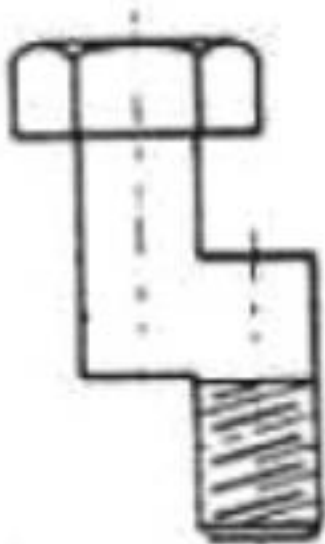


# On Becoming an A&P

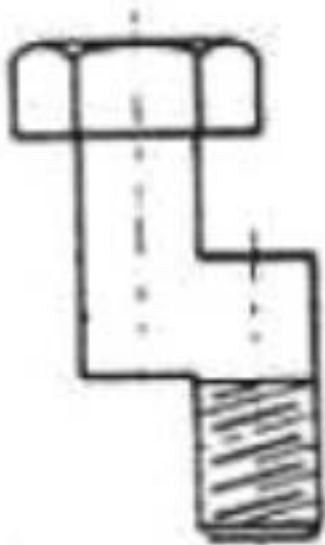
Bob Waters

EAA 179 Member

A&P Quiz #1: Identify purpose of this fastener



A&P Quiz #1: Identify purpose of this fastener



Answer:

For mismatched bolt holes

# FAA Regs: 14 CFR 65 Subpart D – Mechanics Eligibility Requirements

## 65.71 Eligibility

- $\geq 18$  years of age
- Be able to read, write, speak, and understand English language...
- Have passed all of the prescribed tests within a period of 24 months
- Comply with the sections of this subpart that apply to the rating sought

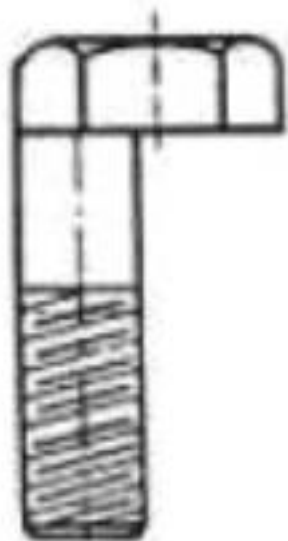
## 65.73 Ratings

- Airframe
- Powerplant

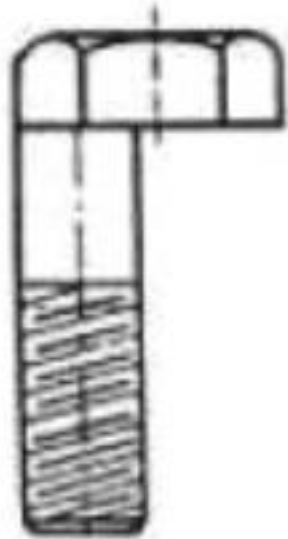
## 65.75 Knowledge Requirements

- Pass a written test covering the construction and maintenance of aircraft appropriate to the rating sought, the regulations in this subpart, and the applicable provisions of parts 43 and 91 of this chapter.

A&P Quiz #2: Identify purpose of this fastener



A&P Quiz #2: Identify purpose of this fastener



Answer:

For holes too near the edge

# FAA Regs: 14 CFR 65 Subpart D – Mechanics Eligibility Requirements

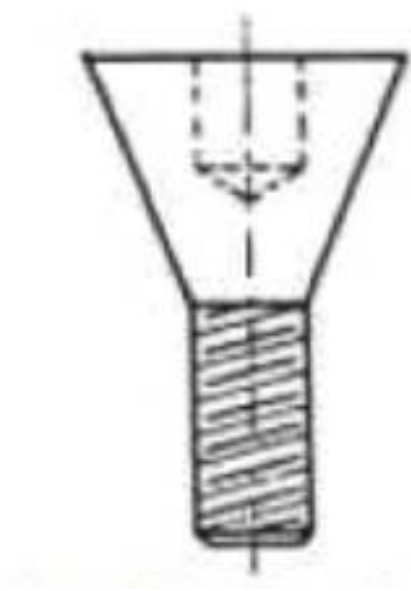
## 65.77 Experience Requirements

1. Present appropriate graduation certificate or certificate of completion from a certificated aviation maintenance technician school or
2. Present documentary evidence, satisfactory to the Administrator, of
  - At least 18 months of practical experience with...airframes or powerplants appropriate to the rating sought; or
  - At least 30 months of practical experience concurrently performing the duties appropriate to both the airframe and powerplant ratings.

## 65.79 Skill Requirements

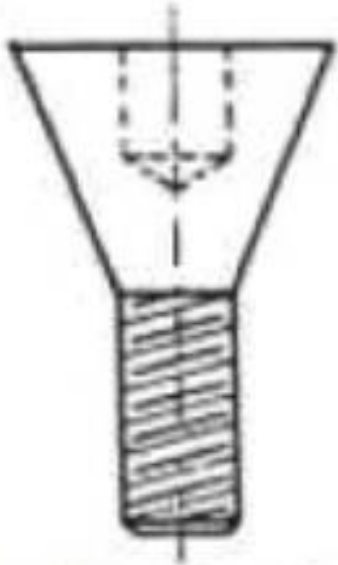
- Pass an oral and a practical test on the rating sought.

A&P Quiz #3: Identify purpose of this fastener





A&P Quiz #3: Identify purpose of this fastener



Answer:

For holes countersunk too deep

# FAA Handbook 8900.1 Vol 5 Sec 2

Some important details from FAA's internal guidance

## 5-1135 Experience Requirements

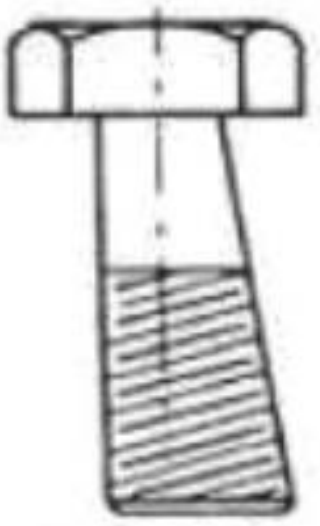
C. Expectations. There is no expectation that an applicant be highly proficient in overhauls, major repairs, or major alterations...

### E. Part-Time Practical Experience.

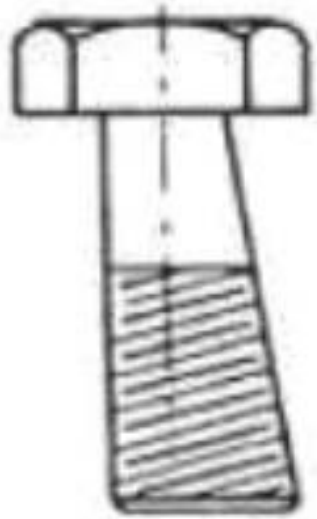
- ...an equivalent of 18 months for each rating individually (or 30 months of concurrent rating experience), based on a standard 40-hour work-week.
- The months need not be consecutive. (It took me over 18 years!)
- A standard work-week has 8 hours per day for 5 days per week, thus totaling 40 hours per week and approximately 160 hours per month.

You need 4800hrs of documented, acceptable experience for A&P

A&P Quiz #4: Identify purpose of this fastener



A&P Quiz #4: Identify purpose of this fastener



Answer:

For holes drilled crooked and then straightened up (nut is hard starting)

# FAA Handbook 8900.1 Vol 5 Sec 2

Some important details from FAA's internal guidance

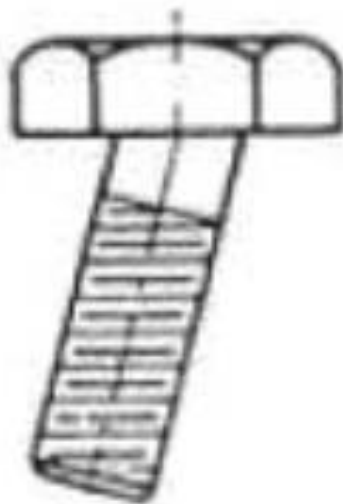
## 5-1135 Experience Requirements

G. Programs without Approval. Applicants who have not graduated from an FAA-approved A&P certification program must present documents from an employer, coworker, or other sources satisfactory to the Administrator to establish the required record of time and experience.

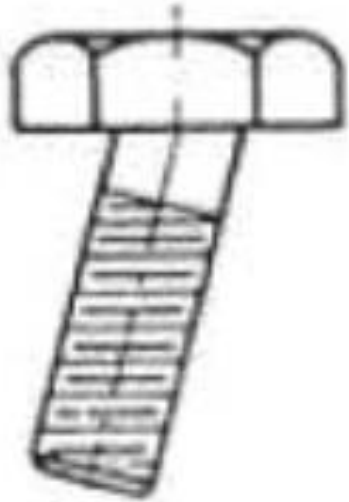
- 1) ...The applicant must have verifiable experience in 50 percent of the subject areas listed for the rating sought (refer to part 147, appendices B, C, and D) in order to be eligible.

Part 147 Appendices B, C & D list 33 General, 55 Airframe, and 39 Powerplant (Total 127) Topics

A&P Quiz #5: Identify purpose of this fastener



A&P Quiz #5: Identify purpose of this fastener



Answer:

For holes not square

# FAA Handbook 8900.1 Vol 5 Sec 2

Some important details from FAA's internal guidance

## 5-1135 Experience Requirements

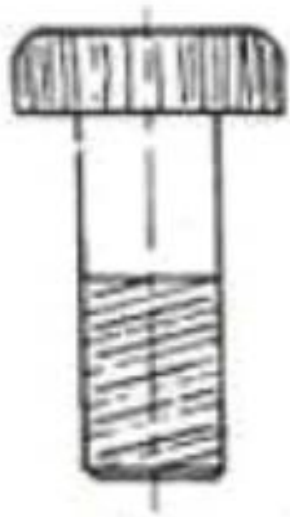
This statement was removed in the last revision:

"work gained on an experimental amateur built aircraft should be evaluated on its own merits to determine whether it fulfills the experience requirements"

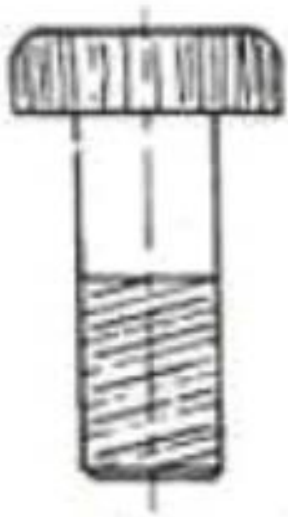
ABQ FSDO currently takes this to mean that work on experimental aircraft no longer counts toward A&P experience



A&P Quiz #6: Identify purpose of this fastener



A&P Quiz #6: Identify purpose of this fastener



Answer:

Serrated head for vise grip  
pliers

# The application process

1. Assemble your application documenting experience and fill out FAA Form 8610-2
2. Contact the ABQ FSDO Inspector to review package, your identification documents, and do Q&A
3. Sign up for and pass General, Airframe and Powerplant written tests
4. Sign up for and pass oral and practical tests
5. Celebrate!

# The application process

1. Assemble your application documenting experience and fill out FAA Form 8610-2
2. Contact the ABQ FSDO Inspector to review package, your identification documents, and do Q&A
3. Sign up for and pass General, Airframe and Powerplant written tests
4. Sign up for and pass oral and practical tests
5. Celebrate!

**Standard Gov't Form – the FSDO Inspector will help with details.**

# The application process

1. Assemble your application documenting experience and fill out FAA Form 8610-2
2. Contact the ABQ FSDO Inspector to review package, your identification documents, and do Q&A
3. Sign up for and pass General, Airframe and Powerplant written tests
4. Sign up for and pass oral and practical tests
5. Celebrate!

**Verbal Q&A is to assure inspector that you have a chance of passing tests.**

# Documenting Apprentice Experience

## >4800hr appropriate experience

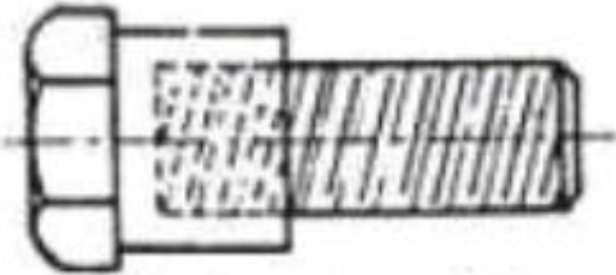
- I assembled my experience into one nicely formatted log, including:
  - Hands-on experience (turning wrenches, prep, clean up, etc.)
    - Sweeping the hangar floor and cleaning the plane counts!
  - Research, parts searches, knowledge gaining, etc.
- My primary A&P signed letter affirming my experience

## >50% Topics in Part 147, appendices B, C, and D

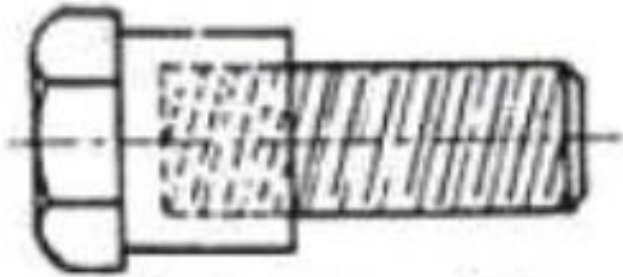
- I assembled a table showing evidence and illustrative examples

FSDO likes a thorough package; mine was about 100 pages

A&P Quiz #7: Identify purpose of this fastener



A&P Quiz #7: Identify purpose of this fastener



Answer:

Telescoping bolt where length is not known



# 3 Written Tests: General, Airframe, Powerplant

- Computer-based, multiple choice, timed test
- Suggest you buy and study Test Guides.
  - I used ASA. They come with on-line practice tests
  - Practice, practice, practice so that the answer is immediate – study for the test
  - You'll need to know about radial engines and other arcane topics (growlers)
  - You'll need to know about jets and airliner systems
  - Some official answers seem not the best choice...doesn't matter!
- You need an account to sign up for tests. Instructions are in the Test Guides and elsewhere.
  - Many test questions were the exact study questions, though not all

# A&P Quiz #8: Identify purpose of this fastener



# A&P Quiz #8: Identify purpose of this fastener



Answer:

For all tapered holes  
(special nut required)

# Topics in the General Test

- Basic Electricity
- Aircraft Drawings
- Weight and Balance
- Fluid Lines and Fittings
- Materials and Processes
- Ground Operation and Servicing
- Cleaning and Corrosion Control
- Mathematics
- Maintenance Forms and Records
- Basic Physics
- Maintenance Publications
- Aviation Mechanic Privileges and Limitations

# Topics in the Airframe Test

- Wood Structures
- Aircraft Covering
- Aircraft Finishes
- Sheet Metal and Non-Metallic Structures
- Welding
- Assembly and Rigging
- Airframe Inspection
- Aircraft Landing Gear Systems
- Hydraulic and Pneumatic Power Systems
- Cabin Atmosphere Control Systems
- Aircraft Instrument Systems
- Communication and Navigation Systems
- Aircraft Fuel Systems
- Aircraft Electrical Systems
- Position and Warning Systems
- Ice and Rain Control Systems
- Fire Protection Systems

# Topics in the Powerplant Test

- Reciprocating Engines
- Turbine Engines
- Engine Inspection
- Engine Instrument Systems
- Engine Fire Protection Systems
- Engine Electrical Systems
- Lubrication Systems
- Ignition and Starting Systems
- Fuel Metering Systems
- Engine Fuel Systems
- Induction and Engine Airflow Systems
- Engine Cooling Systems
- Engine Exhaust and Reverser Systems
- Propellers
- Auxiliary Power Units

# Topics in the Oral Test

## Oral Test

- All the same topics in the General, Airframe and Powerplant Tests
- Every subtopic has to be passed with >70%
- Example questions/answers are available in Study Guides
- Mine took about three hours

## Practical Test

- Paperwork (W&B), basic airframe and powerplant topics you've probably already done.
- Mine took an afternoon

Practice, Practice, Practice!

# FAA Regs: 14 CFR 65 Subpart D – Mechanics

## Privileges and Limitations

### 65.81 General privileges and limitations

- ...perform or supervise maintenance, preventive maintenance or alteration of an aircraft or appliance, or a part thereof, for which he is rated

### 65.85 Airframe Rating; Additional privileges

- ...approve and return to service an airframe, or any related part or appliance, after he has performed, supervised, or inspected its maintenance or alteration (excluding major repairs and major alterations).
- In addition, he may perform the Part 91 100-hour inspection...

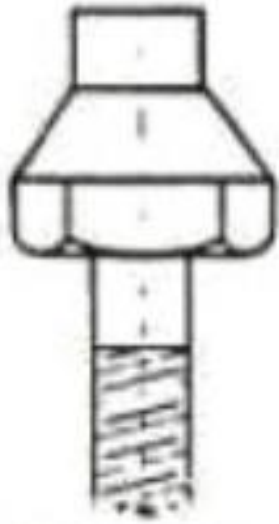
### 65.87 Powerplant Rating; Additional privileges

- ...approve and return to service a powerplant or propeller or any related part or appliance, after he has performed, supervised, or inspected its maintenance or alteration (excluding major repairs and major alterations).
- In addition, he may perform the Part 91 100-hour inspection...

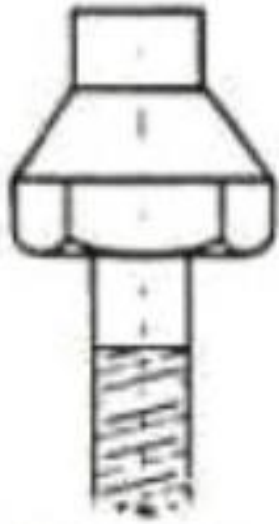
Major Repairs/Alterations and Annual Inspections are excluded



Final Exam: Identify purpose of this fastener



Final Exam: Identify purpose of this fastener



Answer:

For holes with countersink  
on the wrong side

Questions?

**Thank you!**