USER MANUAL

NIOSH Industry and Occupation Computerized Coding System (NIOCCS) V3.0

Centers for Disease Control and Prevention

National Institute for Occupational Safety and Health (NIOSH)

January 2018

NIOCCS USER'S MANUAL

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Revision History

Who	Date	Revision #	Revision Description
Nowlin	January 2, 2018	0	Initial creation

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Supplemental User Documentation and Support

The intent of this manual is to provide instruction on the use of the features of the NIOCCS System. It is not intended to teach the rules of industry and occupation coding or provide detailed technical documentation of NIOCCS.

To obtain more information about I&O coding visit the NIOSH Industry and Occupation Coding website at: https://www.cdc.gov/niosh/topics/coding/default.html

Supplemental documentation, such as I&O classifications, crosswalk tables, and I&O coding instruction manuals, can be found at: https://www.cdc.gov/niosh/topics/coding/nioccsuserdocumentation.html

References to these web links are provided throughout this NIOCCS User Manual where appropriate.

Detailed information about how NIOCCS works, autocoding performance, and system limitations can be found at: https://www.cdc.gov/niosh/topics/coding/overview.html

1 SYSTEM OVERVIEW

1.1 Introduction

The NIOSH Industry and Occupation Computerized Coding System (NIOCCS) is a web-based software tool designed to translate industry and occupation (I&O) text to standardized I&O codes. The system was developed by NIOSH and first released for public use in December 2012. NIOCCS Version 3.0, a major upgrade to the system, was released in January, 2018.

This system is used by occupational researchers, federal government agencies, state health departments, and other organizations that collect and/or evaluate information using I&O. Its purpose is to provide a tool that reduces the high cost of manually coding I&O information while simultaneously improving uniformity of the codes.

NIOCCS is available free of charge and requires only internet access and a web browser for use. Users are required to register for a NIOCCS account if they wish to upload files for coding.

NIOCCS Primary System Features:

- Single Record Coding
- Batch File Processing
- Computer Assisted Coding for records not automatically coded
- Crosswalk Coding using Census I&O coding classifications, North American Industry Classification System (NAICS), Standard Industry Classification (SIC), or Standard Occupational Classification (SOC)
- I&O Coding Classification Scheme options:
  - Census 2010 / NAICS 2007 / SOC 2010
  - Census 2002 / NAICS 2002 / SOC 2000
  - Census 2000 / NAICS 1997 / SOC 2000
- Census Industry and Occupation Alphabetical Index Lookup

1.2 NIOSH Contact Information

For questions about NIOCCS or industry and occupation coding, send an email to NIOCCS@CDC.gov

1.3 Major Enhancements Version 2.0 to 3.0

- Improved autocoding rates by 10-25% depending on quality of data input.
- Industry input can be text or NAICS codes.
- Simplified upload process (upload and autocode in one step).
- Increased upload file size limit from 2.5mb to 30mb.
- Removed option for High and Medium confidence level coding; added a 'Suggest Review' flag on complex autocoded records.
- Detailed NAICS and SOC codes included in output files along with Census I&O codes.
- Automatic email message to user when autocoding job is completed.
- Crosswalk coding enhancements:
    - Crosswalk from 2000 Census to 2010 Census in one step.
    - NAICS crosswalks added.
    - SOC crosswalks added.
    - SIC to NAICS crosswalks added.
- Enhanced computer assisted coding features:
    - Bureau of Labor Statistics (BLS) data available to assist with coding decisions.
    - Quick Google search buttons for industry, occupation, and employer text.
    - Ranked I&O pair candidates provided.
    - Census, NAICS, and SOC titles viewable with mouse hover.
    - Hot keys added to reduce mouse use.
    - Improved Alpha Index searching.

1.4 NIOSH Training Recommendations

The intent of this manual is NOT to teach how to code industry and occupation but how to use the NIOCCS system.

NIOCCS will autocode most of the records in a file, but the remaining will require manual coding using the computer assisted features of this system.

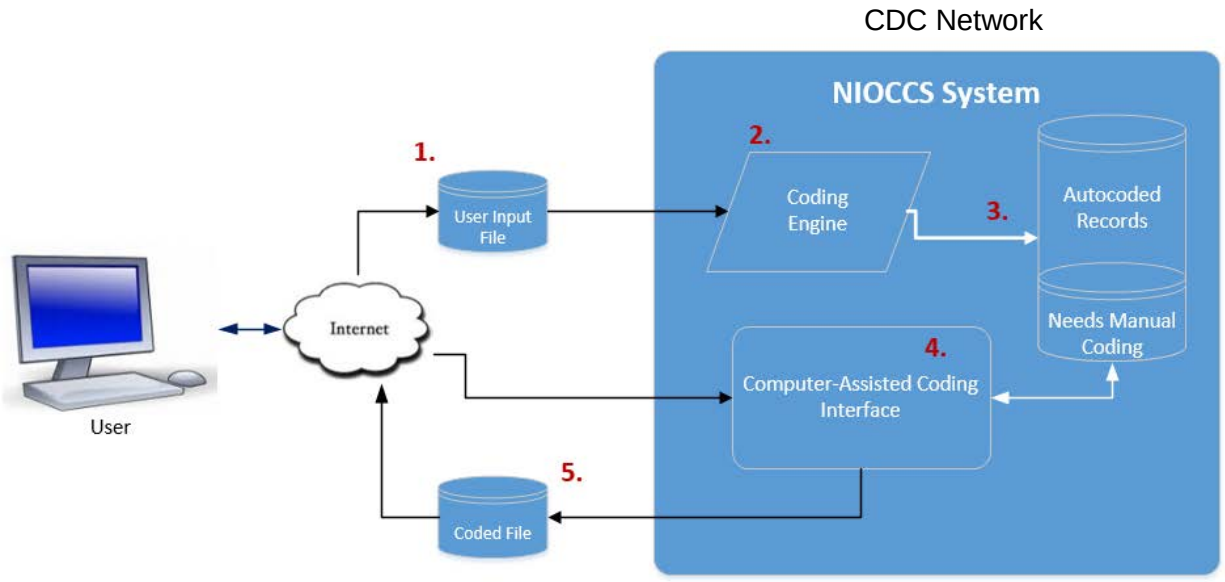
The computer assisted feature of NIOCCS requires trained I&O coders with the knowledge needed to use the system for selecting the appropriate I&O codes. Therefore, we strongly recommend that users be trained in I&O coding prior to using the computer assisted feature of the NIOCCS system. For more information on the computer assisted features, see Chapter 5.

NIOSH provides I&O coding training classes a few times a year. See our Training and Consultation page for more information: http://www.cdc.gov/niosh/topics/coding/training.html

1.5 System Configuration and Data Flows

NIOCCS is available free of charge and requires only internet access and a web browser for use. Many features of the system do not require a NIOCCS user account, such as single record coding and the Census Industry and Occupation Alphabetical Index Lookup. To code a file of records, a user account is required.

The diagram and steps below outline the process for using NIOCCS to code a file of records.



1. User uploads file to be coded: Minimum fields required: Record ID, Industry text or NAICS code, Occupation text.

2. Data is processed by the NIOCCS coding engine.

3. Records are flagged as autocoded or needing manual coding.

4. Using the tools in the Computer Assisted interface of NIOCCS, user selects codes for records needing manual coding.

5. User downloads coded file: Output file contains same input fields plus the Census industry code, Census occupation code, NAICS code, SOC code.

1.6 User Access

NIOCCS users only have access to their own data. No user can see another user's data nor can access be granted to a file from one user to another. There are no variations in user access levels.

Users can have only one NIOCCS session open per user account at a time. The enforcement of single active user session ensures the integrity of the user's data, that is, users could not accidently edit the same file in multiple sessions.

1.7 Accessibility and Compatibility

NIOCCS uses standard Microsoft Windows keyboard shortcuts to provide alternative ways to do things typically done with a mouse. For a complete list of these keyboard shortcuts visit the Microsoft support website at: https://support.microsoft.com/en-us/help/13810

NIOCCS provides the following specific keyboard shortcuts in the computer assisted coding screens for navigation purposes:

Shift+F First Record
Shift+P Previous Record
Shift+N Next Record
Shift+L Last Record
Shift+V View All - to view the records in table format rather than one record at a time.

NIOCCS support documentation is provided to end-users available in alternate formats (i.e., ASCII text or HTML) upon request for no charge.

1.8 Continuity of Operations

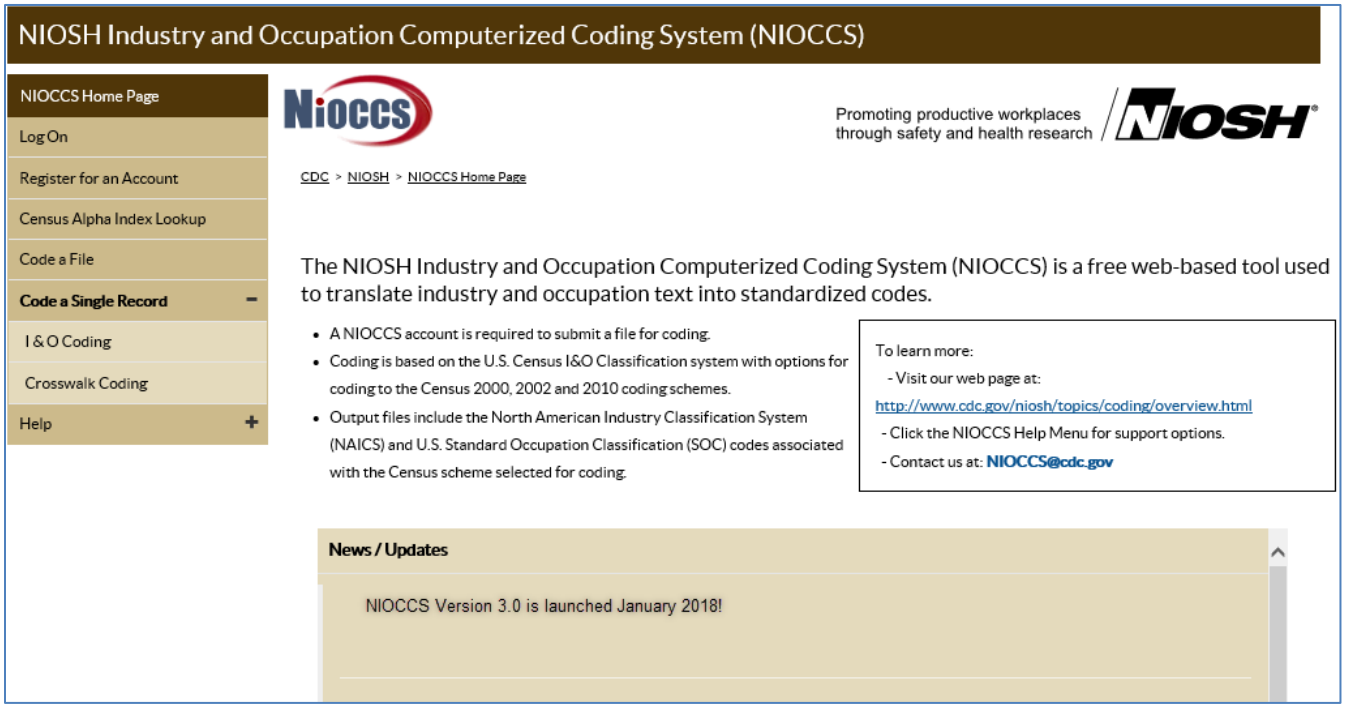
NIOCCS users will be informed via email in the event the system is unexpectedly down. Known downtimes for maintenance will be posted in advance on the **News / Updates** box on the NIOCCS home page and email messages will also be sent to users.

2 ACCESSING NIOCCS

NIOCCS software can be accessed directly using the following URL:

https://wwwn.cdc.gov/nioccs3/

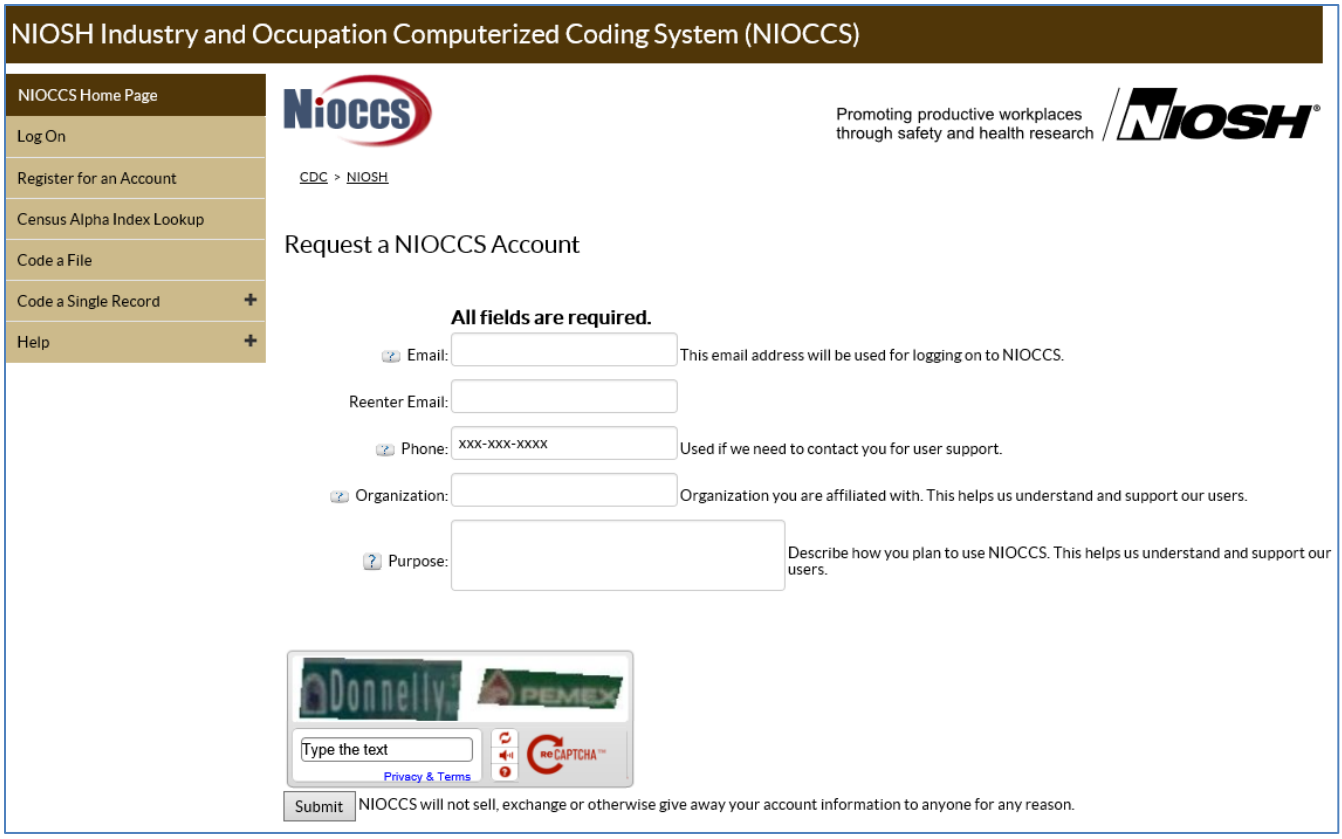
The **NIOCCS Home Page** provides a brief description of the system and displays news, updates, or alerts about the system.



2.1 Requesting a NIOCCS Account

A NIOCCS account is required to submit a file for coding. Click the **Register for an Account** menu item.

On the **Request a NIOCCS Account** screen enter the requested information and click the **Submit** button. All information is required.



NIOCCS Registration Information:

Email address - Enter a valid email address. This will become your NIOCCS account name and will be used for logging on to NIOCCS. All communications from NIOSH regarding your NIOCCS account and/or system updates will be sent to this email address.

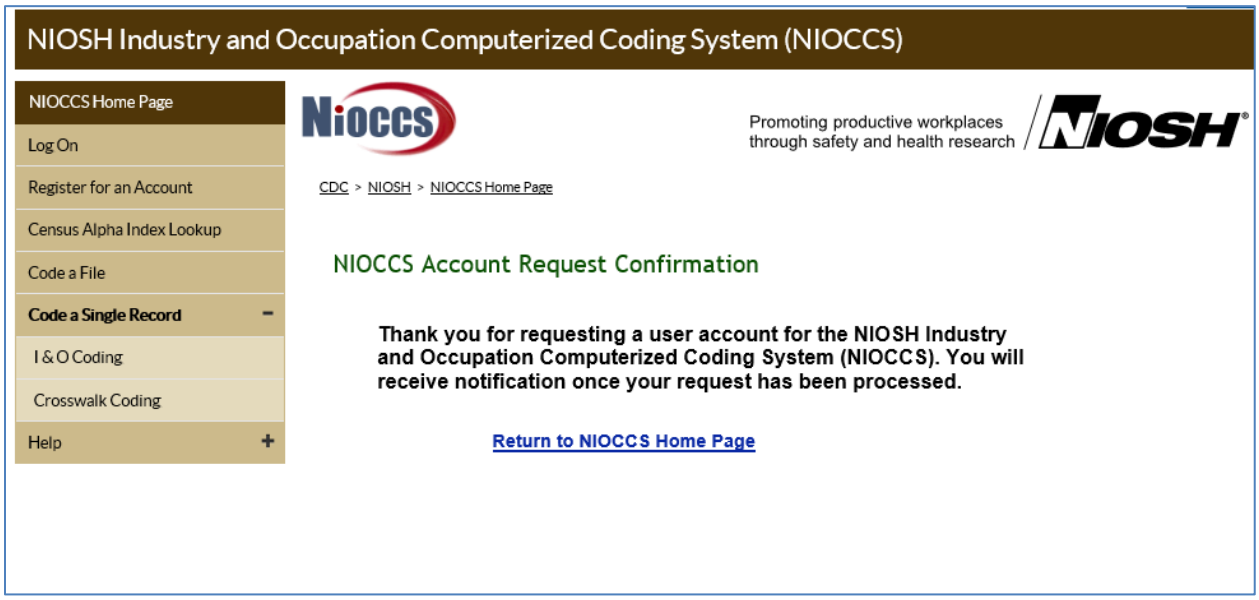
User Phone Number – Enter a valid phone number in the format xxx-xxx-xxxx. NIOSH will only use this number to contact you by phone if needed for user support issues.

Organization – Enter the name of the organization you are affiliated with, for example: university name, company name, government agency name, etc. This information is used by NIOSH to better understand and support stakeholders of the NIOCCS product.

Purpose – Describe your purpose for using NIOCCS, for example: "To code survey data for epidemiologic studies", "To crosswalk older I&O codes", "To verify manually coded I&O data", etc. NIOSH uses this information to better understand and support stakeholders of the NIOCCS product.

NOTE: *NIOSH will not sell, exchange or otherwise give away information regarding this NIOCCS account to anyone for any reason.*

A confirmation message will be displayed on the screen, as shown below, after the **Submit** button is clicked.

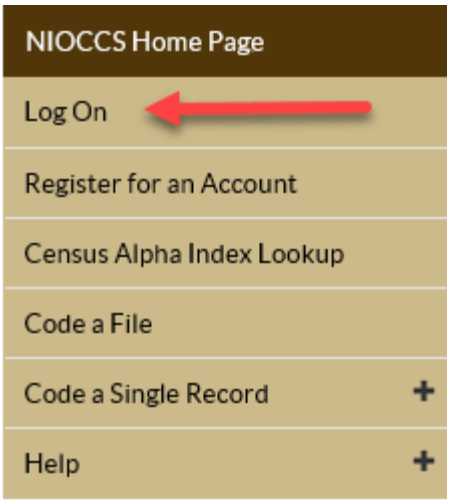


Once NIOSH has set up the account, the user will receive two emails at the address provided on the account request screen. The first email will let the user know their account has been set up and will contain the user's logon name and instructions regarding the account password.

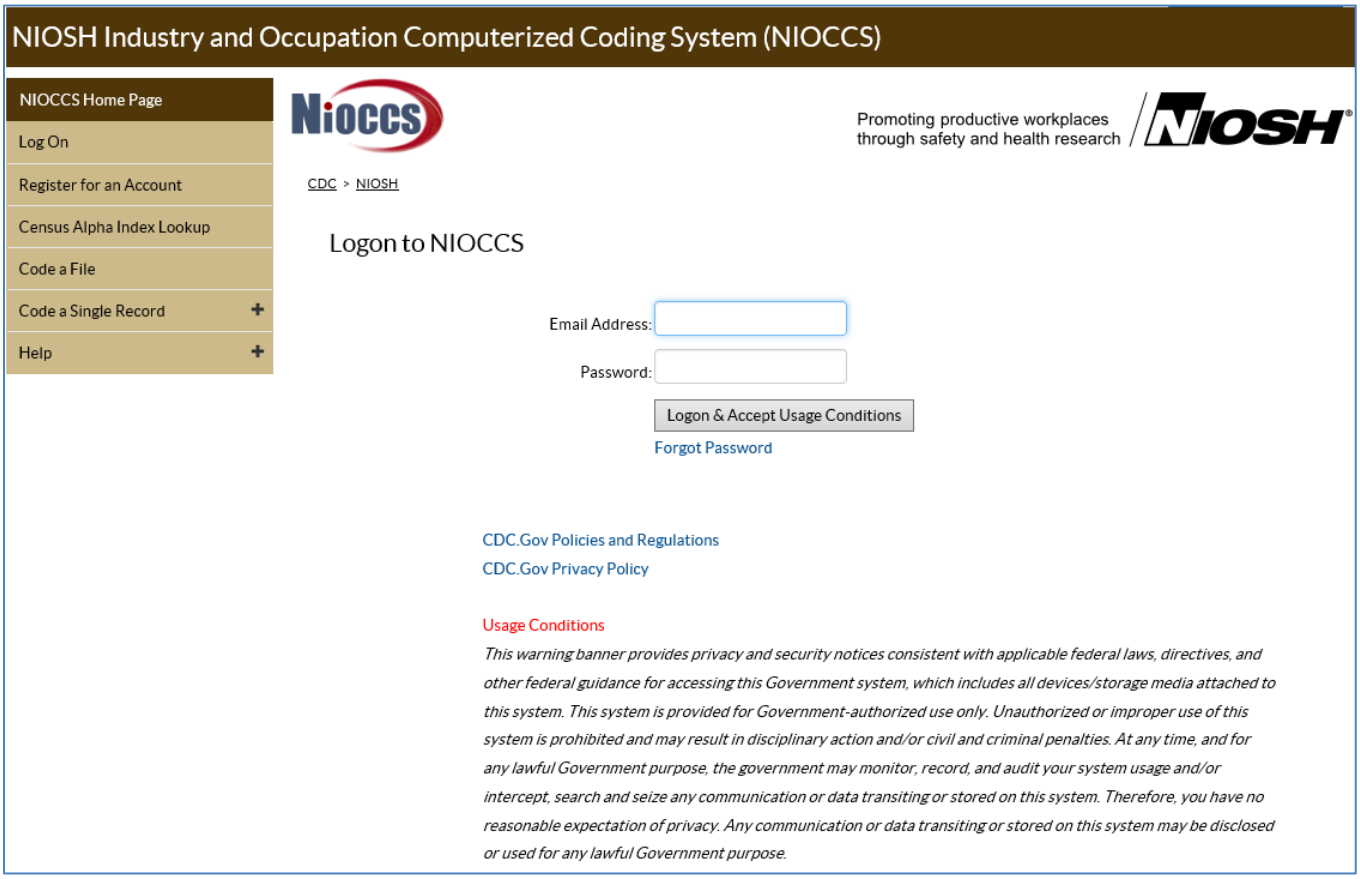
A second email will be sent to the user with their *temporary* password. This password will be used for the initial logon but *must* be changed before using file coding features of the system.

2.2 Logging On

Once a NIOCCS user account has been set up, click the **Log On** menu item from the NIOCCS Home Page.

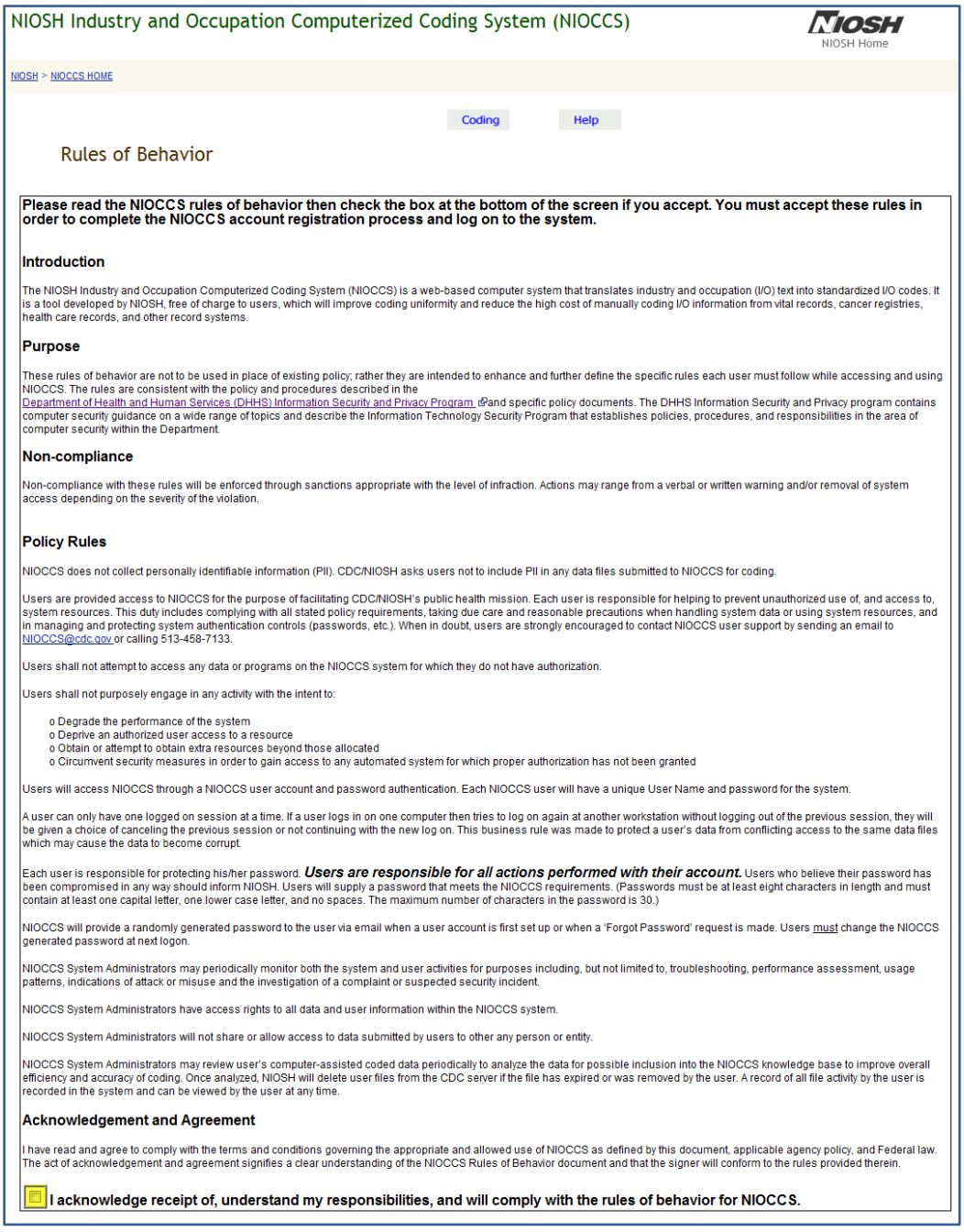


Enter your email address and password then click the **Logon & Accept Usage Conditions** button.



2.2.1 Logging On the First Time

The first time a person logs on to NIOCCS, they will be presented with the NIOCCS **Rules of Behavior**. At the bottom of the Rules of Behavior is a box that **must** be checked by the user in order to continue. Checking the box acknowledges the user understands and accepts the rules for using NIOCCS. See Appendix C. for a readable copy of the Rules of Behavior.

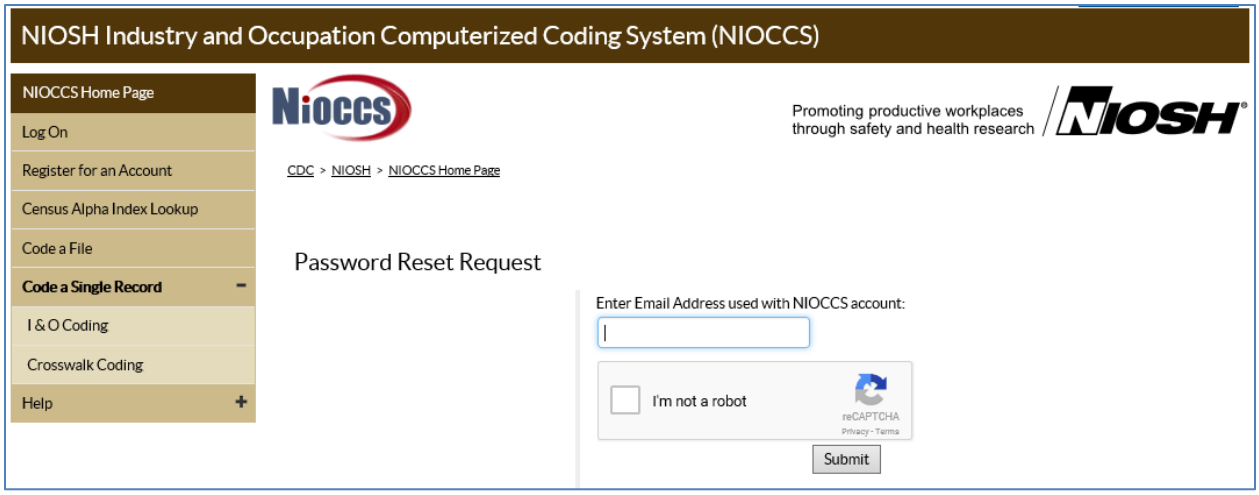


After clicking the "**I acknowledge"** box from the **Rules of Behavior** screen, the **My Profile** screen will appear *requiring you to change your password*.

2.2.2 Forgot Password

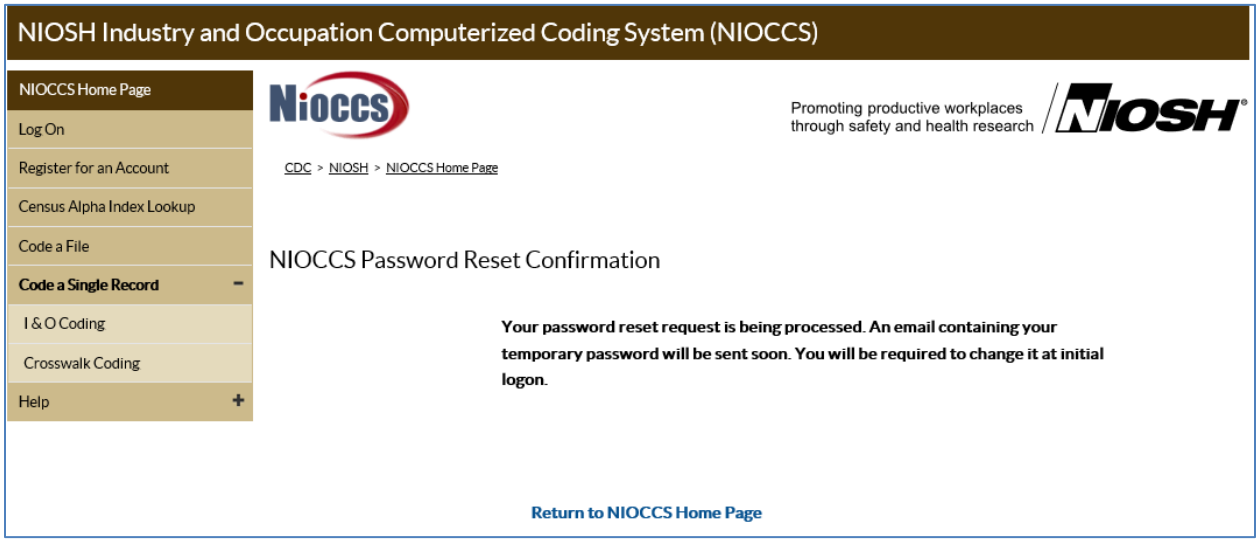
If you have forgotten your password, click the **Forgot Password** link on the **Logon** screen to request a new password.

You will be required to enter your **Email Address,** the Captcha security challenge, then click the **Submit** button.



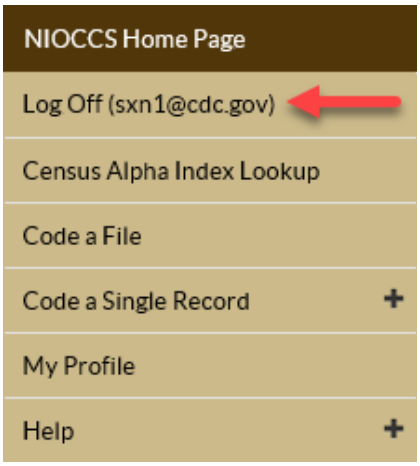
A new temporary password will be generated and emailed to you.

Confirmation that the request was received and processed will be displayed on the screen as shown below. At next logon, you will be required to change the *temporary* password to a new password via the **My Profile** screen.

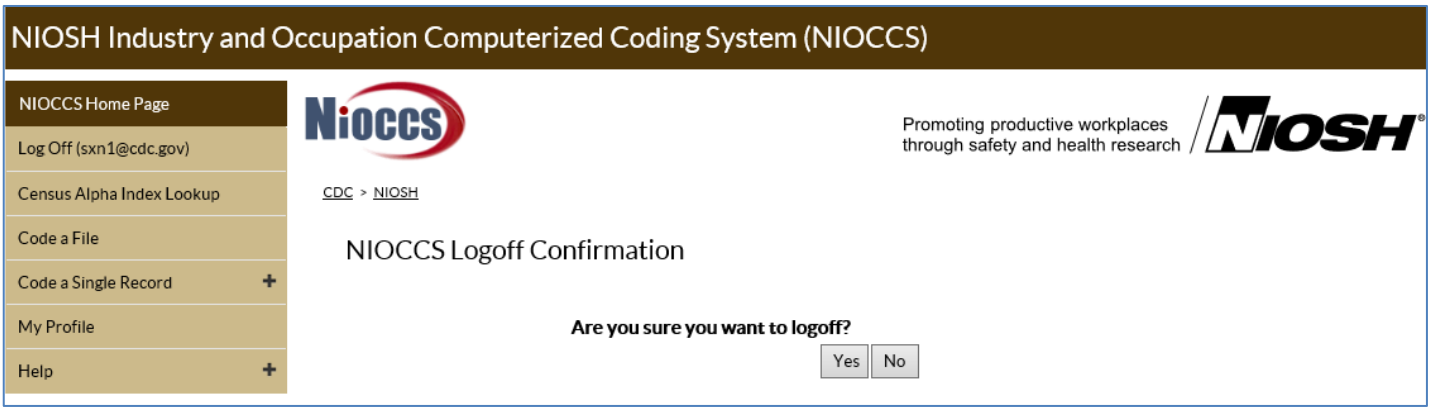


2.3 Logging Off

Log off the NIOCCS system by clicking the **Log Off** menu item from the NIOCCS home page.

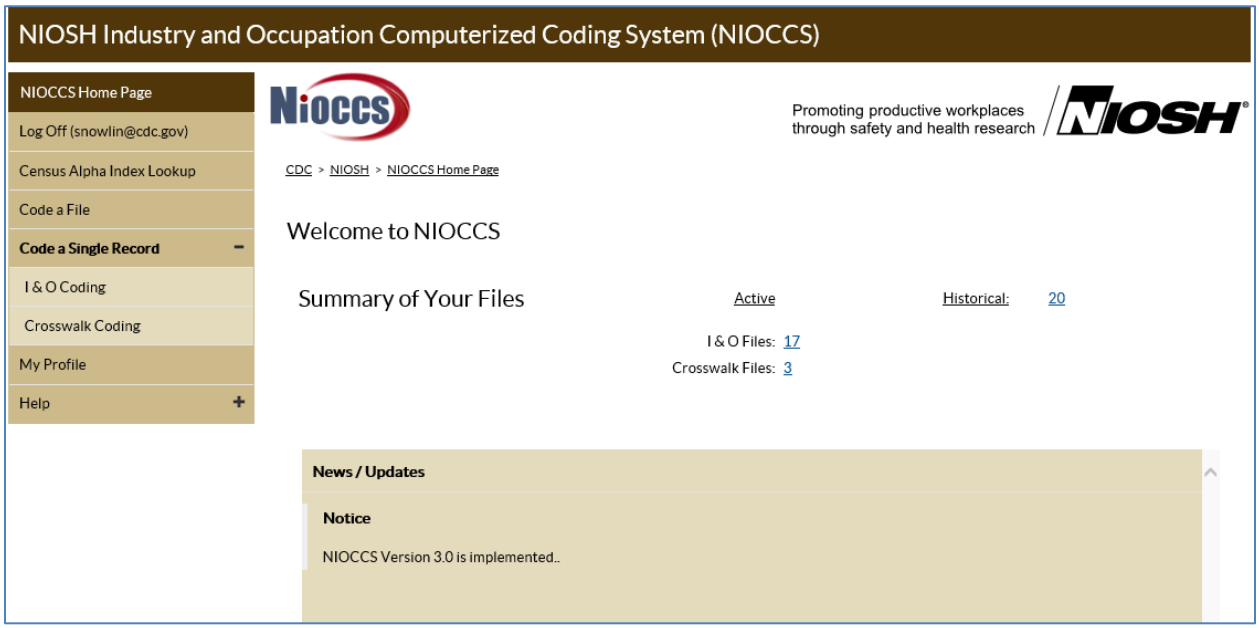


After clicking **Log Off**, the following **Confirmation** screen will appear.



2.4 NIOCCS Home Page (Logged on)

Once logged on, the home page displays a summary of your files that have been submitted to NIOCCS as shown below.

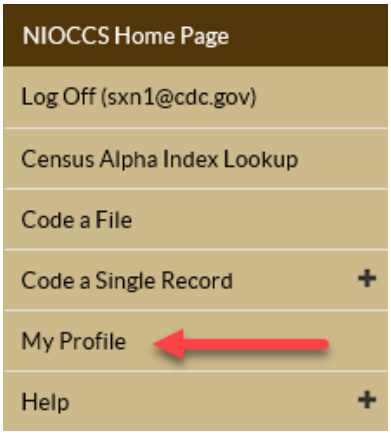


In the **Summary of Your Files** section you will see the number of 'active' files and 'historical' files which have been submitted to NIOCCS for coding. You can click on any of the underlined counts to view more details about the files in that group.

Active Files are files that are either currently being coded or have completed the autocoding process and are available to you for computer assisted coding. Files are available for computer assisted coding for 60 days from the date submitted for autocoding.

Historical Files are a files which have been submitted to NIOCCS and coded sometime in the past but are past the expiration date for being actively available for computer assisted coding. See Chapter 8 for more information about Historical Files.

3 MY PROFILE

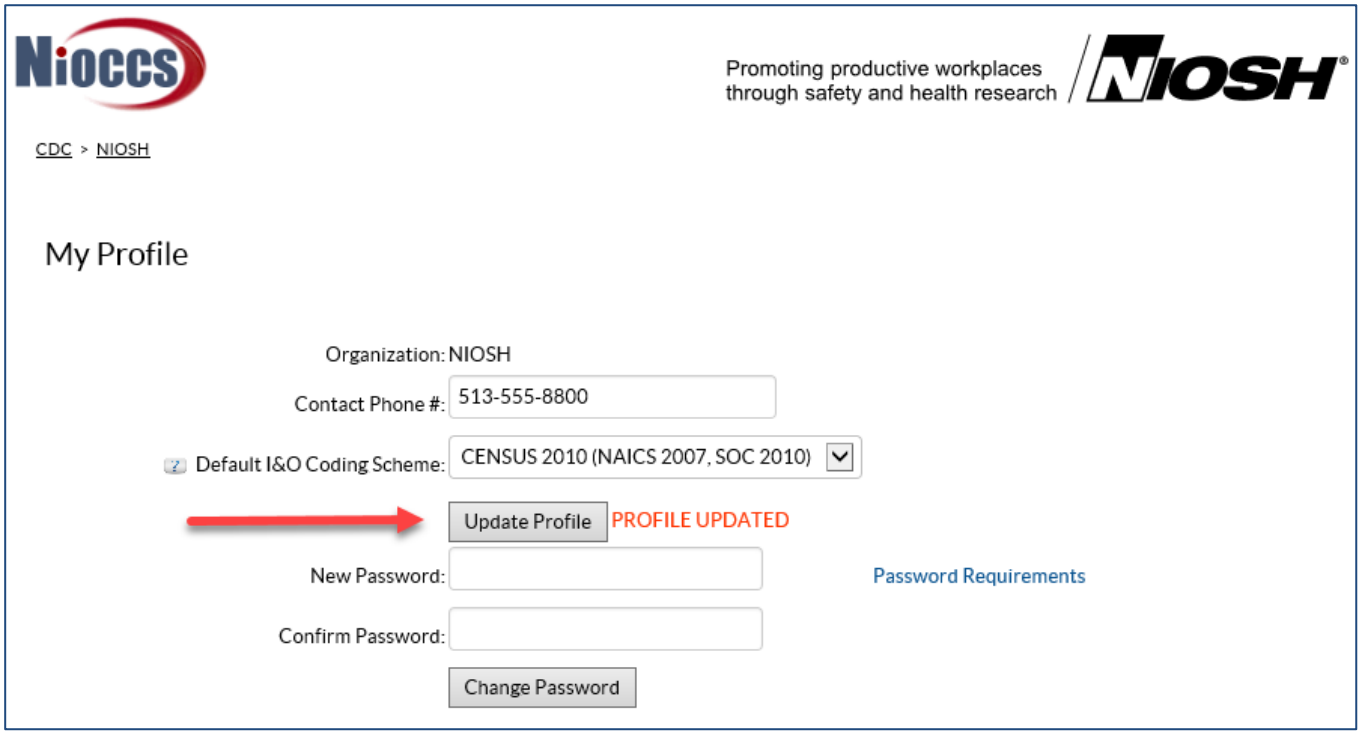


Each NIOCCS user has a user profile. Profiles store contact information, enable modification to passwords, and establish NIOCCS system default preferences.

To access and manage information in your profile, you must be logged on then click the **My Profile** menu item.

To update profile information, enter new values in the fields provided on the **My Profile** screen then click the **Update Profile** button.

A message "PROFILE UPDATED" will appear indicating the change was made in the system.



IMPORTANT NOTE: *If a user needs to change their email address and/or organization information, they will need to contact NIOSH. Since the user's email address is used as the NIOCCS account ID, only a NIOCCS System Administrator can make this change.*

3.1 Default I&O Coding Scheme Preference

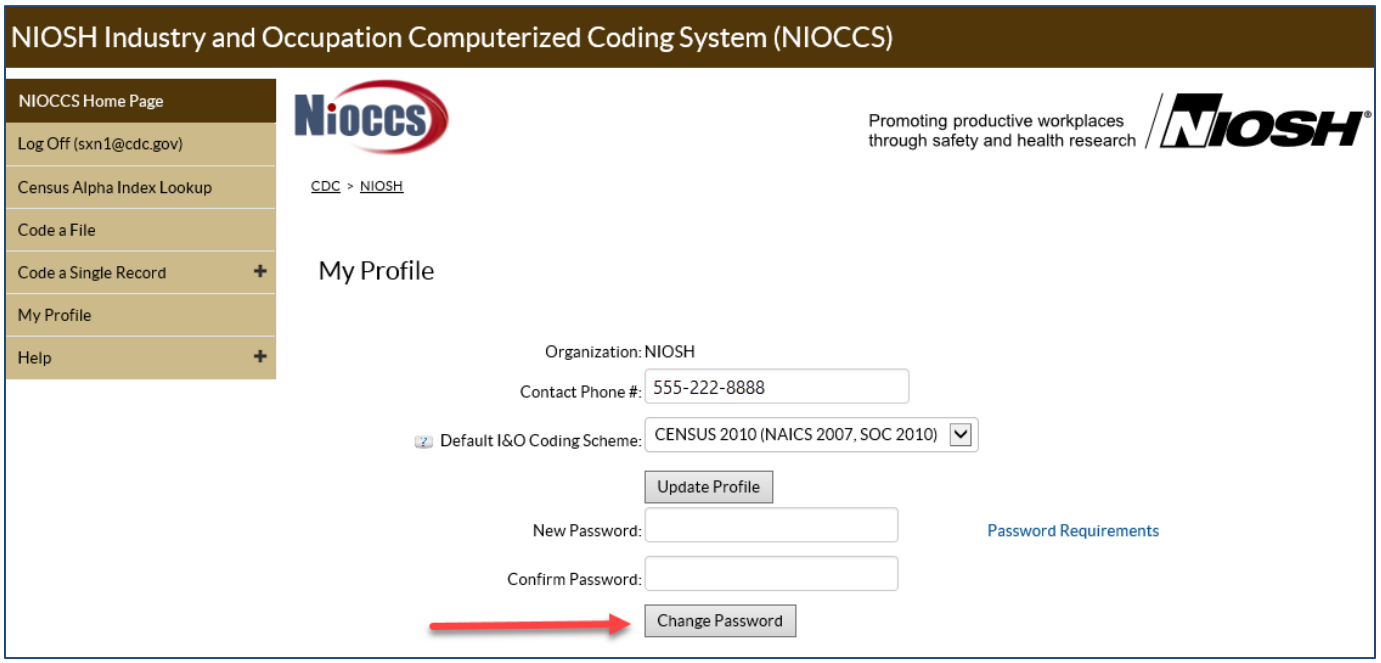
You can set the default I&O coding scheme to be used for autocoding. This means that the Census coding scheme option chosen as your preference will be displayed by default in the **Code a File** screen.

On the **My Profile** screen, users can select preferences for the following system options:

System Setting	Valid Options
Default I&O Coding Scheme	**Census 2000** (includes NAICS 1997 & SOC 2000) **Census 2002** (includes NAICS 2002 & SOC 2000) **Census 2010** (includes NAICS 2007 & SOC 2010)

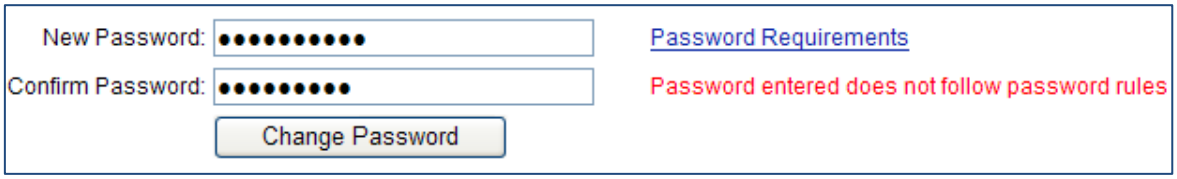
3.2 Change Password

From the **My Profile** screen, enter a new password in the **New Password** field and the same value in the **Confirm Password** field, then click the **Change Password** button.



If the password was changed successfully, a message will be displayed stating that the password was changed. The user will use the new password for all subsequent logon attempts.

If the password entered does not follow the required password rules, the following error message will be displayed:



Password Requirements:

- Must be 8 – 30 characters in length
- At least one upper and one lower case character
- No spaces
- No special characters

4 CENSUS ALPHABETICAL INDEX LOOKUP

4.1 Census Alphabetical Indexes Overview

The Census Alphabetical Index of Industries and Occupations lists industry and occupation titles used most often in the economy. These indexes were developed by the U.S. Census Bureau for use in classifying a respondents industry and occupation as reported in Census Bureau demographic surveys. These indexes list over 21,000 industry and 31,000 occupation titles in alphabetical order. Each title has been assigned a Census industry code or Census occupation code. Additionally, the associated North American Industry Classification System (NAICS) code or Standard Occupational Classification (SOC) code is also provided for each title. For more detailed information about the Census Alphabetical Indexes, go to the U.S. Census Bureau website at: https://www.census.gov/topics/employment/industry-occupation/guidance/indexes.html

4.2 CDC Supplements to the Census Alphabetical Indexes

CDC/NIOSH supplemented the Census Alphabetical indexes for NIOCCS with special codes for unpaid workers, non-workers, and the military along with additional I&O titles found from frequent I&O responses in files coded by NIOSH since 2012. These additional I&O titles reflect current employment terms and abbreviations not provided in the Census Alphabetical Indexes.

Unpaid Worker Codes

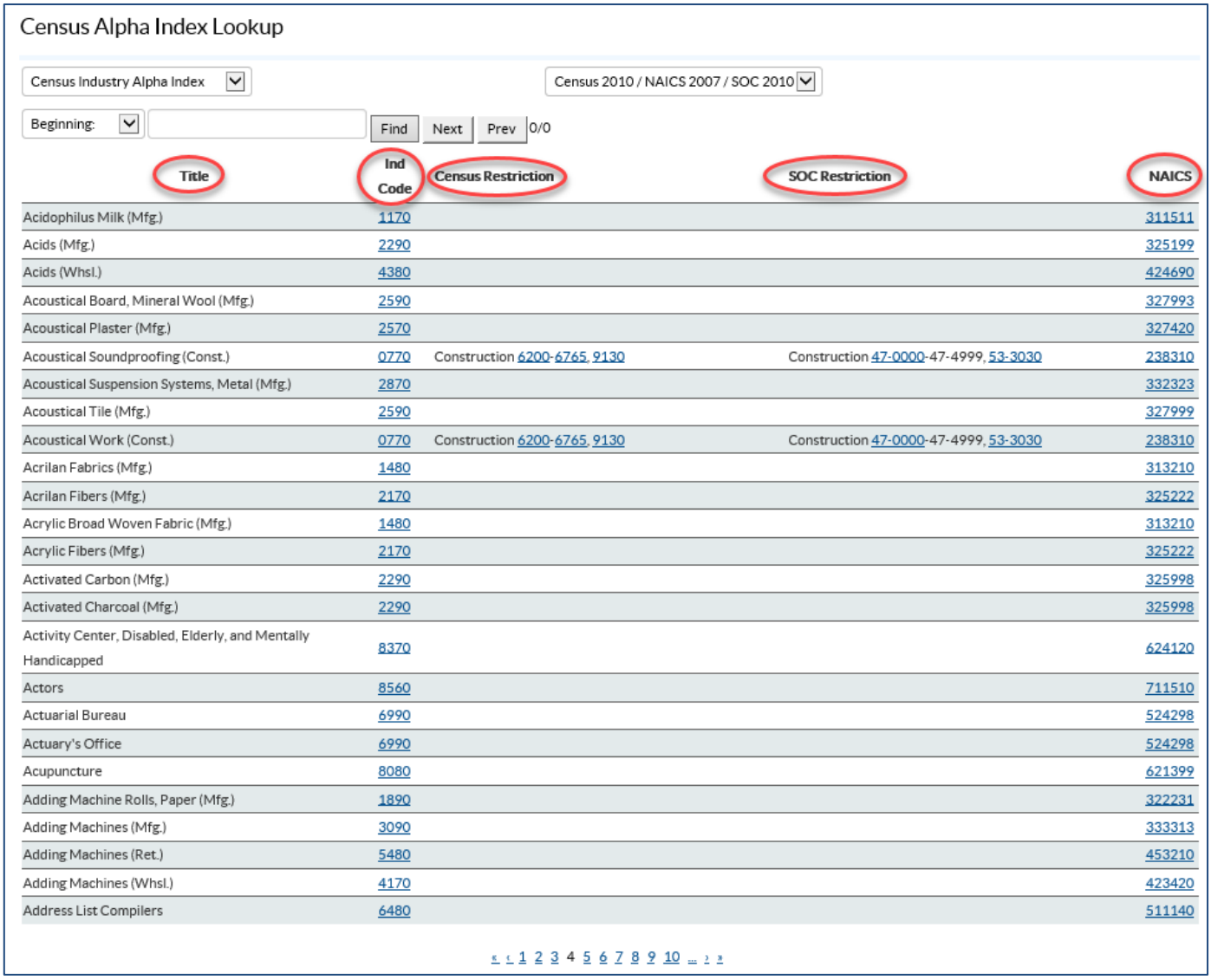
An unpaid worker is someone who is not in the workforce and does not have an occupation for pay. This may be due to the fact that they are unable to work or are too young to be in the workforce. These codes were created by CDC/NIOSH and were added to the Census Alphabetical Indexes.

Non Paid Worker Title	1990 Ind	1990 Occ	2000 Ind	2000 Occ	2002 Ind	2002 Occ	2010 Ind	2010 Occ
Housewife	961	914	989	901	9890	9010	9890	9010
Homemaker	961	914	989	901	9890	9010	9890	9010
Volunteers	961	916	989	902	9890	9020	9890	9020
Student	961	915	989	905	9890	9050	9890	9070
Retired	970	913	988	906	9880	9060	9880	9060
Did not work	961	917	989	910	9890	9100	9890	9100
Child or Infant	961	917	989	910	9890	9100	9890	9100
Patient	961	917	989	910	9890	9100	9890	9100
Disabled	961	917	989	910	9890	9100	9890	9100
Inmate	961	917	989	910	9890	9100	9890	9100
Blank, unknown, don't know, n.a., refused or information is inadequate to decide a code	990	999	999	990	9990	9900	9990	9900

4.3 The Census Industry Alphabetical Index

The Census Industry Alphabetical Index displays 5 columns:

- **Title** - Industry title
- **Ind Code** - Census industry code
- **Census Restriction** – Census occupation restriction rule
- **SOC Restriction –** BLS Standard Occupation Code (SOC) restriction rule
- **NAICS** – North American Industry Classification System code



Census Alpha Index Lookup

Census Industry Alpha Index | Census 2010 / NAICS 2007 / SOC 2010

Beginning: | Find | Next | Prev | 0/0

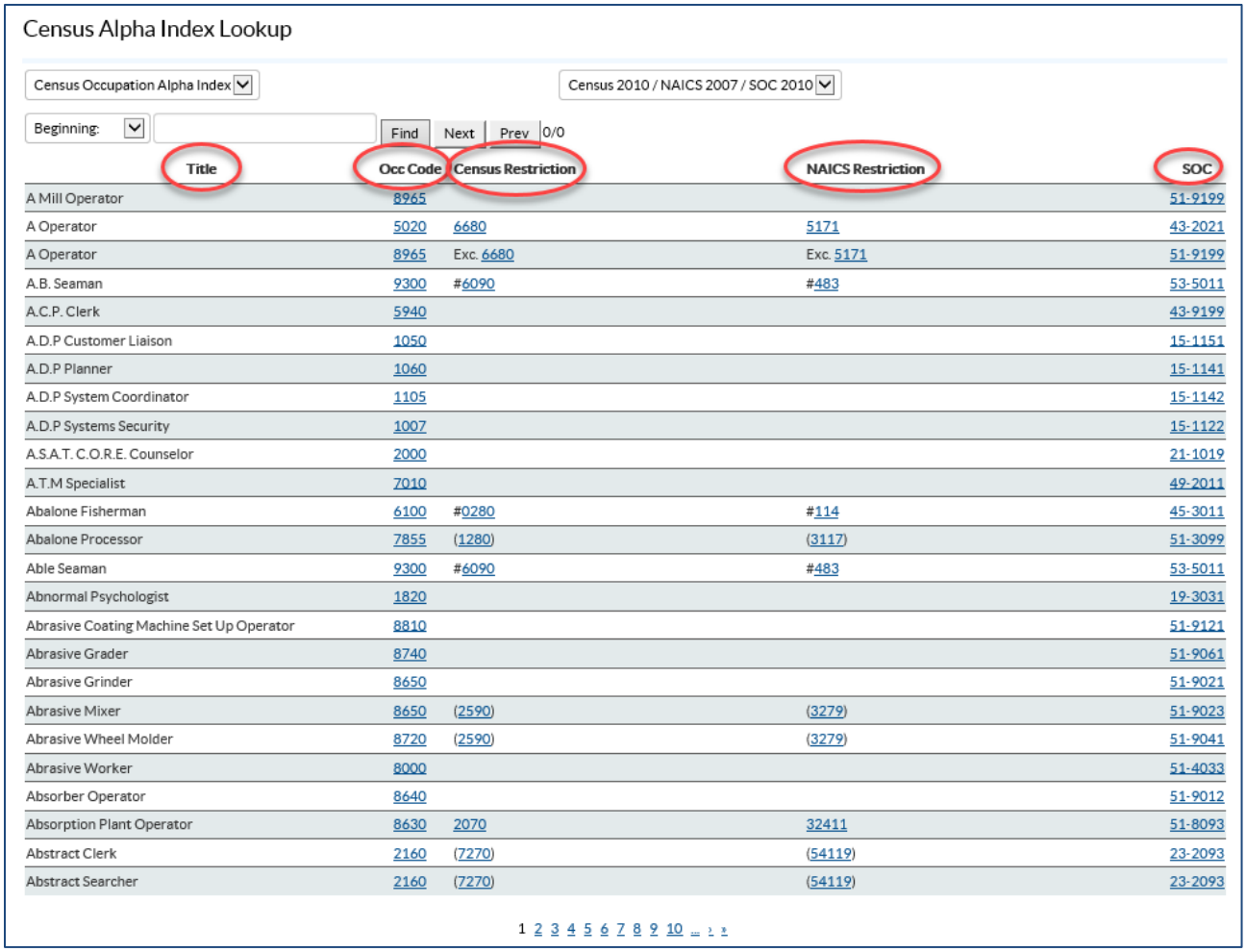
Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Acidophilus Milk (Mfg.)	1170			311511
Acids (Mfg.)	2290			325199
Acids (Whsl.)	4380			424690
Acoustical Board, Mineral Wool (Mfg.)	2590			327993
Acoustical Plaster (Mfg.)	2570			327420
Acoustical Soundproofing (Const.)	0770	Construction 6200-6765, 9130	Construction 47-0000-47-4999, 53-3030	238310
Acoustical Suspension Systems, Metal (Mfg.)	2870			332323
Acoustical Tile (Mfg.)	2590			327999
Acoustical Work (Const.)	0770	Construction 6200-6765, 9130	Construction 47-0000-47-4999, 53-3030	238310
Acrilan Fabrics (Mfg.)	1480			313210
Acrilan Fibers (Mfg.)	2170			325222
Acrylic Broad Woven Fabric (Mfg.)	1480			313210
Acrylic Fibers (Mfg.)	2170			325222
Activated Carbon (Mfg.)	2290			325998
Activated Charcoal (Mfg.)	2290			325998
Activity Center, Disabled, Elderly, and Mentally Handicapped	8370			624120
Actors	8560			711510
Actuarial Bureau	6990			524298
Actuary's Office	6990			524298
Acupuncture	8080			621399
Adding Machine Rolls, Paper (Mfg.)	1890			322231
Adding Machines (Mfg.)	3090			333313
Adding Machines (Ret.)	5480			453210
Adding Machines (Whsl.)	4170			423420
Address List Compilers	6480			511140

« ‹ 1 2 3 4 5 6 7 8 9 10 … › »

4.4 The Census Occupation Alphabetical Index

The Census Occupation Alpha Index displays 5 columns:

- **Title** - Occupation/Job title
- **Occ Code** - Census occupation code
- **Census Restriction** – Census industry restriction rule
- **NAICS Restriction** – NAICS industry restriction rule
- **SOC** – BLS Standard Occupation Code



Census Alpha Index Lookup

Census Occupation Alpha Index | Census 2010 / NAICS 2007 / SOC 2010

Beginning: | Find | Next | Prev | 0/0

Title	Occ Code	Census Restriction	NAICS Restriction	SOC
A Mill Operator	8965			51-9199
A Operator	5020	6680	5171	43-2021
A Operator	8965	Exc. 6680	Exc. 5171	51-9199
A.B. Seaman	9300	#6090	#483	53-5011
A.C.P. Clerk	5940			43-9199
A.D.P Customer Liaison	1050			15-1151
A.D.P Planner	1060			15-1141
A.D.P System Coordinator	1105			15-1142
A.D.P Systems Security	1007			15-1122
A.S.A.T. C.O.R.E. Counselor	2000			21-1019
A.T.M Specialist	7010			49-2011
Abalone Fisherman	6100	#0280	#114	45-3011
Abalone Processor	7855	(1280)	(3117)	51-3099
Able Seaman	9300	#6090	#483	53-5011
Abnormal Psychologist	1820			19-3031
Abrasive Coating Machine Set Up Operator	8810			51-9121
Abrasive Grader	8740			51-9061
Abrasive Grinder	8650			51-9021
Abrasive Mixer	8650	(2590)	(3279)	51-9023
Abrasive Wheel Molder	8720	(2590)	(3279)	51-9041
Abrasive Worker	8000			51-4033
Absorber Operator	8640			51-9012
Absorption Plant Operator	8630	2070	32411	51-8093
Abstract Clerk	2160	(7270)	(54119)	23-2093
Abstract Searcher	2160	(7270)	(54119)	23-2093

1 2 3 4 5 6 7 8 9 10 ... › »

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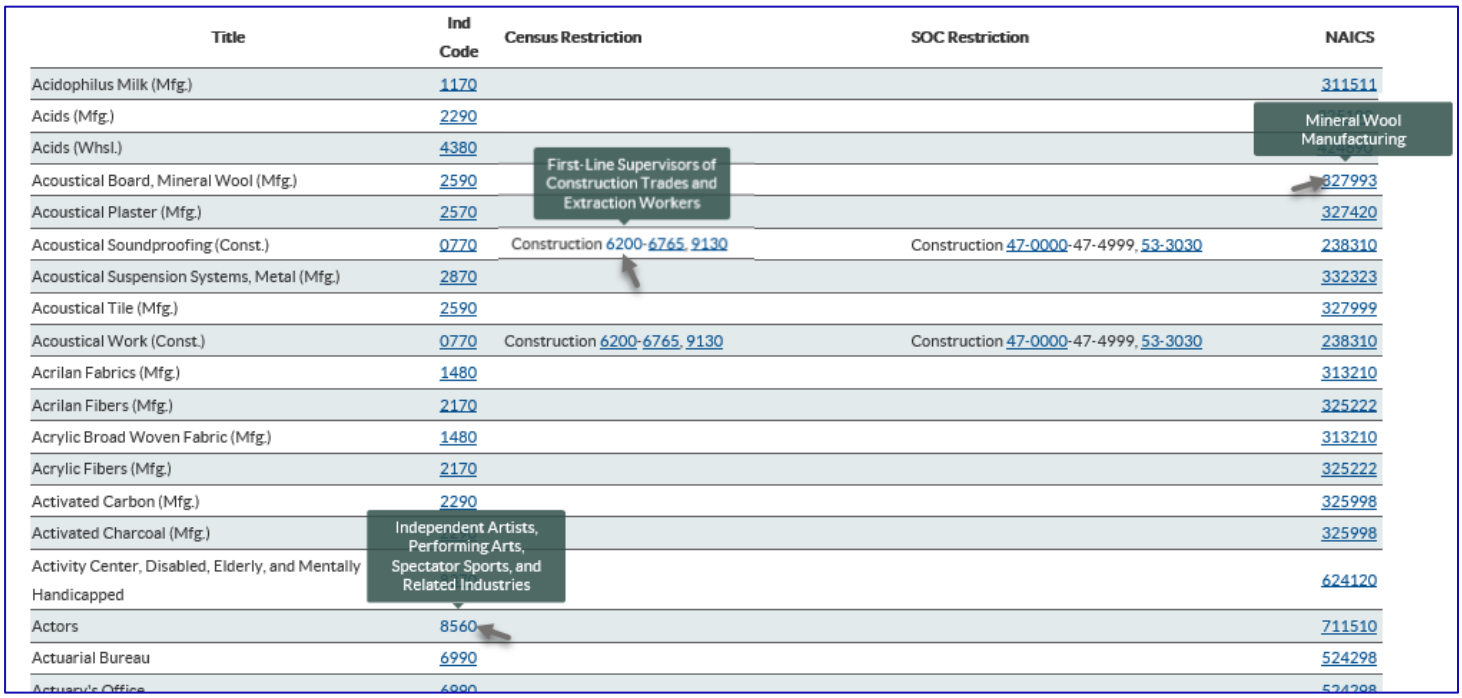
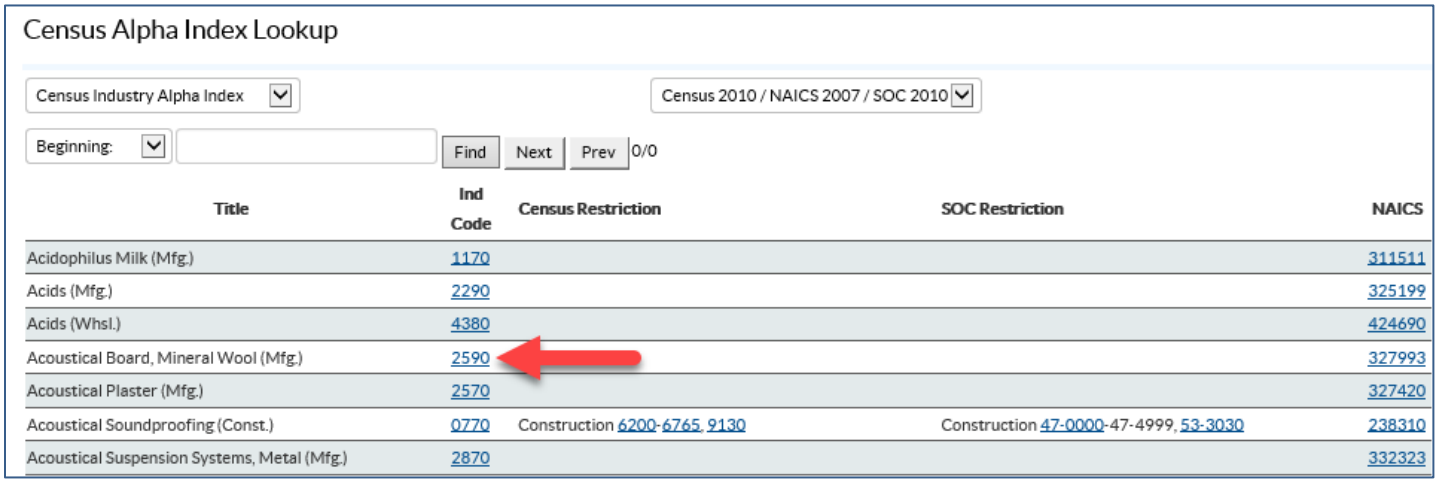
4.5 Understanding the Codes

You can hover your cursor over any of the underlined codes in either the industry or occupation index screens to view a pop-up containing the general category description of that code.



Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Acidophilus Milk (Mfg.)	1170			311511
Acids (Mfg.)	2290			
Acids (Whsl.)	4380			
Acoustical Board, Mineral Wool (Mfg.)	2590			327993
Acoustical Plaster (Mfg.)	2570			327420
Acoustical Soundproofing (Const.)	0770	Construction 6200-6765, 9130	Construction 47-0000-47-4999, 53-3030	238310
Acoustical Suspension Systems, Metal (Mfg.)	2870			332323
Acoustical Tile (Mfg.)	2590			327999
Acoustical Work (Const.)	0770	Construction 6200-6765, 9130	Construction 47-0000-47-4999, 53-3030	238310
Acrilan Fabrics (Mfg.)	1480			313210
Acrilan Fibers (Mfg.)	2170			325222
Acrylic Broad Woven Fabric (Mfg.)	1480			313210
Acrylic Fibers (Mfg.)	2170			325222
Activated Carbon (Mfg.)	2290			325998
Activated Charcoal (Mfg.)				325998
Activity Center, Disabled, Elderly, and Mentally Handicapped				624120
Actors	8560			711510
Actuarial Bureau	6990			524298
Actuary's Office	6990			524298

You can click on a Census code to obtain a list of all the titles in the index that have been assigned this same industry or occupation code.



Census Alpha Index Lookup

Census Industry Alpha Index | Census 2010 / NAICS 2007 / SOC 2010

Beginning: | Find | Next | Prev | 0/0

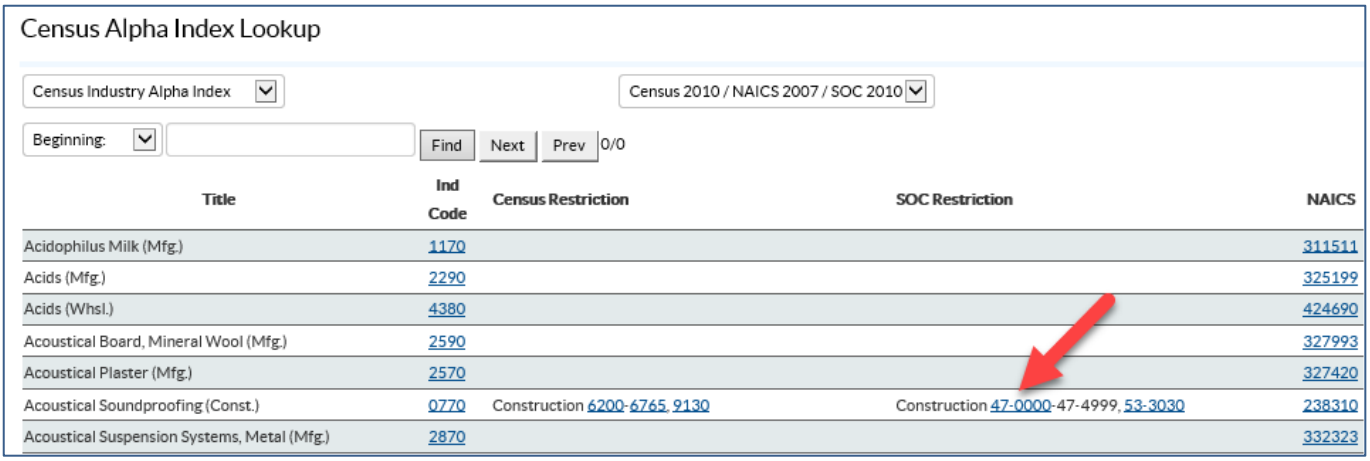
Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Acidophilus Milk (Mfg.)	1170			311511
Acids (Mfg.)	2290			325199
Acids (Whsl.)	4380			424690
Acoustical Board, Mineral Wool (Mfg.)	2590			327993
Acoustical Plaster (Mfg.)	2570			327420
Acoustical Soundproofing (Const.)	0770	Construction 6200-6765, 9130	Construction 47-0000-47-4999, 53-3030	238310
Acoustical Suspension Systems, Metal (Mfg.)	2870			332323

Category: **Miscellaneous Nonmetallic Mineral Product Manufacturing**

Ind Code	Title	NAICS	Occ Code
2590	Abrasive Bricks (Mfg.)	327991	
2590	Abrasive Cloth (Mfg.)	327910	
2590	Abrasive Disks, Exc. Dental (Mfg.)	327910	
2590	Abrasive Grains (Mfg.)	327910	
2590	Abrasive Grinding Wheels, Exc. Dental (Mfg.)	327910	
2590	Abrasive Paper (Mfg.)	327910	
2590	Abrasive Points, Exc. Dental (Mfg.)	327910	
2590	Abrasive Sticks (Mfg.)	327910	
2590	Abrasive Stones (Mfg.)	327910	
2590	Abrasive Tools (Mfg.)	327910	
2590	Abrasive Wheels, Exc. Dental (Mfg.)	327910	
2590	Acoustical Board, Mineral Wool (Mfg.)	327993	
2590	Acoustical Tile (Mfg.)	327999	
2590	Altars, Cut Stone (Mfg.)	327991	
2590	Altars, Marble (Mfg.)	327991	
2590	Aluminum Oxide Abrasives (Mfg.)	327910	

(Partial list)

You can click on a SOC code to obtain the SOC code description.



Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Acidophilus Milk (Mfg.)	1170			311511
Acids (Mfg.)	2290			325199
Acids (Whsl.)	4380			424690
Acoustical Board, Mineral Wool (Mfg.)	2590			327993
Acoustical Plaster (Mfg.)	2570			327420
Acoustical Soundproofing (Const.)	0770	Construction 6200-6765, 9130	Construction 47-0000-47-4999, 53-3030	238310
Acoustical Suspension Systems, Metal (Mfg.)	2870			332323

Code: 47-0000

Title: Construction and Extraction Occupations

Publish Year: 2010

Description:

This major occupation group includes the following five minor occupation groups:

(1) 47-1000 Supervisors of Construction and Extraction Workers,

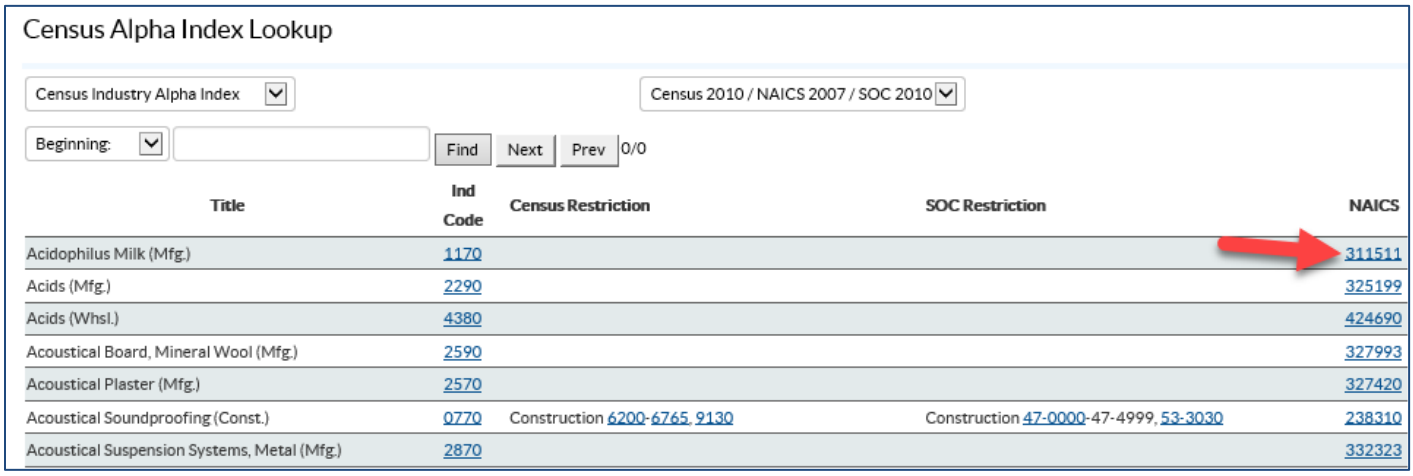
(2) 47-2000 Construction Trades Workers,

(3) 47-3000 Helpers, Construction Trades,

(4) 47-4000 Other Construction and Related Workers, and

(5) 47-5000 Extraction Workers

You can click on a NAICS code to obtain the NAICS code description.



Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Acidophilus Milk (Mfg.)	1170			311511
Acids (Mfg.)	2290			325199
Acids (Whsl.)	4380			424690
Acoustical Board, Mineral Wool (Mfg.)	2590			327993
Acoustical Plaster (Mfg.)	2570			327420
Acoustical Soundproofing (Const.)	0770	Construction 6200-6765, 9130	Construction 47-0000-47-4999, 53-3030	238310
Acoustical Suspension Systems, Metal (Mfg.)	2870			332323

311511 Fluid Milk Manufacturing[EAN]

This U.S. industry comprises establishments primarily engaged in (1) manufacturing processed milk products, such as pasteurized milk or cream and sour cream and/or (2) manufacturing fluid milk dairy substitutes from soybeans and other nondairy substances.

Cross-References. Establishments primarily engaged in—

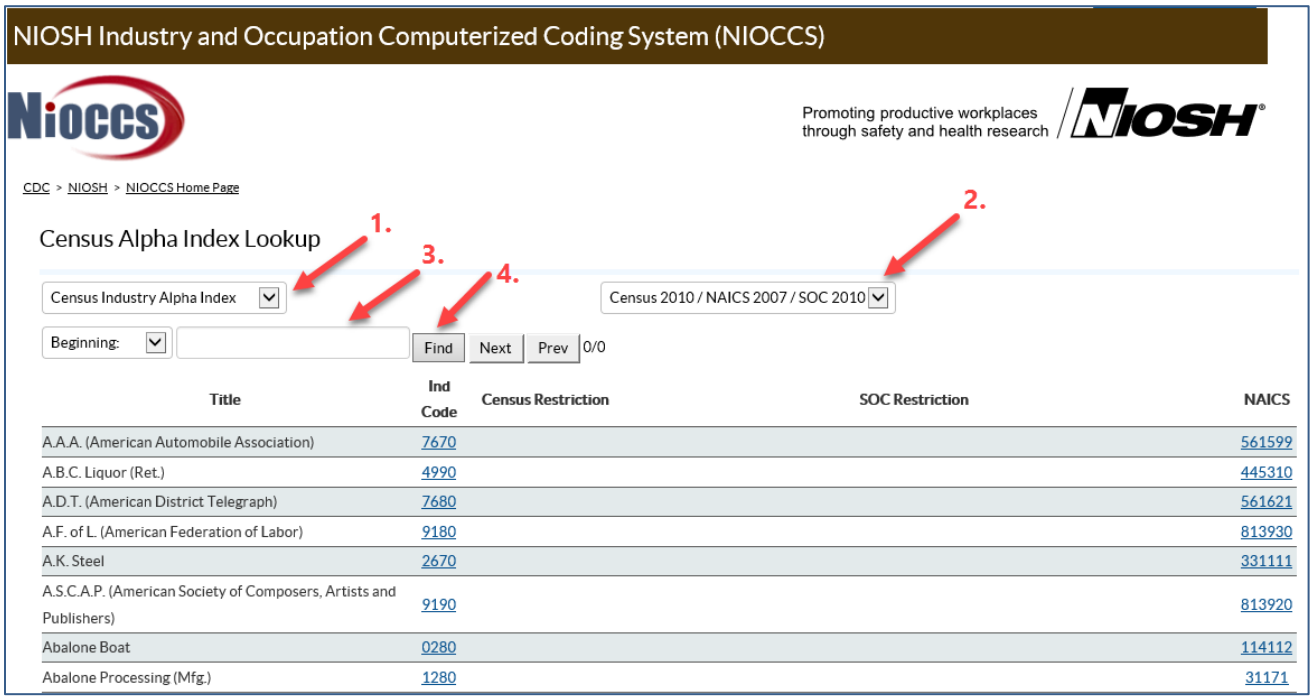
- Manufacturing dry mix whipped toppings, canned milk, and ultra high temperature milk—are classified in U.S. Industry 311514, Dry, Condensed, and Evaporated Dairy Product Manufacturing;
- Manufacturing frozen whipped toppings—are classified in U.S. Industry 311412, Frozen Specialty Food Manufacturing; and
- Manufacturing ice cream and frozen yogurt and other frozen desserts—are classified in Industry 311520, Ice Cream and Frozen Dessert Manufacturing.

4.6 Search Options

NIOCCS provides the ability to search the Census Alphabetical Indexes by either industry or occupation titles or codes.

To submit a search, do the following:

1. Select the index to search (industry or occupation)
2. Select the Census Coding Scheme to search
3. Enter text or code to search in the search box
4. Click the **Find** button or hit the enter key



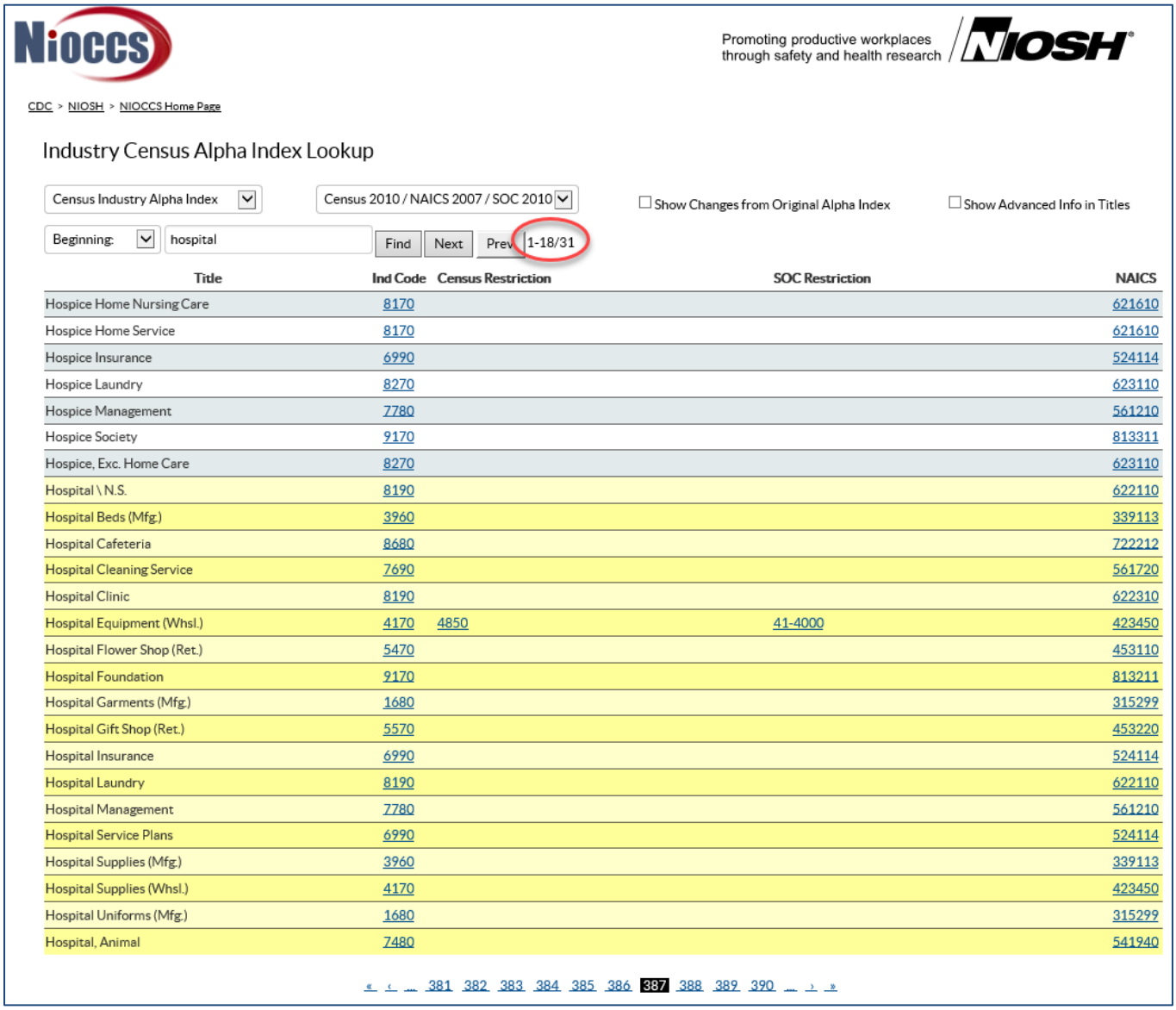
By default, the search will find records in the alpha index that *begin with* the text entered for searching. Options for searching included:

Beginning - searches for all titles *beginning* with the text entered
Containing - searches for all titles *containing* the test entered
Scored Match - lists all matched candidates to the text being searched in matched score order.

4.7 Example Index Searches

The search examples provided below use the Industry Alpha Index. The same searching methods are used in the occupation alpha index.

Search for industry titles that begin with '**hospital'**.



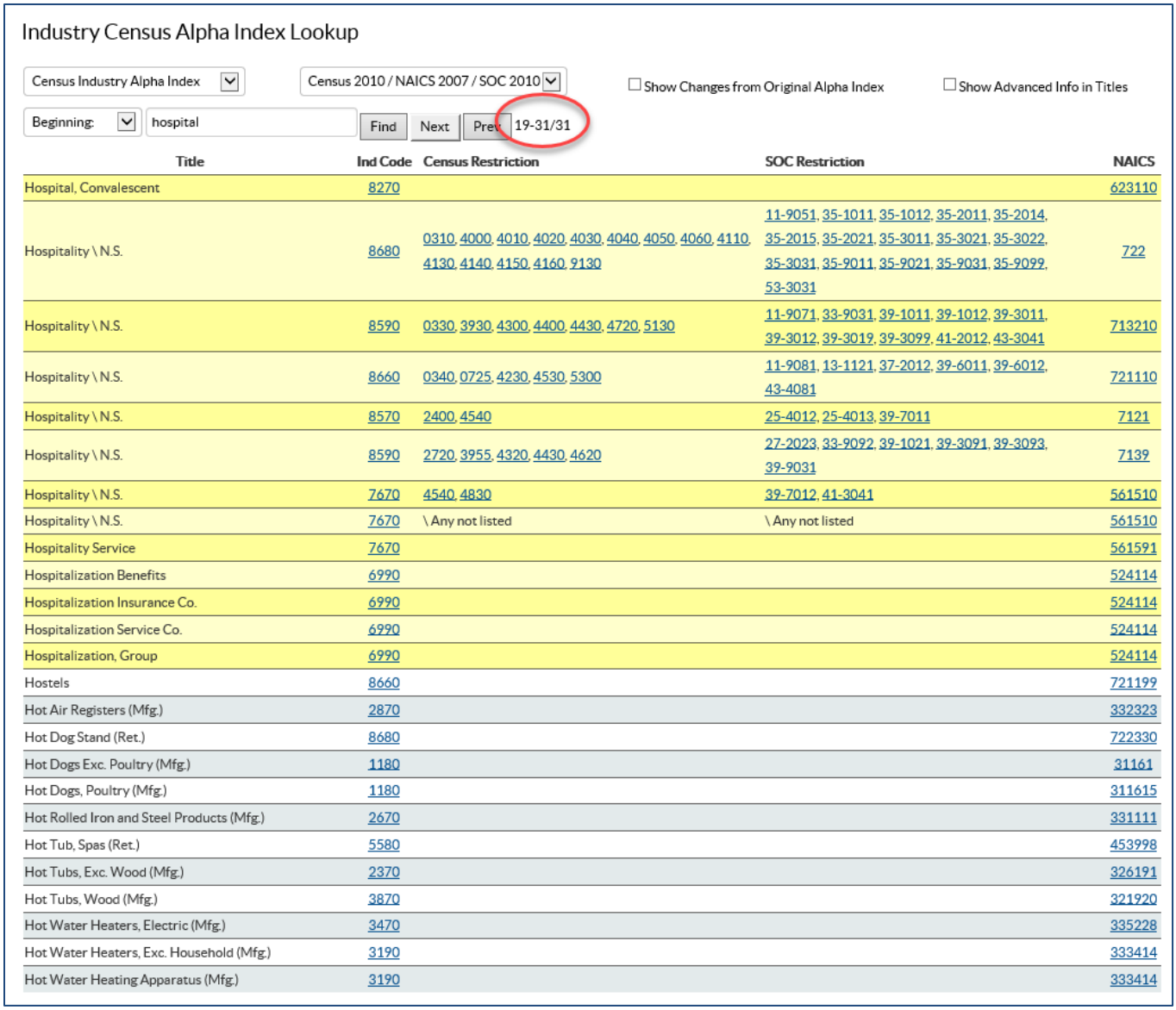
Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Hospice Home Nursing Care	8170			621610
Hospice Home Service	8170			621610
Hospice Insurance	6990			524114
Hospice Laundry	8270			623110
Hospice Management	7780			561210
Hospice Society	9170			813311
Hospice, Exc. Home Care	8270			623110
Hospital \ N.S.	8190			622110
Hospital Beds (Mfg.)	3960			339113
Hospital Cafeteria	8680			722212
Hospital Cleaning Service	7690			561720
Hospital Clinic	8190			622310
Hospital Equipment (Whsl.)	4170	4850	41-4000	423450
Hospital Flower Shop (Ret.)	5470			453110
Hospital Foundation	9170			813211
Hospital Garments (Mfg.)	1680			315299
Hospital Gift Shop (Ret.)	5570			453220
Hospital Insurance	6990			524114
Hospital Laundry	8190			622110
Hospital Management	7780			561210
Hospital Service Plans	6990			524114
Hospital Supplies (Mfg.)	3960			339113
Hospital Supplies (Whsl.)	4170			423450
Hospital Uniforms (Mfg.)	1680			315299
Hospital, Animal	7480			541940

« ‹ ... 381 382 383 384 385 386 387 388 389 390 ... › »

After clicking the **Find** button to search for industry text beginning with '**hospital',** the system will display the first page which contain industry titles that begin with 'hospital'. In the example above, the titles found are highlighted in yellow.

There is a count (circled in red above) providing the number of titles found beginning with 'hospital' on the currently displayed page of titles (1-18) and the total number of titles found in the entire index (31).

Click the **Next** button to see the remaining titles in the industry index that begin with 'hospital'. Notice the count has changed to 19-31/31 which means you are viewing the 10th through 31st industry titles that begin with 'hospital' out of a total of 31 titles found.



Industry Census Alpha Index Lookup

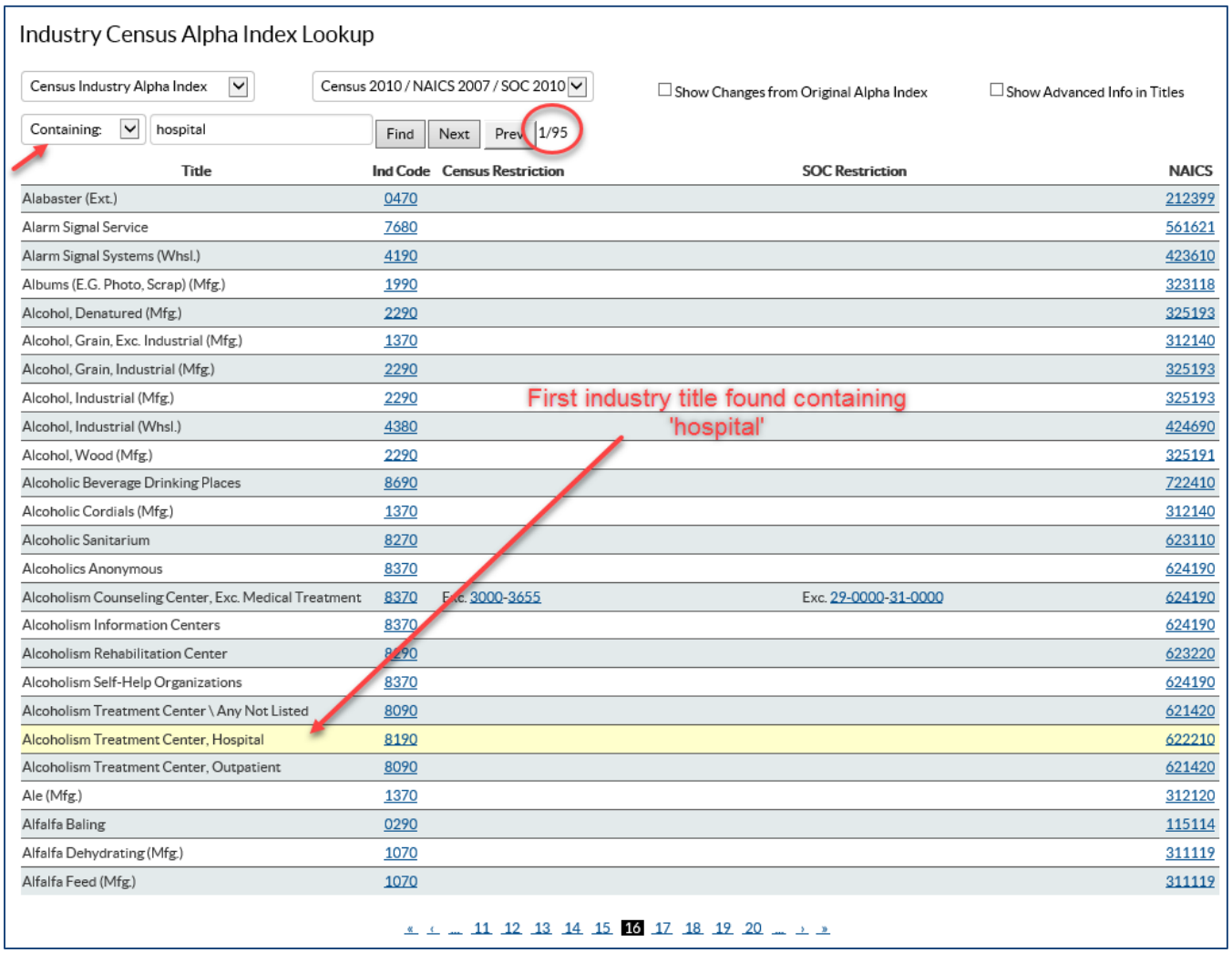
Census Industry Alpha Index | Census 2010 / NAICS 2007 / SOC 2010 | Show Changes from Original Alpha Index | Show Advanced Info in Titles

Beginning: hospital | Find | Next | Prev | 19-31/31

Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Hospital, Convalescent	8270			623110
Hospitality \ N.S.	8680	0310, 4000, 4010, 4020, 4030, 4040, 4050, 4060, 4110, 4130, 4140, 4150, 4160, 9130	11-9051, 35-1011, 35-1012, 35-2011, 35-2014, 35-2015, 35-2021, 35-3011, 35-3021, 35-3022, 35-3031, 35-9011, 35-9021, 35-9031, 35-9099, 53-3031	722
Hospitality \ N.S.	8590	0330, 3930, 4300, 4400, 4430, 4720, 5130	11-9071, 33-9031, 39-1011, 39-1012, 39-3011, 39-3012, 39-3019, 39-3099, 41-2012, 43-3041	713210
Hospitality \ N.S.	8660	0340, 0725, 4230, 4530, 5300	11-9081, 13-1121, 37-2012, 39-6011, 39-6012, 43-4081	721110
Hospitality \ N.S.	8570	2400, 4540	25-4012, 25-4013, 39-7011	7121
Hospitality \ N.S.	8590	2720, 3955, 4320, 4430, 4620	27-2023, 33-9092, 39-1021, 39-3091, 39-3093, 39-9031	7139
Hospitality \ N.S.	7670	4540, 4830	39-7012, 41-3041	561510
Hospitality \ N.S.	7670	\ Any not listed	\ Any not listed	561510
Hospitality Service	7670			561591
Hospitalization Benefits	6990			524114
Hospitalization Insurance Co.	6990			524114
Hospitalization Service Co.	6990			524114
Hospitalization, Group	6990			524114
Hostels	8660			721199
Hot Air Registers (Mfg.)	2870			332323
Hot Dog Stand (Ret.)	8680			722330
Hot Dogs Exc. Poultry (Mfg.)	1180			31161
Hot Dogs, Poultry (Mfg.)	1180			311615
Hot Rolled Iron and Steel Products (Mfg.)	2670			331111
Hot Tub, Spas (Ret.)	5580			453998
Hot Tubs, Exc. Wood (Mfg.)	2370			326191
Hot Tubs, Wood (Mfg.)	3870			321920
Hot Water Heaters, Electric (Mfg.)	3470			335228
Hot Water Heaters, Exc. Household (Mfg.)	3190			333414
Hot Water Heating Apparatus (Mfg.)	3190			333414

Click the **Previous** button to return to view the 1st through 18th industry titles that begin with 'hospital'.

Search for industry titles that contain the word '**hospital'**.



Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Alabaster (Ext.)	0470			212399
Alarm Signal Service	7680			561621
Alarm Signal Systems (Whsl.)	4190			423610
Albums (E.G. Photo, Scrap) (Mfg.)	1990			323118
Alcohol, Denatured (Mfg.)	2290			325193
Alcohol, Grain, Exc. Industrial (Mfg.)	1370			312140
Alcohol, Grain, Industrial (Mfg.)	2290			325193
Alcohol, Industrial (Mfg.)	2290			325193
Alcohol, Industrial (Whsl.)	4380			424690
Alcohol, Wood (Mfg.)	2290			325191
Alcoholic Beverage Drinking Places	8690			722410
Alcoholic Cordials (Mfg.)	1370			312140
Alcoholic Sanitarium	8270			623110
Alcoholics Anonymous	8370			624190
Alcoholism Counseling Center, Exc. Medical Treatment	8370	Exc. 3000-3655	Exc. 29-0000-31-0000	624190
Alcoholism Information Centers	8370			624190
Alcoholism Rehabilitation Center	8290			623220
Alcoholism Self-Help Organizations	8370			624190
Alcoholism Treatment Center \ Any Not Listed	8090			621420
Alcoholism Treatment Center, Hospital	8190			622210
Alcoholism Treatment Center, Outpatient	8090			621420
Ale (Mfg.)	1370			312120
Alfalfa Baling	0290			115114
Alfalfa Dehydrating (Mfg.)	1070			311119
Alfalfa Feed (Mfg.)	1070			311119

« ‹ ... 11 12 13 14 15 16 17 18 19 20 ... › »

After clicking the **Find** button to search for industry text that contains the word '**hospital',** the system will highlight and display the first industry title found which contains the word 'hospital'.

The count (circled in red above) shows that you are on the 1st of 95 total industry titles found that contain the word 'hospital'.

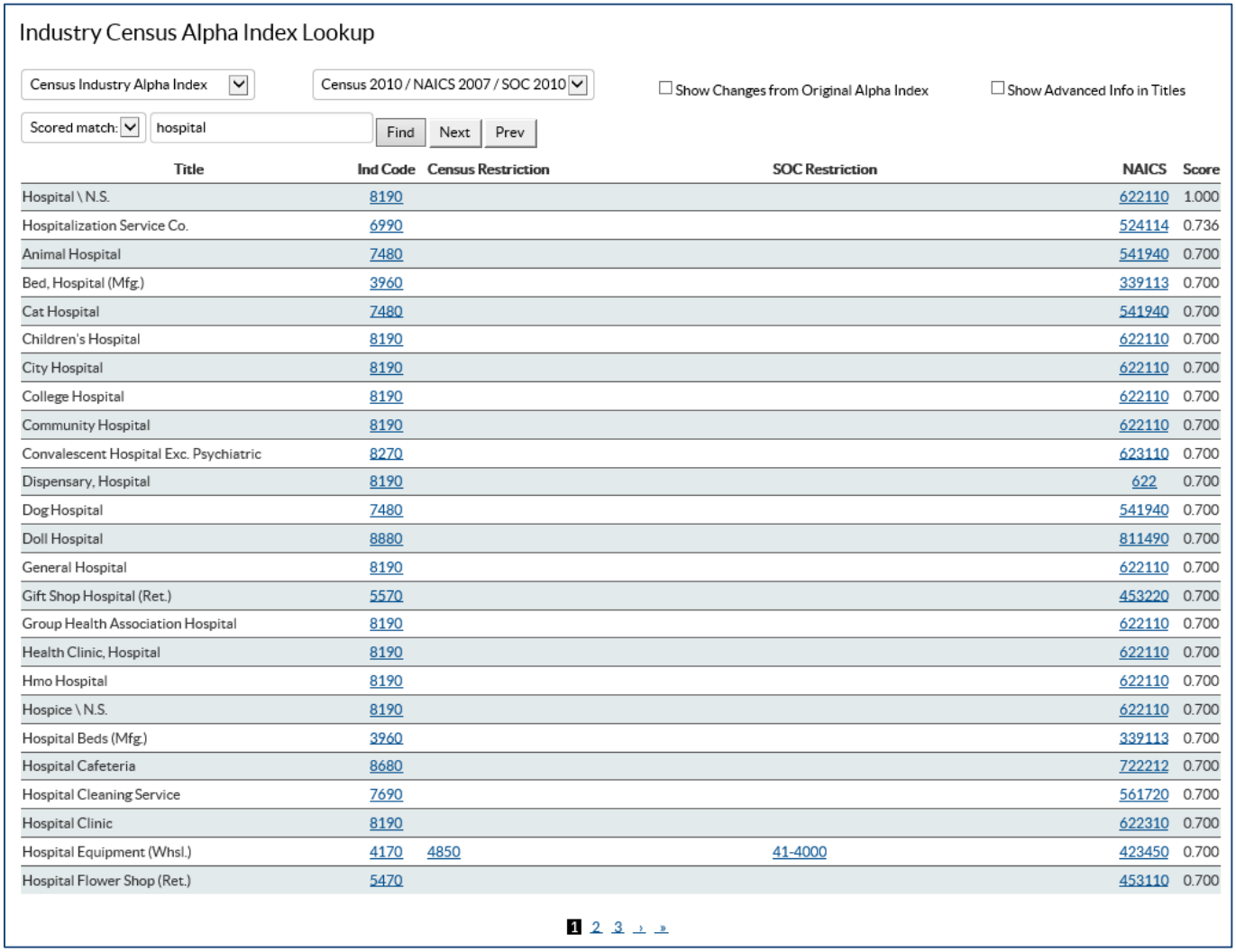
Click the **Next** button to go to the next industry title that contains 'hospital'.

Click the **Previous** button to return to the previously viewed industry title that contains 'hospital'.

The count will change as you click **Next** or **Previous,** such as: 5/95 which would mean you are on the 5th title found out of 95 that contains the word 'hospital'.

Search for industry titles that contain the word '**hospital'** sorted by Scored match.

The **score** value is a numerical score assigned by NIOCCS to index lines that are matched candidates to the text being searched. The most relevant index lines receive the highest scores and are displayed first.



Industry Census Alpha Index Lookup

Census Industry Alpha Index | Census 2010 / NAICS 2007 / SOC 2010 | Show Changes from Original Alpha Index | Show Advanced Info in Titles

Scored match: hospital | Find | Next | Prev

Title	Ind Code	Census Restriction	SOC Restriction	NAICS	Score
Hospital \ N.S.	8190			622110	1.000
Hospitalization Service Co.	6990			524114	0.736
Animal Hospital	7480			541940	0.700
Bed, Hospital (Mfg.)	3960			339113	0.700
Cat Hospital	7480			541940	0.700
Children's Hospital	8190			622110	0.700
City Hospital	8190			622110	0.700
College Hospital	8190			622110	0.700
Community Hospital	8190			622110	0.700
Convalescent Hospital Exc. Psychiatric	8270			623110	0.700
Dispensary, Hospital	8190			622	0.700
Dog Hospital	7480			541940	0.700
Doll Hospital	8880			811490	0.700
General Hospital	8190			622110	0.700
Gift Shop Hospital (Ret.)	5570			453220	0.700
Group Health Association Hospital	8190			622110	0.700
Health Clinic, Hospital	8190			622110	0.700
Hmo Hospital	8190			622110	0.700
Hospice \ N.S.	8190			622110	0.700
Hospital Beds (Mfg.)	3960			339113	0.700
Hospital Cafeteria	8680			722212	0.700
Hospital Cleaning Service	7690			561720	0.700
Hospital Clinic	8190			622310	0.700
Hospital Equipment (Whsl.)	4170	4850	41-4000	423450	0.700
Hospital Flower Shop (Ret.)	5470			453110	0.700

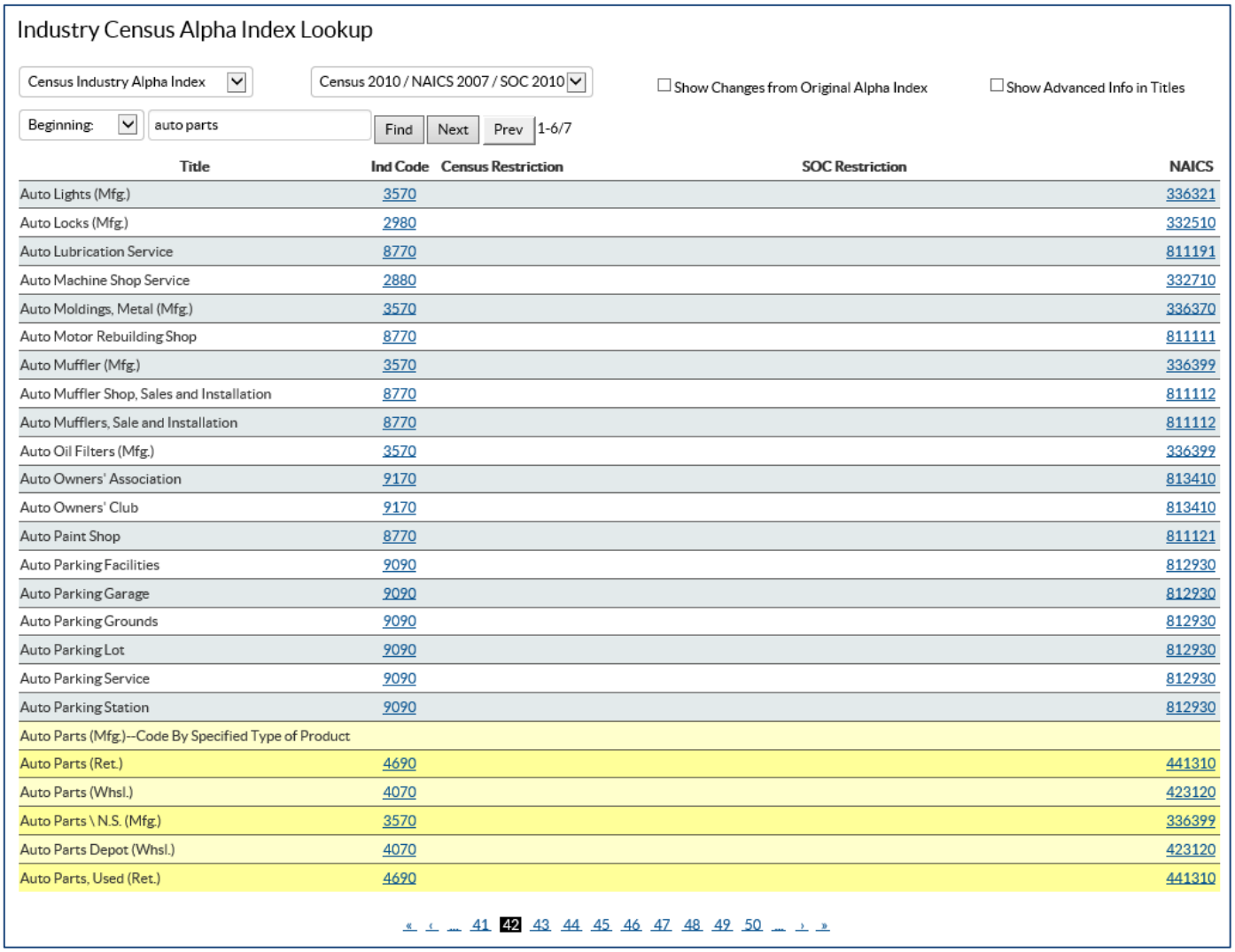
1 2 3 › »

For more detailed information about how the scores are calculated, see the section on 'How NIOCCS Works' found on the NIOCCS overview webpage at:
https://www.cdc.gov/niosh/topics/coding/overview.html

You can search for more specific titles by adding more text in the search box.

For example, if you enter only '**Auto'** in the search box the system will find 283 titles beginning with 'Auto' and 510 titles that contain the word 'Auto'.

But if you enter '**Auto parts'** in the search box your results will be more refined with only 6 titles beginning with 'Auto parts' (as shown below) and 19 titles that contain the words 'Auto parts'.



Industry Census Alpha Index Lookup

Census Industry Alpha Index | Census 2010 / NAICS 2007 / SOC 2010 | ☐ Show Changes from Original Alpha Index | ☐ Show Advanced Info in Titles

Beginning: auto parts | Find | Next | Prev | 1-6/7

Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Auto Lights (Mfg.)	3570			336321
Auto Locks (Mfg.)	2980			332510
Auto Lubrication Service	8770			811191
Auto Machine Shop Service	2880			332710
Auto Moldings, Metal (Mfg.)	3570			336370
Auto Motor Rebuilding Shop	8770			811111
Auto Muffler (Mfg.)	3570			336399
Auto Muffler Shop, Sales and Installation	8770			811112
Auto Mufflers, Sale and Installation	8770			811112
Auto Oil Filters (Mfg.)	3570			336399
Auto Owners' Association	9170			813410
Auto Owners' Club	9170			813410
Auto Paint Shop	8770			811121
Auto Parking Facilities	9090			812930
Auto Parking Garage	9090			812930
Auto Parking Grounds	9090			812930
Auto Parking Lot	9090			812930
Auto Parking Service	9090			812930
Auto Parking Station	9090			812930
Auto Parts (Mfg.)--Code By Specified Type of Product				
Auto Parts (Ret.)	4690			441310
Auto Parts (Whsl.)	4070			423120
Auto Parts \ N.S. (Mfg.)	3570			336399
Auto Parts Depot (Whsl.)	4070			423120
Auto Parts, Used (Ret.)	4690			441310

« ‹ ... 41 42 43 44 45 46 47 48 49 50 ... › »

4.8 I&O Restrictions in the Census Alpha Indexes

Codes in the Census Alphabetical Indexes sometimes have restriction rules associated with them. These rules are used to ensure occupation codes selected for a given industry are valid; and vice versa for industry codes. See I&O coding instruction manual or attend an I&O coding class for more detailed explanation regarding the Census Alphabetical Indexes.

NIOCCS' Presentation of the Census I&O Alphabetical Index Restrictions

In the Occupation Alpha Index of the NIOCCS system, there are columns labeled 'Census Restriction' and 'NAICS Restriction' which may provide industry restriction rules for each occupation title.

Title	Occ Code	Census Restriction	NAICS Restriction	SOC
Book Store Help	4760			41-2031
Book Trimmer	8710			51-9032
Bookbinder	8256			51-5113
Bookbinding Machine Operator	8256			51-5113
Booker	8710	1390	3122	51-9032
Booker	8965	2380	32621	51-9199
Booker	0500	\ Any not listed	\ Any not listed	13-1011
Bookie	4400	(8590)	(7132)	39-3012
Booking Agent	0500	(6570)	(5121)	13-1011
Booking Clerk	5120	4070-4590	423-424	43-3031
Booking Clerk	5500	6090	483	43-5011
Bookkeeper	5120			43-3031
Bookkeeper and Clerk	5120			43-3031

Likewise, in the Industry Alpha Index of the NIOCCS system, columns labeled 'Census Restriction' and 'SOC Restriction' may be provided for occupation restriction rules for each industry title.

Title	Ind Code	Census Restriction	SOC Restriction	NAICS
Armored Motor Service	7680			561613
Armory \ N.S.	9590			928110
Army and Navy Store (Ret.)	5390			452990
Army Surplus (Ret.)	5390			452990
Arrows (Mfg.)	3970			339920
Art \ N.S.	7880	2200	25-1194	611519
Art \ N.S.	8560	2600	27-1013	711510
Art \ N.S.	7370	2600, 2630	27-1013, 27-1024	541430
Art \ N.S.	5580	4700-4965	41-0000	453920
Art Dealer (Ret.)	5580			453920
Art Exhibits	8560			711510
Art Gallery (Ret.)	5580			453920
Art Gallery, Exc. Retail	8570	Exc. 4700-4840	Exc. 41-0000-41-3000	712110
Art Glass (Mfg.)	2490			327212
Art Goods (Ret.)	5580			453998

Examples and meanings of the industry restriction rules in the Occupation Alpha Index can be found in the table below. These same restriction formats apply to occupation restriction rules in the Industry Alpha Index

Summary of Industry Restriction Rules

Restriction Format	Meaning
1070	When this is the industry code, assign this occupation code
(1070)	This industry code is *suggested* for this occupation code
#1070	This industry code is mandatory for this occupation code
1070, 1080	If either of these are the industry code, assign this occupation code
1070-1390	If industry code is in this range, assign this occupation code
exc. 1070	If this is not the industry code, assign this occupation code
\Any not listed	Check the other index lines; if none apply, assign this occupation code

Detailed instructions on how to use the Census Alphabetical Indexes and code restrictions is taught in the NIOSH I&O coding training course. NIOSH recommends attending I&O coding training before using the computer assisted coding feature of the NIOCCS system. For more information on training, visit the NIOSH Industry and Occupation Coding website at: https://www.cdc.gov/niosh/topics/coding/training.html

For more information about the Census Industry and Occupation Alphabetical Indexes, visit the Census website at:
https://www2.census.gov/programs-surveys/demo/guidance/industry-occupation/overview2010.pdf

or

review the I&O coding instruction manuals found on the NIOSH Industry and Occupation Coding website at:
https://www.cdc.gov/niosh/topics/coding/nioccsuserdocumentation.html

Examples of Industry Restriction Usage

Following are some examples of occupation titles with industry restrictions found in the occupation index. This is NOT an inclusive list of the industry restriction rules.

Occupation titles with no industry restrictions

Some occupation titles occur in any type of industry and, therefore, are not restricted to a particular industry. These titles do not have an industry code in the **Ind Restriction** column.

Example:

Title	Occ Code	Ind Restriction	SOC
BOOKKEEPER	5120		43-3031

One occupation title with one industry code in the **Ind Restriction** column

Example:

Title	Occ Code	Ind Restriction	SOC
GENERAL CONTRACTOR	0220	0770	11-9021

In this example, code '0220' would be assigned for 'General Contractor' when the industry is '0770', blank, unknown, refused, or if the only entry for industry is retired.

Two or more of the same occupation titles with one industry code in **Ind Restriction**

Example:

Title	Occ Code	Ind Restriction	SOC
CONCILIATOR	0620	7390	13-1079
CONCILIATOR	2110	9180	23-1022

This means the occupation code '0620' can be assigned to the entry 'Conciliator' only when the industry has been assigned the code '7390'. Similarly, occupation code '2110' can be used only when industry is coded '9180'.

Occupation titles with a range of industry codes

Example:

Title	Occ Code	Ind Restriction	SOC
HAND PAINTER	8810	1470-1670	51-9123

Assign occupation code '8810' to an entry of 'Hand Painter' only if the industry code falls within the range of '1470 – 1670'.

Occupation titles with several industry codes in the **Ind Restriction** column

Example:

Title	Occ Code	Ind Restriction	SOC
POPCORN ATTENDANT	4060	6570, 8680, 8690	35-3022

As with the industry range, assign the occupation code '4060' only if the industry code assigned is one of those listed in the industry restriction.

Occupation titles with a specific industry title

Example:

Title	Occ Code	Ind Restriction	SOC
PAYROLL EXAMINER	0560	DEPT. OF LABOR 9570	13-1041

Code the occupation to '0560' for 'Payroll Examiner' only if the industry entry is 'Department of Labor' which is coded to '9570'.

Occupation titles with industry code in parentheses

Example:

Title	Occ Code	Ind Restriction	SOC
PRIVATE EYE	3910	(7680)	33-902

An industry code in parentheses means that this is the suggested industry code for this occupation title. This could be used in cases where the industry title is blank, unknown, NA, refused, retired, etc. to code the industry. If the industry title is not blank and the industry code is not the code in parentheses then the industry code should not be changed and the occupation code should be coded using the occ code for the title.

Occupation titles with industry code preceded by a number sign (#)

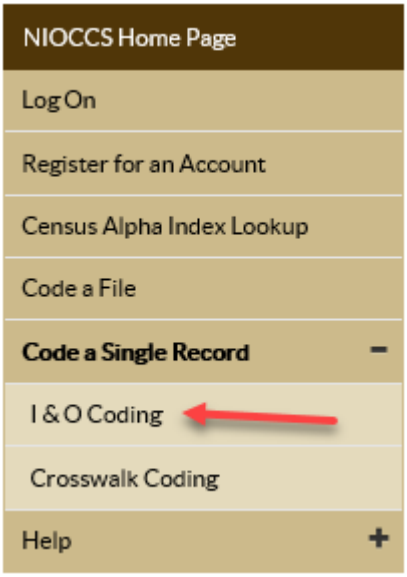
Example:

Title	Occ Code	Ind Restriction	SOC
SCHOOL TRAFFIC GUARD	3940	#9470	33-9091

An industry code preceded by a number sign (#) means that this occupation can occur only in that industry. If the industry code was assigned other than the one preceded by the number sign, it should be changed to match the industry code listed.

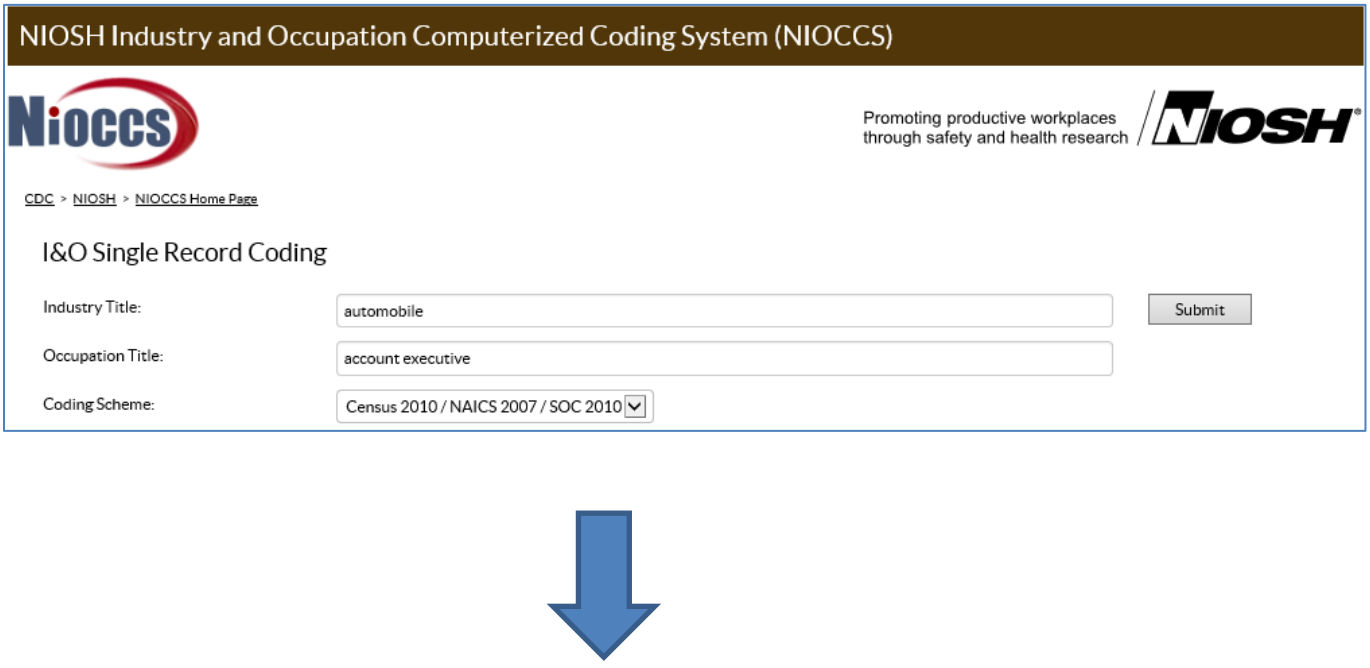
5 INDUSTRY AND OCCUPATION CODING

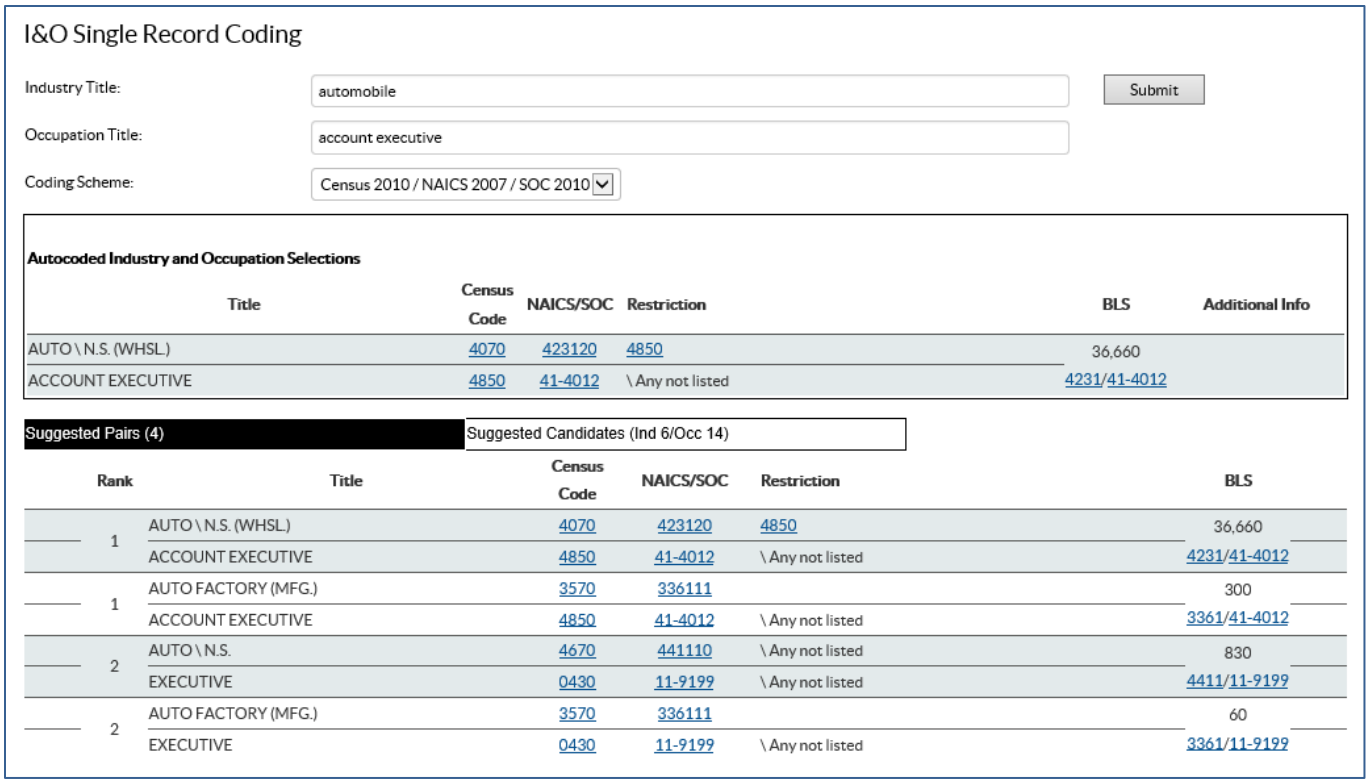
5.1 Code a Single Record



To translate text into I&O codes one record at a time, click the **I&O Coding** option under **Code a Single Record** from the NIOCCS menu.

On the I&O Single Record Coding screen, enter industry and/or occupation text in the fields provided, choose the **Census coding scheme**, then click the **Submit** button. NIOCCS will process the information and return results for review.





I&O Single Record Coding

Industry Title: automobile — Submit

Occupation Title: account executive

Coding Scheme: Census 2010 / NAICS 2007 / SOC 2010

Autocoded Industry and Occupation Selections

Title	Census Code	NAICS/SOC	Restriction	BLS	Additional Info
AUTO \ N.S. (WHSL.)	4070	423120	4850	36,660	
ACCOUNT EXECUTIVE	4850	41-4012	\ Any not listed	4231/41-4012	

Suggested Pairs (4) | Suggested Candidates (Ind 6/Occ 14)

Rank	Title	Census Code	NAICS/SOC	Restriction	BLS
1	AUTO \ N.S. (WHSL.)	4070	423120	4850	36,660
	ACCOUNT EXECUTIVE	4850	41-4012	\ Any not listed	4231/41-4012
1	AUTO FACTORY (MFG.)	3570	336111		300
	ACCOUNT EXECUTIVE	4850	41-4012	\ Any not listed	3361/41-4012
2	AUTO \ N.S.	4670	441110	\ Any not listed	830
	EXECUTIVE	0430	11-9199	\ Any not listed	4411/11-9199
2	AUTO FACTORY (MFG.)	3570	336111		60
	EXECUTIVE	0430	11-9199	\ Any not listed	3361/11-9199

The codes determined by NIOCCS to be most accurate for the I&O titles entered will be displayed in the box labeled '**Autocoded Industry and Occupation Selections'**.

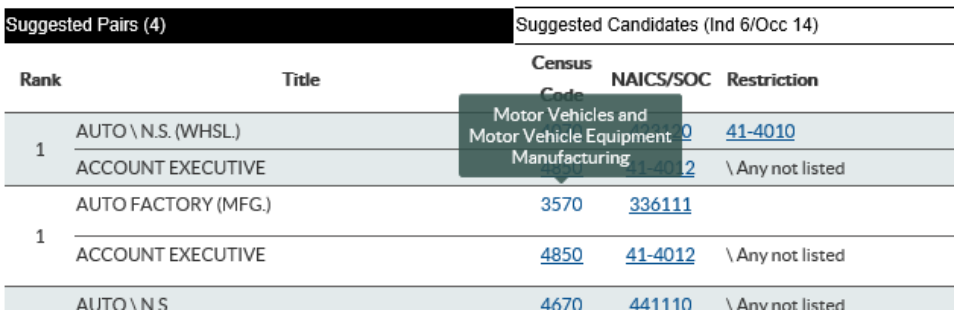
Below this box are two sections which provide additional code options for the input.

1. Suggested Pairs Tab
   This tab displays possible I&O coded pairs that could be correct for the given input I&O text. The pairs are listed in a highest to lowest rank order of confidence.

   In the example above, 4 possible combinations of I&O code pairs are presented. The first is the one selected by NIOCCS.

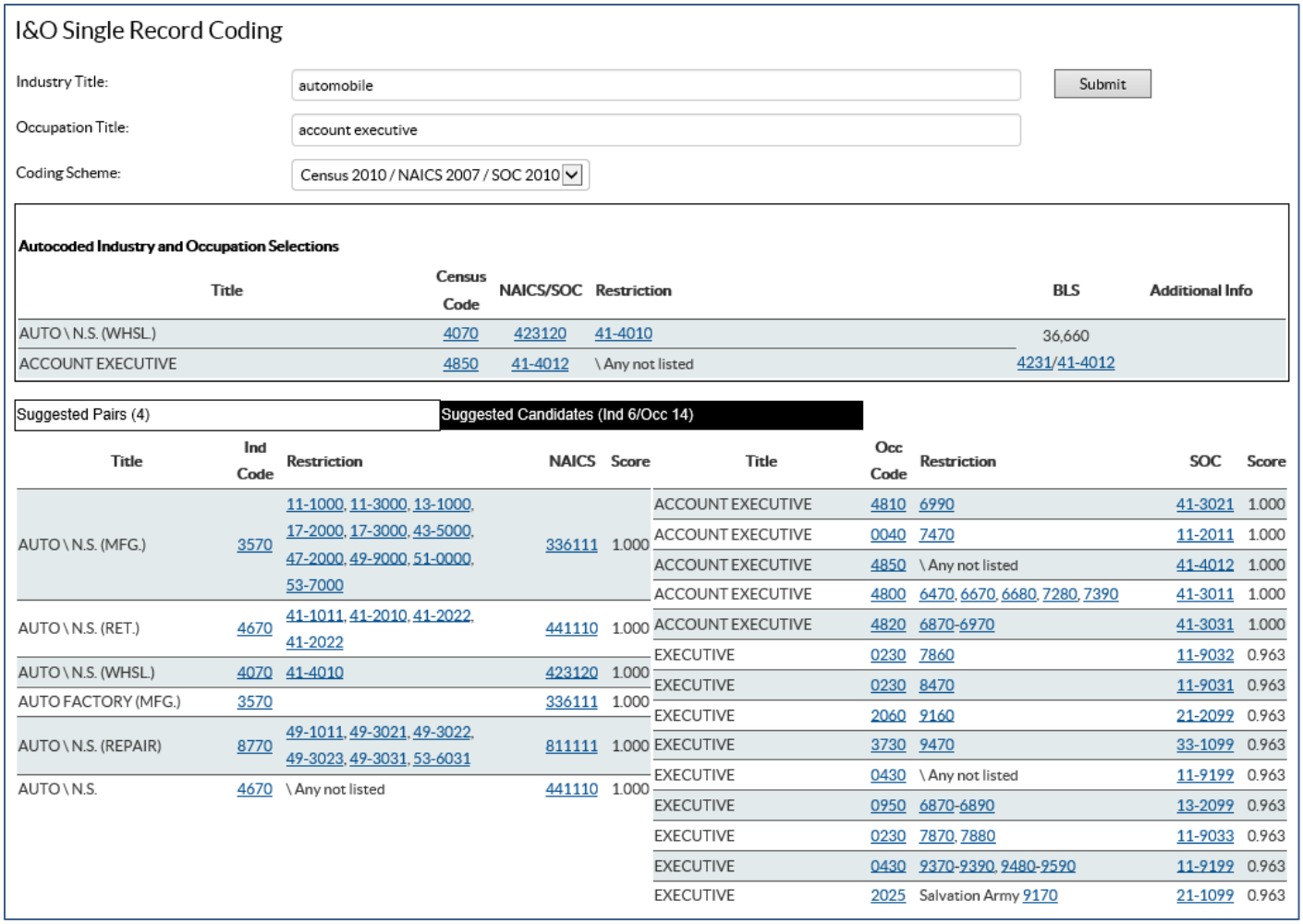
   More information can be viewed about the codes by:

   a. Clicking on any of the underlined codes
   b. Hovering the cursor over any of the underlined codes



2. Suggested Candidates Tab

This tab provides matched candidates for the input separately for industry and occupation.



I&O Single Record Coding

Industry Title: automobile — Submit

Occupation Title: account executive

Coding Scheme: Census 2010 / NAICS 2007 / SOC 2010

Autocoded Industry and Occupation Selections

Title	Census Code	NAICS/SOC	Restriction	BLS	Additional Info
AUTO \ N.S. (WHSL.)	4070	423120	41-4010	36,660	
ACCOUNT EXECUTIVE	4850	41-4012	\ Any not listed	4231/41-4012	

Suggested Pairs (4) | Suggested Candidates (Ind 6/Occ 14)

Title	Ind Code	Restriction	NAICS	Score
AUTO \ N.S. (MFG.)	3570	11-1000, 11-3000, 13-1000, 17-2000, 17-3000, 43-5000, 47-2000, 49-9000, 51-0000, 53-7000	336111	1.000
AUTO \ N.S. (RET.)	4670	41-1011, 41-2010, 41-2022, 41-2022	441110	1.000
AUTO \ N.S. (WHSL.)	4070	41-4010	423120	1.000
AUTO FACTORY (MFG.)	3570		336111	1.000
AUTO \ N.S. (REPAIR)	8770	49-1011, 49-3021, 49-3022, 49-3023, 49-3031, 53-6031	811111	1.000
AUTO \ N.S.	4670	\ Any not listed	441110	1.000

Title	Occ Code	Restriction	SOC	Score
ACCOUNT EXECUTIVE	4810	6990	41-3021	1.000
ACCOUNT EXECUTIVE	0040	7470	11-2011	1.000
ACCOUNT EXECUTIVE	4850	\ Any not listed	41-4012	1.000
ACCOUNT EXECUTIVE	4800	6470, 6670, 6680, 7280, 7390	41-3011	1.000
ACCOUNT EXECUTIVE	4820	6870-6970	41-3031	1.000
EXECUTIVE	0230	7860	11-9032	0.963
EXECUTIVE	0230	8470	11-9031	0.963
EXECUTIVE	2060	9160	21-2099	0.963
EXECUTIVE	3730	9470	33-1099	0.963
EXECUTIVE	0430	\ Any not listed	11-9199	0.963
EXECUTIVE	0950	6870-6890	13-2099	0.963
EXECUTIVE	0230	7870, 7880	11-9033	0.963
EXECUTIVE	0430	9370-9390, 9480-9590	11-9199	0.963
EXECUTIVE	2025	Salvation Army 9170	21-1099	0.963

5.2 Code a File

This section provides information needed for submitting a file of records to NIOCCS for I&O coding. File size is limited to 30MB. The number of records this equates to will vary depending on how many of the optional fields on the input file format are used. *It is recommended to limit file submissions to no more than 100,000 records at a time otherwise the performance of the computer assisted coding user interface may be poor.*

5.2.1 NIOCCS Input File Format Options for I&O Coding

Two options exist for submitting records to the NIOCCS system for I&O coding:

1. NIOCCS I&O Slim File Format
2. NIOCCS I&O Expanded File Format

The **NIOCCS Slim File Format** contains only 3 fields: Unique Identifier, Industry Title or NAICS code, and Occupation Title. This format should be used if no other additional information (i.e., employer name, job duties, etc.) is available.

Fields DO NOT need to be padded with spaces. Each field must be delimited by a Tab or Pipe character (|). **Each record submitted must have a value in the Unique Identifier field and must have at least one value in either the Industry Title or Occupation Title.**

Field	Field Sequence	Format	Max Length	Comments
Unique Identifier	1	Alpha-Numeric	50	Required. Must be unique value per record. **Example: 12345, or ID12345**
Industry Title or NAICS code	2	Alpha-Numeric	250	At least one of these two fields (industry title or occupation title) must contain a value. **Examples for industry title or NAICS code:** **Information Technology** **Or 443112**
Occupation Title	3	Alpha-Numeric	250	At least one of these two fields (industry title or occupation title) must contain a value. **Example for occupation title: Consultant**

Example NIOCCS Slim File Format:

With Industry Titles

ID	Ind title	Occ title
2009000091	TELEPHONE COMPANY	AREA MANAGER
2009000107	NURSING	LICENSED PRACTICAL NURSE
2009000122	LOGGING	LOGGER
2009000123	GOVERNMENT FINANCE	ACCOUNTANT
2009000130	FEDERAL GOVERNMENT	OFFICE WORKER
2009000168	DISTRIBUTION/SHIPPING	DRIVER
2009000175	STATE OF WASHINGTON	DRIVER'S LICENSE EXAMINER
2009000182	CONSTRUCTION	CARPENTER
2009000220	OWN HOME	HOMEMAKER
2009000231	DENTISTRY	OWNER OPERATOR
2009000290	OWN HOME	HOMEMAKER

With Industry NAICS codes

ID	Ind title	Occ Title
85585	111422	GREEN HOUSE WORKER
85587	113310	RUN SKIDDER
85588	111998	FARMHAND
85589	112310	PACKER
85590	111998	GESTATION LABORER
85594	113310	EDGER OPERATOR
85595	115112	SALES & APPLICATION
85596	111422	HORTICULTURAL MANAGER
85597	111421	OFFICE MANAGER
85598	112210	LIVESTOCK BOYER
85599	111421	LABORER
85600	115210	MANAGER

The **NIOCCS Expanded File Format** should be used if additional information is available that would support the computer assisted coding of the records. Although NIOCCS currently only uses occupation text and industry text or industry NAICS codes in the autocoding engine, additional information can help users to select correct I&O codes on records that are not autocoded.

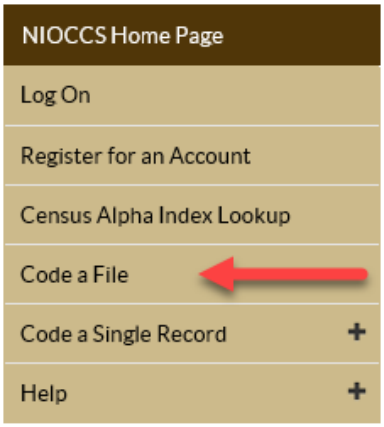
Fields DO NOT need to be padded with spaces to fill unused positions. However, each field, including optional fields must be delimited by a Tab or Pipe character (|). **Each record submitted must have a value in the Unique Identifier field and must have at least one value in either the Industry Title or Occupation Title.** All other fields are optional.

Field	Field Sequence	Format	Max Length	Comments
Unique Identifier	1	Alpha-Numeric	50	Required. Must be unique value per record. **Example: 12345, or ID12345**
Industry Title Or NAICS Code	2	Alpha-Numeric	250	At least one of these two fields must contain a value. At least one of these two fields (industry title or occupation title) must contain a value. **Examples: Information Technology or 112210**
Occupation Title	3	Alpha-Numeric	250	At least one of these two fields (industry title or occupation title) must contain a value. **Example: "Consultant"**
Employer Company Name	4	Alpha-Numeric	250	Optional. **Example: "ABCD Motor Company"**
Job duties	5	Alpha-Numeric	250	Optional. Enter text to describe job duties of the occupation. Used during the computer assisted module to help coder decide on the most accurate occupation code. **Example: "assembling nuts and bolts"**
Employer City	6	Alpha-Numeric	50	Optional. **Example: "Cincinnati"**
Employer State	7	Alpha	2	Optional. **Example: "OH"**
Employer Zip	8	Alpha-Numeric	10	Optional.
Age	9	Alpha-Numeric	5	Optional. **Examples: "25" or "25+" or ">25" or "30-35" or "senior"**
Education level	10	Alpha-Numeric	25	Optional. **Examples: " <12 years", "High School", "1-4 years college", "> 4 years college"**
User defined field1	11	Alpha-Numeric	250	Free text field used for user defined purposes only.
User defined field2	12	Alpha-Numeric	250	Free text field used for user defined purposes only.

Example NIOCCS Expanded File Format:

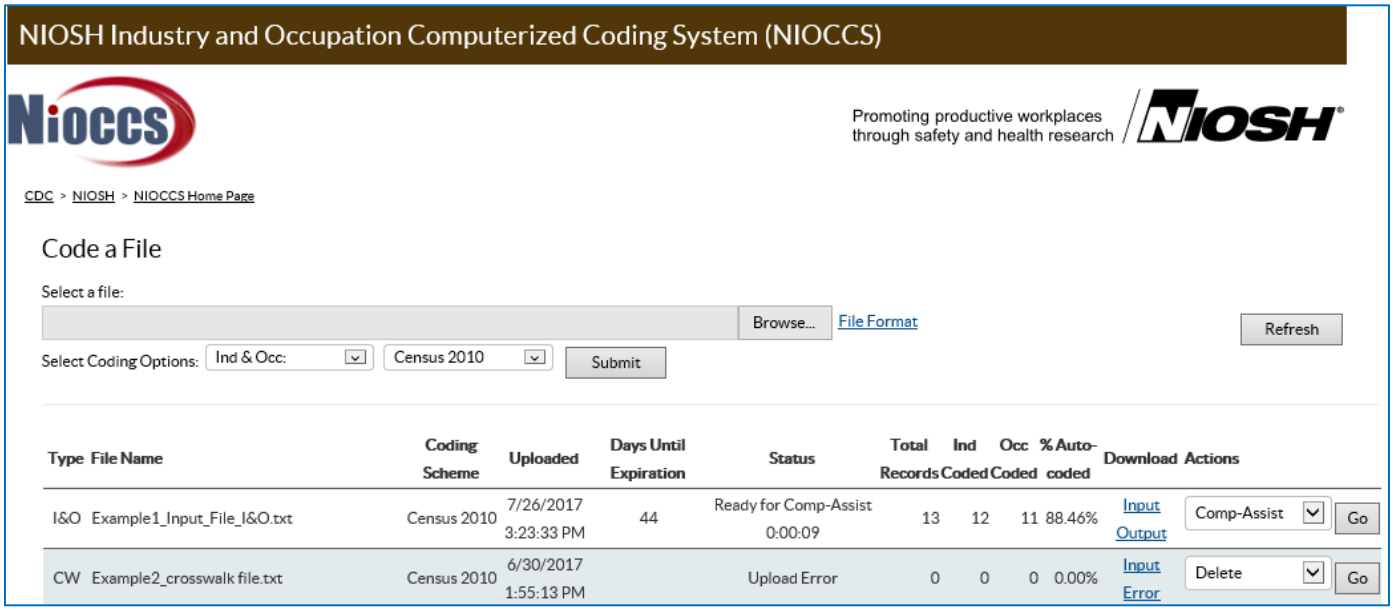
ID	Industry Title	Occupation Title	Employer Name	Job Duties	Emp_City	Emp_State	Emp Zip	Age	Education	UserDefined1	UserDefined2
10	Retail Sales	JC Penny Employee	JC Penny	Cashier	Topeka	KS	23566	56	High School	test 1	test2
20	Entertainment	Prof Santa Claus									
30	Swimming Pools	Water Tester / Cashier									
33	home	babysitter									
36	grain farm										
40	Bank	Cashier	PNC Bank	Count Money	Cincinnati	OH	45555				
50	Television	Camera operator	CBS								
60	Self-employed	Attorney									
70	City Government	Clerk					12345-6789				
80	Hospitl	Doctor	St. Gomaa	Making people better							
90	Home	Homemaker								usd1	usd2
100	Retail Foods	Clerk									
110	Newspaper Publications	Newspaper Delivery							12		
120	Manufacturing	Tool & Dye			Pittsburgh	PA		26			
130	Fabric Manufacturing	Seamstress									
140	Own Home	Homemaker/mother									
150	Housekeeping	Homemaker				TX					
160	Piggly Wiggly	meat cutter					555555				
170	Remke Market	cashier									

5.2.2 Submitting a File for I&O Autocoding

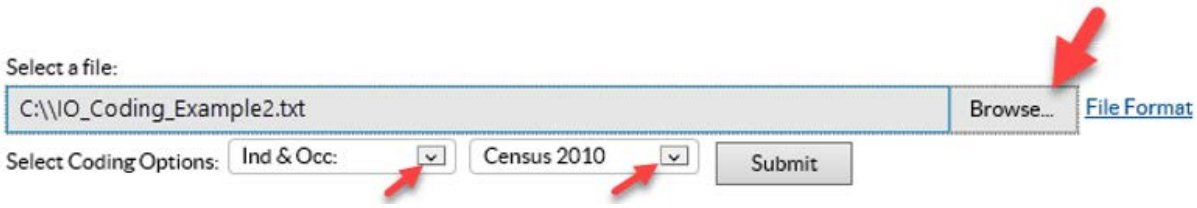


To submit a file for autocoding, click the **Code a File** option from the **NIOCCS Menu.**

The **Code a File** screen will contain a list of previous file submissions (if any) and allows you to browse your computer to select a new file to submit for autocoding.

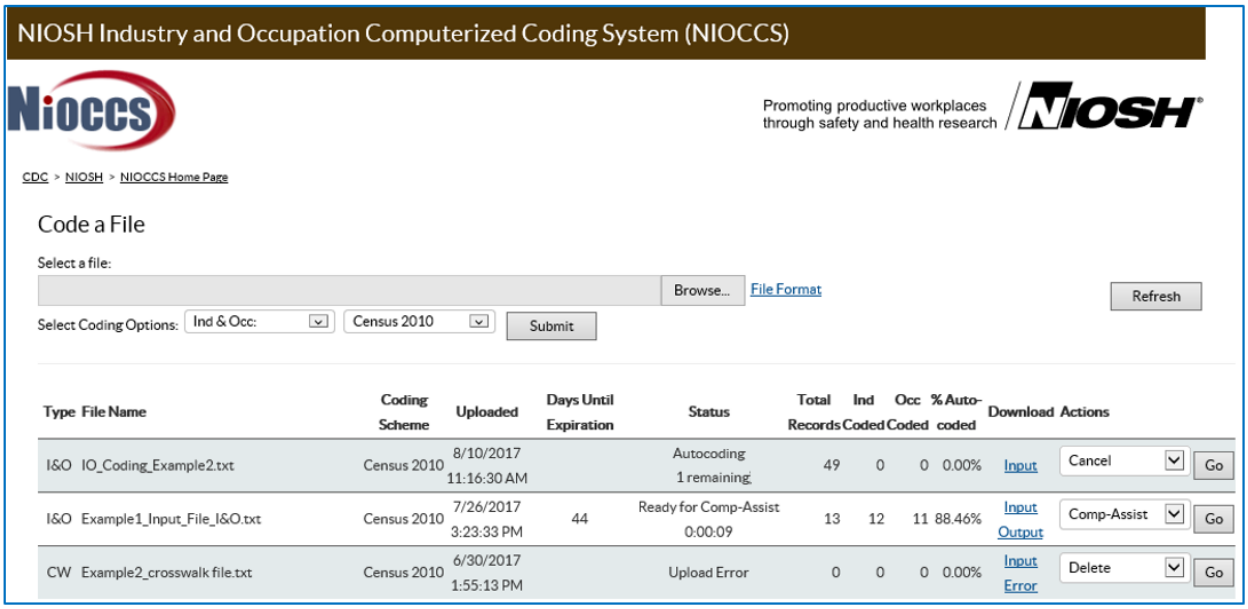


Click the **Browse** button to select a file from your computer.



Once a file is selected, choose the **Ind &Occ** coding option and the **Census Coding Scheme** to be used for autocoding then click the **Submit** button.

The screen will refresh with status information for the new file submitted.



You can monitor the status of a file submitted by checking the **Status** column and periodically clicking the **Refresh List** button to get an update on the status.

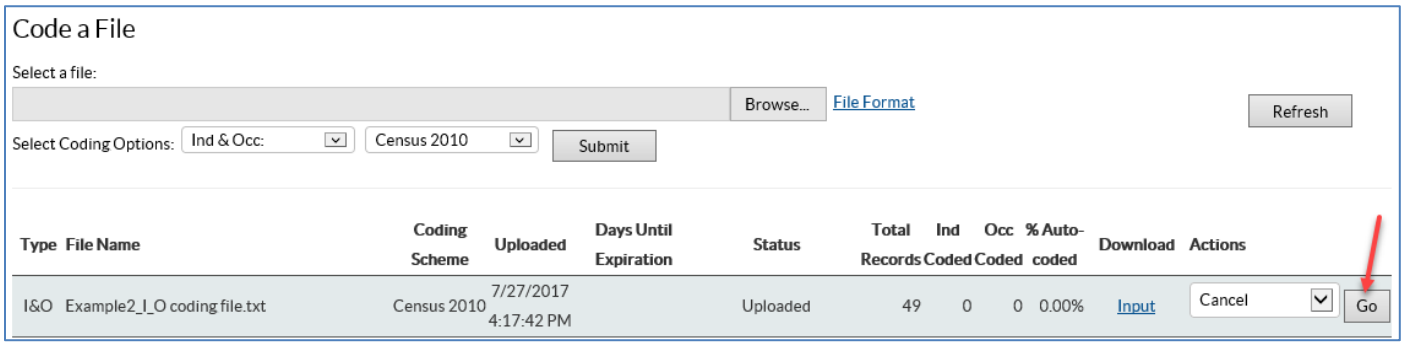
Large files however may take time to complete the autocoding process. *You do not need to stay logged into the system for the autocode to complete.*

Once the file is successfully finished autocoding, an email will be sent to the user to notify them that the file is ready for review.

Status	**Status Descriptions**
Uploading	File is being imported to the NIOCCS system.
Upload Error	An error occurred during importing. The user can view the upload error by clicking the **Error** link in the Download column of the Code a File screen table.
Autocoding	File is currently being autocoded.
Ready for Comp-Assist	File has some records that did not autocode and will need I&O codes assigned via the computer-assist coding features of the system.
Complete	All records in the file have I&O codes assigned.

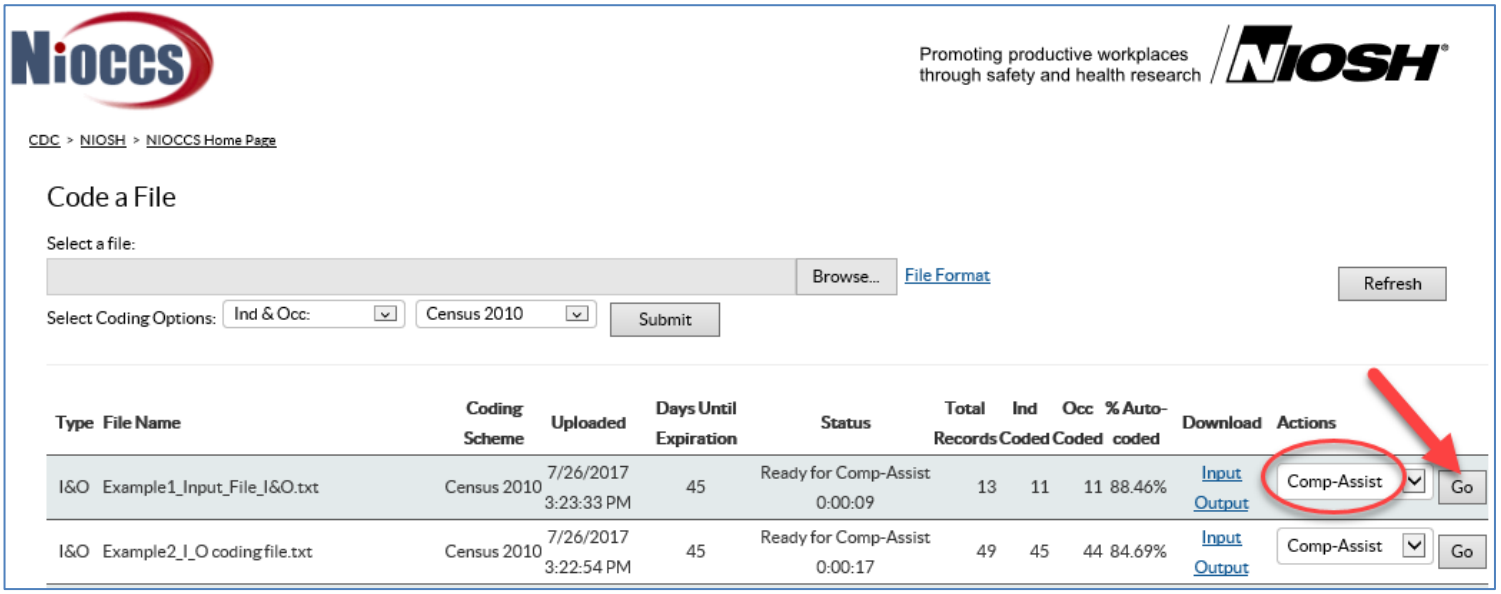
Note that the total records where industry and occupation were autocoded may be different. That is because a record may have only one of the codes assigned automatically and the other will need to be assigned manually via the computer assisted coding screens.

A file submitted for coding can be cancelled if it has not completed the autocoding process. Select the **Cancel** option in the **Action** drop down then click the **Go** button.



5.2.3 Computer Assisted I&O Coding

To begin manually reviewing and coding records, select **Comp-Assist** from the Actions drop down in the row of the desired file then click the **Go** button.



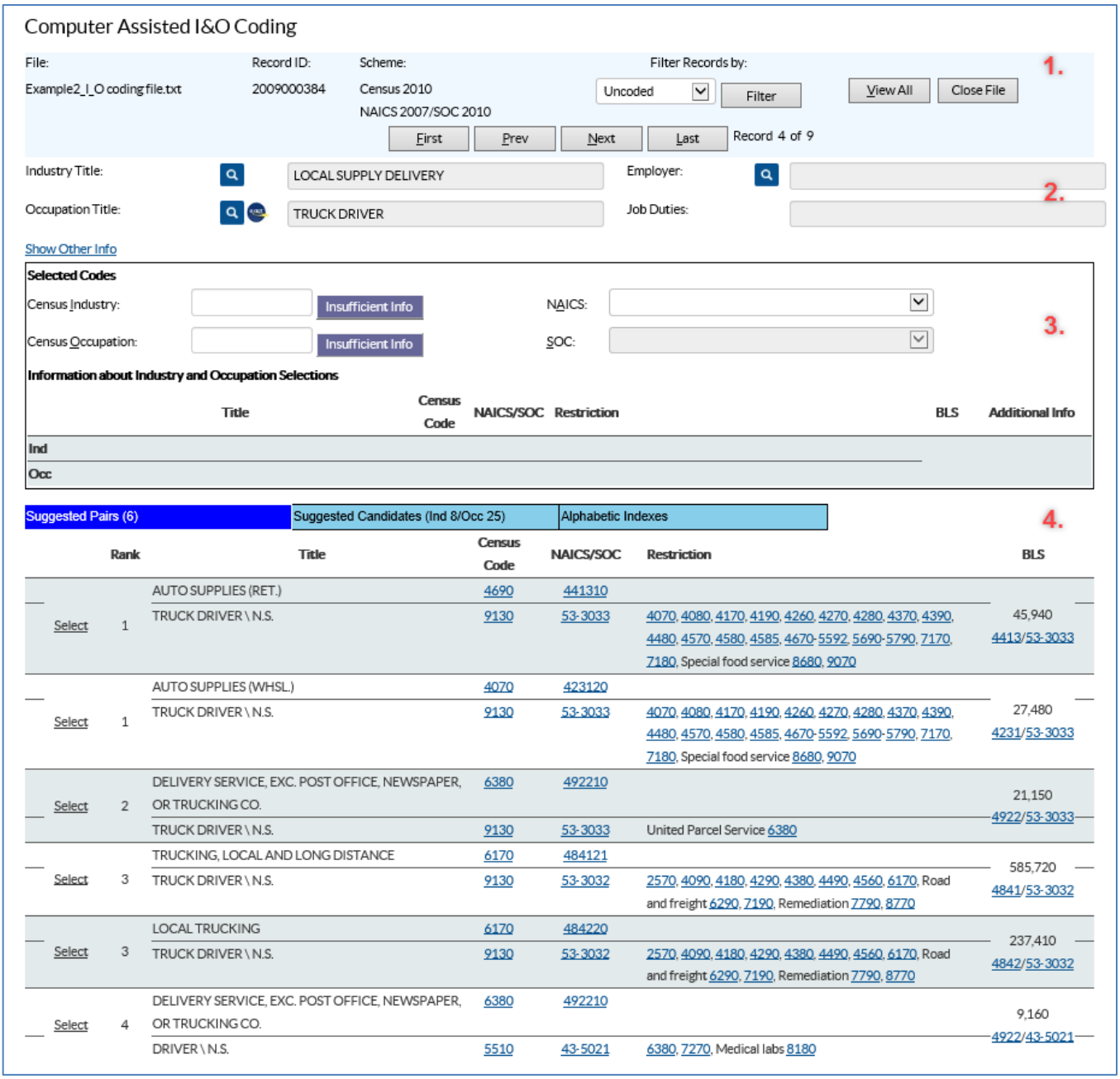
IMPORTANT NOTE: *NIOSH strongly recommends that users be trained in I&O coding prior to using the computer assisted feature of NIOCCS. NIOSH provides I&O coding training a few times a year, for more information visit our website at:* http://www.cdc.gov/niosh/topics/coding/training.html

5.2.3.1 Computer Assisted I&O Coding screen

This screen displays records one at a time allowing the user to search and select the most appropriate industry and occupation codes for the I&O input.

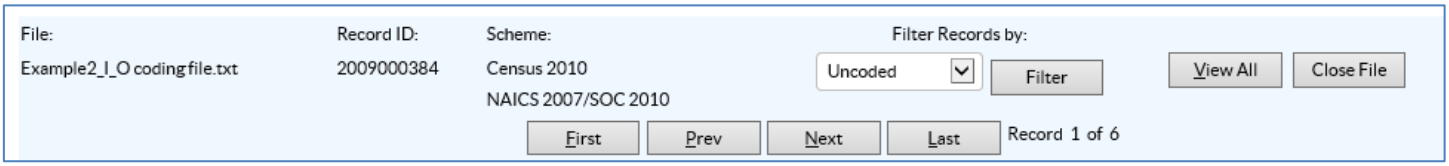
The Computer Assisted I&O Coding screen consists of 4 sections:

1. File Information and Navigation
2. Input Industry and Occupation to be coded
3. Selected I&O Codes
4. Suggested Codes / Alphabetical Index tabs



5.2.3.2 Comp-Assist: Section #1. File Information and Navigation

This section provides navigation tools and information about the file being coded.



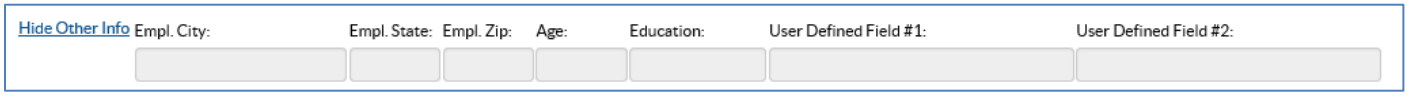
Field	Description
File	Displays the name of the file being coded.
Record ID	Displays the unique record ID of the current record being displayed.
Scheme	Displays the coding scheme selected for autocoding.
Filter Records by	Provides options for reviewing and filtering the records in the file by the following categories: **Uncoded** Records where one or both codes are blank. (Default) **Comp-Assist** Records where both I&O have codes but one or both were manually coded. **Autocoded** Records where both I&O have been autocoded. **Suggest Review** Autocoded records where the 'suggest review' flag has been set. **All** All records
First, Prev, Next, Last	Provide navigation for moving from one record to another. **Hot Keys** are also available for these functions: Shift+F First Record Shift+P Previous Record Shift+N Next Record Shift+L Last Record
Record x of x	Indicates which record is currently being viewed among all the records in the filtered set of records.
View All	Provides the ability to view the records in table format rather than one record at a time. **Hot Key:** Shift+V View All
Close File	Closes the file and returns to the 'Code a File' screen.

5.2.3.3 Comp-Assist: Section #2. Input Industry and Occupation to be Coded

The input occupation and industry to be coded will appear in the **Industry Title** and **Occupation Title** boxes. If data were submitted for **Employer** or **Job Duties**, the information will be displayed in the associated boxes.

NOTE: *Currently (October 2017), the **employer** and **job duties** fields are only used to support computer assisted coding; they are not used in the autocoding process.*

If the NIOCCS Expanded File Format was used for autocoding the file, the additional data fields can be viewed by clicking on the **Show Other Info** link:



To hide these fields again, click the **Hide Other Info** link.

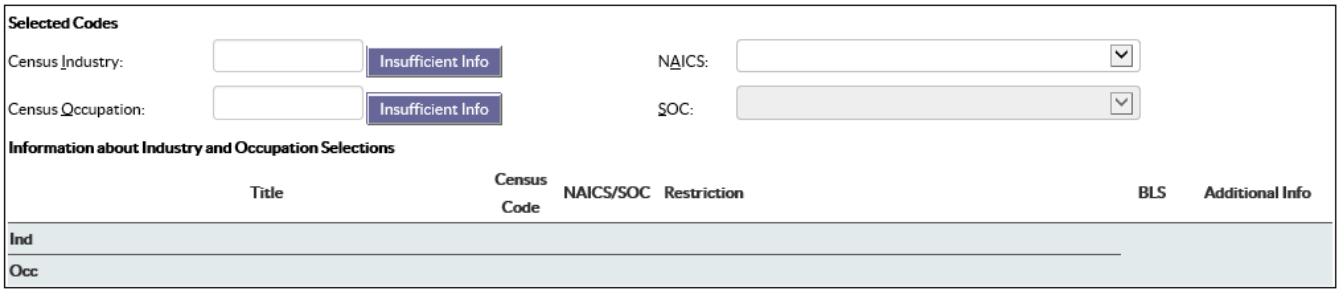
You can quickly search the internet for the text in the industry title, occupation title, or employer by clicking the search icon next to the field.

This is often used to obtain more information via the web on the type of industry/employer or specifics about a particular occupation in order to assign the most appropriate I&O codes.

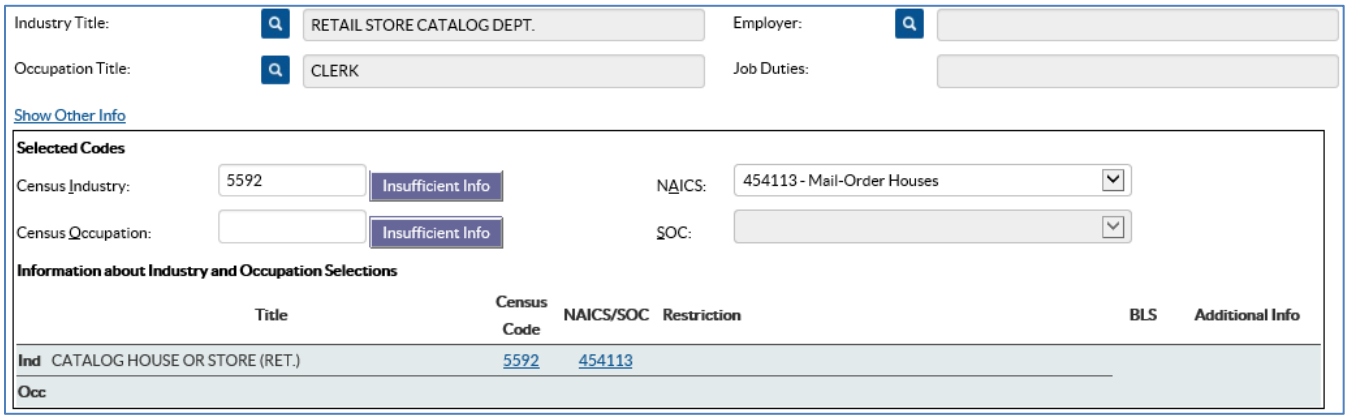
5.2.3.4 Comp-Assist: Section #3. Selected Codes

This section is used to view and/or edit the I&O codes selected for the input industry and occupation.

If neither industry nor occupation was autocoded, then no information will be displayed initially as shown below.



If either industry or occupation was autocoded, the code selected by NIOCCS will be displayed as shown in the example below.



5.2.3.5 Comp-Assist: Section #4. Suggested Codes / Alphabetic Indexes Tabs

This section of the **Computer Assisted I&O Coding** screen provides three tools to help locate and determine the most appropriate I&O codes for the input industry and occupation. These tools are presented in the tabbed lower section of the screen.

1. Suggested Pairs
2. Suggested Candidates
3. Alphabetic Indexes

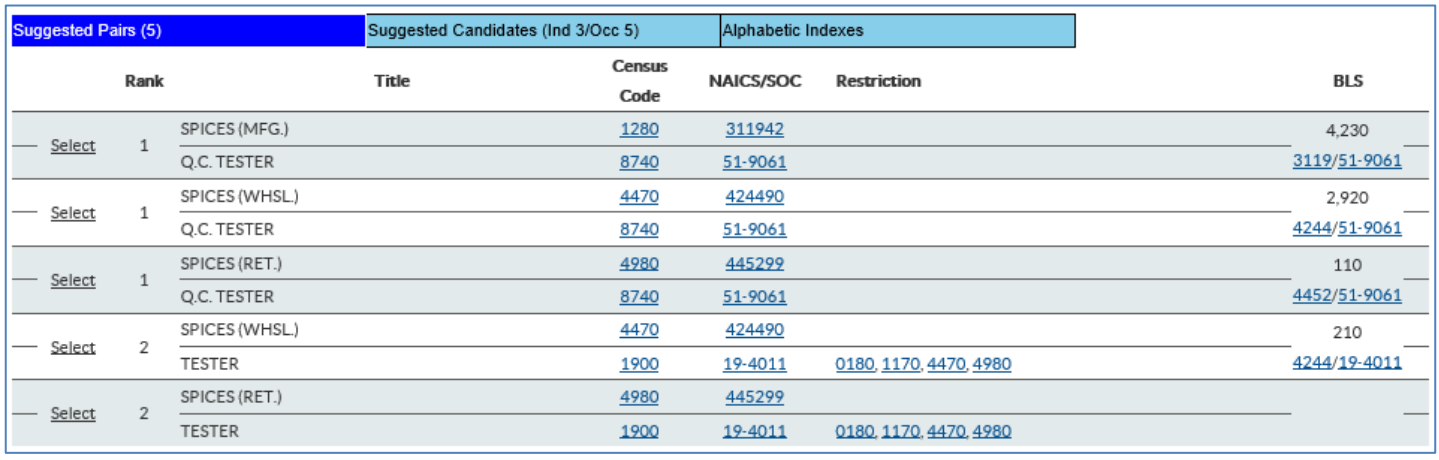
Suggested Pairs

This tab presents I&O code pair candidates that are suggested matches by NIOCCS for the given input I&O. The pairs are listed in a highest to lowest rank order of match probability.

Using the I&O input of:

Industry: **Spices**
Occupation: **QC Testing**

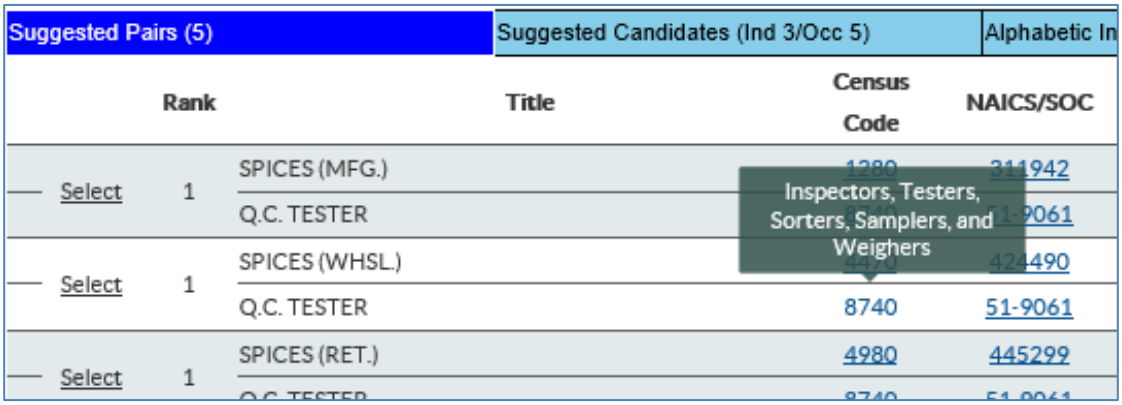
The example below shows 5 possible combinations of I&O code pairs. Note the number of pairs is indicated in the tab heading as 'Suggested Pairs (5)'.



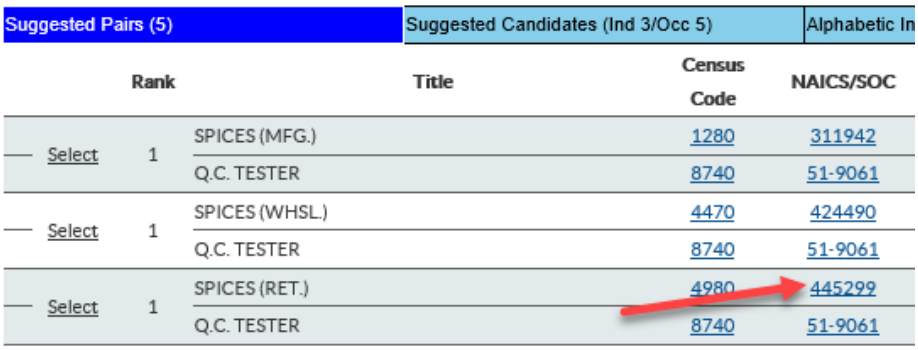
	Rank	Title	Census Code	NAICS/SOC	Restriction	BLS
Select	1	SPICES (MFG.)	1280	311942		4,230
		Q.C. TESTER	8740	51-9061		3119/51-9061
Select	1	SPICES (WHSL.)	4470	424490		2,920
		Q.C. TESTER	8740	51-9061		4244/51-9061
Select	1	SPICES (RET.)	4980	445299		110
		Q.C. TESTER	8740	51-9061		4452/51-9061
Select	2	SPICES (WHSL.)	4470	424490		210
		TESTER	1900	19-4011	0180, 1170, 4470, 4980	4244/19-4011
Select	2	SPICES (RET.)	4980	445299		
		TESTER	1900	19-4011	0180, 1170, 4470, 4980	

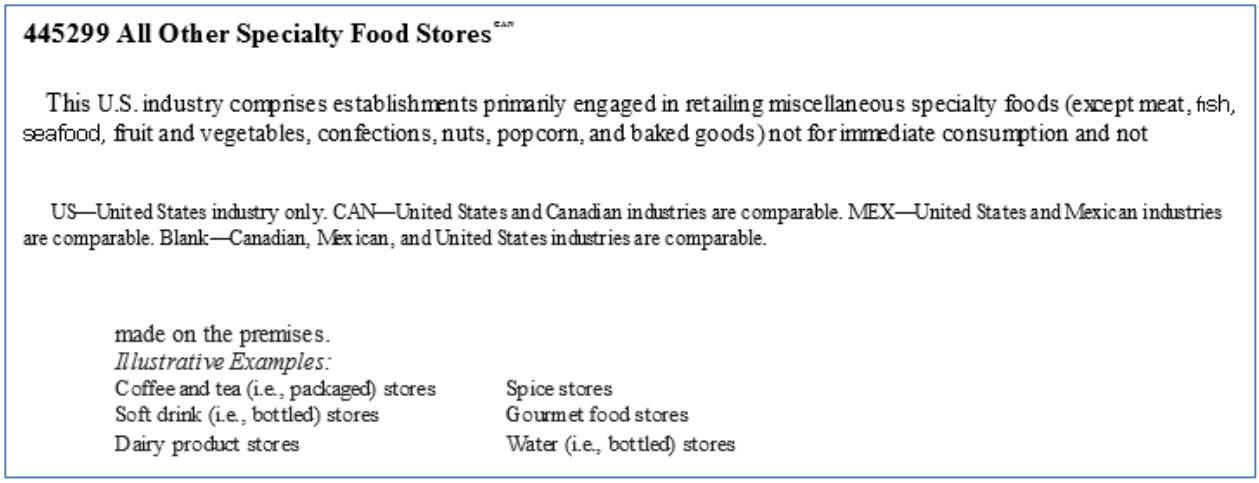
Since the industry input only contained the word 'Spices', the system cannot be certain whether this is Manufacturing (MFG), Wholesale (WHSL), or Retail (RET). There are also two possible occupation codes based on the word 'Testing' (Q.C. TESTER and TESTER).

In each pair, the industry is listed first with occupation below it. Each pair shows the Census, NAICS and SOC codes associated with the I&O titles. You can hover the mouse over any of the codes to see the standard title for the industry or occupation as shown below.



To obtain more information about a code, you can click on the code itself. For example, clicking on the NAICS code of 445299 in the third pair will display the specific NAICS description of that code.





445299 All Other Specialty Food Stores[CAN]

This U.S. industry comprises establishments primarily engaged in retailing miscellaneous specialty foods (except meat, fish, seafood, fruit and vegetables, confections, nuts, popcorn, and baked goods) not for immediate consumption and not

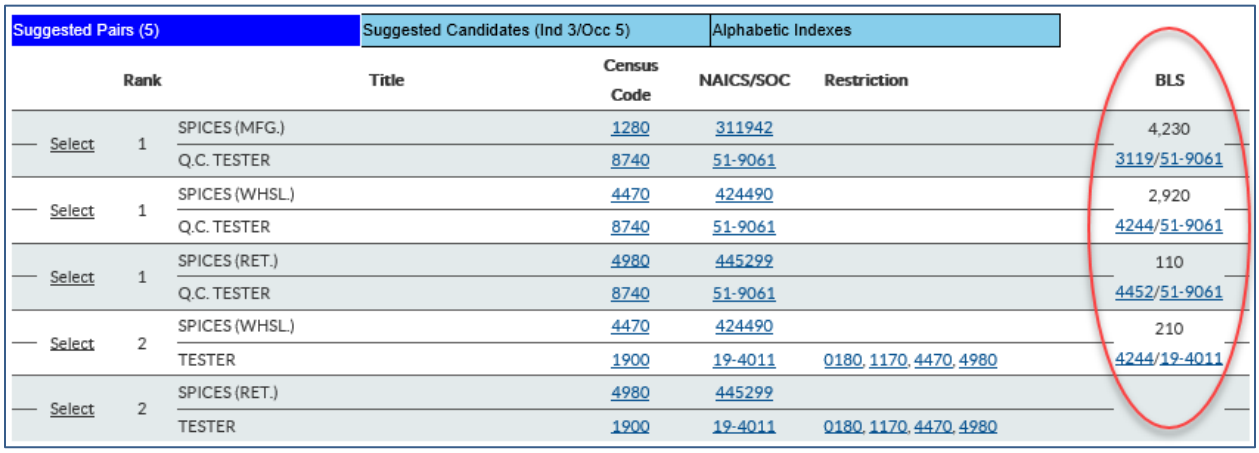
US—United States industry only. CAN—United States and Canadian industries are comparable. MEX—United States and Mexican industries are comparable. Blank—Canadian, Mexican, and United States industries are comparable.

made on the premises.

Illustrative Examples:

Coffee and tea (i.e., packaged) stores
Soft drink (i.e., bottled) stores
Dairy product stores
Spice stores
Gourmet food stores
Water (i.e., bottled) stores

The numbers displayed in the right hand column under **BLS** are the number of employees that the Bureau of Labor Statistics (BLS) projected to have worked with the combination of NAICS Industry code and SOC occupation code for the latest year data is available.



Suggested Pairs (5) | Suggested Candidates (Ind 3/Occ 5) | Alphabetic Indexes

	Rank	Title	Census Code	NAICS/SOC	Restriction	BLS
Select	1	SPICES (MFG.)	1280	311942		4,230
		Q.C. TESTER	8740	51-9061		3119/51-9061
Select	1	SPICES (WHSL.)	4470	424490		2,920
		Q.C. TESTER	8740	51-9061		4244/51-9061
Select	1	SPICES (RET.)	4980	445299		110
		Q.C. TESTER	8740	51-9061		4452/51-9061
Select	2	SPICES (WHSL.)	4470	424490		210
		TESTER	1900	19-4011	0180, 1170, 4470, 4980	4244/19-4011
Select	2	SPICES (RET.)	4980	445299		
		TESTER	1900	19-4011	0180, 1170, 4470, 4980	

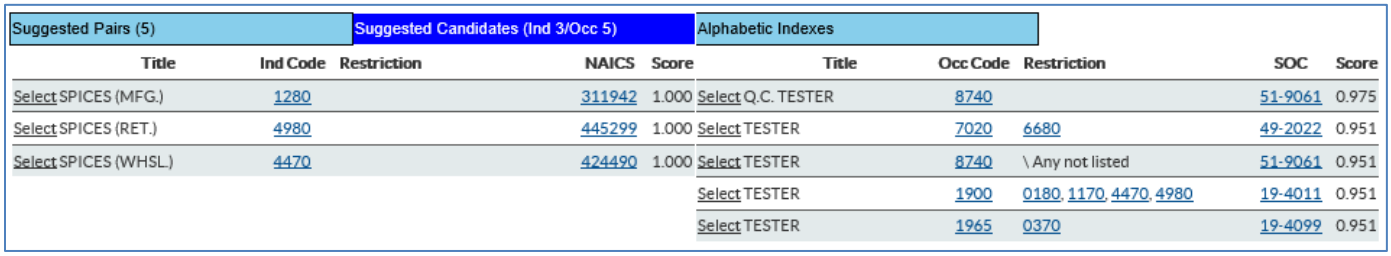
In the example above, BLS shows that there were 4,230 people who worked in the Spices manufacturing industry (NAICS code 3119) as a Q.C. Tester (SOC code 51-9061). Other combinations have less people employed.

Since it is not clear from only the input text of 'Spices' what the industry type really is, the BLS employment data provides information that can be used to consider the likelihood of persons employed in various industry and occupation combinations.

Suggested Candidates

You can view matched candidates separately for industry and occupation using the **Suggested Candidates** tab.

Continuing with the example used above, there are 3 matched candidates for industry input of 'Spices' and 5 matched candidates for the occupation input of 'QC Tester'. Note these numbers are indicated in the tab as 'Suggested Candidates (Ind 3/Occ 5)'.



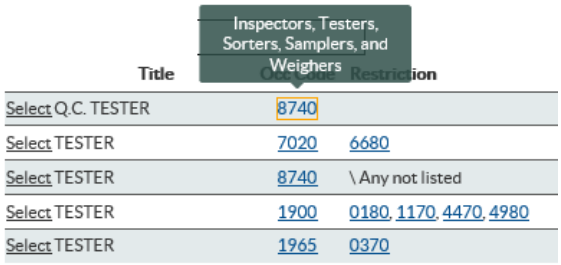
Suggested Pairs (5) | Suggested Candidates (Ind 3/Occ 5) | Alphabetic Indexes

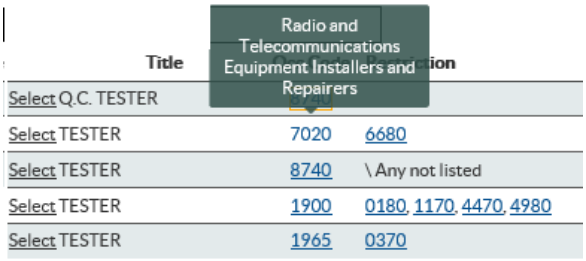
Title	Ind Code	Restriction	NAICS	Score	Title	Occ Code	Restriction	SOC	Score
Select SPICES (MFG.)	1280		311942	1.000	Select Q.C. TESTER	8740		51-9061	0.975
Select SPICES (RET.)	4980		445299	1.000	Select TESTER	7020	6680	49-2022	0.951
Select SPICES (WHSL.)	4470		424490	1.000	Select TESTER	8740	\ Any not listed	51-9061	0.951
					Select TESTER	1900	0180, 1170, 4470, 4980	19-4011	0.951
					Select TESTER	1965	0370	19-4099	0.951

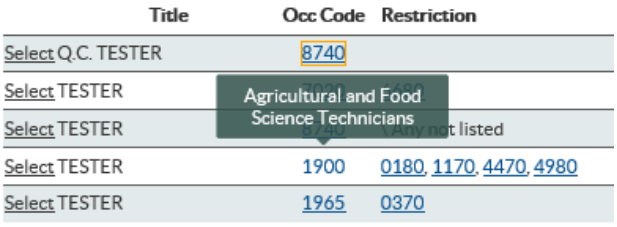
A **Score** is provided for each industry and occupation candidate which indicates how well the input text matched to the candidate. Using the occupation example, you can see that the candidate 'Q.C. Tester' received a higher score than 'Tester' as compared to the input text.

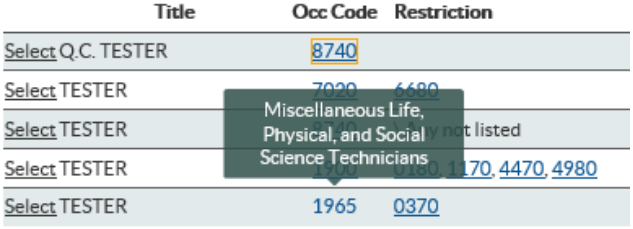
Title	Occ Code	Restriction	SOC	Score
Select Q.C. TESTER	8740		51-9061	0.975
Select TESTER	7020	6680	49-2022	0.951
Select TESTER	8740	\ Any not listed	51-9061	0.951
Select TESTER	1900	0180, 1170, 4470, 4980	19-4011	0.951
Select TESTER	1965	0370	19-4099	0.951

By hovering over the Census occupation (or SOC) codes, you can quickly view the different standard occupation titles for the code to help determine the most accurate one for the given input.







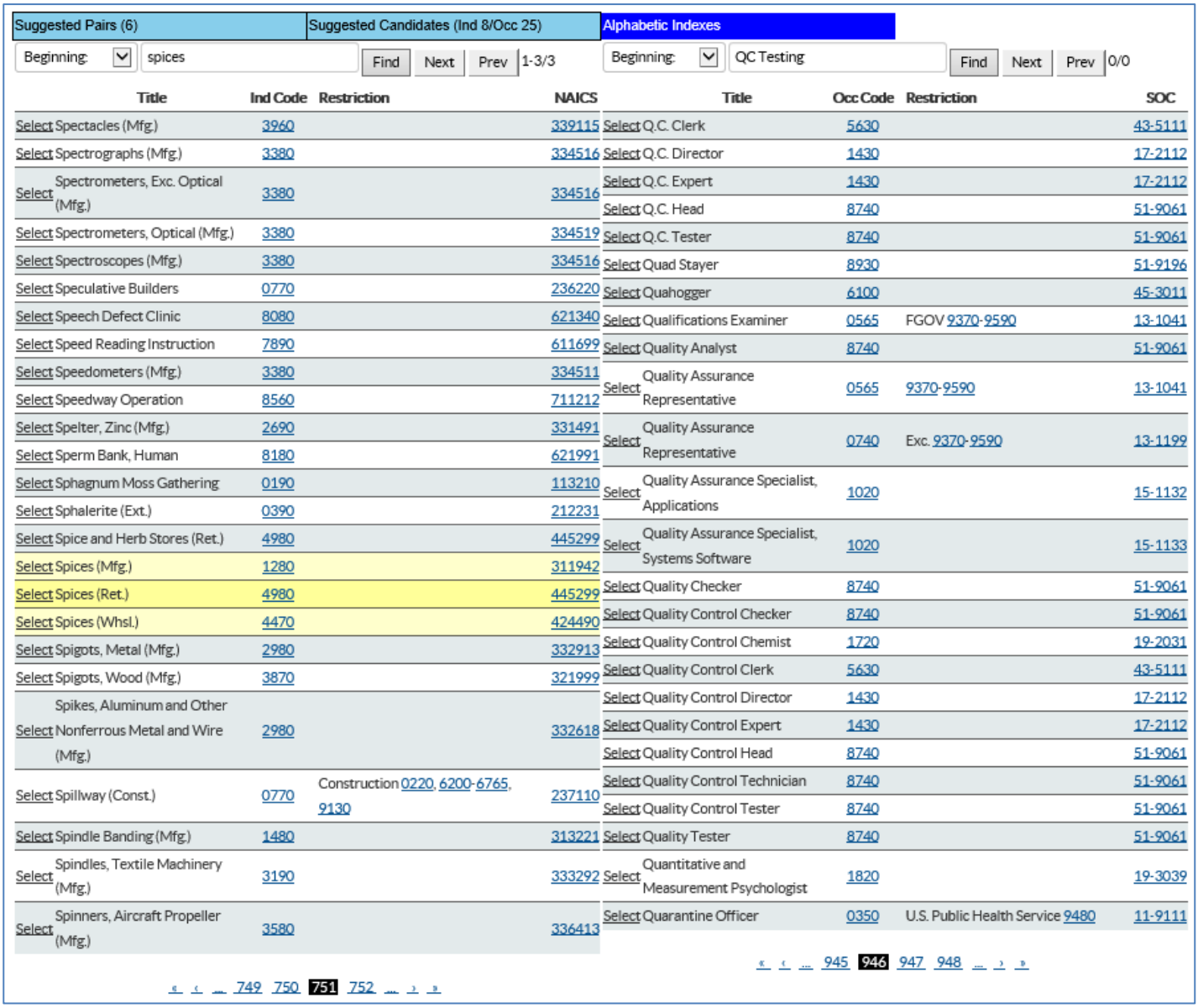


Alphabetic Indexes

This tab gives you the ability to search for industry and occupation titles in the Census Alphabetical Indexes.

This feature is used most often when no suggested pairs or suggested candidates are found or when those found are not appropriate.

Initially the input text for industry and occupation will be displayed in the search boxes and each of the indexes will automatically attempt to locate entries in the indexes that begin with the text.



Suggested Pairs (6) | Suggested Candidates (Ind 8/Occ 25) | Alphabetic Indexes

Beginning: spices Find Next Prev 1-3/3

Title	Ind Code	Restriction	NAICS
Select Spectacles (Mfg.)	3960		339115
Select Spectrographs (Mfg.)	3380		334516
Select Spectrometers, Exc. Optical (Mfg.)	3380		334516
Select Spectrometers, Optical (Mfg.)	3380		334519
Select Spectroscopes (Mfg.)	3380		334516
Select Speculative Builders	0770		236220
Select Speech Defect Clinic	8080		621340
Select Speed Reading Instruction	7890		611699
Select Speedometers (Mfg.)	3380		334511
Select Speedway Operation	8560		711212
Select Spelter, Zinc (Mfg.)	2690		331491
Select Sperm Bank, Human	8180		621991
Select Sphagnum Moss Gathering	0190		113210
Select Sphalerite (Ext.)	0390		212231
Select Spice and Herb Stores (Ret.)	4980		445299
Select Spices (Mfg.)	1280		311942
Select Spices (Ret.)	4980		445299
Select Spices (Whsl.)	4470		424490
Select Spigots, Metal (Mfg.)	2980		332913
Select Spigots, Wood (Mfg.)	3870		321999
Select Spikes, Aluminum and Other Nonferrous Metal and Wire (Mfg.)	2980		332618
Select Spillway (Const.)	0770	Construction 0220, 6200-6765, 9130	237110
Select Spindle Banding (Mfg.)	1480		313221
Select Spindles, Textile Machinery (Mfg.)	3190		333292
Select Spinners, Aircraft Propeller (Mfg.)	3580		336413

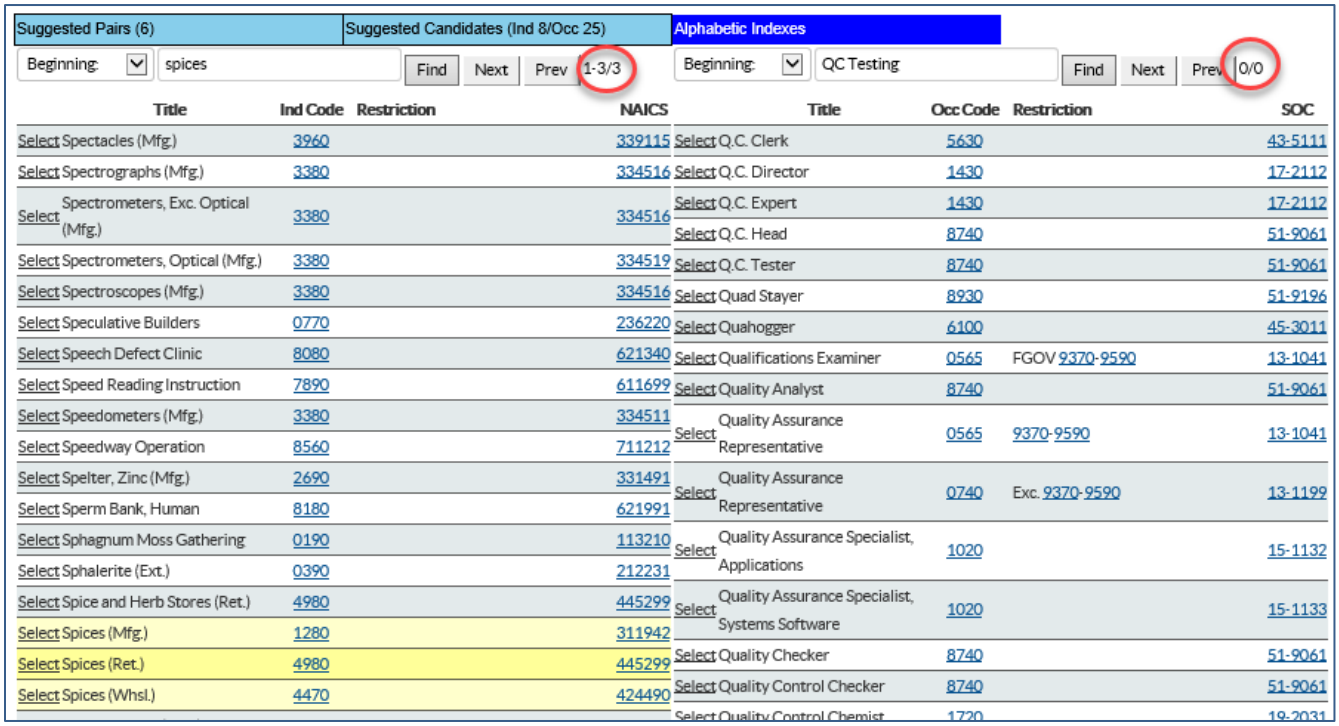
« ‹ ... 749 750 751 752 ... › »

Beginning: QC Testing Find Next Prev 0/0

Title	Occ Code	Restriction	SOC
Select Q.C. Clerk	5630		43-5111
Select Q.C. Director	1430		17-2112
Select Q.C. Expert	1430		17-2112
Select Q.C. Head	8740		51-9061
Select Q.C. Tester	8740		51-9061
Select Quad Stayer	8930		51-9196
Select Quahogger	6100		45-3011
Select Qualifications Examiner	0565	FGOV 9370-9590	13-1041
Select Quality Analyst	8740		51-9061
Select Quality Assurance Representative	0565	9370-9590	13-1041
Select Quality Assurance Representative	0740	Exc. 9370-9590	13-1199
Select Quality Assurance Specialist, Applications	1020		15-1132
Select Quality Assurance Specialist, Systems Software	1020		15-1133
Select Quality Checker	8740		51-9061
Select Quality Control Checker	8740		51-9061
Select Quality Control Chemist	1720		19-2031
Select Quality Control Clerk	5630		43-5111
Select Quality Control Director	1430		17-2112
Select Quality Control Expert	1430		17-2112
Select Quality Control Head	8740		51-9061
Select Quality Control Technician	8740		51-9061
Select Quality Control Tester	8740		51-9061
Select Quality Tester	8740		51-9061
Select Quantitative and Measurement Psychologist	1820		19-3039
Select Quarantine Officer	0350	U.S. Public Health Service 9480	11-9111

« ‹ ... 945 946 947 948 ... › »

In the example, 3 entries in the industry index were found beginning with the word ‘Spices’ (highlighted in yellow). However, no entries were found in the occupation index that began with ‘QC Tester’.



Suggested Pairs (6) | Suggested Candidates (Ind 8/Occ 25) | Alphabetic Indexes

Beginning: spices — Find | Next | Prev | 1-3/3

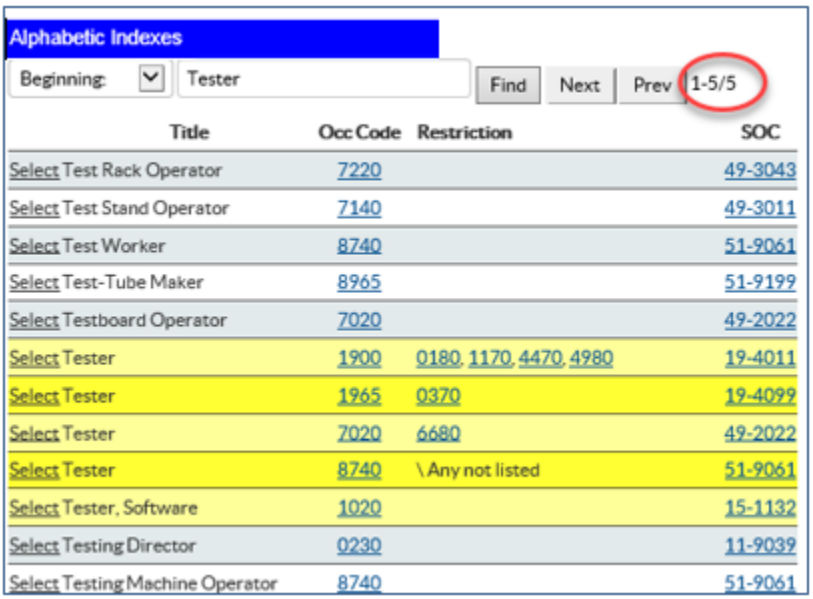
Title	Ind Code	Restriction	NAICS
Select Spectacles (Mfg.)	3960		339115
Select Spectrographs (Mfg.)	3380		334516
Select Spectrometers, Exc. Optical (Mfg.)	3380		334516
Select Spectrometers, Optical (Mfg.)	3380		334519
Select Spectroscopes (Mfg.)	3380		334516
Select Speculative Builders	0770		236220
Select Speech Defect Clinic	8080		621340
Select Speed Reading Instruction	7890		611699
Select Speedometers (Mfg.)	3380		334511
Select Speedway Operation	8560		711212
Select Spelter, Zinc (Mfg.)	2690		331491
Select Sperm Bank, Human	8180		621991
Select Sphagnum Moss Gathering	0190		113210
Select Sphalerite (Ext.)	0390		212231
Select Spice and Herb Stores (Ret.)	4980		445299
Select Spices (Mfg.)	1280		311942
Select Spices (Ret.)	4980		445299
Select Spices (Whsl.)	4470		424490

Beginning: QC Testing — Find | Next | Prev | 0/0

Title	Occ Code	Restriction	SOC
Select Q.C. Clerk	5630		43-5111
Select Q.C. Director	1430		17-2112
Select Q.C. Expert	1430		17-2112
Select Q.C. Head	8740		51-9061
Select Q.C. Tester	8740		51-9061
Select Quad Stayer	8930		51-9196
Select Quahogger	6100		45-3011
Select Qualifications Examiner	0565	FGOV 9370-9590	13-1041
Select Quality Analyst	8740		51-9061
Select Quality Assurance Representative	0565	9370-9590	13-1041
Select Quality Assurance Representative	0740	Exc. 9370-9590	13-1199
Select Quality Assurance Specialist, Applications	1020		15-1132
Select Quality Assurance Specialist, Systems Software	1020		15-1133
Select Quality Checker	8740		51-9061
Select Quality Control Checker	8740		51-9061
Select Quality Control Chemist	1720		19-2031

You can change the text to be searched by clearing the text box, entering different text, then clicking the **Find** button.

Searching the occupation index for entries that begin with ‘Tester’ results in 5 entries found.



Alphabetic Indexes

Beginning: Tester — Find | Next | Prev | 1-5/5

Title	Occ Code	Restriction	SOC
Select Test Rack Operator	7220		49-3043
Select Test Stand Operator	7140		49-3011
Select Test Worker	8740		51-9061
Select Test-Tube Maker	8965		51-9199
Select Testboard Operator	7020		49-2022
Select Tester	1900	0180, 1170, 4470, 4980	19-4011
Select Tester	1965	0370	19-4099
Select Tester	7020	6680	49-2022
Select Tester	8740	\ Any not listed	51-9061
Select Tester, Software	1020		15-1132
Select Testing Director	0230		11-9039
Select Testing Machine Operator	8740		51-9061

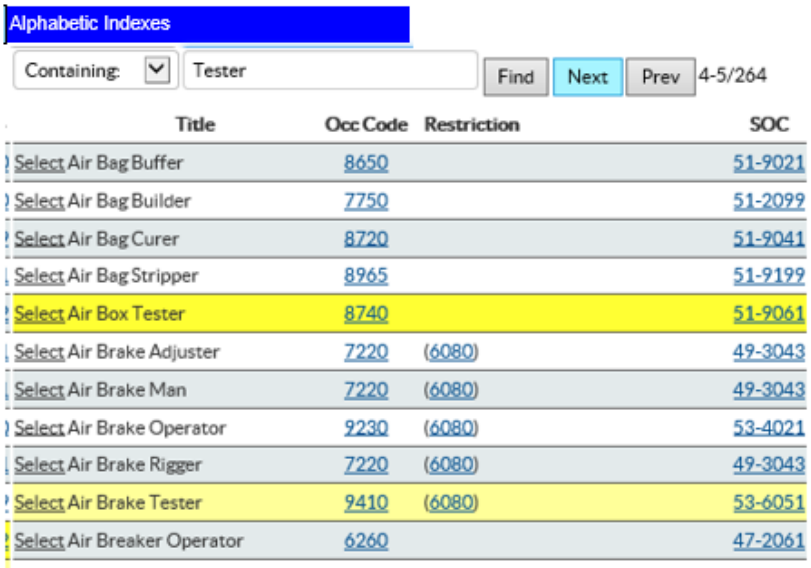
The indexes can also be searched for entries *containing* text. In the example below, the occupation index was searched for all occupations containing the word 'Tester'.

A total of 264 entries were found.

The first page where occupation titles containing the text entered will be displayed with the found entries highlight in yellow.

Title	Occ Code	Restriction	SOC
Select Acid Operator	8640		51-9011
Select Acid Painter	8965	(2490)	51-9199
Select Acid Patroller	8640	(2170)	51-9011
Select Acid Plant Operator	8640		51-9011
Select Acid Polymerization Operator	8640		51-9011
Select Acid Pump Operator	9650		53-7072
Select Acid Purifier	8640		51-9011
Select Acid Recovery Operator	8640	(2070)	51-9011
Select Acid Regenerator	8640	(2170)	51-9011
Select Acid Remover	8640		51-9011
Select Acid Retort Operator	8640	(2070)	51-9011
Select Acid Splicer	8965	(2380)	51-9199
Select Acid Tank Liner	6220	(0770)	47-2021
Select Acid Tender	8640		51-9011
Select Acid Tester	1930	2070	19-4041
Select Acid Tester	8740	Exc. 2070	51-9061
Select Acid Treater	8640	0370, 2070	51-9011
Select Acidity Tester	1900	0180, 1170, 4470, 4980	19-4011
Select Acidizer	6940	(0370)	47-5099
Select Acoustical Carpenter	6240		47-2044

Use the **Next** and **Prev** buttons to navigate to the other entries found in the index containing the word 'Tester'.



Title	Occ Code	Restriction	SOC
Select Air Bag Buffer	8650		51-9021
Select Air Bag Builder	7750		51-2099
Select Air Bag Curer	8720		51-9041
Select Air Bag Stripper	8965		51-9199
Select Air Box Tester	8740		51-9061
Select Air Brake Adjuster	7220	(6080)	49-3043
Select Air Brake Man	7220	(6080)	49-3043
Select Air Brake Operator	9230	(6080)	53-4021
Select Air Brake Rigger	7220	(6080)	49-3043
Select Air Brake Tester	9410	(6080)	53-6051
Select Air Breaker Operator	6260		47-2061

For more information on using the Census Alphabetical Indexes, see Chapter 4.

5.2.4 How to Assign Industry and Occupation Codes

An industry or occupation code can be assigned in two ways in the Computer Assisted I&O Coding screen:

1) By clicking the **Select** link from one of the tools (Suggested Pairs, Suggested Candidates, and Alphabetic Indexes) in the tabbed section.

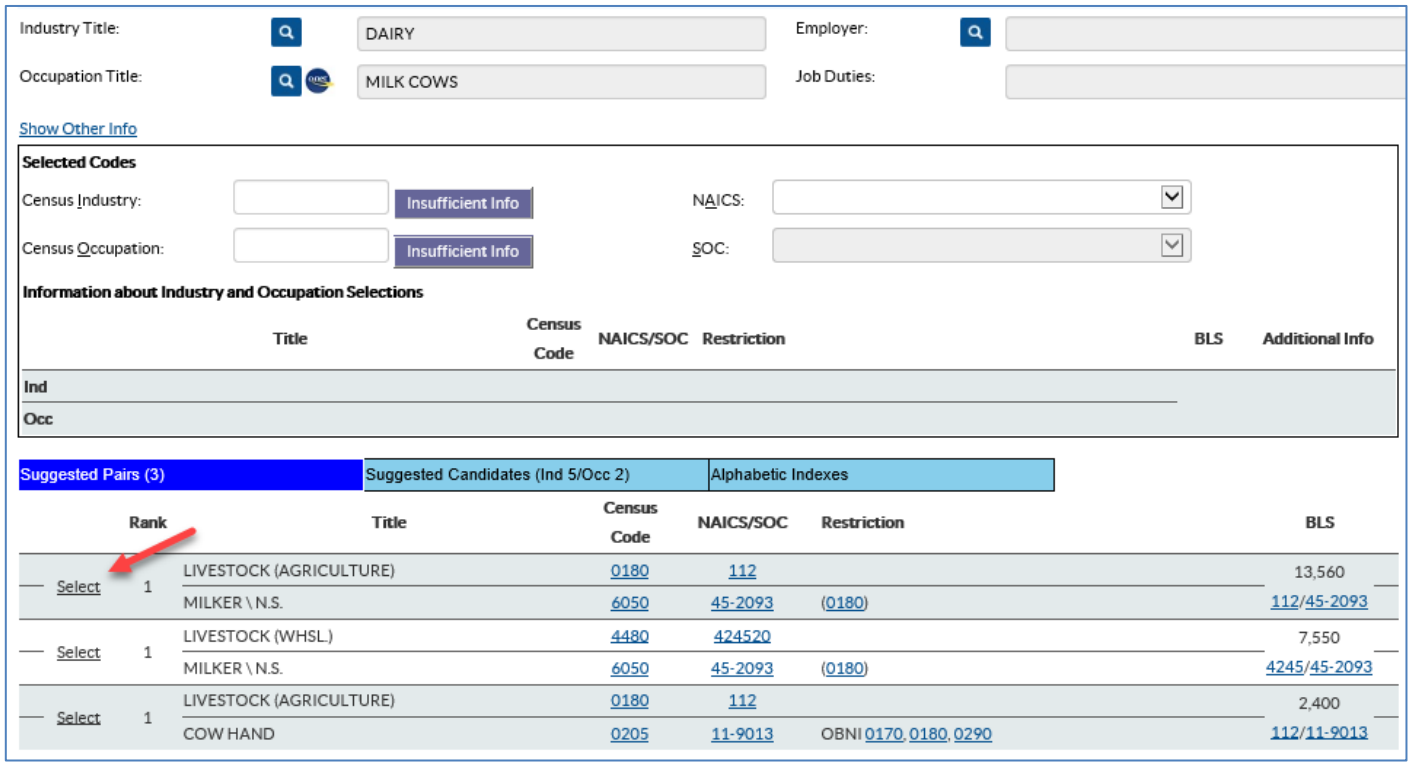
2) By entering a code directly into the **Census Industry** or **Census Occupation** text boxes of the Selected Codes section.

Selecting Codes

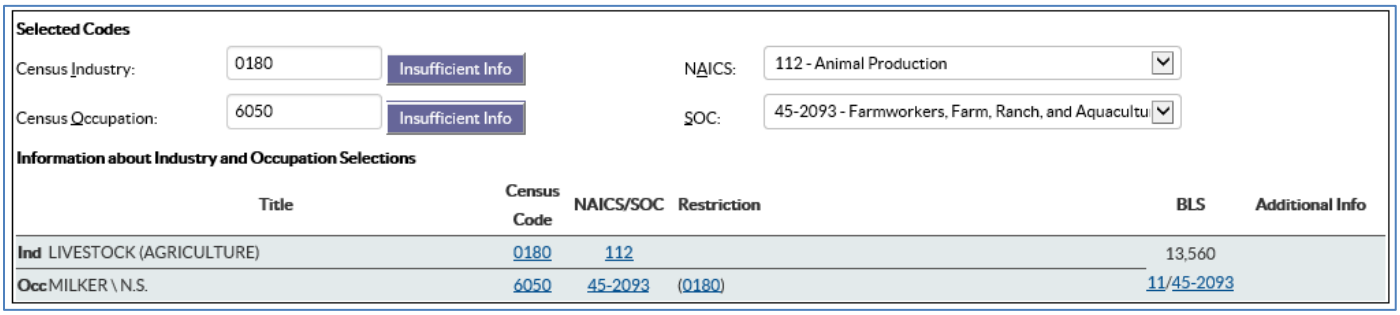
It is best practice to select codes using one of the three tools available in the tabbed section of the Computer Assisted I&O Coding screen (Suggested Pairs, Suggested Candidates, and Alphabetic Indexes). This method will automatically include the NAICS and SOC codes associated with the selected Census industry and occupation codes.

Using the I&O input of: Industry: **Dairy**
Occupation: **Milk Cows**

To choose one of the **Suggested Pairs**, click the Select link next to the I&O pair.

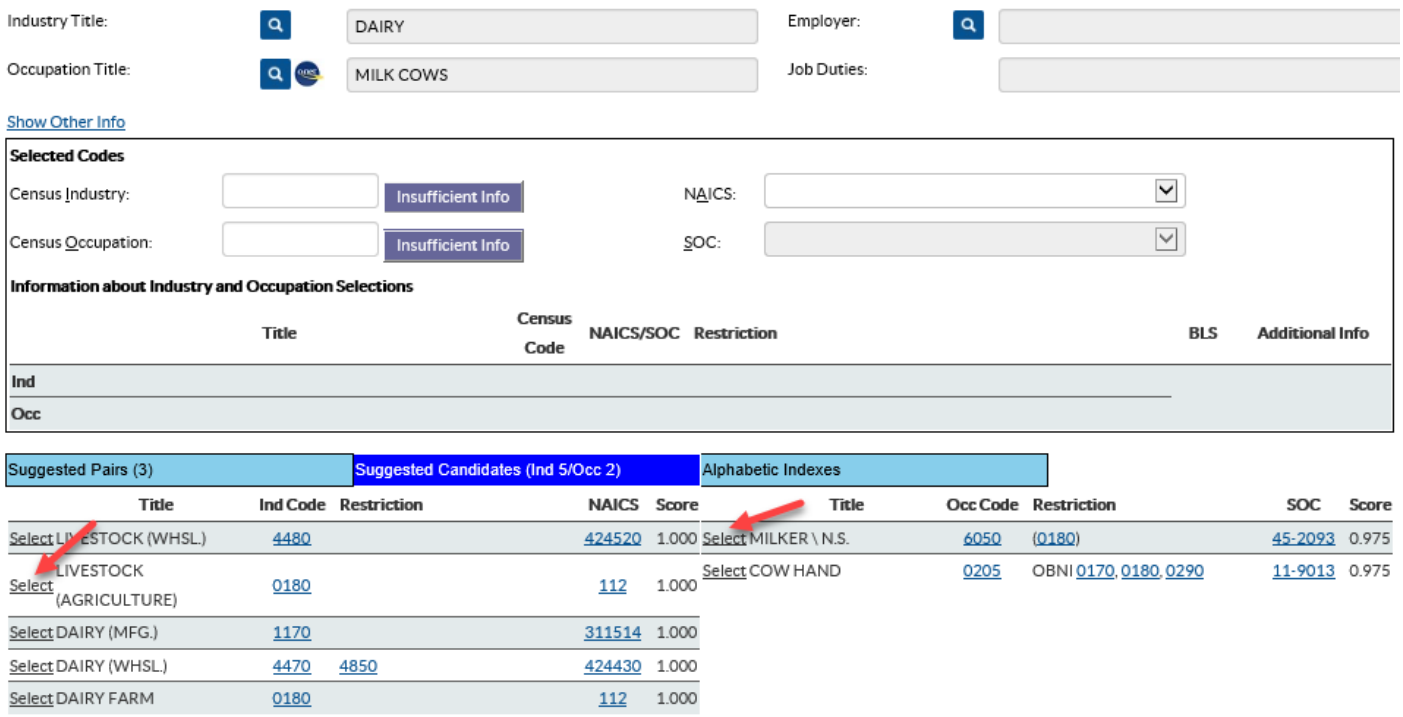


Both the industry and occupation Census codes will appear in the **Selected Codes** section of the screen along with the associated NAICS and SOC codes.

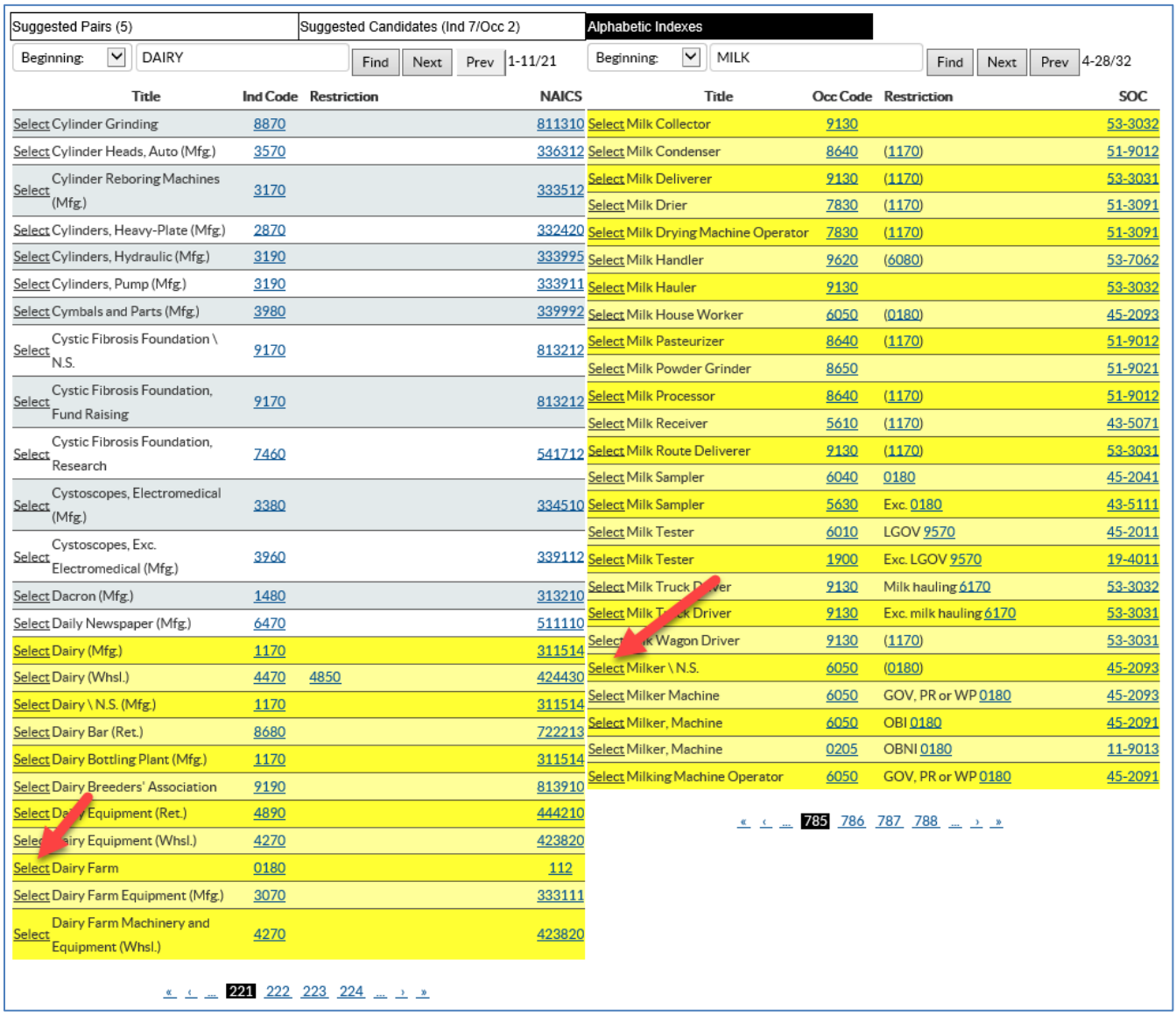


To choose industry and occupation codes from the **Suggested Candidates** tab, click the Select links next to the desired industry title and occupation title independently.

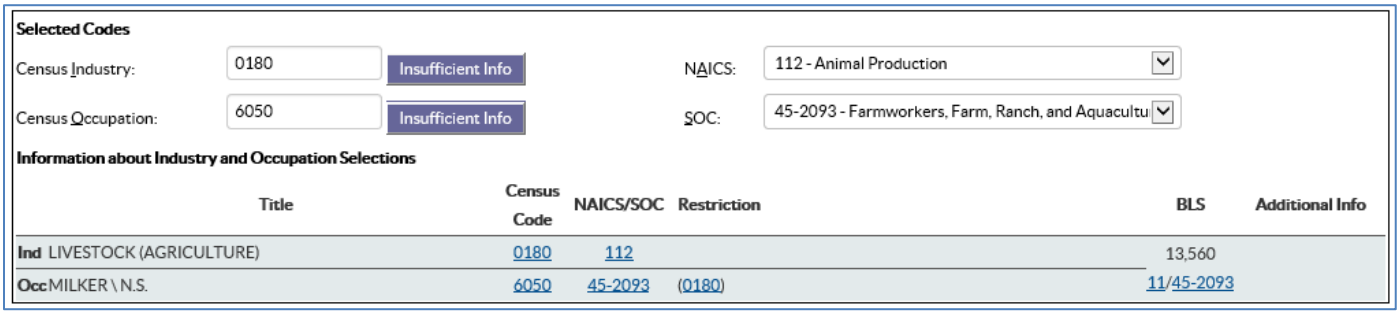
The industry and occupation Census codes will appear in the **Selected Codes** section of the screen along with the associated NAICS and SOC codes (Same as the example above).



To choose industry and occupation codes from the **Alphabetic Indexes** tab, click the Select links next to the industry and occupation titles desired.

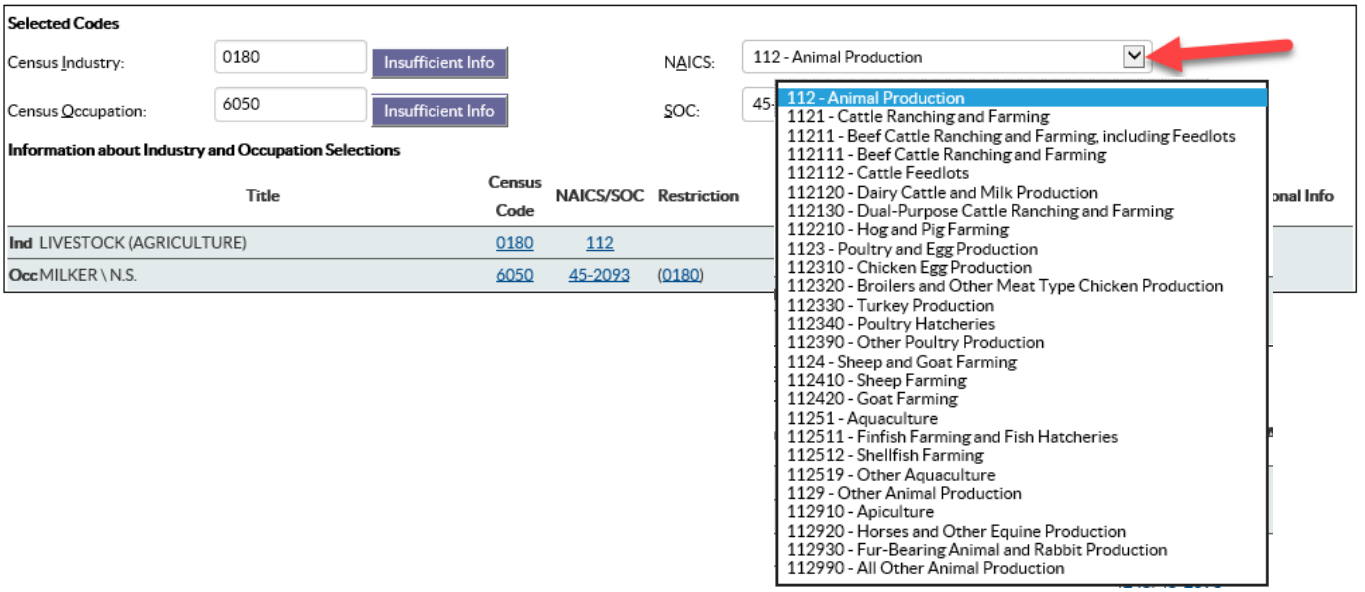


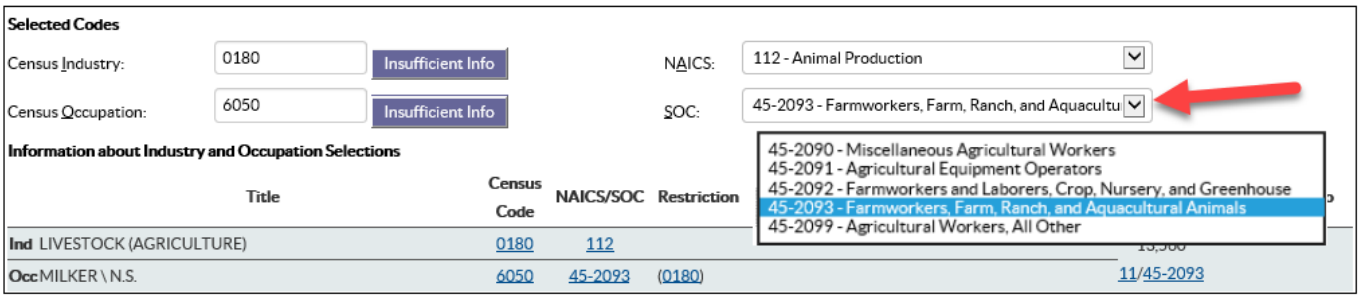
Results will be displayed in the **Selected Codes** section:



The **NAICS** and **SOC** codes associated with the Census codes selected are those supplied by the U.S. Census Bureau in the Census Alphabetic Indexes.

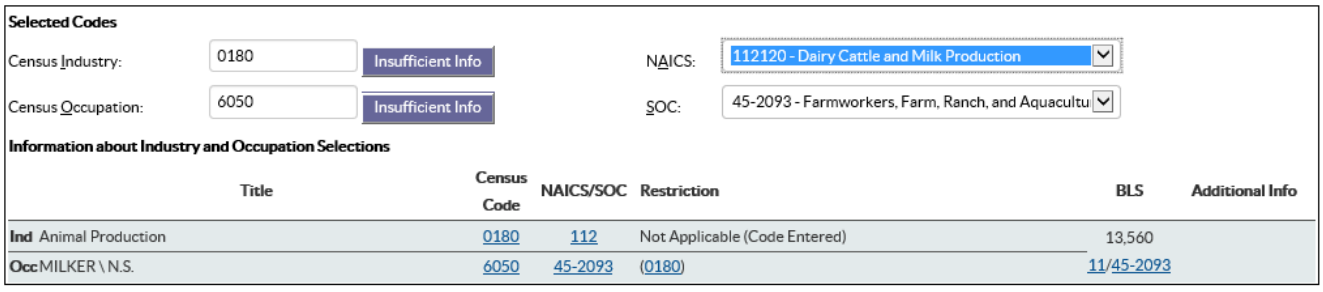
You can view the NAICS or SOC code hierarchies by clicking the drop down arrow within each of these boxes.





If coding to the most detailed NAICS and SOC codes is important, you can select a different code than provided by NIOCCS from the drop down.

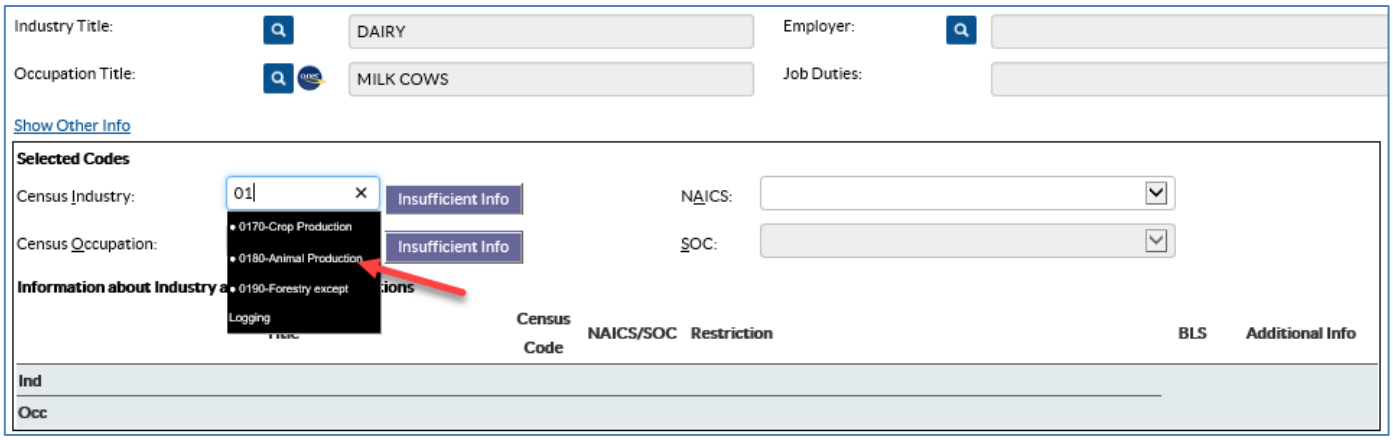
Using the example above for NAICS, the code 112120 is a more specific code for 'Dairy Cattle and Milk Production'. You can select this NAICS code to replace the broader 112 – 'Animal Production' if desired. This does not affect the Census codes already selected.



Directly Entering Codes

If a code is already known, it can be directly entered into the **Census Industry** or **Census Occupation** text boxes in the Select Codes section of the Computer Assisted I&O Coding screen.

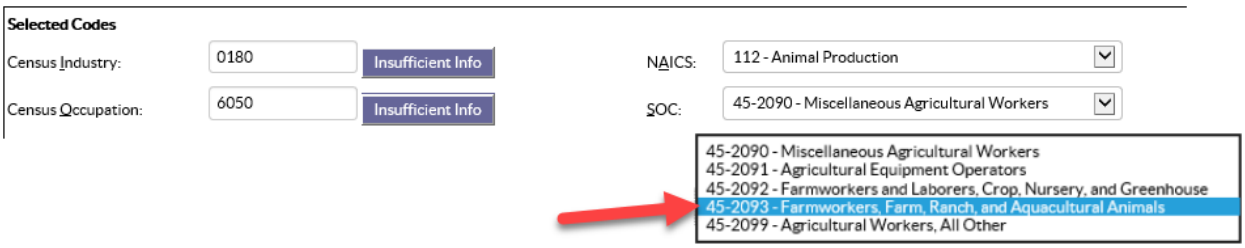
When codes are entered directly, NIOCCS will help by displaying codes and titles in a drop down list as you type. You can click the code/title in the drop down if desired instead of completing the typing of the code.



Using the direct entry method, the broadest category for NAICS and SOC codes are automatically provided in the NAICS and SOC fields.

If detailed NAICS and SOC codes are important to your coding effort, you should view the code hierarchies by clicking the drop down arrow in each of these fields.

For example, after directly entering the code '6050' in the Census Occupation box for the occupation of 'Milk Cows', the SOC broad category provided is 45-2080 – 'Misc Agriculture Worker'. However, by examining the SOC codes, the more detailed SOC code of 45-2093 - 'Farmworkers, Farm, Ranch, and Aquaculture Animals' may be more accurate for this occupation.



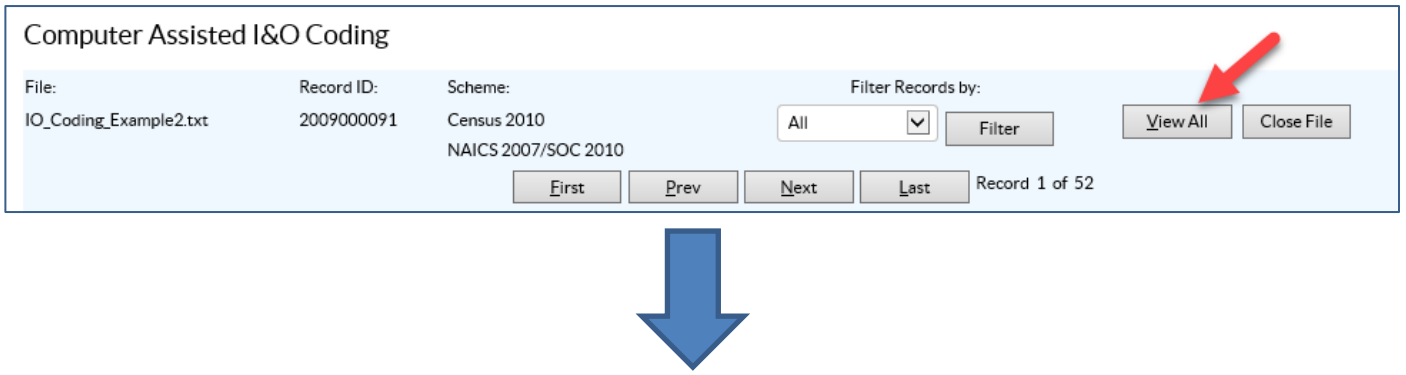
5.2.5 View All Records

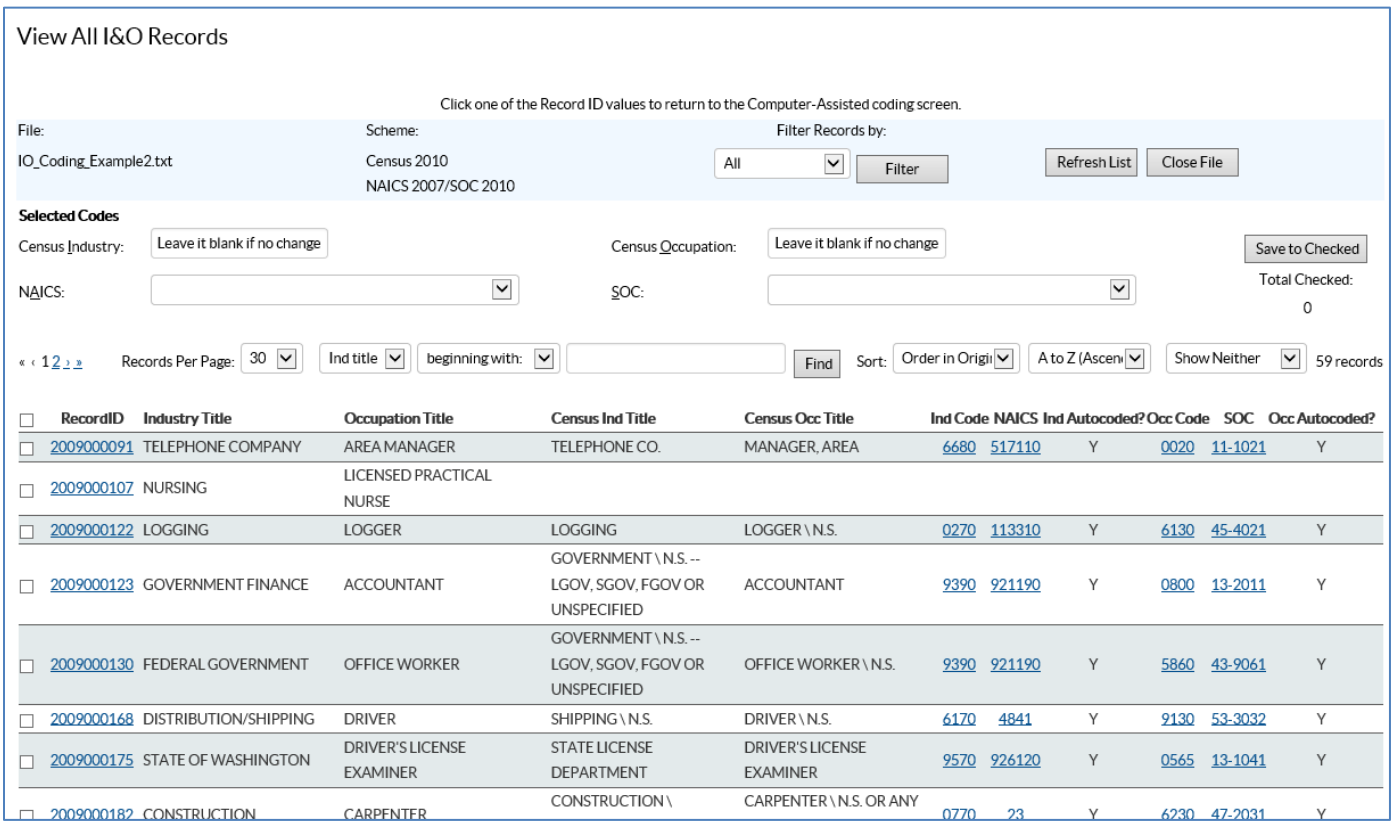
The **View All** feature of Computer Assisted I&O Coding will display the records of the file in a table (or spreadsheet) format.

The **View All** feature is helpful for the following:

1. Viewing records together instead of one at a time
2. Sorting the records by various data fields
3. Coding more than one record at a time
4. Quality Control review

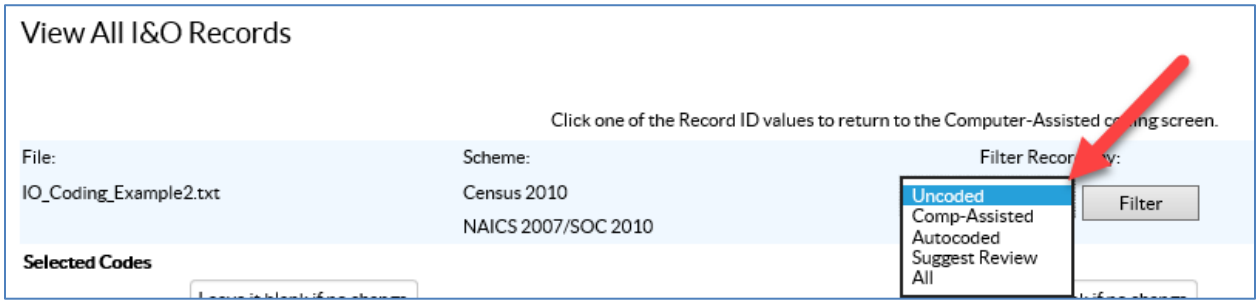
Click the **View All** button at the top of the Computer Assisted I&O Coding screen.





Filtering Records to be Viewed

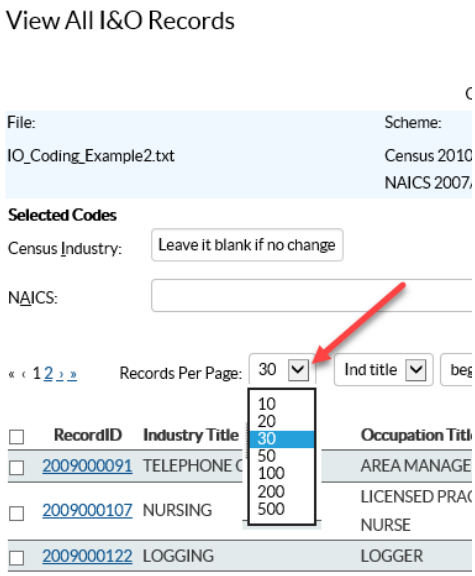
Click the drop down arrow in the **Filter Records by** option to select the type of records you want to view.



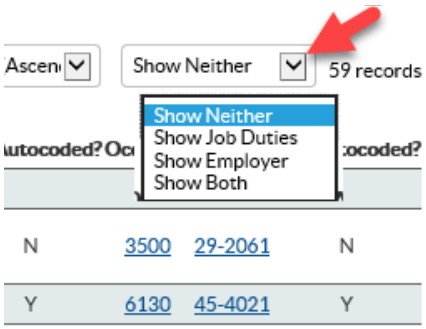
Filter Records Options	Description
Uncoded	Records where one or both codes are blank. (Default)
Comp-Assist	Records where both I&O have codes but one or both were manually coded.
Autocoded	Records where both I&O have been autocoded.
Suggest Review	Records where both I&O have been autocoded but the 'suggest review' flag has been set.
All	All records

Viewing Options

By default, the View All screen displays 30 records at a time. To change this, click the **Records Per Page** drop down and select the number of records to view on the screen at one time.



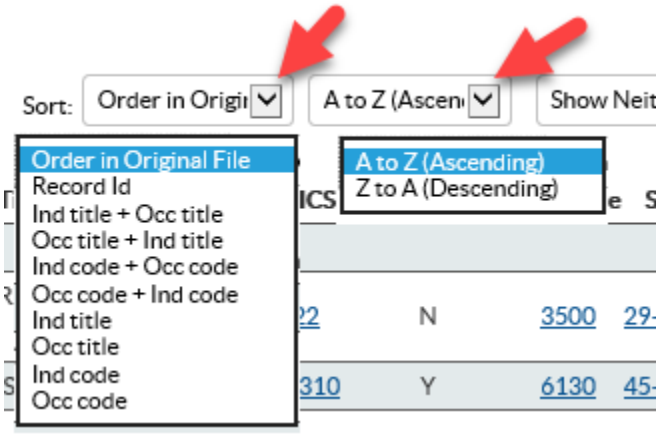
By default, job duty text and employer name are not displayed in the table view. If you want to view these fields, click one of the options in the drop down on the right of the screen above the table.



Sorting Options

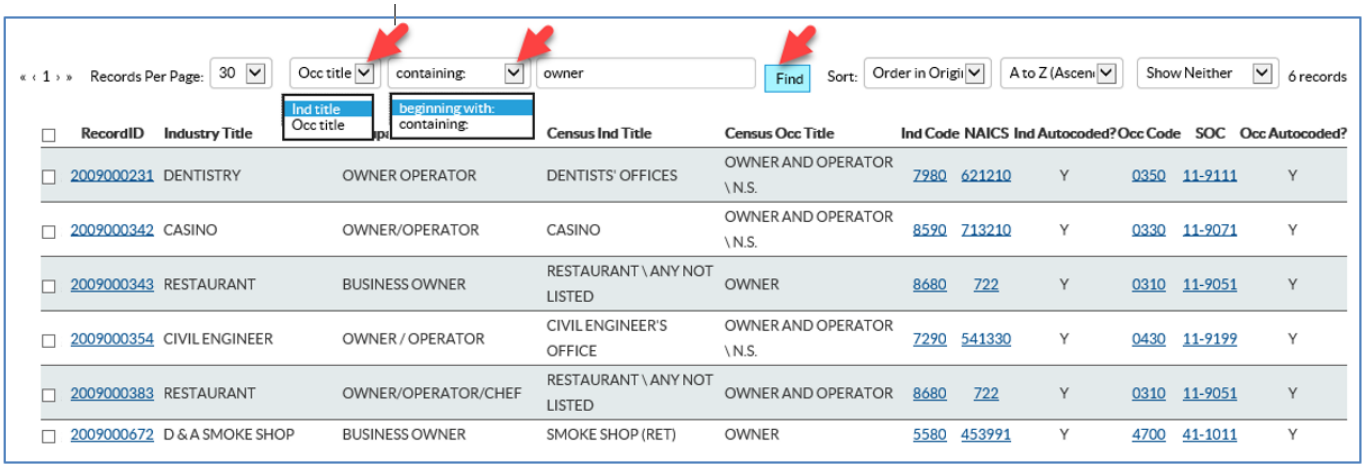
Records in the data file can be sorted in various ways by selecting options in the **Sort** drop down lists.

This feature is used often for ***Quality Control*** by examining and comparing records with same I&O codes or titles.



Search Options

You can search for records with specified text in either the industry or occupation titles by using the search options then clicking the **Find** button.



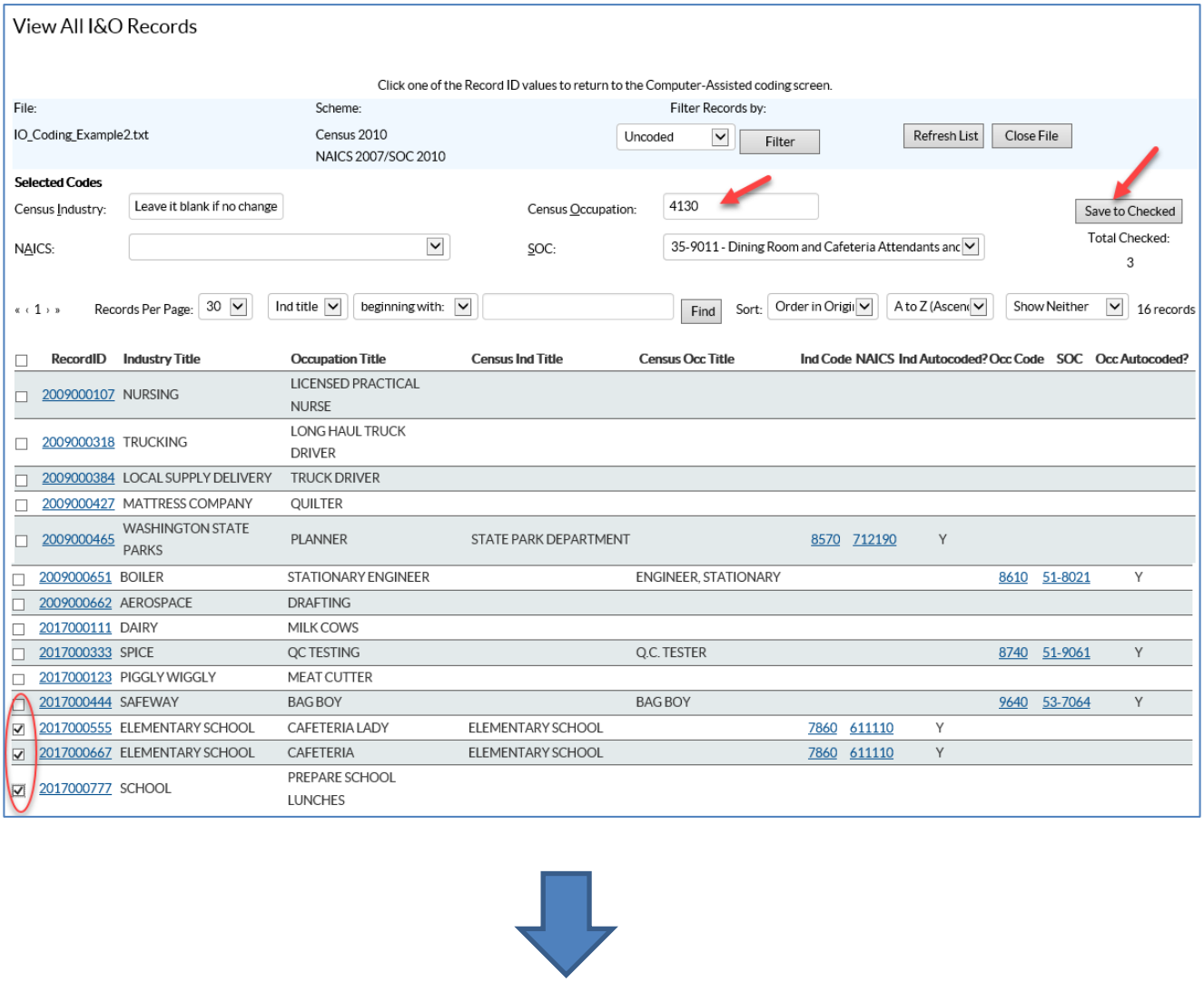
RecordID	Industry Title		Census Ind Title	Census Occ Title	Ind Code	NAICS	Ind Autocoded?	Occ Code	SOC	Occ Autocoded?
2009000231	DENTISTRY	OWNER OPERATOR	DENTISTS' OFFICES	OWNER AND OPERATOR \ N.S.	7980	621210	Y	0350	11-9111	Y
2009000342	CASINO	OWNER/OPERATOR	CASINO	OWNER AND OPERATOR \ N.S.	8590	713210	Y	0330	11-9071	Y
2009000343	RESTAURANT	BUSINESS OWNER	RESTAURANT \ ANY NOT LISTED	OWNER	8680	722	Y	0310	11-9051	Y
2009000354	CIVIL ENGINEER	OWNER / OPERATOR	CIVIL ENGINEER'S OFFICE	OWNER AND OPERATOR \ N.S.	7290	541330	Y	0430	11-9199	Y
2009000383	RESTAURANT	OWNER/OPERATOR/CHEF	RESTAURANT \ ANY NOT LISTED	OWNER AND OPERATOR	8680	722	Y	0310	11-9051	Y
2009000672	D & A SMOKE SHOP	BUSINESS OWNER	SMOKE SHOP (RET)	OWNER	5580	453991	Y	4700	41-1011	Y

Coding more than one Record at a Time

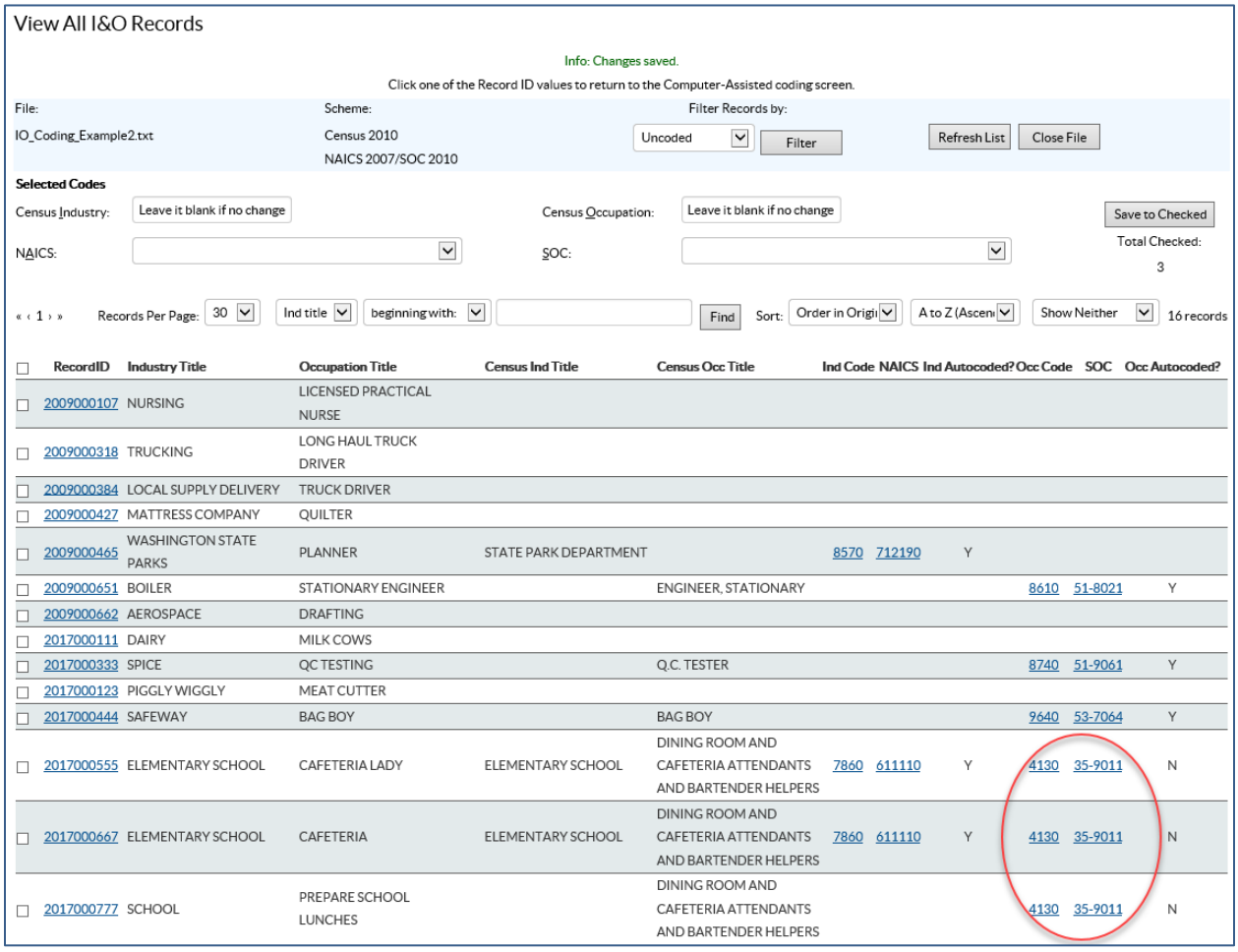
In the example below, the file has several records with variations of the occupation of school 'cafeteria worker'. All these records can be assigned the same occupation code. Once the occupation code is known, you can code the occupation for all three records at the same time.

After searching the Census Occupation Alpha Index for 'cafeteria', the Census code of 4130 is determined to be the correct code.

1. Click the checkboxes next to the records that you want to code.
2. Enter the occupation code in the **Census Occupation** text box (note: the SOC code will be automatically selected)
3. Click the **Save to Checked** button

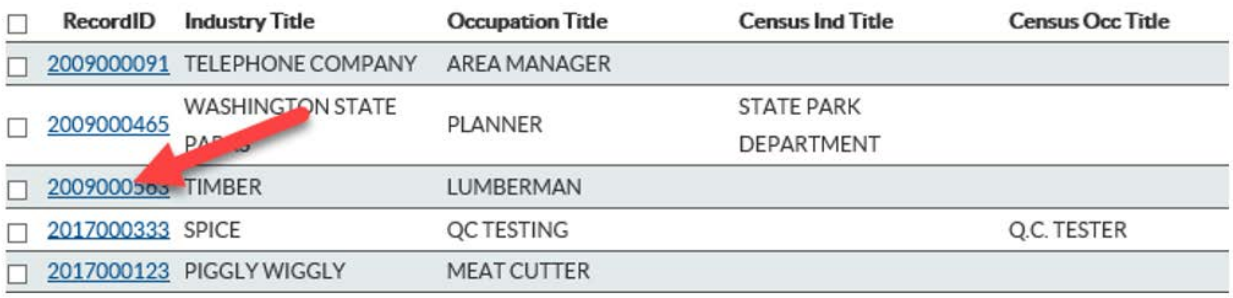


The occupation code will then be applied to each of the records checked:



RecordID	Industry Title	Occupation Title	Census Ind Title	Census Occ Title	Ind Code	NAICS	Ind Autocoded?	Occ Code	SOC	Occ Autocoded?
2009000107	NURSING	LICENSED PRACTICAL NURSE								
2009000318	TRUCKING	LONG HAUL TRUCK DRIVER								
2009000384	LOCAL SUPPLY DELIVERY	TRUCK DRIVER								
2009000427	MATTRESS COMPANY	QUILTER								
2009000465	WASHINGTON STATE PARKS	PLANNER	STATE PARK DEPARTMENT		8570	712190	Y			
2009000651	BOILER	STATIONARY ENGINEER		ENGINEER, STATIONARY				8610	51-8021	Y
2009000662	AEROSPACE	DRAFTING								
2017000111	DAIRY	MILK COWS								
2017000333	SPICE	QC TESTING		Q.C. TESTER				8740	51-9061	Y
2017000123	PIGGLY WIGGLY	MEAT CUTTER								
2017000444	SAFEWAY	BAG BOY		BAG BOY				9640	53-7064	Y
2017000555	ELEMENTARY SCHOOL	CAFETERIA LADY	ELEMENTARY SCHOOL	DINING ROOM AND CAFETERIA ATTENDANTS AND BARTENDER HELPERS	7860	611110	Y	4130	35-9011	N
2017000667	ELEMENTARY SCHOOL	CAFETERIA	ELEMENTARY SCHOOL	DINING ROOM AND CAFETERIA ATTENDANTS AND BARTENDER HELPERS	7860	611110	Y	4130	35-9011	N
2017000777	SCHOOL	PREPARE SCHOOL LUNCHES		DINING ROOM AND CAFETERIA ATTENDANTS AND BARTENDER HELPERS				4130	35-9011	N

To return to the Computer Assisted I&O Coding screen (one record at a time coding), click on one of the Record ID values and you will be returned to that record.



RecordID	Industry Title	Occupation Title	Census Ind Title	Census Occ Title
2009000091	TELEPHONE COMPANY	AREA MANAGER		
2009000465	WASHINGTON STATE PARKS	PLANNER	STATE PARK DEPARTMENT	
2009000563	TIMBER	LUMBERMAN		
2017000333	SPICE	QC TESTING		Q.C. TESTER
2017000123	PIGGLY WIGGLY	MEAT CUTTER		

Quality Control

It is up to the user to verify the quality of the coded results of their files. NIOCCS provides the **View All** feature of the computer assisted screen to support users in verifying the coded results.

Sorting the file by various fields or combination of fields after all coding is completed, can identify errors in coding of similar industries or occupations.

6 CROSSWALK CODING

Crosswalk coding in NIOCCS enables you to convert I&O codes from one I&O classification year to another or from one I&O classification system to another I&O classification system. For example, older data already coded to Census 2000 I&O codes can be converted to newer Census 2010 codes. Or industry data coded in the North American Industry Classification System (NAICS) can be converted to the U.S. Census Bureau industry classification system.

NIOCCS codes data based on the U.S. Census Bureau industry and occupation classification coding schemes. Each Census industry code is linked to an associated NAICS code and each Census occupation code is linked to an associated Standard Occupation Code (SOC), *with the exception of unpaid workers.* NAICS and SOC do not include codes for unpaid workers.

NIOCCS converts I&O codes from one coding scheme to another using crosswalk tables developed by the Census Bureau and the Bureau of Labor Statistics. For more information about industry and occupation coding schemes and crosswalk tables, visit the NIOSH Industry and Occupation Coding website at:
https://www.cdc.gov/niosh/topics/coding/nioccsuserdocumentation.html

Or

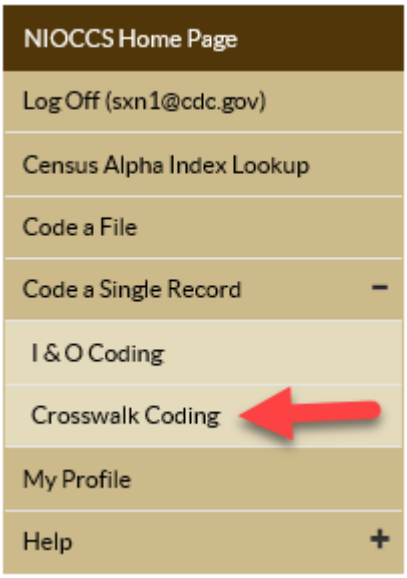
See Appendix B: Industry and Occupation Classifications Overview

NIOCCS Crosswalk Options:

- Census 1990 I&O codes must be crosswalked to Census 2000 first before crosswalking to later Census schemes
- SIC 1987 codes must be crosswalked to NAICS 1997 first before crosswalking to later NAICS schemes
- All other schemes can be crosswalked over several coding scheme years in one step

6.1 Crosswalk a Single Record

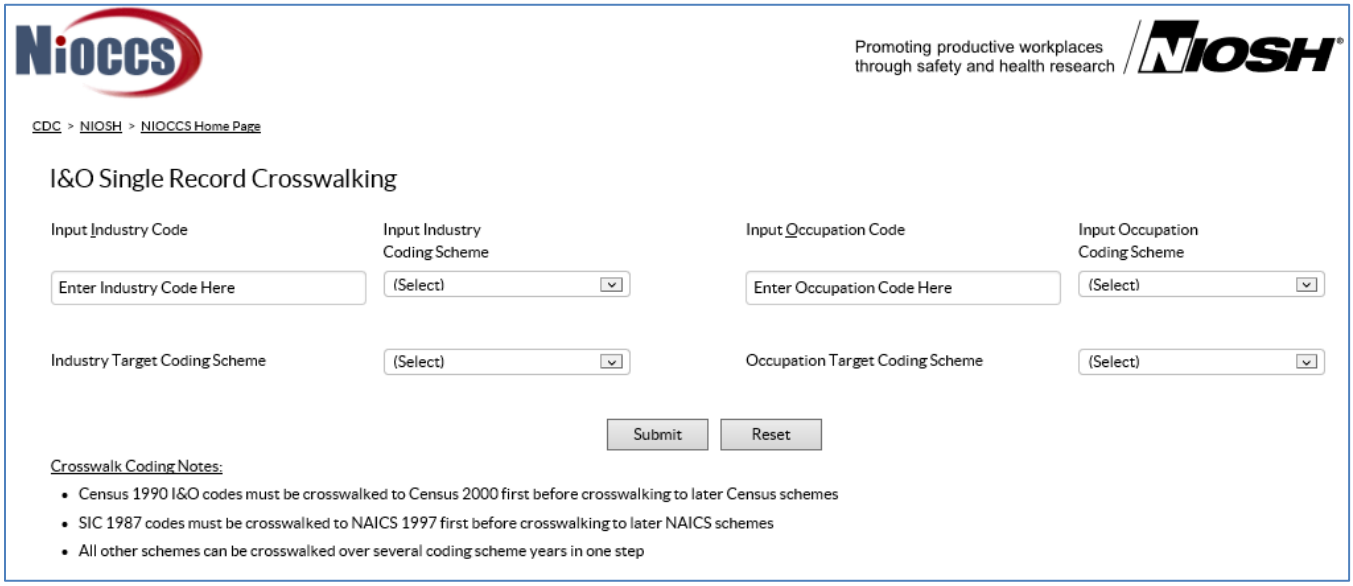
Crosswalking a single record can be performed whether a user has a NIOCCS account or not. From the NIOCCS Home Page, click the **Crosswalk Coding** option under the **Code a Single Record** heading in the NIOCCS menu.



You can crosswalk just industry or just occupation or both at the same time.

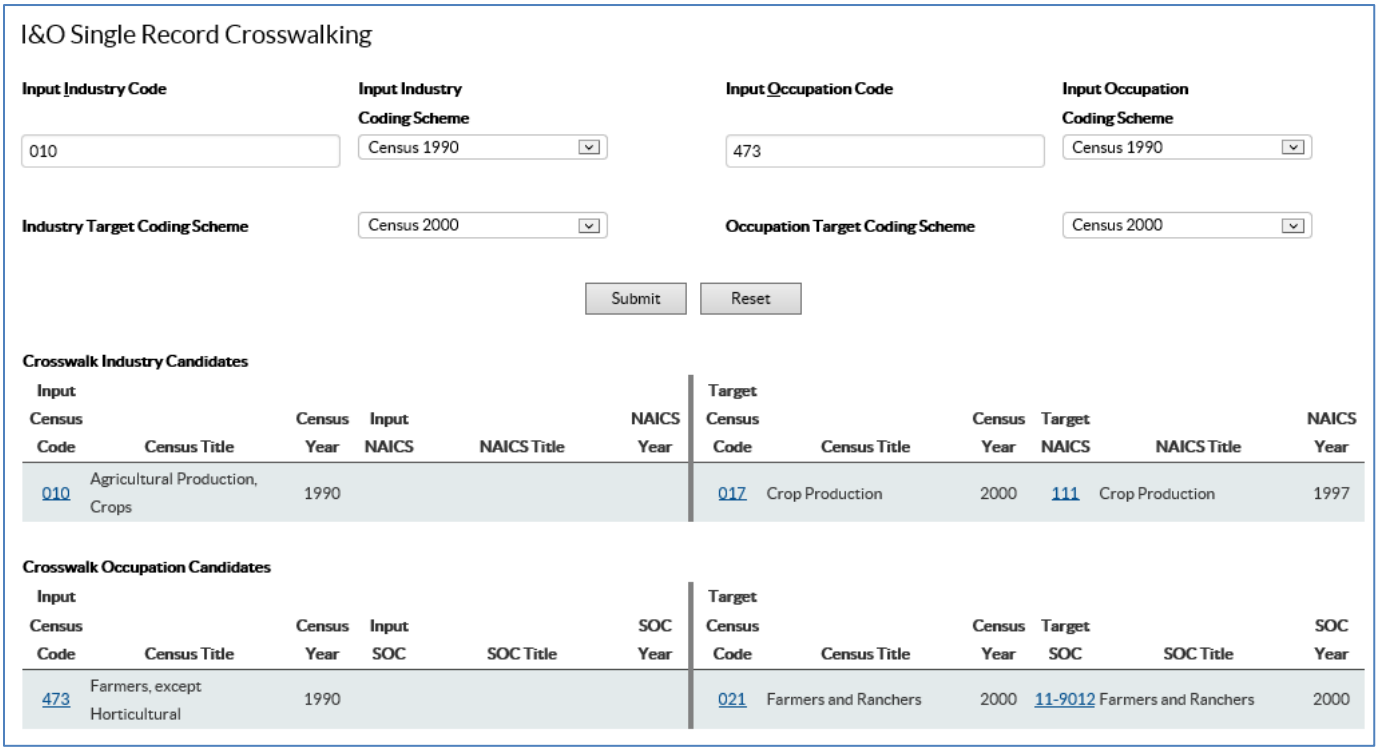
On the **Crosswalk Single Record Coding** screen,

- Enter the industry and/or occupation code(s) to be crosswalked
- Select the **Input Coding Scheme**
- Select the **Target I&O Coding Scheme**
- Click the **Submit** button



In the example below, 1990 Census I&O codes were crosswalked to the Census 2000 coding scheme. The input codes crosswalked were:

Industry code	= **010**	(Agriculture industry)
Occupation code	= **473**	(Farmer occupation)



I&O Single Record Crosswalking

Input Industry Code	Input Industry Coding Scheme	Input Occupation Code	Input Occupation Coding Scheme
010	Census 1990	473	Census 1990
Industry Target Coding Scheme	Census 2000	**Occupation Target Coding Scheme**	Census 2000

Submit Reset

Crosswalk Industry Candidates

Input Census Code	Census Title	Census Year	Input NAICS	NAICS Title	NAICS Year	Target Census Code	Census Title	Census Year	Target NAICS	NAICS Title	NAICS Year
010	Agricultural Production, Crops	1990				017	Crop Production	2000	111	Crop Production	1997

Crosswalk Occupation Candidates

Input Census Code	Census Title	Census Year	Input SOC	SOC Title	SOC Year	Target Census Code	Census Title	Census Year	Target SOC	SOC Title	SOC Year
473	Farmers, except Horticultural	1990				021	Farmers and Ranchers	2000	11-9012	Farmers and Ranchers	2000

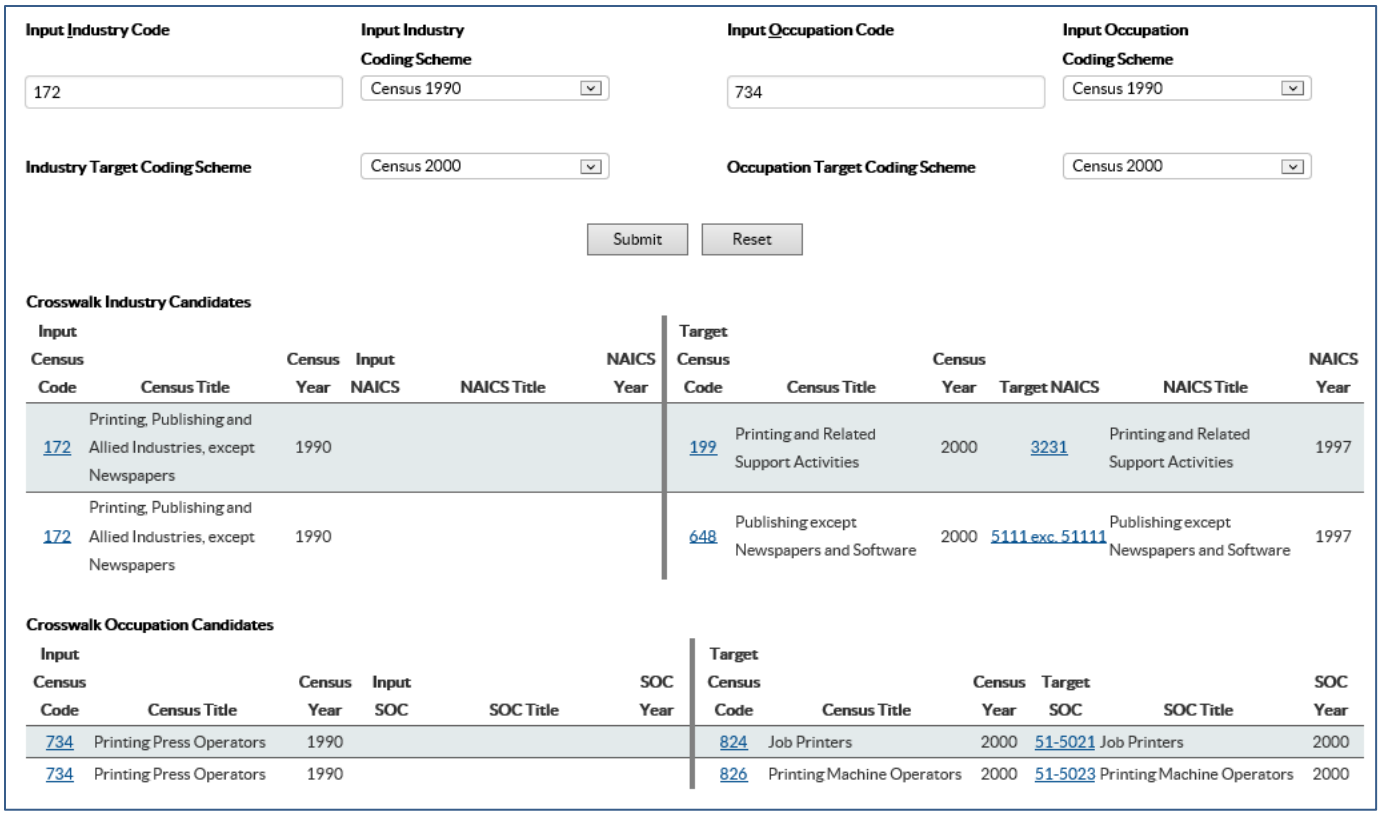
NIOCCS crosswalk results show that industry code **010** in the Census 1990 coding scheme is equal to industry code **017** in the Census 2000 coding scheme. Similarly, occupation code **473** in the Census 1990 coding scheme is equal to the occupation code **021** in the Census 2000 coding scheme.

NIOCCS provides the standard Census industry and occupation titles for each of the crosswalked codes in addition to the associated NAICS and SOC codes.

The crosswalk process does NOT use industry or occupation titles to obtain codes, only the input codes are used. It is helpful to know what the titles are however in cases where the crosswalk results show more than one target code for the input code.

For example, using the following input codes crosswalked from Census 1990 to Census 2000:

Industry code	= **172**	Industry title	= Printing
Occupation code	= **734**	Occupation title	= Machine Operator



Input Industry Code: 172 | **Input Industry Coding Scheme:** Census 1990 | **Input Occupation Code:** 734 | **Input Occupation Coding Scheme:** Census 1990

Industry Target Coding Scheme: Census 2000 | **Occupation Target Coding Scheme:** Census 2000

Submit | Reset

Crosswalk Industry Candidates

Input Census Code	Census Title	Census Year	Input NAICS	NAICS Title	NAICS Year	Target Census Code	Census Title	Census Year	Target NAICS	NAICS Title	NAICS Year
172	Printing, Publishing and Allied Industries, except Newspapers	1990				199	Printing and Related Support Activities	2000	3231	Printing and Related Support Activities	1997
172	Printing, Publishing and Allied Industries, except Newspapers	1990				648	Publishing except Newspapers and Software	2000	5111 exc. 51111	Publishing except Newspapers and Software	1997

Crosswalk Occupation Candidates

Input Census Code	Census Title	Census Year	Input SOC	SOC Title	SOC Year	Target Census Code	Census Title	Census Year	Target SOC	SOC Title	SOC Year
734	Printing Press Operators	1990				824	Job Printers	2000	51-5021	Job Printers	2000
734	Printing Press Operators	1990				826	Printing Machine Operators	2000	51-5023	Printing Machine Operators	2000

Without knowing the I&O titles associated with the input codes, it would be difficult to know which of the industry and occupation crosswalk codes to choose in the example above.

Knowing that the industry title is ‘Printing’, the most appropriate Census 2000 industry code would be **199**.

Knowing the occupation title is ‘Machine Operator’, the most appropriate Census 2000 occupation code would be **826**.

6.2 Crosswalk a File

6.2.1 NIOCCS Input File Format for Crosswalk Coding

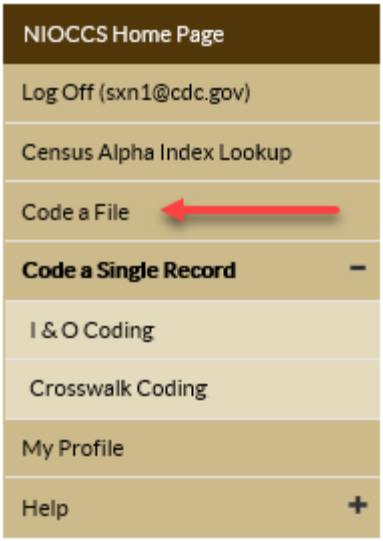
Files uploaded to NIOCCS for Crosswalk coding must be in a standard .**txt** file format delimited by a Tab or Pipe character (|). The file must have the seven fields (columns) listed below even if data is not available for each field. * Each record must have an ID field and at least one value in either the Industry Code or Occupation Code fields.

1. ID = Unique Identifier *
2. Industry Title
3. Occupation Title
4. Industry Code *
5. Occupation Code *
6. NAICS/SIC Code
7. SOC Code

Example Input File for Crosswalk Coding

ID	Industry Title	Occupation Title	Ind code	Occ code	NAICS_SIC	SOC
184623	AGRICULTURE	DAIRY FARMER	011	473		
304111	BUILDING CONSTRUCTION	CONTRACTOR	060	558		
317144	LUMBER	LABORER	231	889		
356668	BUILDING	CONTRACTOR	060	558		
406457	AVOCADO FARMER	RANCHER	010	473		
611129	DOUGLAS AIRCRAFT		227	999		
2263962	PETROLEUM	PIPEFITTER	042	585		
2712435	FARMING & MINING		010	999		
2819309	ATTORNEY	RETIRED-ATTORNEY	841	178		
2873324	GEOLOGY	GEOLOGIST	042	075		
2874954	LAW	ATTORNEY	841	178		
3167323	HOPE MANOR	NURSE AID	832	447		
3167826	AUTOMOTIVE	INSPECTOR	751	036		
3169215	OFFICE WORKER	OFFICE WORKER	990	379		
3169810	HEALTH CARE	PSYCHIATRIST	812	084		
3170338	BANKING	BANK TELLER	700	383		
3170351	AGRICULTURE BUSINESS	SUPPLY CLERK-FOSTER FARMS	100	365		
3171023	COUR REPORTING AGENCY	ACCOUNT EXECUTIVE	741	259		
3172448	COMPUTER	MANAGER	990	022		
3210923	STUDENT	COLLEGE STUDENT	961	915		
3255447	OIL	GEOLOGIST	042	075		

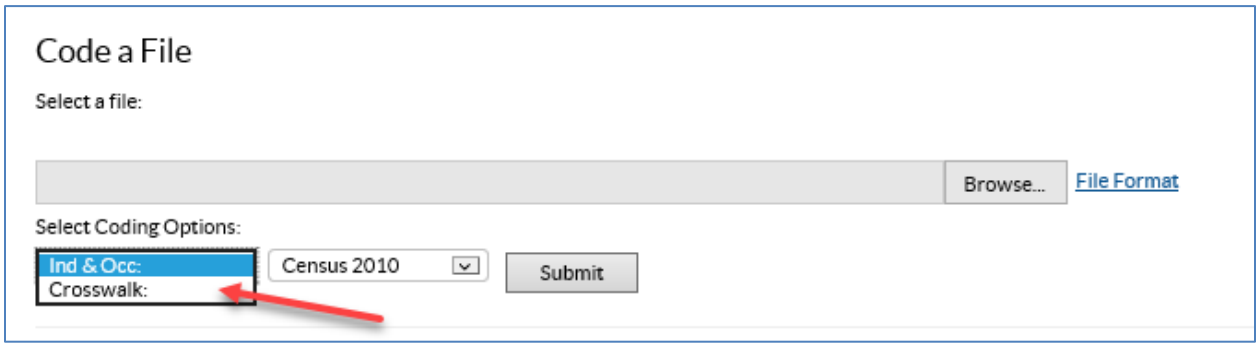
6.2.2 Submitting a File for Crosswalk Coding



To process a file of records for crosswalk coding, click the **Code a File** menu item.

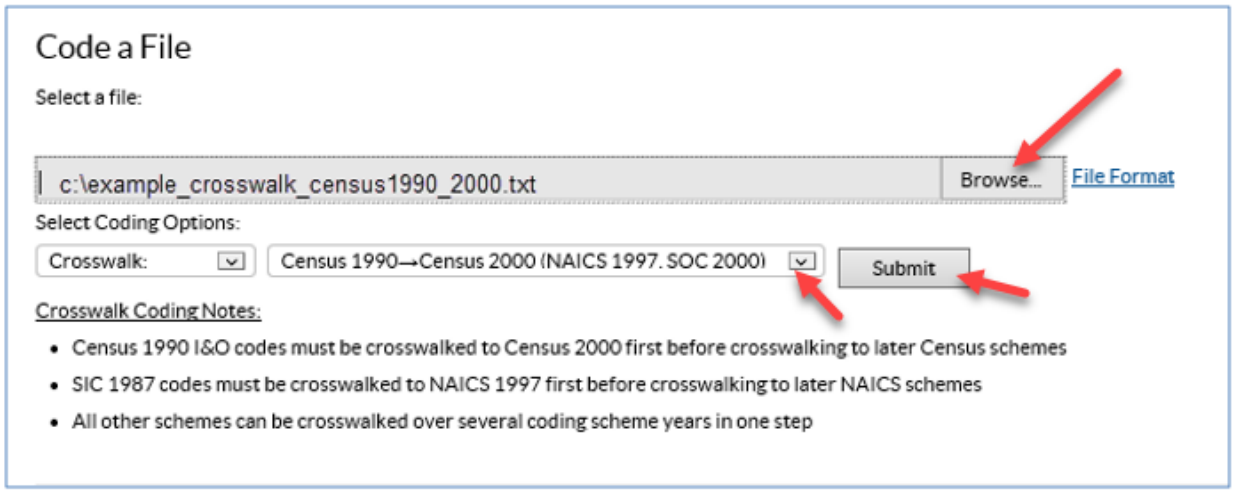
NOTE: Most I&O classification schemes can be crosswalked across several coding scheme years in one step, however, the exceptions are Census 1990 and SIC 1987.

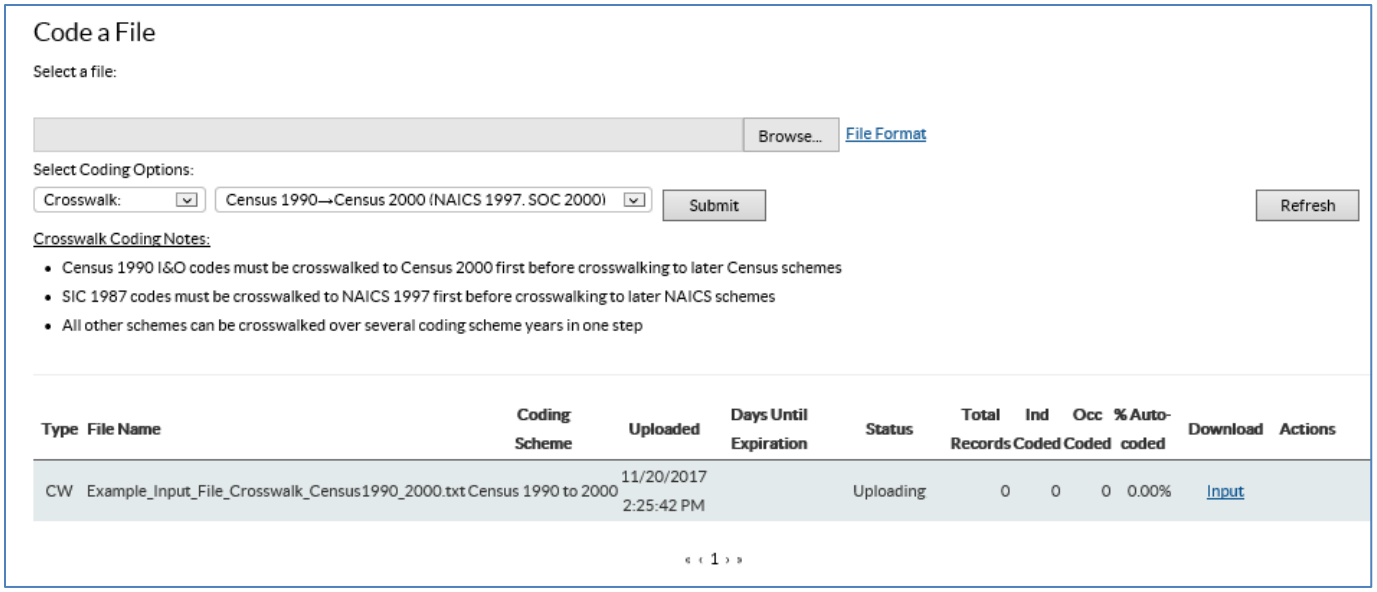
When the **Code a File** screen appears, select '**Crosswalk'** from the **Select Coding Options** drop down list.



To review the input file format description for Crosswalk coding, click the **File Format** link.

Next, select a file from your computer using the **Browse** button then select the target coding scheme from the drop down list you want to crosswalk the input file codes to and click the **Submit** button.





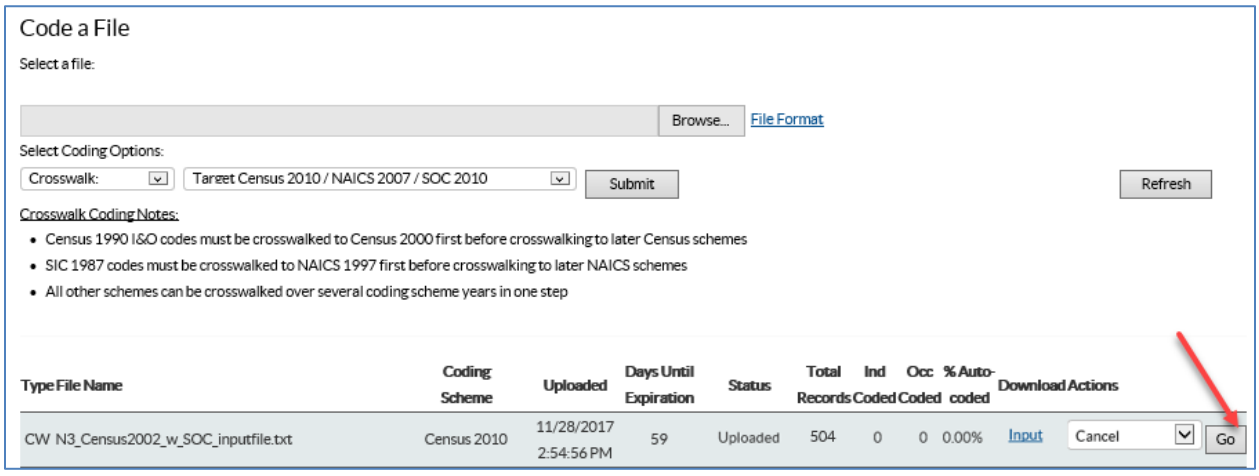
You can monitor the status of a file submitted by checking the **Status** column and periodically clicking the **Refresh List** button to get an update on the status.

Large files however may take time to complete the crosswalk coding process. *You do not need to stay logged into the system for the crosswalk to complete.*

Once the file is successfully finished crosswalking, an email will be sent to the user to notify them that the file is ready for review.

Status	**Status Descriptions**
Uploading	File is being imported to the NIOCCS system.
Upload Error	An error occurred during importing. The user can view the upload error by clicking the **Error** link in the Download column of the Code a File screen table.
Autocoding	File is currently being autocoded/crosswalked.
Ready for Comp-Assist	File has some records that did not automatically crosswalk and will need codes assigned via the computer-assist coding features of the system.
Complete	All records in the file have I&O codes assigned.

A file submitted for crosswalking can be cancelled if it has not completed the crosswalk coding process. Select the **Cancel** option in the **Action** drop down then click the **Go** button.



6.2.3 Computer Assisted Crosswalk Coding

After a file has completed the crosswalk coding process, it is likely that some records could not be automatically coded because an input code crosswalked to multiple target codes and the computer does not know which to select.

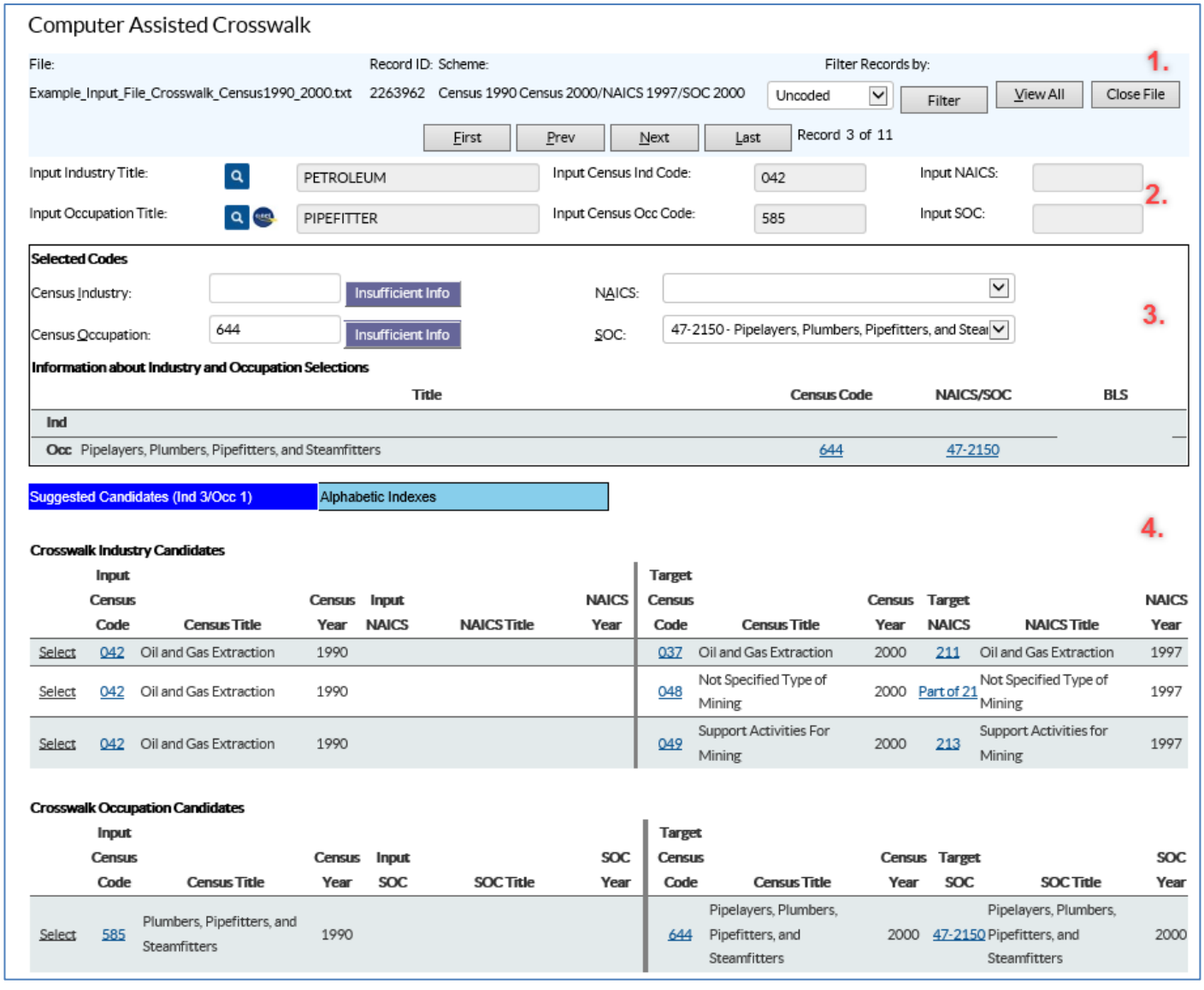
Records that did not have both the industry and occupation automatically crosswalked are displayed one at a time in the NIOCCS **Computer Assisted Crosswalk** coding screen so that I&O codes can be chosen manually. This process is called computer assisted coding because NIOCCS provides information and functions to support the coder in determining the correct I&O codes for a given input record.

Once the **Status** column displays '**Ready for Comp-Assist'** on the **Code a File** screen, the file is ready to be reviewed. Columns on the status screen for each file indicate the number of records where the industry and occupation were automatically crosswalked. A record may have only the industry or only the occupation crosswalked automatically so these totals may not be equal.

To select a file for computer assisted coding, ensure the action in the drop down displays '**Comp-Assist'** then click the **Go** button.

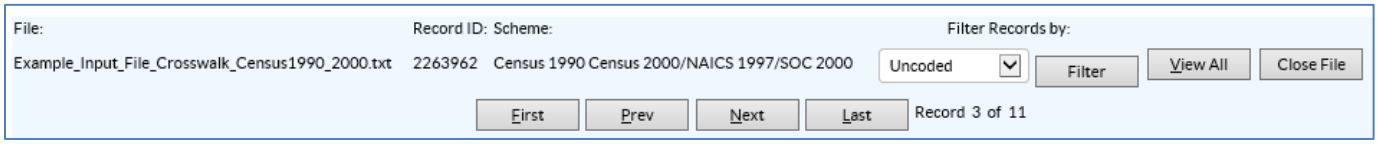
The **Computer Assisted Crosswalk Coding** screen consists of 4 primary sections:

1. File Information and Navigation
2. Input Industry and Occupation Codes to be crosswalked
3. Selected Codes (Crosswalk Results)
4. Suggested Candidates / Alphabetical Indexes tabs



6.2.3.1 Section #1. File Information and Navigation

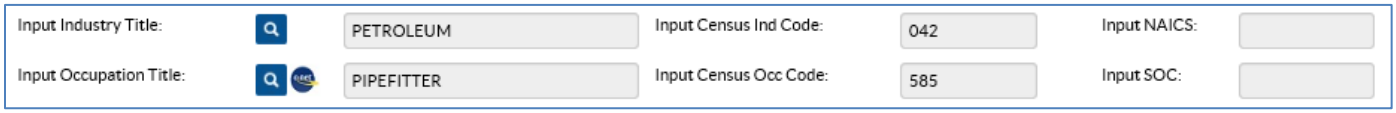
This section of the Crosswalk Computer Assisted coding screen provides navigation tools and information about the file being coded.



Field	Description
File	Displays the name of the file being coded.
Record ID	Displays the unique record ID of the record currently being viewed on the screen.
Scheme	Displays the input and target coding schemes.
Filter Records by	Provides options for reviewing and filtering the records in the file by the following categories: **Uncoded** Records where one or both codes are blank. (Default) **Comp-Assist** Records where both I&O have codes but one or both were manually coded. **Autocoded** Records where both I&O have been autocoded. **All** All records
First, Prev, Next, Last	Provide navigation for moving from one record to another. **Hot Keys** are also available for these functions: Shift+F First Record Shift+P Previous Record Shift+N Next Record Shift+L Last Record
Record x of x	Indicates which record is currently being viewed among all the records in the filtered set of records.
View All	Provides the ability to view the records in table format rather than one record at a time. **Hot Key:** Shift+V View All
Close File	Closes the file and returns to the 'Code a File' screen.

6.2.3.2 Section #2. Industry and Occupation Input Codes to be Crosswalked

The purpose of this section is to display the industry and occupation input codes to be crosswalked. Input files may contain any combination of Census I&O codes, NAICS codes and SOC codes.

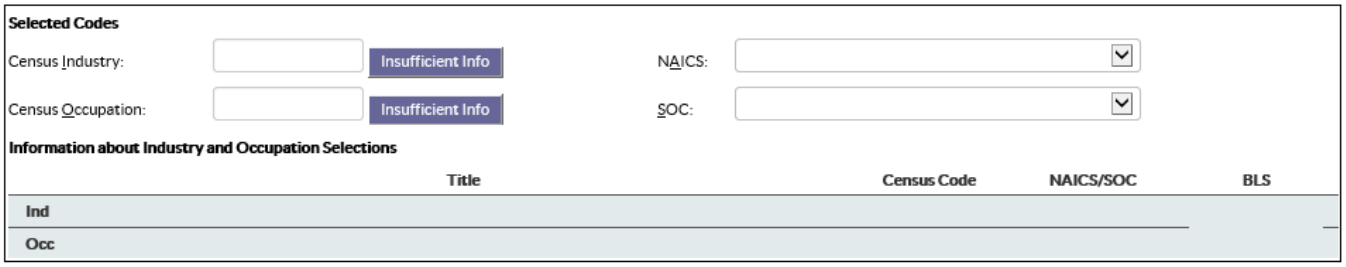


The industry and occupation input text will appear in the **Input Industry Title** and **Input Occupation Title** boxes ***if they were submitted in the input file.*** These titles are only used to help the user select the correct crosswalk code if multiple codes are presented. I&O titles are NOT used in the crosswalk process.

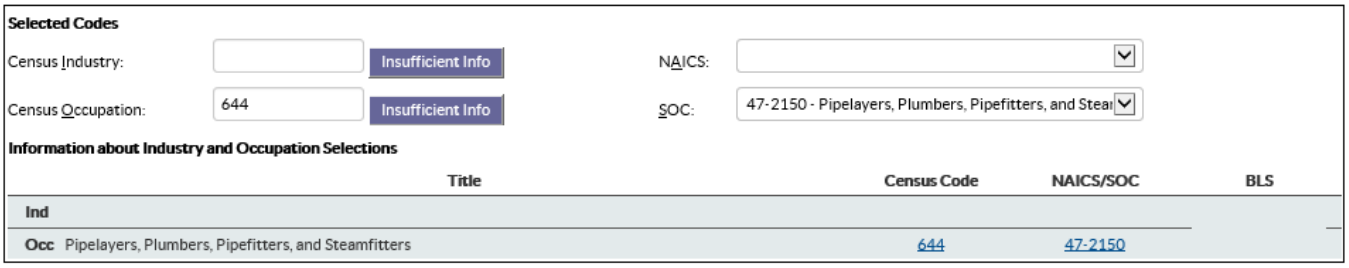
6.2.3.3 Section #3. Selected Codes (Crosswalk Results)

This section is used to view and/or edit the I&O codes crosswalked for the input industry and occupation codes.

If neither industry nor occupation was automatically crosswalked, then no information will be displayed initially as shown below.



If either the industry or occupation was automatically crosswalked, the code(s) selected by NIOCCS will be displayed as shown below.



6.2.3.4 Section #4. Suggested Candidates / Alphabetic Indexes

This section of the **Computer Assisted Crosswalk** coding screen provides 2 tools to help select the most appropriate I&O codes for input codes that could not be automatically crosswalked. These tools are presented in the tabbed lower section of the screen.

1. Suggested Candidates
2. Alphabetic Indexes

Suggested Candidates

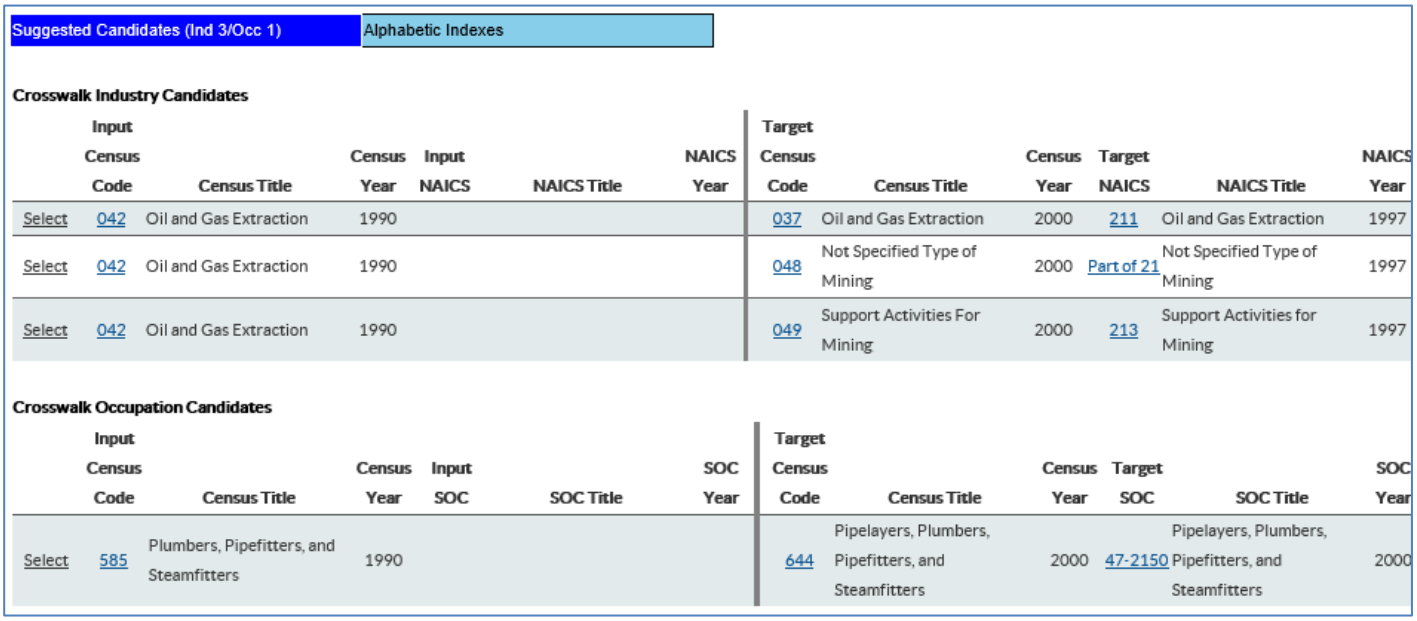
This tab shows the input industry and occupation codes on the left side of the screen and the target I&O codes for crosswalking on the right side (see table below).

Using the I&O input of:

Industry: **Petroleum**, Census 1990 ind code **042**
Occupation: **Pipefitter**, Census 1990 occ code **585**

The example below shows that the input Census 1990 industry code of **042**, under the **Crosswalk Industry Candidates,** became 3 new codes in the Census 2000 coding schemes: **037, 048, 049**. It is possible that single codes in one classification version are changed to multiple codes in a succeeding version.

The input Census 1990 occupation code of **585** however changed directly to one Census 200 code: **644**.


Suggested Candidates (Ind 3/Occ 1) | Alphabetic Indexes

Crosswalk Industry Candidates

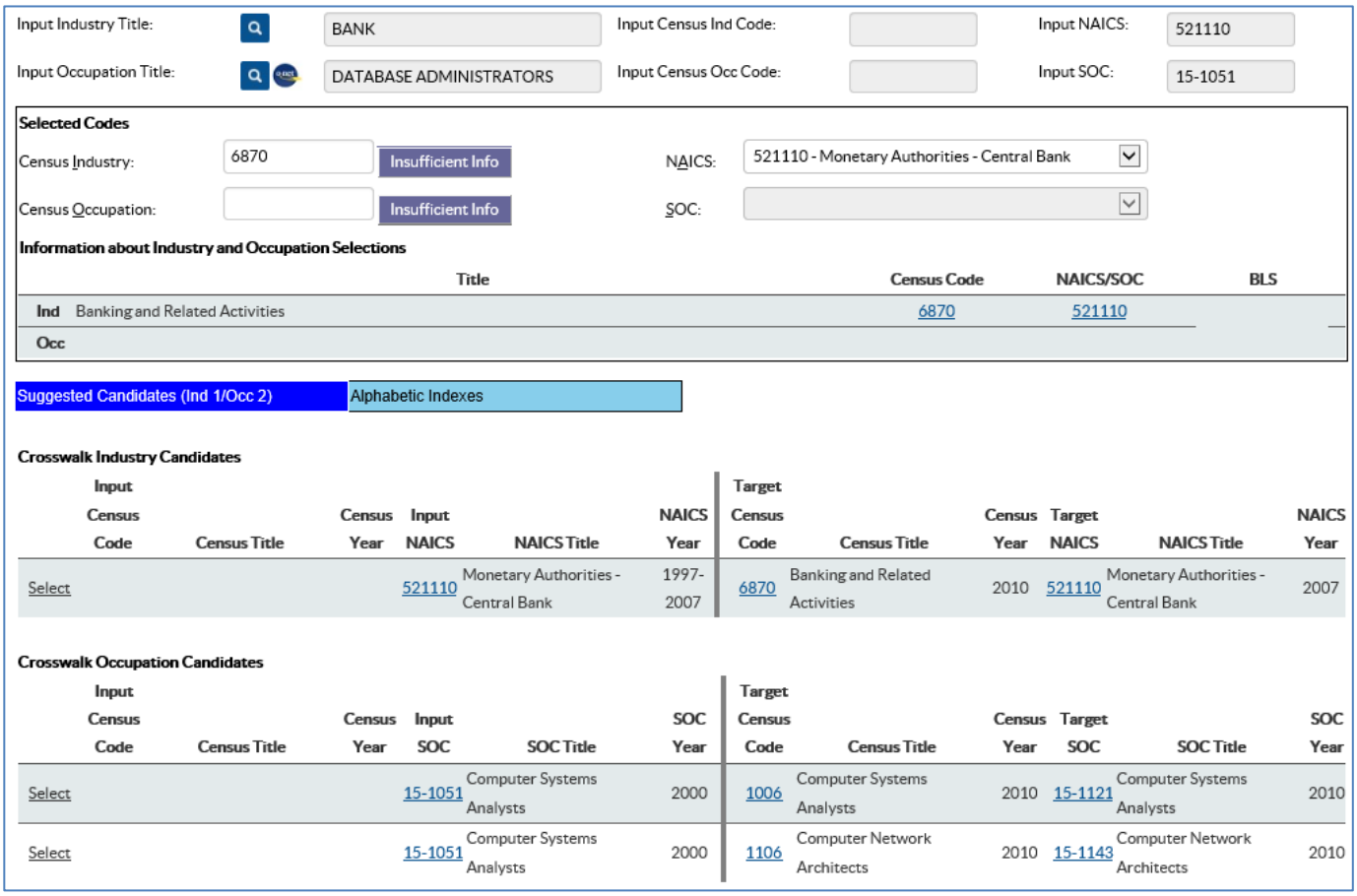
	Input Census Code	Census Title	Census Year	Input NAICS	NAICS Title	NAICS Year	Target Census Code	Census Title	Census Year	Target NAICS	NAICS Title	NAICS Year
Select	042	Oil and Gas Extraction	1990				037	Oil and Gas Extraction	2000	211	Oil and Gas Extraction	1997
Select	042	Oil and Gas Extraction	1990				048	Not Specified Type of Mining	2000	Part of 21	Not Specified Type of Mining	1997
Select	042	Oil and Gas Extraction	1990				049	Support Activities For Mining	2000	213	Support Activities for Mining	1997

Crosswalk Occupation Candidates

	Input Census Code	Census Title	Census Year	Input SOC	SOC Title	SOC Year	Target Census Code	Census Title	Census Year	Target SOC	SOC Title	SOC Year
Select	585	Plumbers, Pipefitters, and Steamfitters	1990				644	Pipelayers, Plumbers, Pipefitters, and Steamfitters	2000	47-2150	Pipelayers, Plumbers, Pipefitters, and Steamfitters	2000

The example above is attempting to crosswalk Census codes from one Census coding scheme year to another. NAICS and/or SOC codes may also be crosswalked instead of, or in addition to Census codes. Below is an example of the Suggested Candidates screen when attempting to crosswalk NAICS and SOC codes.

Note that although this example is crosswalking NAICS and SOC codes, the associated Census codes are also displayed and will be included in the final output file.



Input Industry Title: BANK | Input Census Ind Code: | Input NAICS: 521110

Input Occupation Title: DATABASE ADMINISTRATORS | Input Census Occ Code: | Input SOC: 15-1051

Selected Codes

Census Industry: 6870 Insufficient Info | NAICS: 521110 - Monetary Authorities - Central Bank

Census Occupation: Insufficient Info | SOC:

Information about Industry and Occupation Selections

	Title	Census Code	NAICS/SOC	BLS
Ind	Banking and Related Activities	6870	521110	
Occ				

Suggested Candidates (Ind 1/Occ 2) | Alphabetic Indexes

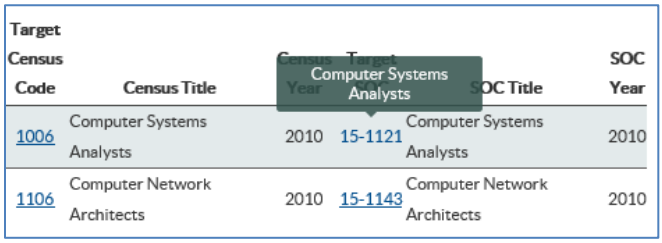
Crosswalk Industry Candidates

	Input Census Code	Census Title	Census Year	Input NAICS	NAICS Title	NAICS Year	Target Census Code	Census Title	Census Year	Target NAICS	NAICS Title	NAICS Year
Select				521110	Monetary Authorities - Central Bank	1997-2007	6870	Banking and Related Activities	2010	521110	Monetary Authorities - Central Bank	2007

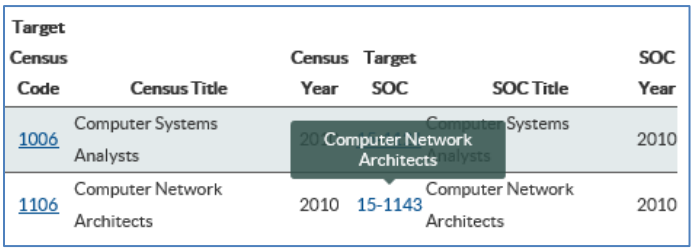
Crosswalk Occupation Candidates

	Input Census Code	Census Title	Census Year	Input SOC	SOC Title	SOC Year	Target Census Code	Census Title	Census Year	Target SOC	SOC Title	SOC Year
Select				15-1051	Computer Systems Analysts	2000	1006	Computer Systems Analysts	2010	15-1121	Computer Systems Analysts	2010
Select				15-1051	Computer Systems Analysts	2000	1106	Computer Network Architects	2010	15-1143	Computer Network Architects	2010

You can hover the mouse over any of the codes to see the standard title for the industry or occupation as shown in the examples below.



Target Census Code	Census Title	Census Year	Target SOC	SOC Title	SOC Year
1006	Computer Systems Analysts	2010	15-1121	Computer Systems Analysts	2010
1106	Computer Network Architects	2010	15-1143	Computer Network Architects	2010



Target Census Code	Census Title	Census Year	Target SOC	SOC Title	SOC Year
1006	Computer Systems Analysts	2010	15-1121	Computer Systems Analysts	2010
1106	Computer Network Architects	2010	15-1143	Computer Network Architects	2010

To obtain more information about a code, you can click on the code itself. For example, clicking on the SOC code of 15-1143 will display the SOC description for that code.

Target Census Code	Census Title	Census Year	Target SOC	SOC Title	SOC Year
1006	Computer Systems Analysts	2010	15-1121	Computer Systems Analysts	2010
1106	Computer Network Architects	2010	15-1143	Computer Network Architects	2010

Code:

15-1143

Title:

Computer Network Architects

Publish Year:

2010

Description:

DESIGN AND IMPLEMENT COMPUTER AND INFORMATION NETWORKS, SUCH AS LOCAL AREA NETWORKS (LAN), WIDE AREA NETWORKS (WAN), INTRANETS, EXTRANETS, AND OTHER DATA COMMUNICATIONS NETWORKS. PERFORM NETWORK MODELING, ANALYSIS, AND PLANNING. MAY ALSO DESIGN NETWORK AND COMPUTER SECURITY MEASURES. MAY RESEARCH AND RECOMMEND NETWORK AND DATA COMMUNICATIONS HARDWARE AND SOFTWARE. EXCLUDES "INFORMATION SECURITY ANALYSTS" (15-1122), "NETWORK AND COMPUTER SYSTEMS ADMINISTRATORS" (15-1142), AND "COMPUTER NETWOR

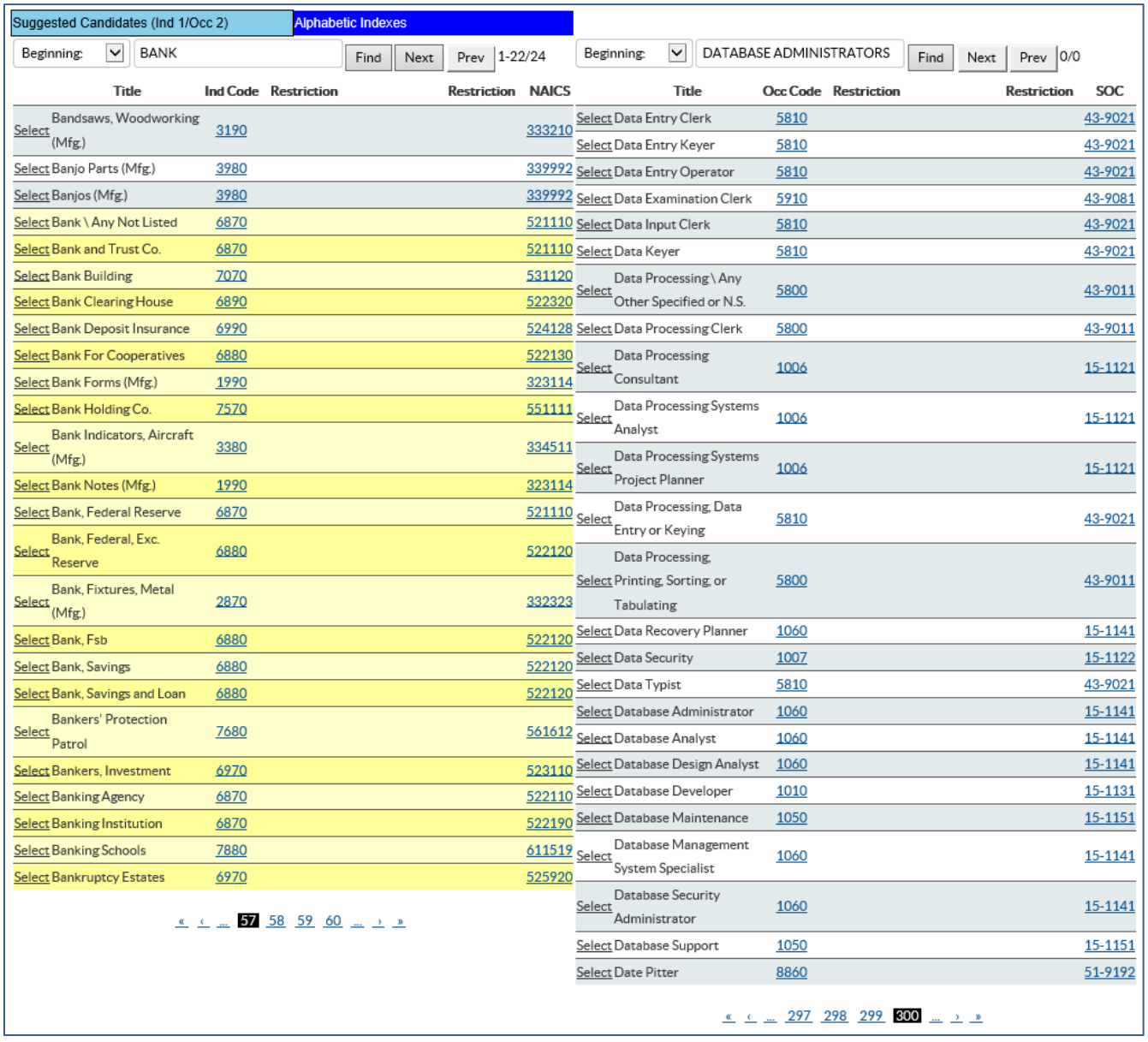
Alphabetic Indexes

This tab provides the ability to search for industry or occupation titles in the Census Alphabetical Indexes.

This feature is used most often when NIOCCS does not provide any crosswalk candidates for the input industry or occupation codes. This may be because the input code is blank or it may be an invalid code for that input coding scheme.

Initially the input text for industry and occupation (if provided in the file) will be displayed in the search boxes and each of the indexes will automatically attempt to locate entries beginning with the text in the indexes.

For more information on using the Census Alphabetical Indexes, see Chapter 4.



6.2.4 How to Assign Crosswalk Codes

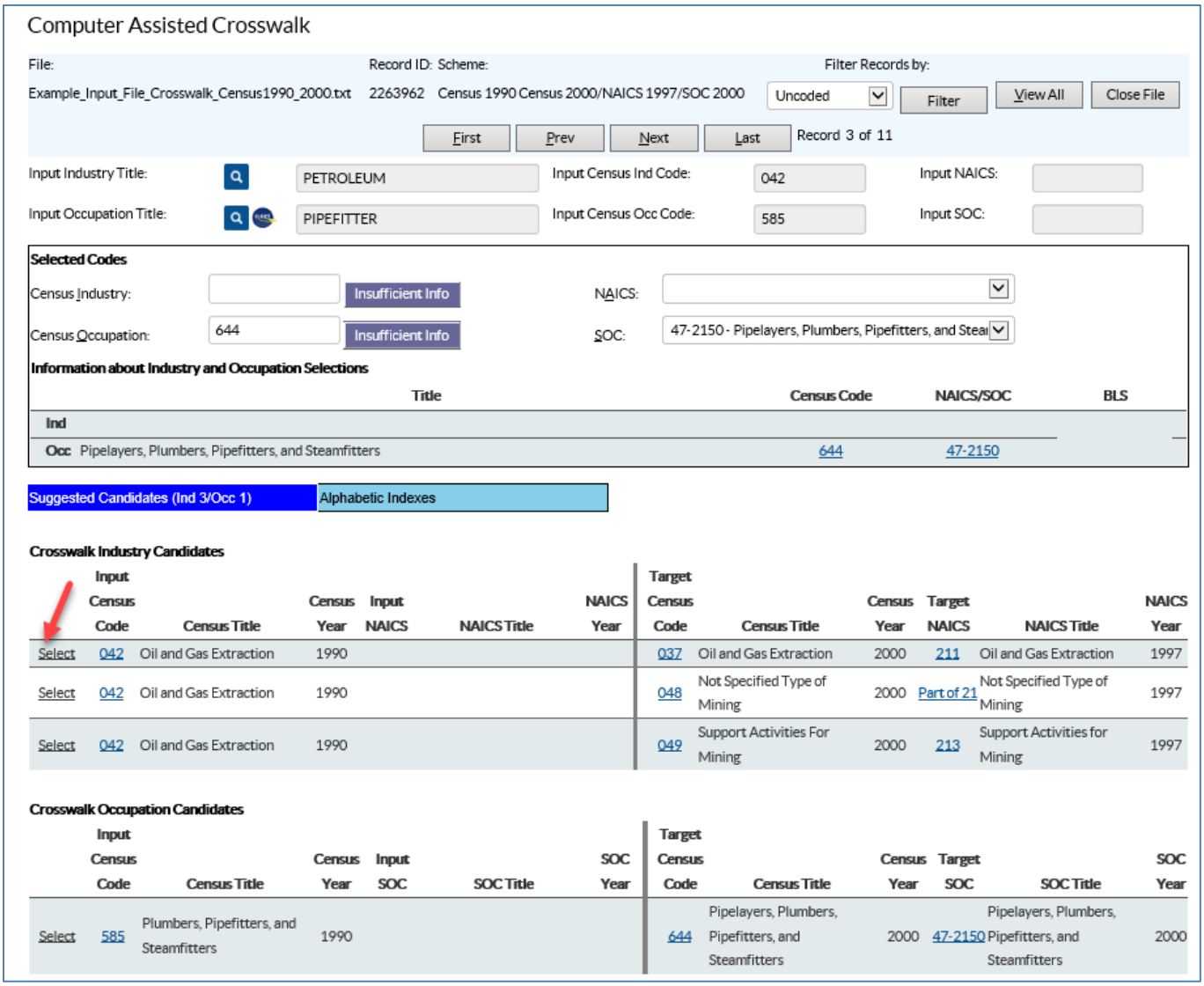
An industry or occupation code can be assigned in two ways in the Computer Assisted Crosswalk coding screen.

1) By clicking the **Select** link from one of the tools (Suggested Candidates or Alphabetic Indexes).

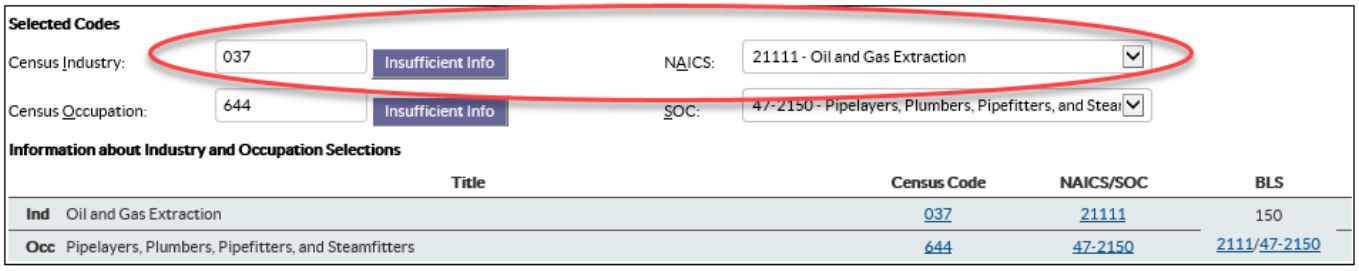
2) By entering a code directly into the one of the industry or occupation text boxes of the Selected Codes section.

Selecting Codes from the Suggested Candidates

To choose one of the target codes, click the **Select** link on the row containing the desired target code. In the example below, the target industry code being selected as the crosswalk code for the input industry is **037.**

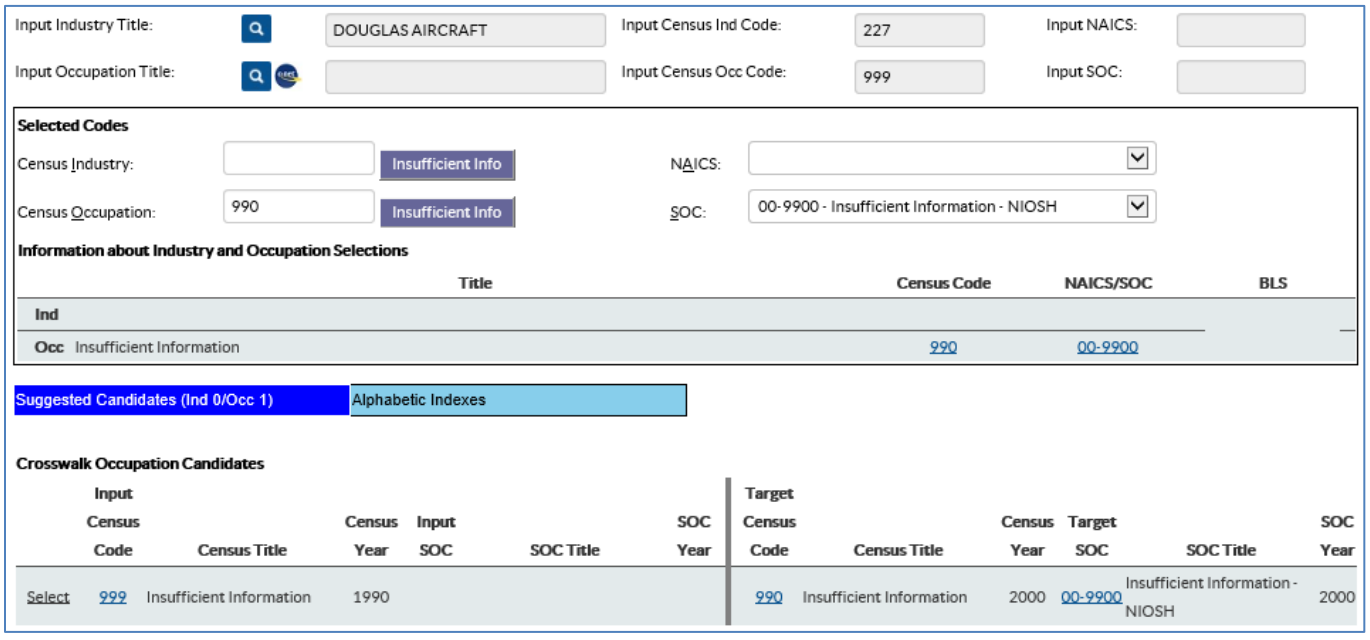


The selected code will then be displayed in the **Selected Codes** section of the screen as shown below.

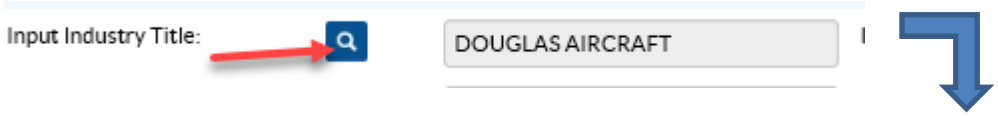


Selecting Codes from the Alphabetic Indexes

In the example below, the Census 1990 input industry code of **227** is invalid and the input occupation code was not provided. NOTE: NIOCCS will automatically provide *insufficient information codes* for blank I&O inputs.



The input industry title is **Douglas Aircraft**. Using the quick internet search button next to the **Input Industry Title,** you can look up what kind of industry 'Douglas Aircraft' is.

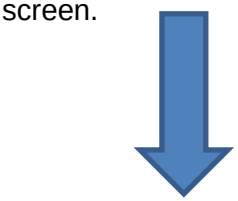


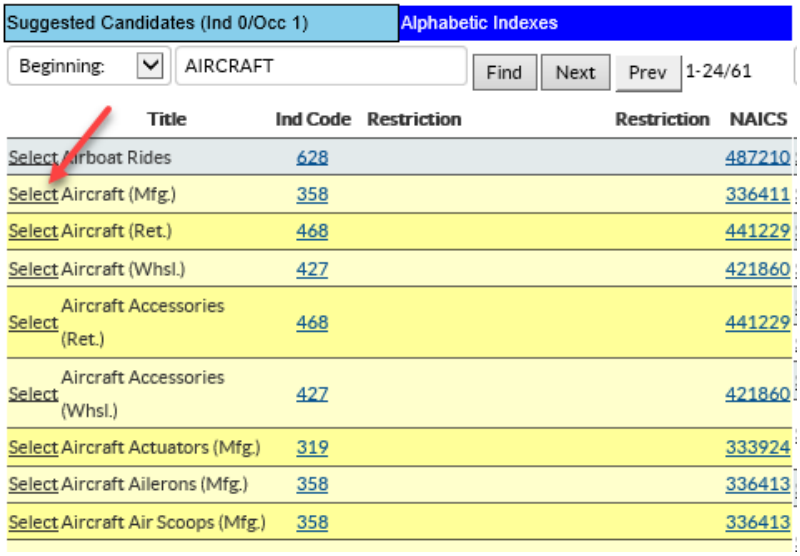
The **Douglas Aircraft Company** was an American aerospace manufacturer based in Southern California. (*https://en.wikipedia.org/wiki/Douglas_Aircraft_Company*)

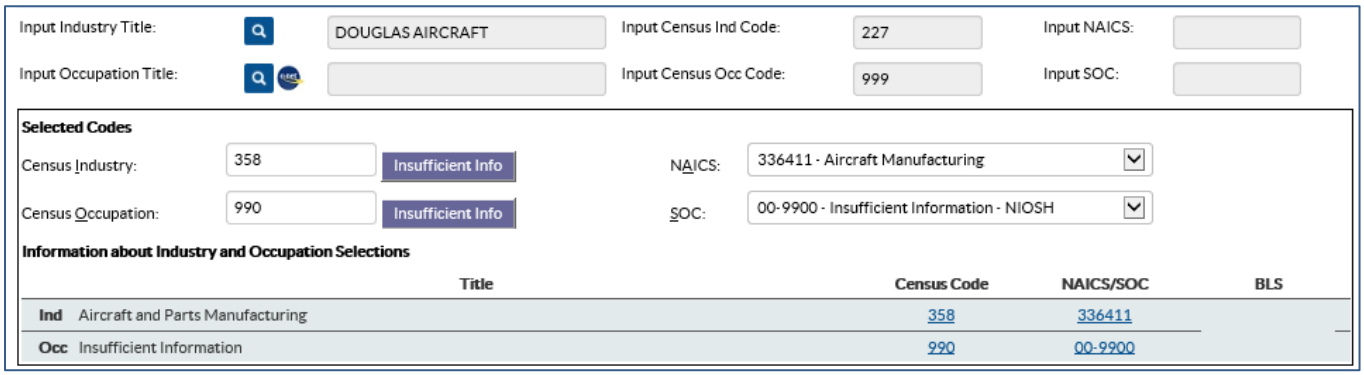
With this information the industry alphabetic index could be used to search for codes for the aircraft or aerospace manufacturing industry.

Click the **Select** link next to the industry title which is most appropriate for the input text.

The results will be shown in the Selected Codes section of the screen.



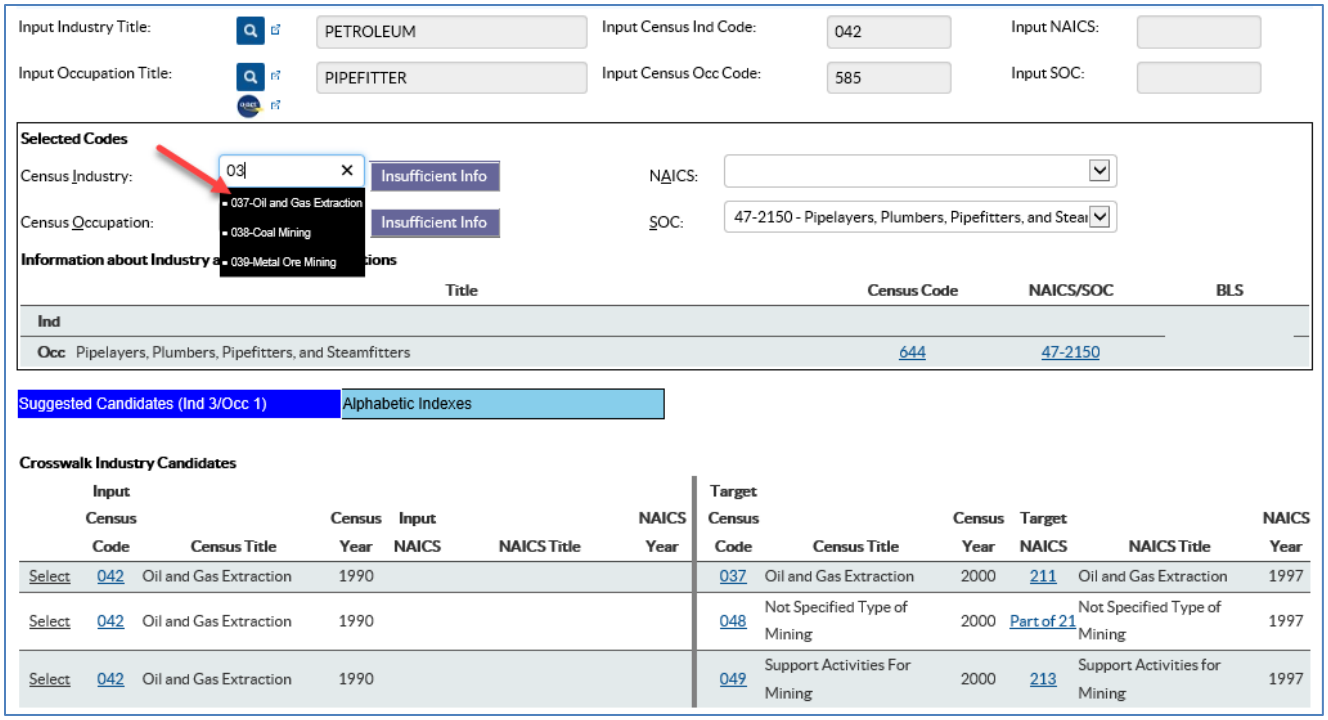




Directly Entering Codes

You can only directly enter codes in the Census Industry or Census Occupation boxes of the Select Codes section of the screen. You can NOT directly enter NAICS or SOC codes.

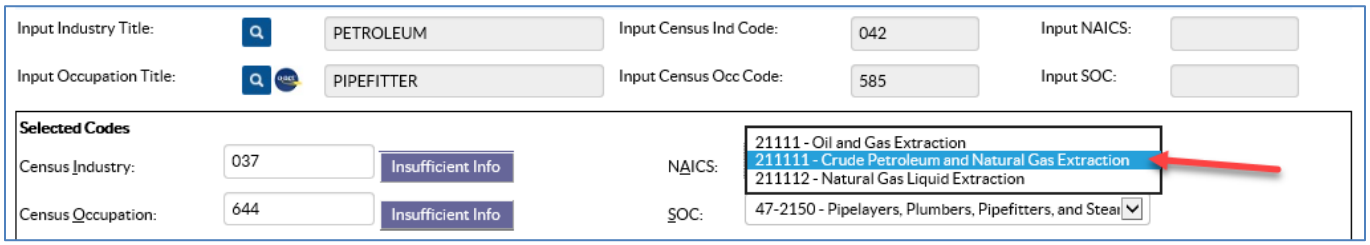
When Census codes are entered directly, NIOCCS will help by displaying codes and titles in a drop down list as you type. You can click the code/title in the drop down if desired instead of completing the typing of the code. See example below.



Using the direct entry method, the NAICS and/or SOC codes are automatically provided in the NAICS and SOC fields.

If detailed NAICS and SOC codes are important to your coding effort, you should view the code hierarchies by clicking the drop down arrow in each of these fields.

For example, after directly entering the code ‘037’ in the Census Industry box for the industry of ‘Petroleum’, the NAICS code’ 21111 – Oil and Gas Extraction’ is provided automatically. However, by examining the NAICS codes using the drop down, the more detailed NAICS code of ‘211111 – Crude Petroleum and Natural Gas Extraction’ may be more accurate for this industry.



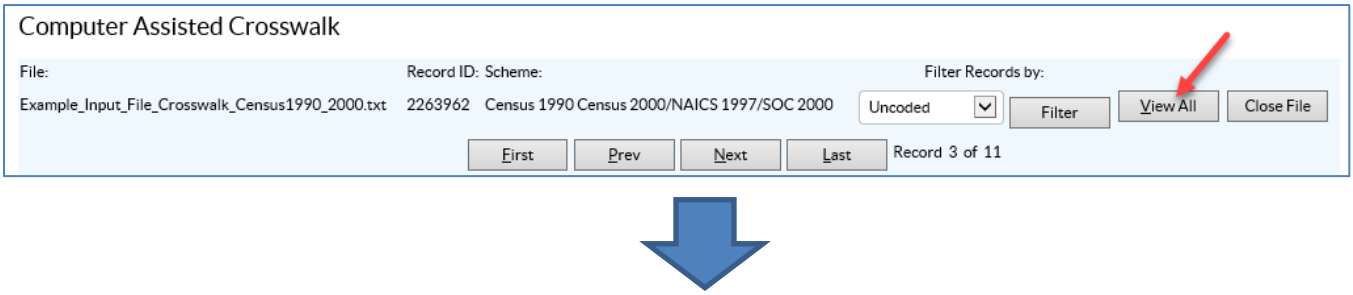
6.2.5 Viewing All Records

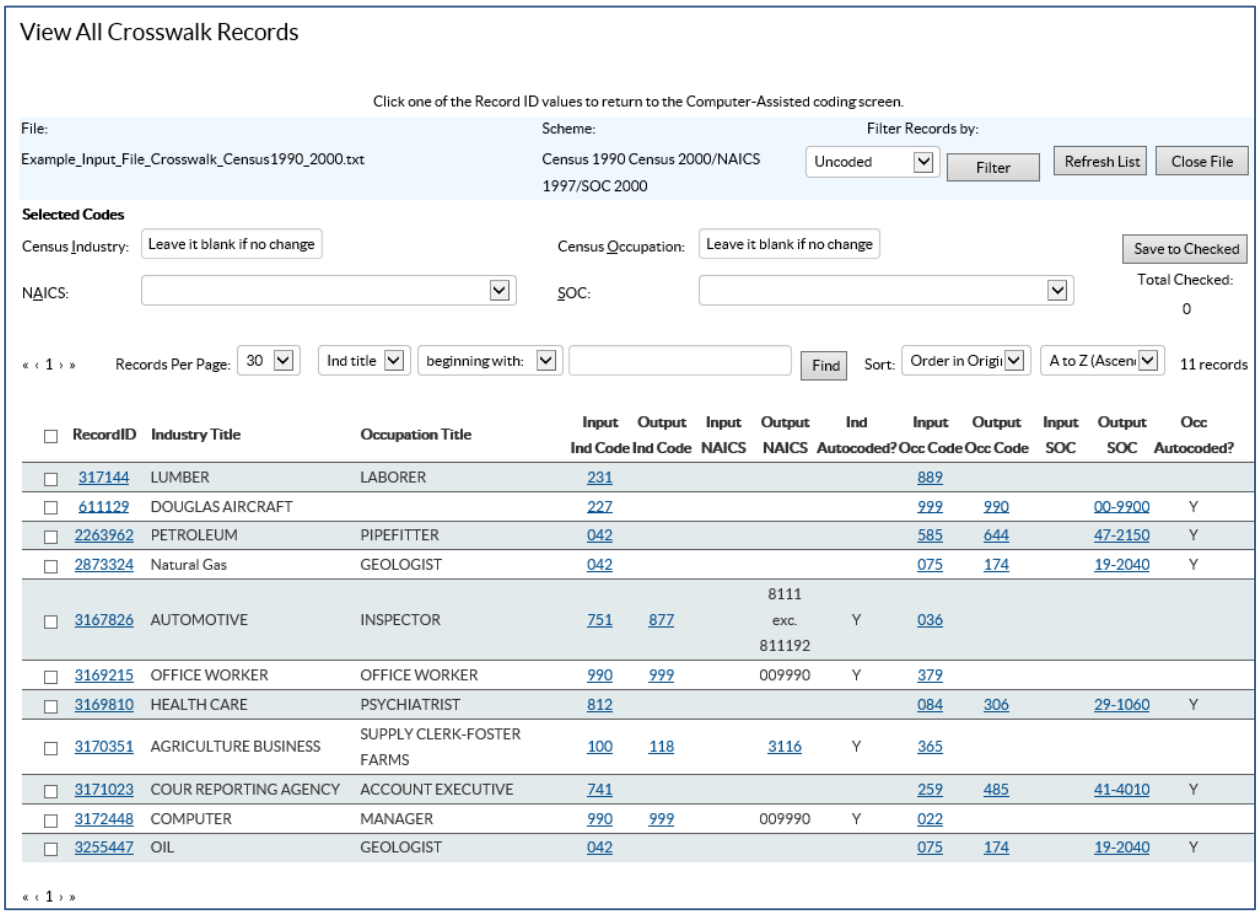
The **View All** feature of the Computer Assisted Crosswalk coding screen will display the records of the file in a table (or spreadsheet) format.

The **View All** feature is helpful for:

1. Viewing records together instead of one at a time
2. Sorting the records by various data fields
3. Coding more than one record at a time
4. Quality control review

Click the **View All** button at the top of the Computer Assisted Crosswalk coding screen.





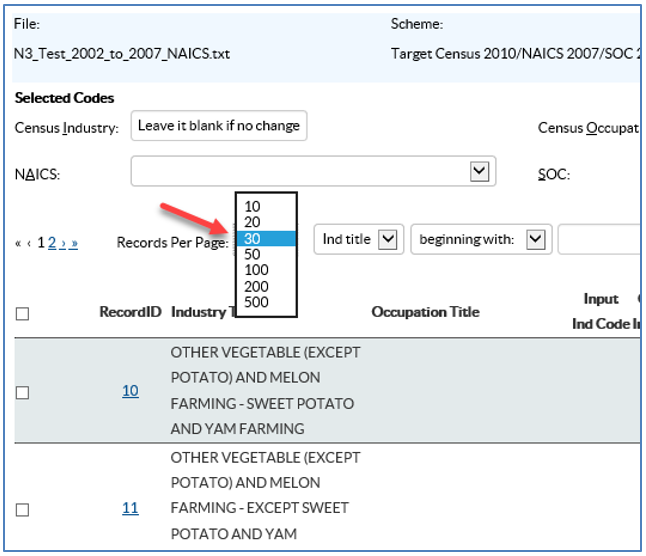
Filtering Records to be Viewed

Click the drop down arrow in the **Filter Records by** option to select the type of records you want to view.

Filter Records Options	Description
Uncoded	Records where one or both codes are blank. (Default)
Comp-Assist	Records where both I&O have codes but one or both were manually coded.
Autocoded	Records where both I&O have been autocoded.
All	All records

Viewing Options

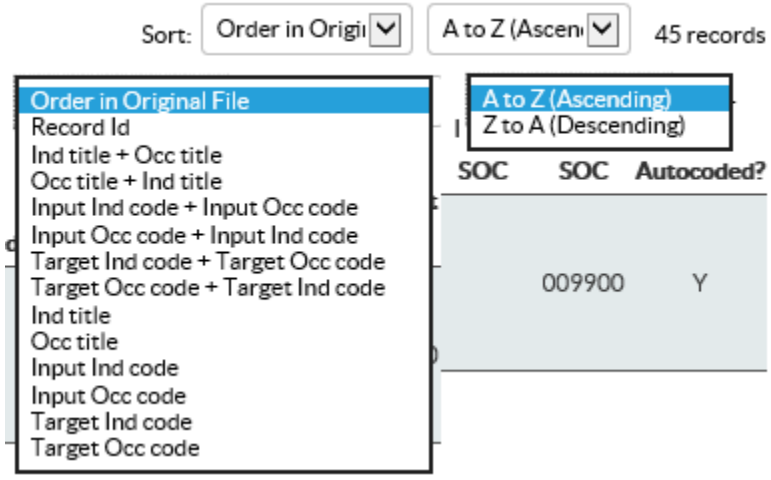
By default, the **View All** screen displays 30 records at a time. To change this, click the **Records Per Page** drop down and select the number of records to view on the screen at one time.



Sorting Options

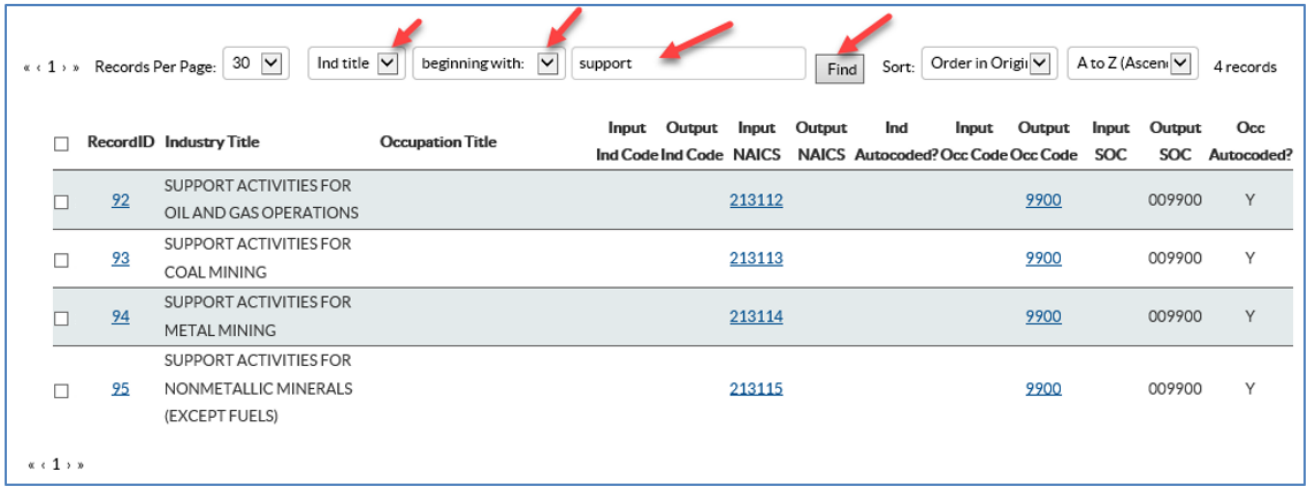
Records in the data file can be sorted in various ways by selecting options in the **Sort** drop down list.

This feature is used often to code several records at one time and for Quality Control purposes.



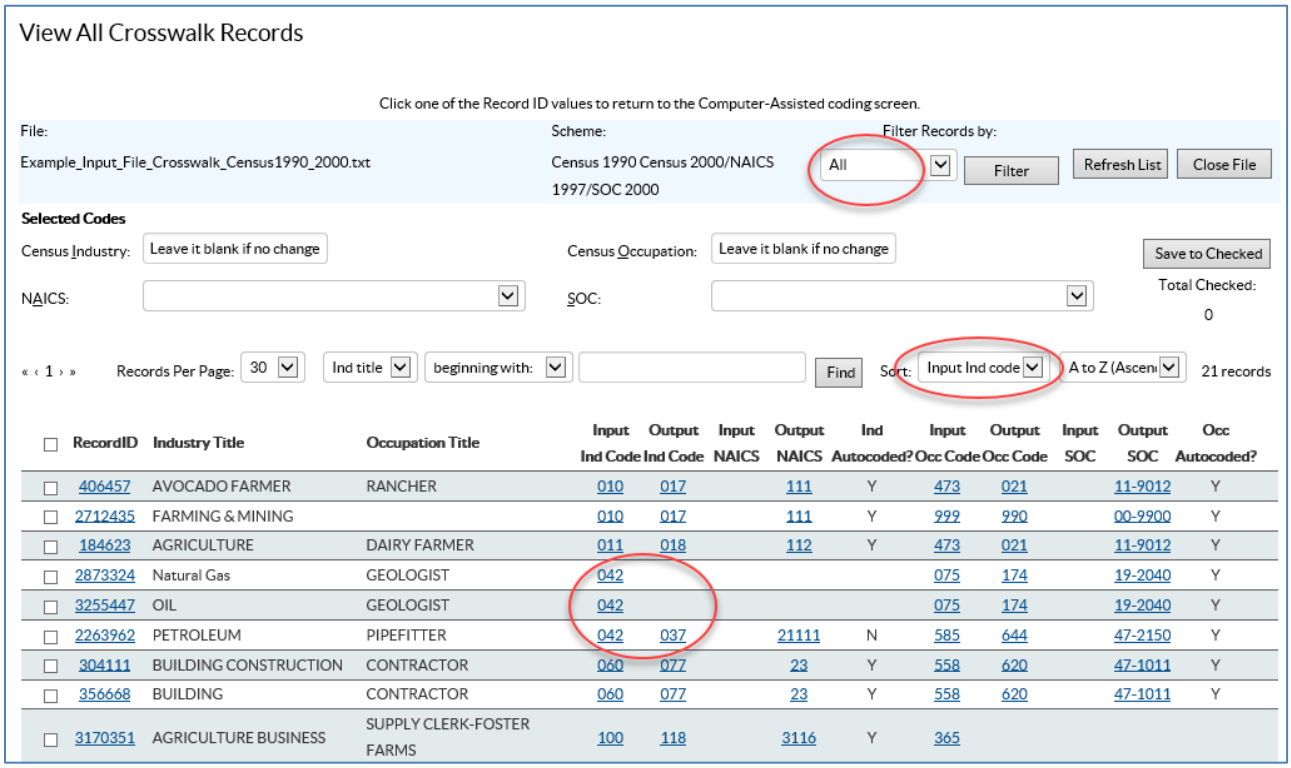
Search Options

You can search for records with specific text in either the Census industry or Census occupation titles by using the search options then clicking the **Find** button.



Coding more than one Record at a Time

In the example below, the file is filtered by showing ALL records in the file and has been sorted by Census Input Industry Code. As can be seen, there are 3 records with the input industry code of 042 but only one of them has been manually coded so far.



View All Crosswalk Records

Click one of the Record ID values to return to the Computer-Assisted coding screen.

File: Example_Input_File_Crosswalk_Census1990_2000.txt

Scheme: Census 1990 Census 2000/NAICS 1997/SOC 2000

Filter Records by: All | Filter | Refresh List | Close File

Selected Codes

Census Industry: Leave it blank if no change

Census Occupation: Leave it blank if no change

Save to Checked

NAICS:

SOC:

Total Checked: 0

« ‹ 1 › » Records Per Page: 30 | Ind title | beginning with: | Find | Sort: Input Ind code | A to Z (Ascen | 21 records

RecordID	Industry Title	Occupation Title	Input Ind Code	Output Ind Code	Input NAICS	Output NAICS	Ind Autocoded?	Input Occ Code	Output Occ Code	Input SOC	Output SOC	Occ Autocoded?
406457	AVOCADO FARMER	RANCHER	010	017		111	Y	473	021		11-9012	Y
2712435	FARMING & MINING		010	017		111	Y	999	990		00-9900	Y
184623	AGRICULTURE	DAIRY FARMER	011	018		112	Y	473	021		11-9012	Y
2873324	Natural Gas	GEOLOGIST	042					075	174		19-2040	Y
3255447	OIL	GEOLOGIST	042					075	174		19-2040	Y
2263962	PETROLEUM	PIPEFITTER	042	037		21111	N	585	644		47-2150	Y
304111	BUILDING CONSTRUCTION	CONTRACTOR	060	077		23	Y	558	620		47-1011	Y
356668	BUILDING	CONTRACTOR	060	077		23	Y	558	620		47-1011	Y
3170351	AGRICULTURE BUSINESS	SUPPLY CLERK-FOSTER FARMS	100	118		3116	Y	365				

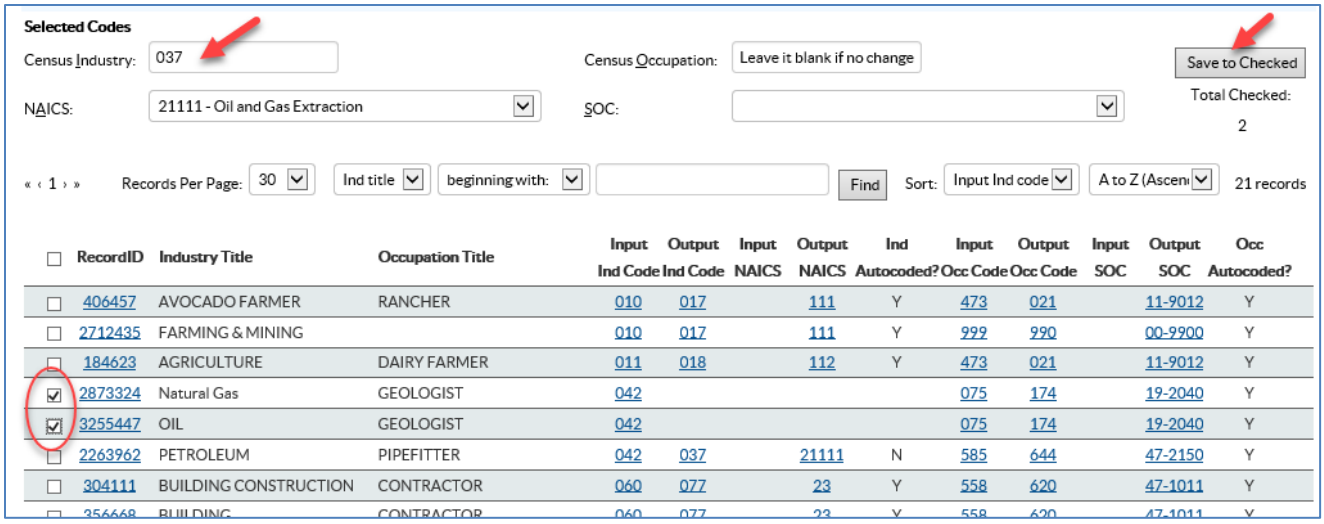
Knowing that the Census 1990 industry code of **042** crosswalks to the Census 2000 industry code of **037** for the Oil and Gas industry, the output industry codes could be crosswalked at the same time by doing the following:

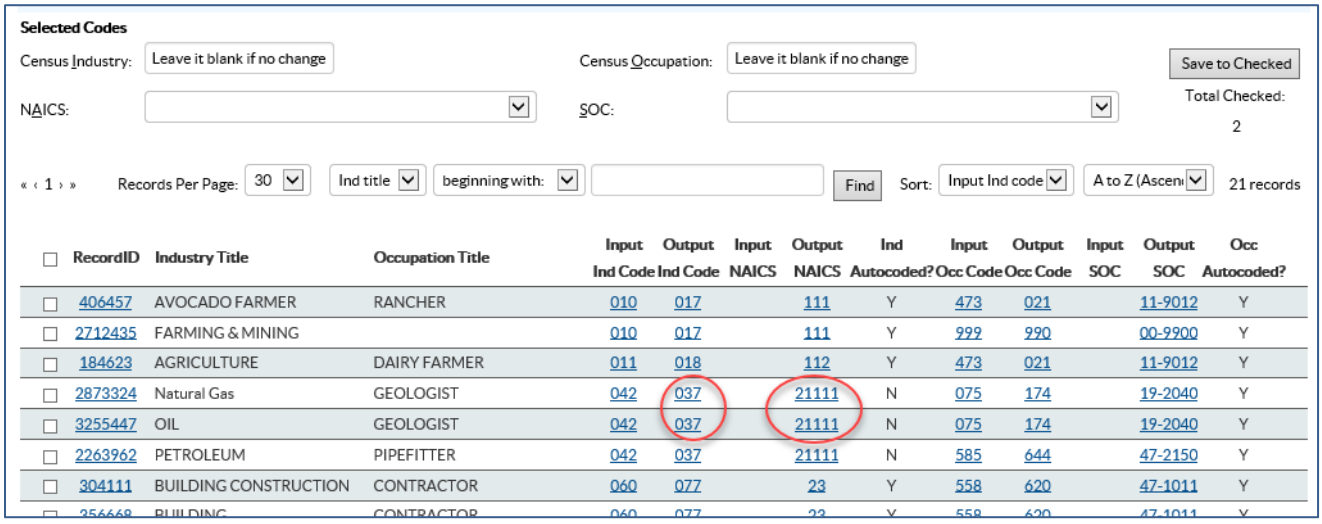
1. Click the checkboxes next to the records that you want to crosswalk.

2. Enter the Census 2000 industry code in the **Census Industry** box (note the NAICS code will be automatically provided).

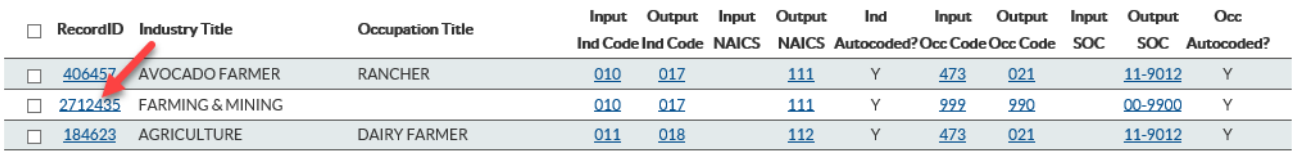
3. Click the **Save to Checked** button.

See example below.





To return to the Computer Assisted Crosswalk Coding screen (one record at a time coding), click on one of the Record ID values and you will be returned to that record.



Quality Control

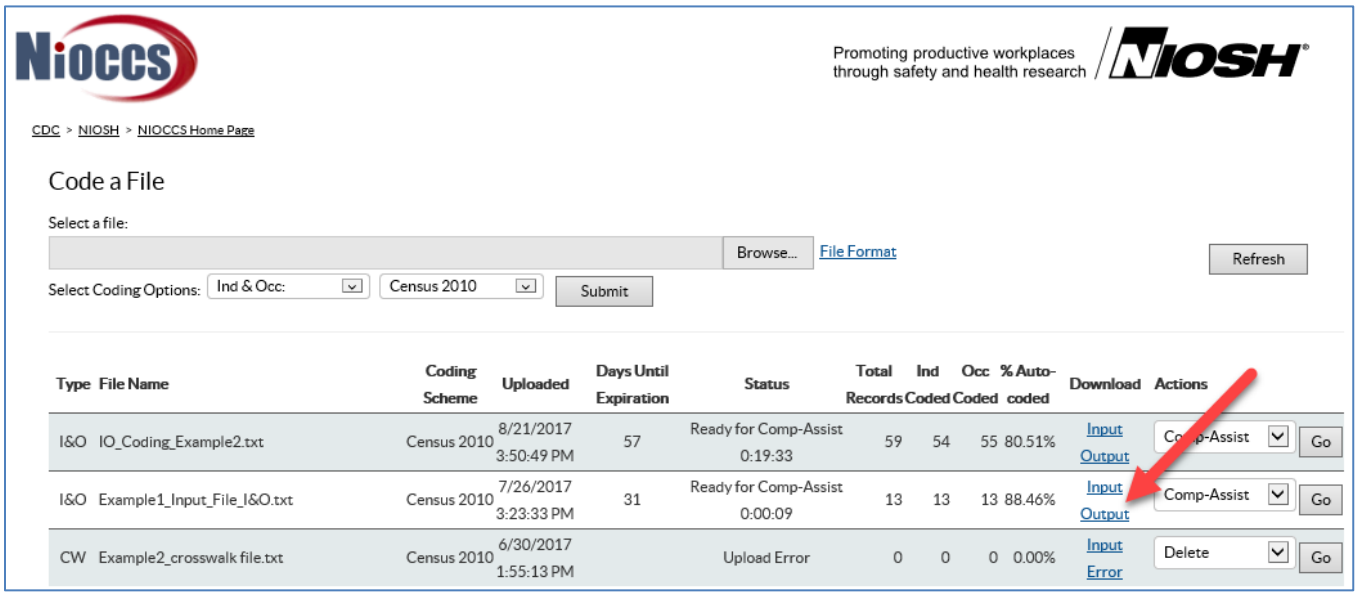
It is up to the user to verify the quality of the coded results of their files. NIOCCS provides the **View All** feature of the computer assisted screen to support users in verifying the coded results.

Sorting the file by various fields or combination of fields after all coding is completed, can identify errors in coding of similar industries or occupations.

7 DOWNLOADING

A file can be downloaded at any time. You can download a copy of the input file submitted or download the coded output file created by NIOCCS.

To download a coded file, click the **Output** link in the row of the file you want to download.



You may get the following message. Click either Open or Save depending on what you want to do.

The Output file from NIOCCS will be in Comma Separated Values (CSV) file format which can be easily viewed in Microsoft Excel and other software products.

I&O Coded Output Files

Coded output files will contain all the fields that were in the input file **plus** the following additional fields:

Fields in the I&O Coded Output File	Description
File Name	Name of the original file uploaded.
Target Scheme	The Census I&O Classification scheme chosen when the file was autocoded.
Census Year	The Census coding scheme year.
Census Ind Code	The Census industry code selected for the input industry title.
Census Ind Title	The Census industry title for the Ind Code
Ind Auto-coded?	Flag indicating how the industry code was selected: **Y** = The code was selected by the NIOCCS coding engine (autocoded) **N** = The code was selected manually using the computer assisted coding module **Blank** = No code was assigned, that is, the industry was not autocoded nor was it manually coded.
Census Occ Code	The Census occupation code selected for the input occupation title.
Census Occ Title	The Census occupation title for the Occ Code
Occ Auto-coded?	Flag indicating how the occupation code was selected: **Y** = The code was selected by the NIOCCS coding engine (autocoded) **N** = The code was selected manually using the computer assisted coding module **Blank** = No code was assigned, that is, the occupation was not autocoded nor was it manually coded.
NAICS Code	The NAICS code associated with the industry code will be included if this option was chosen in the download process.
NAICS Title	The NAICS industry title associated with the NAICS code.
NAICS Year	The NAICS coding scheme year.
SOC Code	The SOC code associated with the occupation code will be included if this option was chosen in the download process.
SOC Title	The SOC title associated with the SOC code.
SOC Year	The SOC coding scheme year
Suggest Review	Flag indicating NIOCCS's recommendation to review the autocoded record for accuracy. **Y** = Flagged for Suggested Review **N** = Not flagged for Suggested Review
Suggest Review Reason	Provides the reason that a record was flagged for review. Reasons include: "Complex Input" and/or "Autocoded Insufficient Info". (note: other reasons could be added in the future).
Ind Score	Match score NIOCCS produced for the selected Census industry code.
Occ Score	Match score NIOCCS produced for the selected Census occupation code.

Crosswalk Coded Output Files

Output files from crosswalk coding will contain all the fields that were in the input file **plus** the following additional fields:

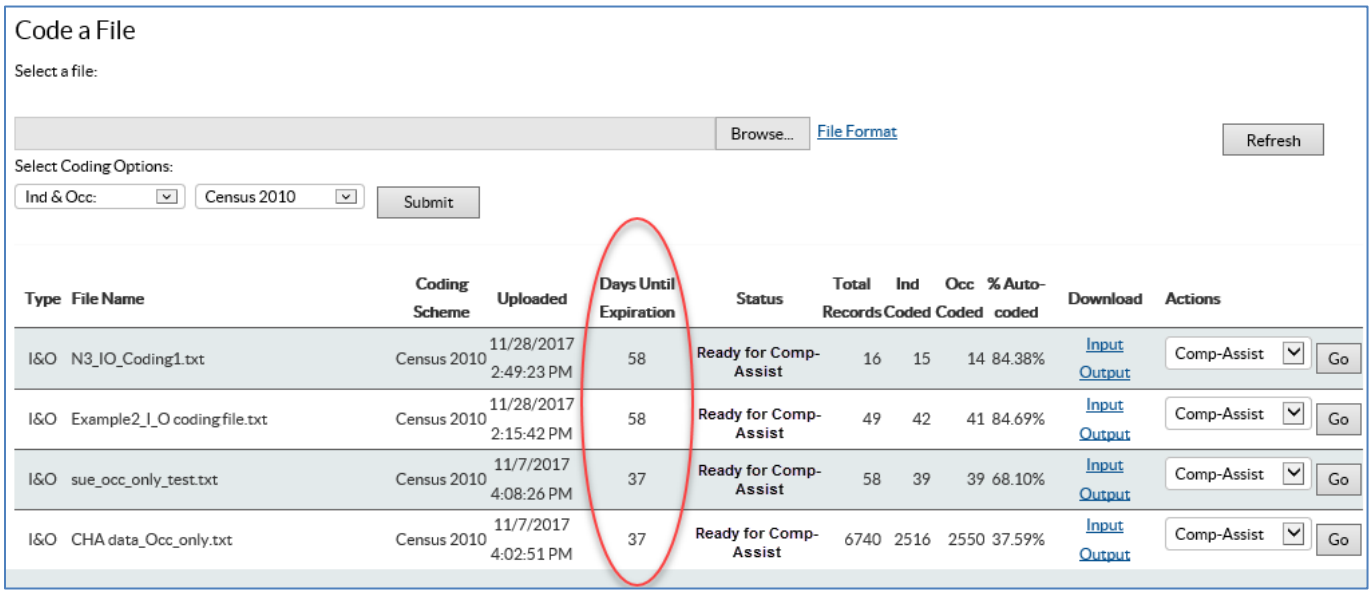
Fields in the Crosswalk Output File	Description
File Name	Name of the original file uploaded.
Target Scheme	The Census I&O classification scheme chosen for the target (output) industry and occupation codes.
Output Census Year	Target Census coding scheme
Output Ind Code	Crosswalked Census industry code
Output Ind Title	Census standard industry title associated with the output industry Census code.
Ind Auto-coded?	Flag indicating how the industry code was selected: **Y** = The code was crosswalked automatically by NIOCCS. **N** = The code was crosswalked manually using the computer assisted coding module **Blank** = No code was assigned, that is, the industry was not automatically crosswalked nor was it manually crosswalked.
Output Occ Code	Crosswalked Census occupation code
Output Occ Title	Census standard occupation title associated with the output occupation Census code.
Occ Auto-coded?	Flag indicating how the occupation code was selected: **Y** = The code was crosswalked automatically by NIOCCS. **N** = The code was crosswalked manually using the computer assisted coding module **Blank** = No code was assigned, that is, the occupation was not automatically crosswalked nor was it manually crosswalked.
Output NAICS code	Crosswalked NAICS industry code
Output NAICS year	Target NAICS coding scheme
Output NAICS title	NAICS standard title associated with the output NAICS code.
Output SOC code	Crosswalked SOC occupation code
Output SOC year	Target SOC coding scheme
Output SOC title	SOC standard title associated with the output SOC code

8 FILE MANAGEMENT

The NIOCCS system will maintain a history of all files uploaded and coded, however, limitations exist for how long files will be stored. Each file has an expiration date. This date lets the user know when a file will be automatically removed (deleted) by the system. It is the responsibility of the user to pay attention to these expiration dates and manage their files accordingly.

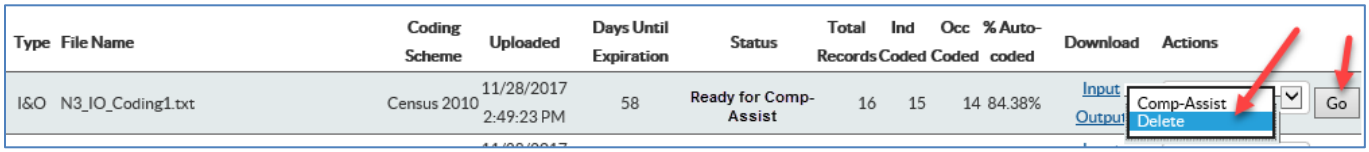
8.1 File Retention and Removal

Files are retained for 60 days from the day they were submitted, after which they will be removed automatically. You will know how many days are left for a file before expiration from the **Code a File** screen, as shown below.

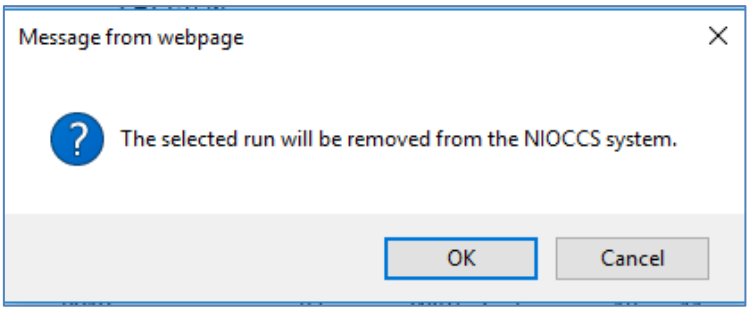


If a file is automatically deleted by NIOCCS because it reached its expiration date, you can either submit the file again or contact NIOCCS support at NIOCCS@cdc.gov. *There is no guarantee that the file will be retrievable but NIOCCS system administrators will attempt to recover the file.*

You can delete files by clicking the drop down arrow in the **Actions** box for the file to be deleted. Select **Delete** then click the **Go** button as shown below.

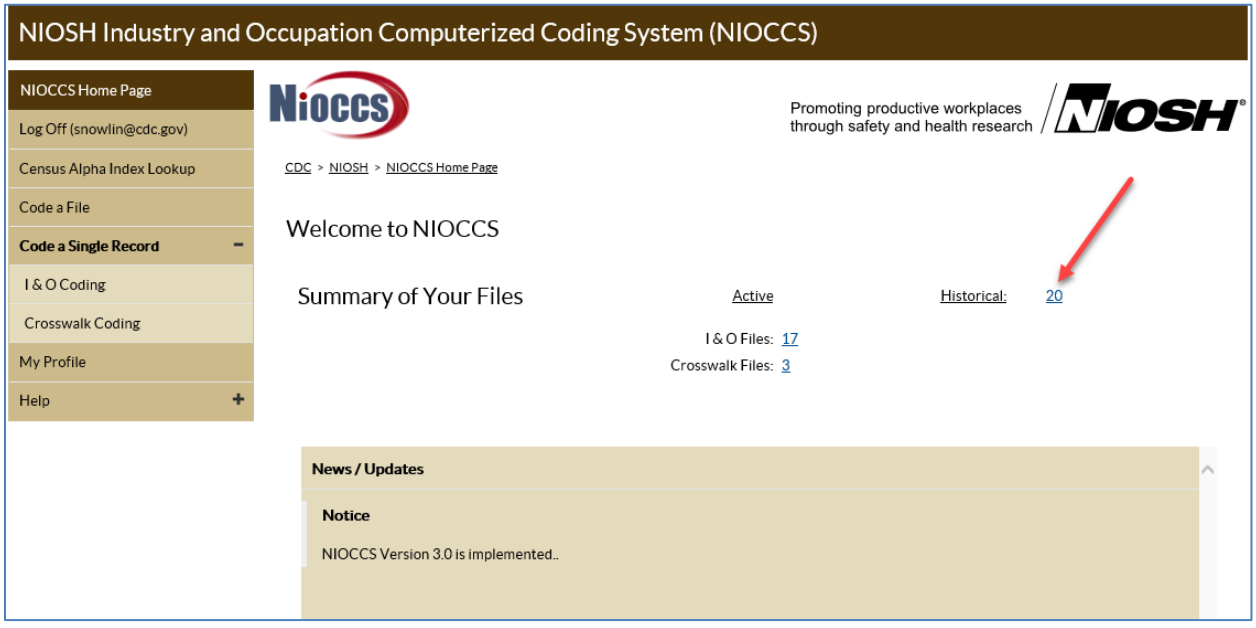


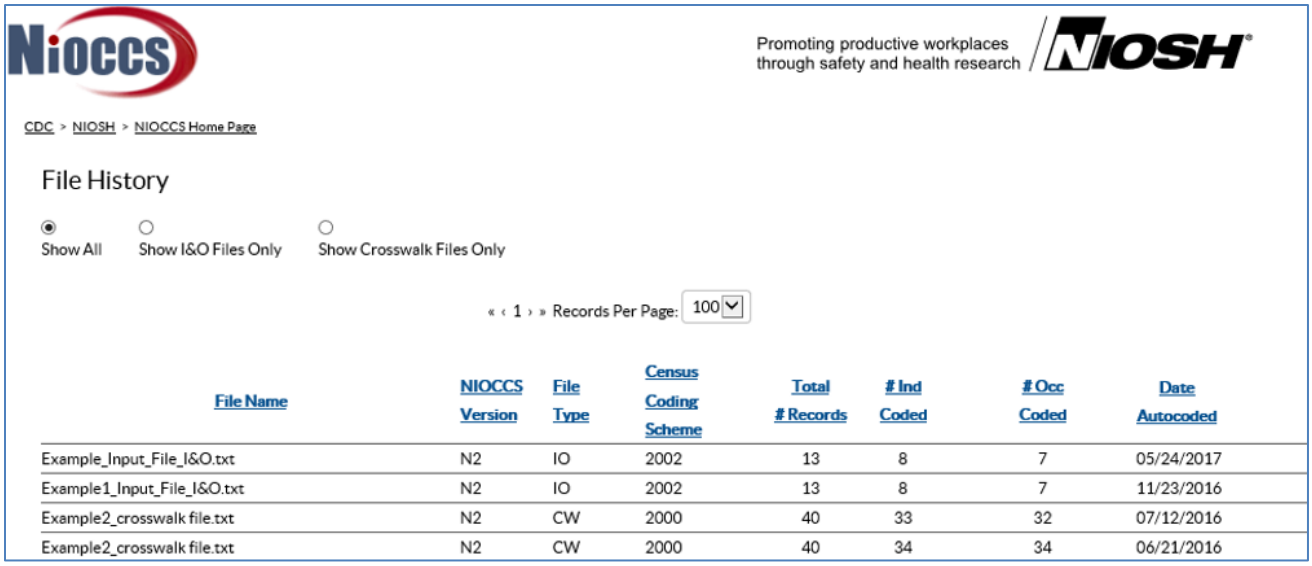
A confirmation to delete message will appear after clicking the **Go** button. Click **OK** to delete the file or **Cancel** to cancel the deletion.



8.2 File History

You can view a history of files submitted to NIOCCS by clicking on the number of **Historical** files from the NIOCCS home page. **NOTE: You must be logged in to see the Summary of Your Files.**

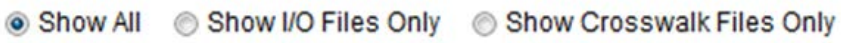




File Name	NIOCCS Version	File Type	Census Coding Scheme	Total # Records	# Ind Coded	# Occ Coded	Date Autocoded
Example_Input_File_I&O.txt	N2	IO	2002	13	8	7	05/24/2017
Example1_Input_File_I&O.txt	N2	IO	2002	13	8	7	11/23/2016
Example2_crosswalk file.txt	N2	CW	2000	40	33	32	07/12/2016
Example2_crosswalk file.txt	N2	CW	2000	40	34	34	06/21/2016

The file history is informational only; the files themselves are not directly accessible from this screen.

You can filter the files that appear on the **File History** screen by clicking on one of the radio button selections to show only I&O coded files, only crosswalk files, or all files.

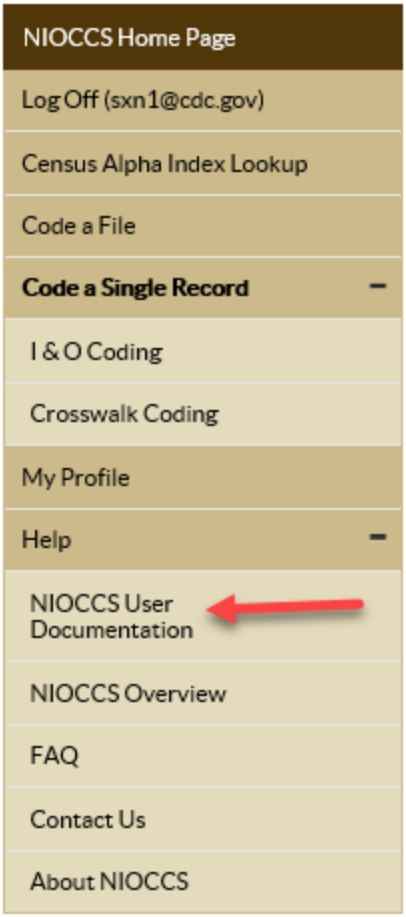


You can also sort the list by clicking on any of the column headings.

9 HELP AND USER SUPPORT

9.1 NIOCCS User Manual

The NIOCCS User Manual provides detailed operating procedures of the system. To access the NIOCCS User Manual and other related I&O coding documentation, expand the **Help** menu item from the **NIOCCS** main menu on the **Home Page** then click on the **NIOCCS User Documentation** option.



This option will bring you to the NIOSH Industry and Occupation Coding website where you will find the NIOCCS User Manual and other guides related to industry and occupation coding including I&O classifications and crosswalk tables.

The NIOCCS User Manual is the first link on this website.

Workplace Safety & Health Topics

Industry and Occupation Coding

Collecting and Using I&O Data

Coding Software

Training and Consultation

Coding Support Documents

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Publications and Products

Programs

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Promoting productive workplaces through safety and health research

NIOSH

INDUSTRY AND OCCUPATION CODING

Coding Support Documents

Here you will find documents on industry and occupation (I&O) coding classifications, instruction manuals for using NIOCCS (our I&O coding software), and I&O crosswalks. Crosswalk coding is the mapping of a code from one I&O classification coding scheme to another or to a different code within the same I&O coding scheme for a different year. If you have questions about any of these materials, please contact us at NIOCCS@cdc.gov.

Instruction Manuals

- NIOCCS User Manual
- How to Use the Census Alphabetical Lookup Feature
- Census 2010 I&O Coding Instruction Manual
- Census 2002 I&O Coding Instruction Manual
- Census 2000 I&O Coding Instruction Manual
- NIOCCS Rules of Behavior

NIOCCS Input File Formats

I&O Autocoding

- Input File Format for Uploading to NIOCCS
- Example I&O Input File in Excel format
- Example I&O Input File in .txt format

Crosswalk Coding

- Crosswalk Input File Format for Uploading to NIOCCS
- Example Crosswalk Input File in Excel format
- Example Crosswalk Input File in .txt format

I&O Classifications

- Industry Census 2010
- Occupation Census 2010
- Industry Census 2002
- Occupation Census 2002
- Industry Census 2000
- Occupation Census 2000
- NIOSH/NCHS – Non-paid Worker Codes
- NIOSH/NCHS – Military Codes

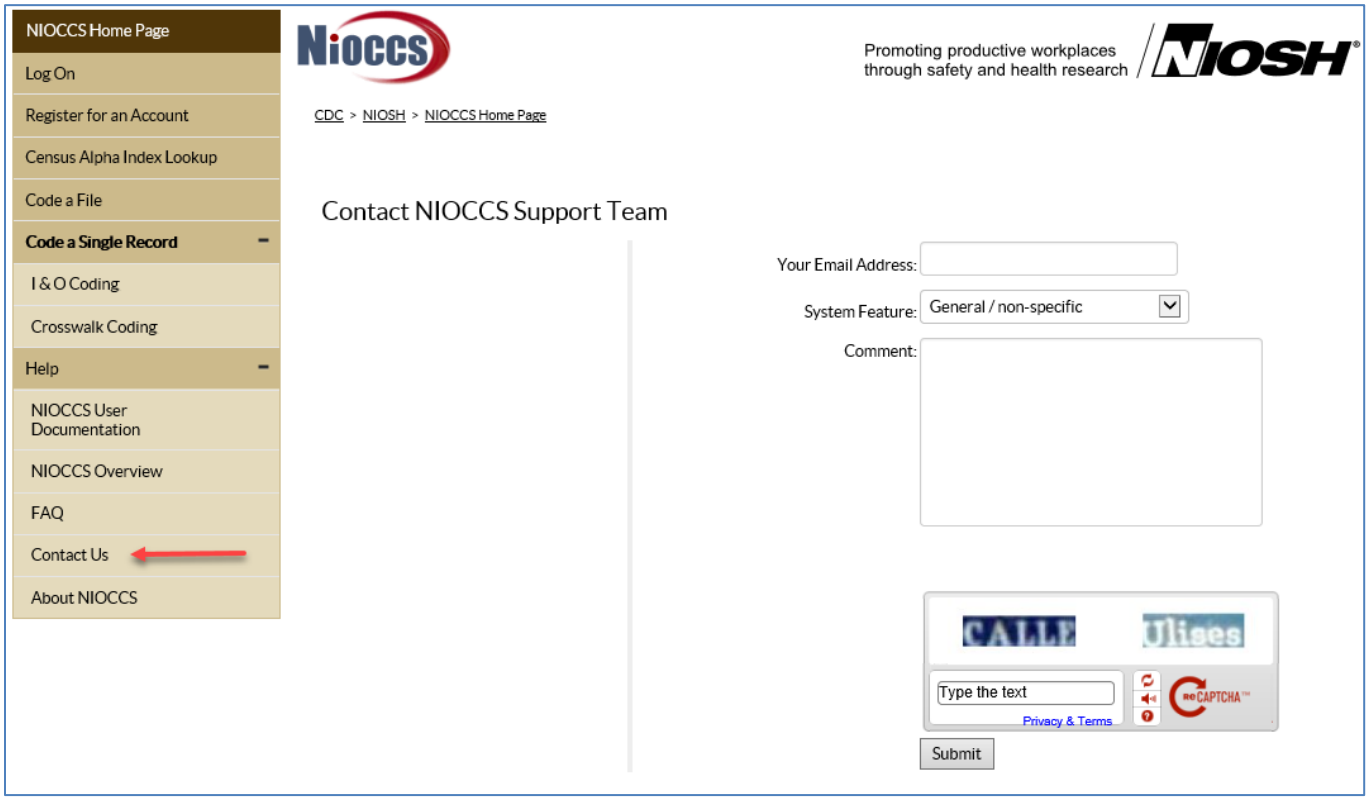
I&O Crosswalks

- Census 2002 Industry to NAICS Industry
- Census 2002 Occupation to SOC Occupation
- Census Industry Crosswalks 1990, 2000, 2002, 2007
- Census Occupation Crosswalk 2002 to 2010
- Census Occupation Crosswalk 2000 to 2002
- Census Occupation Crosswalk 1990 to 2000
- NAICS Revision Crosswalks
- Census Code Lists & Crosswalks Methodology

9.2 Contacting NIOSH

To ask questions or provide feedback regarding the system, click **Contact Us** under the **Help** menu option from the NIOCCS main menu.

The **Contact NIOCCS Support Team** screen will appear allowing the user to send a comment or question to NIOSH.

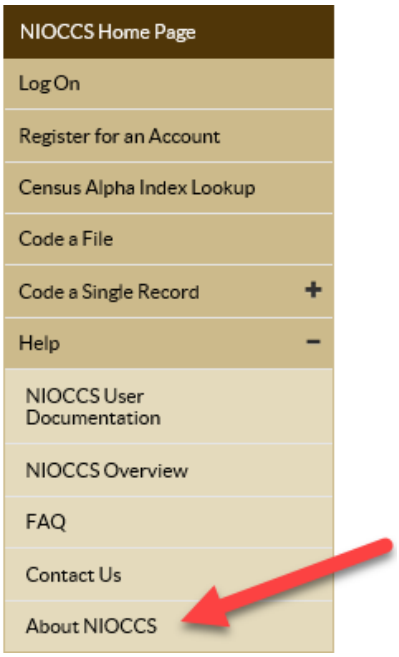


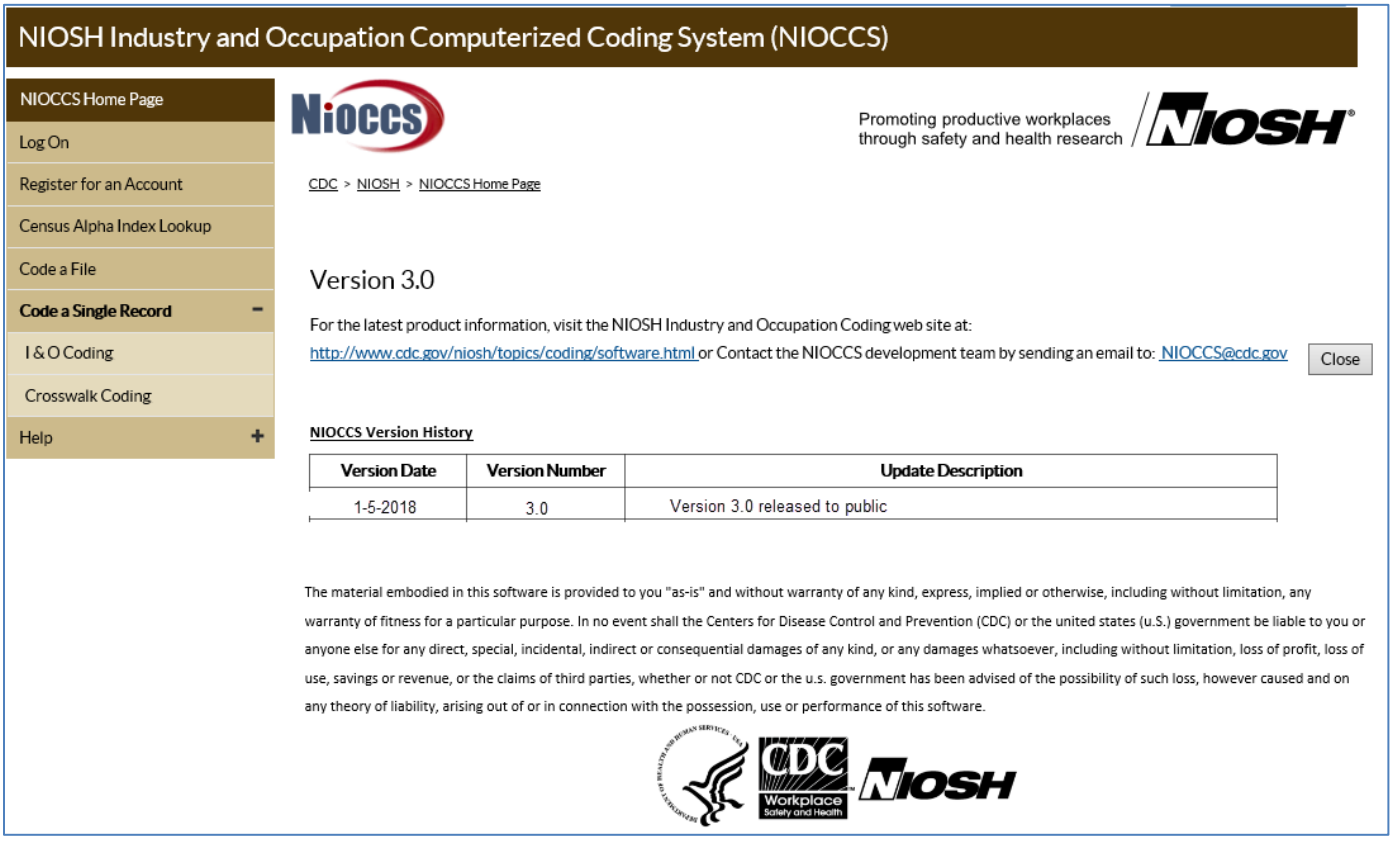
1. Enter your email address (will appear automatically if already logged in)
2. Select the **System Feature** pertaining to your comment or question.
3. Enter your comment or question in the **Comment** box.
3. Enter the text in the **Captcha** box (for security reasons)
3. Click the **Submit** button.

The information provided will be sent to the NIOCCS Support Team who will respond as soon as possible via email or phone.

9.3 About NIOCCS

To obtain information about NIOCCS version history and links to additional information about the NIOCCS product, click on **About NIOCCS** under the **Help** menu item from the home page.





APPENDIX A: GLOSSARY

Autocoding – A process by which information (data) is evaluated by computer algorithms and translated automatically into a standard set of codes. No human intervention is required.

BLS – Bureau of Labor Statistics

Captcha - Completely Automated Public Turing Test To Tell Computers and Humans Apart. A CAPTCHA is a program that protects websites against bots by generating and grading tests that humans can pass but current computer programs cannot.

Computer Assisted coding – A process which by computer software supports a person in the translation of information (data) from text format to a standardized set of codes. Requires human intervention and decision making.

Crosswalk – Mapping a code from one I&O classification coding scheme to another I&O classification coding scheme or to a different code within the same I&O coding scheme for a different year.

Download - To receive data to a local system from a remote system.

FAQ – Frequently Asked Questions

Home Page – Main web page of a website of a group, company, organization, or individual.

I&O Coding Scheme – One of several industry and occupation classification systems used to assign standard codes to industry and/or occupation text. Examples include: Census Industry and Occupation Classifications, the North American Industrial Classification System (NAICS), and the Standardized Occupational Classification system (SOC).

Industry Text – The actual word or words entered on employment, health and vital records to describe an individual's place of employment (industry).

NAICS – The North American Industrial Classification System is an industry classification system that groups establishments into industries based on activities in which they are primarily engaged. NAICS is the first classification created for uniform industry codes between the United States, Canada and Mexico.

NIOCCS – National Institute for Occupational Safety and Health Industry and Occupation Computerized Coding System.

NIOSH – National Institute for Occupational Safety and Health

Occupation Text - The actual word or words entered on employment, health and vital records to describe an individual's occupation.

Autocoding Rate – Percentage of the phrases that are assigned an I&O code automatically among the total input phrases submitted for coding.

SOC – The Standardized Occupational Classification system developed by the Bureau of Labor Statistics for classifying all occupations in the economy, including private, public, and military occupations. The SOC system was first introduced in 1977, was updated in 1980 and again in 2000 and 2010.

User Account – Mechanism used to authenticate a user to a system. It provides the opportunity for a user to be authorized to access a system and control access to features of a system.

User Interface - The aggregate of means by which people interact with a system, machine, device, computer program or other complex tool.

Web Application – An application that is accessed with a Web browser over a network such as the internet or intranet.

APPENDIX B: INDUSTRY AND OCCUPATION CLASSIFICATION SYSTEMS OVERVIEW

Industry and Occupation Classification Systems		
Industrial Classification System		**Years Updated**
North American Industry Classification System (NAICS)	Developed jointly by the U.S. Office of Management and Budget, Canada, and Mexico to provide new comparability in statistics about business activity across North America.	**1997, 2002, 2007, 2012 Updated every 5 years.**
Census Alphabetical Index of Industries	Developed primarily for use in classifying a respondent's industry (employer's type of business) as reported in the Census, the Current Population Survey, the American Community Survey, and other demographic surveys conducted by the Census.	**1980, 1990, 2000, 2002, 2007, 2012 Updated as NAICS is updated.**
Occupational Classification Systems		
Standard Occupational Classification (SOC)	Developed by the Bureau of Labor Statistics for classifying all occupations in the economy, including private, public, and military occupations.	**1980, 2000, 2010**
Census Alphabetical Index of Occupations	Developed primarily for use in classifying a respondent's occupation (employee's type of work) as reported in the Census, the Current Population Survey, the American Community Survey, and other demographic surveys conducted by the Census.	**1980, 1990, 2000, 2002, 2010 Updated as SOC is updated and continuously through review of census and survey responses.**

GENERAL DESCRIPTION OF THE CENSUS INDUSTRY & OCCUPATION INDEXES

(Reference: http://www.census.gov/hhes/www/ioindex/overview.html)

The Bureau of Census *Alphabetical Indexes of Industries and Occupations* were developed primarily for use in classifying a respondent's industry (employer's type of business) and occupation (employee's type of work) as reported in the Census 2000, the Current Population Survey, the American Community Survey, and other demographic surveys conducted by the Census Bureau.

The *Census 2000 Alphabetical Indexes* list over 21,000 industry and 31,000 occupation titles in alphabetical order. They are comprehensive lists of specific industries and occupations developed over time and continuously updated through review of census and survey responses.

Coverage

The basic content of each Census 2000 Index is derived largely from previous editions. However, many new titles were added to each of the industry and occupation listings and some obsolete titles have been deleted. Many of the original occupation titles came from the *Dictionary of Occupational Titles* published by the U.S. Department of Labor, Employment and Training Administration; these were updated during the revision of the Standard Occupational Classification (SOC).

Classification Systems

The purpose of the classification systems used in these indexes is to organize and to make understandable the many thousands of industries and occupations. These systems group titles describing like industries or like occupations into homogeneous categories and assign a code to each category.

Industry Classification

The North American Industry Classification System (NAICS), prepared by the Office of Management and Budget and published in the *North American Industry Classification System (NAICS) Manual*, is the standard for industrial classification systems in the U.S. government. NAICS groups establishments into industries based on the activities in which they are primarily engaged. The United States, Canada, and Mexico developed the system to provide comparable statistics across the three countries. It is a comprehensive system covering the entire field of economic activities, both productive and nonproductive. There are 20 sectors in the NAICS, and 1,179 detailed industries in the NAICS for the United States. The NAICS/United States is used by the U.S. statistical agencies to facilitate the collection, tabulation, presentation, and analysis of data relating to business establishments. It provides uniformity and comparability in the presentation of statistical data describing the U.S. economy.

The Census Bureau has adapted the NAICS to create the industry categories used in the Census Industrial Classification Index. The census system consists of 265 categories arranged into 20 sectors. The sectors are exactly the same as those found in the NAICS. The census industry codes are distinct numbers from those used as occupation codes. The Census industrial classification system provides a link to the equivalent NAICS code(s) for each census category.

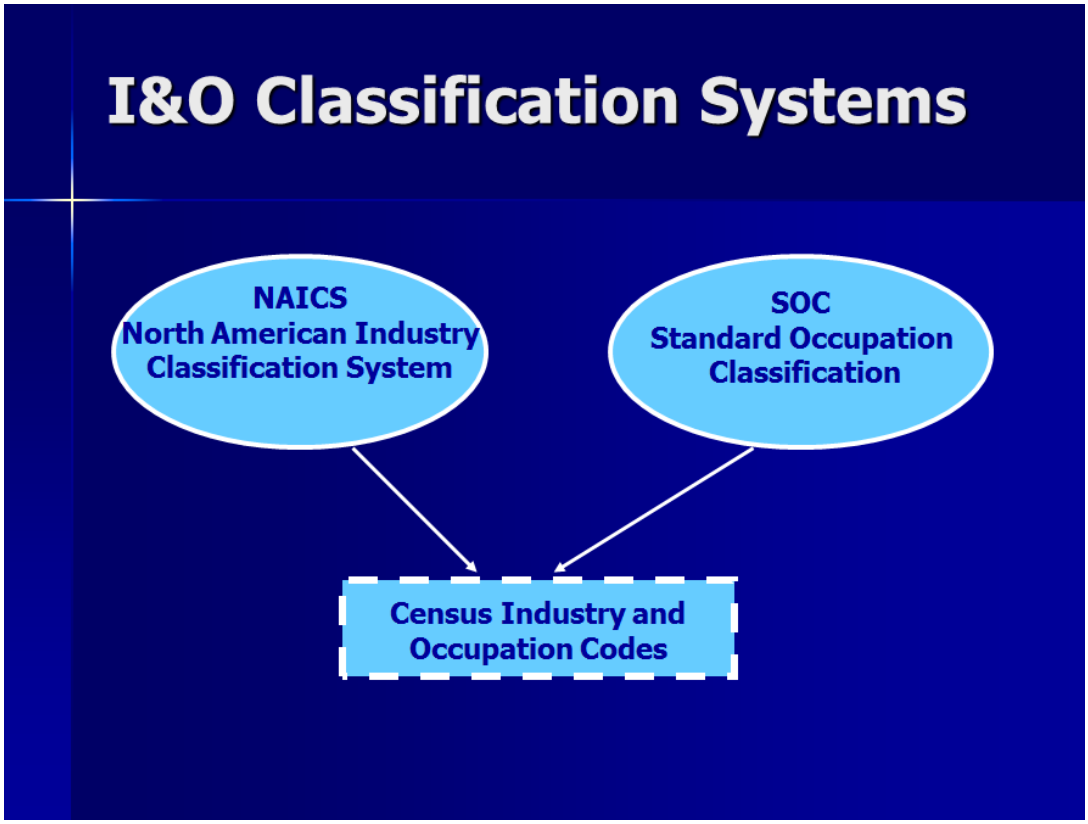
Occupation Classification

The Standard Occupational Classification (SOC) system is the federal government's standard classification system for occupations. It groups occupations according to the nature of the work performed, and relates these occupations to others of a similar nature. There are 23 major groups in the SOC and 821 detailed occupations within those groups. This system provides a mechanism for cross-referencing and

aggregating occupation-related data collected by social and economic statistical reporting programs.

The Census Bureau has adapted the SOC to create the occupation categories used in the Census Occupational Classification Index.

The Census I&O Alphabetical Classification Indexes provide a cross-reference between industries and occupations using NAICS and SOC as the basis for classifying industry and occupation titles



APPENDIX C: AUTHORIZED USE AND RULES OF BEHAVIOR

NIOSH Industry and Occupation Computerized Coding System (NIOCCS)

Rules of Behavior

January 2018

Introduction

The NIOSH Industry and Occupation Computerized Coding System (NIOCCS) is a web-based computer system that translates industry and occupation (I/O) text into standardized I/O codes. It is a tool developed by NIOSH, free of charge to users, which will improve coding uniformity and reduce the high cost of manually coding I/O information from vital records, cancer registries, health care records, and other record systems.

Purpose

These rules of behavior are not to be used in place of existing policy; rather they are intended to enhance and further define the specific rules each user must follow while accessing and using NIOCCS. The rules are consistent with the policy and procedures described in the Department of Health and Human Services (DHHS) Information Security and Privacy Program and specific policy documents. The DHHS Information Security and Privacy program contains computer security guidance on a wide range of topics and describe the Information Technology Security Program that establishes policies, procedures, and responsibilities in the area of computer security within the Department.

Non-compliance

Non-compliance with these rules will be enforced through sanctions appropriate with the level of infraction. Actions may range from a verbal or written warning and/or removal of system access depending on the severity of the violation.

Policy Rules

NIOCCS does not collect personally identifiable information (PII). CDC/NIOSH asks users not to include PII in any data files submitted to NIOCCS for coding.

Users are provided access to NIOCCS for the purpose of facilitating CDC/NIOSH's public health mission. Each user is responsible for helping to prevent unauthorized use of, and access to, system resources. This duty includes complying with all stated policy requirements, taking due care and reasonable precautions when handling system data or using system resources, and in managing and protecting system authentication

controls (passwords, etc.). When in doubt, users are strongly encouraged to contact NIOCCS user support by sending an email to NIOCCS@CDC.gov.

Users shall not attempt to access any data or programs on the NIOCCS system for which they do not have authorization.

Users shall not engage in, encourage, conceal any “hacking” or “cracking,” denial of service, unauthorized tampering, or unauthorized attempted use of (or deliberate disruption of) any computer system within the NIOCCS system.

Users shall not purposely engage in any activity with the intent to:

- Degrade the performance of the system
- Deprive an authorized user access to a resource
- Obtain or attempt to obtain extra resources beyond those allocated
- Circumvent security measures in order to gain access to any automated system for which proper authorization has not been granted.

Users will access NIOCCS through a NIOCCS user account and password authentication. Each NIOCCS user will have a unique User Name and password for the system.

A user can only have one logged on session at a time. If a user logs in on one computer then tries to log on again at another workstation without logging out of the previous session, they will be given a choice of canceling the previous session or not continuing with the new log on. This business rule was made to protect a user’s data from conflicting access to the same data files which may cause the data to become corrupt.

Each user is responsible for protecting his/her password. Passwords may be shared, ***however users are responsible for all actions performed with their account.*** Users who believe their password has been compromised in any way should inform NIOSH. Users will supply a password that meets the NIOCCS requirements. (Passwords must be at least eight characters in length and must contain at least one capital letter, one lower case letter, and no spaces. The maximum number of characters in the password is 30.)

NIOCCS will provide a randomly generated password to the user via email when a user account is first set up or when a ‘Forgot Password’ request is made. Users must change the NIOCCS generated password at next logon.

NIOCCS System Administrators may periodically monitor both the system and user activities for purposes including, but not limited to, troubleshooting, performance

assessment, usage patterns, indications of attack or misuse and the investigation of a complaint or suspected security incident.

NIOCCS System Administrators have access rights to all data and user information within the NIOCCS system.

NIOCCS System Administrators will not share or allow access to data submitted by users to other any person or entity.

NIOCCS System Administrators may review user's computer assisted coded data periodically to analyze the data for possible inclusion into the NIOCCS knowledge base to improve overall efficiency and accuracy of coding. Once analyzed, NIOSH will delete user files from the CDC server if the file has expired or was removed by the user. A record of all file activity by the user is recorded in the system and can be viewed by the user at any time.