

June 4, 2015

Delivered via email; read receipt requested: soc@BLS.gov

Standard Occupational Classification Policy Committee
Bureau of Labor Statistics, Suite 2135
2 Massachusetts Avenue NE
Washington DC 20212

Re: Comments for the 2018 SOC Revision
OMB-2014-0005-0001

Dear Standard Occupational Classification Policy Committee Members:

The undersigned organizations represent various sectors of the aviation industry; all have a strong interest in ensuring that occupational data in the aviation maintenance field is accurate and reliable.

The organizations respectfully request that the current detailed occupation Aircraft Mechanics and Technicians (49-3011) be replaced with three distinct detailed occupations, as follows:

49-3011 Certificated Maintenance Technicians - Mechanics

Performs or supervises maintenance, preventive maintenance, inspection or alterations of an aircraft, aircraft engine, propeller or appliance (or part thereof) for which s/he is rated, and approves that work for return to service under the authority of an FAA-issued certificate. Requires federally-issued mechanic certificate with an airframe and/or powerplant rating. Excludes "Certificated Maintenance Technicians – Repairmen" (49-3012), "Non-certificated Maintenance Technicians" (49-3013), and "Transportation Inspectors" (53-6051).

49-3012 Certificated Maintenance Technicians - Repairmen

Performs or supervises specific maintenance, preventive maintenance, or alterations of an aircraft, aircraft engine, propeller or appliance (or part thereof) for the certificate holder by whom s/he is employed and may approve that work for return to service under the authority of an FAA-issued certificate. Requires federally issued repairman certificate. Excludes "Certificated Maintenance Technicians – Mechanics" (49-3011), "Non-certificated Maintenance Technicians" (49-3013), and "Transportation Inspectors" (53-6051).

49-3013 Non-certificated Maintenance Technicians

Performs maintenance, preventive maintenance, or alterations of an aircraft, aircraft engine, propeller or appliance (or part thereof) under the supervision or control of a certificated person. Excludes "Certificated

Maintenance Technicians – Mechanics” (49-3011), “Certificated Maintenance Technicians – Repairmen” (49-3012), and “Transportation Inspectors” (53-6051).

Additionally, the organizations request that the detailed occupation “49-2091 Avionics Technicians” be eliminated. To distinguish avionics technicians from certificated mechanics and repairmen or non-certificated technicians is illogical. The newly requested classifications allow for a more accurate and useful representation of the aviation maintenance career field.

Furthermore, the organizations request that the following detailed occupation be updated to include the underlined language:

53-6051 Transportation Inspectors

Inspect equipment or goods in connection with the safe transport of cargo or people. Includes rail transportation inspectors, such as freight inspectors; rail inspectors; and other inspectors of transportation vehicles, not elsewhere classified. Excludes "Transportation Security Screeners" (33-9093), “Certificated Maintenance Technicians – Mechanics” (49-3011), “Certificated Maintenance Technicians – Repairmen” (49-3012), “Non-certificated Maintenance Technicians” (49-3013).

Under the current SOC framework, nearly all aviation maintenance professionals fall under the same major group, minor group, broad group, and detailed occupation.¹ Virtually all aviation maintenance professionals are lumped into one category regardless of certification,² with two misleading and inappropriate exceptions. Avionics technicians³ and transportation inspectors⁴ each represent an ultra-specific and very small subset of tasks performed by aviation maintenance professionals, leaving the vast majority lumped together under “Aircraft Mechanics and Service Technicians” without mandatory, realistic, or useful distinction or explanation.

¹ Aviation maintenance professionals are all categorized as:

Major Group 49-0000: Installation, Maintenance, and Repair Occupations

Minor Group 49-3000: Vehicle and Mobile Equipment Mechanics, Installers, and Repairers

Broad Occupation 49-3010: Aircraft Mechanics and Service Technicians

Detailed Occupation 49-3011: Aircraft Mechanics and Service Technicians

² Several other transportation occupations within the SOC acknowledge the requirement for certification or licensing. For example, 53-2011 Airline Pilots, Copilots, and Flight Engineers; 53-2012 Commercial Pilots; 53-3032 Truck Drivers, Heavy and Tractor-Trailer classifications all reflect the requirements for appropriate ratings, certificates, and/or licenses.

³ Avionics technicians fall under 49-2000 Electrical and Electronic Equipment Mechanics, Installers, and Repairers (minor group); 49-2090 Miscellaneous Electrical and Electronic Equipment Mechanics, Installers, and Repairers (broad occupation); 49-2091 Avionics Technicians (detailed occupation).

⁴ Transportation inspectors fall under 53-0000 Transportation and Material Moving Occupations (major group); 53-6000 Other Transportation Workers (minor group); 53-6050 Transportation Inspectors (broad occupation); 53-6051 Transportation Inspectors (detailed occupation). Note that aviation inspectors are included in the definition for transportation inspectors, and do not have a separate detailed occupation. This adds to the confusion, and the inability to track those workers.

The disjointed classifications highlight the fact that the SOC framework fails to accurately reflect the occupational opportunities or responsibilities within aviation maintenance. This has created a statistical void, leading to misinformation on the current state of employment and an inability to forecast future needs.

Without distinguishing the types of tasks certificated and non-certificated “Aircraft Mechanics and Service Technicians” are allowed to accomplish, incomplete data is being used by agencies, Congress, international bodies, students, educators and employers. The lack of specific and reality-based information directly affects both aviation safety and industry growth.

Adding the proposed classifications will ensure the SOC structures adhere to its classification principles. Principle 2 dictates that “Occupations are classified based on work performed and, in some cases, on the skills, education, and/or training needed to perform the work at a competent level.” For the reasons detailed below, the singular treatment of aviation maintenance workers regardless of their varying tasks, responsibilities, skills, and training is problematic.

The undersigned organizations urge the SOCPC to consider the critical importance of this issue to the highly regulated aviation safety industry, and in turn to the flying public. Please find specific responses to the BLS request for public input in Appendix A.

Sincerely,

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RE: Comments for the 2018 SOC Revision, OMB-2014-0005-0001

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Yvette Rose
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Appendix A Responses to Specific BLS Information Request

- 1. *Nature of the work performed.* What duties do the workers in the occupation perform? Which duties are common to all jobs in the occupation and would therefore appear in the “required duties” statement in the occupation definition. [...] What duties are frequent but not performed by all workers and might be identified in “may” statements in the occupation definition? Are there supervisory or management duties? If so, what types of workers are supervised and what types of management activities are performed? For revisions to existing occupations, is the work described in the SOC definition accurate and up to date? Addressing the nature of the work performed is the most important type of information the SOCPD will use when considering comments.**

49-3011 Certificated Maintenance Technicians – Mechanics

A wide range of tasks must be (exclusively) performed by certificated mechanics, including supervisory functions and approval for return to service of the work performed on civil aircraft, airframes, aircraft engines, propellers, appliances, or component parts (articles) covered by the mechanic’s rating(s).

Therefore, the “required duties” statement include supervising and approving for return to service the maintenance, preventive maintenance, or alteration of civil aviation articles by non-certificated individuals, for which the mechanic is rated.

The “may” statements would include tasks that can only be performed by appropriately qualified certificated mechanics, such as performance of annual inspections; and performance or supervision of progressive inspections. Supervisory duties will extend to direct oversight of non-certificated maintenance technicians.

49-3012 Certificated Maintenance Technicians – Repairmen

Tasks performed by certificated repairmen are similar to those performed by certificated mechanics, with the primary distinction that repairmen privileges only extend to functions performed in connection with duties for the individual’s certificated employer.

The “required duties” statement would include the performance, supervision or approval for return to service of maintenance, preventive maintenance, or alteration of civil aviation articles appropriate to the job for which the repairman is employed and certificated, but only in connection with duties for the certificate holder by whom the individual is employed and recommended.

The “may” statement would include performance of inspections of experimental aircraft and/or inspections or maintenance of light sport aircraft as appropriately certificated and rated.

Supervisory duties may extend to supervision of non-certificated maintenance technicians, and only in connection with duties for the repairman’s employer.

49-3013 Non-certificated Maintenance Technicians

The tasks performed by non-certificated maintenance technicians are limited, and must be performed under the supervision of a certificated person, whether a mechanic or repairman or other certificated maintenance provider. The “required duties” statement would include the performance of maintenance, preventive maintenance, or alterations of civil aviation articles under the direct supervision of a certificated person.

The work described in the current SOC definition is inaccurate and misleading; it ignores the mandated distinctions between the privileges of certificated mechanics and repairmen, and non-certificated maintenance technicians. The ability to supervise and/or approve work for return to service, for instance, are critical tasks that can only be accomplished by certificate holders. Without data on the numbers of individuals who are able to perform such important tasks, forecasting labor supply is nearly impossible.

2. *Attributes of the work performed that make the occupation distinct from other detailed occupations in the SOC. Does the same or similar work appear in other SOC occupations? If so, how is the proposed occupation distinct? What changes should be made to existing SOC occupations that have the same or similar work?*

The aviation safety rules governing civil operations dictate precisely who is allowed to perform maintenance, preventive maintenance and alteration tasks. Within aviation maintenance, the proposed detailed occupations (Certificated Maintenance Technicians – Mechanics, Certificated Maintenance Technicians – Repairmen, and Non-certificated Maintenance Technicians) align with the specific tasks and responsibilities allowed to be performed by individuals. These proposed occupations cover the spectrum of work performed in the field while remaining distinct from one another, and from existing SOC occupations.

3. *Job titles. What job titles are commonly used by workers in this occupation? Are these titles unique to the proposed occupation? Are titles listed in the Direct Match Title File actually in use? Are there other titles that should be included in the file?*

The current Direct Match Title File includes the following job titles:

- A&P Mechanic
- Aircraft Engine Mechanic

- Aircraft Engine Specialist
- Airframe and Powerplant Mechanic
- Flight Test Mechanic
- Helicopter Mechanic
- Jet Engine Mechanic
- Propeller-Driven Airplane Mechanic

Because the Direct Match Title File only includes job titles that fall exclusively under one SOC detailed occupation, that list will no longer be applicable if the proposed detailed occupations are implemented. Thus, the undersigned organizations propose the following direct matches:

49-3011 Certificated Maintenance Technicians - Mechanics

- Airframe and Powerplant Mechanic (A&P)
- Airframe Mechanic
- Powerplant Mechanic

49-3012 Certificated Maintenance Technicians - Repairmen

- Repairman

4. *Indications of the number of jobs or workers in the occupation.* Employment size and expected growth are helpful in evaluating collectability. Please provide references for the sources of this information.

The primary reason why the detailed occupations need to be added is to accurately reflect the number of jobs in the field. A 2014 Report by the U.S. Government Accountability Office (GAO-14-237) highlighted the inadequacies of the current occupational classification with respect to collection of workforce data and forecasting future needs. The report notes:

[M]any employers may require employees to hold an A&P certificate. However, BLS's occupational classification for aircraft mechanics includes both certificated and non-certificated mechanics. As a result, labor market data may overestimate the number of available mechanics for certain employers.⁵

The report further states:

BLS reports data on median earnings for aviation professionals in all stages of their careers, so we could not examine whether starting earnings

⁵ Government Accountability Office, GAO-14-237 "Aviation Workforce," p. 12 (Feb. 28, 2014)

have increased, an examination that would be more likely to indicate if wages were rising to attract entry-level workers.⁶

While the FAA tracks mechanic and repairman certificates, the figures are not indicative of employment or career choices.⁷ As of December 31, 2014 FAA reported that it registered 341,409 mechanic certificates and 39,566 repairmen certificates. However, as highlighted by GAO, without a separate occupational classification for certificated mechanics and repairmen, the FAA numbers cannot be used for workforce development or tracking. The employment of certificated individuals is unknown and many certificate holders work outside the aviation industry.

A 2014 study by the Aeronautical Repair Station Association and the Aviation Technician Education Council fought similar headwinds investigating trends in the civil aviation technical workforce. Data limitations and the lack of adequate tracking mechanisms resulted in an inability to substantively analyze developments in employment and forecast needs. The report highlights the challenges facing aviation firms seeking to attract and retain technically skilled workers, which makes the need for accurate data pressing:

[G]iven the strong demand for technical skill sets, there is increasing competition among industries. Therefore, students are completing the aviation maintenance programs but electing to take jobs in other industries where wage or opportunity is greater. This is made possible by a desirable and transferable skill set.⁸

According to the most recent Current Population Survey (CPS)⁹ there are 127,000 aircraft mechanics and service technicians. Without information on how many of those individuals hold either a mechanic or repairman certificate, the industry is flying blind. As previously explained, there are very specific regulations¹⁰ governing who may perform, supervise, inspect, and approve work for return to service on civil aviation articles. Without statistical data on how many certificated mechanics and repairmen are currently employed, forecasting workforce needs is problematic. This statistical haze has both economic and safety implications: it is the aviation maintenance industry that keeps this nation's fleet flying safely.

⁶ *Id.*

⁷ See, e.g. U.S. Civil Airmen Statistics, FEDERAL AVIATION ADMINISTRATION, http://www.faa.gov/data_research/aviation_data_statistics/civil_airmen_statistics/

⁸ "Policy Solutions for a Stronger Technical Workforce" p. 64

⁹ "Labor Force Statistics from the Current Population Survey," BUREAU OF LABOR STATISTICS, *Available at*, <http://www.bls.gov/cps/cpsaat11.htm>.

¹⁰ See *generally* 14 C.F.R. part 43.

5. *Types of employers.* In what industries does this occupation occur? This information can help clarify the nature of the work performed and assist evaluation of collectability.

These occupations are required by and occur within the civil aviation maintenance industry. Certificated companies and other employers of certificated mechanics, certificated repairmen, and non-certificated maintenance technicians include fixed based operators, aviation maintenance technician schools, technical colleges and universities, repair stations, product and parts manufacturers and distributors, private companies with business aircraft, individual aircraft owners and operators and air carriers. Additionally, certificated mechanics can work independently as private businesspersons.

6. *Education and training.* What education and training are typically required for workers to be able to perform this occupation? What types of schools or training providers offer this education or training? How long does the education or training take? What degrees or other credentials are generally required, if any? Identification of specific education and training programs and institutions is helpful.

The training and education requirements are vastly different for certificated individuals than for non-certificated technicians. Certificated mechanics have the most intensive education and training requirements.

To obtain certification as a mechanic under Title 14 Code of Federal Regulations (14 CFR) part 65, an applicant must have either (1) graduated from an FAA-approved aviation maintenance technician school, or (2) completed 18 months of practical experience relating to the airframe or powerplant rating sought, or 30 months of concurrent practical experience if the applicant seeks both ratings. Once those experience requirements are met, the applicant must pass written, oral, and practical tests. Consequent to this heightened level of required education and experience, certificated mechanics are able to perform a broader range of tasks. Time frames to graduate from an aviation maintenance technician school vary by program, but typically last between 15 months and 2 years. The programs are designed to prepare students to pass the certification exams required by the FAA to obtain a mechanic certificate with airframe and/or powerplant ratings and for the career field.

To obtain a repairman certificate under 14 CFR part 65, an applicant must be specially qualified to perform maintenance on civil aviation articles, and be employed for a specific job requiring those special qualifications by an entity certificated under 14 CFR parts 121, 135 or 145. Additionally, the applicant must be recommended for certification by the employer, and must have either at least 18 months of relevant practical experience, or formal training designed to qualify the applicant for the job. Certification as a repairman allows the individual to perform very specific sets of tasks, and

accordingly places limitations on the scope of work that the individual may supervise or approve for return to service and the location where the repairman is authorized to work.

Non-certificated individuals, on the other hand, have no formal training requirements and may only perform aviation related work under the supervision of an individual or entity certificated under 14 CFR with maintenance authority. Consequently, these individuals are much more limited in tasks and responsibilities.

Helpful resources for training programs and institutions include:

- Aviation Technician Education Council (ATEC) website: <http://www.atec-amt.org/>
- Directory of FAA-approved schools: <http://av-info.faa.gov/MaintenanceSchool.asp>

7. *Licensing.* Are licenses usually required? Identification of specific licenses and licensing agencies is helpful.

The Federal Aviation Administration (FAA) issues mechanic and repairman certificates based upon the requirements codified in 14 CFR part 65.¹¹ Only specifically certificated persons may perform, supervise, inspect, and approve maintenance, preventive maintenance and alterations for return to service on civil aviation articles.

8. *Tools and technologies.* What tools and technologies are generally used by workers in performing the occupation? Are the tools and technologies mentioned in existing SOC occupation definitions accurate and up to date?

Currently, the tools and technology listed under the SOC definition for aircraft mechanics and technicians (49-3011) include:

- Integrated maintenance information systems—Aircraft maintenance management systems; LTB/400 maintenance management system; MxManager; S.M.A.R.T aircraft maintenance tracking
- Metal cutters—Offset left aviation snips; Offset right aviation snips; Sheet metal breakers; Straight cut aviation snips
- Punches or nail sets or drifts—Brass punches; Center punches; Pin punches; Taper punches
- Screwdrivers—Flat blade screwdrivers; Phillips head screwdrivers; Ratcheting screwdrivers
- Wearable computing devices—Portable maintenance aids mobile computing devices; Wearable computers; Wearable point and click devices
- Analytical or scientific software—CaseBank SpotLight; CynapSys Virtual DER; Engine analysis software

¹¹ 14 CFR part 65.

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Appendix A

- Data base user interface and query software—Metis Systems MainTrack; Mxi Technologies Maintenix; Pentagon 2000SQL; Sacramento Sky Ranch Mechanic's Toolbox
- Facilities management software—Access Software AIRPAX; Maintenance information databases; Maintenance planning software; Maintenance record software
- Information retrieval or search software—Computerized aircraft log manager CALM software; Technical manual database software
- Inventory management software—Supply system software

The undersigned organizations propose adding the following:

- Electrical/electronic test equipment (oscilloscopes, volt/ohm/ammeters, etc.)
- Non-destructive inspection equipment (magnetic particle, dye penetrant, etc.)
- Wrenches, sockets, torque wrenches, other fastener tooling
- Precision measurement tooling (micrometers, vernier calipers, etc.)
- Power metal cutting, forming and riveting tooling
- Welding equipment
- Aircraft ground operation
- Powerplant specialized tooling (reciprocating & turbine engines)
- Proper handling of hazardous materials (solvents, paints, lubricants, etc.)
- Composite structural equipment (hot bonding, vacuum bagging, graphite, Kevlar, etc.)
- High pressure fluid fabrication equipment (fuel, hydraulics, pressurized gases, etc.)

9. *Professional or trade associations and unions.* Are there professional or trade associations or labor unions related to the proposed occupation? Identification of specific associations or unions is helpful.

Certificated mechanics, repairmen and non-certificated technicians are represented by labor unions, but typically only those working for air carriers. There are also several trade associations that, because of involvement in the aviation community, have a vested interest in the health of the aviation maintenance workforce. These groups include, but are not limited to:

- Aeronautical Repair Station Association (<http://arsa.org/>)
- Aerospace Industries Association (<http://www.aia-aerospace.org/>)
- Aerospace Maintenance Council (<http://aerospacemaintenancecompetition.com/>)
- Airlines for America (<http://airlines.org>)
- Aircraft Electronics Association (<http://www.aea.net/>)
- Aircraft Mechanics Fraternal Association (<http://www.amfanational.org/>)
- Aircraft Owners and Pilots Association (<http://www.aopa.org/>)
- Association for Women in Aviation Maintenance (<http://www.awam.org/>)

- Aviation Suppliers Association (<http://www.aviationsuppliers.org/>)
- Aviation Technician Education Council (<http://www.atec-amt.org>)
- Cargo Airline Association (<http://www.cargoair.org/>)
- General Aviation Manufacturers Association (<http://www.gama.aero/>)
- Helicopter Association International (<http://www.rotor.org/>)
- Modification and Replacement Parts Association (<http://www.pmamarpa.com/>)
- National Air Carrier Association (<http://www.naca.cc/>)
- National Air Transportation Association (<http://www.nata.aero/>)
- National Business Aviation Association (<http://www.nbaa.org/>)
- Professional Aviation Maintenance Association (<http://www.pama.org>)
- Regional Airline Association (<http://www.raa.org/>)
- Teamsters Airline Division (<http://teamsterair.org/>)
- Transport Workers Union (<http://www.twu.org/>)