DATA RULES & POLICIES

PRODUCT ATTRIBUTE DATABASE (PADB)

VERSION 4.0

REVISION 1 | REVISED 2/28/2020

Table of Contents

Notice

Revision History

Revision Number	Revision Date	Author	Notes
1	2/28/2020	T.Schiavo	Updates to reflect new PAdb relational tables

What's New in PAdb Version 4.0

Introduction

Welcome to version 4.0 of the Product Attribute database (PADB). This version of the PAdb is designed and tested to meet the aftermarket industry's evolving requirements for the exchange of product information data. All changes have been reviewed in workgroup as well as reviewed and approved by the Technology Standards Committee (TSC).

Data Rules & Policies Updates

The Technology Standards Committee (TSC) has approved the proposed changes in Communifire workgroup case #750. These changes helped clean up the PAdb by utilizing relational tables for both Valid Values and UOMs. As a result of this, it further allows for future language translations for the content contained in the PAdb. These changes **do not** change the way PAdb data is used and communicated in the PIES Standard.

These changes included:

1. Removal of field name "ValidValues" and "UoMlist" from the existing table "PartAttributeAssignment"
2. Creation of the following new tables:
    a. ValidValues
    b. ValidValueAssignment
    c. MetaUOMCodeAssignment
    d. MeasurementGroup

ER Diagram Updates

The ER Diagram for the PAdb has been updated to reflect the new relational database structure described above for PAdb version 4.0.

Overview

This document outlines the data rules and policies for the Product Attribute database (PAdb).

The Auto Care Association's Product Attribute database (PAdb) is an automotive aftermarket industry standard reference relational database to be used in conjunction with the Product Information Exchange Standard (PIES). The PAdb standardizes the way product-specific performance and physical attributes are exchanged between trading partners. The PAdb defines the way trading partners exchange information about the form, fit and function of thousands of automotive products – making that information consistent across the industry.

Comprehensive, complete and accurate product attribute information is an essential component of marketing any product successfully. All customers – professional shop and retail consumers – rely on robust product attributes to make informed decisions and select the most appropriate product for their needs. Performance and physical attributes provide the information necessary for customers to evaluate the differences between similar products and choose the product that best fulfils individual needs. This information enables customers to make informed and knowledgeable decisions.

The PAdb offers the aftermarket industry the following advantages:

- Consistent product information is more accurate and useful to customers in decision making
- Standardized product attributes reduce the burden of data management on the supply chain and lower costs
- A robust set of product attribute definitions will contribute to more effective marketing of automotive products, leading to increased sales, reduced returns and more satisfied customers

PAdb Methodology

The initial PAdb was published in December 2012 and was developed by the Technology Standards Committee (TSC) of the Auto Care Association with the contribution of a large number of industry volunteers and subject matter experts. Project Management and technical support was provided by Pricedex Software after selection through a competitive confidential bid process. Executive oversight and governance was provided by a committee of industry leaders who approved the project methodology.

Existing product attribute definitions in use by industry were solicited, consolidated and normalized to form a candidate database. In the first 12 months of the project 100 logical product groupings were defined and prioritized based on sales volume by dollar and units.

For each product grouping, no fewer than two suppliers of the product and one major reseller were selected to validate the candidate attribute definitions and to propose additional attributes as appropriate. Project oversight by Pricedex and the Auto Care Association ensured that consistent practices were applied to all product groups by all subject matter experts.

A coordinated effort with representatives of the SEMA Data Co-op ensures that the appropriate attributes for popular performance products and accessories are included in the PAdb without a redundant or conflicting effort by the members of that industry segment.

Additional product groups and attribute have and will be added to the PAdb indefinitely.

What is the PAdb?

The Auto Care Association's Product Attribute database (PAdb) is an automotive aftermarket industry standard reference relational database used in conjunction with the Product Information Exchange Standard (PIES). The PAdb standardizes the way product-specific performance and physical attributes are exchanged between trading partners. The PAdb defines the way trading partners exchange information about the form, fit and function of thousands of automotive products – making that information consistent across the industry. All PAdb attributes are assigned/associated to PCdb part terminologies, which are found in the Product Classification database (PCdb).

The Relationship Between the PCdb and PAdb

The Auto Care Association's Parts Classification Database (PCdb), a normalized relational database, contains coded hierarchical terminologies describing replacement parts, service items and supplies commonly sold in the Automotive Aftermarket. The PCdb is linked to the Part Attribute Database (PAdb) through the PartTerminologyID, which provides the structure and Product Descriptions needed to communicate and understand the part attributes for all part terminologies in the PAdb.

What the PAdb Contains

For the more popular and high-volume products in the industry-standard Product Classification database, the PAdb defines one or more “Styles” of the product as well as the valid “Attributes” related to the product. Attributes are further defined by “Type”, “Valid Values” and other Metadata that ensures consistency and accuracy. Specifically, the PAdb contains attributes which deal with the working dimensions, material, color, and performance characteristics of a product. Performance characteristics could be rates of flow, horsepower, electrical characteristics, etc.

What the PAdb Excludes

The PAdb **DOES NOT CONTAIN**:

- any attributes which are already defined in other Auto Care Association Standards, such as the Aftermarket Catalog Enhanced Standard (ACES) or the Product Information Exchange Standard (PIES).
- any attributes which might be considered subjective, such as product features, benefits, comparisons to other products. These types of attributes are considered Market Copy, and, as such, already have their own definitions in the PIES standard.
- any attributes which might be considered proprietary, and expose formulations or engineering information.

It is the responsibility of suppliers to populate and provide Attribute information to their trading partners. The PAdb defines the method and data-types by product. The PAdb **does not** include the product attribute values for any specific supplier of automotive product.

Where the PAdb is Used

The Part Attribute database (PAdb) is used in the Product Information Exchange Standard (PIES) only. Specifically, it is used in the PIES segment F01 – Product Attribute Segment (ATRB). For more information about this PIES segment and all other segments, please view the PIES Technical Documentation.

The PIES Standard provides users the ability to send encoded attribute values from the PAdb for their products, while also providing users the ability to send un-coded custom values (user defined) that are not presently available in the PAdb, in a PIES file

It is highly recommended that users use the PAdb only when communicating this type of information. If there are attributes that are not currently present in the PAdb for your products, you can request them to be added or changed on Auto Care Association's Vehicle Information Portal (VIP) at Autocarevip.com. If you need assistance with this, please contact technology@autocare.org.

PAdb Maintenance

The maintenance of the PAdb is by way of industry contribution and a review and oversight method. All change requests are reviewed by the Auto Care Association to ensure quality control.

Subscribers are eligible to make change requests and petition for changes to the PAdb, including new Part Attributes, through the Auto Care Vehicle Information Portal (VIP).

PAdb Publication and Formats

The PAdb is published once a month at the end of each month in the following formats:

- MS ACCESS 2007
- ASCII, Tab-Delimited Text File
- MS - MYSQL
- MS SQL Server 2008 R2

The PAdb Tables – Entity Relationship (ER) Diagram

The Product Attribute Database (PAdb) is a relational database structured to maintain and convey a library of Product Attributes for Part Terminologies which are contained within the Auto Care Association's Product Classification Database (PCdb). An entity relationship (ER) diagram is available on autocare.org website.

The PAdb Tables – Definitions

Table: **Version**

Objective: This table supplies Version information about the PAdb.

Fields:

Name	Format	Purpose
PAdbVersion	Float	PAdb database version number
PAdbPublication	Varchar(10)	Date of PartAttribute database publication
PCdbPublication	Varchar(10)	Date of PCdb publication in use at time of PAdb publication

Table: **PartAttributes**

Objective: This is the attributes master table in the PAdb.

Fields:

Name	Format	Purpose
PAID	Integer	Primary key and identifier of an attribute
PAName	Varchar(80)	Name of the attribute
PADescr	Varchar(512)	Purpose of the attribute

PURPOSE: **This table contains the master data of the attribute. The data stored in this table contains the unique Attribute Code (assigned by the PAdb), called the PAID; the Part Attribute Name (assigned by the industry), called the PAName; the description of use of the attribute (assigned by the industry), called PADescr.**

Table: **PartAttributeAssignment**

Objective: This table keeps the many-to-many relationship between attributes, metadata and part terminologies.

Fields:

Name	Format	Purpose
PAPTID	Integer	Primary key and identifier of each record
PartTerminologyID	Integer	PCdb PartTerminologyID
PAID	Integer	Identifier of an attribute record from the PartAttributes table
MetaID	Integer	Keeps the relationship with the MetaData table

PURPOSE: **This is used to validate that the attribute is valid for use with the particular Part Terminology, and that the Meta Data associated with the attribute is also valid.**

Table: **MetaData**

Objective: This table is the master of all metadata types in the system.

Fields:

Name	Format	Purpose
MetaID	Integer	Primary key and identifier of each record
MetaName	Varchar(80)	Metadata type name
MetaDescr	Varchar(512)	Metadata type purpose
MetaFormat	Varchar(10)	Actual metadata format, which is displayed in the system. Ex: N2-1/5
DataType	Varchar(25)	Brief description of the type of data (Alphanumeric, Numeric, etc)
MinLength	Integer	Minimum Length, usually 1
MaxLength	Integer	Maximum Length

PURPOSE: **This table contains metadata information related to the attribute, i.e. its minimum and maximum lengths, and type of attribute. The MetaFormat coding is identical to the PIES standard.**

Table: **ValidValueAssignment**

Objective: This table keeps the many-to-many relationship between PAPTID's and ValidValueID's.

Fields:

Name	Format	Purpose
ValidValueAssignmentID	Integer	Primary key and identifier of each record
PAPTID	Integer	Identifier of a PartAttributeAssignment record from the PartAttributeAssignment table.
ValidValueID	Integer	Keeps the relationship with the ValidValues table

PURPOSE: **This is used to validate that the ValidValueID is valid for use with a particular PAPTID.**

Table: **ValidValues**

Objective: This table is the master of all Valid Values in the system.

Fields:

Name	Format	Purpose
ValidValueID	Integer	Primary key and identifier of each record
ValidValue	Integer	Name of the Valid Value

PURPOSE: **This table contains the master data of the ValidValues. The data stored in this table contains the unique Valid Value Code, called the ValidValueID, which represents a unique value called the Valid Value.**

An example of Valid Values could be; a 'Yes|No' value; or a list of values of the Material of Construction, such as 'Aluminum|Cast Iron|Steel'; These are examples only, and not an exhaustive list – but when a PAPTID is assigned one or many ValidValueID's, the ValidValues assigned are the only values that can be conveyed for that PAPTID. The purpose of Valid Values is to maintain consistency in the expression of product attribute values for the industry.

Table: **MetaUOMCodeAssignment**

Objective: This table keeps the many-to-many relationship between PAPTID's and the MetaUOMID's.

Fields:

Name	Format	Purpose
MetaUOMCodeAssignmentID	Integer	Primary key and identifier of each record
PAPTID	Integer	Identifier of a PartAttributeAssignment record from the PartAttributeAssignment table.
MetaUOMID	Integer	Keeps the relationship with the MetaUOMCodes table.

PURPOSE: **This is used to validate that the MetaUOMID is valid for use with a particular PAPTID.**

Table: **MetaUoMCodes**

Objective: This table is the master table of all UOM Codes in the system

Fields:

Name	Format	Purpose
MetaUOMID	Integer	Primary key and identifier of each record
UOMCode	Varchar(10)	Unit of Measure codes. Ex: MM
UOMDescription	Varchar(512)	Unit of Measure description. Ex: Millimeter
UOMLabel	Char(10)	Labels. Ex. mm
MeasurementGroupID	Integer	Keeps the relationship with the MeasurementGroup table.

PURPOSE: **This is the table of pre-coded values for Units of Measure to be used when assigned to a PAPTID in the MetaUOMCodeAssignment Table. The Unit of Measure codes, where possible, follow the ISO and ANSI standards.**

Table: **MeasurementGroup**

Objective: This table is the master table of all Measurement Groups in the system

Fields:

Name	Format	Purpose
MeasurementGroupID	Integer	Primary key and identifier of each record
MeasurementGroupName	Varchar(10)	Name of the MeasurementGroup. Ex. Weight

PURPOSE: **This table contains all the unique measurement groups, which are used to categorize/group Unit of Measures in the PAdb.**

Table: **PartAttributeStyle**

Objective: This table keeps the many-to-many relationship between Style, attributes and part terminologies.

Fields:

Name	Format	Purpose
StyleID	Integer	From Style table
PAPTID	Integer	From PartAttributeAssignment table

Table: **Style**

Objective: This is the Style master table.

Fields:

Name	Format	Purpose
StyleID	Integer	Primary key and identifier of each record
StyleName	Varchar(80)	Style Name. Ex: Passenger Car

Table: **PartTypeStyle**

Objective: This table keeps the relationship between Style and part terminologies.

Fields:

Name	Format	Purpose
StyleID	Integer	From PartAttributeStyle table
PartTerminologyID	Integer	PCdb Part terminology

PAdb Style

A Part Terminology may have more than one ‘Style’. The concept of ‘style’, in the context of the Part Attribute Database, is to provide a means to identify which attributes should be associated to the Part Type in the ‘Style’ use case. A ‘Style’ should be considered a ‘Qualifier’ to the Part Terminology. In this instance of use, Style = Passenger Vehicle, Heavy Duty, Agricultural, Lawn and Garden, etc., style is a grouping of attributes that should be used to describe the product.

Alternatively, ‘Style’ can describe a variant type of construction, or purpose for the Part Type (Style = Replacement, Performance, Racing, etc.), and the grouping of attributes should be used to describe the product.

‘Style’ is defined and agreed upon by the industry Subject Matter Experts, and is applied to the Part Terminology. Style is not maintained in the PCdb, and is strictly a reference point to group appropriate attributes to a ‘Style’ qualifier for a Part Terminology. The table of Style definitions can be added to, but a defined Style may not be deleted.

Style - Example of Use

The table below shows how ‘Style’ is used for a part terminology’s product attributes. ‘Style’ provides the flexibility to assign different product attributes for each ‘Style’ of the single part terminology, allowing more precise assignments of product attributes.

Part TerminologyID	PartTerminology Name	StyleName	PAName
14262	Air Freshener	Hanging	Air Freshener Scent
14262	Air Freshener	Hanging	Color
14262	Air Freshener	Hanging	Disposable
14262	Air Freshener	Hanging	Dual Scent
14262	Air Freshener	Hanging	Hypoallergenic
14262	Air Freshener	Hanging	Package Material
14262	Air Freshener	Hanging	Shape
14262	Air Freshener	Hanging	Shelf Life After Opening
14262	Air Freshener	Refill	Air Freshener Scent
14262	Air Freshener	Refill	Application Method
14262	Air Freshener	Refill	Color
14262	Air Freshener	Refill	Hypoallergenic
14262	Air Freshener	Refill	Package Material
14262	Air Freshener	Refill	Refillable
14262	Air Freshener	Refill	Shelf Life After Opening

Product Information Exchange Standard (PIES)

Product Attribute Segment (ATRB) – PIES Fields Defined

PIES Reference Number	Description
F02 – Maintenance Type	This field indicates whether you are (A) adding this record; (C) Changing this record; (D) Deleting this record; or (N) sending this record with No Change from the previous record.
F05 – Attribute ID (Type)	Premised upon the type of record you are sending, this Key Mandatory field will be filled with either the PAdb Attribute ID Number, or, if the attribute being sent is not part of the PAdb, the Attribute Label. For validation purposes, the Field F07 must indicate whether the attribute being sent is included in the PAdb
F07 – PAdb Attribute	This Mandatory Field indicates whether the attribute sent is from the PAdb or whether it is a custom attribute.
F08 – Attribute UOM	This optional field allows you to send the Unit of Measure suffix associated with your attribute, if the attribute is of a measurement type. If the attribute is from the PAdb, you should send the relevant MetaUOMCode from the PAdb tables. If the attribute is custom, a best practice would be to use the appropriate ANSI UOM Code. ***SPECIAL NOTE: The PAdb defines the appropriate Unit of Measure for its attributes which require them. It is not necessary to populate this field when sending a PAdb Attribute.***
F10 – Attribute Data	This optional field allows you to send the Unit of Measure suffix associated with your attribute, if the attribute is of a measurement type. If the attribute is from the PAdb, you should send the relevant MetaUOMCode from the PAdb tables. If the attribute is custom, a best practice would be to use the appropriate ANSI UOM Code. ***SPECIAL NOTE: The PAdb defines the appropriate Unit of Measure for its attributes which require them. It is not necessary to populate this field when sending a PAdb Attribute.***
F11 PAdb Style ID	If an attribute relates to a specific 'Style' of a Part Terminology as defined within the PAdb, this field should be populated with the appropriate Style ID code from the PAdb. If the attribute is applied

	generically across all styles defined for a Part Terminology within the PAdb, do not convey the StyleID.
F15 Record Number (Sequence)	This optional field is used if you are sending more than one attribute for the Item in the Attribute sub-loop. Record Sequence is used to tell the receiving party the order in which the attributes should be published. **EXAMPLE: If you are sending specific measurements of an item, such as Length, Height, and Width, you would likely code the publishing sequence of these three attributes to read Length, Width and Height. In this example, the attribute 'Length' would have a Record Sequence of '1'; Width would have a Record Sequence of '2', and Height would have a Record Sequence of '3'. See the Examples of Use within this document.**
F17 Multi Value Quantity	This optional field identifies how many values are to be included with the record for this particular attribute.
F18 Multi Value Sequence	This optional field is used to tell the receiving party the order in which the attribute values contained in this sub-loop should be published.
F20 – Language Code	The use of the Language Code, within this loop enables the sender to send alternate languages for attribute data. This field, if left empty, defaults to the Language Code identified in the Header element of PIES. Codes used in this field are drawn from ISO Table 6390-1, 2 character Language Codes.

When Attributes Have Multiple Values

In certain circumstances, an Item Attribute may have more than one value. An example of this would be an item which has a Range of electrical operating values (i.e. 6, 12 or 24 Volt), or a Range of Resolutions (ie. 600, 1200, 2400 dpi). In these circumstances, the PIES standard can accommodate a further looping of values, transmitting each value in its own tag. The Attribute segment of PIES accommodates this through the use of two special fields – **F17, Multi Value Quantity**, and **F18, Multi Value Sequence.**

PAdb Examples of Use in PIES

Example 1 – Sending PAdb Attributes in PIES

Example 1A- Sending multiple PAdb Attributes for an Item (Part Number 9876 – Brake Caliper), using the PAdb definitions for Brake Caliper attributes:

Example PAdb Data

PAID	Attribute Name (PAName)	Description of Use (PA Descr)	Attribute Type (From MetaData Table)	Unit of Measure Code (From UoMList)	Value (Actual Value or from Valid Values Field)
54321	Mounting Hardware Included	Does this product include its mounting Hardware	Text	-	These are the valid values for the part attribute that are assigned to the part terminology in the PAdb: • Yes • No <Yes> is the desired value
54322	Caliper Type	Describes how the Caliper is designed	Alphanumeric	-	These are the valid values for the part attribute that are assigned to the part terminology in the PAdb: • Fixed • Floating <Fixed> is the desired value
54323	Inlet Port Diameter		Numeric measurement, Floating Decimal	IN	0.750
54324	Piston Quantity		Numeric, length 2	-	1

54325	Piston Size 1	Piston Diameter	Numeric measurement, Floating decimal	IN	1.375
54326	Bleeder Thread Size	Size of the thread on the bleeder port and diameter. Examples 7/16x20 - 3/8x24 - 10x1.0 - 10x1.5	Alphanumeric, length 10		3/8x24
54327	Caliper Casting Material	Defines the casting material	Text	-	These are the valid values for the part attribute that are assigned to the part terminology in the PAdb: • Cast Iron • Aluminum • Magnesium • Composite <Aluminum> is the desired value

Example 1A - Sample PIES XML

```
…
<Items>
        <Item MaintenanceType="A">
                …
                <PartNumber>9876</PartNumber>
                …
                <ProductAttributes>
                        <ProductAttribute
                                MaintenanceType="A"
                                AttributeID="54321"
                                PADBAttribute="Y" RecordNumber="1">Yes</ProductAttribute>
                        <ProductAttribute
                                MaintenanceType="A"
                                AttributeID="54322"
                                PADBAttribute="Y"
                                RecordNumber="2">Fixed</ProductAttribute>
                        <ProductAttribute
                                MaintenanceType="A"
                                AttributeID="54323"
                                PADBAttribute="Y"
                                AttributeUOM="IN"
                                RecordNumber="3">0.750</ProductAttribute>
                        <ProductAttribute
                                MaintenanceType="A"
                                AttributeID="54324"
                                PADBAttribute="Y"
                                RecordNumber="4">1</ProductAttribute>
                        <ProductAttribute
                                MaintenanceType="A"
                                AttributeID="54325"
```

```
                    PADBAttribute="Y"
                    AttributeUOM="IN"
                    RecordNumber="5">1.375</ProductAttribute>
                <ProductAttribute
                    MaintenanceType="A"
                    AttributeID="54326"
                    PADBAttribute="Y"
                    RecordNumber="6">3/8x24</ProductAttribute>
                <ProductAttribute
                    MaintenanceType="A"
                    AttributeID="54327"
                    PADBAttribute="Y"
                    RecordNumber="7">Aluminum</ProductAttribute>
            </ProductAttributes>
            …
        </Item>
</Items>
…
```

Example 1B - Sending PAdb Attributes for two Styles of Tire (Passenger Tire, Racing Slick) for Part Number 192837 – Passenger Tire, and 292837 – Racing Slick.

Example PAdb Data

PAID	Attribute Name	Attribute Type	Style Name	Style ID	Unit of Measure Code	Value
12345	Tread Depth	Numeric Measurement, Floating Decimal	Passenger Tire	20	IN	0.375
23456	Mud/Snow Rated	Text	Passenger Tire	20	-	These are the valid values for the part attribute that are assigned to the part terminology in the PAdb: • Yes • No <Yes> is the desired value
34567	Revolutions Per Mile	Numeric Measurement, Floating Decimal	Racing Slick	22	-	854
45678	Compound Type		Racing Slick	22	-	These are the valid values for the part attribute that are assigned to the part terminology in the PAdb: • Rain • Qualifying • Hillclimb • Night • Sprint <Endurance> is the desired value

56789	Sidewall Type	Text	Passenger Tire, Racing Slick	20, 22	-	These are the valid values for the part attribute that are assigned to the part terminology in the PAdb: • Blackwall • Whitewall • Raised Letters . <Whitewall> is the desired value for the Passenger Tire, <Raised Letters> is the desired value for the Racing Slick.
67890	Rim Diameter	Numeric, length 2	Passenger Tire, Racing Slick	20, 22	IN	15 is the desired value for Racing Slick 14 is the desired value for Passenger Tire

Example 1B - Sample PIES XML

```
…
<Items>
        <Item MaintenanceType="A">
                …
                <PartNumber>192837</PartNumber>
                …
                <ProductAttributes>
                        <ProductAttribute
                                MaintenanceType="A"
                                AttributeID="12345"
                                PADBAttribute="Y"
                                StyleID="20"
                                AttributeUOM="IN"
                                RecordNumber="1">0.375</ProductAttribute>
                        <ProductAttribute
```

```
                    MaintenanceType="A"
                    AttributeID="23456"
                    PADBAttribute="Y"
                    StyleID="20"
                    RecordNumber="2">0.375</ProductAttribute>
                <ProductAttribute
                    MaintenanceType="A"
                    AttributeID="56789"
                    PADBAttribute="Y"
                    StyleID="20"
                    RecordNumber="3">Whitewall</ProductAttribute>
                <ProductAttribute
                    MaintenanceType="A"
                    AttributeID="67890"
                    PADBAttribute="Y"
                    StyleID="20"
                    AttributeUOM="IN"
                    RecordNumber="4">14</ProductAttribute>
            </ProductAttributes>
            …
        </Item>
        <Item MaintenanceType="A">
            …
            <PartNumber>292837</PartNumber>
            …
            <ProductAttributes>
                <ProductAttribute
                    MaintenanceType="A"
                    AttributeID="34567"
                    PADBAttribute="Y"
                    StyleID="22"
```

```
                    RecordNumber="1">854</ProductAttribute>
                <ProductAttribute
                    MaintenanceType="A"
                    AttributeID="45678"
                    PADBAttribute="Y"
                    StyleID="22"
                    RecordNumber="2">Endurance</ProductAttribute>
                <ProductAttribute
                    MaintenanceType="A"  AttributeID="56789"
                    PADBAttribute="Y"
                    StyleID="22"
                    RecordNumber="3">Raised Letters</ProductAttribute>
                <ProductAttribute
                    MaintenanceType="A"
                    AttributeID="67890"  PADBAttribute="Y"
                    StyleID="22"
                    AttributeUOM="IN"
                    RecordNumber="4">15</ProductAttribute>
            </ProductAttributes>
            …
        </Item>
</Items>
…
```

Example 1C - Sending PAdb Attributes for a Drill Bit which has a drilling diameter range of .125 to .75 inches, in increments of .125 inches for Part Number 5463782 – Drill Bit

Example PAdb Data

PAID	Attribute Name	Attribute Type	Unit of Measure Code	Value
12345	Shank Diameter	Numeric Measurement, Floating Decimal	IN	0.3125
12346	Bit Length	Numeric Measurement, Floating Decimal	IN	3.375
12347	Bit Material	Alphanumeric, 25 characters	-	Cobalt
12348	Cut Diameter	Numeric Measurement, Floating Decimal	IN	0.125,0.250,0.375,0.500,0.625,0.750

Example 1C - Sample PIES XML

```
…
<Items>
<Item MaintenanceType="A">
…
<PartNumber>5463782 </PartNumber>
…
<ProductAttributes>
        <ProductAttribute
                MaintenanceType="A"
                AttributeID="12345"
                PADBAttribute="Y"
                AttributeUOM="IN"
                RecordNumber="1">0.3125</ProductAttribute>
        <ProductAttribute
                MaintenanceType="A"  AttributeID="12346"
                PADBAttribute="Y"
```

```
        AttributeUOM="IN"
        RecordNumber="2">3.375</ProductAttribute>
    <ProductAttribute
        MaintenanceType="A"  AttributeID="12347"
        PADBAttribute="Y"
        RecordNumber="3">Cobalt</ProductAttribute>
    <ProductAttribute
        MaintenanceType="A"  AttributeID="12348"
        PADBAttribute="Y"
        AttributeUOM="IN"
        RecordNumber="4"
        MultiValueQuantity="6"
        MultiValueSequence="1">0.125</ProductAttribute>
    <ProductAttribute
        MaintenanceType="A"  AttributeID="12348"
        PADBAttribute="Y"
        AttributeUOM="IN"
        RecordNumber="4"
        MultiValueQuantity="6"
        MultiValueSequence="2">0.250</ProductAttribute>
    <ProductAttribute
        MaintenanceType="A"  AttributeID="12348"
        PADBAttribute="Y"
        AttributeUOM="IN"
        RecordNumber="4"
        MultiValueQuantity="6"
        MultiValueSequence="3">0.375</ProductAttribute>
    <ProductAttribute
        MaintenanceType="A"  AttributeID="12348"
        PADBAttribute="Y"
        AttributeUOM="IN"
```

```
                RecordNumber="4"
                MultiValueQuantity="6"
                MultiValueSequence="4">0.500</ProductAttribute>
        <ProductAttribute
                MaintenanceType="A"  AttributeID="12348"
                PADBAttribute="Y"
                AttributeUOM="IN"
                RecordNumber="4"
                MultiValueQuantity="6"
                 MultiValueSequence="5">0.625</ProductAttribute>
        <ProductAttribute
                MaintenanceType="A"  AttributeID="12348"
                PADBAttribute="Y"
                AttributeUOM="IN"
                RecordNumber="4"
                MultiValueQuantity="6"
                MultiValueSequence="6">0.750</ProductAttribute>
                </ProductAttributes>
                …
        </Item>
</Items>
…
```

Example 2 – Sending Un-Coded Custom (User Defined) Attributes in PIES

Sending three non-PAdb attributes for an Item (Part Number 1234 - Widget), using the following custom attributes:

Widget Length = 12.5 inches

Widget Width = 4.25 inches

Widget Height = 3.5 inches

Sample PIES XML

```
…
<Items>
        <Item MaintenanceType="A">
                …
                <PartNumber>1234</PartNumber>
                …
                <ProductAttributes>
                        <ProductAttribute
                                MaintenanceType="A"
                                AttributeID="Length"
                                PADBAttribute="N"
                                AttributeUOM="IN"
                                RecordNumber="1">12.5</ProductAttribute>
                        <ProductAttribute
                                MaintenanceType="A"  AttributeID="Width"
                                PADBAttribute="N"
                                AttributeUOM="IN"
                                RecordNumber="2">4.25</ProductAttribute>
                        <ProductAttribute
                                MaintenanceType="A"
                                AttributeID="Height"
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```

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                    AttributeUOM="IN"
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...
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