



# TECHNICAL DOCUMENTATION

## PRODUCT INFORMATION EXCHANGE STANDARD (PIES)

VERSION: 7.2

REVISION 1 | REVISED 5/4/2020



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## Revision History

Revision Number	Revision Date	Author	Notes
1	05/4/2020	T. Schiavo	Initial Release of PIES Version 7.2

## What's New in PIES Version 7.2

### Introduction

Welcome to version 7.2 of the Product Information Exchange Standard (PIES). This version of the Data Delivery Specification and XML Schema 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).

### Technical Documentation Updates

#### HEADER – Header Segment

- **A42- PCdb Version Date** – Has been changed from “O” Optional to “M” Mandatory to ensure data receivers know what PCdb database was used to create the PIES file in order to utilize the correct PIES coded values. This change is a result of TSC Approved **Workgroup Case #880**.
- **A03-Submission Type** – The way to communicate if the PIES file is a “Test” file has changed from being its own element outside of the Header Segment with a “true” or “false” value, to being a part of the Header Segment under **A03-Submission Type**. A new PIES Coded value of “TEST” has been added to **Submission Type** in the PIES coded value tables, which are located in the Product Classification database (PCdb). This aligns how Submission Types are communicated between the ACES and PIES Standards. This change is a result of TSC Approved **Workgroup Case #883**.
- **A23-Brand Owner AAIAID** – This element has been removed from the Header Segment. This was removed as a result of the BrandOwner and Parent being the same value in over 91% of cases as well as because the industry indicated that they were not using BrandOwner in their data. This change is a result of TSC Approved **Workgroup Case #848**.

#### DESC – Description Segment

- Updated Description Segment overview details in the PIES technical documentation as it relates to looping. This change is a result of TSC Approved **Workgroup Case #881**.
- Updated the XML example in the PIES Technical Documentation, showing the use of multiple description codes as well as sequencing. This change is a result of TSC Approved Workgroup Case #881.

## Technical Specifications Updates

### HEADER – Header Segment

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## XSD Schema Updates

### HEADER – Header Segment

- **A42- PCdb Version Date** – Has been changed from “O” Optional to “M” Mandatory to ensure data receivers know what PCdb database was used to create the PIES file in order to utilize the correct PIES coded values. This change is a result of TSC Approved **Workgroup Case #880**.
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- **A23-Brand Owner AAIAID** – This element has been removed from the Header Segment. This was removed as a result of the BrandOwner and Parent being the same value in over 91% of cases as well as because the industry indicated that they were not using BrandOwner in their data. This change is a result of TSC Approved **Workgroup Case #848**.

## PIES Coded Value Updates

### HEADER – Header Segment

- **A03-Submission Type** – The way to communicate if the PIES file is a “Test” file has changed from being its own element outside of the Header Segment with a “true” or “false” value, to being a part of the Header Segment under **A03-Submission Type**. A new PIES Coded value of “TEST” has been added to **Submission Type** in the PIES coded value tables, which are located in the Product Classification database (PCdb). This aligns how Submission Types are communicated between the ACES and PIES Standards. This change is a result of TSC Approved **Workgroup Case #883**.



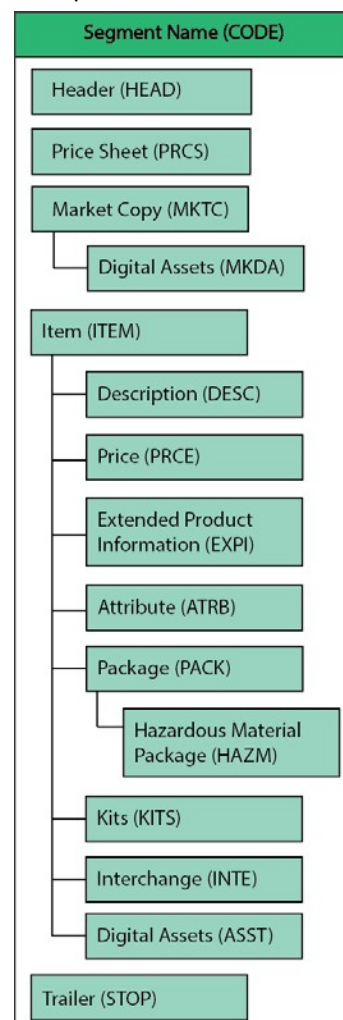
## Introduction to PIES

The **Product Information Exchange Standard (PIES)** is a product of the Auto Care Association's Technology Standards Committee. The purpose of this product is to develop a standard for exchanging product information between all members of the supply chain from the manufacturer to the retailer/wholesaler and to the service retailer. Representatives responsible for developing this standard included manufacturers, retailers, wholesalers and electronic catalog providers. Additional input is provided by members of the Auto Care Association Heavy Duty Segment (Heavy Duty Distribution Association), Paint and Body Equipment Supply segment and the Automotive Warehouse Distributors Association (AWDA).

PIES was born out of the need to feed increasingly sophisticated business systems with full, rich product information. As these new systems propagated, no longer was a part number and price sufficient to meet the needs of retailers, wholesalers and program groups. Data demands expanded to include searchable descriptions, weight, physical dimensions, and scores of other attributes needed for everything from cubing out warehouse space to configuring plan-o-grams on retail sales floors.

This standard was designed to provide a facility to exchange more comprehensive product data than just price sheet data. In addition to price and price sheet information, the standard provides the facility to exchange information regarding such diverse elements as:

- packaging including dimensions, weights, etc.,
- barcodes / product identification
- product descriptions
- extended product information
- kit component information
- warranty information
- shipping information
- information and links to product data sheets and safety information
- information and links to product images



- and much more...

To accomplish this goal, PIES standardizes not only the field definitions and requirements, but also the delivery mechanism used to transfer these files. The standard is designed in a flexible format which allows each record segment to loop as many times as needed in order to meet data delivery requirements. For example, a part with multiple price levels would simply have multiple price detail segments, one for each price level. Also, only those segments, which are needed to provide specific information, need be sent. To accomplish this flexibility, the PIES delivery standard is designed using XML and XML Schema's (XSD).

For more information on the technical specifications of the PIES XSD, please visit the [autocare.org](http://autocare.org) website and download the latest PIES documentation.

PIES creates a standardized form and format for the presentation of all critical product attribute data. However, beyond a data structure, PIES creates a methodology for industry-wide synchronization of product information.

This Data Definitions Document may be updated as additional information is made available. If you would like to suggest added content or corrections, please send an email to [technology@autocare.org](mailto:technology@autocare.org)

## Documentation Format and Considerations

### Field Definitions

Each PIES field in the following section is defined using the following table structure:

Ref Num		XML Element	
Format		XML Attribute	
Requirement		Code Table	
Example			
External Ref			
Comments			

The **Ref Num** is a reference to the Technical Specifications document for PIES. This excel document is a more technical field reference which contains a field numbering scheme referred to as a **Ref Num** in this Data Definition document.

**Format** is explained in more detail in subsection Format Codes.

**Requirement** is explained in more detail in subsection Element/Field Requirement Codes.

**XML Element** lists the XML name for this field per the PIES XML Schema. When used with a PIES file this will include an opening and closing tag, Example would be <item></item>. Note that the second tag includes “/” which comes before the name, this denotes that this is the closing element.

**XML Attribute** lists the XML attribute name for this field per the PIES XML Schema. Only those fields defined as an attribute in the schema will have an **XML Attribute**.

If the PIES field derives its value from an Industry Defined data source, this source is indicated in the **Code Table** cell. All PIES code values are included in the monthly published PCDB in the PIES Code Tables and have been denoted in the code table as Coded Values. If a value is from an external source, the Code Table will state External Code Sources.

The **Example** cell will show data value samples from most fields.

If a PIES Field relies on an external data source for its valid value, this **external** source is identified in External

**Ref.** An example may be an ISO Code reference. When possible, this **External Ref** will be shown as a hyperlink.

**Comments** will contain general descriptive information about each field as well as some additional definition information not relayed in the other table cells.

## Coding Explained

**Looping** Element Looping is talked about within the documentation. This means the element within this section of the PIES file can include the element multiple times.

**Ellipses (...)** An ellipses within the code samples denotes more data above, below or within the code sample has been omitted to abbreviate the code sample. This is used to indicate more code is needed to create a full PIES file, however it is not necessary to explain the concept in the code sample.

**Parent/Child Relationship** Within this documentation, element relationships are described as a Parent/Child relationships, where one element contains another element. Item is the parent element and PartNumber is the child element in this example:

```
...  
<Item>  
    <PartNumber>...</PartNumber>  
</Item>  
...
```

## Format Codes

The following Codes are used to indicate the Field Data Type for each PIES Element.

Please note that the Date Type format includes dashes. Previous PIES documentation showed the Data Type format without dashes.

PIES Format Coding Schema	
Code	Description
A4	Alpha only - 4 characters required
AN1/15	Alphanumeric - from N min to N max characters or digits in length (including special char as indicated in Appendix A of Doc)
D	Date - YYYY-MM-DD format
ID2/3	Coded Identifier - from N min to N max characters or digits in length
N1/48	Numeric with no decimals - N min up to N max length
N4-5/10	Numeric with a fixed number of decimal places (4) - 5 min up to 10 max length
R1/10	Numeric with floating decimal place - N min up to N max digits in length
per table	Defined By Coded Value

## Element/ Field Requirement Codes

Each PIES field is defined with a Requirement Code.

PIES Field Requirement Coding Schema		
Code	Field Name	Description
KM	Mandatory Key	Required if segment is present. May not be null.
KO	Optional Key	May be null.
KE	"Either" Key	Either of two fields marked KE is required.
M	Mandatory Data	Must be present if segment is present. May not be null. Will fail XML validation if null.
R	Recommended Data	Strongly recommended by industry experts to be present if segment is present, but null will not fail XML validation.
O	Optional Data	Optional - may be null.
C	Conditional Data	Required if related field is present; for example, if Quantity field is present, then Quantity UOM field must be present as well.
E	"Either" Data	Either of two fields marked E is required.

## PIES Coded Values

All PIES Coded Values can be found in the **Product Classification database (PCdb)**, which is updated and published monthly on [AutoCareVIP.com](http://AutoCareVIP.com).

## File Delivery

### Net-Change File Delivery

Once you and your trading partner(s) synchronize your product information, it is highly recommended that you reduce your workload and file exchange size by sending Net-Change files from that point on.

A Net-Change file contains information for only those items that have incurred changes since the previous file sent. Net changes include updates or changes to previously sent data, new Items or deleted Items.

When a Net-Change file is being sent, it must be identified as such in the Header Segment under the A03 Submission Type Element, utilizing the proper **PIES coded value** from the PIES coded value tables, which are **located in the Product Classification database (PCdb)**.

When sending a Net-Change file in PIES, the standard procedure is to send an entire item record regardless of the specific data item changed for the Part Number. Even if a single price (among many) for a Part Number changed, you would still send all prices including the changed price, along with the rest of the data for that particular item (all other segments for the item). To accomplish this, each PIES Segment contains a "MaintenanceType" attribute. These "MaintenanceType" attributes for each segment are found in the **PIES coded value** tables, which are located in the **Product Classification database (PCdb)**.

Using this attribute allows the sender to indicate to the receiver of the file which segments have been added, changed, deleted, or not changed at all. Please note any change to an Item record will result in a MaintenanceType of C at the <Item> level. Receivers of data should check for any data changes in the Item Segment. The following XML example shows a single Item record (for an existing Part Number) as a price change, a price remains the same, and a new price is added.

```
...
<Item MaintenanceType="C">
  <PartNumber>1234-4321</PartNumber>
  <BrandAAIAID>BZZN</BrandAAIAID>
  <Pricing PriceType="JBR" MaintenanceType="C">
    <PriceSheetNumber>2007</PriceSheetNumber>
    <Price UOM="PE">29.9999</Price>
  </Pricing>
  <Pricing PriceType="LST" MaintenanceType="N">
    <PriceSheetNumber>2007</PriceSheetNumber>
    <Price UOM="PE">49.9999</Price>
  </Pricing>
  <Pricing PriceType="WLS" MaintenanceType="A">
    <PriceSheetNumber>2007</PriceSheetNumber>
    <Price UOM="PE">24.9999</Price>
  </Pricing>
</Item>
...
```

## Segment Definitions

This section defines all of the various data fields defined within PIES as well as layout the corresponding XML associated with the segments and fields.

A **Segment** is a term used to represent a logical grouping of PIES data fields. Some segments contain many fields of data while others may contain a few or only one.

A PIES XML document starts with a root element called <PIES>. This is the parent element for all other child elements (data fields) defined below. The first couple lines of XML Code should look similar to this:

```
<?xml version="1.0" encoding="UTF-8"?>  
  
<PIES xmlns:xs=http://www.w3.org/2001/XMLSchema-instance  
xmlns="http://www.autocare.org">
```

Each sub-section below contains sample XML Code (some may contain XML elements only without sample data values) to relay its relation to the <PIES> root element. For more detailed information about the XML Schema, please refer to the PIES XML Schema document (XSD) contained within the PIES documentation zip file located on the autocare.org website.



## A01-Header Segment (HEAD)

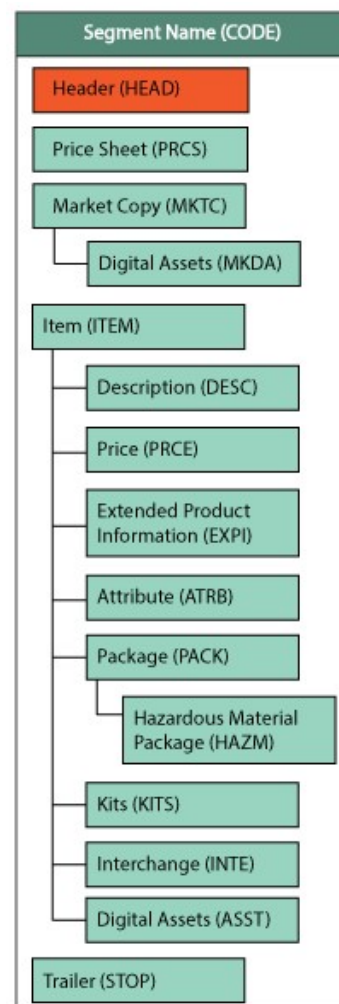
The Header Segment defines trading partner information as well as global value characteristics. There is only one (and exactly one) instance of this segment within a PIES file. The segment is defined by the opening <Header> and closing </Header> elements.

<PIES xmlns:xs=<http://www.w3.org/2001/XMLSchema-instance>  
xmlns="http://www.autocare.org">

```
<Header>
    <PIESVersion>7.2</PIESVersion>
    <SubmissionType>FULL</SubmissionType>
    <BlanketEffectiveDate>2013-01-31</BlanketEffectiveDate>
    <ChangesSinceDate>....</ChangesSinceDate>
    <ParentDUNSNumber>9999999990001</ParentDUNSNumber>
    <ParentGLN>7777777555551</ParentGLN>
    <ParentVMRSID>GIANT</ParentVMRSID>
    <ParentAAIAID>BBCD</ParentAAIAID>
    <BrandOwnerDUNS>8888888880001</BrandOwnerDUNS>
    <BrandOwnerGLN>7777777123459</BrandOwnerGLN>
    <BrandOwnerVMRSID>WONDR</BrandOwnerVMRSID>
    <BuyerDuns>8888888880001</BuyerDuns>
    <CurrencyCode>USD</CurrencyCode>
    <LanguageCode>EN</LanguageCode>
    <TechnicalContact>John Smith</TechnicalContact>
    <ContactEmail>john@smith.com</ContactEmail>
    <PCdbVersionDate>2020-01-31</PCdbVersionDate>
    <PAdbVersionDate>2020-01-31</PAdbVersionDate>
</Header>
```

...

</PIES>



### A02-PIES Version Number

<b>Ref Num</b>	A02	<b>XML Element</b>	PIESVersion
<b>Format</b>	ID3/5		
<b>Requirement</b>	M	<b>Code Table</b>	
<b>Example</b>	7.0		
<b>External Ref</b>			
<b>Comments</b>			

### A03-Submission Type

<b>Ref Num</b>	A03	<b>XML Element</b>	SubmissionType
<b>Format</b>	ID4/6		
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	FULL		
<b>External Ref</b>			
<b>Comments</b>			

### A05-Blanket Effective Date

<b>Ref Num</b>	A05	<b>XML Element</b>	BlanketEffectiveDate
<b>Format</b>	D		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	2013-01-03		
<b>External Ref</b>			
<b>Comments</b>	<p>"Blanket Effective Date" acts as the global default value for a particular PIES file.</p> <p>"Blanket Effective Date" may be overridden at Price Sheet Header, Item or Price Segment Levels.</p>		

#### A06-Changes Since Date

<b>Ref Num</b>	A06	<b>XML Element</b>	ChangesSinceDate
<b>Format</b>	D		
<b>Requirement</b>	C	<b>Code Table</b>	
<b>Example</b>	2012-06-30		
<b>External Ref</b>			
<b>Comments</b>	"Changes Since Date" is a control date indicating the date the last PIES file was generated. This field is MANDATORY if A03, Submission Type, has been filled with the value "UPDATE"		

#### A10-Parent DUNS or DUNS+4

<b>Ref Num</b>	A10	<b>XML Element</b>	ParentDUNSNumber
<b>Format</b>	ID9/13		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	9999999990001		
<b>External Ref</b>	<a href="http://www.dnb.com">www.dnb.com</a>		
<b>Comments</b>	Unique 9 digit Dun & Bradstreet ID. May also use +4 format with 13 digits. The D&B D-U-N-S Number is a unique nine-digit identification sequence, which provides unique identifiers of single business entities, while linking corporate family structures together		

### A11-Parent Global Location Number

<b>Ref Num</b>	A11	<b>XML Element</b>	ParentGLN
<b>Format</b>	ID13		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	77777755551		
<b>External Ref</b>	www.gs1.org		
<b>Comments</b>	GS1 Company ID + Location ID + Check Digit. The GLN is a standard means of identifying global trading partner locations. Through the process of Product Synchronization, the seller and buyer identify each other's names, addresses and other information, so that all subsequent electronic documents can be identified, routed and processed using only these codes. This is essential for the smooth, automated, error-free processing of electronic documents.		

### A12-Parent VMRS ID

<b>Ref Num</b>	A12	<b>XML Element</b>	ParentVMRSID
<b>Format</b>	ID5		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	GIANT		
<b>External Ref</b>			
<b>Comments</b>	The Maintenance Council (TMC) of the American Trucking Assn. (ATA) assigned VMRS Manufacturer ID. It is a unique Company identifier for all participating Heavy Duty parts manufacturers.  NOTE: Required by the major fleets.		

### A13-Parent AAIID

<b>Ref Num</b>	A13	<b>XML Element</b>	ParentAAIID
<b>Format</b>	ID4		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	BBCD		
<b>External Ref</b>	Brand Table		
<b>Comments</b>	This field is the recommended value to use when identifying Parent Company Ownership.		

#### A20-Brand Owner DUNS or DUNS+4

<b>Ref Num</b>	A20	<b>XML Element</b>	BrandOwnerDUNS
<b>Format</b>	ID9/13		
<b>Requirement</b>	E	<b>Code Table</b>	External Code Sources
<b>Example</b>	9999999990002		
<b>External Ref</b>	www.dnb.com		
<b>Comments</b>	Unique 9 digit Dun & Bradstreet ID. May also use +4 format with 13 digits. The D&B D-U-N-S Number is a unique nine-digit identification sequence, which provides unique identifiers of single business entities, while linking corporate family structures together		

#### A21-Brand Owner Global Location Number

<b>Ref Num</b>	A21	<b>XML Element</b>	BrandOwnerGLN
<b>Format</b>	ID13		
<b>Requirement</b>	E	<b>Code Table</b>	External Code Sources
<b>Example</b>	7777777666662		
<b>External Ref</b>	www.gs1us.org		
<b>Comments</b>	GS1 Company ID + Location ID + Check Digit. The GLN is a standard means of identifying global trading partner locations. Through the process of Product Synchronization, the seller and buyer identify each other's names, addresses and other information, so that all subsequent electronic documents can be identified, routed and processed using only these codes. This is essential for the smooth, automated, error-free processing of electronic documents.		

#### A22-Brand Owner VMRS ID

<b>Ref Num</b>	A22	<b>XML Element</b>	BrandOwnerVMRSID
<b>Format</b>	ID5		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	WONDR		
<b>External Ref</b>			
<b>Comments</b>	The Maintenance Council (TMC) of the American Trucking Assn. (ATA) assigned VMRS Manufacturer ID. It is a unique Company identifier for all participating Heavy Duty parts manufacturers. NOTE: Required by the major fleets.		

#### A30-Buyer DUNS or DUNS+4

<b>Ref Num</b>	A30	<b>XML Element</b>	BuyerDuns
<b>Format</b>	ID9/13		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	9191919190001		
<b>External Ref</b>	www.dnb.com		
<b>Comments</b>	D&B D-U-N-S Number for PIES Trading Partner. The D&B D-U-N-S Number is a unique nine-digit identification sequence, which provides unique identifiers of single business entities, while linking corporate family structures together		

#### A35-Currency Code

<b>Ref Num</b>	A35	<b>XML Element</b>	CurrencyCode
<b>Format</b>	ID3		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	USD		
<b>External Ref</b>	<a href="http://www.iso.org">www.iso.org</a>		
<b>Comments</b>	This is the Default value for the entire PIES file. This value may be overridden at the PRCS (Price Sheet Segment) or PRCE (Pricing Segment) levels.		

### A37-Language Code

<b>Ref Num</b>	A37	<b>XML Element</b>	LanguageCode
<b>Format</b>	ID2		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	EN		
<b>External Ref</b>	<a href="http://www.iso.org">www.iso.org</a>		
<b>Comments</b>	This is the default value for the entire PIES file. This value may be overridden within many of the underlying Segments.		

### A40-Technical Contact Name

<b>Ref Num</b>	A40	<b>XML Element</b>	TechnicalContact
<b>Format</b>	AN1/60		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	John Smith		
<b>External Ref</b>			
<b>Comments</b>	Name of Contact for resolving technical issues with PIES file.		

### A41-Contact Email

<b>Ref Num</b>	A41	<b>XML Element</b>	ContactEmail
<b>Format</b>	AN1/254		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	<a href="mailto:john@smith.com">john@smith.com</a>		
<b>External Ref</b>			
<b>Comments</b>	Contact Email address at data Supplier/Sender company for resolving issues with PIES file or receiving file processing reports.		

#### A42-PCdb Version Date

<b>Ref Num</b>	A42	<b>XML Element</b>	PCdbVersionDate
<b>Format</b>	D		
<b>Requirement</b>	M	<b>Code Table</b>	External Code Sources
<b>Example</b>	2020-01-31		
<b>External Ref</b>	AutocareVIP.com		
<b>Comments</b>	Version date of the PCdb used to create the file. The date can be found in the "Version" table of the PCdb.		

#### A43-PAdb Version Date

<b>Ref Num</b>	A43	<b>XML Element</b>	PAdbVersionDate
<b>Format</b>	D		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	2020-01-31		
<b>External Ref</b>	AutoCareVIP.com		
<b>Comments</b>	Version date of the PAdb used to create the file. The date can be found in the "Version" table of the PAdb.		



## A50-Price Sheet Header Segment (PRCS)

The Price Sheet Header Segment is used to define zero to any number of price sheets. This segment may correspond to printed paper price sheets, or define digital only price sheets. When exchanging any pricing data with a trading partner, we recommended defining at least one Price Sheet Header. The <PriceSheetNumber> defined in this segment may be referenced within the Price Segment for an individual Item record.

The Price Sheet Header Segment is defined by the opening <PriceSheets> and closing </PriceSheets> elements. It is an optional looping segment within the specification, meaning that there may be zero instances of this segment in a PIES file. If this segment is used, there must be one or more instances of a child <PriceSheet> </PriceSheet> loop. Multiple loops of a <PriceSheet> </PriceSheet> section may be used to define multiple Price Sheets.

```
<PIES xmlns:xs="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://www.autocare.org">

<Header>...</Header>

<PriceSheets>

    <PriceSheet MaintenanceType="A">

        <PriceSheetNumber>2007WD</PriceSheetNumber>

        <PriceSheetName>2007 WD
Price</PriceSheetName>

        <SupersededPriceSheetNumber>2006WD</SupersededPriceSheetNumber>

        <CurrencyCode>USD</CurrencyCode>

        <PriceZone>Western</PriceZone>

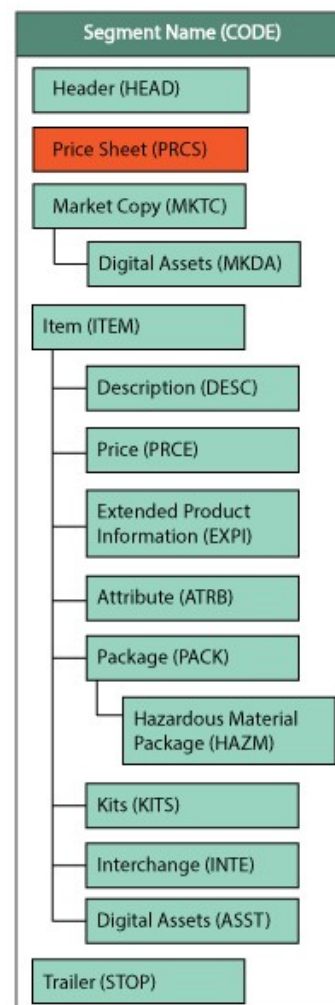
        <EffectiveDate>2007-08-13</EffectiveDate>

        <ExpirationDate>2008-08-13</ExpirationDate>

    </PriceSheet>

</PriceSheets>

...
```



### A51-Maintenance Type

Ref Num	A51	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

### A52-Price Sheet Number

Ref Num	A52	XML Element	PriceSheetNumber
Format	AN1/15		
Requirement	KM	Code Table	
Example	2011WD		
External Ref			
Comments	Electronic or Paper Price Sheet Number		

### A53-Price Sheet Name

Ref Num	A53	XML Element	PriceSheetName
Format	AN1/30		
Requirement	O	Code Table	
Example	January 2011		
External Ref			
Comments			

### A55-Superseded Price Sheet Number

Ref Num	A55	XML Element	SupersededPriceSheetNumber
Format	AN1/15		
Requirement	O	Code Table	
Example	2010WD		
External Ref			
Comments	Price Sheet replaced by this PIES file		

### A60-Currency Code

<b>Ref Num</b>	A60	<b>XML Element</b>	CurrencyCode
<b>Format</b>	ID3		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	USD		
<b>External Ref</b>	www.iso.org		
<b>Comments</b>	This is the Default value for the Price Sheet Segment. This value may be overridden at the PRCE (Pricing Segment) levels.		

### A65-Price Zone

<b>Ref Num</b>	A65	<b>XML Element</b>	PriceZone
<b>Format</b>	A1/10		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	Western		
<b>External Ref</b>			
<b>Comments</b>	Only one Price Zone is allowed per PIES file		

### A70-Price Sheet Level Effective Date

<b>Ref Num</b>	A70	<b>XML Element</b>	EffectiveDate
<b>Format</b>	D		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	2011-01-01		
<b>External Ref</b>			
<b>Comments</b>	Date this PIES file price sheet goes into effect. May be overridden by PRCE Segment field D25 – Price Sheet Level Effective Date		

### A75-Price Sheet Level Expiration Date

<b>Ref Num</b>	A75	<b>XML Element</b>	ExpirationDate
<b>Format</b>	D		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	2011-12-31		
<b>External Ref</b>			
<b>Comments</b>	Date this PIES file price sheet expires. May be overridden by PRCE Segment field D30 – Expiration Date		

## A80-Market Copy Segment (MKTC)

The Market Copy Segment is intended for expressing marketing and descriptive copy that applies to many items, such as a product line or series, or a Brand or Sub-Brand of product, or an entire company. Digital Assets that relate to the Market Copy reference may be nested within the Market Copy Segment. This segment has been enhanced to include additional 'Rich Content' in the form of Features and Benefits Bullets, and further enhanced to enable the conveyance of different market copy within a Brand or Sub-Brand, to deal with specific Part Terminologies which may have different features. Additionally, a Record Sequence element has been added to the Segment to enable a sender of data to convey the order in which a sequence of content should be published.

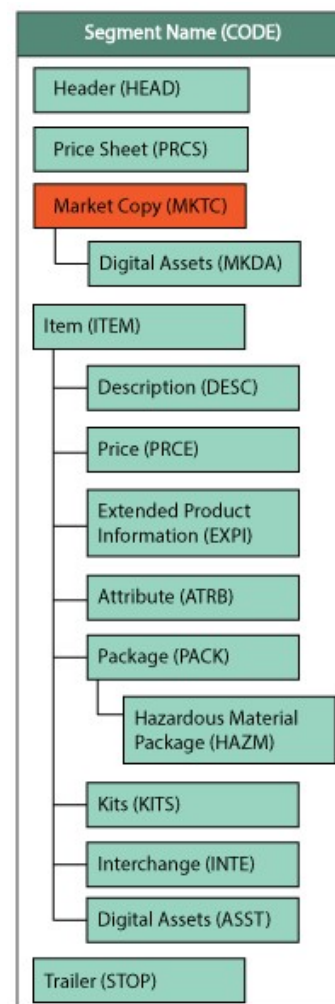
**NOTE: The element sequencing and numbering in this segment was changed in 6.5, and will NOT be backward compatible with 6.4 or earlier versions of PIES.**

...

```
<MarketingCopy>
  <MarketCopy>
    <MarketCopyContent MaintenanceType="A"
      MarketCopyCode="PTI"
      MarketCopyReference="5562"
      MarketCopySubCode="PSG" MarketCopySubCodeReference="1234"
      RecordSequence="1" MarketCopyType="GCC" LanguageCode="EN">
```

This is my market copy text for PT 5562

```
    </MarketCopyContent>
  <DigitalAssets>
    ...
  </DigitalAssets>
</MarketCopy>
</MarketingCopy>
...
```



### A81-Maintenance Type

Ref Num	A81	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

### A82-Market Copy Code

Ref Num	A82	XML Element	
Format	ID3	XML Attribute	MarketCopyCode
Requirement	KM	Code Table	Coded Values
Example	BRD		
External Ref			
Comments			

### A83-Market Copy Code Reference

Ref Num	A83	XML Element	
Format	AN1/240	XML Attribute	MarketCopyReference
Requirement	KM	Code Table	
Example	ZZZN		
External Ref			
Comments			

### A84-Market Copy Sub Code

Ref Num	A84	XML Element	
Format	ID3	XML Attribute	MarketCopySubCode
Requirement	KO	Code Table	Coded Values
Example	BRD		
External Ref			
Comments			

### A85-Market Copy Sub Code Reference

<b>Ref Num</b>	A85	<b>XML Element</b>	
<b>Format</b>	AN1/240	<b>XML Attribute</b>	MarketCopySubCodeReference
<b>Requirement</b>	KO	<b>Code Table</b>	
<b>Example</b>	ZZZN		
<b>External Ref</b>			
<b>Comments</b>	<p>See Market Copy Code table for reference instructions. Using the Market Copy Sub Code enables the segmentation of Market Copy within a Brand or other Product Hierarchy.</p> <p>An example of use would be for products of different part terminologies which share the same brand reference, which may require different market copy (i.e., Air Filter and Oil Filter with same Brand ID, may have common brand characteristics, but the market copy for each product line would likely vary)</p>		

### A86-Market Copy Type

<b>Ref Num</b>	A86	<b>XML Element</b>	
<b>Format</b>	ID3	<b>XML Attribute</b>	MarketCopyType
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	FAB		
<b>External Ref</b>			
<b>Comments</b>	This describes the type of content being sent.		

### A87-Market Copy Content

<b>Ref Num</b>	A87	<b>XML Element</b>	MarketCopyContent
<b>Format</b>	AN1/2000		
<b>Requirement</b>	M	<b>Code Table</b>	
<b>Example</b>	The products of our company are made with the finest materials and engineered to exceed original equipment standards		
<b>External Ref</b>			
<b>Comments</b>			

### A88-Record Sequence

<b>Ref Num</b>	A88	<b>XML Element</b>	
<b>Format</b>	N1/5	<b>XML Attribute</b>	RecordSequence
<b>Requirement</b>	KO	<b>Code Table</b>	
<b>Example</b>	1		
<b>External Ref</b>			
<b>Comments</b>	The record sequence identifies the order in which a record should appear if multiple Content records are being sent for a Market Copy Code or Sub Code		

### A89-Language Code

<b>Ref Num</b>	A89	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	LanguageCode
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	EN		
<b>External Ref</b>			
<b>Comments</b>	Defaults to HEAD Head Segment Language Code if not populated. This also enables multiple languages to be sent for a Market Copy Record.		



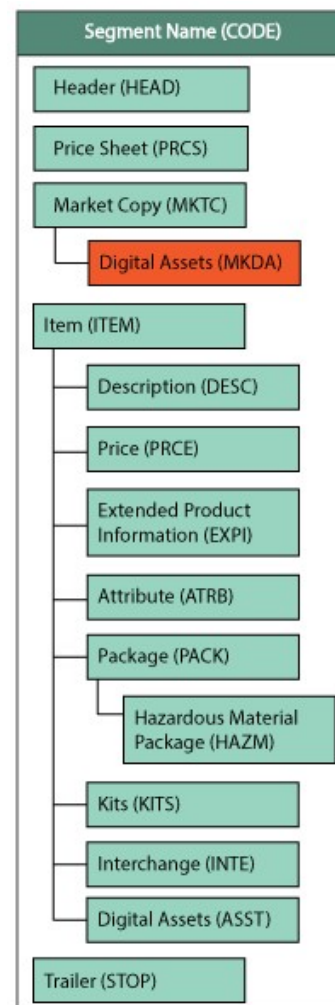
## M01-Digital Asset Sub-Segment of Market Copy (MKDA)

The Digital Asset Sub-Segment of the Market Copy Segment is used to relay information about any media types that support the related Market Copy Segment reference codes.

For further information on Digital Assets, please refer to section P01-Digital Assets Segment.

...

```
<MarketingCopy>
  <MarketCopy>
    <MarketCopyContent>...</MarketCopyContent>
    <DigitalAssets>
      <DigitalFileInformation MaintenanceType="A"
        AssetID="xyz_BRO" LanguageCode="EN">
        <FileName>xyz</FileName>
        <AssetType>BRO</AssetType>
        <FileType>JPG</FileType>
        <Representation>A</Representation>
        <FileSize>1234567</FileSize>
        <Resolution>72</Resolution>
        <ColorMode>RGB</ColorMode>
        <Background>WHI</Background>
        <OrientationView>ANG</OrientationView>
        <AssetDimensions UOM="PX">
          <AssetHeight>50</AssetHeight>
          <AssetWidth>50</AssetWidth>
        </AssetDimensions>
        <AdditionalInformation>Photo from brochure</AdditionalInformation>
        <Details>High resolution image from brochure</Details>
        <FilePath>\Mfg\xyz.jpg</FilePath>
        <URI>http://www.mfg.com/Images/xyz.jpg</URI>
      </DigitalFileInformation>
    </DigitalAssets>
  </MarketCopy>
</MarketingCopy>
```



```

<FileDateModified>2013-01-31</FileDateModified>
<EffectiveDate>2013-01-31</EffectiveDate>
<ExpirationDate>2013-12-31</ExpirationDate>
<Country>US</Country>
</DigitalFileInformation>
</DigitalAssets>
</MarketCopy>
</MarketingCopy>
...

```

### M02-Maintenance Type

Ref Num	M02	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

### M05-File Name

Ref Num	M05	XML Element	FileName
Format	AN1/80		
Requirement	KM	Code Table	
Example	Zzzn_logo.jpg		
External Ref			
Comments			

## M06-Asset ID

Ref Num	M06	XML Element	
Format	ID1/34	XML Attribute	AssetID
Requirement	O	Code Table	
Example			
External Ref			
Comments	Unique ID reference for the Digital Asset		

## M10-Asset Type

Ref Num	M10	XML Element	AssetType
Format	ID3		
Requirement	KM	Code Table	Coded Values
Example	LGO		
External Ref			
Comments			

## M15-File Type

Ref Num	M15	XML Element	FileType
Format	ID2/4		
Requirement	R	Code Table	Coded Values
Example	JPG		
External Ref			
Comments			

## M20-Representation

Ref Num	M20	XML Element	Representation
Format	ID1		
Requirement	R	Code Table	Coded Values
Example	A		
External Ref			
Comments			

### M25-File Size

Ref Num	M25	XML Element	FileSize
Format	N1/10		
Requirement	O	Code Table	
Example	600		
External Ref			
Comments	Measured in Kilobytes (Kb)		

### M30-Resolution

Ref Num	M30	XML Element	Resolution
Format	ID2/4		
Requirement	KO	Code Table	Coded Values
Example	72		
External Ref			
Comments			

### M35-Color Mode

Ref Num	M35	XML Element	ColorMode
Format	ID3		
Requirement	O	Code Table	Coded Values
Example	RGB		
External Ref			
Comments			

### M40-Background

Ref Num	M40	XML Element	Background
Format	ID3		
Requirement	R	Code Table	Coded Values
Example	WHI		
External Ref			
Comments			

### M45-Orientation View

Ref Num	M45	XML Element	OrientationView
Format	ID3		
Requirement	KO	Code Table	Coded Values
Example	TOP		
External Ref			
Comments			

### M50-Asset Height

Ref Num	M50	XML Element	AssetHeight
Format	R1/6		
Requirement	R	Code Table	
Example	500		
External Ref			
Comments	Vertical measurement of Digital Asset file.		

### M55-Asset Width

Ref Num	M55	XML Element	AssetWidth
Format	R1/6		
Requirement	R	Code Table	
Example	400		
External Ref			
Comments	Horizontal measurement of Digital Asset file.		

### M60-Asset Dimension UOM

Ref Num	M60	XML Element	
Format	ID2	XML Attribute	UOM
Requirement	C	Code Table	Coded Values
Example	PX		
External Ref			
Comments			

## M64-Asset Descriptions

Ref Num	M64	XML Element	AssetDescriptions
Format			
Requirement	O	Code Table	
Example			
External Ref			
Comments			

## M71 - Asset Maintenance Type

Ref Num	M71	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

## M72- Asset Description Code

Ref Num	M72	XML Element	
Format	ID3	XML Attribute	DescriptionCode
Requirement	KM	Code Table	Coded Values
Example	DES		
External Ref			
Comments	Required Attribute of "Description"		

## M73-Asset Description

Ref Num	M73	XML Element	Description
Format	Variable Per "Description Code" Attribute.		
Requirement	M	Code Table	
Example	Intake Manifold		
External Ref			
Comments	Verbose description per "Description Type" indicated.		

### M74-Asset Description Language Code

<b>Ref Num</b>	M74	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	LanguageCode
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	EN		
<b>External Ref</b>	<a href="http://www.iso.org">www.iso.org</a>		
<b>Comments</b>	Optional Attribute of "<Description> XML Element. Override value for individual Segment Loop.		

### M75-File Path

<b>Ref Num</b>	M75	<b>XML Element</b>	FilePath
<b>Format</b>	AN1/80		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	\mfr\xyz.jpg		
<b>External Ref</b>			
<b>Comments</b>	Location of the file in the collection provided by the supplier		

### M80-URI

<b>Ref Num</b>	M80	<b>XML Element</b>	URI
<b>Format</b>	AN1/2000		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	<a href="http://www.w3.org">www.w3.org</a>		
<b>External Ref</b>			
<b>Comments</b>	Uniform Resource Indicator defines a location which can also be a URL location of the Digital Asset. This can refer to a specific Digital asset item, or a page of content.		

### M81-Duration

Ref Num	M81	XML Element	Duration
Format	N1/3		
Requirement	O	Code Table	
Example			
External Ref			
Comments	The duration of the playing time should be entered into this field in the format hours, minutes, and seconds.		

### M82-Duration UOM

Ref Num	M82	XML Element	
Format	ID2	XML Attribute	UOM
Requirement	C	Code Table	Coded Values
Example			
External Ref			
Comments			

### M83-Frame

Ref Num	M83	XML Element	Frame
Format	N1/3		
Requirement	O	Code Table	
Example			
External Ref			
Comments	Enter the number of the image frame		



#### M84-TotalFrames

<b>Ref Num</b>	M84	<b>XML Element</b>	TotalFrames
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Total Number of frames within a plane		

#### M85-Plane

<b>Ref Num</b>	M85	<b>XML Element</b>	Plane
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Enter the number of planes that are in the 3D image set		

#### M86-Hemisphere

<b>Ref Num</b>	M86	<b>XML Element</b>	Hemisphere
<b>Format</b>	ID1		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Either Northern (N) or Southern (S)		

### M87-Plunge

Ref Num	M87	XML Element	Plunge
Format	R1/6		
Requirement	O	Code Table	
Example			
External Ref			
Comments	Plunge angle when photographed		

### M88-TotalPlanes

Ref Num	M88	XML Element	TotalPlanes
Format	N1/3		
Requirement	O	Code Table	
Example			
External Ref			
Comments	Number of planes for 360 image		

### M93-Asset Dates

Ref Num	M93	XML Element	AssetDates
Format			
Requirement	O	Code Table	
Example			
External Ref			
Comments	Element Container for Asset Dates		

### M94-Asset Date

Ref Num	M94	XML Element	AssetDate
Format	D		
Requirement	O	Code Table	
Example	2016-04-01		
External Ref			
Comments	Date for asset		

### M95-Asset Date Type

<b>Ref Num</b>	P95	<b>XML Element</b>	
<b>Format</b>	ID3	<b>XML Attribute</b>	assetDateType
<b>Requirement</b>	R	<b>Code Table</b>	Coded Values
<b>Example</b>	MOD		
<b>External Ref</b>			
<b>Comments</b>			

### M98-Country Code

<b>Ref Num</b>	M98	<b>XML Element</b>	Country
<b>Format</b>	ID2	<b>XML Attribute</b>	
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	CA		
<b>External Ref</b>			
<b>Comments</b>	The Country Code is used to identify the destination Country of use for the digital asset. Use case: a logo for a product might be different in one country versus another.		

### M99-Language Code

<b>Ref Num</b>	M99	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	Language Code
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	EN		
<b>External Ref</b>			
<b>Comments</b>	Defaults to Head Segment Language Code, when not used.		

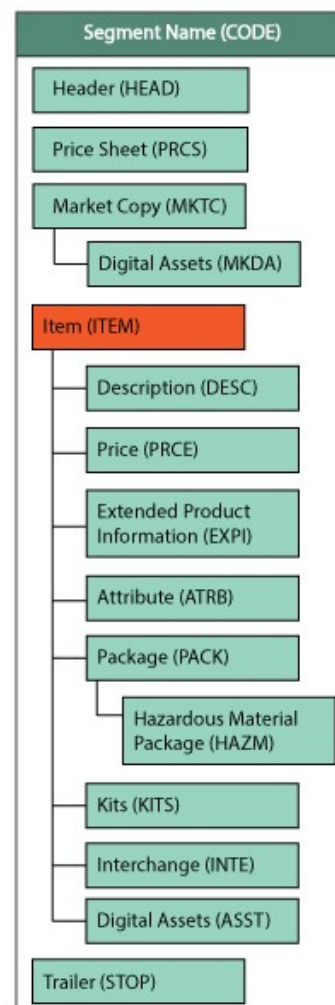
## B01-Item Segment (ITEM)

The Item Segment is the core looping (or repeating) segment within the PIES standard. Each instance of this segment is responsible for defining individual Item Part Numbers.

All <Item> instances are encapsulated within the parent <Items> element. For each Item Part Number that is to be defined, a new instance of <Item> and its child elements are initiated. Many of the child elements under <Item> are themselves segments of PIES which are defined later in this document.

The following XML sample code shows the upper level <Items> element and the beginning of a single instance of <Item>. The child elements are part of the logical grouping known as the Item Segment. Further segments continue from the end of this code sample.

```
...
<Items>
    <Item MaintenanceType="A">
        <HazardousMaterialCode>Y</HazardousMaterialCode>
        <BaseItemID>AB123YG</BaseItemID>
        <ItemLevelGTIN
            GTINQualifier="UP">00123456789101</ItemLevelGTIN>
        <PartNumber>AB12389</PartNumber>
        <BrandAAIAID>BBBB</BrandAAIAID>
        <BrandLabel>Wonderhose</BrandLabel>
        <VMRSBrandID>FELPR</VMRSBrandID>
        <QuantityPerApplication UOM="EA">2</QuantityPerApplication>
        <ItemEffectiveDate>2006-08-13</ItemEffectiveDate>
        <AvailableDate>2006-09-13</AvailableDate>
        <MinimumOrderQuantity UOM="EA">2</MinimumOrderQuantity>
        <ManufacturerProductCodes>
            <Group>W12</Group>
```



```
<SubGroup>W123</SubGroup>

</ManufacturerProductCodes>

<AAIAProductCategoryCode>330102</AAIAProductCategoryCode>

<UNSPSC>11223344</UNSPSC>

<PartTerminologyID>55555</PartTerminologyID>

<VMRSCode>010456789</VMRSCode>
```

## B02-Maintenance Type

Ref Num	B02	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

## B03-Hazardous Material Code

Ref Num	B03	XML Element	HazardousMaterialCode
Format	ID1		
Requirement	R	Code Table	Coded Values
Example	Y		
External Ref			
Comments	Flag indicating if Item contains Hazardous Material.		

### B05-Base Item Number

Ref Num	B05	XML Element	BaseItemID
Format	AN1/48		
Requirement	O	Code Table	
Example	HOS100		
External Ref			
Comments	A value that identifies an identical physical product irrespective of the Part # or GTIN assigned to different Brands or packaging configurations. Used when the same physical part is used in multiple part numbers or UPC's		

### B10-Item-Level GTIN

Ref Num	B10	XML Element	ItemLevelGTIN
Format	N14		
Requirement	O	Code Table	External Code Sources
Example	00123456789012		
External Ref	<a href="http://www.gs1.org">www.gs1.org</a>		
Comments	Global Trade Identification Number (GTIN)  This field is coded as a Numeric (N) value, as all characters in the GTIN should be numeric. WARNING: Programs such as Microsoft Excel will drop leading zeros if the field is not formatted as text. To avoid confusion using this field, the range has been omitted and the field is now fixed at 14 characters, INCLUDING leading zeros where necessary. Please refer to the section, "About Global Trade Identifier Number (GTIN)", for further clarification.		

### B11-Item-Level GTIN Qualifier

Ref Num	B11	XML Element	
Format	ID2	XML Attribute	GTINQualifier
Requirement	C	Code Table	Coded Values
Example	UP		
External Ref	<a href="http://www.x12.org">www.x12.org</a>		
Comments	If "Item-Level GTIN" is populated, then this attribute is required.		

### B15-Part Number

Ref Num	B15	XML Element	PartNumber
Format	AN1/48		
Requirement	KM	Code Table	
Example	HOS101		
External Ref			
Comments	Typically the Part Number common to all Pack Levels. The consumer sellable part number. This is a required field value.		

### B20-Brand AAIA ID

Ref Num	B20	XML Element	BrandAAIAID
Format	ID4		
Requirement	M	Code Table	External Code Sources
Example	BZZZ		
External Ref	<a href="#">Brand Table</a>		
Comments	Brand ID as found in the Brand table.		

### B25-Brand Label

Ref Num	B25	XML Element	BrandLabel
Format	AN1/60		
Requirement	O	Code Table	External Code Sources
Example	Wonderhose		
External Ref	<a href="#">Brand Table</a>		
Comments	Verbose Brand Name as found in the Brand table.		

### B27-SubBrand AAIAID

<b>Ref Num</b>	B27	<b>XML Element</b>	SubBrandAAIAID
<b>Format</b>	ID4		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	DCBA		
<b>External Ref</b>	<a href="#">Brand Table</a>		
<b>Comments</b>	SubBrand ID found in the Brand table.		

### B28-SubBrand Label

<b>Ref Num</b>	B28	<b>XML Element</b>	SubBrandLabel
<b>Format</b>	AN1/60		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	Super Series		
<b>External Ref</b>	<a href="#">Brand Table</a>		
<b>Comments</b>	Verbose SubBrand Label found in the Brand table.		

### B29-VMRS Brand ID

<b>Ref Num</b>	B29	<b>XML Element</b>	VMRSBrandID
<b>Format</b>	ID5		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	FELPR		
<b>External Ref</b>			
<b>Comments</b>	Required by the major fleets. The Maintenance Council (TMC) of the American Trucking Assn. (ATA) -assigned VMRS Brand ID. It is a unique Brand identifier for all participating Heavy Duty parts manufacturer brands.		



### B30-ACES Applications

Ref Num	B30	XML Element	ACESApplications
Format	ID1		
Requirement	O	Code Table	Coded Values
Example	Y		
External Ref			
Comments	Flag indicating if the Item has any associated with <a href="#">Aftermarket Catalog Exchange Standard (ACES)</a> records.		

### B32-Item Quantity Size

Ref Num	B32	XML Element	ItemQuantitySize
Format	R1/8		
Requirement	O	Code Table	
Example	16.0		
External Ref			
Comments	Example shows this item is 16.0 ounces in size. Allows reference point for Pack and Price Segments		

### B33-Item Quantity Size UOM

Ref Num	B33	XML Element	
Format	ID2	XML Attribute	UOM
Requirement	O	Code Table	Coded Values
Example	OZ		
External Ref			
Comments			

### B34-Container Type

Ref Num	B34	XML Element	ContainerType
Format	ID2		
Requirement	O	Code Table	Coded Values
Example	BO		
External Ref			
Comments			

### B35-Quantity per Application Qualifier

<b>Ref Num</b>	B35	<b>XML Element</b>	
<b>Format</b>	ID3	<b>XML Attribute</b>	Qualifier
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	NOR		
<b>External Ref</b>			
<b>Comments</b>	Attribute of "Quantity per Application". Differences in application quantities		

### B40-Quantity per Application

<b>Ref Num</b>	B40	<b>XML Element</b>	QuantityPerApplication
<b>Format</b>	AN0/8		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	12		
<b>External Ref</b>			
<b>Comments</b>	Typical Quantity used on a single vehicle or application. Quantity used on a single vehicle or application. Value can also be zero or null		

### B41-Quantity per Application UOM

<b>Ref Num</b>	B41	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	UOM
<b>Requirement</b>	C	<b>Code Table</b>	Coded Values
<b>Example</b>	EA		
<b>External Ref</b>	<a href="http://www.x12.org">www.x12.org</a>		
<b>Comments</b>	Attribute for "Quantity per Application".		

#### B45-Item-Level Effective Date

Ref Num	B45	XML Element	ItemEffectiveDate
Format	D		
Requirement	O	Code Table	
Example	2010-12-31		
External Ref			
Comments	Date the Item is available for purchase at the current price levels		

#### B50-Available Date

Ref Num	B50	XML Element	AvailableDate
Format	D		
Requirement	O	Code Table	
Example	2011-01-01		
External Ref			
Comments	Date the Item is available for Sale		

#### B55-Minimum Order Quantity

Ref Num	B55	XML Element	MinimumOrderQuantity
Format	N1/8		
Requirement	O	Code Table	
Example	10		
External Ref			
Comments	Minimum (incremental) supplier shipment quantity of the item		

#### B56-Minimum Order Quantity UOM

Ref Num	B56	XML Element	
Format	ID2	XML Attribute	UOM
Requirement	C	Code Table	Coded Values
Example	EA		
External Ref	<a href="http://www.x12.org">www.x12.org</a>		
Comments	Attribute of "Minimum Order Quantity".		

### B59-Manufacturer Product Codes

<b>Ref Num</b>	B59	<b>XML Element</b>	ManufacturerProductCodes
<b>Format</b>			
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Used for organizational purposes to group “Product Group Code” and “Product Sub-Group Code”.		

### B60-Product Group Code

<b>Ref Num</b>	B60	<b>XML Element</b>	Group
<b>Format</b>	AN1/10		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	W12		
<b>External Ref</b>			
<b>Comments</b>	<p>Supplier Assigned Major Product Category.</p> <p>This XML Element is a required child of the &lt;ManufacturerProductCodes&gt; parent element “Product Group Code” is required while “Product SubGroup Code” is optional if providing &lt;ManufactureProductCodes&gt; values.</p>		

### B61-Product Sub-Group Code

<b>Ref Num</b>	B61	<b>XML Element</b>	SubGroup
<b>Format</b>	AN1/10		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	W123		
<b>External Ref</b>			
<b>Comments</b>	<p>Supplier Assigned Minor Product Category.</p> <p>This XML Element is a required child of the &lt;ManufacturerProductCodes&gt; parent element. Group is required while Sub-Group is optional if providing &lt;ManufactureProductCodes&gt; values.</p>		

## B62-Product Category Code

<b>Ref Num</b>	B62	<b>XML Element</b>	AAIAProductCategoryCode
<b>Format</b>	ID6		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	330102		
<b>External Ref</b>			
<b>Comments</b>	Category Management Hierarchy. Category/Sub-Cat/Segment for Sales Reporting. <a href="http://www.autocare.org/Technology/pies/">http://www.autocare.org/Technology/pies/</a>		

## B63-UNSPSC Code

<b>Ref Num</b>	B63	<b>XML Element</b>	UNSPSC
<b>Format</b>	ID8/10		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	11223344		
<b>External Ref</b>	<a href="http://www.unspsc.org">www.unspsc.org</a>		
<b>Comments</b>	Universal Standard Product & Service Classification. The Universal Standard Products and Services Classification (UNSPSC) is an open, nonproprietary system of codes and standardized descriptions for classifying goods and services. The United Nations, Dun & Bradstreet and their partners through the UNSPSC Advisory Board maintain the coding structure.		

## B64-Part Terminology ID

<b>Ref Num</b>	B64	<b>XML Element</b>	PartTerminologyID
<b>Format</b>	ID4/5		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	55555		
<b>External Ref</b>	<a href="http://www.autocare.org/Technology/pcdb">http://www.autocare.org/Technology/pcdb</a>		
<b>Comments</b>	Part Terminology ID from the Parts Classification Database (PCdb)		

### B65-VMRS Code (Heavy Duty)

Ref Num	B65	XML Element	VMRSCode
Format	ID9		
Requirement	O	Code Table	External Code Sources
Example	010456789		
External Ref	<a href="http://www.trucking.org">www.trucking.org</a>		
Comments	System, Assy., Comp. Codes for Heavy Duty Trucks – TMC (ATA)		

## C01-Description Segment (DESC)

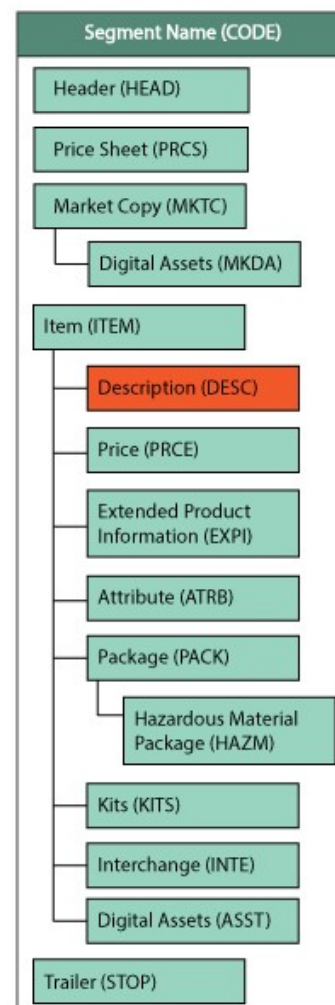
There are different types of part descriptions that can be transmitted as part of a PIES file. To view a list of the Industry defined description types, see Technical Specification, Coded Values tables, Filter on the Reference Number C05. The Description segment allows you to send zero or as many descriptions about an Item record part number. This is possible because of the looping structure of XML. The Description segment (<Descriptions>...</Descriptions>) is an element group construct under <Item>. For each different description you want to convey about an individual Item part number, you simply loop (repeat) the <Description> element as well as the string value for the Description.

The following XML, shown with multiple Description instances (loops), shows where the Description segment falls in the nested hierarchy of a PIES file...

```

...
<Items>
  <Item>
    ...
    <Descriptions>
      <Description LanguageCode="EN" MaintenanceType="A"
        DescriptionCode="ABR"
        Sequence="1">String</Description>
      <Description LanguageCode="EN" MaintenanceType="A"
        DescriptionCode="DES" Sequence="2">String</Description>
      <Description LanguageCode="EN" MaintenanceType="A" DescriptionCode="DES"
        Sequence="3">String</Description>
      <Description LanguageCode="EN" MaintenanceType="A" DescriptionCode="FAB"
        Sequence="4">String</Description>
      <Description LanguageCode="EN" MaintenanceType="A" DescriptionCode="FAB"
        Sequence="5">String</Description>
    </Descriptions>
  </Item>
  ...

```



### C02-Maintenance Type

Ref Num	C02	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

### C05-Description Code

Ref Num	C05	XML Element	
Format	ID3	XML Attribute	DescriptionCode
Requirement	KM	Code Table	Coded Values
Example	DES		
External Ref			
Comments	Required Attribute of "Description"		

### C10-Description

Ref Num	C10	XML Element	Description
Format	Variable Per "Description Code" Attribute.		
Requirement	M	Code Table	
Example	Intake Manifold		
External Ref			
Comments	Verbose description per "Description Type" indicated.		



### C15-Language Code

Ref Num	C15	XML Element	
Format	ID2	XML Attribute	LanguageCode
Requirement	KO	Code Table	Coded Values
Example	EN		
External Ref	<a href="http://www.iso.org">www.iso.org</a>		
Comments	Optional Attribute of "<Description> XML Element. Override value for individual Segment Loop.		

### C16-Description Sequence

Ref Num	C16	XML Element	
Format	AN1/20	XML Attribute	Sequence
Requirement	KO	Code Table	
Example	1		
External Ref			
Comments	Optional Attribute of "Description"		

## D01-Pricing Segment (PRCE)

The Pricing Segment defined by PIES XML parent element <Prices>.

Within this element group, there may be multiple instances of <Pricing> that define a single pricing instance. This element takes a “Price Type” as an attribute indicating what type of price the following child elements data relationship.

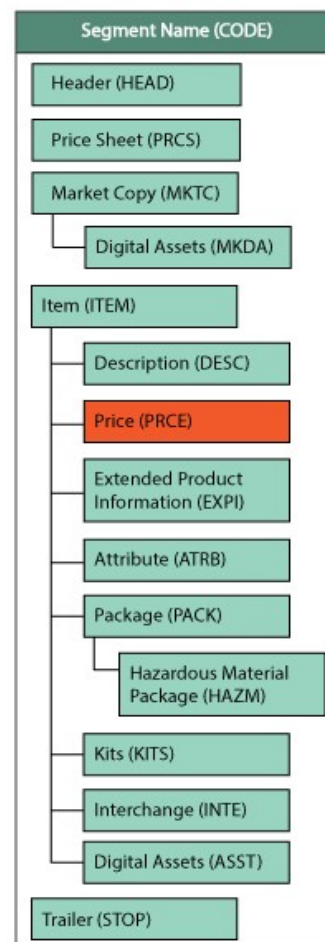
To supply multiple prices (price types) for an Item Part Number, you simply repeat the <Pricing> XML structure and redefine the new loop with the “Price Type” attribute.

The following XML code (abbreviate sample) shows the relationship of <Pricing> to the <Item> parent element.

```

...
<PriceSheets>...</PriceSheets>
    <Items>
    <Item>
        ...
        <Descriptions>...</Descriptions>
        <Prices>
            <Pricing MaintenanceType="A"
            PriceType="AC1">
                <PriceSheetNumber>2007WD</PriceSheetNumber>
                <CurrencyCode>USD</CurrencyCode>
                <EffectiveDate>2007-08-13</EffectiveDate>
                <ExpirationDate>2008-08-13</ExpirationDate>
                <Price UOM="EA">3.1415</Price>
                <PriceBreak UOM="EA">String</PriceBreak>
            </Pricing>
        </Prices>
    </Item>
    ...

```



## D02-Maintenance Type

Ref Num	D02	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

## D05-Price Sheet Number

Ref Num	D05	XML Element	PriceSheetNumber
Format	AN1/15		
Requirement	KM	Code Table	
Example	2011WD		
External Ref			
Comments	Supplier assigned Price Sheet Number. The Price Sheet number should reference a Price Sheet Number previously identified in the PRCS Segment "Price Sheet Number" (A52) field.		

## D15-Currency Code

Ref Num	D15	XML Element	CurrencyCode
Format	ID3		
Requirement	KO	Code Table	Coded Values
Example	USD		
External Ref	<a href="http://www.iso.org">www.iso.org</a>		
Comments	This is an override value from the HEAD Segment "Currency Code" (A35) field.		

### D25-Price Sheet Level Effective Date

Ref Num	D25	XML Element	EffectiveDate
Format	D		
Requirement	O	Code Table	
Example	2011-01-03		
External Ref			
Comments	First date item can be ordered at this price. This is an override value for the PRCS Segment "Price Sheet Level Effective Date" (A70) field.		

### D30-Expiration Date

Ref Num	D30	XML Element	ExpirationDate
Format	D		
Requirement	O	Code Table	
Example	2011-12-31		
External Ref			
Comments	Last date item can be ordered at this price. This is an override of the PRCS Segment "Price Sheet Level Expiration Date" (A75) field.		

### D35-Price Type

Ref Num	D35	XML Element	
Format	ID3	XML Attribute	PriceType
Requirement	KM	Code Table	Coded Values
Example	JBR		
External Ref			
Comments	Required Attribute of <Pricing> XML Element. Code value identifying the type of price conveyed in "Price" (D40). See Price Type Code Table for complete list of types.		

### D36-Price Type Description

<b>Ref Num</b>	D36	<b>XML Element</b>	PriceTypeDescription
<b>Format</b>	AN1/80		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	General description of Use for the ZZ User Defined Pricing Fields		

### D40-Price

<b>Ref Num</b>	D40	<b>XML Element</b>	Price
<b>Format</b>	N4-5/10		
<b>Requirement</b>	M	<b>Code Table</b>	
<b>Example</b>	12.5000		
<b>External Ref</b>			
<b>Comments</b>	This is a numeric field with fixed 4 digits to the right of the decimal. The optimal field format is #####.####. This value should be expressed without use of comma separators.		

### D41-Price UOM

<b>Ref Num</b>	D41	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	UOM
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	PE		
<b>External Ref</b>	<a href="http://www.x12.org">www.x12.org</a>		
<b>Comments</b>	PE is the most widely used value for this field. "EA" is a commonly misused value for this field		

#### D42-Price Multiplier

<b>Ref Num</b>	D42	<b>XML Element</b>	PriceMultiplier
<b>Format</b>	N4-5/10		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	0.6000		
<b>External Ref</b>			
<b>Comments</b>	Factor of List Price used to derive declared price type		

#### D45-Price Break Quantity

<b>Ref Num</b>	D45	<b>XML Element</b>	PriceBreak
<b>Format</b>	N1/8		
<b>Requirement</b>	KO	<b>Code Table</b>	
<b>Example</b>	100		
<b>External Ref</b>			
<b>Comments</b>	Incremental quantity of item order to receive price break		

#### D46-Price Break Quantity UOM

<b>Ref Num</b>	D46	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	UOM
<b>Requirement</b>	C	<b>Code Table</b>	Coded Values
<b>Example</b>	EA		
<b>External Ref</b>	<a href="http://www.x12.org">www.x12.org</a>		
<b>Comments</b>	Required field if "Price Break Quantity" value is specified.		

## E01-Extended Product Information Segment (EXPI)

The Extended Product Information (EXPI) Segment is designed to relay information about an Item Part. The EXPI Segment contains information ranging from “Country of Origin” to “Warranty Terms”.

The format of the data expressed in the “EXPI Data” field (<ExtendedProductInformation>) is dependent on the “EXPI Code” selected. The Technical Specifications, Coded Values tables contains information about valid data value formats for the corresponding codes, Filter on E05 for the “EXPI Codes” or E10 for Values for “EXPI Codes”.

To express information covering multiple (or one) “EXPI Codes”, the <ExtendedProductInformation> element is looped once for each code. Any and all instances of <ExtendedProductInformation> are grouped under the <ExtendedInformation> Element. The following XML sample (abbreviated) shows two loops of EXPI Data to relay information on Primary Country of Origin and Life Cycle Code...

```
<PIES xmlns:xs="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://www.autocare.org">
```

```
<Header>...</Header>
```

```
<PriceSheets>...</PriceSheets>
```

```
<Items>
```

```
<Item>
```

```
...
```

```
<Descriptions>...</Descriptions>
```

```
<Prices>...</Prices>
```

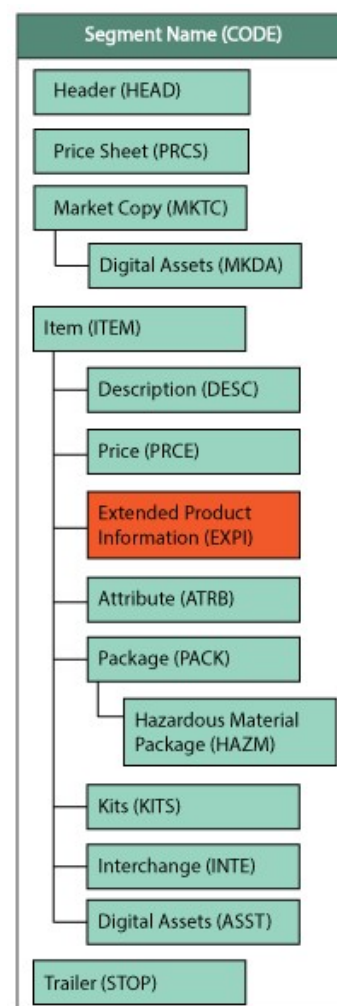
```
<ExtendedInformation>
```

```
<ExtendedProductInformation MaintenanceType="A" LanguageCode="EN"
EXPICode="CTO">US</ExtendedProductInformation>
```

```
<ExtendedProductInformation MaintenanceType="A" LanguageCode="EN"
EXPICode="LIF">3</ExtendedProductInformation>
```

```
</ExtendedInformation>
```

```
...
```



## E02-Maintenance Type

<b>Ref Num</b>	E02	<b>XML Element</b>	
<b>Format</b>	ID1	<b>XML Attribute</b>	MaintenanceType
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	A		
<b>External Ref</b>			
<b>Comments</b>			

## E05-EXPI Code

<b>Ref Num</b>	E05	<b>XML Element</b>	
<b>Format</b>	ID3	<b>XML Attribute</b>	EXPICode
<b>Requirement</b>	KM	<b>Code Table</b>	Coded Values
<b>Example</b>	CTO		
<b>External Ref</b>			
<b>Comments</b>	Code value identifying type of Item information specified in “EXPI Data” field.		

## E10-EXPI Data

<b>Ref Num</b>	E10	<b>XML Element</b>	ExtendedProductInformation
<b>Format</b>	Variable per “EXPI Code” Attribute value.		
<b>Requirement</b>	KM	<b>Code Table</b>	Coded Values / See Comments
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Values are variable, Values are either coded values or field defined. See Coded values for E05 for further details.		



### E15-Language Code

Ref Num	E15	XML Element	
Format	ID2	XML Attribute	LanguageCode
Requirement	KO	Code Table	Coded Values
Example	EN		
External Ref	<a href="http://www.iso.org">www.iso.org</a>		
Comments	Optional Attribute of <ExtendedProductInformation> XML Element Override value for individual Segment Loop.		

## F01-Product Attribute Segment (ATRB)

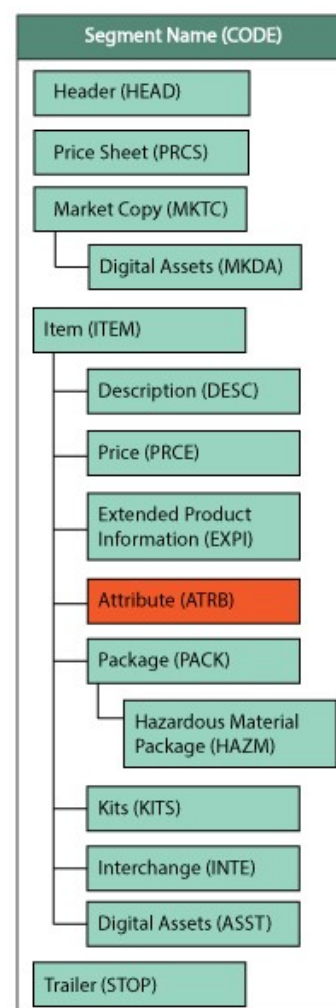
This segment allows the sender of a PIES file to express either industry-defined attributes from the Product Attribute Database (PAdb), or user-defined attributes about an Item Part Number. User-defined attributes have not been standardized within the PAdb, PIES or the aftermarket. The most common use of the segment is to express physical or operational attributes about the Item Part Number.

The “AttributeID” attribute of “Attribute Data” (<ProductAttribute>) is either a user-defined attribute label, or uses the Part Attribute ID (PAID) coded-value contained within the PAdb for the relevant Part Terminology. When the PAdb is not being used to convey attributes, the sender of the data defines the attribute label, and uses an Alphanumeric field of 2000 characters to send the attribute value.

The benefit of using the PAdb is that it defines the Label for the Attribute, and the metadata types used for storing the attribute (Numeric, Alphanumeric, Text, number of decimals, and the Unit of Measure), and is consistent for ALL senders and receivers of data ensuring consistency in the conveyance of product physical and performance characteristics.

The PAdb contains various ‘Styles’ for a Part Terminology. By definition, a ‘Style’ can represent a variation in the construction of a Part. Which may have different attributes to properly describe a Part Terminology (for example, a means to express the different characteristics of a Racing Slick versus a Passenger Tire), or different performance characteristics for a Part Type which is sold for different uses (such as the difference between uses for Automotive, Lawn and Garden, Heavy Duty, and Aerospace). The ‘Style’ represents a ‘qualifier’ to the PCdb Part Terminology, and is stored in the PAdb tables for differentiating the group of attributes required to describe a particular product.

The Product Attribute Segment has been further enhanced to enable senders of data to send multiple values for a particular attribute, and to give an order to their sequence for publishing. While the use of this is rare, a particular use case would be to convey a ‘range’ of values for a particular attribute. One example might be the conveyance of all the Resolutions available on a PC Monitor or a Video Camera, or, closer to home, the range of diameters that a Hole Saw or a Step Drill Bit could cut.



The abbreviated code sample shows user defined attributes, for further XML examples of the attribute segment refer to Appendix D.

```
...
<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" PADBAttribute="N"
      AttributeUOM="IN" RecordNumber="3">3.5</ProductAttribute>
    </ProductAttributes>
    ...
  </Item>
</Items>
```

## F02-Maintenance Type

Ref Num	F02	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

### F05-Attribute ID (Type)

<b>Ref Num</b>	F05	<b>XML Element</b>	
<b>Format</b>	AN1/80	<b>XML Attribute</b>	AttributeID
<b>Requirement</b>	KM	<b>Code Table</b>	External Code Sources
<b>Example</b>	1141; Friction Material Thickness Inner Pad		
<b>External Ref</b>	<a href="http://www.autocare.org/What-We-Do/Technology/Product-Areas/padb/">http://www.autocare.org/What-We-Do/Technology/Product-Areas/padb/</a>		
<b>Comments</b>	<p>Required Attribute of "Attribute Data".</p> <p>When Element F07 PAdb Attribute is set to 'Y' for YES, the information conveyed in this attribute should be the Product Attribute ID Number (PAID) from the PAdb. When Element F07 is set to 'N', the user will send a unique Attribute Label defined by themselves in Alphanumeric Format of up to 80 Characters.</p>		

### F07-PAdb Attribute

<b>Ref Num</b>	F07	<b>XML Element</b>	
<b>Format</b>	ID1	<b>XML Attribute</b>	PADBAttribute
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	Y		
<b>External Ref</b>			
<b>Comments</b>	Flag indicating whether the attribute being sent is User-Defined or whether the attribute being sent is drawn from the PAdb		

### F08-Attribute UOM

<b>Ref Num</b>	F08	<b>XML Element</b>	
<b>Format</b>	AN1/20	<b>XML Attribute</b>	AttributeUOM
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	MM		
<b>External Ref</b>	<a href="http://www.autocare.org/What-We-Do/Technology/Product-Areas/padb/">http://www.autocare.org/What-We-Do/Technology/Product-Areas/padb/</a>		
<b>Comments</b>	Unit of Measure (UOM) associated with Product Attribute - When F07 is 'Y' this field uses the METAUOMCODES table in the PAdb.		

## F10-Attribute Data

<b>Ref Num</b>	F10	<b>XML Element</b>	ProductAttribute
<b>Format</b>	AN1/2000		
<b>Requirement</b>	M	<b>Code Table</b>	External Code Sources
<b>Example</b>	Stainless Steel		
<b>External Ref</b>	http://www.autocare.org/What-We-Do/Technology/Product-Areas/padb/		
<b>Comments</b>	Required if "Attribute ID (Type)" specified. Supplier assigned value corresponding to "Attribute ID" or drawn from Valid Values field in the PAdb.		

## F11-PAdb Style ID

<b>Ref Num</b>	F11	<b>XML Element</b>	
<b>Format</b>	N1/5	<b>XML Attribute</b>	StyleID
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Optional Attribute of <Product Attribute> XML Element This identifies the Style ID of the attribute if a Style Code exists for the PCdb Part Terminology being sent		

## F15-Record Number (Sequence)

<b>Ref Num</b>	F15	<b>XML Element</b>	
<b>Format</b>	N1/3	<b>XML Attribute</b>	RecordNumber
<b>Requirement</b>	KO	<b>Code Table</b>	
<b>Example</b>	1		
<b>External Ref</b>			
<b>Comments</b>	Optional Attribute of <Product Attribute> XML Element  Logical sequence of attribute if multiple attributes identified. Allows Supplier to identify priority sequence of attribute information.		

### F17-Multi Value Quantity

<b>Ref Num</b>	F17	<b>XML Element</b>	
<b>Format</b>	N1/3	<b>XML Attribute</b>	MultiValueQuantity
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	4		
<b>External Ref</b>			
<b>Comments</b>	Optional Attribute of <Product Attribute> XML Element Permits the supplier of data to convey how many multiple values for the attribute data are to be included as a total record.		

### F18-Multi Value Sequence

<b>Ref Num</b>	F18	<b>XML Element</b>	
<b>Format</b>	N1/3	<b>XML Attribute</b>	MultiValueSequence
<b>Requirement</b>	KO	<b>Code Table</b>	
<b>Example</b>	1		
<b>External Ref</b>			
<b>Comments</b>	Optional Attribute of <Product Attribute> XML Element Logical sequence of the multiple values being conveyed. This differs from F15 in that F15 identifies the order of the attributes to be published, and F18 identifies the order of the attribute values to be published, if an attribute has multiple values.		

### F20-Language Code

<b>Ref Num</b>	F20	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	LanguageCode
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	EN		
<b>External Ref</b>	<a href="http://www.iso.org">www.iso.org</a>		
<b>Comments</b>	Optional Attribute of <Product Attribute> XML Element  Override value for individual Segment Loop.		

## H01-Packaging Segment (PACK)

The Packaging Segment is used to express various volumetric details for different packaging levels of an Item Part Number. Package information is grouped within the <Packages> child element of <Item>. Each instance of the <Package> element (looped beneath <Packages>) and its child elements corresponds to a distinct “Package UOM”. This UOM identifies the type of packaging that the data elements contains. To see all of “UOM” values, refer to Technical Specifications, Coded Values Tables and Filter Segment to PACK to see all the available values.

The consumer level package (UOM type “EA”) should always be defined if available. The consumer level pack can be defined as the Item Part in the packaging used for in-store display and stocking. This is the package level that an individual consumer may purchase.

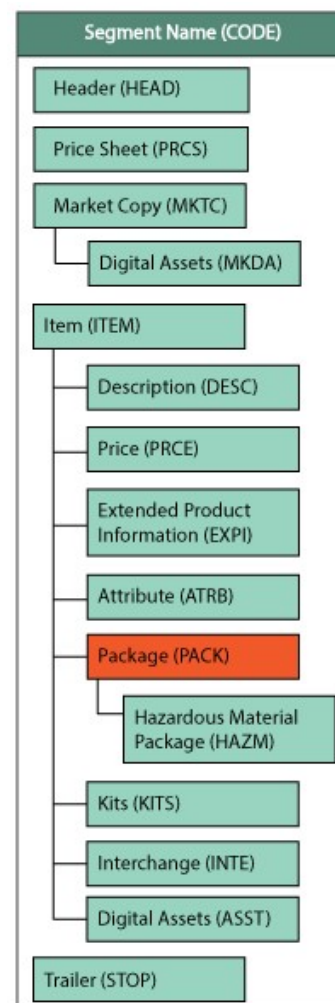
The sample XML code below shows the Packaging Segment in relation to the other segments defined to this point...

```
<PIES xmlns:xs="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://www.autocare.org">

  <Header>...</Header>

  <PriceSheets>...</PriceSheets>

  <Items>
    <Item>
      ...
      <Descriptions>...</Descriptions>
      <Prices>...</Prices>
      <ExtendedInformation>...</ExtendedInformation>
      <ProductAttributes>...</ProductAttributes>
      <Packages>
        <Package MaintenanceType="A">
          <PackageLevelGTIN>50055555000001</PackageLevelGTIN>
          <PackageBarCodeCharacters>005555550000P10</PackageBarCodeCharacters>
          <PackageUOM>EA</PackageUOM>
        </Package>
      </Packages>
    </Item>
  </Items>
</PIES>
```



```

<QuantityofEaches>1</QuantityofEaches>
<Dimensions UOM="IN">
    <MerchandisingHeight>3.9999</MerchandisingHeight>
    <MerchandisingWidth>3.9999</MerchandisingWidth>
    <MerchandisingLength>3.9999</MerchandisingLength>
    <ShippingHeight>10</ShippingHeight>
    <ShippingWidth>7</ShippingWidth>
    <ShippingLength>5.25</ShippingLength>
</Dimensions>
<Weights UOM=" PG">
    <Weight>8.9999</Weight>
    <DimensionalWeight>.33</DimensionalWeight>
</Weights>
<WeightVariance>2.5</WeightVariance>
</Package>
</Packages>
...

```

## H02-Maintenance Type

Ref Num	H02	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			



## H05-Package Level GTIN

Ref Num	H05	XML Element	PackageLevelGTIN
Format	N14		
Requirement	O	Code Table	External Code Sources
Example	30123456789013		
External Ref	<a href="http://www.gs1.org">www.gs1.org</a>		
Comments	<p>GTIN-14 format (Pack Level   Vendor   Item Num   Check Digit). Global Trade Identification Number (GTIN)</p> <p>WARNING: Programs such as Microsoft Excel will drop leading zeros if the field is not formatted as text. To avoid confusion using this field, the range has been omitted and the field is now fixed at 14 characters, INCLUDING leading zeros where necessary. Please refer to the section, "About Global Trade Identifier Number (GTIN)", for further clarification.</p>		

## H07-Electronic Product Code

Ref Num	H07	XML Element	ElectronicProductCode
Format	AN27		
Requirement	O	Code Table	External Code Sources
Example	4A.356E414.B351C7.AD331A465		
External Ref	<a href="http://www.epcglobalinc.org/standards">www.epcglobalinc.org/standards</a>		
Comments	Written form of RFID Code (Electronic Barcode).		

## H10-Package Bar Code Characters

Ref Num	H10	XML Element	PackageBarCodeCharacters
Format	AN1/48		
Requirement	O	Code Table	
Example	123456789012		
External Ref			
Comments	Use if Package Bar Code characters are different from GTIN.		

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### H15-Package UOM

Ref Num	H15	XML Element	PackageUOM
Format	ID2	XML Attribute	
Requirement	KM	Code Table	Coded Values
Example	CA		
External Ref			
Comments	Identifies package level type. GTIN Pack Level must match "Package UOM" type.		

### H20-Quantity of Eaches in Package

Ref Num	H20	XML Element	QuantityofEaches
Format	N1/8		
Requirement	KM	Code Table	
Example	10		
External Ref			
Comments	Total Item quantity in container identified in "Package UOM"		

### H21-Inner Quantity

Ref Num	H21	XML Element	InnerQuantity
Format	R1/8		
Requirement	C	Code Table	
Example	1		
External Ref			
Comments			

## H22-Inner Quantity UOM

Ref Num	H22	XML Element	
Format	ID2	XML Attribute	InnerQuantityUOM
Requirement	C	Code Table	Coded Values
Example	EA		
External Ref			
Comments			

## H24-Orderable Package

Ref Num	H24	XML Element	Orderable
Format	ID1		
Requirement	O	Code Table	Coded Values
Example	Y		
External Ref			
Comments	Flag for Pack level Orderable (shippable) from the Supplier		

## H25-Merchandising Height

Ref Num	H25	XML Element	MerchandisingHeight
Format	N4-5/8		
Requirement	C	Code Table	
Example	2.3333		
External Ref			
Comments	<p>Merchandising Height is the Vertical dimension (of Pack, Layer, Pallet, etc.). Put the product on its natural base, with the graphics reading from left to right from the front. Note: This relates to how the product is merchandised, and it is possible it is packed for distribution in a different orientation.</p> <ul style="list-style-type: none"> <li>· Height = base to top</li> </ul> <p>This XML Element is a required child element of the &lt;Dimensions&gt; grouping element which is a child of &lt;Package&gt;. When submitting dimension information, Height, Width, Length are all required.</p>		

### H30-Merchandising Width

<b>Ref Num</b>	H30	<b>XML Element</b>	MerchandisingWidth
<b>Format</b>	N4-5/8		
<b>Requirement</b>	C	<b>Code Table</b>	
<b>Example</b>	5.5555		
<b>External Ref</b>			
<b>Comments</b>	<p>Merchandising Width is the left-to-right Horizontal dimension (of Pack, Layer, Pallet, etc.). Put the product on its natural base, with the graphics reading from left to right from the front. Note: This relates to how the product is merchandised, and it is possible it is packed for distribution in a different orientation.</p> <ul style="list-style-type: none"> <li>· Width = left to right</li> </ul> <p>This XML Element is a required child element of the &lt;Dimensions&gt; grouping element which is a child of &lt;Package&gt;. When submitting Merchandizing dimension information, Height, Width, Length are all required.</p>		

### H35-Merchandising Length

<b>Ref Num</b>	H35	<b>XML Element</b>	MerchandisingLength
<b>Format</b>	N4-5/8		
<b>Requirement</b>	C	<b>Code Table</b>	
<b>Example</b>	19.6666		
<b>External Ref</b>			
<b>Comments</b>	<p>Merchandising Length is the front-to-back Horizontal dimension (of Pack, Layer, Pallet, etc.). Put the product on its natural base, with the graphics reading from left to right from the front. Note: This relates to how the product is merchandised, and it is possible it is packed for distribution in a different orientation.</p> <ul style="list-style-type: none"> <li>· Length (Depth) = front to back</li> </ul> <p>This XML Element is a required child element of the &lt;Dimensions&gt; grouping element which is a child of &lt;Package&gt;. When submitting Merchandizing dimension information, Height, Width, Length are all required.</p>		

### H36-Shipping Height

<b>Ref Num</b>	H36	<b>XML Element</b>	ShippingHeight
<b>Format</b>	N4-5/8		
<b>Requirement</b>	C	<b>Code Table</b>	
<b>Example</b>	10		
<b>External Ref</b>			
<b>Comments</b>	<p>Shipping Height is the Vertical dimension (of Pack, Layer, Pallet, etc.). Put the product on its natural base. Note: This relates to how the product is packed for distribution.</p> <ul style="list-style-type: none"> <li>· Shipping Height = base to top</li> </ul> <p>This XML Element is a required child element of the &lt;Dimensions&gt; grouping element which is a child of &lt;Package&gt;. When submitting dimension information, Shipping Height, Shipping Width and Shipping Length are all required.</p>		

### H37-Shipping Width

<b>Ref Num</b>	H30	<b>XML Element</b>	ShippingWidth
<b>Format</b>	N4-5/8		
<b>Requirement</b>	C	<b>Code Table</b>	
<b>Example</b>	7		
<b>External Ref</b>			
<b>Comments</b>	<p>Shipping Width is the shorter of the left-to-right Horizontal dimensions (of Pack, Layer, Pallet, etc.). Put the product on its natural base. Note: This relates to how the product is packed for distribution.</p> <ul style="list-style-type: none"> <li>· Shipping Width = shorter of the left to right dimensions</li> </ul> <p>This XML Element is a required child element of the &lt;Dimensions&gt; grouping element which is a child of &lt;Package&gt;. When submitting dimension information, Shipping Height, Shipping Width and Shipping Length are all required.</p>		

### H38-Shipping Length

Ref Num	H38	XML Element	ShippingLength
Format	N4-5/8		
Requirement	C	Code Table	
Example	5.25		
External Ref			
Comments	<p>Shipping Length is the longer of the left-to-right Horizontal dimensions (of Pack, Layer, Pallet, etc.). Put the product on its natural base. Note: This relates to how the product is packed for distribution.</p> <ul style="list-style-type: none"> <li>· Shipping Length = longer of the left to right dimensions</li> </ul> <p>This XML Element is a required child element of the &lt;Dimensions&gt; grouping element which is a child of &lt;Package&gt;. When submitting dimension information, Shipping Height, Shipping Width and Shipping Length are all required.</p>		

### H39-Dimensions

Ref Num	H39	XML Element	Dimensions
Format			
Requirement	O	Code Table	
Example			
External Ref			
Comments	<p>This XML Element &lt;Dimensions&gt; groups the dimensional elements Height, Width, Length. The Dimensions element is a child element of &lt;Package&gt; element.</p>		

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#### H40-UOM for Dimensions

Ref Num	H40	XML Element	
Format	ID2	XML Attribute	UOM
Requirement	C	Code Table	Coded Values
Example	IN		
External Ref	<a href="http://www.x12.org">www.x12.org</a>		
Comments			

#### H44-Weights

Ref Num	H44	XML Element	Weights
Format			
Requirement	C	Code Table	
Example			
External Ref			
Comments	This XML Element <Weights> groups the weight elements Weight and Weight Variance. The Weights element is a child element of <Package> element.		

#### H45-Weight

Ref Num	H45	XML Element	Weight
Format	N4-5/9		
Requirement	O	Code Table	
Example	10.3350		
External Ref			
Comments	Gross weight per pack. HDX PCFS uses a 5.3 configuration  This XML Element is a required child element of the <Weights> grouping element which is a child of the <Package> element.		

#### H46-UOM for Weight

Ref Num	H46	XML Element	
Format	ID2	XML Attribute	UOM
Requirement	C	Code Table	Coded Values
Example	PG		
External Ref	<a href="http://www.x12.org">www.x12.org</a>		
Comments	Required Attribute of <Weights>.		

#### H47-Weight Variance (%)

Ref Num	H47	XML Element	WeightVariance
Format	R1/8		
Requirement	O	Code Table	
Example	3.2550		
External Ref			
Comments	Potential variance in package weight expressed as a percentage.		



## H50-Dimensional Weight

<b>Ref Num</b>	H50	<b>XML Element</b>	DimensionalWeight
<b>Format</b>	R1/9		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	35.2		
<b>External Ref</b>	<a href="http://www.ups.com/content/cb/en/resources/ship/packaging/dim_weight.html">www.ups.com/content/cb/en/resources/ship/packaging/dim_weight.html</a>		
<b>Comments</b>	<p>This XML Element is an optional child element of the &lt;Weights&gt; grouping element which is a child of &lt;Package&gt;.</p> <p>Cubed weight for calculating shipping and freight billable rates. See External Ref for dimensional weight shipping formula and for additional information.</p> <p>Dimensional weight is a standard formula used throughout the air-freight industry that considers density when determining charges. Dimensional weight is determined by using the International Air Transportation Association volumetric standard. The calculations are then used to consider the amount of space your package will take up on an aircraft in relation to the actual weight of your package.</p>		

## H55-Stacking Factor

<b>Ref Num</b>	H55	<b>XML Element</b>	StackingFactor
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	5		
<b>External Ref</b>			
<b>Comments</b>	Indicated the number of pack levels the product may be safely stacked		

## J01-Hazardous Material Package Segment (HAZM)

Hazmat information is relayed due to different Hazmat rules and regulations which may depend on the type of package that a product is using. For instance, a product may have one set of regulations (or none) at the Consumer Pack level, but a completely different set of government regulations may apply if the package is a Case or Pallet of product. Regulations may change as well depending on transportation method used when shipping a product.

The Hazardous Material Package Segment does not repeat as a loop of <Item>. Rather, this segment is a looping structure within the <Packaging> segment.

The sample XML code below shows how a single instance of the Hazardous Material Package Segment, defined by the <HazardousMaterial> parent element, falls within the Packaging Segment (<Package>)...

```
<PIES xmlns:xs="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://www.autocare.org">
```

```
    <Header>...</Header>
```

```
    <PriceSheets>...</PriceSheets>
```

```
    <Items>
```

```
        <Item>
```

```
        ...
```

```
        <Descriptions>...</Descriptions>
```

```
        <Prices>...</Prices>
```

```
        <ExtendedInformation>...</ExtendedInformation>
```

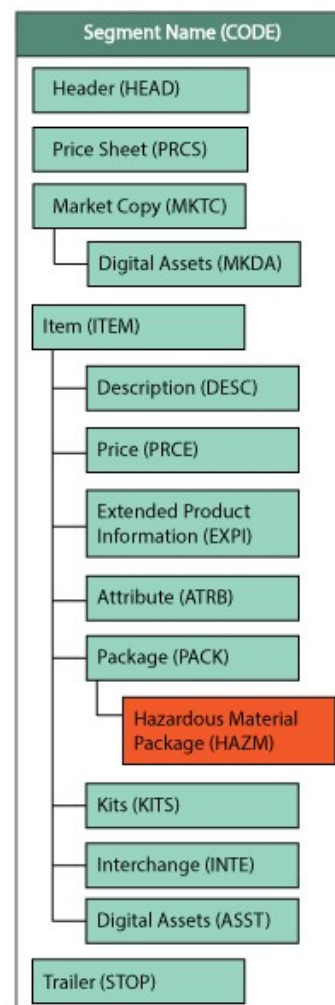
```
        <ProductAttributes>...</ProductAttributes>
```

```
        <Packages>
```

```
            <Package>
```

```
            ...
```

```
            <HazardousMaterial MaintenanceType="A" LanguageCode="EN">
```



```

<ShippingScope>DOM</ShippingScope>

<Bulk>N</Bulk>

<RegulatingCountry>US</RegulatingCountry>

<TransportMethod>A</TransportMethod>

<Regulated>Y</Regulated>

<Description>This is a description</Description>

<HazardousMaterialCodeQualifier>D</HazardousMaterialCode
Qualifier>

<TextMessage>This is a text message</TextMessage>

<OuterPackageLabel>ORM-AIR</OuterPackageLabel>

</HazardousMaterial>

</Package>

</Packages>

```

...

#### J02-Maintenance Type

Ref Num	J02	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

#### J04-Shipping Scope

Ref Num	J04	XML Element	ShippingScope
Format	ID3		
Requirement	KM	Code Table	Coded Values
Example	DOM		
External Ref			
Comments	This indicates whether you are shipping Domestically or internationally		

### J05-Bulk

<b>Ref Num</b>	J05	<b>XML Element</b>	Bulk
<b>Format</b>	ID1		
<b>Requirement</b>	KM	<b>Code Table</b>	Coded Values
<b>Example</b>	N		
<b>External Ref</b>			
<b>Comments</b>	Flag indicates whether the goods shipped are being shipped in bulk or non-bulk.		

### J10-Regulating Country of Origin

<b>Ref Num</b>	J10	<b>XML Element</b>	RegulatingCountry
<b>Format</b>	ID2		
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	US		
<b>External Ref</b>	<a href="http://www.iso.org">www.iso.org</a>		
<b>Comments</b>	<p>The Country from which the goods are initially shipped.</p> <p>This is different from the documentation you may require if shipping across several countries (IE – Country of Origin – US; Trans-ship to France via UK)</p>		

### J15-Transport Method

<b>Ref Num</b>	J15	<b>XML Element</b>	TransportMethod
<b>Format</b>	ID1		
<b>Requirement</b>	KM	<b>Code Table</b>	Coded Values
<b>Example</b>	A		
<b>External Ref</b>			
<b>Comments</b>	Indicates the Principal shipping MODE –additional forms may be required if intermodal or trans-shipped, however the Principal shipping Mode is the long-haul method of shipping used.		

### J20-Regulated

<b>Ref Num</b>	J20	<b>XML Element</b>	Regulated
<b>Format</b>	ID1		
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	Y		
<b>External Ref</b>			
<b>Comments</b>	If the Goods are Regulated, use a "Y" and fill in J25, J35, J40, and J65). If the Goods are not Regulated, use an "N" and ignore the J25, J35, J40, and J65 fields.		

### J25-Description

<b>Ref Num</b>	J25	<b>XML Element</b>	Description
<b>Format</b>	AN1/200		
<b>Requirement</b>	C	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>			

### J31-Hazardous Material Code Qualifier

<b>Ref Num</b>	J31	<b>XML Element</b>	HazardousMaterialCodeQualifier
<b>Format</b>	ID1		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	D		
<b>External Ref</b>	<a href="http://www.phmsa.dot.gov/hazmat">http://www.phmsa.dot.gov/hazmat</a>		
<b>Comments</b>	Use ANSI X.12 Element 208 Hazardous Material Code Qualifier List to identify appropriate alternate code qualifiers		

### J33-Hazardous Material Description

<b>Ref Num</b>	J33	<b>XML Element</b>	HazardousMaterialDescription
<b>Format</b>	AN1/80		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>	http://phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=d84ddf479bd7d110VgnVCM1000009ed07898RCRD&vgnnextchannel=4f347fd9b896b110VgnVCM1000009ed07898RCRD&vgnnextfmt=print		
<b>Comments</b>			

### J34-Hazardous Material Label Code

<b>Ref Num</b>	J34	<b>XML Element</b>	HazardousMaterialLabelCode
<b>Format</b>	ID1/4		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	1.6		
<b>External Ref</b>	<a href="http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&amp;SID=aa9e902bd8b22eb0e98451d5959ab2d5&amp;n=49y2.1.1.3.9&amp;r=PART&amp;ty=HTML#49:2.1.1.3.9.2">http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&amp;SID=aa9e902bd8b22eb0e98451d5959ab2d5&amp;n=49y2.1.1.3.9&amp;r=PART&amp;ty=HTML#49:2.1.1.3.9.2</a>		
<b>Comments</b>			

### J35-Shipping Name

<b>Ref Num</b>	J35	<b>XML Element</b>	ShippingName
<b>Format</b>	AN1/260		
<b>Requirement</b>	C	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Name of Hazardous Commodity. Can include shipping instructions.		

#### J40-UN/NA ID Code

<b>Ref Num</b>	J40	<b>XML Element</b>	UNNAIDCode
<b>Format</b>	ID6		
<b>Requirement</b>	C	<b>Code Table</b>	External Code Sources
<b>Example</b>	ID8000		
<b>External Ref</b>	<a href="http://www.phmsa.dot.gov/hazmat">http://www.phmsa.dot.gov/hazmat</a>		
<b>Comments</b>			

#### J45-Hazardous Placard Notation

<b>Ref Num</b>	J45	<b>XML Element</b>	HazardousPlacardNotation
<b>Format</b>	AN1/40		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	3		
<b>External Ref</b>			
<b>Comments</b>	<p>Notation corresponding to the Hazardous Class.</p> <p>(Canada: "Dangerous Goods Placard Notation", indicating on shipping docs which placards are to be on the truck, no longer required in "clear language" regulations.) Insert the Text and Code that is described on the appropriate Hazardous Placard for your shipment.</p>		

#### J46-WHMIS Code

<b>Ref Num</b>	J46	<b>XML Element</b>	WHMISCode
<b>Format</b>	ID1/10		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	<p>Workplace Hazardous Materials Info Rating System (Canada) Insert the appropriate Workplace Hazardous Material code for your commodity.</p>		

#### J47-WHMIS Free Text

<b>Ref Num</b>	J47	<b>XML Element</b>	WHMISFreeText
<b>Format</b>	AN1/80		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Insert the Workplace Hazardous Material Description for your commodity		

#### J50-Packing Group Code

<b>Ref Num</b>	J50	<b>XML Element</b>	PackingGroupCode
<b>Format</b>	ID1/3		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>			
<b>External Ref</b>	<a href="http://www.x12.org">www.x12.org</a>		
<b>Comments</b>	Use the appropriate Packing Group Code for the risk assessed to the packaging of the hazardous material – Packing groups are used for the purpose of determining the degree of protective packaging required for Dangerous Goods during transportation.		

#### J55-Regulations Exemption Code

<b>Ref Num</b>	J55	<b>XML Element</b>	RegulationsExemptionCode
<b>Format</b>	ID1/4		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>			
<b>External Ref</b>	<a href="http://www.x12.org">www.x12.org</a>		
<b>Comments</b>	Canada: "Regulations Exemption Section", format 9.99 in 4 chars		



### J60-Text Message

<b>Ref Num</b>	J60	<b>XML Element</b>	TextMessage
<b>Format</b>	AN1/2000		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>			

### J65-Outer Package Label

<b>Ref Num</b>	J65	<b>XML Element</b>	OuterPackageLabel
<b>Format</b>	AN1/20		
<b>Requirement</b>	C	<b>Code Table</b>	
<b>Example</b>	ORM-AIR		
<b>External Ref</b>			
<b>Comments</b>	This is required if this is a REGULATED good – the Outer Package Label should indicate the relevant Hazardous Material Class indicated in J30		

### J70-Language Code

<b>Ref Num</b>	J70	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	LanguageCode
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	EN		
<b>External Ref</b>	<a href="http://www.iso.org">www.iso.org</a>		
<b>Comments</b>	Optional Attribute of <HazardousMaterial> XML Element Override value for individual Segment Loop.		

## K01-Kits Segment (KITS)

The Kits Segment is defined by the <Kits> parent element which contains the child element <KitComponent>. This element contains child elements that define the component parts and supporting data.

If the item is a kit or set, the Kit Segment of PIES conveys the part numbers contained in a kit or set Bill of Materials (BOM). Kits are defined as an assemblage of parts or equipment with the specific purpose of performing a full maintenance procedure or function) or a Set (a group or collection of things that belong together or resemble one another or are usually found together).

Kit Examples:

- assembly of parts needed to repair a carburetor
- assembly of parts needed to rebuild an engine

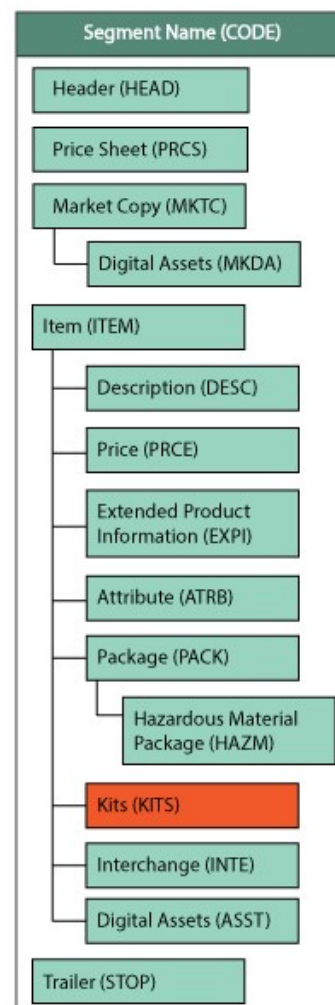
Set Examples:

- Range of tools, such as a Drill Bit Set, or a Tool Assortment
- Battery Booster Cable Set
- Bungee Cord Set
- Set of Model Cars

Items contained within a Kit or a Set may not have a Marketable Part Number, however use some other reference number. The Kit Segment enables delivery of number references other than a Marketable Part Number; and as well, an alternate 'Brand' for the component; and finally, a text description of the component, for clarity.

The Kits Segment allows the data sender to express what components are in this particular kit. To express multiple components within a Kit, the elements within the Kit Segment repeat as many times as necessary to identify all components.

**NOTE: The element sequencing and numbering in this segment was changed in 6.5, and will NOT be backward compatible with 6.4 or earlier versions of PIES.**



```
<PIES xmlns:xs="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.autocare.org">
```

```
<Header>...</Header>...
```

```
<Items>
```

```
<Item>
```

```
... <Kits>
```

```
<KitComponent MaintenanceType="A">
```

```
<ComponentPartNumber  
IDQualifier="VC">HOS001</ComponentPartNumber>
```

```
<ComponentBrand>BFJK</ComponentBrand>
```

```
<ComponentBrandLabel>Acme Parts</ComponentBrandLabel>
```

```
<ComponentSubBrand>BFJS</ComponentSubBrand>
```

```
<ComponentSubBrandLabel>Acme  
Extra</ComponentSubBrandLabel>
```

```
<Description DescriptionCode="DES"  
LanguageCode="EN">This is an example description for a  
Component within a Kit.</Description>
```

```
<QuantityInKit UOM="EA">1</QuantityInKit>
```

```
<SequenceCode>1</SequenceCode>
```

```
<SoldSeparately>Y</SoldSeparately>
```

```
</KitComponent>
```

```
<KitComponent MaintenanceType="A">
```

```
<ComponentPartNumber  
IDQualifier="VC">HOS002</ComponentPartNumber>
```

```
<ComponentBrand>BFJK</ComponentBrand>
```

```
<ComponentBrandLabel>Acme Parts</ComponentBrandLabel>
```

```
<ComponentSubBrand>BFJS</ComponentSubBrand>
```

```
<ComponentSubBrandLabel>Acme  
Extra</ComponentSubBrandLabel>
```

```
<Description DescriptionCode="DES"  
LanguageCode="EN">This is an example description for a  
second Component within a Kit.</Description>
```

```
<QuantityInKit UOM="EA">1</QuantityInKit>
```

```
<SequenceCode>2</SequenceCode>
```

```
<SoldSeparately>Y</SoldSeparately>
```

```

</KitComponent>
<KitComponent MaintenanceType="A">
    <Description DescriptionCode="DES"
    LanguageCode="EN">This is an example description for a third
    Component within a Kit that is not sold separately and does not
    have a part number or branding</Description>
    <QuantityInKit UOM="EA">1</QuantityInKit>
    <SequenceCode>3</SequenceCode>
    <SoldSeparately>N</SoldSeparately>
</KitComponent>
</Kits>...
    
```

#### K02-Maintenance Type

Ref Num	K02	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

#### K03-Component Part Number

Ref Num	K03	XML Element	ComponentPartNumber
Format	AN1/48		
Requirement	KO	Code Table	
Example	HOS001-1		
External Ref			
Comments	Component Part Number or Supply Item within the Kit.		

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#### K04-Component Brand AAIAID

<b>Ref Num</b>	K04	<b>XML Element</b>	ComponentBrand
<b>Format</b>	ID4	<b>XML Attribute</b>	
<b>Requirement</b>	KO	<b>Code Table</b>	External Code Values
<b>Example</b>	BFJK		
<b>External Ref</b>	<a href="#">Brand Table</a>		
<b>Comments</b>	Brand of Component within the Kit		

#### K05-Component Brand Label

<b>Ref Num</b>	K05	<b>XML Element</b>	ComponentBrandLabel
<b>Format</b>	AN1/60	<b>XML Attribute</b>	
<b>Requirement</b>	O	<b>Code Table</b>	External Code Values
<b>Example</b>	Acme		
<b>External Ref</b>	<a href="#">Brand Table</a>		
<b>Comments</b>	Brand Label of Component within the Kit		

#### K06-Component SubBrand AAIAID

<b>Ref Num</b>	K05	<b>XML Element</b>	ComponentSubBrand
<b>Format</b>	ID4	<b>XML Attribute</b>	
<b>Requirement</b>	O	<b>Code Table</b>	External Code Values
<b>Example</b>	BFJS		
<b>External Ref</b>	<a href="#">Brand Table</a>		
<b>Comments</b>	SubBrand of Component within the Kit		

#### K07-Component SubBrand Label

<b>Ref Num</b>	K05	<b>XML Element</b>	ComponentSubBrandLabel
<b>Format</b>	AN1/60	<b>XML Attribute</b>	
<b>Requirement</b>	O	<b>Code Table</b>	External Code Values
<b>Example</b>	Acme Extra		
<b>External Ref</b>	<a href="#">Brand Table</a>		
<b>Comments</b>	SubBrand Label of Component within the Kit		

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### K08-Component ID Qualifier

<b>Ref Num</b>	K08	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	IDQualifier
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	VC		
<b>External Ref</b>	<a href="http://www.x12.org">www.x12.org</a>		
<b>Comments</b>			

### K09-Description Code

<b>Ref Num</b>	K09	<b>XML Element</b>	
<b>Format</b>	ID3	<b>XML Attribute</b>	DescriptionCode
<b>Requirement</b>	KM	<b>Code Table</b>	Coded Values
<b>Example</b>	DES		
<b>External Ref</b>			
<b>Comments</b>	Identifies the type of description being used for the component		

### K10-Description

<b>Ref Num</b>	K10	<b>XML Element</b>	Description
<b>Format</b>	Defined by Description Code see table	<b>XML Attribute</b>	
<b>Requirement</b>	M	<b>Code Table</b>	
<b>Example</b>	6pt-1/4" Drill Bit		
<b>External Ref</b>			
<b>Comments</b>			

### K11-Component Part Terminology ID

<b>Ref Num</b>	K11	<b>XML Element</b>	ComponentPartTerminologyID
<b>Format</b>	ID4/8		
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	55555		
<b>External Ref</b>	<a href="http://www.autocare.org/Technology/pcdb">http://www.autocare.org/Technology/pcdb</a>		
<b>Comments</b>	Component Part Terminology ID from the Parts Classification Database (PCdb)		

### K12-Language Code

<b>Ref Num</b>	K12	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	LanguageCode
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	EN		
<b>External Ref</b>	<a href="http://www.iso.org">www.iso.org</a>		
<b>Comments</b>	Optional Attribute of <Description> XML Element Override value for individual Segment Loop.		

### K15-Quantity in Kit

<b>Ref Num</b>	K15	<b>XML Element</b>	QuantityInKit
<b>Format</b>	N1/8		
<b>Requirement</b>	M	<b>Code Table</b>	
<b>Example</b>	2		
<b>External Ref</b>			
<b>Comments</b>	Quantity of units (eaches) in kit for this part number		

### K20-Quantity UOM

<b>Ref Num</b>	K20	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	UOM
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	EA		
<b>External Ref</b>	<a href="http://www.x12.org">www.x12.org</a>		
<b>Comments</b>			

### K30-Sequence Code

<b>Ref Num</b>	K30	<b>XML Element</b>	SequenceCode
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	1		
<b>External Ref</b>			
<b>Comments</b>	Logical position (sequence) of component part in Kit display or pack.		

### K31-Sold Separately

<b>Ref Num</b>	K31	<b>XML Element</b>	SoldSeparately
<b>Format</b>	ID1		
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	Y		
<b>External Ref</b>			
<b>Comments</b>	If the Sold Separately element is set to Y this means the component has a separate PIES item record for this part. If the Sold Separately is set to N this means the component is only sold within a kit.		

### K35-Kit Component

<b>Ref Num</b>	K35	<b>XML Element</b>	KitComponent
<b>Format</b>			
<b>Requirement</b>	R	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Container element for each component within the Kits segment		



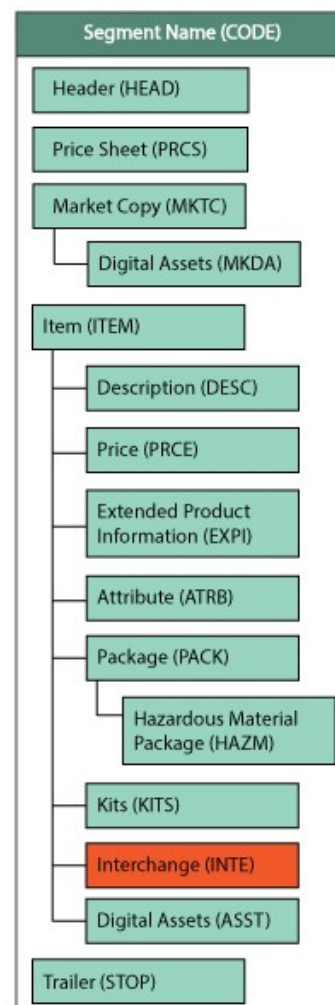
## N01-Interchange Segment (INTE)

The Interchange Segment in PIES is used to relay interchange data for the Item Part Number in relation to alternative Brand Part Numbers. The segment is defined by the <PartInterchangeInfo> grouping element. Within <PartInterchangeInfo> is the <PartInterchange> element which contains the child elements to define an interchange. <PartNumber> element instance is repeated as many times as necessary to identify all components.

All interchange part numbers are defined by both the interchange part number and a “Brand AAIAID”. The “Brand AAIAID” value for the interchange supplier can be found in the industry supported Brand table. If a brand code value is not present in the Industry Brand Code table, the use of “ZZZN” is permitted until such time as a “Brand AAIAID” is created for the Brand in question. In such an instance, the “Brand Label” value should be populated for clarity. Using “ZZZN” and a “Brand label” should be used as a last resort not as standard practice as the Brand table is updated frequently.

Like previous segments, to express multiple interchanges for an Item Part Number, the <PartInterchange> element is repeated as many times necessary to identify all interchanges.

The abbreviated code sample shows user defined attributes. For further XML examples of the interchange segment, refer to Appendix E.



**NOTE: The element sequencing and numbering in this segment was changed in 6.6, and will NOT be backward compatible with 6.5 or earlier versions of PIES.**

```
<PIES xmlns:xs="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.autocare.org">

  <Header>...</Header>

  <PriceSheets>...</PriceSheets>

  <Items>

    <Item>

      ...

      <Descriptions>...</Descriptions>

      <Prices>...</Prices>

      <ExtendedInformation>...</ExtendedInformation>

      <ProductAttributes>...</ProductAttributes>

      <Packages>

        ...

        <HazardousMaterial>...</HazardousMaterial>

      <Packages>

      <Kits>...</Kits>

      <PartInterchangeInfo>

        <PartInterchange MaintenanceType="A" LanguageCode="EN" BrandAAIAID="CCCC"
        BrandLabel ="Acme Parts" SubBrandAAIAID="CCCD " SubBrandLabel = "Acme Extra"
        QualityGradeLevel="P" ItemEquivalentUOM = "EA" InternalNotes ="Internal Note">

          <PartNumber InterchangeQuantity ="1" UOM="EA" InterchangeNotes ="Part
          Note" >CC2000</PartNumber>

        </PartInterchange>

        <PartInterchange MaintenanceType="A" LanguageCode="EN" VMRSBrandID = "FELPR"
        QualityGradeLevel="P" ItemEquivalentUOM = "EA" InternalNotes ="Internal Note">

          <PartNumber InterchangeQuantity ="1" UOM="EA" InterchangeNotes ="Part
          Note" >FEL100</PartNumber>

        </PartInterchange>

      </PartInterchangeInfo>

    ...

  ...

</PIES>
```

## N02-Maintenance Type

Ref Num	N02	XML Element	
Format	ID1	XML Attribute	MaintenanceType
Requirement	M	Code Table	Coded Values
Example	A		
External Ref			
Comments			

## N10-Brand AAIAID

Ref Num	N10	XML Element	
Format	ID4	XML Attribute	BrandAAIAID
Requirement	KO	Code Table	External Code Sources
Example	BD CD		
External Ref	Brand Table		
Comments	Attribute of <PartInterchange> XML Element, Brand of the Interchange		

## N11-Brand Label

Ref Num	N11	XML Element	
Format	AN1/60	XML Attribute	BrandLabel
Requirement	O	Code Table	External Code Sources
Example	Acme Parts		
External Ref	Brand Table		
Comments	Attribute of the <PartInterchange> XML Element, Verbose Brand Name Description as found in the Brand table.		

### N12-SubBrand AAIAID

<b>Ref Num</b>	N12	<b>XML Element</b>	
<b>Format</b>	ID4	<b>XML Attribute</b>	SubBrandAAIAID
<b>Requirement</b>	KO	<b>Code Table</b>	External Code Sources
<b>Example</b>	BDCD		
<b>External Ref</b>	Brand Table		
<b>Comments</b>	Attribute of <PartInterchange> XML Element, SubBrand of the Interchange		

### N13-SubBrand Label

<b>Ref Num</b>	N13	<b>XML Element</b>	
<b>Format</b>	AN1/60	<b>XML Attribute</b>	SubBrandLabel
<b>Requirement</b>	O	<b>Code Table</b>	External Code Sources
<b>Example</b>	Acme Extra		
<b>External Ref</b>	Brand Table		
<b>Comments</b>	Attribute of the <PartInterchange> XML Element, Verbose SubBrand Name Description as found in the Brand table.		

### N14-VMRS Brand ID

<b>Ref Num</b>	N14	<b>XML Element</b>	
<b>Format</b>	ID5	<b>XML Attribute</b>	VMRSBrandID
<b>Requirement</b>	KO	<b>Code Table</b>	External Code Sources
<b>Example</b>	FELPR		
<b>External Ref</b>			
<b>Comments</b>	Required by the major fleets. The Maintenance Council (TMC) of the American Trucking Assn. (ATA) -assigned VMRS Brand ID. It is a unique Brand identifier for all participating Heavy Duty parts manufacturer brands.		

### N16-Item Equivalent UOM

<b>Ref Num</b>	N16	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	ItemEquivalentUOM
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	EA		
<b>External Ref</b>			
<b>Comments</b>	Optional Attribute of <PartInterchange> XML Element, An Item can have multiple package UOM this allows the interchange to state which is Equivalent		

### N20-Interchange Part Number

<b>Ref Num</b>	N20	<b>XML Element</b>	PartNumber
<b>Format</b>	AN1/48		
<b>Requirement</b>	KM	<b>Code Table</b>	
<b>Example</b>	B-123		
<b>External Ref</b>			
<b>Comments</b>	Manufacturer's Part Number for Interchange Item		

### N21-Reference Item

<b>Ref Num</b>	N21	<b>XML Element</b>	
<b>Format</b>	AN1/48	<b>XML Attribute</b>	ReferenceItem
<b>Requirement</b>	KO	<b>Code Table</b>	
<b>Example</b>	B-123		
<b>External Ref</b>			
<b>Comments</b>	This is used with a many supplier parts to one interchange part number to reference all of the components to make up the interchange. This can also be used for a many supplier parts to many interchange part numbers to reference all of the components		

### N25-Quality Grade Level

<b>Ref Num</b>	N25	<b>XML Element</b>	
<b>Format</b>	ID1	<b>XML Attribute</b>	QualityGradeLevel
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	P		
<b>External Ref</b>			
<b>Comments</b>	Optional Attribute of <PartInterchange>, Quality Grade of the interchange in comparison to the item		

### N26-Interchange Quantity

<b>Ref Num</b>	N26	<b>XML Element</b>	
<b>Format</b>	R1/8	<b>XML Attribute</b>	InterchangeQuantity
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	12		
<b>External Ref</b>			
<b>Comments</b>	Optional Attribute of <PartNumber>, Interchange Quantity		

### N27-Interchange Quantity UOM

<b>Ref Num</b>	N27	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	UOM
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	EA		
<b>External Ref</b>	<a href="http://www.x12.org">www.x12.org</a>		
<b>Comments</b>	Optional Attribute of <PartNumber> XML Element		

### N30-Interchange Notes

<b>Ref Num</b>	N30	<b>XML Element</b>	
<b>Format</b>	AN1/240	<b>XML Attribute</b>	InterchangeNotes
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	Sold as Kit		
<b>External Ref</b>			
<b>Comments</b>	Optional Attribute of <PartNumber> XML Element, Comments which assist the receiver in the interchange decision, such as differences in quality or components		

### N35-Internal Notes

<b>Ref Num</b>	N35	<b>XML Element</b>	
<b>Format</b>	AN1/240	<b>XML Attribute</b>	InternalNotes
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	Private Brand		
<b>External Ref</b>			
<b>Comments</b>	<p>Optional Attribute of &lt;PartInterchange&gt; XML Element, Comments about the interchanged part.</p> <p>Note: While this field has been made available for use, it is not customary practice to send 'Internal Notes' to trading partners. The use of this field has been designed to permit the sending of notes, but the typical use would be for the internal conveyance of a note to an internal business division or supply side trading partner.</p>		

### N40-Language Code

<b>Ref Num</b>	N40	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	LanguageCode
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	EN		
<b>External Ref</b>	<a href="http://www.iso.org">www.iso.org</a>		
<b>Comments</b>	Optional Attribute of <PartInterchange> XML Element, Override value for individual Segment Loop.		

## P01-Digital Asset File Information Segment (ASST)

The Digital Asset File Information Segment is used to relay information about many different media types which support the Item Part Number. The “Asset Type” field is used to identify what type of digital asset is being defined. Valid values for “Asset Type” are shown in the Technical Specifications – Coded Values Tables, Filter Reference Number P10.

Along with file and media specific characteristics, the Digital Asset File Information Segment also contains fields used to relay physical locality of the digital asset, whether the asset is located on the Internet (using an URI) or within a directory structure on a CD.

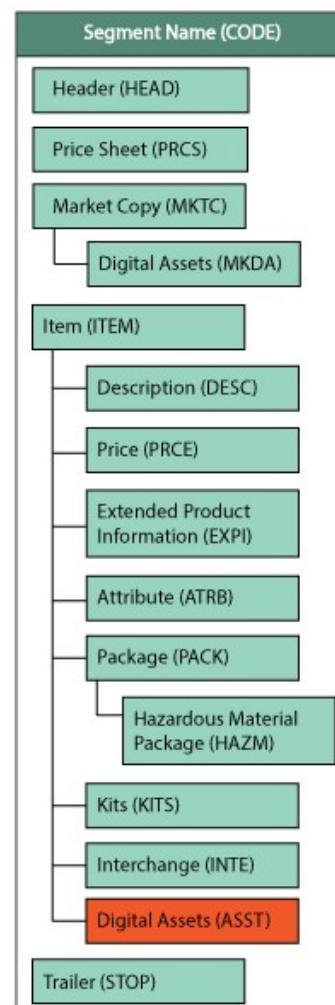
The Auto Care Association has published an Imaging Best Practices document, which can be found on the autocare.org - Best Practices - Digital Assets website. This document contains imaging recommendations covering both print usage as well as Internet based imaging and new media. This is a living document, various media types are regularly reviewed and defined for use within the aftermarket. **One of the major changes to the document is the dropping of the alternative ‘legacy’ File Delivery Format, which was an interim transitional flat file format for delivering Digital Asset information. Industry concentration and effort will now focus on the PIES delivery format for digital assets.**

This segment is defined by the <DigitalAssets> grouping element. Below this element is the <DigitalFileInformation> element which contains corresponding child elements (fields) used to express the defined values for a digital asset. Like other segments, to supply information for multiple digital assets for an Item Part Number, the <DigitalFileInformation> element and its child elements are repeated for each digital asset.

As in the Market Copy Digital Assets sub-segment, a new element, Country, has been added to enable the sender of data to direct a specific Digital Asset to be used in a different country.

The following XML sample code shows the relationship of this segment to the preceding elements...

```
<PIES xmlns:xs="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.autocare.org">
  <Header>...</Header>
```





```
<PriceSheets>...</PriceSheets>

<Items>
  <Item>
    ...
    <DigitalAssets>
      <DigitalFileInformation MaintenanceType="A" AssetID="xyz_BRO"
      LanguageCode="EN">
        <FileName>xyz.jpg</FileName>
        <AssetType>BRO</AssetType>
        <FileType>JPG</FileType>
        <Representation>A</Representation>
        <FileSize>123456</FileSize>
        <Resolution>72</Resolution>
        <ColorMode>RGB</ColorMode>
        <Background>WHI</Background>
        <OrientationView>ANG</OrientationView>
        <AssetDimensions UOM="PX">
          <AssetHeight>250</AssetHeight>
          <AssetWidth>250</AssetWidth>
        </AssetDimensions>
        <AdditionalInformation>Photo from
        brochure</AdditionalInformation>
        <Details>High resolution image from brochure</Details>
        <FilePath>\Mfg\xyz.jpg</FilePath>
        <URI>http://www.mfg.com/Images/xyz.jpg</URI>
        <AssetDates>
          <AssetDate assetDateType="MOD">2016-07-
          15</AssetDate>
        </AssetDates>
        <Country>US</Country>
      </DigitalFileInformation>
```

```
<DigitalFileInformation MaintenanceType="A" AssetID="360_ACME"
LanguageCode="EN">
  <FileName>360_ACME_PART.zip</FileName>
  <AssetType>360</AssetType>
  <FileType>ZIP</FileType>
  <Representation>A</Representation>
  <FilePath>360\360_acme_part.zip</FilePath>
  <URI>360\360_acme_part.zip</URI>
  <Frame>1</Frame>
  <TotalFrames>2</TotalFrames>
  <Plane>1</Plane>
  <Hemisphere>N</Hemisphere>
  <Plunge>0</Plunge>
  <TotalPlanes>2</TotalPlanes>
  <AssetDescriptions>
    <Description MaintenanceType="C"
      DescriptionCode="DES" LanguageCode="EN">Brake
      Pad</Description>
    <Description MaintenanceType="C"
      DescriptionCode="KEY"
      LanguageCode="EN">acme,360</Description>
  </AssetDescriptions>
  <AssetDates>
    <AssetDate assetDateType="MOD">2016-01-
    15</AssetDate>
  </AssetDates>
  <Country>US</Country>
</DigitalFileInformation>
</DigitalAssets>
...
```

## P02-Maintenance Type

<b>Ref Num</b>	P02	<b>XML Element</b>	
<b>Format</b>	ID1	<b>XML Attribute</b>	MaintenanceType
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	A		
<b>External Ref</b>			
<b>Comments</b>			

## P05-File Name

<b>Ref Num</b>	P05	<b>XML Element</b>	FileName
<b>Format</b>	AN1/80		
<b>Requirement</b>	KM	<b>Code Table</b>	
<b>Example</b>	1234.jpg		
<b>External Ref</b>			
<b>Comments</b>	File name (including file extension) of Digital Asset.		

## P06-Asset ID

<b>Ref Num</b>	P06	<b>XML Element</b>	
<b>Format</b>	ID1/34	<b>XML Attribute</b>	AssetID
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	<p>Optional Attribute of &lt;DigitalFileInformation&gt;.</p> <p>Unique ID reference for Digital Asset. This is for future use in ACES Application Specific Digital Assets.</p>		

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**P10-Asset Type**

<b>Ref Num</b>	P10	<b>XML Element</b>	AssetType
<b>Format</b>	ID3		
<b>Requirement</b>	KM	<b>Code Table</b>	Coded Values
<b>Example</b>	P05		
<b>External Ref</b>			
<b>Comments</b>	Code identifying the Type and purpose of the Digital Asset		

**P15-File Type**

<b>Ref Num</b>	P15	<b>XML Element</b>	FileType
<b>Format</b>	ID2/4		
<b>Requirement</b>	R	<b>Code Table</b>	Coded Values
<b>Example</b>	JPG		
<b>External Ref</b>			
<b>Comments</b>			

**P20-Representation**

<b>Ref Num</b>	P20	<b>XML Element</b>	Representation
<b>Format</b>	ID1		
<b>Requirement</b>	R	<b>Code Table</b>	Coded Values
<b>Example</b>	A		
<b>External Ref</b>			
<b>Comments</b>			

### P25-File Size

<b>Ref Num</b>	P25	<b>XML Element</b>	FileSize
<b>Format</b>	N1/10		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	600		
<b>External Ref</b>			
<b>Comments</b>	File size of Digital Asset as measured in Kilobytes (kb).		

### P30-Resolution

<b>Ref Num</b>	P30	<b>XML Element</b>	Resolution
<b>Format</b>	ID2/4		
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	72		
<b>External Ref</b>			
<b>Comments</b>			

### P35-Color Mode

<b>Ref Num</b>	P35	<b>XML Element</b>	ColorMode
<b>Format</b>	ID3		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>	RGB		
<b>External Ref</b>			
<b>Comments</b>			

#### P40-Background

<b>Ref Num</b>	P40	<b>XML Element</b>	Background
<b>Format</b>	ID3		
<b>Requirement</b>	R	<b>Code Table</b>	Coded Values
<b>Example</b>	WHI		
<b>External Ref</b>			
<b>Comments</b>	Indicates background color/type for Digital Assets.		

#### P45-Orientation View

<b>Ref Num</b>	P45	<b>XML Element</b>	OrientationView
<b>Format</b>	ID3		
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	TOP		
<b>External Ref</b>			
<b>Comments</b>	Product Orientation as shown in Image Digital Assets.		

#### P50-Asset Height

<b>Ref Num</b>	P50	<b>XML Element</b>	AssetHeight
<b>Format</b>	R1/6		
<b>Requirement</b>	R	<b>Code Table</b>	
<b>Example</b>	500		
<b>External Ref</b>			
<b>Comments</b>	Vertical measurement of Digital Asset file.		

#### P55-Asset Width

Ref Num	P55	XML Element	AssetWidth
Format	R1/6		
Requirement	R	Code Table	
Example	400		
External Ref			
Comments	Horizontal measurement of Digital Asset file.		

#### P60-Asset Dimension UOM

Ref Num	P60	XML Element	
Format	ID2	XML Attribute	UOM
Requirement	C	Code Table	Coded Values
Example	PX		
External Ref			
Comments	Required Attribute of <AssetDimensions>		

#### P64-Asset Descriptions

Ref Num	P64	XML Element	AssetDescriptions
Format			
Requirement	O	Code Table	
Example			
External Ref			
Comments			

### P71- Asset Maintenance Type

<b>Ref Num</b>	P71	<b>XML Element</b>	
<b>Format</b>	ID1	<b>XML Attribute</b>	MaintenanceType
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	A		
<b>External Ref</b>			
<b>Comments</b>			

### P72- Asset Description Code

<b>Ref Num</b>	P72	<b>XML Element</b>	
<b>Format</b>	ID3	<b>XML Attribute</b>	DescriptionCode
<b>Requirement</b>	KM	<b>Code Table</b>	Coded Values
<b>Example</b>	DES		
<b>External Ref</b>			
<b>Comments</b>	Required Attribute of "Description"		

### P73-Asset Description

<b>Ref Num</b>	P73	<b>XML Element</b>	Description
<b>Format</b>	Variable Per "Description Code" Attribute.		
<b>Requirement</b>	M	<b>Code Table</b>	Coded Values
<b>Example</b>	Intake Manifold		
<b>External Ref</b>			
<b>Comments</b>	Verbose description per "Description Type" indicated.		



## P74-Asset Description Language Code

<b>Ref Num</b>	P74	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	LanguageCode
<b>Requirement</b>	KO	<b>Code Table</b>	Coded Values
<b>Example</b>	EN		
<b>External Ref</b>	<a href="http://www.iso.org">www.iso.org</a>		
<b>Comments</b>	Optional Attribute of "<Description> XML Element. Override value for individual Segment Loop.		

## P75-File Path

<b>Ref Num</b>	P75	<b>XML Element</b>	FilePath
<b>Format</b>	AN1/80		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	\MFG\xyz.jpg		
<b>External Ref</b>			
<b>Comments</b>	Location of file in Digital Asset collection provided by Supplier. Path should be identified from the Root level (\ ). Generally, the collection refers to a CD/DVD/Archive File which contains multiple Digital Assets.		

## P80-URI

<b>Ref Num</b>	P80	<b>XML Element</b>	URI
<b>Format</b>	AN1/2000		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	<a href="http://www.w3.org">www.w3.org</a>		
<b>External Ref</b>			
<b>Comments</b>	Uniform Resource Indicator or URL location of the Digital Asset. This can refer to a specific Digital asset item, or a page of content		

### P81-Duration

<b>Ref Num</b>	P81	<b>XML Element</b>	Duration
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	The duration of the playing time should be entered into this field in the format hours, minutes, and seconds.		

### P82-Duration UOM

<b>Ref Num</b>	P82	<b>XML Element</b>	
<b>Format</b>	ID2	<b>XML Attribute</b>	UOM
<b>Requirement</b>	C	<b>Code Table</b>	Coded Values
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>			

### P83-Frame

<b>Ref Num</b>	P83	<b>XML Element</b>	Frame
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Enter the number of the image frame		

#### P84-TotalFrames

<b>Ref Num</b>	P84	<b>XML Element</b>	TotalFrames
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Total Number of frames within a plane		

#### P85-Plane

<b>Ref Num</b>	P85	<b>XML Element</b>	Plane
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Enter the number of planes that are in the 3D image set		

#### P86-Hemisphere

<b>Ref Num</b>	P86	<b>XML Element</b>	Hemisphere
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	Coded Values
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Either Northern (N) or Southern (S)		

### P87-Plunge

<b>Ref Num</b>	P87	<b>XML Element</b>	Plunge
<b>Format</b>	R1/6		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Plunge angle when photographed		

### P88-TotalPlanes

<b>Ref Num</b>	P88	<b>XML Element</b>	TotalPlanes
<b>Format</b>	N1/3		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Number of planes for 360 image		

### P93-Asset Dates

<b>Ref Num</b>	P93	<b>XML Element</b>	AssetDates
<b>Format</b>			
<b>Requirement</b>		<b>Code Table</b>	
<b>Example</b>			
<b>External Ref</b>			
<b>Comments</b>	Element Container for Asset Dates		

#### P94-Asset Date

Ref Num	P94	XML Element	AssetDate
Format	D		
Requirement	C	Code Table	
Example	2016-04-01		
External Ref			
Comments	Date for asset		

#### P95-Asset Date Type

Ref Num	P95	XML Element	
Format	ID3	XML Attribute	assetDateType
Requirement	R	Code Table	Coded Values
Example	MOD		
External Ref			
Comments			

#### P98-Country Code

Ref Num	P98	XML Element	Country
Format	ID2	XML Attribute	
Requirement	KO	Code Table	Coded Values
Example	CA		
External Ref			
Comments	The Country Code is used to identify the destination Country of use for the digital asset. The case of use for this attribute is when, for example, a logo for a product might be different in one country than another.		

### P99-Language Code

Ref Num	P99	XML Element	
Format	ID2	XML Attribute	Language Code
Requirement	KO	Code Table	Coded Values
Example	EN		
External Ref			
Comments	Defaults to HEAD Segment Language Code if not populated.		

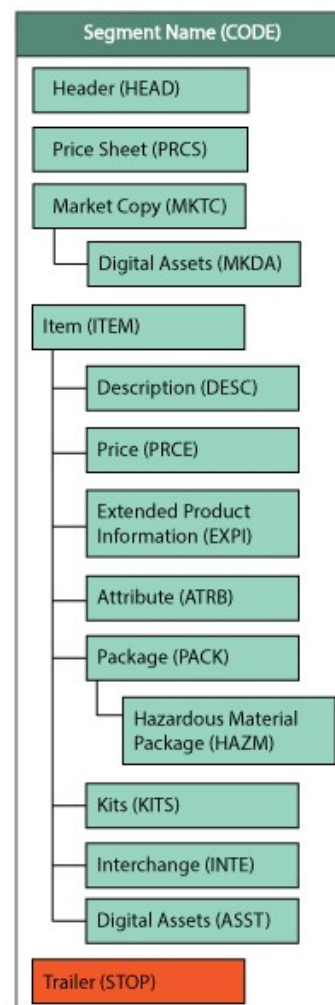
## Z01-Trailer Record Segment (STOP)

There is one instance of the Trailer Record Segment per PIES file. The Trailer Record is used to relay the Transaction Date for this PIES file along and with the Item count for validation by the receiver of the file. The Transaction Date reflects the date the PIES file was created. This date may be different than the "Blanket Effective Date" defined in the Header Segment.

```
<PIES xmlns:xs="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://www.autocare.org">
```

```

    <Header>...</Header>
    <PriceSheets>...</PriceSheets>
    <Items>
    <Item>
        ...
        <Descriptions>...</Descriptions>
        <Prices>...</Prices>
        <ExtendedInformation>...</ExtendedInformation>
            <ProductAttributes>...</ProductAttributes>
            <Packages>
                ...
                <HazardousMaterial>...</HazardousMaterial>
            </Packages>
            <Kits>... </Kits>
            <PartInterchangeInfo>...</PartInterchangeInfo>
            <DigitalAssets>...</DigitalAssets>
        </Item>
    </Items>
    <Trailer>
        <ItemCount>1824</ItemCount>
        <TransactionDate>2007-04-25</TransactionDate>
    </Trailer>
</PIES>
```



### Z10-Item Count

<b>Ref Num</b>	Z10	<b>XML Element</b>	ItemCount
<b>Format</b>	N1/7		
<b>Requirement</b>	O	<b>Code Table</b>	
<b>Example</b>	352		
<b>External Ref</b>			
<b>Comments</b>	Number of ITEM records sent in batch		

### Z15-Transaction Date

<b>Ref Num</b>	Z15	<b>XML Element</b>	TransactionDate
<b>Format</b>	D		
<b>Requirement</b>	KM	<b>Code Table</b>	
<b>Example</b>	2011-01-03		
<b>External Ref</b>			
<b>Comments</b>	Date PIES File Submitted by to Supplier to Receiver.		



## Appendix A – Invalid Characters in Element Data

The following table illustrates the various ASCII characters that are invalid when used in certain PIES fields. Other than the characters identified below, please note that PIES data fields should contain standard ASCII characters only.

Character	Description	Part Number Fields	Description Fields	Price Sheet Number Fields	Bar Code Characters
;	Semi-colon	P		P	P
[	Left bracket	P	P	P	P
]	Right bracket	P	P	P	P
{	Left brace	P			P
}	Right brace	P			P
~	Tilde	P	P	P	P
	Bar(Pipe)	P	P	P	P
,	Comma	P			P
""	2 Quotes	P	P	P	P
%	Percentage	P			P
!	Exclamation	P			P
\$	Dollar sign	P			P
*	Asterisk	P	P	P	P
^	Circumflex(Carot)	P	P	P	P
\	Back slash	P	P	P	P
?	Question mark	P			P
'	Apostrophe	P			P
"	Quote	P			P
	Space				P
/	Forward slash				
.	Period				
-	Dash (hyphen)				
P	Character is <b>prohibited</b> from use in that type of field. Example: Commas are not allowed in Part Number Fields.				

**(blank)** Character is allowed in that type of field. Example: Spaces are allowed in Part Number Fields.

## Appendix B - About Global Trade Identifier Numbers (GTIN)

There has been much discussion and confusion about Global Trade Identifiers (GTINS) and how to represent them in an electronic commerce data format such as PIES. The following section aims to assist in clarifying how a GTIN is conveyed, and how it relates to a UPC, or an EAN, which are Consumer level (Consumer Package Level) codes, versus other Package Level Codes, and how the DATA can differentiate from the actual scannable label.

### What is GTIN?

GTIN describes a family of GS1 (EAN.UCC) global data structures that employ 14 digits and can be encoded into various types of data carriers. Currently, GTIN is used exclusively within bar codes, but it could also be used in other data carriers such as radio frequency identification (RFID). The GTIN is only a term and does not impact any existing standards, nor does it place any additional requirements on scanning hardware. For North American companies, the UPC is an existing form of the GTIN.

The family of data structures (not symbologies) comprising GTIN includes:

- GTIN-12 (UPC-A): this is a 12-digit number used primarily in North America
- GTIN-8 (EAN/UCC-8): this is an 8-digit number used predominately outside of North America
- GTIN-13 (EAN/UCC-13): this is a 13-digit number used predominately outside of North America
- GTIN-14 (EAN/UCC-14 or ITF-14): this is a 14-digit number used to identify trade items at various packaging levels

## The GTIN Family of Data Structures



Five symbologies support this GTIN data structure: UPC; EAN; ITF-14; UCC/EAN Code 128; and GS1 Databar (formerly Reduced Space Symbology). Of these, ITF-14, GS1-128, and GS1 Databar employ 14-digit data structures of which the 14th character is a packaging level indicator (i.e., item or case). Both UPC and EAN have an implied packaging level of a single item. Therefore, these symbologies support the GTIN data structure without changing the number of encoded data characters. Table 1 further illustrates the relationship between GTIN, legacy terminology, symbologies and use at point of sale. In most cases, the legacy terminology and the symbology are called by the same name. GTIN changes this by separating the name of the data structure from the data carrier or, in this case, the symbology.

GTIN Data Structure	Legacy Terminology	Symbology	Use at POS
<b>GTIN-12</b>	UPC, UCC-12	UPC-A, UPC-E	Yes
<b>GTIN-13</b>	EAN, JAN, EAN-13	EAN-13	Yes
<b>GTIN-8</b>	EAN-8	EAN-8	Yes
<b>GTIN-14</b>	EAN / UCC-14	GS1 Databar Family	Not Yet
<b>GTIN-14</b>	ITF Symbol, SCC-14, DUN-14, UPC Case Code, UPC Shipping, Container Code, UCC Code 128, EAN Code 128	GS1 Databar Family	Not Yet

Table 1: Illustrates the relationship between GTIN, legacy terminology, symbologies and use at point-of-sale.

Retailers who wish to accommodate GTIN need to make an important change to current practices because the full 14-digit data string must be processed and stored.

## Barcodes and the GTIN





Since the inception of bar codes with the UPC more than 29 years ago, hundreds of thousands of possible number combinations have been issued as manufacturer or company prefixes. GS1 has continually changed the standards of the issuing numbers, but the fact remains that at a point in the very near future they will exhaust the available company prefixes.

The GTIN is a globally unique 14-digit number used to identify trade items, products, or services. GTIN is also an umbrella term that refers to the entire family of UCC.EAN data structures. The entire family of data structures within the GTIN is:

- GTIN-12 (UPC)
- GTIN-13 (EAN-13)
- GTIN-14 (EAN/UCC-128 or ITF-14)
- GTIN-8 (EAN-8)

The full 14-digit GTIN is achieved on a data carrier of shorter length by 'padding' the number with left-justified zeros out to 14 digits. See the examples below.

### GTIN Data Structure / Data Storage Examples

<p><b>GTIN-12 (UPC-12)</b></p>  <p>0 12345 67890 5</p>	<p>Original Encoded Data <b>012345678905</b></p> <p>Full 14-Digit GTIN <b>00012345678905</b></p>	<p><b>GTIN-8 (EAN / UCC-8)</b></p>  <p>0123 4567</p>	<p>Original Encoded Data <b>01234567</b></p> <p>Full 14-Digit GTIN <b>00000001234567</b></p>
<p><b>GTIN-13 (EAN / UCC-13)</b></p>  <p>0 123456 789012 &gt;</p>	<p>Original Encoded Data <b>0123456789012</b></p> <p>Full 14-Digit GTIN <b>00123456789012</b></p>	<p><b>GTIN-14 (EAN / UCC-14)</b></p>  <p>0 00 12345 60001 2</p>	<p>Original Encoded Data <b>00012345600012</b></p> <p>Full 14-Digit GTIN <b>00012345600012</b></p>

## GTIN Summary

From a data perspective, we treat a GTIN data format as always 14 digits, regardless of whether a GTIN is a GTIN13,-12, UPC or, GTIN 8 – the GTIN ‘Block’ of 14 characters is filled with leading zeros (Regardless of what we do with the Barcode). The Barcode itself is likely a GTIN-13 (EAN) or GTIN-12 (UPC). Small packaging can attract the GTIN 8 (likely such things as bubble gum, cigarettes, etc.) These three formats of barcodes are all read at the Point of Sale system.

There are other barcodes, however, which are read throughout the logistics chain. These are represented as GTIN14, and tell the warehouse and shipper different things:

GTIN-14 supports Pack-Levels. In the GTIN-14 data format, Package Levels are read from the leftmost number. Package Levels can be a number between 0 and 9; a ‘0’ indicates the GTIN represents a single unit. A ‘9’ represents a unit where the weight, measure, or volume sold can be variable. Package Levels 1 through 8 are defined by the company using them. There are no standard definitions to follow.

There are some practices that companies are adopting, for example:

- Pack Level ‘0’ – Each (Consumer Selling Level)
- Pack Level ‘1’ – Inner Pack (Non-Shippable)
- Pack Level ‘3’ – Inner Pack (Shippable)
- Pack Level ‘5’ – Case
- Pack Level ‘7’ – Pallet

These would properly correspond with the AAIA Pack Level Tables used in the Package Segment.

From a DATA perspective, a GTIN will always be represented as a 14-digit number, regardless of its use.

With help from files sourced from the GS-1 Consortium ([www.gtin.info](http://www.gtin.info))

## Appendix C – Marketing Copy - Use Case

The addition of the Market Copy SubCode and Market Copy SubCode Reference provides to accommodate the ability to provide market copy that applies to a specific brand and part terminology combination. An example would be to provide different market copy for Purolator PureOne Air Filter and Purolator PureOne Oil Filter; as seen on webpages below:

[https://www.jcwhitney.com/details/Purolator/Oil\\_Filter/PURPL14612.html#plpslot2](https://www.jcwhitney.com/details/Purolator/Oil_Filter/PURPL14612.html#plpslot2)

[https://www.jcwhitney.com/details/Purolator/Air\\_Filter/PURA25463.html#plpslot1](https://www.jcwhitney.com/details/Purolator/Air_Filter/PURA25463.html#plpslot1)

## Appendix D – Product Attributes Examples

### Product Attribute XML Examples

The following pages of XML examples provide some useful cases of use for User Defined attributes, PAdb Attributes, multiple Attributes, and multiple Attribute Values.

#### Example 1 – Custom attributes sent 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"  
PADBAttribute="N" AttributeUOM="IN" RecordNumber="3">



```
3.5
    </ProductAttribute>
  </ProductAttributes>
... </Item>
</Items>
...
```

## Example 2 – PAdb attributes sent in PIES

### Example 2A

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	-	Yes No are the Valid Values from the PAdb Table.  <Yes> is the desired value
54322	Caliper Type	Describes how the Caliper is designed	Alphanumeric	-	These are the Valid Values from the PAdb Table. Anette Design   Fixed Monoblock   Fixed 2pc   Fixed 3pc   Slider   Slider w/ Mechanical Parking Brake   Slider w/ Electric Parking Brake   Mechanical Parking Brake Only  <Slider> is the desired value
54323	Inlet Port Diameter		Numeric, length 6, 3 decimals	IN	0.750
54324	Piston Quantity		Numeric, length 2	-	1

Product Information Exchange Standard (PIES)  
Technical Documentation

<b>54325</b>	Piston Size 1	Piston Diameter	Numeric, length 6, 3 decimals	IN	1.375
<b>54326</b>	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
<b>54327</b>	Caliper Casting Material	Defines the casting material	Text	-	These are the Valid Values from the PADB Table. Cast Iron   Aluminum   Magnesium   Composite  <Aluminum> is the desired value

**Example 2A - 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">

Slider

</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 2B

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, length 4, 3 decimals	Passenger Tire	20	IN	0.375
23456	Mud/Snow Rated	Text	Passenger Tire	20	-	Yes   No are the Valid Values from the PAdb Table.  <Yes> is the desired value
34567	Revolutions Per Mile	Numeric, length 4, 0 decimals	Racing Slick	22	-	854
45678	Compound Type		Racing Slick	22	-	Rain   Qualifying   Hillclimb   Night Sprint   Endurance are the Valid Values from the PAdb Table.  <Endurance> is the desired value
56789	Sidewall Type	Text	Passenger Tire, Racing Slick	20, 22	-	Blackwall   Whitewall   Raised Letters are the Valid Values from the PAdb Table.  <Whitewall> is the desired value for the Passenger Tire, <Raised Letters> is the

						desired value for the Racing Slick.
<b>67890</b>	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 2B - 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 2C

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, Length 5,3 decimal places	IN	0.3125
12346	Bit Length	Numeric, Length 5, 3 decimal places	IN	3.375
12347	Bit Material	Alphanumeric, 25 characters	-	Cobalt
12348	Cut Diameter	Numeric, Length 5, 3 decimal places	IN	0.125,0.250,0.375,0.500,0.625,0.750

### Example 2C - 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
    </ProductAttributes>
  </Item>
</Items>
```



</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>

Product Information Exchange Standard (PIES)  
Technical Documentation



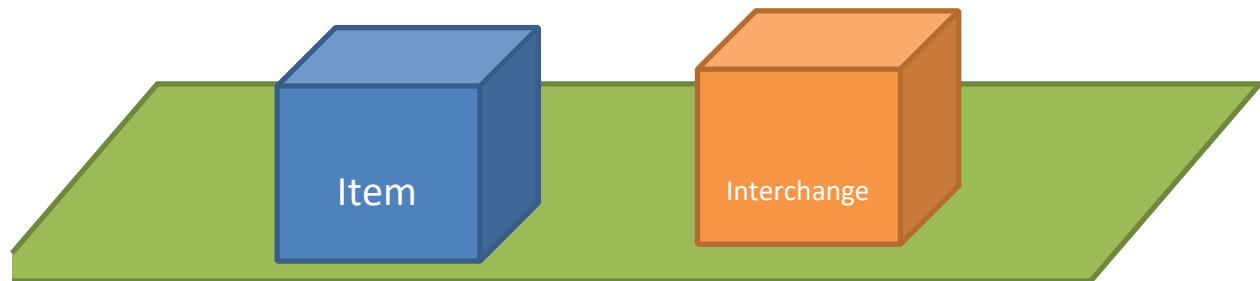
...

</Item>

</Items> ...

## Appendix E: Interchange Examples

### 1 to 1 interchange relationship



- Supplier to Competitor
- Supplier to OE

XML Elements have change to XML attributes of elements to simplify the interchange story.

Note: ItemEquivalentUOM denotes an Item may have more than one Packaging UOM, this XML attribute allows a user

...

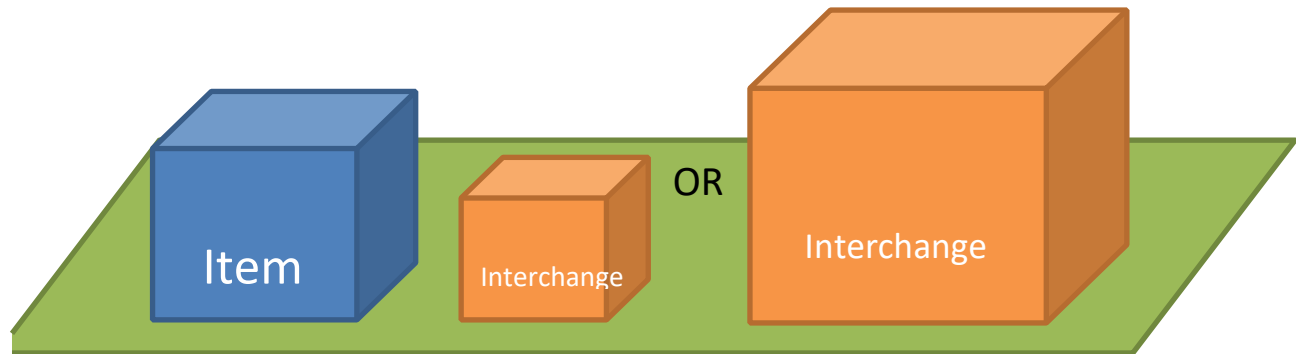
```
<PartInterchange MaintenanceType="A" LanguageCode="EN" BrandAAIAID="CCCC" SubBrandAAIAID="CCCD" SubBrandLabel="Brand D Extra" ItemEquivalentUOM = "EA">
```

```
  <PartNumber >CC2000</PartNumber>
```

```
</PartInterchange>
```

...

## Packaging difference – smaller or larger



### Example 1: Packaging Difference – Smaller

...

```
<PartInterchange MaintenanceType="A" LanguageCode="EN" BrandAAIAID="CCCC"
QualityGradeLevel="O" ItemEquivalentUOM = "EA">
```

```
    <PartNumber InterchangeQuantity=".5" UOM="EA" >CC2000</PartNumber>
```

```
</PartInterchange>
```

...

### Example 2: Packaging Difference – Larger

...

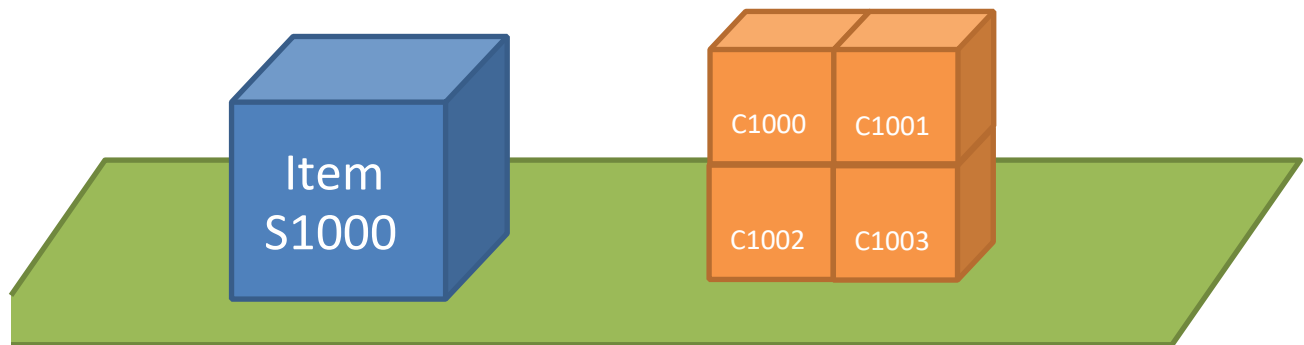
```
<PartInterchange MaintenanceType="A" LanguageCode="EN" BrandAAIAID="CCCC"
QualityGradeLevel="O" ItemEquivalentUOM = "EA">
```

```
    <PartNumber InterchangeQuantity="2.0" UOM="EA">CC2000</PartNumber>
```

```
</PartInterchange>
```

...

## 1 to many interchange



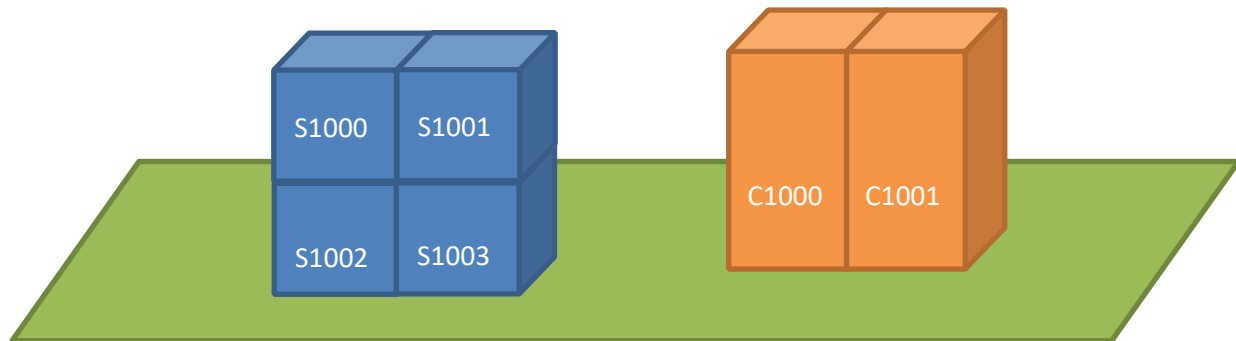
Type Code “A” denotes a one to many relationship, stating ITEM segment part number S1000 is equivalent to the combination of interchange part numbers C1000, C1001, C1002 and C1003 included one interchange record.

...

```
<PartInterchange MaintenanceType="A" LanguageCode="EN" TypeCode="A" BrandAAID="CCCC">  
  <PartNumber InterchangeQuantity ="1" UOM="EA" >C1000</PartNumber>  
  <PartNumber InterchangeQuantity ="1" UOM="EA" >C1001</PartNumber>  
  <PartNumber InterchangeQuantity ="1" UOM="EA" >C1002</PartNumber>  
  <PartNumber InterchangeQuantity ="1" UOM="EA" >C1003</PartNumber>  
</PartInterchange>
```

...

## "Many to" Example 2



Many to many relationship stating S1000, S1001 is equivalent to the interchange part number C1000.  
S1002 and S1003 is equivalent to C1001.

...

```
<PartInterchange MaintenanceType="A" LanguageCode="EN" BrandAAIAID="CCCC"  
BrandLabel="Brand C">
```

```
<PartNumber ReferenceItem="S1000" InterchangeQuantity ="1"  
UOM="EA">C1000</PartNumber>
```

```
<PartNumber ReferenceItem="S1001" InterchangeQuantity ="1"  
UOM="EA">C1000</PartNumber>
```

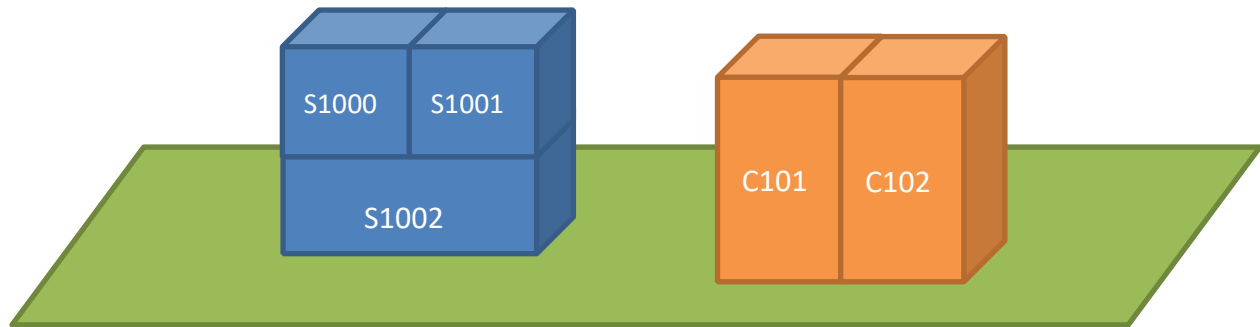
```
<PartNumber ReferenceItem="S1002" InterchangeQuantity ="1"  
UOM="EA">C1001</PartNumber>
```

```
<PartNumber ReferenceItem="S1003" InterchangeQuantity ="1"  
UOM="EA">C1001</PartNumber>
```

```
</PartInterchange>
```

...

### "Many to" Example 3



...

```
<PartInterchange MaintenanceType="A" LanguageCode="EN" BrandAAIAID="CCCC"
BrandLabel="Brand C">
```

```
  <PartNumber ReferenceItem="S1000" InterchangeQuantity ="1" UOM="EA"
  >C101</PartNumber>
```

```
  <PartNumber ReferenceItem="S1001" InterchangeQuantity ="1" UOM="EA"
  >C102</PartNumber>
```

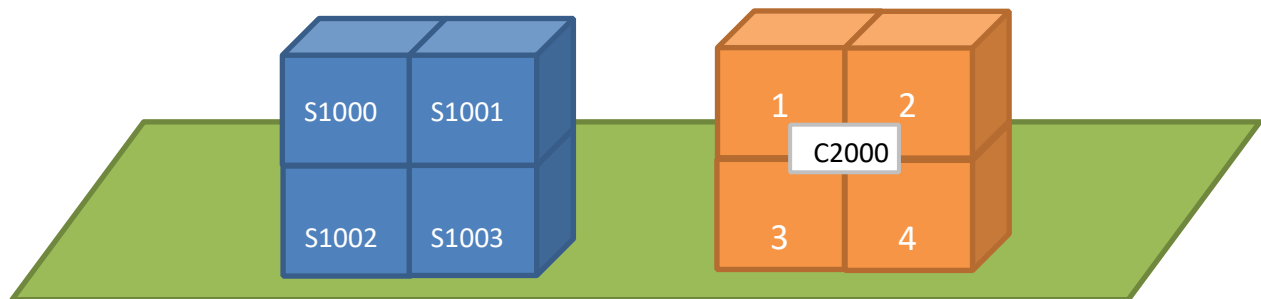
```
  <PartNumber ReferenceItem="S1002" InterchangeQuantity =".5" UOM="EA"
  >C101</PartNumber>
```

```
  <PartNumber ReferenceItem="S1002" InterchangeQuantity =".5" UOM="EA"
  >C102</PartNumber>
```

```
</PartInterchange>
```

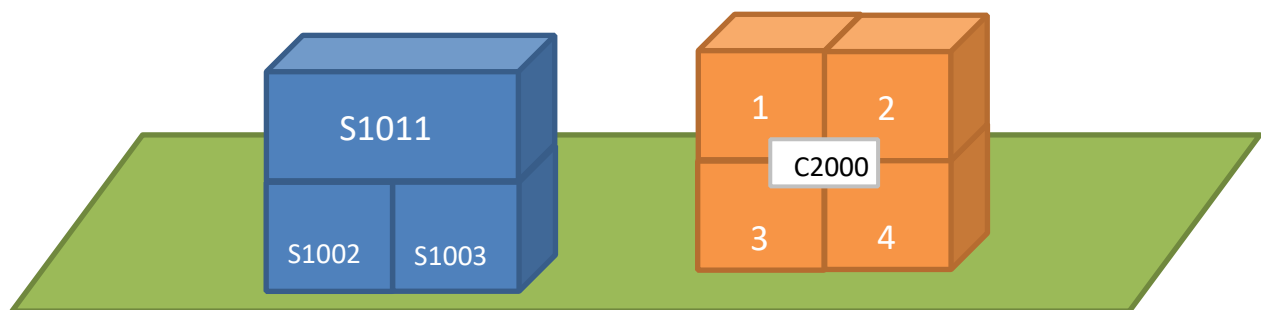
...

## Partial Interchanges



### Example 1: Item S1000

```
...  
<PartInterchange MaintenanceType="A" LanguageCode="EN" BrandAAIAID="CCCC">  
  <PartNumber InterchangeQuantity ="1" UOM="EA" InterchangeNote="This is block  
  1">C2000</PartNumber>  
</PartInterchange>  
...
```



### Example 2: Item S1011

```
...  
<PartInterchange MaintenanceType="A" LanguageCode="EN" BrandAAIAID="CCCC" >  
  <PartNumber InterchangeQuantity ="2" UOM="EA" InterchangeNote="This is for block 1 and  
  2">C2000</PartNumber>  
</PartInterchange>  
...
```