

# 95. SHOW ROUTING - REVISION 002

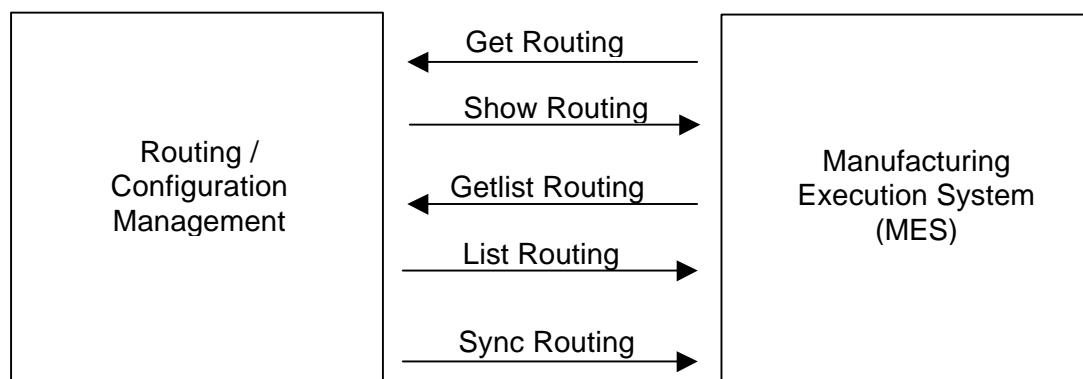
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## 95.0 Overview

This chapter describes the Business Service Request named SHOW ROUTING, the Verb being SHOW and the Noun being ROUTING. ROUTING is the process an order must take in order to produce the finished good. The environment for this BSR can be within the enterprise or outside the enterprise.

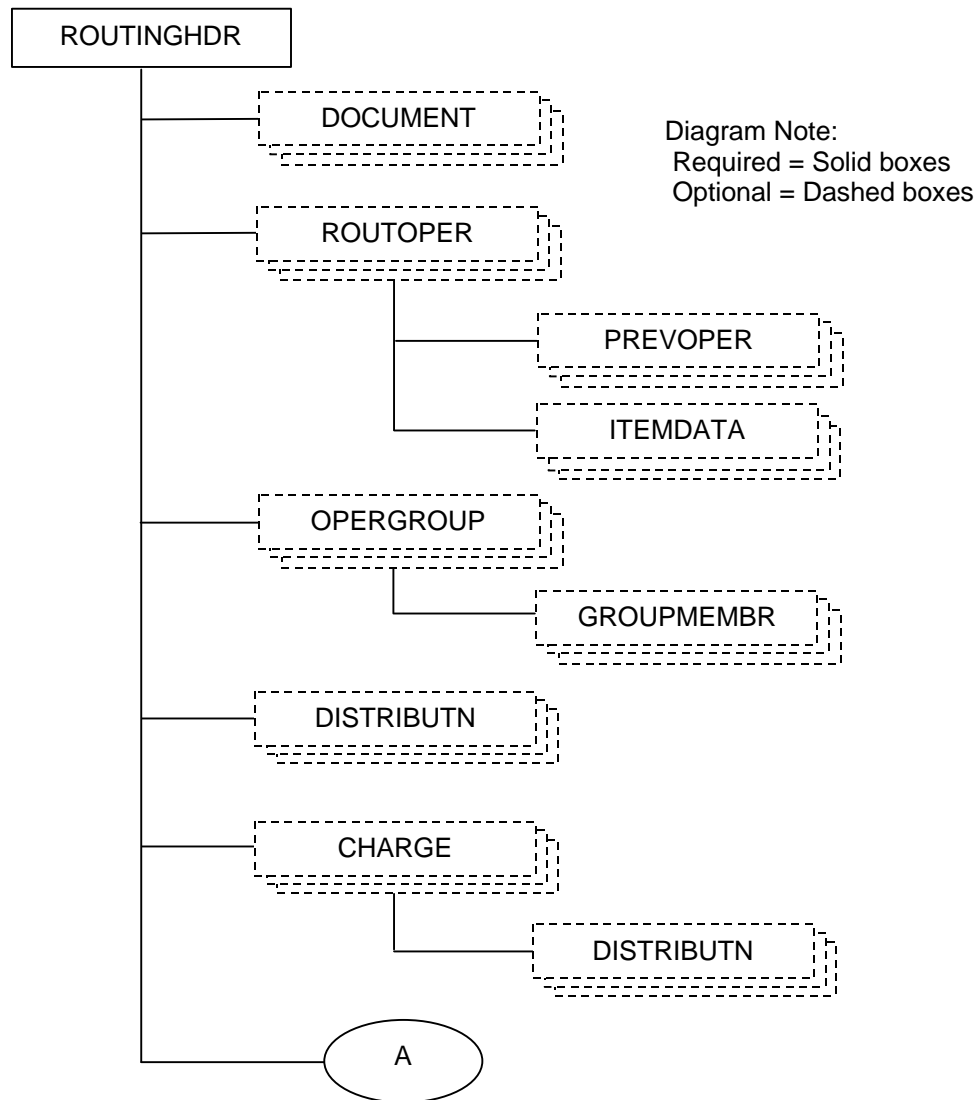
The purpose of the SHOW ROUTING Business Service Request is to communicate to a business application module or system the relevant information about a specific ROUTING.

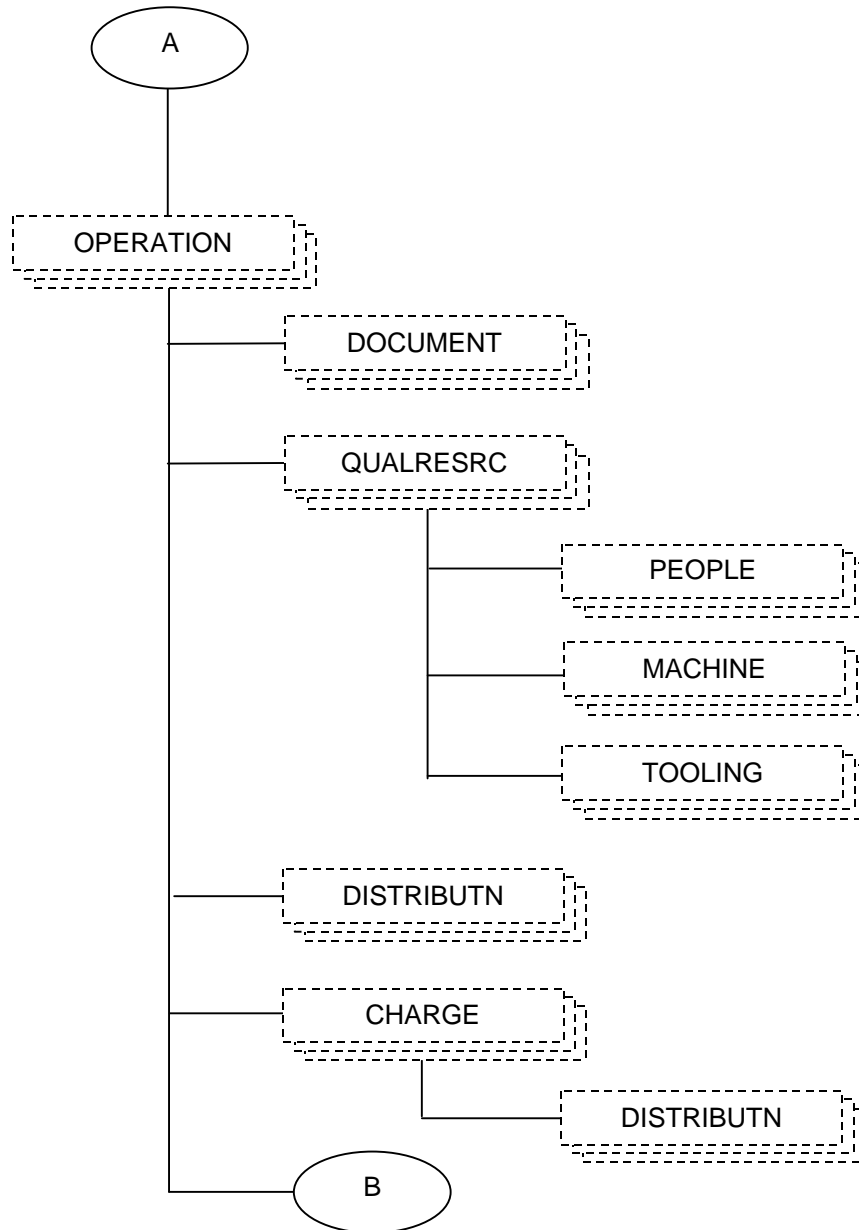
This BSR may be used individually, or as part of a larger interface scenario. The picture below visualizes one of the possible uses of this BSR. This scenario shows a Show Routing to request a routing to be sent via a Show Routing between a Routing / Configuration Management system and a Manufacturing Execution System. This same scenario could exist between a Routing / Configuration Management system and a Finite Scheduling system.

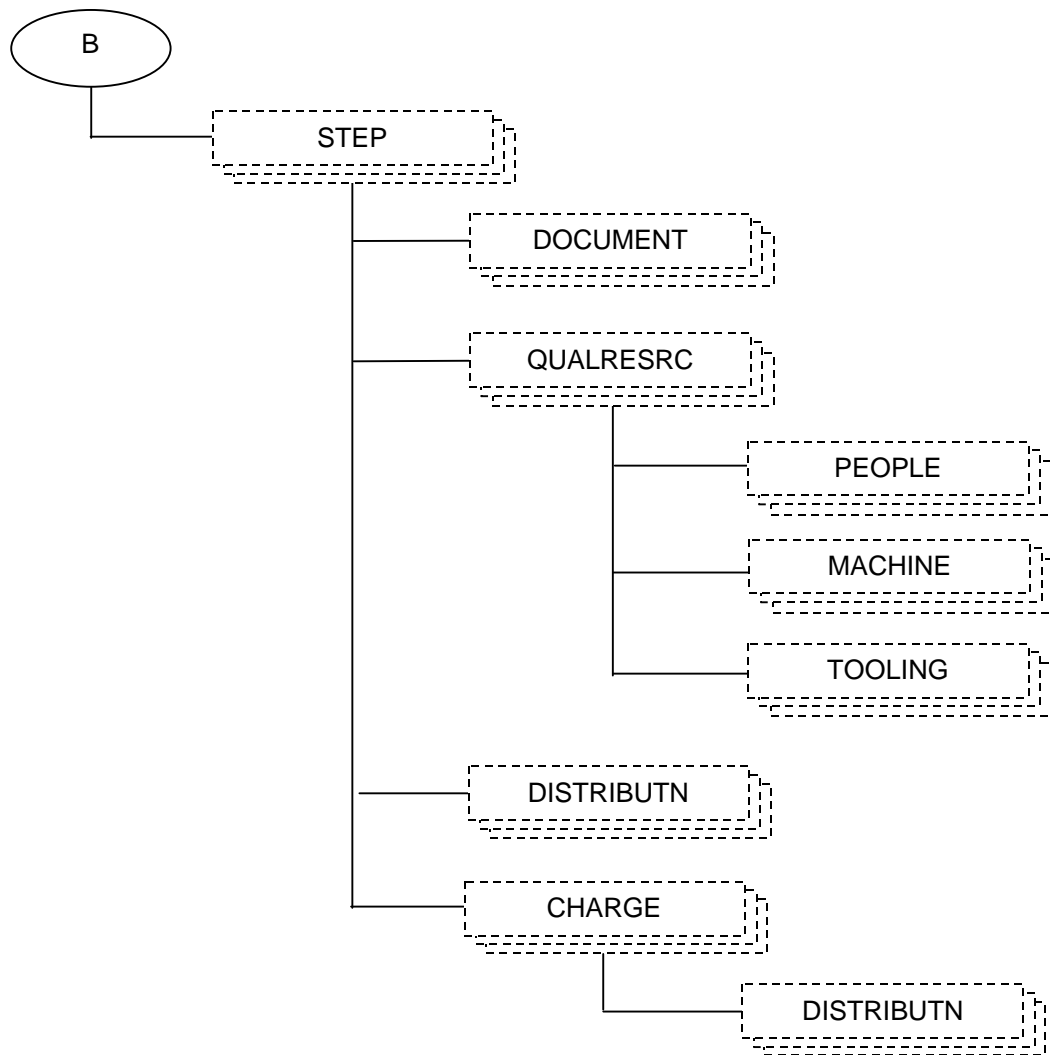


## 95.1 SHOW ROUTING

The SHOW ROUTING Business Object Document will be processed asynchronously and consists of the following components:







The Business Service Request SHOW ROUTING uses the following Data Types:

1. **ROUTINGHDR** - Information that generally describes the routing. At least occurrence of this Data Type is required.
2. **DOCUMENT** - Information that describes the document. This Data Type is optional.
3. **ROUTOPER** – Information specifying the operations and there order for the specified routing. This Data Type is optional.
4. **PREVOPER** – Information specifying the previous operation. This provides the immediate preceding operation of the current operation defined in ROUTOPER. The ROUTOPER of the operations of the potential first operations will not have an associated PREVOPER, however all others must contain one. This Data Type is optional.
5. **ITEMDATA** - Information that describes the attributes of a specific item. This Data Type is optional.
6. **OPERGROU** – Information specifying a grouping of operations and their relationships. This Data Type is optional.
7. **GROUPMEMBR** – Information specifying the occurrence of the operations within an OPERGROUP. This Data Type is optional.
8. **DISTRIBUTN** - The accounting distribution information associated with a Business Object Document. This may occur for a header, line, or a charge. This Data Type is optional.
9. **CHARGE** - Any miscellaneous charges that are not represented as line items such as freight or handling charges. This Data Type is optional.
10. **OPERATION** - Information that describes the operation to be performed. This Data type is optional.
11. **QUALRESRC** - Information that describes the resources to perform the specified resource usage for the operation and/or the step that is defined by the preceding DDA. This Data Type is optional.
12. **PEOPLE** – Information specific to the personal required to perform the operation. This Data Type is optional.
13. **MACHINE** – Information specific to the machine(s) required to perform the operation. This Data Type is optional.
14. **TOOLING** – Information specific to the tooling required to perform the operation. This Data Type is optional.
15. **STEP** – Information specific to the steps specified to perform the operation. This Data Type is optional.

**Processing Notes:**

When included in a hierarchy, the Data Types are position dependent for their meaning and applicability to the Routing.

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## 95.2 ROUTINGHDR

The Data Type, “ROUTINGHDR”, is the first Data Type the Business Service Request “SHOW ROUTING” uses. For each item represented in the Business Data Area, there must be one occurrence of the ROUTINGHDR Data Type at the beginning of each Business Data Area.

Listed are all the Field Identifiers and Segments that are valid for use within the ROUTINGHDR Data Type. The first column of the table indicates the name. Segment names also include the Qualifier in parenthesis.

The second column indicates in which OAGIS Appendix the data is described, basically if the data is a Field Identifier or a Segment. Details of the Field Identifiers can be located in Appendix C, and details of the Segments can be located in Appendix D.

The first table represents required data.

REQUIRED ROUTINGHDR DATA	
NAME	APPENDIX
ROUTINGID	C
ROUTINGREV	C
ROUTETYPE	C

The second table describes data that is optional.

OPTIONAL ROUTINGHDR DATA	
NAME	APPENDIX
BOMID	C
BOMREVISION	C
DATETIME(EFFECTIVE)	D
DESCRIPTN	C
ITEM	C
ITEMRV	C

OPTIONAL ROUTINGHDR DATA	
NAME	APPENDIX
ITEMVAR	C
ROUTEVAR	C
SITELEVEL1 – SITELEVEL9	C
USERAREA	C

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## 95.3 DOCUMENT

The Data Type “**DOCUMENT**” represents the information about a specific class of DOCUMENT. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the DOCUMENT Data Type.

There are no required fields for the DOCUMENT Data Type.

OPTIONAL DOCUMENT DATA	
NAME	APPENDIX
DOCTYPE	C
DOCUMENTID	C
DOCUMENTRV	C
USERAREA	C

### Processing Notes:

DOCTYPE is a classification of the document or business transaction. It is also known as document code.

Possible values:   CERTIFICATION  
                          BUY OFF REQ.

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## 95.4 ROUTOPER

The Data Type “**ROUTOPER**” describes the series of operations that create the routing. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the ROUTOPER Data Type.

There are no required fields for the ROUTOPER Data Type.

OPTIONAL ROUTOPER DATA	
NAME	APPENDIX
CONTAINRID	C
CONTNRTYPE	C
OPRGRPNAME	C
INQUEUEID	C
NOTES	C
OPERATNID	C
OPERATNSEQ	C
QUANTITY(MULTIPLIER)	D
TERMFLAG	C
USERAREA	C

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## 95.5 PREVOPER

The Data Type “**PREVOPER**” describes the previous operation necessary for the ROUTING. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the PREVOPER Data Type.

There are no required fields for the PREVOPER Data Type.

OPTIONAL PREVOPER DATA	
NAME	APPENDIX
CONDSTATUS	C



OPTIONAL PREVOPER DATA	
NAME	APPENDIX
OPRGRPNAME	C
OPERATNID	C
OPERATNSEQ	C
OUTQUEUEID	C
QUANTITY(PLNDPRCT)	D
QUANTITY(QUEUE TIME)	D
USERAREA	C

## 95.6 ITEM DATA

The Data Type “**ITEM DATA**” describes a particular ITEM within a Routing structure. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the ITEM DATA Data Type.

There are no required fields for the ITEM DATA Data Type.

OPTIONAL ITEM DATA DATA	
NAME	APPENDIX
CONSUMPTN	C
DATETIME(EFFECTIVE)	D
DATETIME(EXECFINISH)	D
DATETIME(EXECSTART)	D
DESCRIPTN	C
FIXDQTYIND	C
ITEM	C
ITEMRV	C
ITEMTYPE	C
LOTLEVEL1 - LOTLEVEL2	C
NOTES	C
OPERATNID	C
OPERATNSEQ	C
PROPERTY1 – PROPERTY99	C
QUANTITY(ITEM)	D
QUANTITY(LDTMOFFSET)	D
QUANTITY(LOTSIZEMAX)	D

OPTIONAL ITEM DATA DATA	
NAME	APPENDIX
QUANTITY(LOTSIZEMIN)	D
QUANTITY(LOTSIZEMLT)	D
QUANTITY(PERCENTREQ)	D
REPRTGFLAG	C
SCRAP	C
SERIALNUM	C
TRAKNGFLAG	C
USERAREA	C

## 95.7 OPERGROUP

The Data Type “**OPERGROUP**” describes a grouping of operations for the routing as well as a sequencing of operations. It also defines the relationships between operations. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the OPERGROUP Data Type.

There are no required fields for the OPERGROUP Data Type.

OPTIONAL OPERGROUP DATA	
NAME	APPENDIX
OPRGRPNAME	C
OPRGRPTYPE	C
USERAREA	C

### Processing Notes:

In a manufacturing environment where a CNC Lathe or a Manual Lathe may be alternative operations used in the production of a finished good.

In the example above the OPRGRPTYPE would be ALTERNATE.

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## 95.8 GROUPEMEMBR

The Data Type “**GROUPEMEMBR**” describes an operation instance that makes up the OPERGROUP. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the GROUPEMEMBR Data Type.

There are no required fields for the GROUPEMEMBR Data Type.

OPTIONAL GROUPEMEMBR DATA	
NAME	APPENDIX
OPERATNID	C
OPERATNSEQ	C
USERAREA	C

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## 95.9 DISTRIBUTN

The Data Type, “**DISTRIBUTN**”, is the Data Type the Business Service Request “**SHOW ROUTING**” uses to describe accounting distribution. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the DISTRIBUTN Data Type.

There are no required fields for the DISTRIBUTN Data Type.

OPTIONAL DISTRIBUTN DATA	
NAME	APPENDIX
BUSNAREA	C
COSTCENTER	C
DEPARTMENT	C
DIVISION	C
ELEMENT1 - ELEMENT999	C
FUND	C
GEOGRAPHY	C
GLENTITYS	C

OPTIONAL DISTRIBUTN DATA	
NAME	APPENDIX
GLNOMACCT	C
OPERAMT(EXTENDED)(T)	D
PROFITCTR	C
PROJECT	C
UNIT	C
USERAREA	C
WAREHOUSE	C

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## 95.10 CHARGE

The Data Type “**CHARGE**” represents the charges other than the goods or services represented in the Business Object Document. Examples of charges that can be carried in the CHARGE Data Type include freight, taxes, or handling charges.

CHARGE usage is further defined by its position in the SHOW ROUTING. For example, charges that follow the ROUTINGHDR Data Type or each OPERATION and/or STEP Data Type are inferred to be associated with that ROUTINGHDR or OPERATION Data Types respectively.

The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the CHARGE Data Type.

There are no required fields for the CHARGE Data Type.

OPTIONAL CHARGE DATA	
NAME	APPENDIX
CHARGEID	C
CHGLINENUM	C
DESCRIPTN	C
OPERAMT(EXTENDED)(T)	D
USERAREA	C

## 95.11 OPERATION

The Data Type “**OPERATION**” describes a particular OPERATION necessary for the ROUTING. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the OPERATION Data Type.

There are no required fields for the OPERATION Data Type.

OPTIONAL OPERATION DATA	
NAME	APPENDIX
CONTNRTYPE	C
COSTTYPE	C
DEPARTMENT	C
DESCRIPTN	C
MACHSUDEP	C
NOTES	C
OPERAMT(COST)(F)	D
OPERATNID	C
OPERATTYPE	C
PROCESSCODE	C
QUANTITY(BATCHSIZE)	D
QUANTITY(BATCHTIME)	D
QUANTITY(FIXEDTIME)	D
QUANTITY(MAXPARLTM)	D
QUANTITY(MOVETIME)	D
QUANTITY(PERSHBNOPR)	D
QUANTITY(PERSHWIOPR)	D
QUANTITY(QUEUETIME)	D
QUANTITY(REJECTED)	D
QUANTITY(REJFIXED)	D
QUANTITY(REJPERCENT)	D
QUANTITY(RUNTIME)	D
QUANTITY(SETUPTIME)	D
QUANTITY(TEARDOWN)	D
QUANTITY(TRANSFRLOT)	D
QUANTITY(WAITTIME)	D
SAVESETUP	C
SITELEVEL1 – SITELEVEL9	C

OPTIONAL OPERATION DATA	
NAME	APPENDIX
TRAKNGFLAG	C
USERAREA	C

**Processing Notes:**

QUANTITY(REJFIXED) above indicates the constant number of items that are destroyed during this operation. This may result from setup, tear down, etc.

The QUANTITY(REJPERCENT) is intended to indicate the percentage of the item that is to be rejected.

The QUANTITY(BATCHTIME) and QUANTITY(RUNTIME) are mutually exclusive such that if one occurs the other should not.

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## 95.12 QUALRESRC

The Data Type “**QUALRESRC**” describes a particular QUALRESRC within an operation. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the QUALRESRC Data Type.

There are no required fields for the QUALRESRC Data Type.

OPTIONAL QUALRESRC DATA	
NAME	APPENDIX
QUANTITY(BATCHSIZE)	D
QUANTITY(BATCHTIME)	D
QUANTITY(CAPPERCENT)	D
QUANTITY(DURATION)	D
QUANTITY(EMPREQD)	D
QUANTITY(FIXEDTIME)	D
QUANTITY(MOVETIME)	D
QUANTITY(PERSHBNOPR)	D
QUANTITY(PERSHWIOPR)	D
QUANTITY(QUEUE TIME)	D
QUANTITY(REJPERCENT)	D
QUANTITY(RUNTIME)	D

OPTIONAL QUALRESRC DATA	
NAME	APPENDIX
QUANTITY(SETUPTIME)	D
QUANTITY(TEARDOWN)	D
QUANTITY(TOOLREQD)	D
QUANTITY(TRANSFRLOT)	D
QUANTITY(WAITTIME)	D
RESORCEUSE	C
USERAREA	C
WORKCENTER	C

## 95.13 PEOPLE

The Data Type “**PEOPLE**” describes the PEOPLE needed within an operation. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the PEOPLE Data Type.

There are no required fields for the PEOPLE Data Type.

OPTIONAL PEOPLE DATA	
NAME	APPENDIX
DESCRIPTN	C
EMPCATEGORY	C
EMPLOYEEID	C
EMPQUALIF	C
QUANTITY(EMPLOYEES)	D
USERAREA	C

## 95.14 MACHINE

The Data Type “**MACHINE**” describes a particular MACHINE within an operation. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the MACHINE Data Type.

There are no required fields for the MACHINE Data Type.

OPTIONAL MACHINE DATA	
NAME	APPENDIX
MACHCLASS	C
MACHINEID	C
USERAREA	C

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## 95.15 TOOLING

The Data Type “**TOOLING**” describes a particular TOOLING within an operation, like fixtures, accessories for the operation. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the TOOLING Data Type.

There are no required fields for the TOOLING Data Type.

OPTIONAL TOOLING DATA	
NAME	APPENDIX
QUANTITY(REQUIRED)	D
TOOLCLASS	C
TOOLID	C
USERAREA	C



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## 95.16 STEP

The Data Type “**STEP**” describes the STEP within an OPERATION for a specific ROUTING. The use of this Data Type is optional.

Listed are all the Field Identifiers and Segments that are valid for use within the STEP Data Type.

There are no required fields for the STEP Data Type.

OPTIONAL STEP DATA	
NAME	APPENDIX
DEPARTMENT	C
SITELEVEL1 – SITELEVEL9	C
STEPID	C
STEPNUM	C
STEPTYPE	C
USERAREA	C