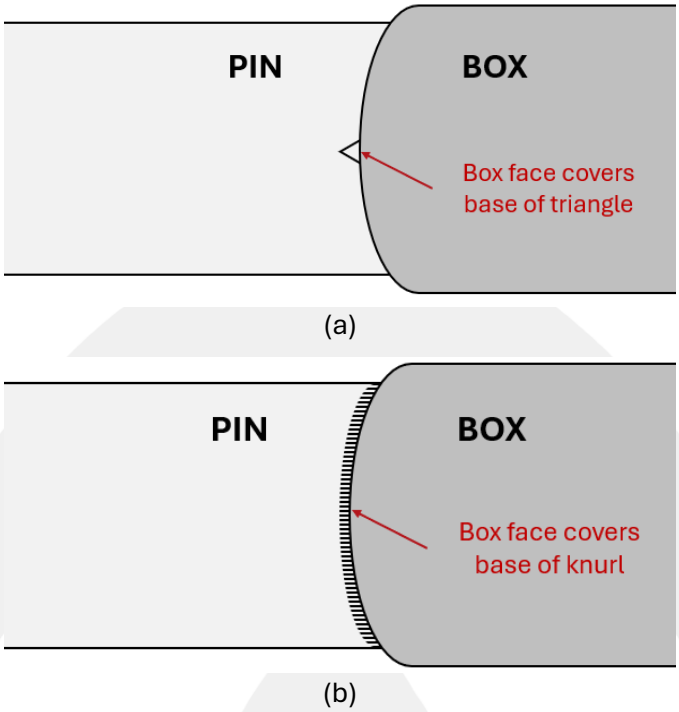
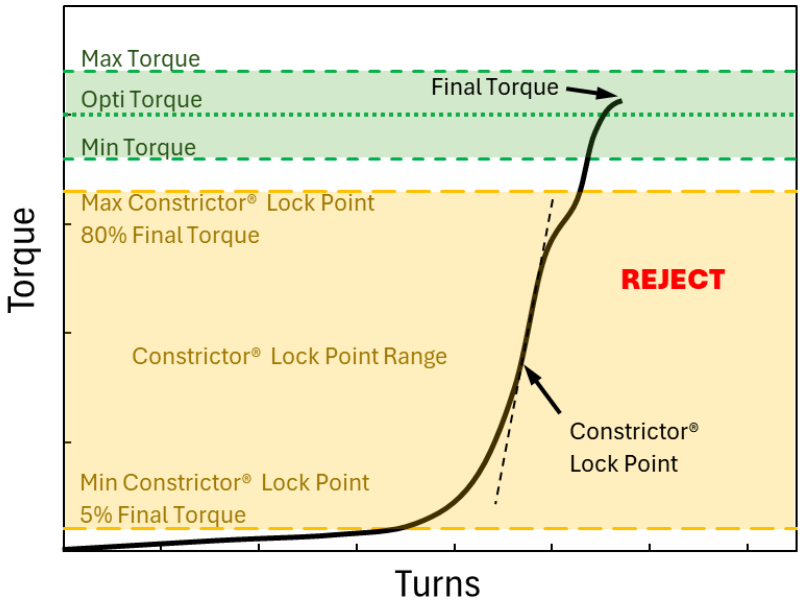


Figure 6 – Triangle stamp after make-up (a) and knurl after make-up (b).

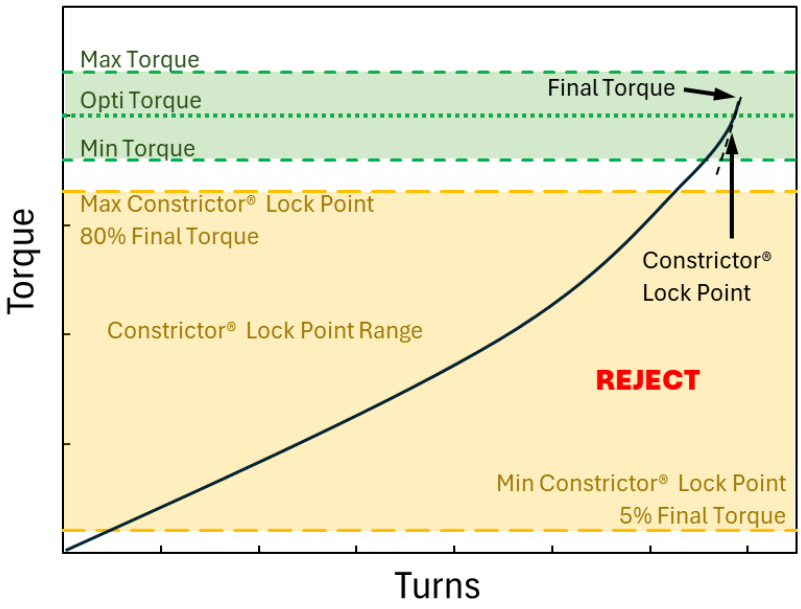
2.3.4.2. Graph Acceptance

- Figure 5 shows an example of an acceptable make-up signature.
- Figure 7 shows examples of unacceptable make-up graphs.
- Contact Fermata® Support for any graph irregularity's acceptance.
- See FT-RP-000 General Running Procedure for further examples.



NOTE: Irregular torque build and loss of linearity near final torque. Break-out, inspect the connection and remake-up with less thread compound.

(a)



NOTE: High or unachieved lock point. Break-out, inspect the connection and remake-up with less thread compound.

(b)

Figure 7 – Examples of unacceptable make-up graphs.

Contact Information:

Technical Support: (281) 941-5257, support@fermata-connections.com

Field Services 24/7 Operations: (855) 322-7104