

**ASCO CODING SYSTEM
OCCUPATION LEVEL**

PART 5

QUERY RESOLUTION GUIDE

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1 THE ROLE OF THE QUERY RESOLVER

**THE ROLE OF THE
QUERY RESOLVER**

The *ASCO Coding System: Occupation Level* has been developed as a two-stage process. In the first stage, the coder is able to apply accurate and consistent occupation codes to the majority of records (over 90% in most ABS statistical collections) using only the *ASCO Coding Index* and the formal rules and procedures set out in the *Reference Guide*.

In the second stage the query resolver must deal with the remaining records. Correct coding of these records (queries) depends on access to a number of ASCO publications and on the particular skills and knowledge of the query resolver. As the query resolver, you must exercise considerable discretion in choosing codes whilst still operating within the general guidelines which determine the overall coding strategy. Therefore, it is recommended that query resolution be performed as a separate operation, and only by persons who have developed the additional skills and knowledge specified below.

1.1 Skills and Knowledge Required In Query Resolution

**Skills & Knowledge
Required**

In order to resolve queries quickly, consistently and accurately, it is essential that you have a detailed knowledge of:

- the coding methodology; that is, the formal rules and procedures outlined in the *Reference Guide* relating to the matching of index entries and the selection of codes
- the conceptual basis and the structure of ASCO as discussed in the *ASCO - Statistical Classification* (ABS Catalogue No. 1222.0)
- the terms and concepts specific to the query resolution process, especially definite versus indefinite codes and adequate versus inadequate records as discussed in Section 1.2 below.

In addition to these essential areas of knowledge, it is desirable that you have a wide knowledge of occupations in the Australian labour force, including tasks performed and job entry requirements. Telephone interviewing skills may also be useful as, on occasion, it may be necessary to resolve a query by contacting a respondent or employer to gain further information about the occupation to be coded.

1.2 Terms Used In Query Resolution

Terms Used

To understand the nature and purpose of the various steps in query resolution, it is important that you learn to distinguish between **definite** and **potential** codes and between **adequate** and **inadequate** records. These terms have a precise meaning in query resolution, and are used frequently in this guide.

Definite Codes**1.2.1 Definite Codes**

A code is **definite** if the record contains sufficient information to provide evidence of the correctness of the code and does not contain contradictory information to suggest another code.

For example the title *Psychiatrist* contains all the information necessary to indicate the correctness of the occupation level code 2303-21. The entry title *Psychiatrist* appears in only one index entry with code 2303-21. That entry has no qualifying words and no supplementary description, because no other information is required to select code 2303-21. This code is, therefore, a definite code for any record containing the title *psychiatrist*.

Some records point to two or more definite codes. This may occur when:

1. The look-up title is a multiple title containing two or more basic words and two or more matching entries can be found, each with its own definite code.

For example, the look-up title *Prospector-Flautist* contains two basic words, the first of which is codable to the occupation 8415-11 and the second to the occupation 2815-17. Both of these are definite codes.

2. The look-up title contains one basic word (with or without qualifying words) but the record contains two or more distinct tasks each of which can be matched with supplementary descriptions in different index entries.

For example:

Title response: Domestic
Task response: kitchen and laundry work

This record has two definite codes relating to different unit groups in the same minor group. The task *kitchen work* coupled with the title *Domestic* has the definite code 8919-11 while the task *laundry work* coupled with the same title has the definite code 8917-11.

First-stage coders have to choose between two or more definite codes by using the rules described in Sections 5.9.3 to 5.9.6 of the *Reference Guide*.

Potential Codes**1.2.2 Potential Codes**

A code is **potential** if there is some specific additional information which you require from the respondent in order to be certain that the code is correct. That is, the information in the record suggests that the code may be correct, but is insufficient to indicate that it is certainly correct.

As you are aware, many look-up titles require additional task or industry information to be coded, with certainty, to occupation level. When such information is missing from a record, it is often possible to identify two or more competing potential occupation codes.

For example, the title *Marker* without additional information has five potential codes. In the *ASCO Coding Index* you will find three entries containing this title, each with a different supplementary description, and in addition you will find two other entries containing *Marker* as the basic word in a two word title. All five of these entries assign different codes (7299-99, 3103-27, 2999-99, 5505-11 and 8199-11).

Without task or industry information, the look-up title *Marker* cannot be coded even to major group level since the five potential codes are not all in the same major group. (They are, in fact, all in different major groups.) The first-stage coder would refer such a record for query resolution. Whether or not a code could ultimately be assigned would depend on the query resolver's ability to obtain further information about the respondent's occupation.

However, potential codes at the occupation level can sometimes imply a definite code at a higher (major, minor or unit group) level of the classification. For example, the look-up title *Domestic* without task information has six potential codes at occupation level (8301-15, 8301-13, 8301-99, 8919-11, 8917-11 and 8921-13). Because these six occupations belong to a single major group (*Labourers and Related Workers*), the code which applies to that major group (8000-00) is a definite code for the record concerned.

1.2.3 Adequate Records

Adequate Records

Adequate records are records containing enough information to be coded, with certainty, to the occupation level of ASCO by someone with expert knowledge of the Australian labour force and the occupation classification.

Most adequate records can be coded without this expert knowledge in first-stage coding using the standard procedures described in the *Reference Guide*.

A few adequate records, however, will be referred to you because they cannot be processed using standard procedures. These include:

- occupation titles not covered by the index
- occupation titles covered by the index with detailed additional task or industry information that does not match any supplementary description.

Inadequate Records 1.2.4 Inadequate Records

Inadequate records are records containing insufficient information to be coded, with certainty, to the occupation level of ASCO. These include records which contain:

- occupation titles covered by the index but which lack the additional information required to match supplementary descriptions (there being no *NAI* or *except above* entries for such titles)
- missing titles, or titles which the coder is directed to disregard, and little or no useful task information.

The steps in query resolution are partly determined by the adequacy of occupation information in the record. Some steps are appropriate to both adequate and inadequate records. Others are more appropriate to one category than the other.

In Chapter 3 you will learn about the steps which should be taken to resolve a query and the type of record to which each step applies.

2 DOCUMENTS REQUIRED IN QUERY RESOLUTION**DOCUMENTS
REQUIRED**

In addition to this guide, the query resolution process requires access to the following documents:

- *ASCO Coding Index*
- *ASCO Coding Index: Numerical Order (or Numeric Index)*
- *ASCO - Statistical Classification* (ABS Catalogue No. 1222.0)
- *ASCO - Occupation Definitions* (ABS Catalogue No. 1223.0)
- *ASCO - Keyword Index to Occupation Definitions* (ABS Catalogue No. 1229.0).

An overview of the content and use of each of these documents in query resolution is presented here. More details on their various applications are provided in Chapter 3 of this guide.

2.1 ASCO Coding Index**ASCO Coding Index**

The *ASCO Coding Index* is the most important tool in query resolution. Entries in this index can be used to suggest potential codes for records in a form not suitable for processing using the matching rules and standard procedures described in the *Reference Guide*. Potential codes derived from non-standard matching procedures must always be checked against other *ASCO* publications (see Chapter 3.6).

For example, the first-stage rules which require exact matching of entry titles and which restrict the use of *NAI* entries to records with no additional information of the type specified are both relaxed in query resolution. Using the *ASCO - Statistical Classification*, the *ASCO - Occupation Definitions* and your knowledge of the conceptual and structural basis of *ASCO* enables you to make a more informed decision about the suitability of any potential code than would be possible in first-stage coding.

Similarly you will find that, in query resolution, you can use more discretion when using industry and employer responses. In some situations you will be permitted to match these responses with text which is not underlined in the index entry, because you will be taught the underlying principles for discriminating between legitimate and illegitimate use of industry information.

Numeric Index

2.2 ASCO Coding Index: Numerical Order

As described in Section 5.6 of the *Training Guide*, the *Numeric Index* is particularly useful for comparing index entries under two or more codes to decide to which occupation a particular record should be assigned. This procedure is used by first-line coders. In resolving queries you will learn (Chapter 3.6) to use the *Numeric Index* to check all codes which are not derived from the standard procedures described in the *Reference Guide*.

Statistical Classification

2.3 ASCO - Statistical Classification

This publication is an important tool in query resolution. It is useful for checking potential codes derived from the *Coding Index* by non-standard matching procedures. It can also help you identify potential codes for records that are not covered by the *Coding Index*.

However, the dangers of using the *Statistical Classification* as the primary coding document cannot be exaggerated. It is known that occupations are named and described in a variety of different ways by respondents. We know, for example, that some members of the Australian labour force who describe themselves as *labourers* operate plant or machinery and therefore belong to the Major Group 7 *Plant and Machine Operators, and Drivers* rather than Major Group 8 *Labourers and Related Workers*.

Similarly, some people who describe themselves as *managers* perform only non-managerial tasks. Many small shopkeepers fall into this category. Such people belong to Major Group 6 *Salespersons and Personal Service Workers*. Other people who describe themselves as *shop managers* perform managerial tasks such as *supervising staff, bookkeeping, ordering stock*, and, more generally, *administration or running the business*; these belong to Major Group 1 *Managers and Administrators*.

Thus, it is important to recognise that even when the look-up title is identical to an occupation in the ASCO structure, it does not refer to the same occupation, or group of occupations, if an entirely different set of tasks is involved. For this reason, entries in the *Coding Index* require matching of task as well as title information.

The ASCO - *Statistical Classification* comprises three parts:

- The Conceptual Basis of the Classification
- Structure and Group Definitions
- Keyword Index of Structure Titles.

2.3.1 Conceptual Basis of the Classification**Conceptual Basis
of ASCO**

The *Conceptual Basis of the Classification* is essential preliminary reading for query resolvers. To resolve queries accurately, you must understand the concepts on which the classification is based and the issues related to their application.

This part of the *Statistical Classification* defines occupation in terms of the tasks performed and describes the grouping of occupations according to the skill level and type of skill specialisation associated with those tasks. The hierarchical structure of the classification based on these broad concepts is also explained. To assign codes to records not covered by the *Coding Index* you must be aware of these underlying structural issues.

2.3.2 Structure and Group Definitions**Structure and
Group Definitions**

This part of the *Statistical Classification* provides a profile of the ASCO Structure and the associated code conventions. It also provides a listing of all Structure titles, in successively greater detail, for each of the four levels in the classification, namely:

- major groups (8)
- minor groups (52)
- unit groups (282)
- occupations (1,079).

You will recall that Structure titles are official titles used in ASCO to describe the 1,079 occupations in the Australian labour force and the unit, minor and major groups to which these occupations belong. Each occupation has a principal title (and sometimes also one or more alternative and specialisation titles). Structure titles do not correspond, on a one-to-one basis, to titles used in everyday language; therefore not all principal occupation titles in the ASCO Structure appear in the *Coding Index*, which is primarily an index of titles in common use.

The lack of correspondence between Structure titles and titles used by respondents means that the *Structure and Group Definitions* should never be used in isolation as a coding device. However this part of the *Statistical Classification* can help to resolve certain types of coding query since it provides a definition of each major, minor and unit group and describes the tasks most commonly performed in that group. Like the *Numeric Index*, it can help you decide whether a code is suitable for a particular record.

Query resolvers refer frequently to the structural lists, definitions and descriptions in the *Statistical Classification* to identify or confirm the groups to which records belong.

**Keyword Index of
Structure Titles****2.3.3 Keyword Index of Structure Titles**

The *Keyword Index of Structure Titles* contains all the official occupation titles in the Structure (except residual 'not elsewhere classified' categories) together with their corresponding occupation level (six-digit) codes. Each principal, alternative and specialisation title is listed under the keywords that it contains.

Keywords are words other than prepositions, conjunctions, definite and indefinite articles (*of, for, and, the* etc.). The keywords themselves are listed in alphabetical order. Thus the title *Clerk of High Court* is listed under *clerk, court* and *high*.

The *Keyword Index* can help you resolve queries by identifying possible titles in the Structure which might apply to the record. Like the *Structure and Group Definitions*, however, it should never be used alone as a coding device. To do so would result in many inaccurate codes being assigned.

**Occupation
Definitions****2.4 ASCO - Occupation Definitions**

This publication provides definitions of the 1,079 occupations which constitute the fourth level of ASCO, presented in numerical order of ASCO code. For each occupation, the principal title is given, and alternative and specialisation titles where applicable, followed by a description of tasks undertaken and skill level. The publication also contains a Keyword Index of Structure Titles; all major words (except articles, conjunctions and prepositions) which occur in the principal, alternative and specialisation titles are arranged in alphabetical order, and each keyword is followed by a list of all the titles in which it occurs and the appropriate ASCO occupation (6-digit) code for each title.

It must be stressed that the *ASCO - Occupation Definitions* is not suitable for use as the primary coding index for assigning ASCO codes to occupation data collected using natural language occupation titles or task descriptions. It is however extremely useful in query resolution procedures as described below.

Occupation Definitions may be used in the following ways:

1. Using the listed classification structure, determine in turn the most appropriate major group, minor group, unit group and finally occupation code.
2. Using the Keyword Index of Structure Titles, determine all occupation titles which might apply to the record.

Once potential occupation codes have been identified, occupation information from the record should be checked against the occupation definition(s) for the potential code(s) to ensure that there are no inconsistencies. If the match is close, the code checking procedures (Step 6) described in Chapter 3.6 must then be carried out.

2.5 ASCO - Keyword Index to Occupation Definitions

Keyword Index to Occupation Definitions

This is an index of significant words used in Occupation Definitions in the ASCO - Occupation Definitions.

The keywords were selected from both the lead statement and from the task descriptions of the principal title and each of the specialisation titles. Keywords were selected if they were:

- nouns, verbs or adjectives
- related to the performance of tasks in a restricted number of occupations
- important to the task description for a significant proportion of the occupations in which they were used.

Nouns like *activities*, *equipment* and *products* and verbs like *make*, *repair* and *supervise* are not included since they refer to a wide variety of occupations. In addition, adjectives related to verbs have generally been omitted where they refer only to occupations already referenced by the verbs themselves. Thus the adjectives *basted*, *blown* and *engraved* are omitted because the occupations to which each refers are already referenced by *bastes*, *blow* and *engraving*, respectively.

In instances where two grammatical variants of a noun or verb have been used in task descriptions, and where all occupations referenced by one of the variants have also been referenced by the other (which additionally may reference other occupations), then the former has generally been omitted to reduce redundancy. Thus the variants *cheeses*, *clock*, *disinfect*, *blows* and *illustrating* are omitted because all of the occupations to which each variant refers are already referenced respectively by the variants *cheese*, *clocks*, *disinfects*, *blow* and *illustrate*.

The keywords in the index are arranged in alphabetical order. Each keyword is followed by a list containing the code and the principal title of every occupation where the keyword is used. Each occupation appears as many times in this index as the number of different keywords used in the lead statement and task descriptions of the occupation.

Sometimes the *Keyword Index to Occupation Definitions* will enable you to match significant words found in the title or task response with occupations containing these words. This will help you to identify potential occupation codes when the record cannot be processed using standard procedures.

For example, you will find the keywords *magnetic* and *magnetism* in the *Keyword Index to Occupation Definitions*. You will see that there are five occurrences of the former and one of the latter word in the *Occupation Definitions*. By consulting these occupation definitions you may be able to identify a number of potential occupation codes from the *Keyword Index*.

Discretion is needed in assigning codes to records by this method. Before deciding that a record falls into a particular occupation, it is necessary to read the entire *Occupation Definition* to ensure the occupation information in the record is in no way inconsistent with that in the definition. If the match between the record and the definition is close, the code checking procedures described in Chapter 3.6 should then be followed.

3. MAIN STEPS IN QUERY RESOLUTION

MAIN STEPS

This chapter outlines the main steps in query resolution. It provides a general strategy which is applicable to all coding queries. However, some common occupation responses, which are known to be difficult to code, are dealt with in more detail in Chapter 4. These include the following occupation titles:

Clerk (General Clerk)
 Labourer
 Manager
 Owner
 Director
 Proprietor (Business Proprietor)
 Partner (Business Partner)
 Engineer
 Machine Operator
 Plant Operator

If you have a query relating to one of the above, you should refer to the appropriate section of Chapter 4 as well as this chapter.

You should also refer to Chapter 4 (particularly 4.3.1) if you have a query relating to any occupation title which sounds managerial.

The ten main steps in query resolution are summarised in the table below. Most queries will be resolved using only a few of these steps. If in doubt, you should follow the steps in the **sequence** suggested.

The table shows the principal type of record, title or code to which each step applies. Note that a distinction is made between **records** and **titles** since the table must cater for all types of record, including those which yield more than one look-up title and those which yield no title, using the standard procedures of first-stage coding as outlined in the *Reference Guide*.

Main Steps In Query Resolution	Use This Step When You Have:
1. Repeating Standard Procedures of First-Stage Coding	records which yield at least one look-up title using standard procedures
2. Using the Look-up Title to Identify Potential Codes	titles for which Step 1 does not yield a code and for which entry titles exist in the index
3. Using an Alternative Title to Identify Potential Codes	titles for which Steps 1 and 2 yield no code (including those with a look-up title not in the index); records with no title and with tasks from which look-up titles cannot be created using standard procedures

- | | |
|--|---|
| 4. Using the Occupation Definitions and the Statistical Classification to Identify Potential Codes | titles or records for which steps 1-3 yield no code |
| 5. Choosing the Most Specific Code | records with 2 or more codes , where one is definite and nested inside the others |
| 6. Checking Codes | codes obtained using non-standard procedures (Steps 2-4) |
| 7. Choosing Codes on a Probability Basis | records with 2 or more competing potential codes |
| 8. Choosing the Code with the Lowest Leading Digit | records with 2 or more codes in different major groups where the code with the lowest leading digit is a definite code; some managerial titles with competing potential codes |
| 9. Using the Order of Precedence in Major Group 5 | records with 2 or more non-nested codes in Major Group 5 and no other code with a leading digit lower than 5 |
| 10. Coding to Major, Minor or Unit Group Level | titles or records with insufficient data to code to occupation level; records with 2 or more codes in one major group not resolved by Steps 5-9 |

Step 1
3.1 Step 1: Repeating the Standard Procedures of First-Stage Coding

The first step in resolving almost all queries is to ensure that the coder has correctly followed the standard procedures of first-stage coding using the *ASCO Coding Index*.

Even records which are clearly inadequate may be covered by *NAI* or *except above* index entries. Therefore, it is important to confirm that no code can be found by matching an index entry in the usual way.

You should follow Step 1 for all records which yield a look-up title using standard procedures i.e. records in which a title is given and records which have no title but contain a task description from which a look-up title can be created using the techniques described in the *Reference Guide*.

In this step you should repeat all the procedures which first-stage coders are expected to follow including, if necessary, looking for a new matching entry when following a directive or when checking any *Basic Word Equivalents*.

If you are able to assign a code to the record the query is not a legitimate one, and you should explain to the coder how you were able to find the code using the standard procedures. This will reduce the number of similar queries arising in the future.

If a query is legitimate you must try to identify potential codes for the record using Steps 2 to 4. Finally you must follow Steps 5 to 10, as necessary, to select the best code from those you have identified.

Some multiple titles may be referred to you because not all the titles given by the respondent are covered by the index. In such cases you should use standard procedures to find codes for titles that are covered, then you must try to identify potential codes for the other title(s).

If a title has been given (singly or as part of a multiple title) for which you cannot find a code using standard procedures, you should go to:

1. **Step 2 If:**

- a) the look-up title matches an entry title in a block of index entries;

OR

- b) the look-up title matches an entry title in only one index entry and that entry contains either:

- i. a supplementary description that does not match the additional information in the record;

OR

- ii. a directive to code to another basic word or entry title which does not lead you to a new matching entry with a code.

2. **Step 3 If:**

- a) there is no matching entry title in the index;

OR

- b) the look-up title matches an entry title in only one index entry and that entry directs you to disregard the title.

If neither title nor task description has been given by the respondent and you cannot obtain further information about the respondent's occupation, there is little point in proceeding beyond Step 1. In such a case, you should treat the record as uncodable. Usually this means you will assign the code 9999-99 to the record.

Similarly, if a matching index entry directs you to disregard the look-up title, and there is no other title or task information in the record, you should treat the record as uncodable.

Step 2

3.2 Step 2: Using the Look-up Title to Identify Potential Codes

Even when you have not found a code for a particular title using standard coding procedures, you may still be able to identify some potential codes using the *Coding Index*.

Step 2 is used for almost all look-up titles with a matching entry title for which Step 1 has not yielded a code. The exception is the look-up title which occurs in only one index entry where that entry has no code and a directive to disregard the title. In this case you should omit Step 2 and go straight to Step 3.

If the matching entry title occurs in a number of index entries, you should now look at each supplementary description, in turn, to see how closely it fits the record.

The occupation information contained in the record may be contradictory, ambiguous or incomplete so that you are not sure which, if any, of the supplementary descriptions in the block provides a suitable match. In such a case, you may find the *Numeric Index* or the *ASCO - Occupation Definitions* helpful. The use of these documents is more fully explained in Steps 4 and 6.

You may identify one or more entries which could refer to the occupation described in the record. Although you may require more information from the respondent to be certain of the accuracy of the code, you may be able to identify one or more potential codes for the title in question.

Note: you should never assign a potential code to a record until you have followed the checking procedures in Step 6.

Sometimes standard matching procedures clearly prevent you from matching additional information in the record with any of the supplementary descriptions but it is obvious that you would have a close match if you were allowed to use industry information or an *NAI* entry. In 3.2.1 and 3.2.2 below, you will learn how these may be used by query resolvers in certain restricted circumstances.

Using Industry Information

3.2.1 Using Industry Information

Occupation and industry are often confused, a fact which can cause problems in occupation coding. In *ASCO*, occupation is defined in terms of tasks performed by workers. Industry is usually defined in terms of the goods or services produced by an establishment. For example, someone who is employed by a school to clean its buildings is employed in the education industry whereas someone else who is employed by a government department to clean its offices is employed in the public administration industry. Both have the occupation of *Commercial Cleaner* and should be given the occupation code 8301-13.

The use of industry information in occupation coding is fraught with difficulty because many occupations, especially at the higher skill levels, are found in a variety of industries. For example:

- Insurance Clerks are not the only clerks who work in the insurance industry. You will also find Accounts Clerks, Filing Clerks and Personnel Clerks working in that industry. Similarly you will find that personnel consultancies employ clerks other than Personnel Clerks, and that the government statistical agency (ABS) employs many clerks other than Statistical Clerks.
- Hotel Managers are not the only managers who work in hotels. You will also find, for example, Security Managers in some of the larger hotels. Likewise a manager in a factory is not necessarily a Factory Manager. He or she could be a Sales and Distribution Manager or a Personnel Manager.
- Electrical Engineers are not the only engineers working for electricity supply authorities. Civil Engineers, among others, may also work for such organisations.

Owing to problems of this sort, the use of industry information in occupation coding is strictly limited in first-stage coding. The index designers have specified which information can be obtained safely from responses to the industry and employer questions by underlining the relevant text.

Generally speaking, it is safer to use industry and employer responses for coding the less skilled occupations in Major Groups 7 and 8 (and to a more limited extent Major Group 6) than for occupations in the other major groups.

For this reason many index entries with codes beginning with 6, 7 and 8 allow the use of industry and employer responses, for example:

6501-15 Dealer, Amway
 7399-11 Attendant, Precipitator/ ore processing
 8923-11 Lifter/ railway

In resolving queries you must give careful consideration to the use of industry and employer responses. While there are many occupation titles pointing to Major Groups 6, 7 and 8 for which you can safely use industry and employer responses, there will be a few queries relating to more skilled occupations where you can also use these data items.

Although it is difficult to generalise about such queries, the following hypothetical record serves as an example:

Title response: Therapist
 Task response:
 Industry response: Physiotherapy Clinic

You are justified in applying the code 2313-11 for *Physiotherapist* to this record because the probability of another kind of therapist working at a Physiotherapy Clinic is fairly low.

However, in the absence of other title or task information, you cannot assume that a *therapist* working for the *Department of Occupational Health and Safety* is an *Occupational Therapist*. That department could employ many kinds of therapist including Physiotherapists and Psychotherapists.

If, in a particular case, you think it safe to use industry information, you should treat the code associated with the selected index entry as a potential code.

If industry information in a record is ambiguous or open to interpretation, you should always ignore that information. However you should still try to identify one or more potential codes from the index, using the remaining occupation information in the record.

Using NAI Entries

3.2.2 Using NAI Entries When Additional Information Is Not Useful

Records may be referred to you because they contain additional information and so cannot be matched with an NAI entry. In certain circumstances you should identify the code associated with that entry as a potential code. You should do so if you think the additional information is not useful in coding to ASCO.

Example 1

Title response: Council Labourer
 Task response: Outdoor work
 Industry response:
 Employer response: Bloggsville Shire Council

The coder would refer this record to you because it has some limited information in the task and employer responses. Neither of these responses could help you select an occupation code from those listed in the index under *Labourer, Council*. You could, however, identify the Major Group code 8000-00, associated with the NAI entry, as a potential code. This would be legitimate if you could not obtain additional information to help you identify the correct occupation code.

In some cases you may be able to contact the respondent or the employer to get additional information, without breaching confidentiality. In other cases you may be able to use your general or local knowledge of the labour force to find the correct occupation.

Here is an example where local knowledge would help you assign the correct occupation code:

Example 2

Title response: Engine Driver
 Task response: Driving engine
 Industry response:
 Employer response: SECWA

The *NAI* entry under *Driver, Engine* has the code 7107-11 since most respondents using this title are train drivers (to which this code applies). A first-stage coder could not match the above record with the *NAI* entry because of the additional information in the employer response. If the coder did not know the meaning of *SECWA*, the record would be referred to you. If you had the necessary local knowledge, you would reject the default code 7107-11. You would assign the correct occupation code of 7301-11 (power generation) knowing that the respondent worked for the *State Energy Commission of Western Australia (SECWA)*.

Note: for the purpose of matching with an *NAI* entry, you should never treat a second title in a record as irrelevant information, unless it is one of the vague titles listed at the beginning of Chapter 3. Most of these are titles which coders are instructed to ignore in a multiple-title response. Generally, you should try to find a code for each title given in a multiple-title response.

3.2.3 Cases Where the Entry Title Is Not Helpful

Entry Title Not Helpful

As a query resolver, you can exercise discretion in using *NAI* entries and industry information where the first-stage coder is not allowed to do so. In addition, you have access to the *ASCO - Occupation Definitions* and other resources, which are not available to the first-stage coder. Nevertheless, there will be times when you cannot identify any potential codes from the index using the matching entry title.

Sometimes additional information in the record clearly does not match any supplementary description and there is no default entry.

Sometimes you will rule out all index entries in the block after comparing additional information in the record with the relevant Occupation Definitions in the *ASCO - Occupation Definitions*. (You will be given more details about how to use the *ASCO - Occupation Definitions* for this purpose in Steps 4 and 6.)

If Step 2 fails to provide you with any potential codes for the record, you should go on to Step 3.

3.2.4 Summary: Using the Entry Title

Summary: Step 2

Step 2 applies to most look-up titles with matching entry titles in the index for which Step 1 did not yield a code. It does not apply to titles which occur in only one index entry where that entry directs you to disregard the title.

After Step 2:

- if you have not identified at least one code for each look-up title, go to Step 3

- if you have identified only one possible code for the title, go to Step 6
- if you have more than one code to choose from, follow Steps 5 to 10, as appropriate, to select the best code.

Step 3**3.3 Step 3: Using an Alternative Title to Identify Potential Codes**

This step is necessary for many records containing title or task information which is not covered by the *Coding Index* and hence for which neither Step 1 nor Step 2 can provide a code.

In general, when a title or record is not covered by the index, you should try to find a potential code by creating a new title using as much occupation information in the record as is needed. As a query resolver, you may use all the information in the title and task responses to create a new title. If you can create a new title, you should look it up in the index.

Title Synonyms**3.3.1 Using Title Synonyms**

Step 3 is most useful when the record contains detailed occupation information. Very often the description given by a respondent has a commonly used synonym which can be found in the index. In some cases, you will find no match under the basic word given by the respondent but the qualifying words in the response appear in the index under a different basic word. Of course the title is only synonymous if the index entry refers to the same ASCO occupation.

For example, before the entry *Supervisor, Front End* was added to the index, a record containing this title would have required query resolution procedures. The coder would have found no suitable matches under the basic word *Supervisor*. As the query resolver, you might be aware of two index entries in which the qualifying words *front end* occur:

6403-01	Controller, Front End
7201-19	Driver, Front End Loader

These entries have different codes because the occupations to which they refer belong to different major groups in ASCO (one being in sales, the other in plant operation). The title *Front End Supervisor*, however, is actually used of persons who supervise check-out operators in supermarkets and is an alternative to the title *Front End Controller*.

Careful consideration of all the evidence is necessary, therefore, when searching for a synonymous title using a different basic word from that given in the look-up title. If you find a title in the index which could be synonymous, you should treat the code associated with it as a potential code. This means that you should not assign the code to the record until you have followed the checking procedures in Step 6.

Sometimes you will look at an occupation description in the record and recognise immediately an alternative description for a title you have seen in the index. At other times, you will hypothesise that an alternative can be found by looking in the index under a particular basic word.

Often you will need to make only minimal changes to the look-up title to find a matching index entry.

For example, you might change the basic word from *Officer* to *Clerk* if the tasks appear to be clerical, or from *Controller* to *Supervisor* if the tasks appear to be supervisory.

Here are more examples of plausible alternative titles. The index entry *Warden, Park* could be synonymous for the response *Park Superintendent* while the entry *Dealer, Foreign Exchange* is an alternative to the response *Foreign Exchange Trader*.

At other times you will need to make more comprehensive changes to the occupation description given by the respondent, using both a new basic word and new qualifying word(s), to generate an alternative title.

3.3.2 Missing or Vague Titles

Missing or Vague Titles

For records in which the respondent has given no title, you may be able to create one from a task description. In so doing you are not limited by the rules which apply to first-stage coders.

For example, the task response *processing vehicle insurance claims* can only be converted by the first-stage coder into a title by changing the task word *processing* to the basic word *Processor*. The record would be referred to you because no suitable matches would be found under this basic word. As the tasks are plainly clerical, you, the query resolver, could search the index for a synonymous title, under the basic word *Clerk*. (You would in fact find the entry *Clerk, Claims/insurance*.)

You may even replace vague titles which occur in the index but have detailed, non-matching task information, with an alternative title generated largely from the task response.

Example 1

Title response: Labourer
Task response: Tailing-out

In this case you would find no suitable matches under the basic word, *Labourer*. By ignoring the vague title and converting the task response to the title *Tailer-Out*, you would find a matching index entry with the six-digit code 8199-13.

You should not, however, override the title response with task information unless the title contains little or no useful occupation information.

**Non-Matching
Qualifying Words**

3.3.3 Non-Matching Qualifying Words

Look-up titles not covered by the index include titles that contain a basic word which does occur in the index but cannot be matched with any entry titles because they include non-matching qualifying words.

If as a query resolver you encounter such a title, you may use your discretion to ignore the qualifying words and search the index, under the same basic word, for an entry title whose qualifying word(s) closely match the occupation information in the record. In this way you may identify one or more potential code(s) for the record.

Qualifying words which can be safely ignored, to effect a match with an entry title, would rarely contain much information about the occupation or tasks performed. Generally you should not ignore a qualifying word if it is simply unfamiliar or its meaning is obscure. Such words may tell us something about the occupation and, where the meaning cannot be clarified, it is better to code to a higher level of the classification (major, minor or unit group) or even to leave the record uncoded.

Here is an example of a record with a qualifying word which contains little occupation information:

Example 1

Title response: Duty Clerk
Task response: Admitting patients on ward

Following the rules of first-stage coding, there is no matching index entry for this record. The query resolver might decide to ignore the qualifying word Duty and look for another entry title, under the basic word Clerk, whose qualifying word(s) closely match other occupation information in the record. He/she would find the following entries:

5601-15 Clerk, Admissions
5601-15 Clerk, Hospital/ admissions or ward
5601-15 Clerk, Ward

Since the occupation information in the record closely matches the qualifying words in each of these entries, the associated code should be identified as a potential code. (The fact that all three entries have the same code, in this case, provides further evidence of its suitability for the record.)

Note: where it is possible to identify one close-matching entry from the *ASCO Coding Index*, it is often possible to identify similar-sounding occupations with the same code by referring to the *Numeric Index*. The query resolver should also read the *Occupation Definitions* for all potential occupations identified by this method. The exact checking procedures you should follow are described in Step 6.

Example 2

Title response: Hospital Clerk
 Task response: Preparing roster for nursing staff

Once again there is no matching index entry for this record since the matching entry title has a supplementary description which clearly does not fit the additional task information. Therefore, you cannot assign the code 5601-15 to this record. Instead you might decide to look for another index entry under the basic word *Clerk* (temporarily ignoring the qualifying word *hospital*) whose qualifying words closely match the task response. You would find one such entry:

5905-11 Clerk, Roster

You would, therefore, identify 5905-11 as a potential code for this record. Once again, you would probably, at this point, check the *Numeric Index* and the *Occupation Definition in the Occupation Definitions* (Step 6) to identify other jobs assigned to this occupation and to ensure that tasks performed are consistent with the tasks described in the record.

3.3.4 Obtaining Additional Information for Unfamiliar Titles

**Additional
 Information**

Quite clearly your ability to find alternative titles will depend on your knowledge of the labour force and the index. However, some titles with adequate information will have no alternative form in the index, neither under the basic word given, nor under any substitute basic word. Before it was added to the index, the title *Operator, Vibroseis* was in this category. The title refers to a single occupation involving the operation of a truck-mounted device for detecting minerals in the ground.

If you do not know the type and range of tasks covered by an unfamiliar occupation title, you should try to obtain this additional information. You may be able to contact the respondent, or an employer or business organisation, to obtain the necessary details. This may help you find an alternative title in the index.

When you cannot obtain any additional details about an unfamiliar occupation, you may have to leave the record uncoded. However, if the record contains a distinctive noun, adjective or verb (eg. *vibroseis, tailing* etc.) relating to the occupation, you should go on to Step 4 as you may be able to find this keyword in the *ASCO - Occupation Definitions* or the *Keyword Index to Occupation Definitions*.

3.3.5 Summary: Using an Alternative Title

Summary: Step 3

Step 3 is used to produce potential codes for records containing detailed occupation data that can be used to create alternative titles for searching the *Coding Index*.

After Step 3:

- if you have a title (or alternative title) for which you have not found a code in the index, go to Step 4 (this applies also when you have a multiple title and have not found a code for all of the titles)
- if you have identified a single possible code for the title, go to Step 6
- if you have identified more than one possible code, follow Steps 5 to 10, as appropriate, to select the best code.

Step 4

3.4 Step 4: Using the *Occupation Definitions* and the *Statistical Classification* to Identify Potential Codes

This step is necessary if you have a record, or an unusual title, for which you are unable to identify any definite or potential codes using the index. This is usually occurs when records contain very limited amounts of occupation information as it is rarely possible to think up alternative titles for such records. Records with no title and limited task information are good examples.

For such inadequate records you may be able to narrow down the choice to a single major, minor or unit group, or even a single occupation. You can often do this by comparing the occupation information in the record with Structure titles, or with group definitions at different levels and associated task descriptions in the *ASCO - Statistical Classification* and *ASCO - Occupation Definitions*.

This step may also be helpful for some vague titles such as *Clerk* and *Labourer*, listed at the beginning of Chapter 4, where there is little or no additional information. However, note that, for all ten vague titles in this list, it is important to consult the relevant section(s) of Chapter 4, when identifying potential codes from the *ASCO - Occupation Definitions* or *ASCO - Statistical Classification*. It is particularly important to do so for managerial-sounding titles. These publications contain fewer managerial titles than the *Coding Index* and may lead you to the wrong code if it is not used in conjunction with the methods described in Chapter 4.3.

Searching for a
Keyword

3.4.1 Searching for a Keyword

You may be able to find the correct occupation level code by searching the *Keyword Index of Structure Titles* for a word found in the title or task response. You can look for a whole word, or for the stem of a word, describing the occupation or the main task performed.

It is usually a good idea to select a title or task word (or part thereof) which is distinctive and therefore limited to a few occurrences in the *Keyword Index*. An example is found in the task response *ailing out* (see 3.3.2 above). If you had not converted this task response directly to the title *Tailer-Out*, you could still have found the correct code by searching the *Keyword Index* for the character string *tail*. You would have found the keyword *Tailer* which, in fact, appears in only one Structure title. Keywords in this index can be located quickly as they are alphabetically sorted.

When a task word you are searching for does not appear as a keyword in the *Keyword Index of Structure Titles*, you should then search in the *ASCO - Keyword Index to Occupation Definitions*. This publication contains an alphabetic list of significant words which occur in occupation definitions. Each keyword heads a list of occupations whose definition contains the keyword, together with the codes of the occupations.

3.4.2 Comparing Occupation Data With Occupation and Group Definitions

Using Occupation and Group Definitions

Even when you are unable to find particular task words in the *ASCO - Occupation Definitions* and the *ASCO - Statistical Classification*, you may still be able to use these to identify the major group, minor group, unit group or occupation to which the respondent belongs. This will depend on the total amount of occupation information in the record and your knowledge of the Structure.

Sometimes you will be able to identify the correct occupation through a process of successive approximations. You might begin by looking at the list of major groups in the *Classification* and identifying one or more possibilities. You should then read the definition of each selected major group and compare it with the occupation information in the record.

If your selection sounds plausible, you should look at the list of minor groups in that major group. Again you must read the minor group definitions to confirm your choice; then you should try to identify some unit groups and confirm those by reading the relevant unit group definitions. Finally you may be able to identify the occupation involved.

Example 1

Title response:	Pilot/Technician
Task response:	Operating remote control underwater vehicle
Industry response:	-
Employer response:	ABC Enterprises

You might decide that this record could be assigned to either of two major groups, depending on the skill level of the particular tasks performed. The respondent could belong either to Major Group 3, which contains many technical occupations, or to Major Group 7 which contains mobile and stationary plant operators.

By looking at the list of minor groups in each of these two major groups, you might identify two or three possibilities, for example:

32	Engineering and Building Associates and Technicians
33	Air and Sea Transport Technical Workers
73	Stationary Plant Operators

Note that the minor group 72 *Mobile Plant Operators (Except Transport)* has been rejected on the grounds that 'the respondent works a remote control vehicle from a plant at a fixed location'. Hence the plant operated is stationary rather than mobile (see Chapter 4.5).

By comparing the information in the record with that in the group definitions, you might identify some potential unit groups from these minor groups and then look for suitable occupations in these unit groups.

You would then go on to check each potential occupation code using the procedures of Step 6 (then, if you still had several codes to choose from, you would make your choice, where possible, on the balance of probabilities - see Step 7).

Inadequate or Unusual Data

3.4.3 Dealing With Very Inadequate or Unusual Data

For records with very limited amounts of occupation information, the first decision, in using the *ASCO - Occupation Definitions* and the *ASCO - Statistical Classification* to identify potential codes, is whether there is enough information to assign a code at major group level. Because first-stage coders cannot make the final decision that a record is uncodable, records with very limited information will be referred to you. You must make the final decision whether a code should be applied, and if so, at what level of the classification.

To help you make this decision, you should always look at the total amount of occupation information given in the record.

If you can identify the major group, you will, at least, be able to select the major group level code as a potential code.

You should not assign any code obtained from these procedures until the code has been checked using the procedures of Step 6.

If you cannot identify any major group because the title and task information is extremely inadequate or unusual, you must treat that information as uncodable. This means that the record is uncodable even though, as with multiple titles, there may be other codes to consider. Dual titles, for example, may comprise one title which is codable to major, minor, unit group or occupation level and one title which is not codable to any level of the classification. In such cases, you should not assign any code to the record.

3.4.4 Summary: Using the Occupation Definitions and the Statistical Classification

Summary: Step 4

Step 4 is necessary for all records and unusual titles for which you have been unable to find any potential codes using the Index.

You may be able to identify the correct major group, minor group, unit group or occupation by reading group definitions at successively more detailed levels in the *Statistical Classification* and *Occupation Definitions*. Alternatively, you may be able to search for a particular title or task word in the *Keyword Index to Occupation Definitions* or in selected group definitions.

After Step 4:

- if you have not identified any potential codes, treat the record as uncodable (this applies even if you have a multiple title and have identified definite codes for all but one title)
- if you have identified two or more codes, one of which is definite (ie. identified in Step 1) and nested inside the other(s), go to Step 5
- otherwise, go to Step 6.

3.5 Step 5: Choosing the Most Specific Code

Step 5

You need only follow this step if you have identified two or more codes, one of which is definite and nested inside the other(s).

Remember that one code (code Y) is nested inside another (code X) when one of the following conditions is met:

Code X	Code Y (Nested code)
Major group code (eg. 8000-00)	Occupation code in same major group (eg. 8103-11)
Major group code (eg. 8000-00)	Unit group code in same major group (eg. 8103-00)
Major group code (eg. 8000-00)	Minor group code in same major group (eg. 8100-00)
Minor group code (eg. 8100-00)	Occupation code in same minor group (eg. 8103-11)
Minor group code (eg. 8100-00)	Unit group code in same minor group (eg. 8103-00)
Unit group code (eg. 8103-00)	Occupation code in same unit group (eg. 8103-11)

In first-stage coding the more specific code (code Y) would always be selected. In query resolution a similar rule applies. However, when you have two codes to choose from, one of which is nested inside the other you should choose the more specific code (be it at minor group, unit group or occupation level) only if it is a definite code; that is, the code has been extracted from the *Alphabetical Index* using the strict matching rules of first-stage coding outlined in the *Reference Guide*.

You should **not** assign the more specific code if it is only a potential one. Rather, you should go to Step 6 to check the potential code using the *ASCO - Occupation Definitions*, the *Numeric Index* and the *ASCO - Statistical Classification* (as appropriate). These procedures will help you decide the most appropriate code for the record. You may, in fact, decide to reject one or more potential codes at, say, unit group level, in favour of a definite code at a higher level of the classification.

If, after selecting the most specific (definite) code, there are no other codes to consider, you may assign this code to the record.

Having dealt with any nested codes, you may still have two or more codes to choose from. If these codes are **all definite** (ie. identified in Step 1), you should go directly to:

- **Step 8** when the codes are not all in the same major group
- **Step 9** when the codes are all in Major Group 5
- **Step 10** when the codes are in one major group other than 5.

In all other cases you should go on to Step 6 to check each potential code which you are still considering.

Step 6**3.6 Step 6: Checking Codes**

This step is necessary for all codes which you have identified using non-standard procedures (Steps 2 to 4). To check these codes, you must consult both the *ASCO - Occupation Definitions* and the *ASCO Coding Index: Numerical Order*. When checking codes at a higher level of the classification (ie. major, minor or unit group codes such as 8000-00, 8100-00 and 8103-00), you must also consult the *Statistical Classification*.

These checking procedures cannot resolve the problem of data missing from the record. However, they are necessary to ensure that information present in the record is not at variance with group definitions, or with index entries bearing the same code which you are considering as a potential code.

In some cases, you will already have compared information in the record with group and occupation definitions, and with Structure titles. In so doing you may have already ruled out some codes and selected others as potential codes. All that is now required for these records is that you check the *Numeric Index*. This will give you a comprehensive list of index entries under each code that you are considering.

Checking the *Numeric Index* will help you decide whether the record really belongs with other jobs in the major, minor, unit group or occupation you have selected.

If the respondent's occupation description is too dissimilar from other entries for the occupation, you would usually reject the code.

The exception to this rule is the case where the code is one ending 99. You may assign a record to an occupation with code ending 99, whether or not the occupation described sounds similar to other specialisations in the group, provided you are certain it belongs to the unit group in question and clearly does not belong to any other occupation within that unit group.

If you have extracted codes from the index using the non-standard procedures of Steps 2 or 3, you may not have checked these in the *ASCO - Occupation Definitions*. You should do so now.

First you must read the relevant occupation definitions to ensure they are not at variance with the information in the record. You may wish to read definitions for other groups at the level above the selected level. You may also wish to read definitions for adjacent occupations (ie. at the same level as the selected one) to ensure that the one selected is the most appropriate.

Secondly, you should look at the Structure titles in each relevant occupation and in adjacent occupations.

If the occupation definitions, Structure titles and titles in the *Numeric Index* all fit with the information in the record, then you have good evidence that the code is appropriate. If you are doubtful about the closeness of the fit, then you should reject the code.

Where there are two competing potential codes (in the same or different major groups), these checking procedures may provide support for one of the codes and lead you to reject the other.

However, you should remember that the managerial title with no task information is a special case. Where one of the potential codes commences with 15 or 16 and the competing code commences with a higher digit, indicating a different major group (eg. 45 *Printing Tradespersons*), you should reject the latter in favour of the managerial code. For many managerial-sounding titles, you will, of course, need to consult the *Numeric Index* and the *Occupation Definitions* to confirm that the 15 or 16 code is more appropriate than any other managerial code. (The occupation definitions together with the special procedures outlined in Chapter 4.3 will help you make this decision.)

Where one or more potential codes are nested inside a definite, higher level code, the checking procedures may help you choose between them. If in doubt, you should always reject the potential code(s) in favour of the definite higher level (major, minor or unit group) code.

If competing potential codes are in different major groups but **none** is supported by the *Numeric Index* or the *Occupation Definitions*, you should leave the record uncoded. This is the correct procedure even when you are dealing with a multiple title and have another definite code to consider. The rule for multiple titles is that you assign, where possible, the code for the title with the highest skill level - see Step 8. However, this is not possible where you cannot identify the major group to which one of the titles belongs. Thus if you have one title which is codable to occupation level and one which is not codable even to major group level, you should leave the record uncoded.

Sometimes the checking procedures will support two or more competing potential codes for a title given singly or as part of a multiple title. In this case, you should go on to Step 7.

More often, the checking procedures will leave you with just one potential code, at major, minor, unit group or occupation level. In this case, the one potential code should now be treated as definite.

This code should be assigned to the record if there are no other definite codes to consider.

If you are dealing with a multiple title and now have one definite code for each title given, you should go on to:

- Step 8 when the codes are not all in the same major group
- Step 9 when the codes are all in Major Group 5
- Step 10 when the codes are all in one major group other than 5.

Step 7

3.7 Step 7: Choosing Codes on a Probability Basis

This step is necessary for all records where, after following the checking procedures, you still have two or more competing potential codes.

This step is not necessary for multiple titles where you have only definite codes to consider.

When there are competing potential codes, you may select one of these on a probability basis if occupation details in the record, or your knowledge of the labour force, suggest that one code has a very high probability of being correct.

For example, you might know that approximately 80 per cent of respondents using a particular occupation title belong to unit group X while the remaining 20 per cent belong to unit group Y. If you have no contrary evidence in a record containing this title, you should select the code for X.

Obviously, if there is evidence in the record that the respondent belongs to the minority occupation in unit group Y, you should select the code for Y.

Choosing between two codes on the basis of probabilities is only feasible when there is clear evidence in favour of one of the codes.

If you can identify the more probable code, you will normally assign that code to the record.

If you cannot identify the more probable code but the competing potential codes are all in the same major group, you should replace them with a single code at major, minor or unit group level (see Step 10).

When you cannot identify the more probable code, and the competing potential codes are in different major groups, the record is usually uncodable.

The exceptional case is one involving a multiple title where the definite codes available are all at the same, or a higher, skill level than any of the potential codes. In such a case you should discard all the potential codes, then either assign the definite code if there is only one such code available, or go to Step 8, 9 or 10, depending on the major groups involved, if there are two or more definite codes.

3.8 Step 8: Choosing the Code With the Lowest Leading Digit

Step 8

This step is required for records with detailed occupation information for which there are two or more definite codes in different major groups. Generally this means that the record contains either a multiple title or a single title with multiple tasks and, as a result, there are two or more definite codes available. In all such cases the code relating to the most skilled task, or occupation, is applied.

Coding to the highest skill level is also required for certain inadequate records containing a single title and no task information. These records have two (occasionally more) competing potential codes in different major groups.

For example:

Title response: Receptionist-Home Help

This record contains two titles and no additional information. It has one definite and three potential occupation codes. From the index you can extract the definite code 5601-11 for the title *Receptionist* and three potential codes (6607-11, 6601-15, 8301-99) for the title *Home Help*. The latter is not codable without task information because the competing codes are in two different major groups and it is not possible to choose between them on a probability basis.

In this example, the definite code is at a higher skill level than all three potential codes so you would be justified in assigning the definite code 5601-11 for *Receptionist*.

However, if one of the potential codes were at a higher skill level than the definite code, you would leave the record uncoded.

If you can identify the code with the lowest leading digit and there is only one such code, you should assign it to the record.

In the rare event that you still have two or more codes to choose from: (in the same major group), you should go on to:

- Step 9 if the codes are in Major Group 5; or
- Step 10 in all other cases.

Step 9**3.9 Step 9: Using the Order of Precedence in Major Group 5**

This step is necessary for records with two or more (non-nested) codes in Major Group 5 and no other code with a leading digit lower than 5. By applying the order of precedence, you will, in most cases, reduce the number of available codes to one.

If you have two or more non-nested codes commencing with 5, you should select whichever of the codes comes first in the following order of precedence:

1. codes commencing 5601
2. codes commencing 5101
3. codes commencing 5301
4. codes commencing 5303
5. codes commencing 59
6. codes commencing 55
7. codes commencing 5305
8. codes commencing 5105
9. codes commencing 5103
10. codes commencing 52
11. codes commencing 54
12. codes commencing 5603
13. codes commencing 5605

If applying the order of precedence leaves you with only one code for the record, you should assign that code.

Occasionally you will still have two or more codes to choose from. (This could arise if you had two unit group codes belonging to a single minor group in Major Group 5 or two occupation codes belonging to the same unit group in major group 5.) If this occurs, you should go on to Step 10.

Step 10**3.10 Step 10: Coding to Major, Minor or Unit Group Level**

This step is necessary for all titles and records with insufficient data to code to occupation level (except in certain cases involving supervisors or apprentices; see 3.10.1 below), where you can identify the unit group, minor group or major group to which the respondent belongs. In such cases you should assign a code at unit, minor or major group level.

Step 10 is also necessary for records with two or more non-nested codes in one major group which cannot be resolved using Steps 6 to 9. The two codes may be at the same level of the classification (eg. both unit group codes) or at different levels of the classification (eg. one unit group and one minor group code). In either situation, you should choose the appropriate major, minor or unit group level code, as shown in the table below:

Codes Available	Code Selected
2 or more occupations in same unit group (eg. 8101-11, 8101-13)	Unit group code (eg. 8101-00)
2 or more occupations in different unit groups but the same minor group (eg. 8101-11, 8103-11)	Minor group code (eg. 8100-00)
2 or more occupations in different minor groups but the same major group (eg. 8101-11, 8201-11)	Major group code (eg. 8000-00)
1 unit group and 1 occupation in a different unit group, but in the same minor group (eg. 8103-00, 8101-13)	Minor group code (eg. 8100-00)
1 unit group and 1 occupation in a different minor group, but in the same major group (eg. 8103-00, 8201-11)	Major group code (eg. 8000-00)
1 minor group and 1 occupation in the same major group but a different minor group (eg. 8100, 8201-13)	Major group code (eg. 8000-00)
2 or more unit groups in the same minor group (eg. 8101-00, 8103-00)	Minor group code (eg. 8100-00)
1 minor group and 1 unit group in the same major group but a different minor group (eg. 8100-00, 8203-00)	Major group code (eg. 8000-00)
2 or more minor groups in the same major group (eg. 8100-00, 8200-00)	Major group code (eg. 8000-00)

In most cases, the major, minor or unit group code determined by the above process will be assigned to the record.

For example:

Title response: Cafe Hand
Task response: Serving food and working on till

In this example, the respondent performs tasks associated with two different occupations; hence two definite codes are available - 6403-11 *Hand, Cafe/ checkout operating* and 6301-15 *Hand, Cafe/ counter service*. The coder should assign the major group code 6000-00 to this record.

If, exceptionally, you still have other codes to consider after this step, the major, minor or unit group code should be treated as **definite**. In such a case, you must return to a previous step (between 5 and 9 as appropriate) to determine which of the codes remaining should be assigned to the record.

**Supervisors and
Apprentices**

3.10.1 Supervisory/Trainee Status

There are specific occupation codes for supervisors in many unit groups, and for apprentices/trainees where appropriate. If the record actually indicates supervisory or trainee status, then these special codes may be assigned. Otherwise the record should be coded to the substantive (i.e. non-supervisory, non-apprentice) occupation. This is an exception to the rule for applying dump codes to competing potential codes.

4. DIFFICULT CASES**DIFFICULT CASES**

This section contains some further advice on occupation titles which are known to be difficult to code.

Many records which cannot be processed by first-stage coders contain vague titles and little or no task information. Here are some of the more commonly used titles in this category. Note that the first seven titles in the list are ones which should be ignored when given as part of a multiple title:

1. Clerk (General Clerk)
2. Labourer
3. Manager
4. Owner
5. Director
6. Proprietor (Business Proprietor)
7. Partner (Business Partner)
8. Engineer
9. Machine Operator
10. Plant Operator

Quite often, these titles are given with no task details or with a task response which merely repeats the information in the title response; for example, *clerical duties, labouring, engineering* etc.

Most are not codable, with certainty, even to major group level without details of the specific tasks performed. However, some can be assigned a major group code on a probability basis. In each case, you must decide whether to apply a major or minor group code or leave the record uncoded.

4.1 Clerk**Clerk**

Of the commonly used vague titles, *Clerk* is one of the few that appears in the index in an *NAI* entry with a higher level code. Although a few respondents use the title *Clerk* when it is clear from their tasks they do not belong to Major Group 5, the index entry *Clerk/ NAI (about specific tasks)* has the major group code 5000-00. Without this entry, many inadequate records would be referred to you. The use of this higher level code means that a small proportion of records are coded to the wrong major group but many more records, which would otherwise be left uncoded, are coded correctly.

When a record containing the title *Clerk* or *General Clerk* is referred to you which also contains some task information, you may choose the major group code if you think the additional information is not useful.

On the other hand, you may be able to make use of the information to find a more specific code.

For example:

Title response: Clerk
Task response: Controlling fleet of vehicles

This record would be referred to you because there is no matching index entry under the basic word *Clerk*. In cases like this, where there is detailed task information, you should disregard the vague title and try to generate a new title from the task response (see Chapter 3.3). You could, for example, create the title *Fleet Controller* from the task description in this record. There is a matching index entry for this title with code 5503-15.

Labourer**4.2 Labourer**

There is no index entry *Labourer/ NAI (about specific tasks)* with a higher level code for two reasons. Firstly, it is recognised that a large proportion of people using this title operate plant or machinery and so belong to Major Group 7 rather than Major Group 8. As the query resolver, you are given the opportunity to check the occupation details before assigning the major group code 8000-00 on a probability basis.

Secondly, because an *NAI* entry would have the major group code 8000-00, there is a danger that it would be used by first-stage coders for records to which you, the query resolver, could assign a more specific code. You might, for example, recognise an employer's name in the record and thereby confirm that the labourer works in a factory. Since all factory labourers who give no task information should be assigned the code 8199-00, the lack of a higher level code entry means there is an opportunity to assign a more specific code at query resolution. Of course, if you are unable to make use of the industry or employer response, you can still assign the major group code 8000-00.

If the record contains detailed task information for which you can find no matching entry under *Labourer*, you may ignore the vague title and try to create a new one from the task response.

Managers**4.3 Manager, Owner, Director, Proprietor and Partner**

There is no *NAI* entry with a higher level code for any of these single-word titles. The reasons are twofold: firstly, many respondents using these titles should be assigned to a major group other than Major Group 1. Most such respondents are in charge of small businesses but are mainly engaged in the work of the business (selling, hairdressing, cooking, driving etc.) rather than managerial or administrative tasks. You are given the opportunity to check the occupation details before assigning a managerial code which resolves the query in favour of the code at the higher skill level. As above, you may be able to get further details of the occupation which will allow you to assign the respondent to the correct major group.

Secondly, there is a danger that an *NAI* entry with the major group code 1000-00 would be used by first-stage coders to code records which could be assigned a more specific code. Even without task information it may be possible to assign a code at unit group level to persons describing themselves as the *manager*, if the name of a retail or other business is given in the employer response.

Most persons describing themselves as *Managers, Owners, Directors, Proprietors* or *Partners* of small businesses, who give no task details, can be coded to a managerial unit group in Minor Group 15 or 16.

Those who mention any managerial or administrative tasks such as *running the business, managing the business, supervising staff, doing the books or ordering stock* (see chapter 4.3.1 below), are also given a managerial code but those who mention **only** the work of the business are coded to the non-managerial tasks performed, for example:

Business	Task	Correct Code
Retail Sales	Selling	6301-00 (Assistant, Sales/ selling or serving; <u>NAI (about type of goods)</u>)
Transport	Driving bus	7101-11 (Driver, Bus)
Hairdressing Salon	Cutting hair	4927-11 (Hairdresser/ except above)

If the record contains a description of the establishment managed but there is no matching index entry, you may be able to find an alternative title for the respondent (see Chapter 3.3) under *Manager* using a synonym. For example you would not find the title *Proprietor, Petrol Filling Station* in the index but you would find the more commonly used titles *Manager, Service Station* and *Manager, Garage*.

4.3.1 Additional Steps for Titles Which Sound Managerial

Additional Steps for Managerial Titles

Many titles used by respondents sound managerial. For such titles, you should first try to find a code in the index by following Steps 1 to 3 as outlined in Chapter 3. If this does not produce any codes, you may consult the *Occupation Definitions* and the *Statistical Classification* (Step 4) but you should use them in conjunction with the strategy outlined below.

These publications contain fewer managerial titles than the *Coding Index*. They were not designed primarily as coding documents and therefore cannot give the reader an appreciation of the importance of each basic word, verb and object in the title and task response when determining whether a respondent belongs to Major Group 1. Those basic words, verbs and objects which ASCO recognises as managerial are listed in the strategy below.

This strategy can help you decide not only whether the respondent belongs to Major Group 1 but, if so, whether the major group code 1000-00 or a more specific code should be assigned.

It may also be used to confirm a code identified from the index using non-standard coding procedures (Steps 2 or 3).

However, this strategy only applies to respondents who are not employed in Commonwealth, State or Local Government.

1. Check title and task responses.

To be managerial (ie. Major Group 1) the respondent must give one of the words in list (a) below as a basic word, and, if tasks are mentioned, satisfy the task rules outlined at (b) and (c) below:

(a) Managerial basic words

manager	administrator
owner	executive
director	head
proprietor	chief
partner	

(b) Managerial verbs

If tasks are mentioned, there should be at least one task with a managerial verb from the list below:

manage	control
run	direct
administer	co-ordinate
organise	

(c) Managerial objects

If that verb has an object, it must be a managerial object (either organisational or functional as listed below):

Organisational	Functional
business	finance
department (except retail store)	personnel/staff
division	marketing
branch	production
company	supply
firm	distribution
resource(s)	processing

Using the above lists, you will be able to establish whether or not the respondent is a manager (in ASCO terms) by answering the following questions:

- | | | |
|----|-------------------------------|--------|
| 1. | Non-government? | YES/NO |
| 2. | Managerial basic word? | YES/NO |
| 3. | Managerial verb? | YES/NO |
| 4. | Does the verb have an object? | YES/NO |
| 5. | Is the object managerial? | YES/NO |

Remember, if the answer to Question 1 is **NO**, this strategy does not apply.

The effect of these questions is illustrated by the following examples:

Example 1

Title response: Branch Manager
Task response: Organising business

- | | | |
|----|-------------------------------|-----|
| 1. | Non-government? | YES |
| 2. | Managerial basic word? | YES |
| 3. | Managerial verb? | YES |
| 4. | Does the verb have an object? | YES |
| 5. | Is the object managerial? | YES |

Therefore the respondent is in Major Group 1.

Example 2

Title response: Administrator, Wages and Salaries
Task response: Running pay system

- | | | |
|----|-------------------------------|-----|
| 1. | Non-government? | YES |
| 2. | Managerial basic word? | YES |
| 3. | Managerial verb? | YES |
| 4. | Does the verb have an object? | YES |
| 5. | Is the object managerial? | NO |

This respondent is **not** in Major Group 1 because the task is not managerial.

Example 3

Title response: Manager
Task response: Managing

- | | | |
|----|-------------------------------|-----|
| 1. | Non-government? | YES |
| 2. | Managerial basic word? | YES |
| 3. | Managerial verb? | YES |
| 4. | Does the verb have an object? | NO |

This respondent is in Major Group 1 because there is no information to indicate that the task is not managerial.

Example 4

Title response: Supervisor
 Task response: Organising and controlling assembly line

- | | | |
|----|------------------------|-----|
| 1. | Non-government? | YES |
| 2. | Managerial basic word? | NO |

This respondent is **not** in Major Group 1 because *supervisor* is not a managerial basic word.

2. Specialist or Generalist Manager?

Once you have established that the respondent is a manager (in ASCO terms) the next step is to establish whether he or she is a specialist or generalist manager.

A **specialist** manager has:

- **functional** qualifying word(s), or
- a **managerial** verb with either one or two **functional** objects.

For example:

Data Processing Manager
 Personnel Manager
 administering finances
 controlling supply and distribution
 managing data processing and finances

If you establish that the respondent is a **specialist** manager, he or she must belong to *Minor Group 13 Specialist Managers*. You will usually be able to select a particular unit group and occupation when feasible by referring to the *ASCO - Occupation Definitions*, the *ASCO - Statistical Classification* and the *ASCO Coding Index: Numerical Order*.

A **generalist** manager has no **functional** qualifying words and, if there is a managerial verb, either no functional objects or more than two.

Example 1

Title response: Manager
 Task response: Managing business

This record has no qualifying words and a managerial verb with an organisational object rather than functional objects. Therefore the respondent is a generalist manager.

Example 2

Title response: Company Manager
 Task response: Managing

This record has an organisational qualifying word and no managerial objects. Therefore the respondent is a generalist manager.

Example 3

Title response: Manager

Task response: Co-ordinating supply, distribution and finances

This record has no qualifying words and a managerial verb with three functional objects. Therefore the respondent is a generalist manager.

3. Scale of Enterprise Managed?

If you establish that the respondent is a **generalist** manager, you must now decide the scale of the enterprise managed. For our purposes the two possibilities are large and small.

The scale is **large** if the qualifying words or the object of the managerial verb indicate a large geographical unit or a large organisation or organisational component; for example:

regional
area
division

The scale is **small** if the qualifying words or the object of the managerial verb indicate a small organisational component or a small organisation; for example:

branch
boutique

In the absence of clear evidence about the scale of the enterprise, you should assign the major group code 1000-00. Note that words like *business*, *company* and *firm*, without additional information, do not indicate the scale of the enterprise.

You should code a generalist manager working for a large scale organisation to occupation 1201-11. This occupation, entitled *General Manager* in the *ASCO - Occupation Definitions*, applies to respondents who have specialist managers reporting to them.

If the scale is small, the respondent may belong either to Minor Group 15 or Minor Group 16. Minor Group 16 refers to managing supervisors of establishments which carry out activities other than retail trade or personal (ie. face-to-face) services to the general public. The *Numeric Index* may help you to choose between codes commencing 15 and 16.

If you cannot be sure whether the correct minor group is 15 or 16, you should assign the major group code 1000-00.

Industry and employer information will help you to choose between unit groups in Minor Group 15. You should consult the occupation definitions and *Numeric Index* in making your choice.

Engineer

4.4 Engineer

There is no *NAI* entry for this single-word title mainly because, without task details, respondents are almost as likely to be tradespersons as professional engineers. Since the relative probabilities are difficult to determine without task information, a major group code is too risky. If you, the query resolver, cannot get more occupation details from the record, the respondent or the employer, the title *Engineer* must be left uncoded. However, if you can get a detailed task description, you may be able to create a new title from that description.

Machine Operator and Plant Operator

4.5 Machine Operator and Plant Operator

Machine Operator and *Plant Operator* are commonly used titles which are often given with little or no additional information.

The response *Plant Operator* without task or industry information has a definite code 7000-00 because there are few plant operators in other major groups. Although operators of ships and aircraft belong to Major Group 3 *Para-professionals*, they create few problems in coding because they generally do not use the word *Operator* as their basic word.

However, many people who operate machines belong to major groups other than 7. *Business Machine Operators*, for example, belong to Major Group 5 (*Clerks*) while *Paper Guillotine Operators* and *Wood Turning Lathe Operators* belong to Major Group 4 (*Tradespersons*).

Nevertheless, inadequate records containing the title *Machine Operator* and no useful additional information are assigned the major group code 7000-00 as this code still has a high probability of being correct.

Sometimes you will have additional information about the machine, plant or materials worked on which is difficult to interpret. In everyday use the terms *machine* and *plant* are often interchangeable but in ASCO these words have a precise meaning.

Mobile plant has an onboard engine and operator. The operator's main task is to operate the engine which enables the plant to move from place to place. Mobile plant operators are further divided according to the primary function of the plant.

If that function is to transport passengers or goods by road or rail, then the operator belongs to Minor Group 71 *Road and Rail Transport Drivers*.

If the mobile plant has a function other than transport, then the operator belongs to Minor Group 72 *Mobile Plant Operators (Except Transport)*.

Thus drivers of buses, trams, trucks, cars and locomotives belong to 71 while operators of bulldozers, forklifts, fire fighting equipment, harvesters etc. belong to 72.

Stationary plant is operated in a fixed location and requires the operator to sit within or to move about inside or outside it. Once activated, stationary plant will generally continue to function automatically, without direct intervention from the operator. The operator's main task, therefore, is to monitor the performance of the plant and to ensure that it is functioning correctly and safely. Minor Group 73 *Stationary Plant Operators* contains operators of the following types of plant: power stations, boilers, furnaces, drilling rigs and refineries.

Machinery is mechanical apparatus which is normally operated in a fixed location by an operator standing or sitting next to it. Generally a machine is smaller than plant and requires constant intervention from the operator in order to carry out its function.

Minor Group 74 *Machine Operators* contains operators of the following types of machinery: packing machines, sewing machines, plastic extruders, metal presses and moulding machines, to name but a few. This minor group excludes some more skilled occupations in which the principal task involves operating a machine, as noted above.

Hand-held tools which are portable and which have to be moved as part of their operation are not machines as defined in ASCO. Chainsaws, power drills and jackhammers are hand-held tools. People who use these tools as the principal part of their job are in major groups other than 7, depending on their skill level.

You should bear these definitions in mind when you are resolving queries relating to persons who indicate they operate plant or machinery. Note that most records for which you can identify the minor group also have enough information to identify the unit group and possibly the occupation. You will, therefore, assign most records containing the title *Machine Operator* or *Plant Operator* either at least a unit group code or the Major Group code 7000-00. Only rarely will you assign a minor group code.