

## 93. SYNC ROUTING - REVISION 002

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### 93.0 Overview

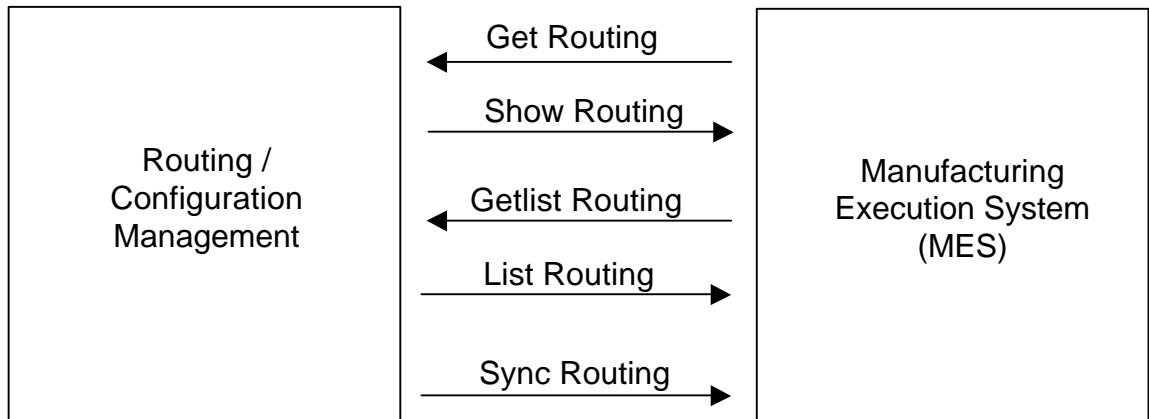
This chapter describes the Business Service Request named SYNC ROUTING, the Verb being SYNC and the Noun being ROUTING. ROUTING is the process an order must take in order to produce the finished goods. The environment for this BSR can be within the enterprise or outside the enterprise.

The purpose of the SYNC ROUTING Business Service Request is to communicate to a business application component or system the need to create a new ROUTING or to update an existing ROUTING structure.

This Business Service Request may be necessary to address the Make to Order, Assemble to Order, and Finished Goods business ordering scenarios in a Logistics to Manufacturing application integration scenario.

There are many possible business applications in several environments that may use this capability. For example, an MRP, Inventory, or Manufacturing business application could use this to communicate the requirement to synchronize the ROUTING necessary to build finished goods.

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.

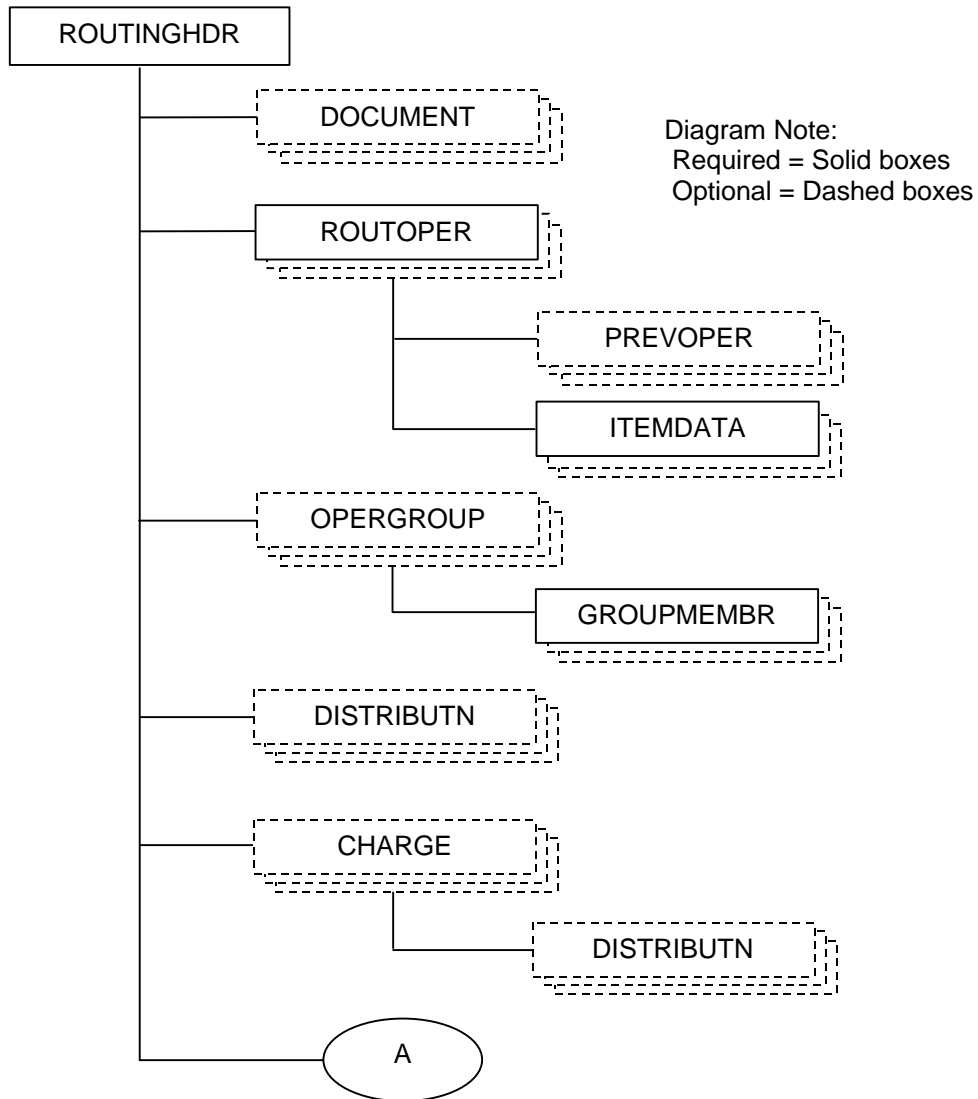


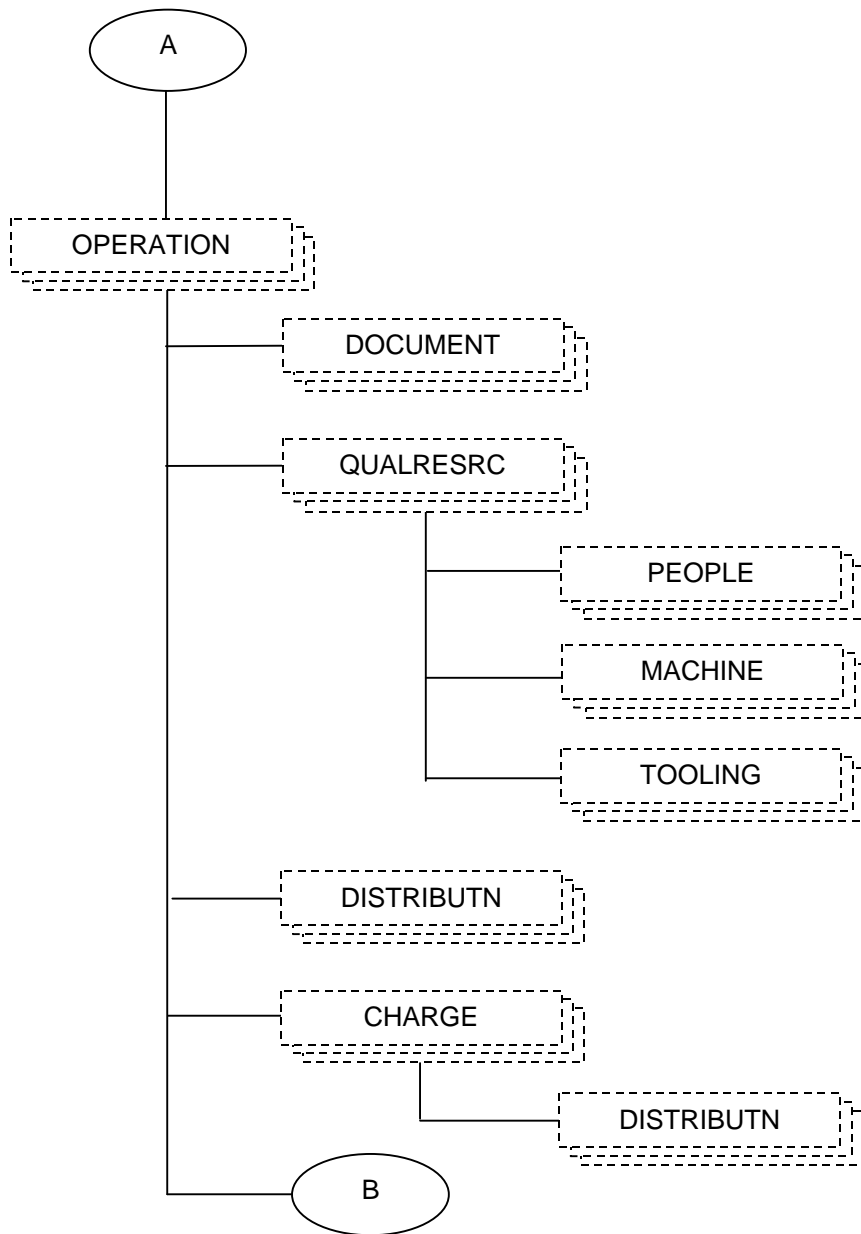
**Processing Note:**

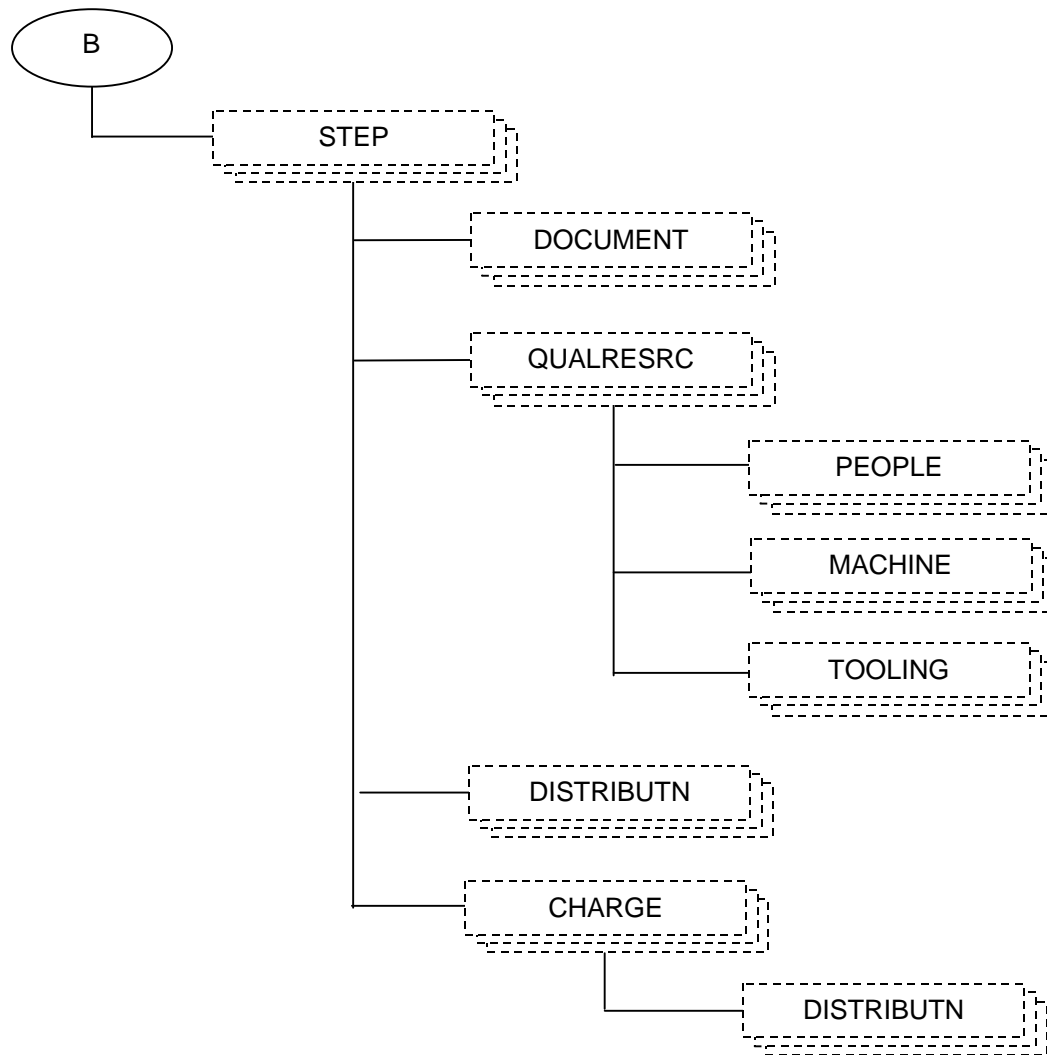
This scenario shows how the Sync Routing BOD may be used to synchronize the routings between a Routing / Configuration Management system and a Manufacturing Execution System. This same scenario could exist between a Routing / Configuration Management system and a Finite Scheduling system.

## 93.1 SYNC ROUTING

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







The Business Service Request SYNC 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. At least one occurrence of this Data Type is required.
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.
5. **ITEMDATA** - Information that describes the attributes of a specific item. At least one occurrence of this Data Type is required for each occurrence of the ROUTOPER Data Type.
6. **OPERGROUP** – 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. At least one occurrence of the GROUPMEMBR Data Type is required for each occurrence of the OPERGROUP Data Type.
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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## 93.2 ROUTINGHDR

The Data Type, “**ROUTINGHDR**”, is the first Data Type the Business Service Request “**SYNC 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
SYNCIND	C

The second table describes data that is optional.

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

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

## 93.3 DOCUMENT

The Data Type “**DOCUMENT**” represents the information about a specific class of DOCUMENT. DOCUMENT is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The first table represents required data.

REQUIRED DOCUMENT DATA	
NAME	APPENDIX
DOCUMENTID	C
DOCUMENTRV	C

The second table represents optional data.

OPTIONAL DOCUMENT DATA	
NAME	APPENDIX
DOCTYPE	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.



## 93.4 ROUTOPER

The Data Type “**ROUTOPER**” describes the series of operations that create the routing. ROUTOPER is a required Data Definition Area for the SYNC ROUTING Business Service Request.

ROUTOPER must have at least one occurrence in order to have a valid routing.

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

The first table represents required data.

REQUIRED ROUTOPER DATA	
NAME	APPENDIX
OPRGRPNAME	C
OPERATNID	C
OPERATNSEQ	C

### Processing Notes:

OPRGRPNAME and OPERATNID are mutually exclusive. That is to say that one may not occur with the other.

The second table describes data that is optional.

OPTIONAL ROUTOPER DATA	
NAME	APPENDIX
CONTAINRID	C
CONTRTYPE	C
INQUEUEID	C
NOTES	C
QUANTITY(MULTIPLIER)	D
TERMFLAG	C
USERAREA	C

## 93.5 PREVOPER

The Data Type “**PREVOPER**” describes the previous operation necessary for the routing. PREVOPER is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The table represents required data.

REQUIRED PREVOPER DATA	
NAME	APPENDIX
OPRGRPNAME	C
OPERATNSEQ	C
OPERATNID	C

### Processing Notes:

Not all three Field Identifiers are required above. The two options for using the required fields are:

Use OPERATNID and OPERATNSEQ together, or  
Use the Field Identifier OPRGRPNAME.

The OPERATION here is the immediate previous operation to be done before the operation specified in ROUTOPER data definition area.

It is possible for a routing to have several potential starting operations. For this reason the potential starting operations (ROUTOPER) will not have an instance of PREVOPER data definition area.

The second table represents optional data.

OPTIONAL PREVOPER DATA	
NAME	APPENDIX
CONDSTATUS	C
OUTQUEUEID	C
QUANTITY(PLNDPRCT)	D
QUANTITY(QueueTime)	D
USERAREA	C

## 93.6 ITEM DATA

The Data Type “ITEM DATA” describes a particular ITEM within a Routing structure. The ITEM DATA is a required Data Definition Area for the SYNC ROUTING Business Service Request.

Listed are all the Field Identifiers and Segments that are valid for use within the ITEM DATA Data Type. The first table represents required data.

REQUIRED ITEM DATA DATA	
NAME	APPENDIX
ITEM	C
ITEMTYPE	C
QUANTITY(ITEM)	D

The second table describes data that is optional.

OPTIONAL ITEM DATA DATA	
NAME	APPENDIX
CONSUMPTN	C
DATETIME(EFFECTIVE)	D
DATETIME(EXECFINISH)	D
DATETIME(EXECSTART)	D
DESCRIPTN	C
FIXDQTYIND	C
ITEMRV	C
LOTLEVEL1 - LOTLEVEL2	C
NOTES	C

OPTIONAL ITEM DATA DATA	
NAME	APPENDIX
OPERATNID	C
OPERATNSEQ	C
PROPERTY1 – PROPERTY99	C
QUANTITY(LDTMOFFSET)	D
QUANTITY(LOTSIZEMAX)	D
QUANTITY(LOTSIZEMIN)	D
QUANTITY(LOTSIZEMLT)	D
QUANTITY(PERCENTREQ)	D
REPRTGFLAG	C
SCRAP	C
SERIALNUM	C
TRAKNGFLAG	C
USERAREA	C

## 93.7 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. OPERGROUP is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The table represents required data.

REQUIRED OPERGROUP DATA	
NAME	APPENDIX
OPRGRPNAME	C
OPRGRPTYPE	C

The second table represents optional data.

OPTIONAL OPERGROUP DATA	
NAME	APPENDIX
USERAREA	C

**Example:**

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.

## 93.8 GROUPMEMBR

The Data Type “**GROUPMEMBR**” describes an operation instance that makes up the OPERGROUP. Therefore, each occurrence of OPERGROUP data definition area must have an instance of GROUPMEMBR associated with it; otherwise GROUPMEMBR is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The table represents required data.

REQUIRED GROUPMEMBR DATA	
NAME	APPENDIX
OPERATNID	C
OPERATNSEQ	C

The second table represents optional data.

OPTIONAL GROUPMEMBR DATA	
NAME	APPENDIX
USERAREA	C

## 93.9 DISTRIBUTN

The Data Type, “**DISTRIBUTN**”, is the Data Type the Business Service Request “**SYNC ROUTING**” uses to describe accounting distribution. The DISTRIBUTN 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 in this usage.

OPTIONAL DISTRIBUTN DATA	
NAME	APPENDIX
BUSNAREA	C
COSTCENTER	C
DEPARTMENT	C
DIVISION	C
ELEMENT1 - ELEMENT999	C
FUND	C
GEOGRAPHY	C
GLENTITYS	C
GLNOMACCT	C
OPERAMT(EXTENDED)(T)	D
PROFITCTR	C
PROJECT	C
UNIT	C
USERAREA	C
WAREHOUSE	C

## 93.10 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. The CHARGE is an optional Data Definition Area.

Charge usage is further defined by its position in the SYNC 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.

Listed are all the Field Identifiers and Segments that are valid for use within the CHARGE Data Definition Area. The first table represents required data.

REQUIRED CHARGE DATA	
NAME	APPENDIX
CHARGEID	C
OPERAMT(EXTENDED)(T)	D

The second table describes data that is optional.

OPTIONAL CHARGE DATA	
NAME	APPENDIX
CHGLINENUM	C
DESCRIPTN	C
USERAREA	C

## 93.11 OPERATION

The Data Type “**OPERATION**” describes a particular OPERATION necessary for the routing. OPERATION is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The first table represents required data.

REQUIRED OPERATION DATA	
NAME	APPENDIX
OPERATNID	C

The second table describes data that is optional.

OPTIONAL OPERATION DATA	
NAME	APPENDIX
CONTRNRTYPE	C
COSTTYPE	C

OPTIONAL OPERATION DATA	
NAME	APPENDIX
DEPARTMENT	C
DESCRIPTN	C
MACHSUDEP	C
NOTES	C
OPERAMT(COST)(F)	D
OPERATTYPER	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(QUEUE TIME)	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
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.



## 93.12 QUALRESRC

The Data Type “**QUALRESRC**” describes a particular QUALRESRC within an operation. QUALRESRC is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The table describes data that is optional.

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(QUEUETIME)	D
QUANTITY(REJPERCENT)	D
QUANTITY(RUNTIME)	D
QUANTITY(SETUPTIME)	D
QUANTITY(TEARDOWN)	D
QUANTITY(TOOLREQD)	D
QUANTITY(TRANSFRLLOT)	D
QUANTITY(WAITTIME)	D
RESORCEUSE	C
USERAREA	C
WORKCENTER	C

## 93.13 PEOPLE

The Data Type “**PEOPLE**” describes the PEOPLE needed within an operation. PEOPLE is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The first table represents required data.

REQUIRED PEOPLE DATA	
NAME	APPENDIX
EMPLOYEEID	C
EMPCATEGORY	C

### Processing Notes:

Only one of the following fields is required: EMPLOYEEID or EMPCATEGORY. Except in the situation where the sending system is indicating a preference of the person to do the work then both fields may be populated.

In the instance where the EMPLOYEEID is supplied and the EMPCATEGORY is not the QUANTITY(EMPLOYEES) should be one (1).

The second table describes data that is optional.

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

## 93.14 MACHINE

The Data Type “**MACHINE**” describes a particular MACHINE within an operation. MACHINE is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The first table represents required data.

REQUIRED MACHINE DATA	
NAME	APPENDIX
MACHCLASS	C
MACHINEID	C

### Processing Notes:

Only one of the following fields is required: MACHINEID or MACHCLASS. Except in the situation where the sending system is indicating a preference of the machine to do the work then both fields may be populated.

The second table describes data that is optional.

OPTIONAL MACHINE DATA	
NAME	APPENDIX
USERAREA	C

## 93.15 TOOLING

The Data Type “**TOOLING**” describes a particular TOOLING within an operation, like fixtures, accessories for the operation. TOOLING is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The first table represents required data.

REQUIRED TOOLING DATA	
NAME	APPENDIX
TOOLCLASS	C
TOOLID	C

**Processing Notes:**

Only one of the following fields is required: TOOLID or TOOLCLASS. Except in the situation where the sending system is indicating a preference of the tool to do the work then both fields may be populated.

The second table describes data that is optional.

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

## 93.16 STEP

The Data Type “**STEP**” describes the STEP within an OPERATION for a specific ROUTING. STEP is an optional Data Definition Area for the SYNC ROUTING Business Service Request.

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

The first table represents required data.

REQUIRED STEP DATA	
NAME	APPENDIX
STEPID	C
STEPTYPE	C

The second table represents optional data.

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