

**ENGINEERING & STANDARDS DEPARTMENT**

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**T & D MATERIAL PURCHASING SPECIFICATION**

<b>JPS SPECIFICATION: TCM-BRACKET-2022</b>	<b>DATE: April 26, 2022</b>
<b>ITEM STOCK:</b>	<b>SUPERSEDES: May 13, 2004</b>

**DESCRIPTION:**      **Bracket, Cluster Mount, Transformer**

**APPLICATION:**      **For mounting transformers ranging in size from 3kVA to 100kVA  
and 167kVA for single and three phase application.**

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**SPECIFICATION**

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**This specification covers the cluster mount bracket which is used to install transformers to both concrete and wooden poles.**

**3kVA to 100kVA Transformer Cluster Mount Bracket**

The cluster mount bracket shall be capable of mounting 3kVA through 100kVA transformers having any combination of 12” (305mm) or 24” (610mm) vertically spaced ANSI/NEMA Type A and Type B lugs. The cluster mount bracket shall be capable of mounting transformers on poles ranging in sizes from 7.75” to 12.5” (197mm to 318mm).

The brackets shall be packaged preassembled along with sufficient ASTM A153, class C, hot dipped galvanized transformer mounting bolts, nuts and lock washers. A ground wire clamp, instruction sheet and pole measuring tape shall also be furnished with each package.

**167kVA Transformer Cluster Mount Bracket**

The cluster mount bracket shall be capable of mounting 167kVA transformers having any combination of 12” (305mm) or 24” (610mm) vertically spaced ANSI/NEMA Type A and Type B lugs. The cluster mount bracket shall be capable of mounting transformers on poles ranging in sizes from 7.75” to 12.25” (197mm to 318mm).

The bracket shall be packaged preassembled along with sufficient ASTM A153, class C, hot dipped galvanized transformer mounting bolts, nuts and lock washers. A ground wire clamp, instruction sheet and pole measuring tape shall also be furnished with each package.

**Banded Cluster Mount Accessories**

An adapter plate (two (2) plates are required per transformer) shall be used when mounting 167kVA transformers with ANSI/NEMA type C lugs. The adapter plate shall have a unique slot feature that captures 2/4” (12.7mm) mounting bolt head, allows for one hand tightening of bolt and provides completely jump proof feature. Two 5/8” x 2” (16mm x 50.8mm) (ANSI C135.1) hot-dipped galvanized machine bolts with nut and lockwasher shall be included with each plate.

Two (2) extension plates shall be fabricated to be used with each band. This is to facilitate an increase in pole range. Extra bolts, nuts and washers shall be furnished.

**Extruded Aluminum Structural Elements**

The extruded aluminum parts of the bracket shall conform to all mechanical and chemical requirements as established for alloy 6061-T6, by the Aluminum Association and ASTM standard specification B221. The bracket shall have **minimum** mechanical parameters as stipulated below.

<b>Tensile Strength</b>	<b>45,00psi</b>
<b>Yield Strength</b>	<b>40,00psi</b>
<b>Elongation in 2” centers</b>	<b>17%</b>

The mechanical strength of the cluster mount bracket shall be as such as to accommodate the stipulated load at the stipulated distance per position as indicated below.

<b>KVA Rating</b>	<b>Type</b>	<b>Stock Number</b>	<b>Equipment load (in pounds), per position, for distance (in inches) from mounting pad face to equipment center of mass (C.O.G.)</b>			
			<b>14”</b>	<b>18”</b>	<b>22”</b>	<b>26”</b>
3kVA to 100kVA	Single Phase	020803022009	3,200	2,500	2,000	1,725
	Two Phase	020803022005	3,200	2,500	2,000	1,725
	Three Phase	020803022003	3,200	2,500	2,000	1,725
167kVA	Single Phase	020803022007	2,500	2000	1,640	1,385

**Galvanized Steel Assembly Fasteners**

The galvanized steel hardware used to assemble the cluster mount bracket shall conform to all stipulation of IEEE standard specification C135.1 and ANSI/ ASME specifications B18.2.1, B18.2.2, B18.5, B18.21.1, B18.22.1. All steel hardware components shall be class C hot dipped galvanized as per ASTM A153.

The cluster mount bracket for the 3kVA to 100kVA shall have dimensions as per drawing CMB-1.0, for single phase, two phase and three phase as shown in Figure 1, Figure 2 and Figure 3 respectively.

The cluster mount bracket for the 167kVA shall have dimensions as per drawing CMB-2.0, as shown in Figure 4 or Figure 5.

### **Tests**

The cluster mount bracket and the accompanying accessories shall be subjected to tests and stipulated results as per ASTM B221, AA 6061-T6, IEEE C135.1, ASTM B557, ASTM A153, ANSI/ ASME B18.2.1, B18.2.2, B18.5, B18.21.1, B18.22.1. Certified test reports shall be made available to the purchaser upon tender.

### **Drawings**

Manufacturer's drawing shall be furnished at the time of tendering, and shall indicate the outline of the cluster mount bracket, together with all pertinent mechanical characteristics, and dimensions as specified herein.

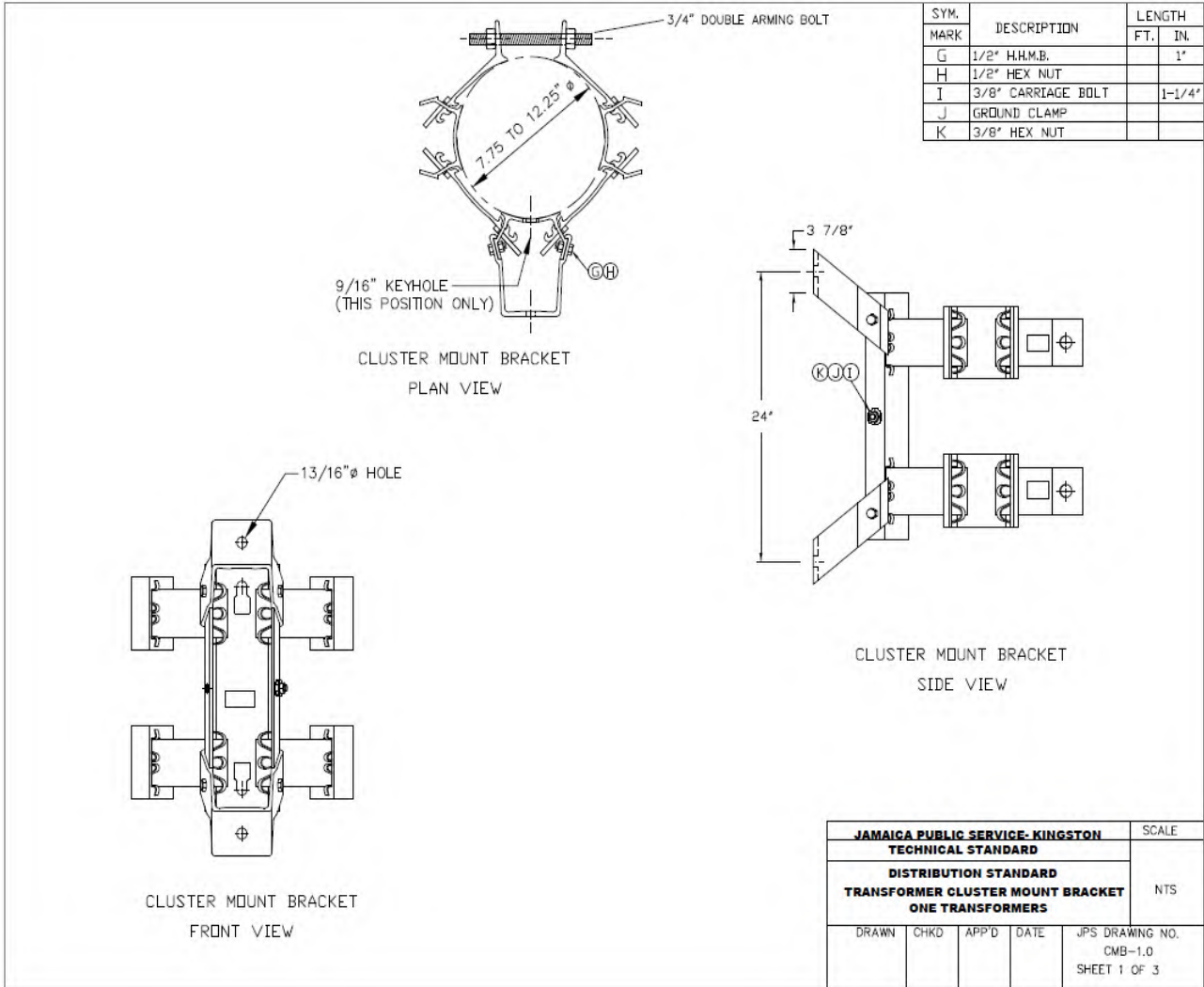


Figure 1. Transformer Cluster Mount Bracket for One Transformer (3kVA – 100kVA)

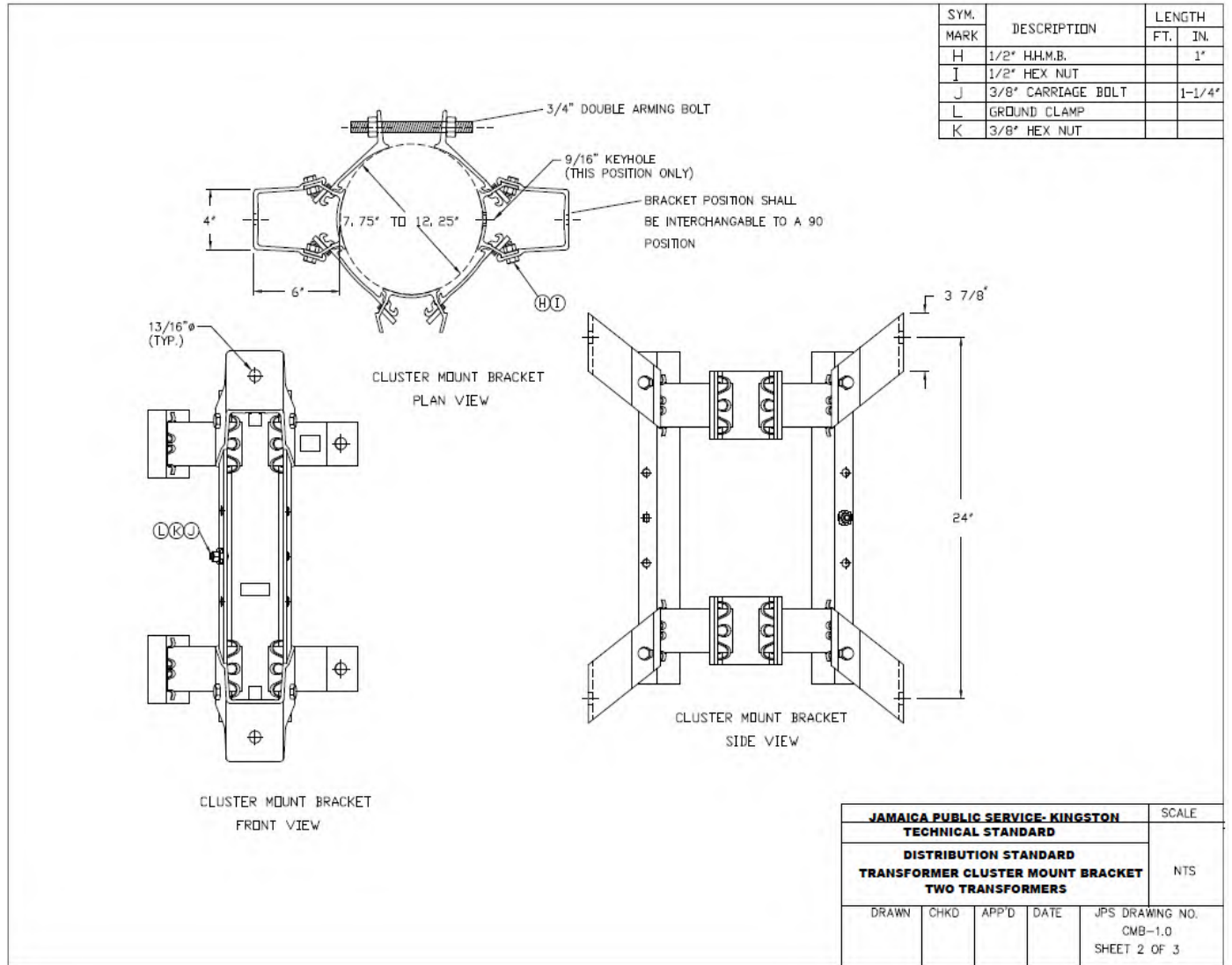


Figure 2. Transformer Cluster Mount Bracket for Two Transformers (3kVA – 100kVA)

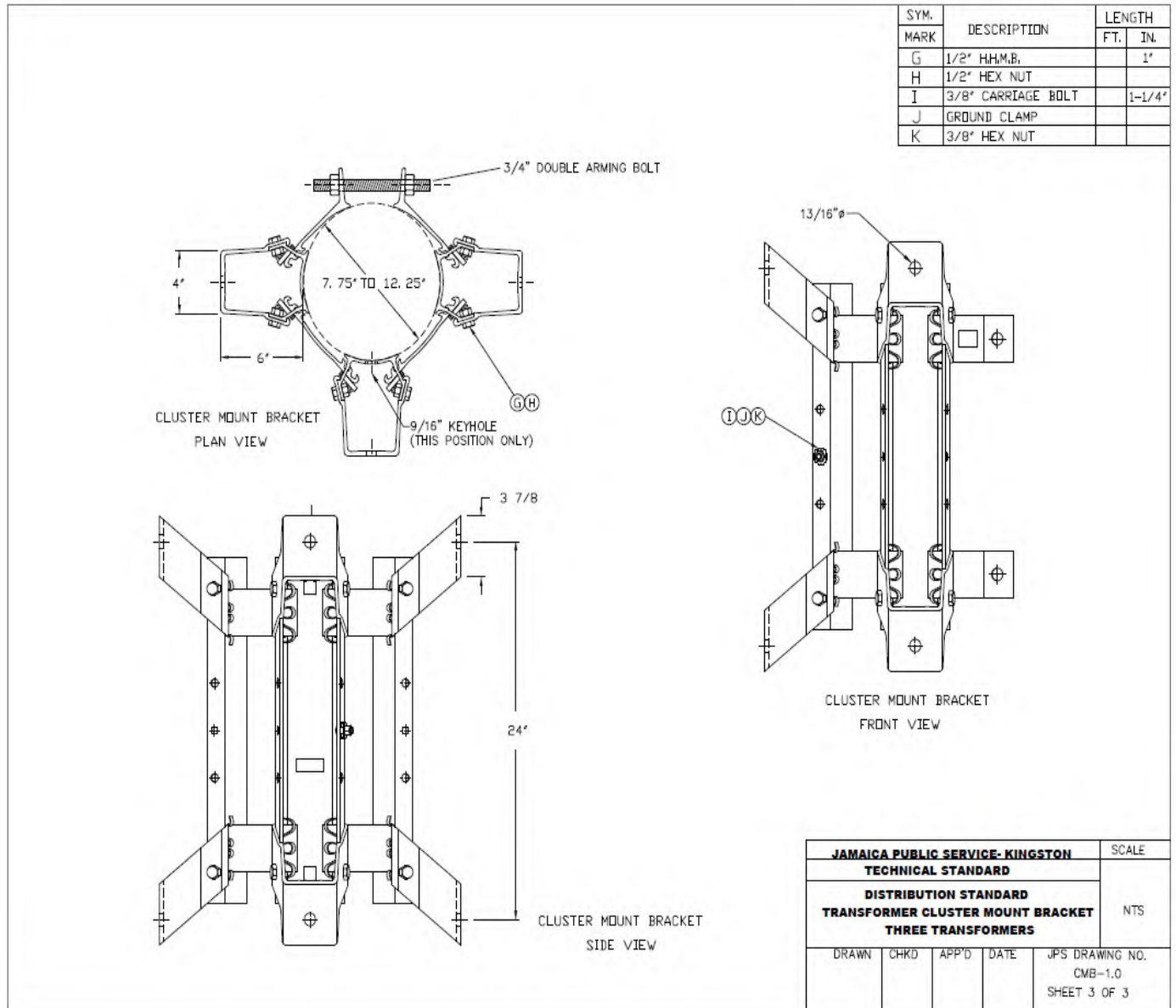


Figure 3. Transformer Cluster Mount Bracket for Three Transformers (3kVA – 100kVA)

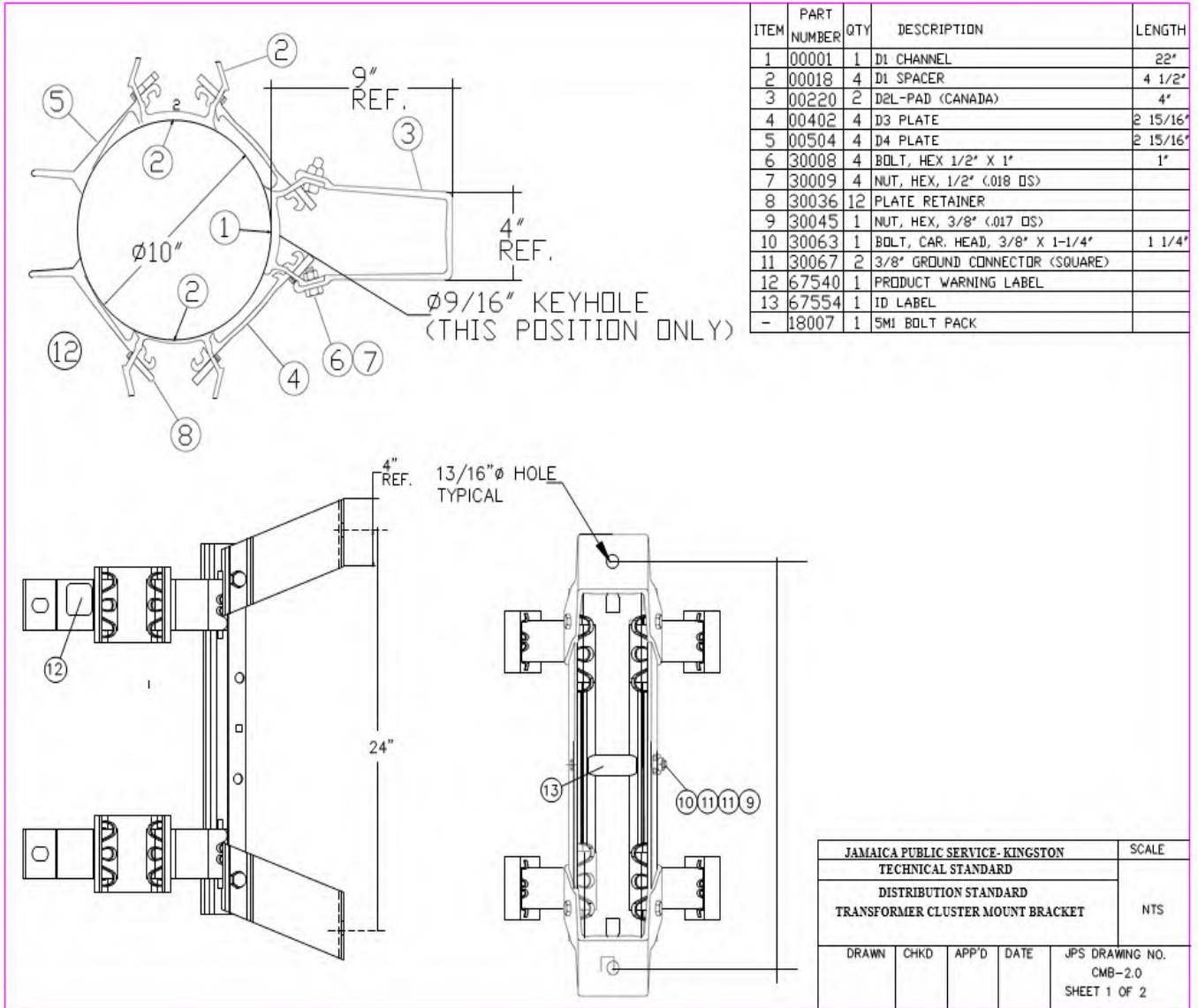


Figure 4. Transformer Cluster Mount Bracket for One Transformer (167kVA)

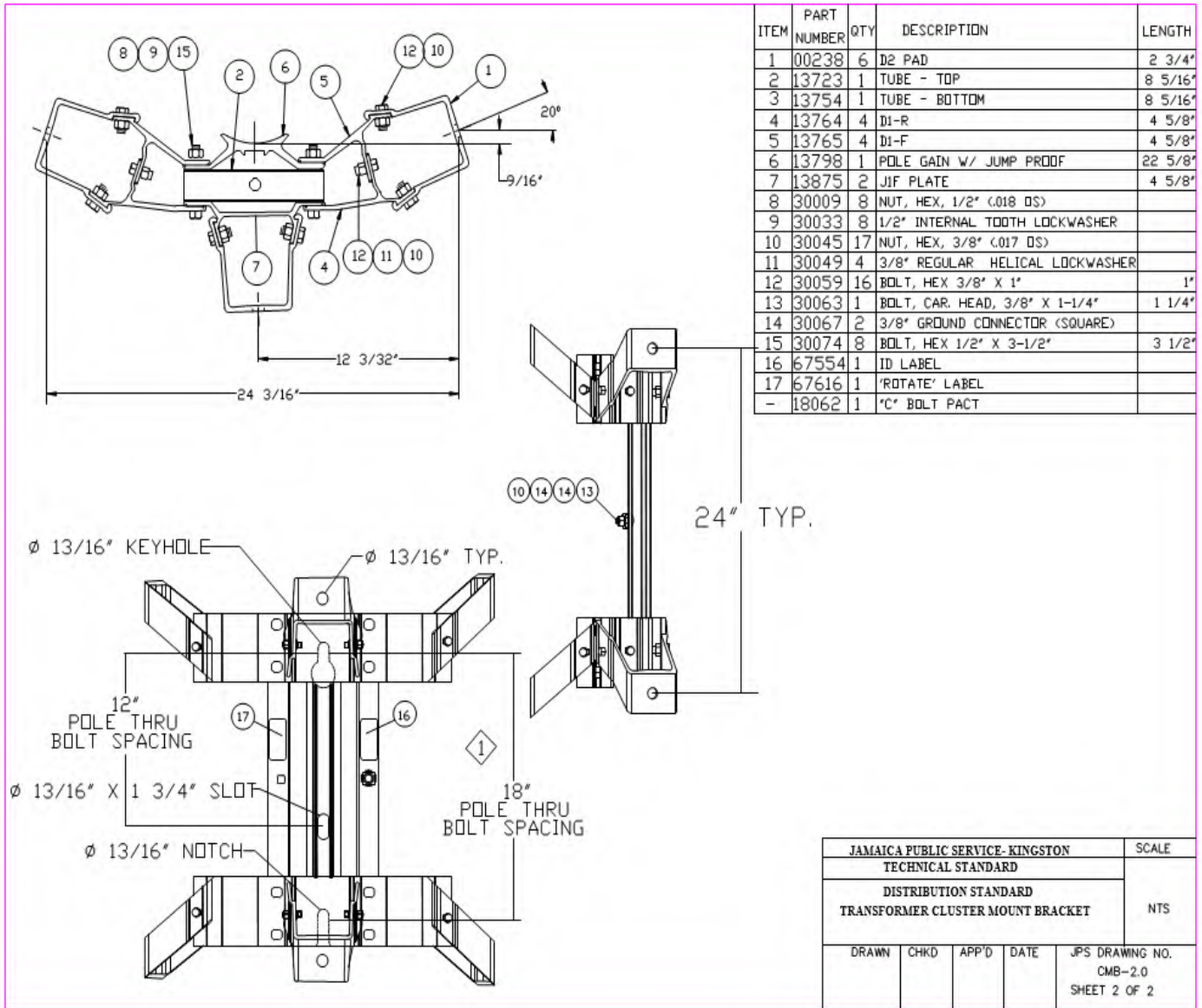


Figure 5. Transformer Cluster Mount Bracket for One Transformer (167kVA)

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