

Cape Cod Community College AMTS

Practical Project Guide for AMT 211 Airframe Curriculum, Subject Items 23 and 26

Part 147, Appendix C, Part 1, Subject F Assembly and Rigging

Item 23. Rig fixed-wing aircraft (Level 2)

Item 26. Balance, rig, and inspect moveable primary and secondary flight control surfaces (Level 3)

## Project 1

Purpose: To acquaint the student with the proper rigging of a fixed-wing aircraft.

References:

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31) Chapter 2
- (2) Cessna 402C Maintenance Manual

Equipment and Tools Needed:

- (1) Cessna 402C
- (2) Snap-on Toolbox
- (3) Inclinator SPI 80509904
- (4) Cable Tensiometer P/N: 75222 or P/N 3375G
- (5) Personal Protection Equipment (PPE)

Supplies and Materials Needed:

- (1) Safety Wire
- (2) Rags

Procedure:

- (1) Before performing any maintenance, read cautions, notes, and safety procedures for aircraft flight controls.
- (2) All Aileron and Tab adjustment/test maintenance shall be performed as per the Cessna 402C Maintenance Manual Chapter 27.
- (3) Follow rigging procedures covering aileron and aileron trim tab as per 27-10-00 page 501
- (4) Inspect and rig aileron and aileron trim tabs. After rigging and checks are complete, conduct all flight control checkouts as per 27-10-00.

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### Practical Project Guide for AMT 211 Airframe Curriculum, Subject Items 24, 25, and 26

#### Part 147, Appendix C, Part I, Subject F Assembly and Rigging

Item 24. Check alignment of structures (Level 2)

Item 25. Assemble aircraft components, including flight control surfaces (Level 3)

Item 26. Balance, rig, and inspect moveable primary and secondary flight control surfaces (Level 3)

## Project 2

Purpose: To acquaint the student with the proper rigging, alignment of structures, aircraft components, including flight control surfaces.

#### References:

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31) Chapter 2
- (2) Cessna 402C Maintenance manual

#### Equipment and Tools Needed:

- (1) Cessna 402C
- (2) Snap-on Roll-around Toolbox
- (3) Inclinometer SPI 80509904
- (4) Cable Tensiometer P/N: 75222 or P/N 3375G
- (5) Personal Protection Equipment (PPE)

#### Supplies and Materials Needed:

- (1) Safety Wire
- (2) Rags

#### Procedure:

- (1) Before performing any maintenance, read cautions, notes, and safety procedures for aircraft flight controls.
- (2) All Aileron bell crank inspection, removal, and reinstallation shall be completed as per the Cessna 402C Maintenance Manual, Chapter 27. PG 207
- (3) Remove, inspect, assemble, and re-install aileron bell crank assembly.
- (4) Check alignment, inspection, adjustments, aircraft rigging, and all checkout procedures as per the Cessna 402C Maintenance Manual, Chapter 27-10-01.

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### Practical Project Guide for AMT 211 Airframe Curriculum, Subject Items 25 and 26

#### Part 147, Appendix C, Part 1, Subject F Assembly and Rigging

Item 25. Assemble aircraft components, including flight control surfaces (Level 3)

Item 26. Balance, rig, and inspect moveable primary and secondary flight controls (Level 3)

### **Project 3**

Purpose: To acquaint the student with the proper assembly of aircraft components, including flight control surfaces, balance, rig, and inspect primary and secondary flight controls.

#### References:

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31) Chapter 2
- (2) Cessna 402C Maintenance Manual

#### Equipment and Tools Needed:

- (1) Cessna 402C
- (2) Snap-on Toolbox
- (3) Inclinometer SPI 80509904
- (4) Cable Tensiometer P/N: 75222 or P/N 3375G
- (5) Personal Protection Equipment (PPE)

#### Supplies and Materials Needed:

- (1) Safety Wire
- (2) Rags

#### Procedure:

- (1) Before performing any maintenance, read cautions, notes, and safety procedures for aircraft flight controls.
- (2) All Aileron trim tab actuator inspection, removal, and reinstallation shall be completed as per the 402 Maintenance Manual, Chapter 27-10-02. PG 201
- (3) Remove, inspect, and re-install the aileron trim tab actuator.
- (4) Inspect, adjust, and rig the aircraft, and perform checkout procedures in accordance with the Cessna 402C Maintenance Manual, Chapter 27-10-02 PG 201.

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### Practical Project Guide for AMT 211 Airframe Curriculum, Subject Items 26 and 27

#### Part 147, Appendix C, Part 1, Subject F Assembly and Rigging

Item 26. Balance, rig, and inspect moveable primary and secondary flight control surfaces (Level 3)

Item 27. Jack Aircraft (Level 3)

## Project 4

Purpose: To acquaint the student with jacking aircraft procedures and how to properly assemble aircraft components, including flight control surfaces, balancing, rigging, and inspection of primary and secondary flight controls.

### References:

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31) Chapter 2
- (2) Cessna 402C Maintenance Manual

### Equipment and Tools Needed:

- (1) Cessna 402C
- (2) Snap-on tool box
- (3) Inclinometer SPI 80509904
- (4) Cable Tensiometer P/N: 75222 or P/N 3375G
- (5) Personal Protection Equipment (PPE)
- (6) Aircraft jacks

### Supplies and Materials Needed:

- (1) Safety Wire
- (2) Rags

### Procedure:

- (1) Before performing any maintenance, read cautions, notes, and safety procedures for aircraft flight controls.
- (2) All Rudder and Tab control system checks shall be completed as per the Cessna 402C Maintenance Manual, Chapter 27-20-00. PG 501
- (3) Jack aircraft as per Cessna 402C Maintenance Manual. Chapter 7
- (4) Inspect, adjust, perform aircraft rigging, and all checkout procedures on the rudder and tab control system as per the Cessna 402C Maintenance Manual, Chapter 27-20-02 PG 501.
- (5) Remove aircraft from jacks

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Part 147, Appendix C, Part 1, Subject F Assembly and Rigging

Item 26. Balance, rig, and inspect moveable primary and secondary flight control surfaces (Level 3)

## Project 5

Purpose: To teach the student procedures for balancing flight control surfaces.

References:

- (4) Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31)  
Chapter 2
- (5) Cessna 337B Service Manual (structural Section)

Equipment and Tools Needed:

- (2) Cessna 337B Rudder
- (3) Snap-on tool box
- (4) Balancing Mandrel (2)
- (5) Balancing Beam
- (6) Soldering gun

Supplies and Materials Needed:

- (4) Bar stock solder
- (5) Rags

Procedure:

- (4) Before performing any maintenance, read cautions, notes, and safety procedures for aircraft flight controls.
- (5) Perform balance check, then add or remove weight if needed. Follow procedure in Cessna 337B service manual, section 16.

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