CONNECTOR INSERTION FORCE FOR MOCSY™7 SUBSCRIBER ACCESS CABLES

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ABSTRACT

The insertion force needed to properly place a connector onto a PCT MOCSY™7 cable is a discussion that many customers find of interest. Various manufacturers make different styles of connectors which may lead to variances in the amount of force needed to install the connector onto the cable. Testing was completed using the SCTE 73 2002 American National Standard testing method to measure and evaluate the insertion force needed to properly install a connector from various manufacturers on PCT cables.

KEYWORDS

Cable; connector; insertion force; SCTE 73 2002.

1 INTRODUCTION

The purpose of this paper is to show the insertion force required to properly install F connectors manufactured by various manufacturers onto various types of drop cable manufactured by PCT. Low insertion force is preferred by cable installers; though there is currently no industry standard for how much force should be required. PCT manufactures F connectors and this paper will provide a comparison to competitor manufacturers.

2 TEST METHOD

We used the SCTE 73 2002 test method for insertion force of connector to drop cable interface. In this method, five cable samples are cut to 4-1/4 inch length, prepared on one end using a hand preparation tool, and the braid is folded back over the jacket.

The connector under test is attached to a F-81 thread in the top fixture of the tensile tester and the cable is placed into a cylindrical fixture at the base of the tensile tester. The speed of insertion is set to 0.5 inches per minute and the connector is lowered (inserted) into the cable and brought to a stop automatically once properly inserted. The force is monitored by an electronic force gauge and the maximum value is recorded.

This procedure is repeated five times and the insertion force readings are averaged. All tests were done at an ambient temperature of 23 °C (73 °F).

3 CABLE TYPES

The following PCT MOCSY™7 cable types were evaluated:

A660-BVV Series 6 standard shield indoor
A6TS-BVV Series 6 tri shield indoor
A6QS-BVV Series 6 quad shield indoor
AC6QS-BVV Series 6 quad shield indoor
A5967-BVV Series 59 standard shield indoor
A1160-BVV Series 11 standard shield indoor
A11TS-BVV Series 11 tri shield indoor
A11QS-BVV Series 11 quad shield indoor
A660-BF Series 6 standard shield flooded
A6TS-BF Series 6 tri shield flooded
A6QS-BF Series 6 quad shield flooded
A1160-BF Series 11 standard shield flooded
A11TS-BF Series 11 tri shield flooded
A11QS-BF Series 11 quad shield flooded
A660-BVM Series 6 standard shield aerial
A6TS-BVM Series 6 tri shield aerial

4 CONNECTOR MANUFACTURERS

Connector manufacturers evaluated were:

PCT International, Inc.
PPC
Corning Gilbert (Gilbert)
Thomas & Betts (T&B)

5 RESULTS OBTAINED

These charts show the measured insertion force in pounds.

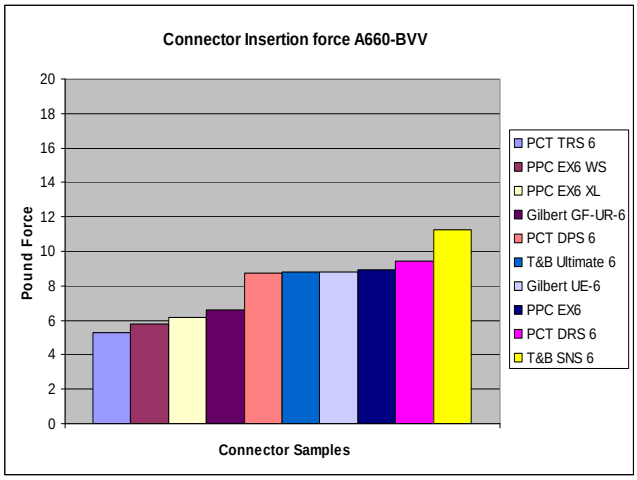
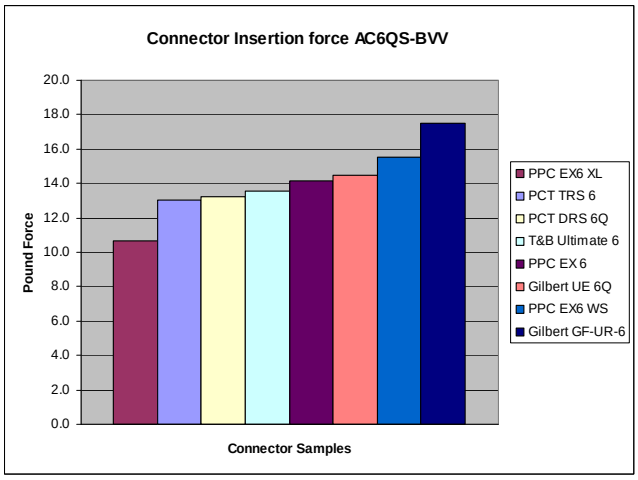


Figure 1



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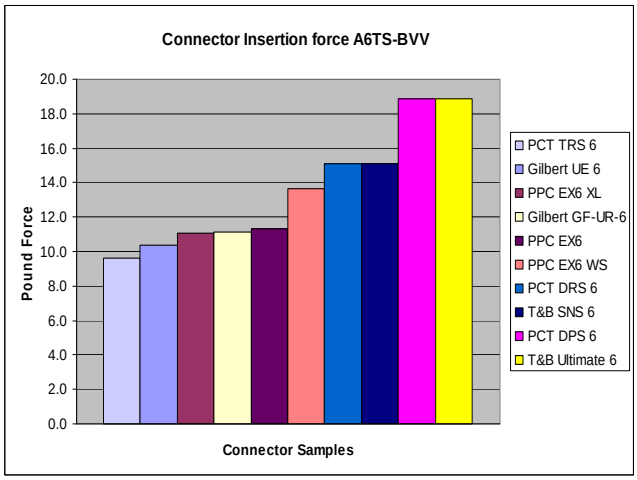

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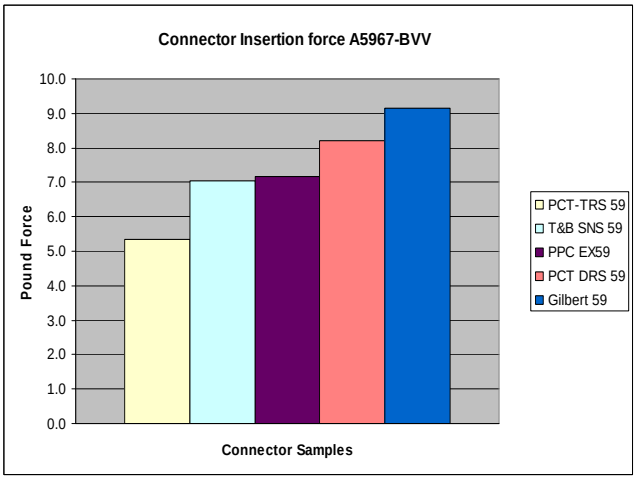

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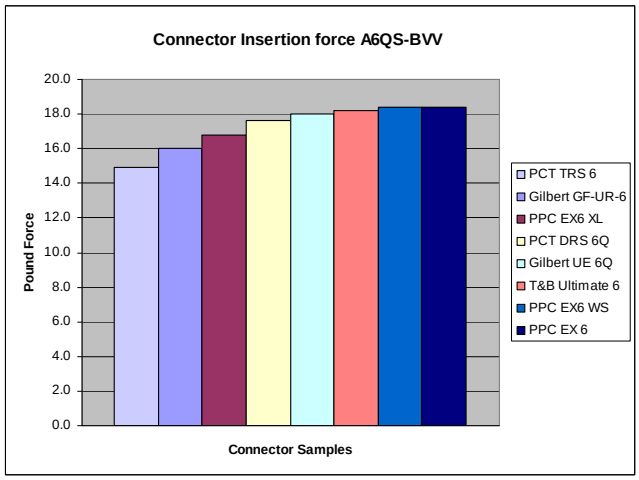

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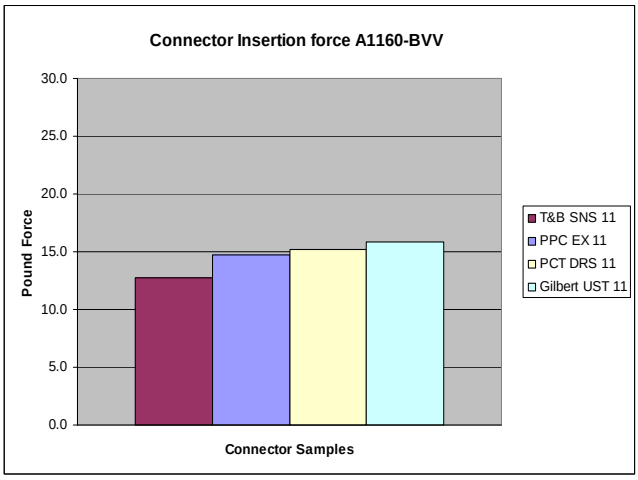

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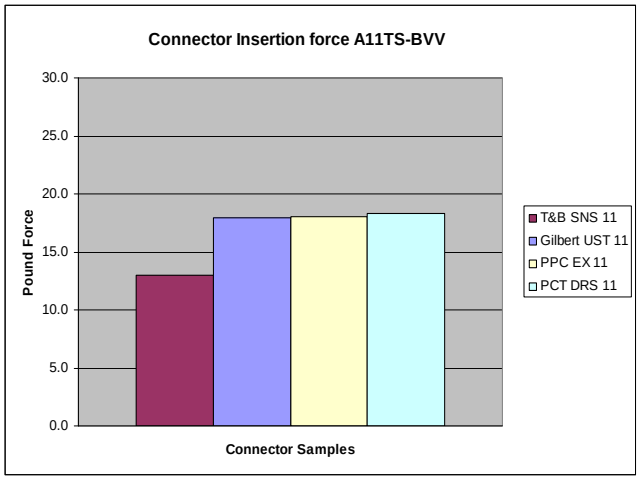

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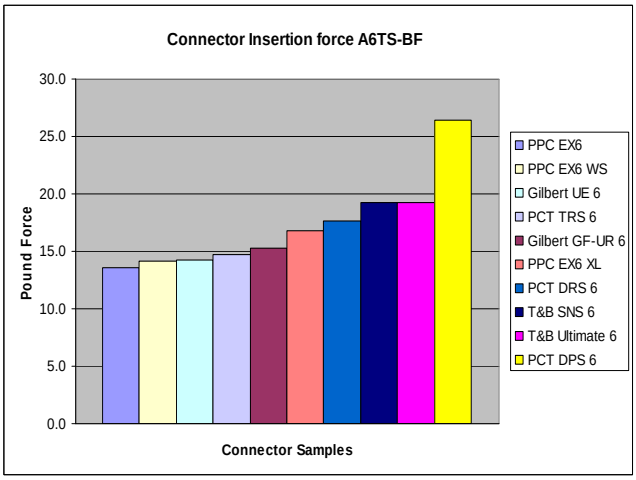

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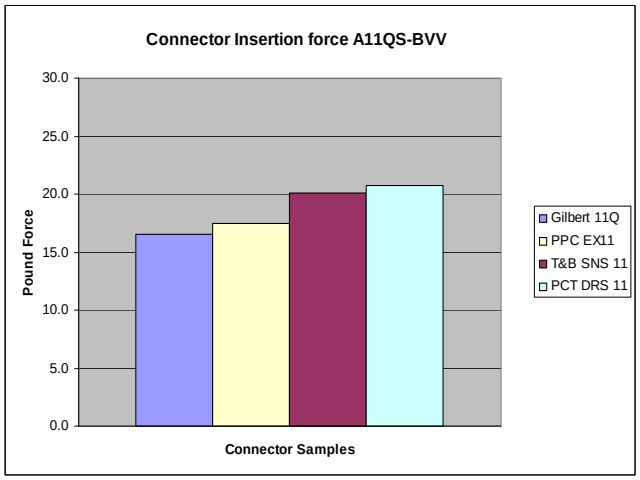

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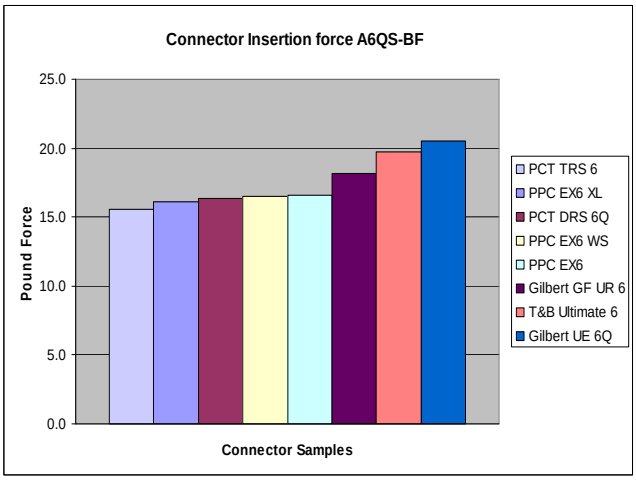

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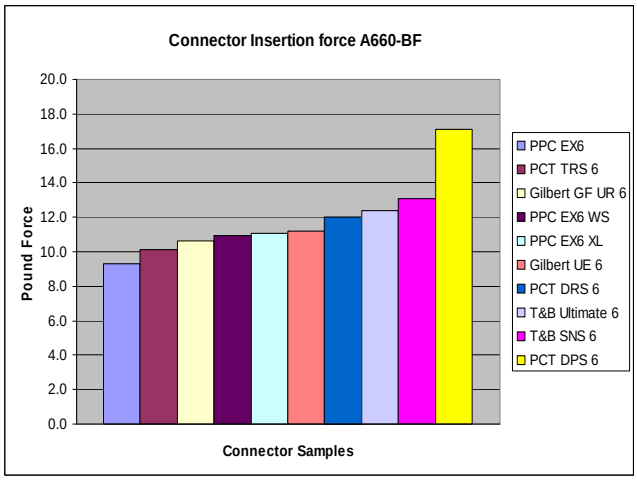

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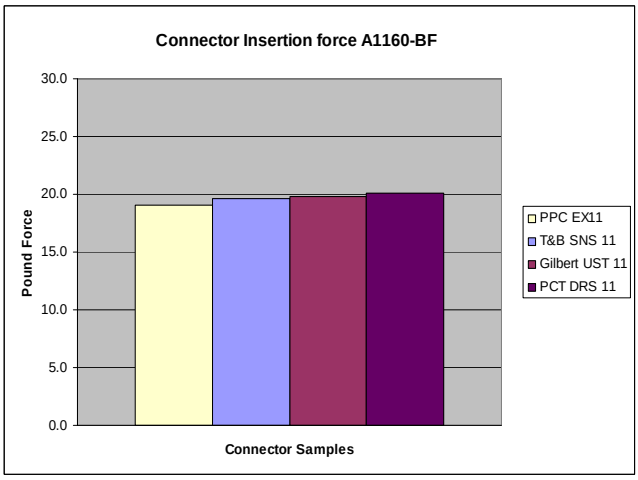

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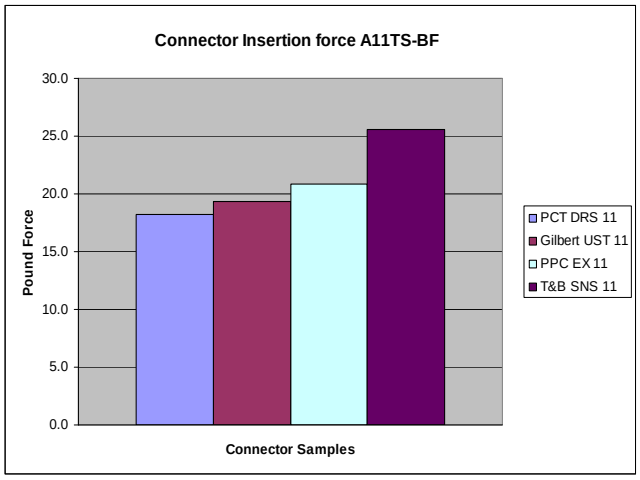

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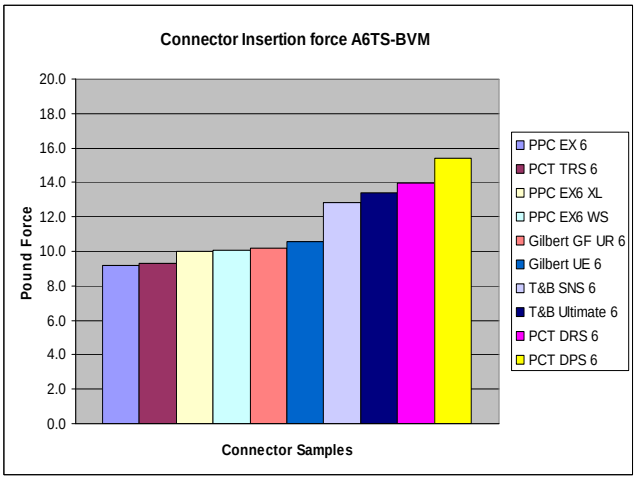

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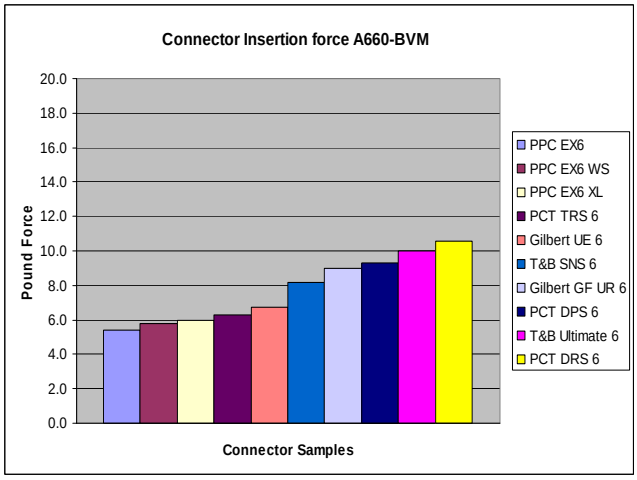

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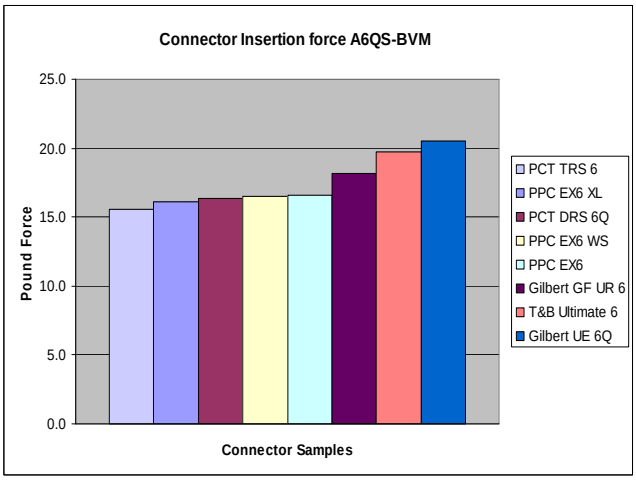

Figure 16