



Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, FL, U.S.A. 32960

SERVICE NO. 1265 LETTER

Date: August 6, 2019

(S) (M)

MAINTENANCE ALERT

SUBJECT:

FLIGHT CONTROL SYSTEM CHECKS

MODELS AFFECTED:

ALL

SERIAL NUMBERS AFFECTED:

ALL

COMPLIANCE TIME:

Whenever flight control system components are serviced

APPROVAL:

The engineering aspects of this service document have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

PURPOSE:

This service letter clarifies and/or provides additional flight control installation and post-rigging inspection procedures which are being added to all Piper maintenance and service manuals. They emphasize the importance of using standard industry practices whenever flight control system components are removed, installed, or otherwise disconnected in service.

The free and correct operation of flight controls is critical to the safe operation of any airplane.

INSTRUCTIONS:

NOTE: For additional information, refer to Federal Aviation Administration Advisory Circular AC 43.13-1B, Chapter 7. This free document is available for download from the FAA at <http://www.airweb.faa.gov/>.

WARNING: FAILURE TO VERIFY FREE AND CORRECT OPERATION OF THE FLIGHT CONTROL SYSTEM MAY RESULT IN THE DESTRUCTION OF THE AIRPLANE AND LOSS OF LIFE, IF THE AIRPLANE IS FLOWN.

IF THERE IS ANY UNCERTAINTY, DO NOT FLY AN AIRPLANE UNTIL FREE AND CORRECT OPERATION OF THE FLIGHT CONTROL SYSTEM IS VERIFIED.

CONTACT PIPER CUSTOMER SERVICE FOR ASSISTANCE AT (+1) 772-299-2141 OR CUSTOMERSERVICE@PIPER.COM. PIPER'S NORMAL BUSINESS HOURS ARE MONDAY THROUGH FRIDAY, 7:30 A.M. TO 4:30 P.M. (EASTERN).

ATA/JASC: 2700

(OVER)

Part I. General

- It is important to remove all necessary access panels to gain both physical and visual access to control cables to ensure and verify proper routing in accordance with applicable service or maintenance manual instructions.
- Pay particular attention to control cable part numbers per the applicable parts catalog, in order to verify the proper replacement. Route and locate cables per the applicable service or maintenance manual.
- Where practical, remove and install one flight control cable, motor, actuator, or pushrod at a time. This will help avoid incorrect reassembly and aid in the proper connection of the flight controls.
- Flight control cable rigging tensions specified in the applicable Piper Service Manual (SM), Section V; or applicable Piper Airplane Maintenance Manual (AMM), Chapter 27; must be corrected to account for ambient temperature, in airplanes with an aluminum fuselage or wing structure. Use the "Cable Tension vs. Ambient Temperature" chart provided in the applicable SM or AMM, or Figure 1, if the chart is not available in the manual.
- Verify that the flight control system operates smoothly throughout the full range of motion.
- Visually confirm that all pulleys rotate freely. Visually confirm that all cables pass through all guides and fair-leads without snagging or binding, and do not interfere with or chafe on any airframe or system components.
- Verify that the flight control surfaces move in the proper direction when commanded.
- Recheck the tension of replacement flight control cables upon reaching 50 hours of operation.

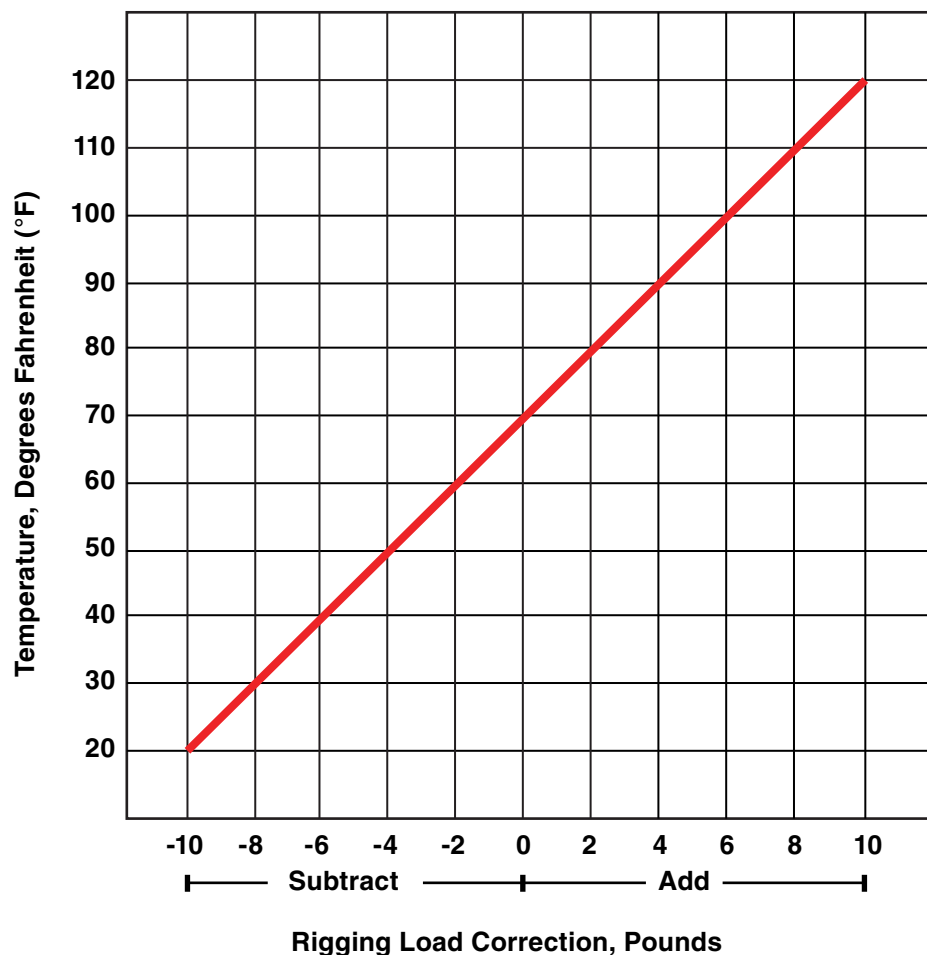


Figure 1
Cable Tension versus Ambient Temperature

Part II. Airplanes with Control Wheels

NOTE: For aircraft with a joystick, skip this part and proceed to Part III, Airplanes with Joysticks.

NOTE: Complete each procedure for the pilot controls, then repeat it for the copilot controls.

1. Aileron Post-Rigging Inspection

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF AILERONS. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF AILERON RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT THE RIGHT AILERON MOVES UP AND THE LEFT AILERON MOVES DOWN WHEN THE CONTROL WHEEL IS TURNED RIGHT; AND THAT THE LEFT AILERON MOVES UP AND THE RIGHT AILERON MOVES DOWN WHEN THE CONTROL WHEEL IS TURNED LEFT.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

Upon completion of any aileron control cable replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Rotate the pilot's control wheel CLOCKWISE, as if to bank the airplane to the RIGHT, until reaching the primary stop. Visually confirm the following:
 - 1) The RIGHT hand wing aileron is deflected UP. The trailing edge of the aileron will be noticeably and significantly ABOVE the trailing edge of the RIGHT wing at the far RIGHT end of the aileron, near the wing tip.
 - 2) The LEFT hand wing aileron is deflected DOWN. The trailing edge of the aileron has moved noticeably and significantly BELOW the trailing edge of the LEFT wing at the far LEFT end of the aileron, near the wing tip.
- b. Rotate the pilot's control wheel COUNTERCLOCKWISE, as if to bank the airplane to the LEFT, until reaching the primary stop. Visually confirm the following:
 - 1) The LEFT hand wing aileron is deflected UP. The trailing edge of the aileron has moved noticeably and significantly ABOVE the trailing edge of the LEFT wing at the far LEFT end of the aileron, near the wing tip.
 - 2) The RIGHT hand wing aileron is deflected DOWN. The trailing edge of the aileron has moved noticeably and significantly BELOW the trailing edge of the RIGHT wing at the far RIGHT end of the aileron, near the wing tip.
- c. Repeat the above steps for the copilot controls.
- d. Make a logbook entry documenting completion of this inspection.

2. Rudder Post-Rigging Inspection

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF RUDDER. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF RUDDER RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT THE RUDDER MOVES RIGHT WHEN THE RIGHT PEDAL IS DEPRESSED; AND THAT THE RUDDER MOVES LEFT WHEN THE LEFT PEDAL IS DEPRESSED.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

NOTE: This inspection may need to be performed with the airplane on jacks.

Upon completion of any rudder control cable replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Depress the pilot's RIGHT rudder pedal as if to yaw the airplane to the RIGHT, until reaching the primary stop. Visually confirm the following:

The trailing edge of the rudder will be noticeably and significantly RIGHT of the trailing edge of the vertical fin.

- b. Depress the pilot's LEFT rudder pedal as if to yaw the airplane to the LEFT, until reaching the primary stop. Visually confirm the following:
The trailing edge of the rudder will be noticeably and significantly LEFT of the trailing edge of the vertical fin.
- c. Repeat the above steps for the copilot controls.
- d. Make a logbook entry documenting completion of this inspection.

3. Elevator Post-Rigging Inspection – if Installed

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF ELEVATOR. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF ELEVATOR RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT THE REAR EDGE OF THE ELEVATOR MOVES UP WHEN THE WHEEL IS PULLED BACK; AND THAT THE REAR EDGE OF THE ELEVATOR MOVES DOWN WHEN THE WHEEL IS PUSHED FORWARD.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

Upon completion of any elevator control cable or pushrod replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Pull the pilot's control wheel FULL AFT, as if to nose the airplane UP, until reaching the primary stop. Visually confirm the following:
The elevator is deflected UP. The trailing edge of the elevator will be noticeably and significantly ABOVE the horizontal stabilizer.
- b. Push the pilot's control wheel FULL FORWARD, as if to nose the airplane DOWN, until reaching the primary stop. Visually confirm the following:
The elevator is deflected DOWN. The trailing edge of the elevator will be noticeably and significantly BELOW the horizontal stabilizer.
- c. Repeat the above steps for the copilot controls.
- d. Make a logbook entry documenting completion of this inspection.

4. Stabilator Post-Rigging Inspection – if Installed

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF STABILATOR. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF STABILATOR RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT THE REAR EDGE OF THE STABILATOR MOVES UP WHEN THE WHEEL IS PULLED BACK; AND THAT THE REAR EDGE OF THE STABILATOR MOVES DOWN WHEN THE WHEEL IS PUSHED FORWARD.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

Upon completion of any stabilator control cable replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Pull the pilot's control wheel FULL AFT, as if to nose the airplane UP, until reaching the primary stop. Visually confirm the following:
The stabilator is deflected leading edge DOWN and trailing edge UP. The trailing edge of the stabilator will be noticeably and significantly ABOVE the leading edge.
- b. Push the pilot's control wheel FULL FORWARD, as if to nose the airplane DOWN, until reaching the primary stop. Visually confirm the following:
The stabilator is deflected leading edge UP and trailing edge DOWN. The trailing edge of the stabilator will be noticeably and significantly BELOW the leading edge.
- c. Repeat the above steps for the copilot controls.
- d. Make a logbook entry documenting completion of this inspection.

Part III. Airplanes with Joysticks

NOTE: For aircraft with control wheels, these inspections are addressed by Part II, Airplanes with Control Wheels; skip this part and proceed to Part IV (if Part II has already been completed).

NOTE: Complete each procedure for the pilot controls, then repeat it for the copilot controls, if equipped.

1. Aileron Post-Rigging Inspection

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF AILERONS. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF AILERON RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT THE RIGHT AILERON MOVES UP AND THE LEFT AILERON MOVES DOWN WHEN THE JOYSTICK IS MOVED RIGHT; AND THAT THE LEFT AILERON MOVES UP AND THE RIGHT AILERON MOVES DOWN WHEN THE JOYSTICK IS MOVED LEFT.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

Upon completion of any aileron control cable replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Move the pilot's joystick RIGHT, as if to bank the airplane to the RIGHT, until reaching the primary stop. Visually confirm the following:
 - 1) The RIGHT hand wing aileron is deflected UP. The trailing edge of the aileron will be noticeably and significantly ABOVE the trailing edge of the RIGHT wing at the far RIGHT end of the aileron, near the wing tip.
 - 2) The LEFT hand wing aileron is deflected DOWN. The trailing edge of the aileron has moved noticeably and significantly BELOW the trailing edge of the LEFT wing at the far LEFT end of the aileron, near the wing tip.
- b. Move the pilot's joystick LEFT, as if to bank the airplane to the LEFT, until reaching the primary stop. Visually confirm the following:
 - 1) The LEFT hand wing aileron is deflected UP. The trailing edge of the aileron has moved noticeably and significantly ABOVE the trailing edge of the LEFT wing at the far LEFT end of the aileron, near the wing tip.
 - 2) The RIGHT hand wing aileron is deflected DOWN. The trailing edge of the aileron has moved noticeably and significantly BELOW the trailing edge of the RIGHT wing at the far RIGHT end of the aileron, near the wing tip.
- c. Repeat the above steps for the copilot controls, if equipped.
- d. Make a logbook entry documenting completion of this inspection.

2. Rudder Post-Rigging Inspection

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF RUDDER. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF RUDDER RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT THE RUDDER MOVES RIGHT WHEN THE RIGHT PEDAL IS DEPRESSED; AND, THAT THE RUDDER MOVES LEFT WHEN THE LEFT PEDAL IS DEPRESSED.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

NOTE: This inspection may need to be performed with the airplane on jacks.

Upon completion of any rudder control cable replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Depress the pilot's RIGHT rudder pedal as if to yaw the airplane to the RIGHT, until reaching the primary stop. Visually confirm the following:
The trailing edge of the rudder will be noticeably and significantly RIGHT of the trailing edge of the vertical fin.
- b. Depress the pilot's LEFT rudder pedal as if to yaw the airplane to the LEFT, until reaching the primary stop. Visually confirm the following:
The trailing edge of the rudder will be noticeably and significantly LEFT of the trailing edge of the vertical fin.
- c. Repeat the above steps for the copilot controls, if equipped.
- d. Make a logbook entry documenting completion of this inspection.

3. Elevator Post-Rigging Inspection

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF ELEVATOR. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF ELEVATOR RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT THE REAR EDGE OF THE ELEVATOR MOVES UP WHEN THE JOYSTICK IS PULLED BACK; AND, THAT THE REAR EDGE OF THE ELEVATOR MOVES DOWN WHEN THE JOYSTICK IS PUSHED FORWARD.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

Upon completion of any elevator control cable or pushrod replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Pull the pilot's joystick FULL AFT, as if to nose the airplane UP, until reaching the primary stop. Visually confirm the following:
The elevator is deflected UP. The trailing edge of the elevator will be noticeably and significantly ABOVE the horizontal stabilizer.
- b. Push the pilot's joystick FULL FORWARD, as if to nose the airplane DOWN, until reaching the primary stop. Visually confirm the following:
The elevator is deflected DOWN. The trailing edge of the elevator will be noticeably and significantly BELOW the horizontal stabilizer.
- c. Repeat the above steps for the copilot controls, if equipped.
- d. Make a logbook entry documenting completion of this inspection.

Part IV. Airplanes with Flaps**1. Hydraulic Flaps Post-Rigging Inspection**

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF FLAPS. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF FLAP RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT BOTH FLAPS ARE ALIGNED AND MOVE UP TOGETHER WHEN THE SELECTOR LEVER IS UP AND HYDRAULIC PRESSURE IS APPLIED; AND BOTH FLAPS ARE ALIGNED AND MOVE DOWN TOGETHER WHEN THE SELECTOR LEVER IS DOWN AND HYDRAULIC PRESSURE IS APPLIED.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

Upon completion of any flap actuator, pushrod, or torque tube replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Place the flap control lever in the DOWN position. Apply hydraulic pressure (per the applicable Piper SM or AMM) until there is no movement. Visually confirm the following:
Both flaps are fully DOWN and ALIGNED. That is the trailing edge of each flap is significantly LOWER than when streamlined with the wing.
- b. Place the flap control lever in the UP position. Apply hydraulic pressure (per the applicable Piper SM or AMM) until there is no movement. Visually confirm the following:
Both flaps are fully UP and ALIGNED. That is the trailing edge of each flap is streamlined with the wing.
- c. Make a logbook entry documenting completion of this inspection.

2. Electric Flaps Post-Rigging Inspection

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF FLAPS. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF FLAP RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT BOTH FLAPS ARE ALIGNED AND MOVE UP TOGETHER WHEN THE SELECTOR LEVER IS UP; AND, THAT BOTH FLAPS ARE ALIGNED AND MOVE DOWN TOGETHER WHEN THE SELECTOR LEVER IS DOWN.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

Upon completion of any flap actuator, motor, screw jack, drive cable, pushrod, or torque tube replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Place the flap control lever in the DOWN position. Visually confirm the following:
Both flaps move fully DOWN when electrical power is applied (per the applicable Piper SM or AMM) and remain ALIGNED. That is the trailing edge of each flap is significantly LOWER than when streamlined with the wing.
- b. Place the flap control lever in the UP position. Visually confirm the following:
Both flaps move fully UP when electrical power is applied (per the applicable Piper SM or AMM) and remain ALIGNED. That is the trailing edge of each flap is streamlined with the wing.
- c. Make a logbook entry documenting completion of this inspection.

3. Manual Flaps Post-Rigging Inspection

WARNING: VERIFY FREE AND CORRECT MOVEMENT OF FLAPS. WHILE IT WOULD SEEM SELF-EVIDENT, FIELD EXPERIENCE HAS SHOWN THAT THIS CHECK IS FREQUENTLY MISINTERPRETED OR NOT PERFORMED AT ALL. ACCORDINGLY, UPON COMPLETION OF FLAP RIGGING AND ADJUSTMENT, VISUALLY CONFIRM THAT BOTH FLAPS ARE ALIGNED AND MOVE UP TOGETHER WHEN THE FLAP HANDLE IS DOWN; AND, THAT BOTH FLAPS ARE ALIGNED AND MOVE DOWN TOGETHER WHEN THE FLAP HANDLE IS PULLED UP.

NOTE: Visual confirmation may require the aid of a second qualified mechanic or pilot.

Upon completion of any flap handle, cable, pushrod, or torque tube replacement, disconnect, or rigging perform the following post-rigging inspection:

- a. Position the flap control handle to the flaps DOWN position. Visually confirm the following:
Both flaps are fully DOWN and ALIGNED. That is the trailing edge of each flap is significantly LOWER than when streamlined with the wing.
- b. Position the flap control handle to the flaps UP position. Visually confirm the following:
Both flaps are fully UP and ALIGNED. That is the trailing edge of each flap is streamlined with the wing.
- c. Make a logbook entry documenting completion of this inspection.

MATERIAL REQUIRED: N/A

AVAILABILITY OF PARTS: N/A

EFFECTIVITY DATE: This service letter is effective upon receipt.

SUMMARY: N/A

NOTE: Please notify the factory of any address/ownership corrections. Changes should include aircraft model, serial number, and current owner's name and address.

Corrections and/or changes should be directed to:

PIPER AIRCRAFT, INC.

Att'n: Customer Service

2926 Piper Drive

Vero Beach, FL 32960

or:

CustomerService@piper.com

Please include in subject line: "Aircraft ownership update"