STC GROUP LLC
480 RUDDIMAN DRIVE
NORTH MUSKEGON, MICHIGAN 49445-2783

DOCUMENT NUMBER 1006008
REVISION C

TRIO PRO PILOT AUTOPILOT INSTALLATION INSTRUCTIONS
CESSNA 177 AND CESSNA 177RG

DATE:	Original Issue 14 December, 2017
WRITTEN BY:	Paul Odum
APPROVED BY:	Jeff Ley

REVISIONS

Rev.	Date:	By:	Approved By:
-	14 December 2017	Paul Odum	Jeff Ley
A	15 December 2017	Paul Odum	Jeff Ley
B	7th October 2018	Jeff Ley	Paul C. Odum
C	9 August 2023	AJ Abdulshafi	Jeffrey Odum
ER No: 1006			

Revision	Description
All	Original issue
Rev. A	Renamed Section 5 to Appendix A. Added T Fittings and Tubing specifications.
Rev B	Title Page, Revisions, References, List of Figures, List of Images, Section 3, Section 4, Appendix A, B, & C.
Rev C	Sections 1, 2, 3, & 4, Changed Images to Figures, Removed Appendix A, Renamed other Appendices. Added Appendix B for alternate roll push pull tube.

TABLE OF CONTENTS

TABLE OF CONTENTS 2

LIST OF FIGURES 3

REFERENCES 4

ACRONYMS, ABBREVIATIONS, AND SYMBOLS 5

1.0 TRIO PRO PILOT AUTOPILOT INSTALLATION 6

2.0 GENERAL 7

3.0 ROLL SERVO INSTALLATION 8

4.0 PITCH SERVO INSTALLATION 17

5.0 PRO PILOT INSTALLATION & WIRING 24

APPENDIX A - TRIO PRO PILOT WIRING DIAGRAM 28

APPENDIX B – ALTERNATE ROLL PUSH PULL TUBE PROCEDURE 30

LIST OF FIGURES

Figure 1-1 AREAS OF MODIFICATION 6
Figure 3-1 RH AILERON BELLCRANK PN: 1221087-12 8
Figure 3-2 WING ACCESS COVER LOCATIONS 9
Figure 3-3 ROLLS SERVO INSTALLATION (LOOKING INBOARD) 10
Figure 3-4 ROLL SERVO INSTALLATION (LOOKING OUTBOARD) 11
Figure 3-5 SERVO BRACKET MOUNTING HOLES (LOOKING INBOARD) 11
Figure 3-6 MOUNTING PLATE AND SERVO ASSEMBLY 12
Figure 3-7 ROLL SERVO HUB DRIFT PIN / LOCKING PIN ALIGNMENT 12
Figure 3-8 ROLL SERVO INSTALLATION 13
Figure 3-9 PUSH PULL TUBE ATTACHMENT AT SERVO ARM 14
Figure 3-10 PUSH PULL TUBE ATTACHMENT - AILERON BELLCRANK 14
Figure 3-11 PUSH PULL TUBE ATTACHMENT AT AILERON BELLCRANK 15
Figure 3-12 WING RIB 16
Figure 3-13 ADAPTER PLATE 16
Figure 4-1 PITCH SERVO BRACKET ASSEMBLY 17
Figure 4-2 PITCH SERVO ASSEMBLY - PITCH DOWN POSITION 18
Figure 4-3 PITCH SERVO ASSEMBLY (SHOWN IN PITCH NEUTRAL) 19
Figure 4-4 PITCH SERVO TRAY ORIENTATION 20
Figure 4-5 TENSION CLAMP 21
Figure 4-6 PITCH SERVO ALIGNMENT - SERVO ARM FULL DOWN 21
Figure 4-7 SERVO ARM AND CABLE CLAMP ASSEMBLY 22
Figure 4-8 CABLE CLAMP ORIENTATION 23
Figure 5-1 MAINTENANCE SETTINGS 26
Figure 5-2 PITCH SERVO EXAMPLE 26
Figure 5-3 CONTROLLER TYPES 26

REFERENCES

The following documents form a part of this report. Unless a specific revision of one of these documents is specified, the revision in effect at the time of original issue of this document shall apply.

STC Group LLC Document Number 1177800 – Cessna 177 Illustrated Parts Catalog

Cessna 177 Series Service Manual

Cessna 177 Parts Catalog

Industry Specifications and Standards:

1. MMPDS-09 Metallic Materials Properties Development and Standardization
2. AC 43.13-1B Aircraft Inspection, Repair & Alterations

Other Data:

ER1006 – STC GROUP LLC Program Engineering Record.

ACRONYMS, ABBREVIATIONS, AND SYMBOLS

ASSY	Assembly
Autopilot	Trio Pro Pilot Autopilot
C.G.	Center of Gravity
ER	Engineering Record
FAA	Federal Aviation Administration
F.S.	Fuselage Station
ICA	Instructions for Continued Airworthiness
INCH	Inches
LH	Left Hand
OEM	Original Equipment Manufacturer
OUTBD	Outboard
PCS	Pilot Controlled Steering
Recover	Recover Button
RH	Right Hand
Servo	Trio Gold Standard Servo
STC	Supplemental Type Certificate
WS	Wing Station

1.0 TRIO PRO PILOT AUTOPILOT INSTALLATION

This installation procedure provides information and data necessary to install bracketry and hardware provisions for mounting the Trio Auto Pilot pitch and roll servos in Cessna Aircraft Models 177/A/B & 177RG.

Most Cessna Cardinals were shipped equipped with an ARC (Cessna) Navomatic autopilot. If your aircraft does not have the ARC (Cessna) Navomatic RH aileron bellcrank then you will need to replace it with bellcrank PN: 1221087-12.

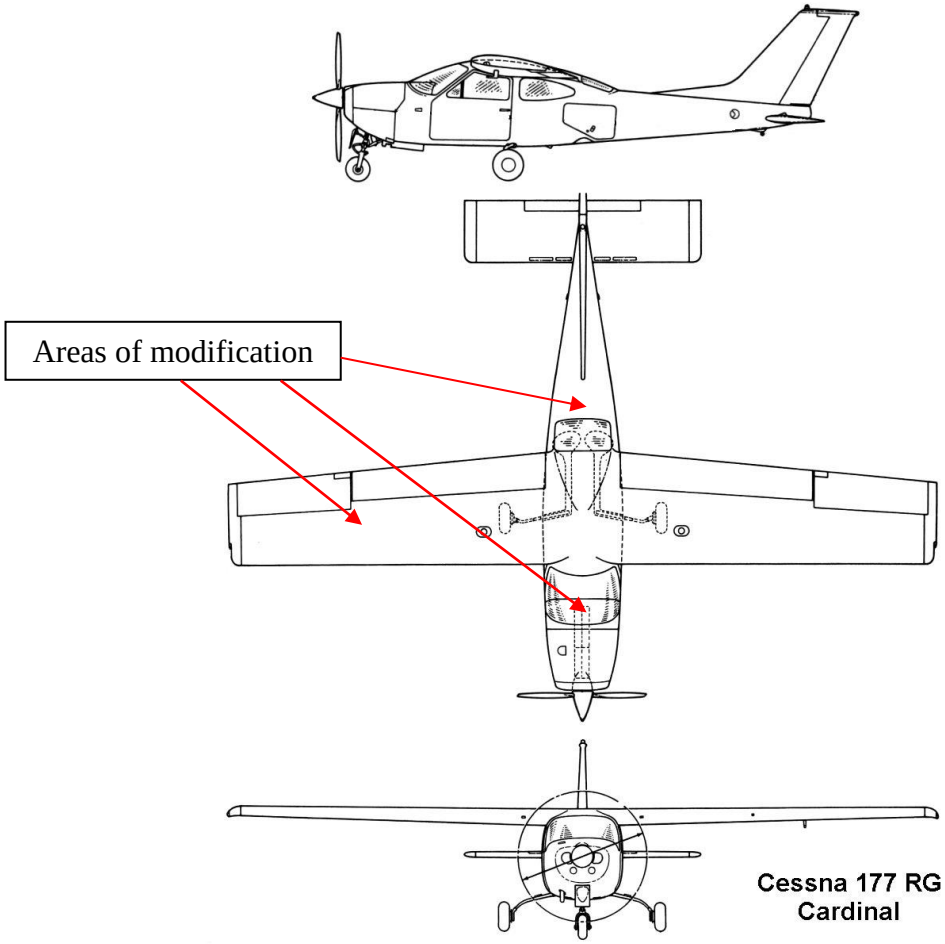


FIGURE 1-1 AREAS OF MODIFICATION

2.0 GENERAL

Thank you for your purchase of the TRIO Pro Pilot Autopilot for your aircraft. This document is written to ensure your installation is simple, safe, and professionally completed. Before you begin: Read All Instructions!

This installation procedure provides information and data necessary to install the Trio Auto Pilot Controller along with the Pitch and Roll servos in Cessna 177/A/B & 177RG aircraft.

You may contact The STC Group LLC for hardware and servo installation questions. Contact Trio Avionics, Inc with all autopilot related questions.

Check all items included in the kit to ensure all parts are accounted for. You may compare the contents of the kit with the Illustrated Parts Catalog. Please contact us if there are missing items.

The STC Group Technical Support is available 0800 to 1700 Monday through Friday Pacific Time:

+1 (231) 220-9296 or +1 (888) 350-2998

Trio Avionics may be reached Monday through Saturday at +1 (619) 448-4619

NOTE:

Care should always be taken to avoid marring or scratching of any surfaces of autopilot assemblies including anodized surfaces. Painters tape may be used to prevent damaging hardware surfaces.

The STC Group LLC recommends that a flight test of the subject aircraft be conducted to assess aircraft rigging and handling characteristics prior to autopilot installation. Use Test 4 of The STC Group LLC Flight Test Cards, document F-1006-43. Documents can be found at The STC Group LLC website at www.thestcgroupllc.com/documents.

Pitot and static system leak checks are recommended be performed on the aircraft before any work begins. {i.e. FAR §43 Appendix E, Paragraph (a)}

Verify correct rigging of your aircraft in accordance with the Type Certificate Data Sheet and your aircrafts Maintenance Manual.

3.0 ROLL SERVO INSTALLATION

For Cessna 177/A/B & Cessna 177RG aircraft the following RH aileron bellcrank PN is required for this installation: 1221087-12.

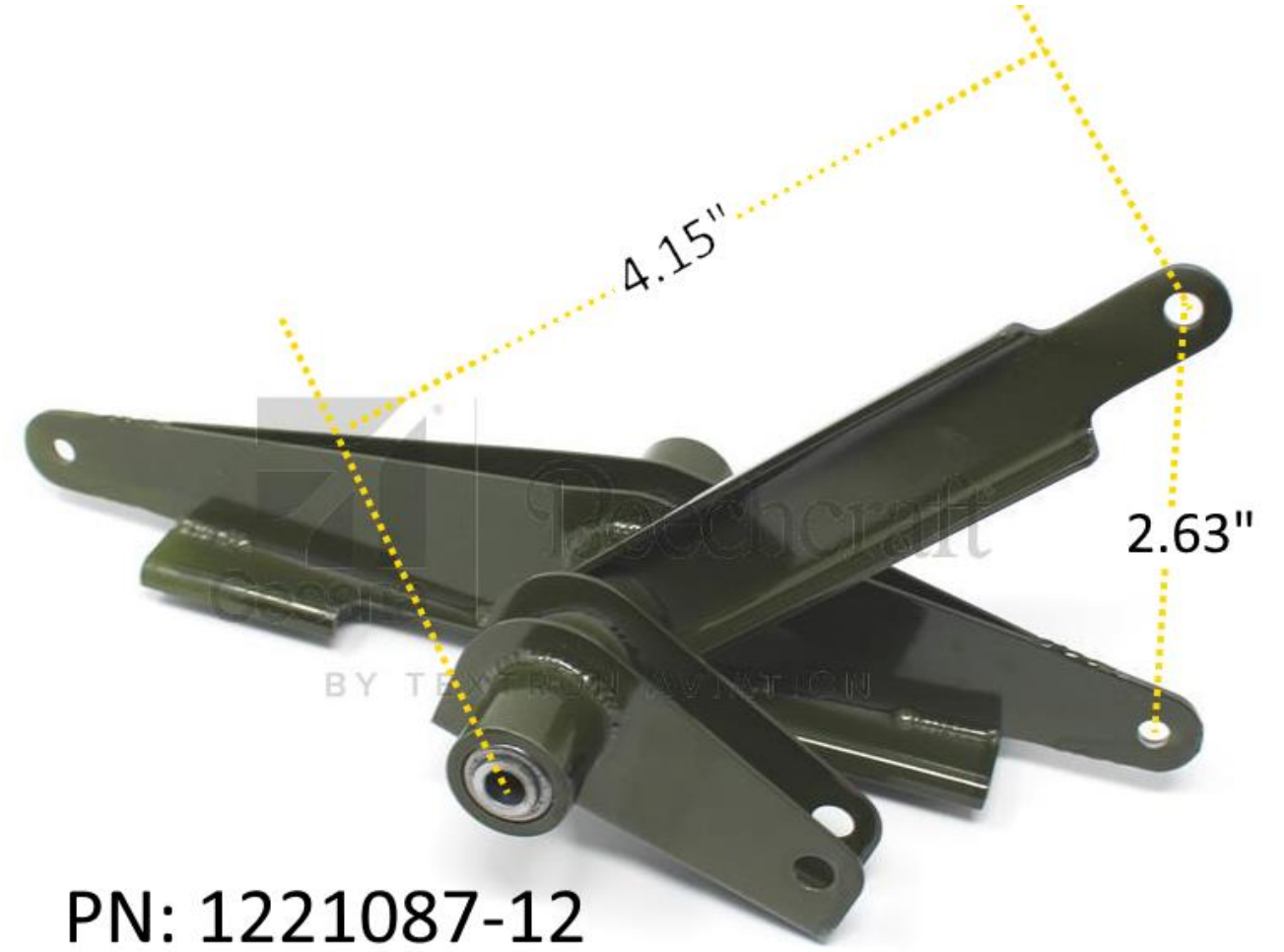


FIGURE 3-1 RH AILERON BELLCRANK PN: 1221087-12

1. Remove the three (3) inspection panels located between WS 138.00 and WS 189.00. Refer to Figure 3-2.

FIGURE 3-2 WING ACCESS COVER LOCATIONS

2. If your RH wing rib W.S. 155 has round lightening holes as depicted in Figure 3-12 then you must fabricate an adapter plate that is riveted to the rib. Sample adapter plate dimensions are depicted in Figure 3-13.
3. Insert the servo bracket, PN 1177501, through the access hole at W.S. 163.0 and align it with the rib at W.S 155.0 as depicted in Figure 3-4.
4. Mark or center punch the upper forward hole through the MS21075L08N nutplate at WS 155.0 using the locating dimensions shown in Figure 3-4.
5. Move the bracket out of the way and pilot drill the center punched location using a #40 drill bit.
6. Secure the bracket into position using a Silver (3/32") P Series Cleco Fastener or equivalent.
7. Mark or center punch the upper rear hole through the MS21075L08N nutplate at WS 155.0 using the locating dimensions shown in Figure 3-4.
8. Move the bracket out of the way and pilot drill the center punched hole locations using a #40 drill bit.
9. Enlarge the two locating holes using a #30 drill bit.
10. Deburr all holes and remove debris.
11. Secure the bracket into position using Copper (1/8") P Series Cleco Fasteners or equivalent.
12. Mark or center punch the lower mounting holes through the nutplates.

13. Remove the bracket and pilot drill the center punched locations using a #40 drill bit.
14. Secure the bracket into position using P Series Cleco fasteners, or equivalent.
15. Recheck lower pilot holes for correct position while inserting Cleco fasteners.
16. Remove the bracket and enlarge the lower pilot holes using a #30 drill bit and deburr all holes.
17. Enlarge all mounting bracket and roll servo baseplate holes using a #16, 0.1770", drill bit.
18. Deburr all holes on both sides of W.S. 155.00.
19. Fasten the servo arm to the roll servo using the M3 screws supplied (4 each). Refer to Figure 3-7. See Note below Figure 3-7.

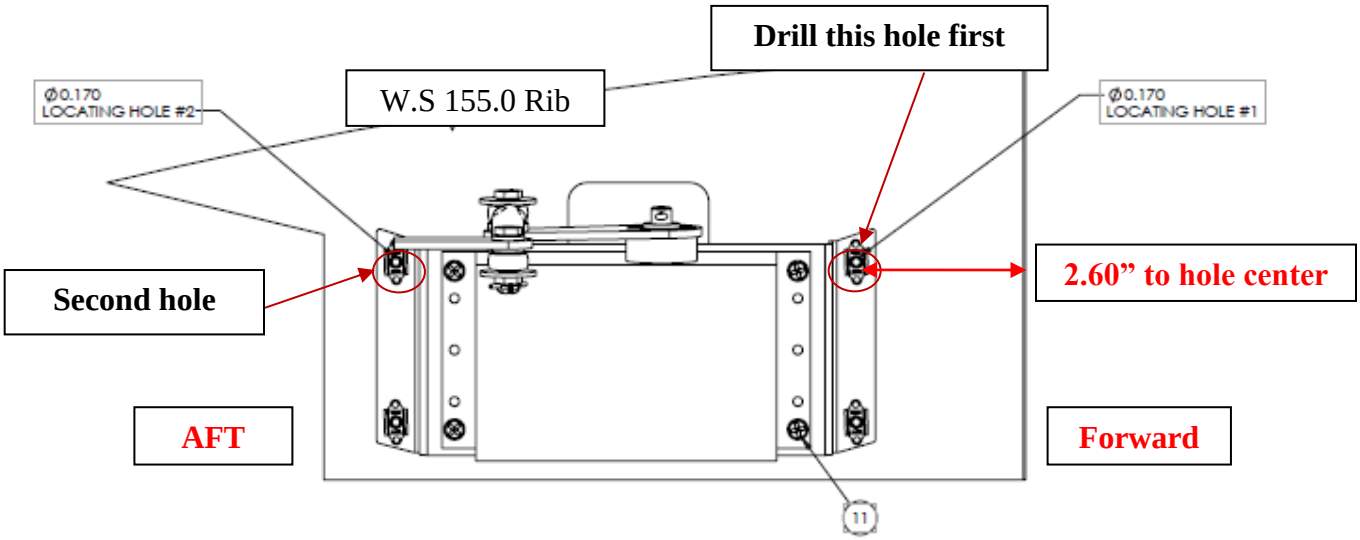


FIGURE 3-3 ROLLS SERVO INSTALLATION (LOOKING INBOARD)

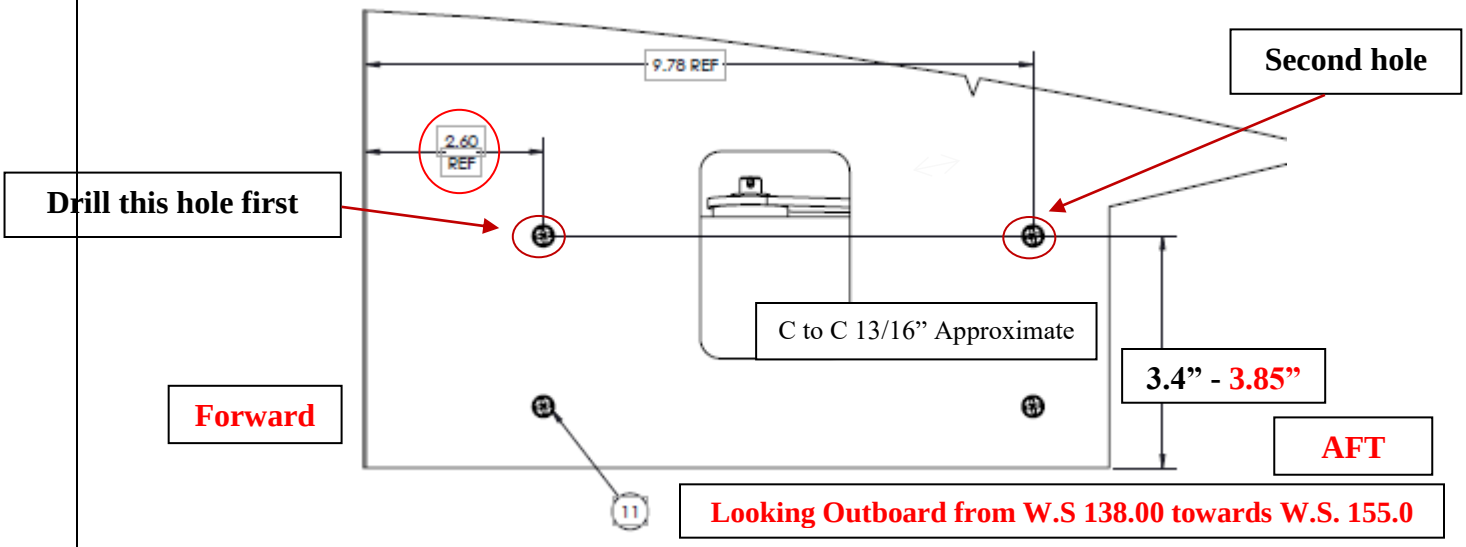


FIGURE 3-4 ROLL SERVO INSTALLATION (LOOKING OUTBOARD)

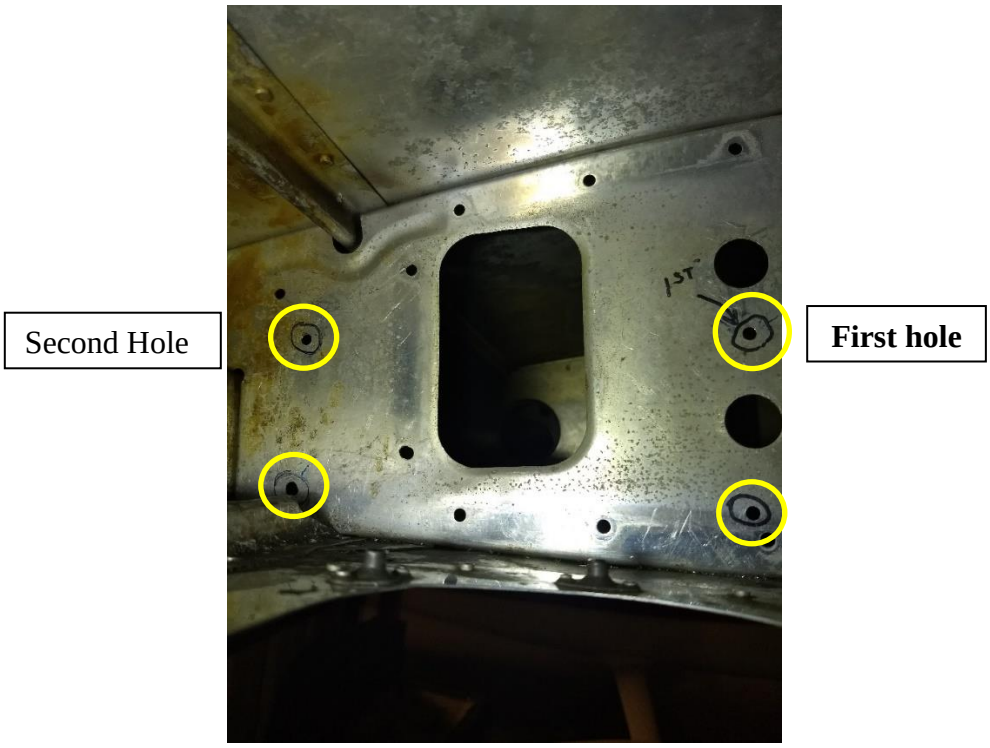


FIGURE 3-5 SERVO BRACKET MOUNTING HOLES (LOOKING INBOARD)

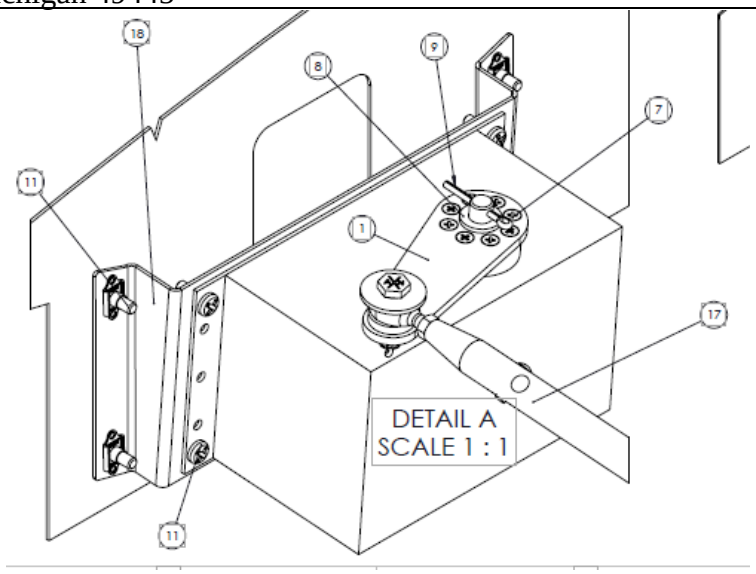


FIGURE 3-6 MOUNTING PLATE AND SERVO ASSEMBLY

FIGURE 3-7 ROLL SERVO HUB DRIFT PIN / LOCKING PIN ALIGNMENT

Note:

The Roll Servo hub taper pin hole must be aligned with the servo stop as depicted in Figure 3-7 before attaching the crankarm to the hub.

The four (4) outer baseplate holes must be enlarged using a #16, 0.1770", drill bit.

20. Mount the servo, PN 30000000, to the servo mounting bracket as shown in Figure 3-6 using MS27039-0807 screws supplied.
21. Secure the servo mounting plate assembly to W.S. 155.00 using the AN525-832R7 screws supplied.

Note:

If required, use 0.125" spacers between the rib and the bracket to help in setting angle of the bracket. This may be needed to align servo arm with the bellcrank attach point when attaching the push pull tube.

FIGURE 3-8 ROLL SERVO INSTALLATION

22. Secure the push pull tube to the servo arm as shown in Figures 3-9. Refer to the Illustrated Part Catalog for fastener and spacer part numbers.

Note:

The AN310-3 castellated nut shown in Figures 3-9 and 3-10 must be preloaded (torqued with a calibrated wrench) to 20 to 25-inch pounds before the MS24665-134 cotter pin is inserted. Refer to Illustrated Parts Catalog drawings.

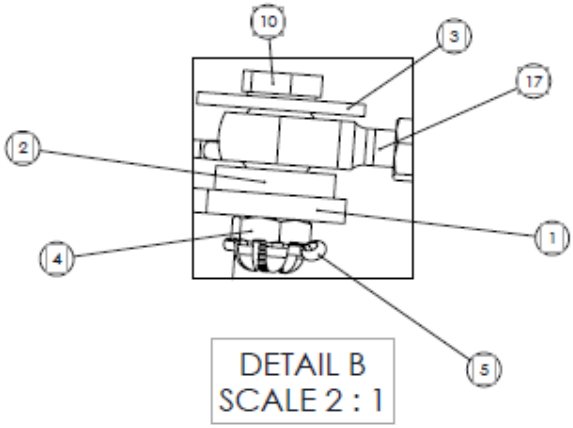


FIGURE 3-9 PUSH PULL TUBE ATTACHMENT AT SERVO ARM

23. Secure the push pull tube to the aileron bellcrank as shown in Figures 3-10 and 3-11. Refer to the Illustrated Part Catalog.

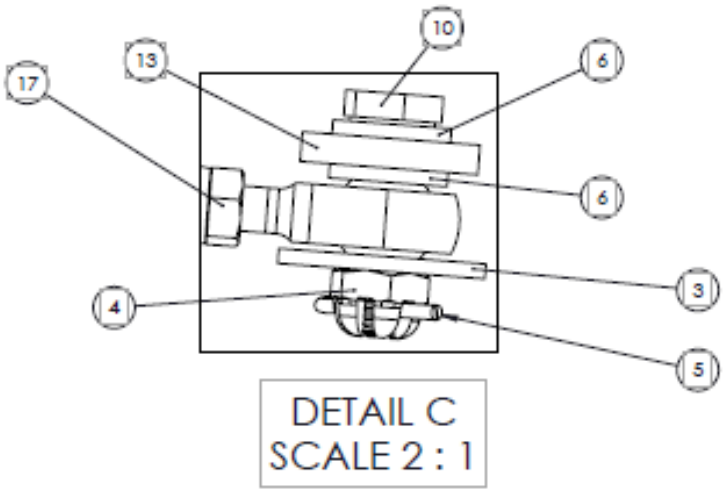


FIGURE 3-10 PUSH PULL TUBE ATTACHMENT - AILERON BELLCRANK

FIGURE 3-11 PUSH PULL TUBE ATTACHMENT AT AILERON BELLCRANK

24. Check servo travel for binding by rotating control yoke to the port and starboard stops. If binding occurs, use NAS1149F0332P or NAS1149F0363P washers to correct spacing.
25. The aircraft controls should reach the aircraft aileron stops before the Trio servo reaches its physical stops. Refer to Figure 3-7, ***Servo Stop Alignment***, for example of stop location.
26. If the servo reaches its stops before the ailerons reach their stops, contact The STC Group LLC at the phone numbers supplies in Section 2. Alternate roll push pull tube procedure is in Appendix B.
27. Attach the DB9 connector to the servo connector after completing the Wiring harness installation in Section 5.

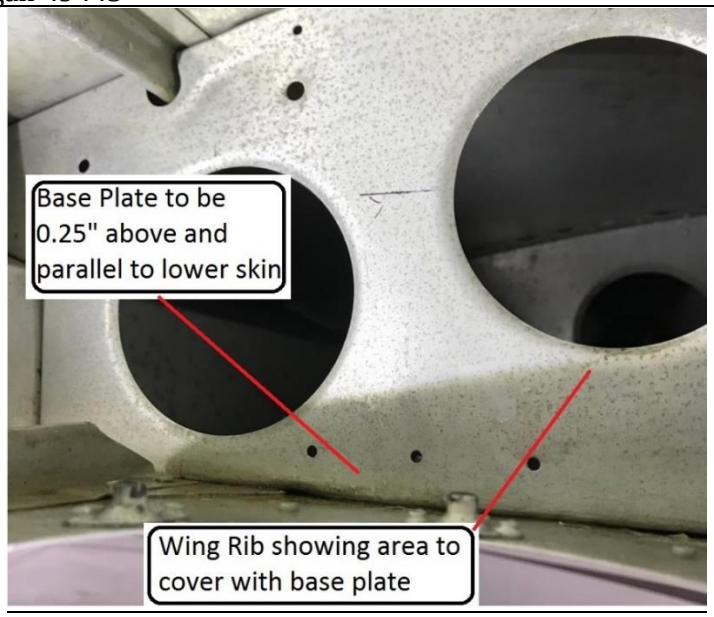


FIGURE 3-12 WING RIB

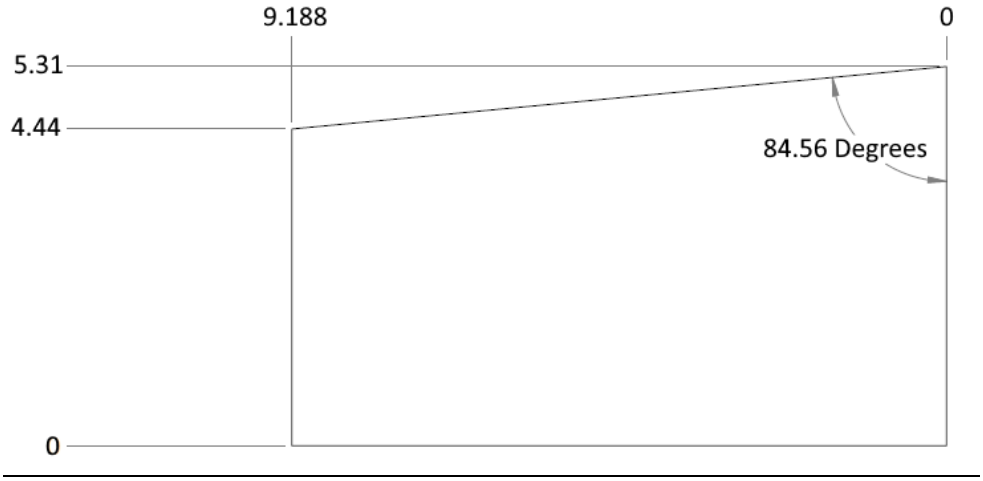


FIGURE 3-13 ADAPTER PLATE

END

4.0 PITCH SERVO INSTALLATION

Note:

If you have an interference issue due to other equipment installed between frames 213.00 and 238.00, i.e. retractable landing gear, the kit tray should be relocated to fit between frames 238.00 and 263.00. Use the same procedures for installation. Call the STC Group if you require assistance.

Note:

If the tray must be moved aft one bay the forward clip measurement will change. Assemble the servo arm and rails. Install the rear clip and attach the aft end of the rails to the clip. Shim the forward end of the rails until the pitch servo arm clears the lower aircraft skin by approximately 0.250". These measurements may vary. Set the location for the forward clip and drill per the installation instructions.

1. Carefully study this section before starting the pitch servo installation.
2. Review all drawings and figures to understand the proper installation of the brackets.
3. Place the stabilator in the center of pitch cable travel. This will not be flight neutral.
4. For easier installation, assemble the pitch servo bracket assembly prior to starting the measuring process. This will simplify bracket orientation and location. Refer to Figure 4-1.

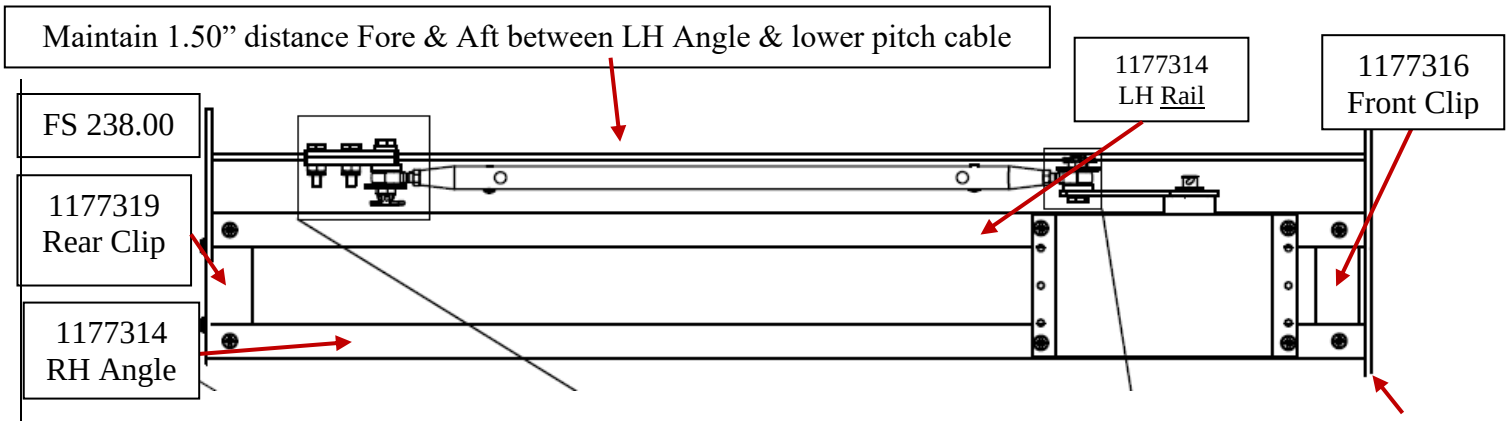


FIGURE 4-1 PITCH SERVO BRACKET ASSEMBLY

5. The bracket assembly consists of Part Numbers 1177312 (LH rail), 1177314 (RH rail), one (1) 1177316 clip and one (1) 1177319 clip.

6. Remove the baggage compartment cover to access the installation area.
7. Locate the upper and lower pitch cables located FS 213.00 and F.S. 238.00 and mark them with painter's tape or equivalent. Refer to Figure 4-3.

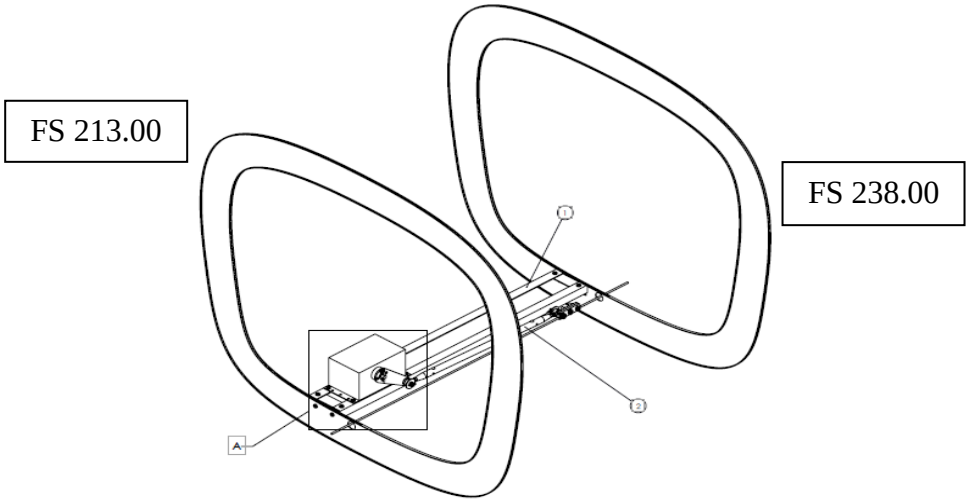


FIGURE 4-2 PITCH SERVO ASSEMBLY - PITCH DOWN POSITION

8. Place the pitch servo tray into the proper orientation. Refer to Figures 4-3 and 4-4.
9. The pitch servo tray is aligned so that the port edge of the tray assembly is 1.50" from the lower pitch cable. Refer to Figure 4-1 & 4-3.
10. 1.50" spacing must be maintained fore and aft along the left pitch servo angle.
11. The Clips must be level side to side.
12. Clamp the pitch servo assembly into position using tension clamps or equivalent. Refer to Figure 4-5.
13. Mark F.S. 213.00 & F.S. 238.00 with location of the left Angle at 1.50". This is your reference mark for the pitch servo assembly. Refer to Figure 4-1 & 4-3.
14. The AFT clip assembly at F.S. 238.00 on the port side of the aircraft is located 0.150" below the lip of the bulkhead. The forward port edge of the left Angle will be located "approximately" 0.100" above F.S. 213.00. Refer to Figure 4-4.
15. The starboard forward edge of the pitch servo assembly should be flush with F.S. 213.00 bulkhead. Refer to Figure 4-4.

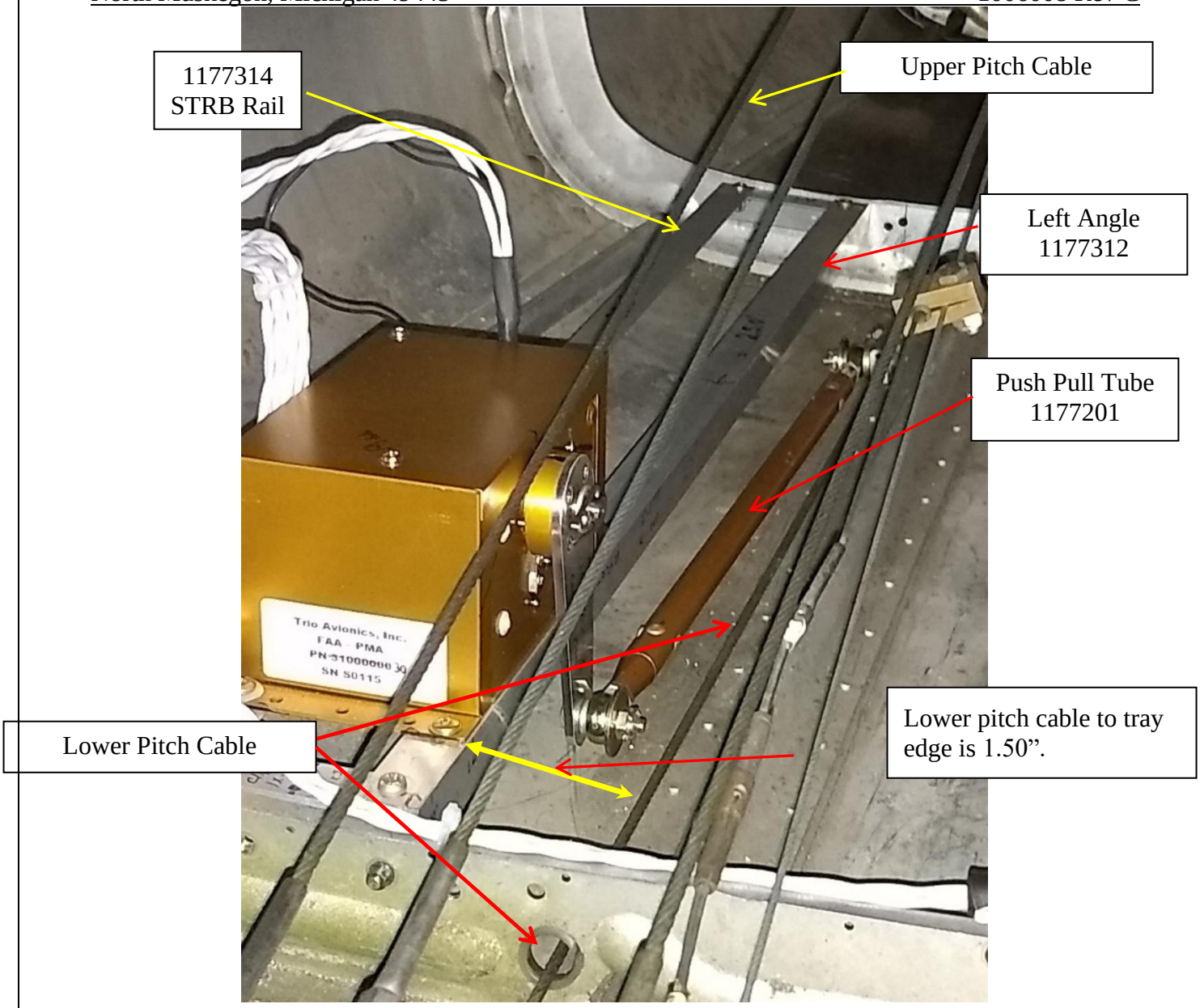


FIGURE 4-3 PITCH SERVO ASSEMBLY (SHOWN IN PITCH NEUTRAL)

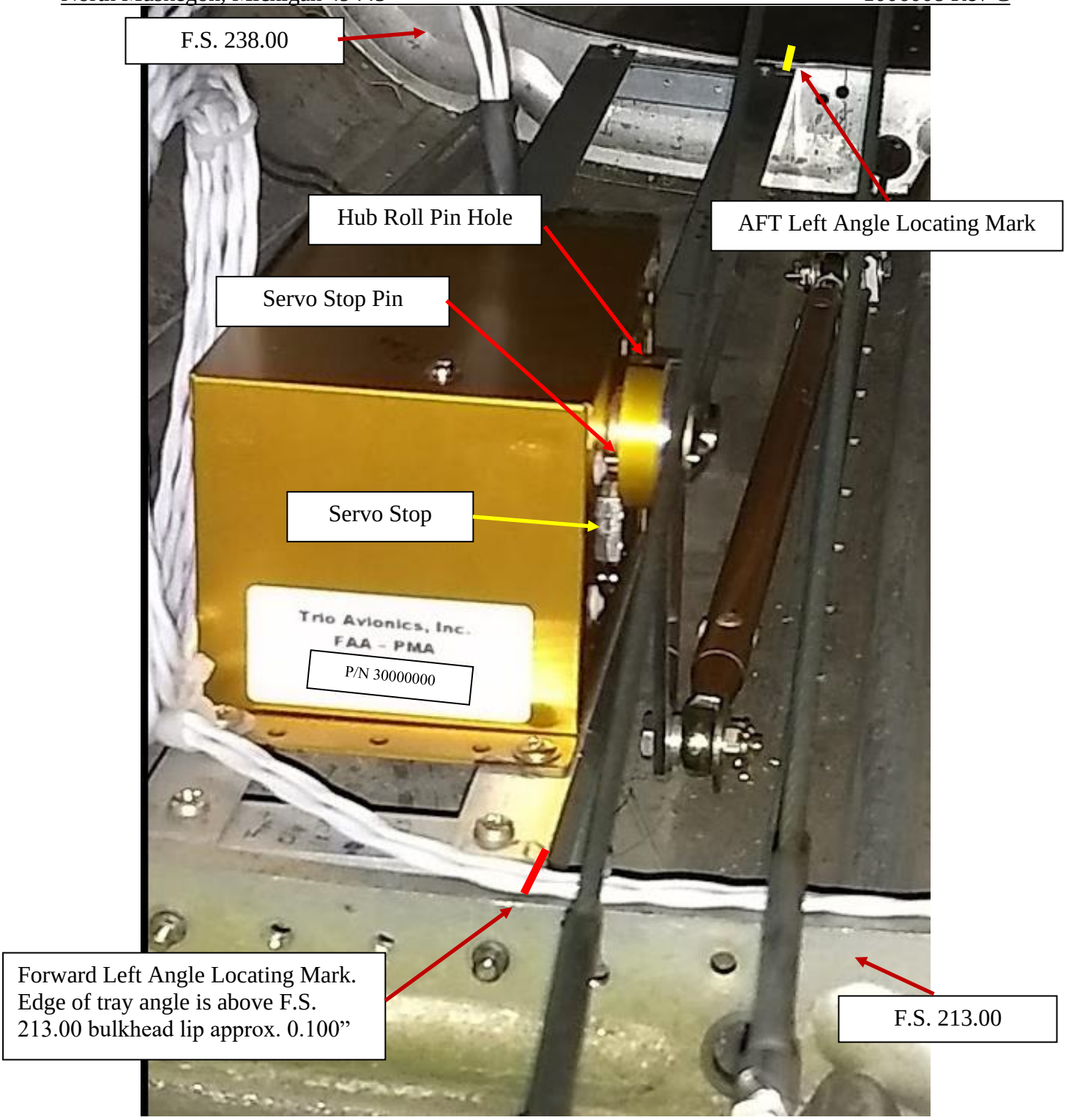


FIGURE 4-4 PITCH SERVO TRAY ORIENTATION

FIGURE 4-5 TENSION CLAMP

16. Square the tray on the remaining corners and re-clamp into position using tension clamps or equivalent.
17. The clip assemblies have been fabricated with MS21075L08N nutplates installed.
18. Use a center punch, or equivalent, to mark the bulkhead through the clip assembly nutplates.
19. Remove the pitch servo tray assembly.
20. Pilot drill the hole locations that were center punched using a #40 drill bit.
21. Deburr the holes.
22. Secure the tray assembly into position using Silver P Series 3/32” Cleco fasteners.
23. Recheck the measurement (1.50”) between the left-hand Angle and the lower pitch cable fore and aft.

Left Rail approx. 0.100” above F.S. 213.00

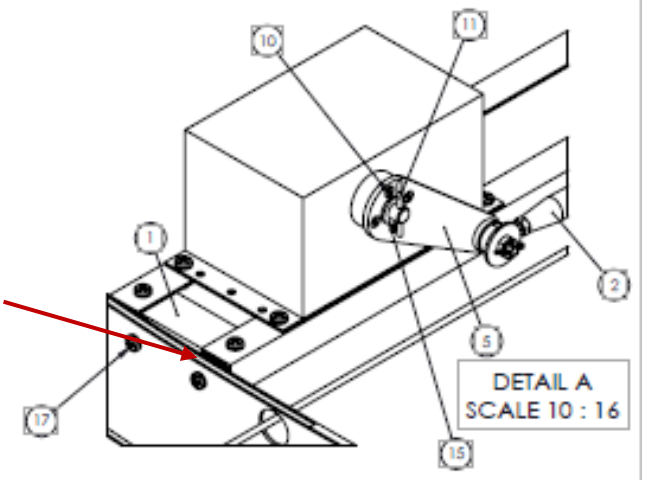


FIGURE 4-6 PITCH SERVO ALIGNMENT - SERVO ARM FULL DOWN

24. Remove the tray assembly and enlarge the holes using a #30 drill bit.
25. Enlarge the holes to their final size using a #16, 0.1770", drill bit and deburr.
26. Mount the pitch servo tray assembly using the MS27039-0807 screws supplied.
27. Four (4) M3 screws, supplied, are pre-treated with Loctite 202 thread locker. Do not apply additional Loctite.

Note

The Pitch Servo hub roll pin hole must be aligned with the servo stop as depicted in Figure 4-4 before attaching the servo arm to the hub.

28. Fasten the servo arm to the servo hub using the four (4) M3 (metric) screws supplied.
29. Enlarge the outer four holes in the pitch servo baseplate as described in the Roll Servo instructions in Section 3.
30. Mount the pitch servo to the pitch servo tray assembly as depicted above using four (4) MS27039-0807 screw supplied.
31. With the pitch servo arm facing straight down; attach the cable clamp to the lower pitch cable with the pitch cable in the center of its travel. Refer to Figure 4-7 and 4-8.
32. Attach the push pull tube to the servo arm. Refer to Figure 4-7 and Illustrated Parts Catalog.

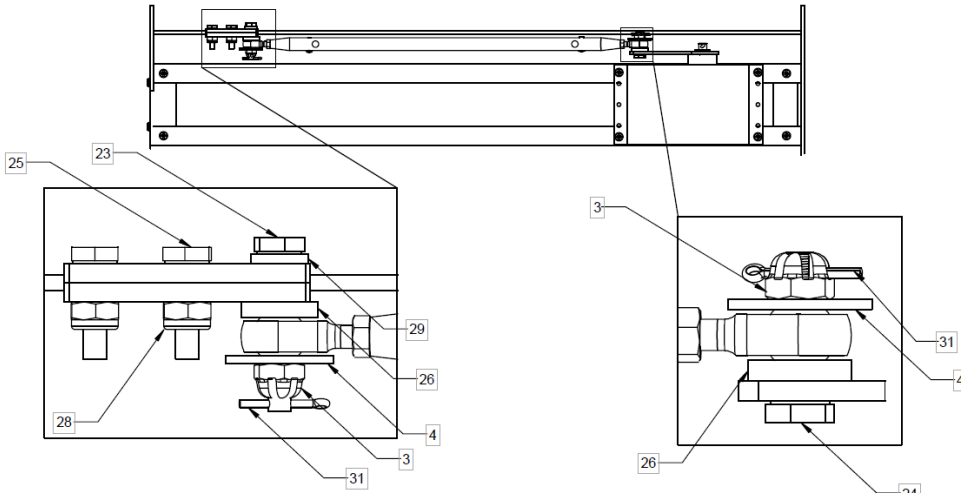


FIGURE 4-7 SERVO ARM AND CABLE CLAMP ASSEMBLY

FIGURE 4-8 CABLE CLAMP ORIENTATION

END

5.0 PRO PILOT INSTALLATION & WIRING

NOTE:

Prior to connecting the wiring harness DB9 or DB37 connectors into the servos or autopilot control head perform complete power, ground, and data pinout tests on the harness.

Reference the STC Group LLC Avionics Addendum for information not mentioned here.

5.1 SERVO WIRE HARNESSES INSTALLATION

5.1.1 Route Trio servo wire harnesses along same path and using the same clamps as factory autopilot wiring. If there was no previously installed autopilot, then use best practices for routing wires. Typically, the roll servo harness is routed from the control head down the left side of the fuselage and the pitch servo harness is routed along the right side of the fuselage with existing wire bundles ending two bays behind the baggage compartment.

5.1.2 Take care to protect harness pins at the end of the harnesses.

5.1.3 Terminate supplied DB9 connectors per latest revision Trio Wiring Diagram.

5.1.4 Install the DB9 connectors onto the servos.

5.1.5 Secure the harnesses, as necessary.

5.2 TRIO AUTOPILOT CONTROLLER

5.2.1 The Trio autopilot controller is ordered in Panel Mount or Instrument Mount versions. Refer to Figure 5-3.

5.2.2 The Trio autopilot controller will support 12 to 30 volt inputs.

5.2.3 Install the autopilot controller using best practices in either panel or instrument hole locations. Refer to AC 43-13 for this step and all following steps.

5.2.4 Utilize Trio Wiring Diagram for the following steps. Refer to Appendix A.

5.2.5 Install Klixon 7274-2-5 (or equivalent) 5 ampere circuit breaker within easy reach of the pilot and label.

5.2.6 If installing a Panel Mount unit then install the supplied power switch and label.

5.2.7 Install the supplied Red Disconnect button on the left side of the pilots control yoke and label “AP DSC” “PCS” or “Autopilot Disconnect.”

5.2.8 Install the supplied Recover button (Black) in an available convenient location within easy reach of the pilot and label AP Recover.

5.2.9 Install Limitation Placard in plain view of Pilot.

5.3 PITOT AND STATIC PORTS

5.3.1 The Trio Pro Pilot autopilot controller is provisioned with Pitot and Static ports on the rear of the controller.

5.3.2 The controller pitot and static ports must be integrated (plumbed) into the aircraft pitot and static systems.

5.3.3 Every aircraft pitot and static system is different. The following are for example only as the aircraft systems will vary.

5.3.4 The following components, or equivalent, will be used in most installations:

Tygon tubing. 2 each x 24" pieces. Aircraft Spruce P/N: 05-00944.
Nylo Seal tubing. 2 each x 6" pieces. Aircraft Spruce P/N: 44-P
Nylo Seal "T" fittings. 2 each. Aircraft Spruce P/N: 264-N04.
Nylo Seal Inserts. 8 each. Aircraft Spruce P/N: 259-N04.

5.3.5 Extend the pitot & static hoses & cable connector through the tray (if applicable) and out through the front of the instrument panel or radio rack to allow for ease of servicing.

5.3.6 Mate the pitot and static hoses to the control head.

5.3.7 Secure pitot and static connections at the rear of the autopilot controller.

5.3.8 Mate the DB37 connector to the control head.

5.3.9 If using an Instrument mount control head secure the control head using #6 brass instrument screws.

5.3.10 For the instrument type controller mounting screws, the maximum screw length should not be more than the panel thickness plus 0.25". Installing longer screws may cause damage to the controller mounting inserts.

5.3.11 If using a Panel mount control head slide the control head into the tray, then tighten the securing 1.5mm allen screw. Do not over tighten control head in the tray.

5.3.12 It is required that pitot and static system leak tests and inspections be performed after autopilot installation. Refer to your local authorities' regulations. {i.e. FAR §43 Appendix E, Paragraph (a)}

5.4 TRIO AUTOPILOT DATA CONNECTIONS

5.4.1 For most RS-232 connections, set the output of the GPS unit to "Aviation w/ no altitude" or NMEA 0183 OUT.

NOTE:

1) The RS-232 connection is required in all installations.

2) For Avidyne IFD Series GPS Navigators use "Aviation" format.

5.4.2 If your aircraft is equipped with a GPS that has ARINC 429, set unit to output "GAMA" Low or High Speed.

5.4.3 Prior to making the connections to the GPS unit in the aircraft determine what else is connected.

5.4.4 It may be necessary to parallel the connections.

5.4.5 If parallel connections are required, verify that the lines you are paralleling use, or can use, the same data format that is required.

5.4.6 Both the RS-232 and the ARINC 429 can be paralleled with like connections.

5.4.7 Ensure that the analog alarm output is connected to the un-switched audio input on the Audio Panel.

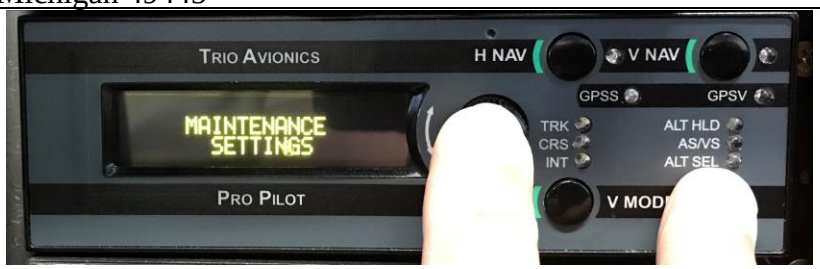


FIGURE 5-1 MAINTENANCE SETTINGS

FIGURE 5-2 PITCH SERVO EXAMPLE

INSTRUMENT MOUNT CONTROLLER 3.125"

PANEL MOUNT CONTROLLER 6" X 2" X 4"

FIGURE 5-3 CONTROLLER TYPES

5.5 TRIO INITIAL SETUP AND CHECKS

5.5.1 Refer to the STC Group Avionics Addendum for initial checks and setup of the autopilot installation.

5.5.2 Complete applicable portions of the STC Group Post Installation Flight Checks Document No. F-1006-43.

5.5.3 Individual aircraft may require fine tuning of servo gains on the first few flights. The following rough gain sets are a common starting point for Cessna 177/A/B & 177RG aircraft:

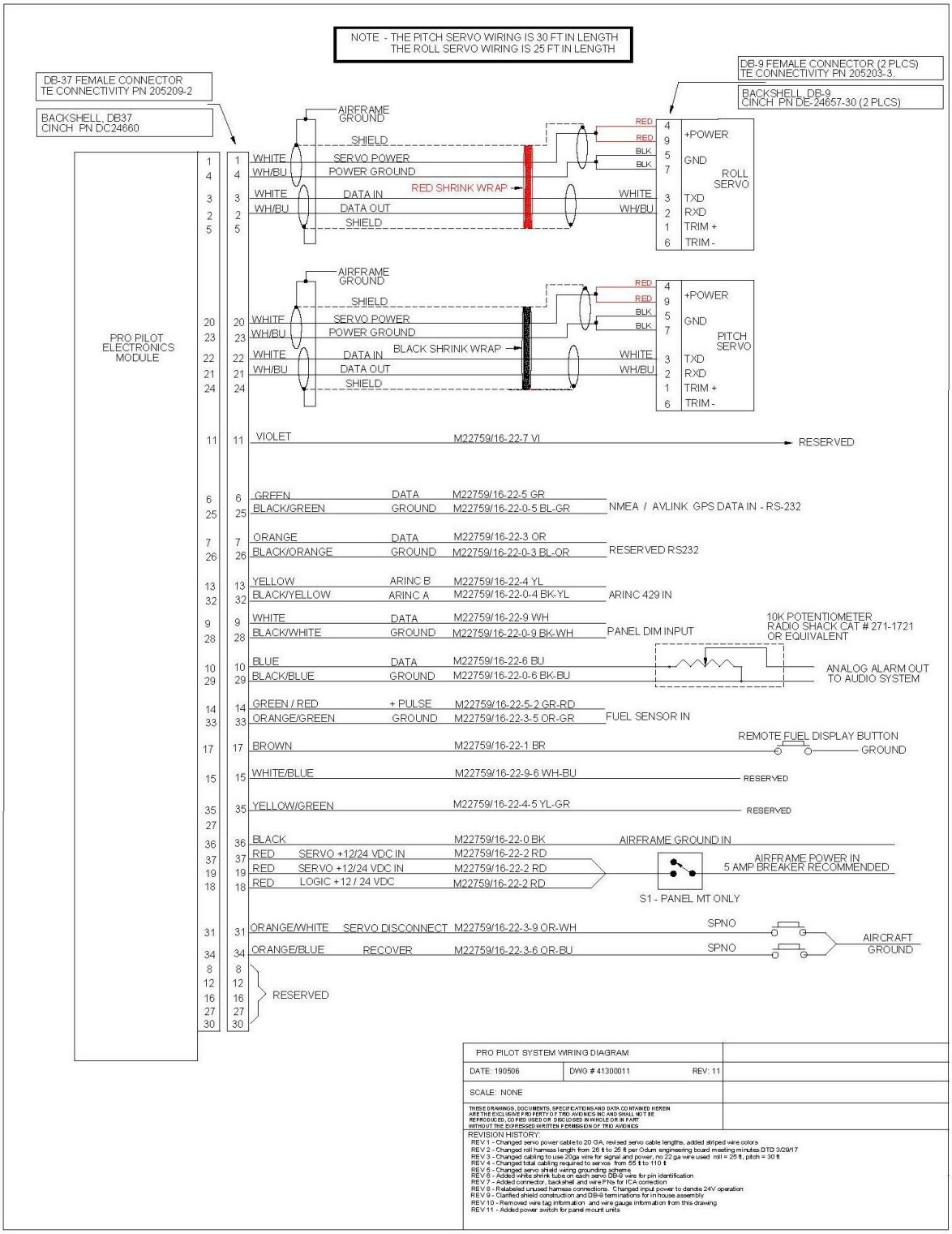
SET SERVO GAINS
HNAV=16 VNAV=20

NOTE:

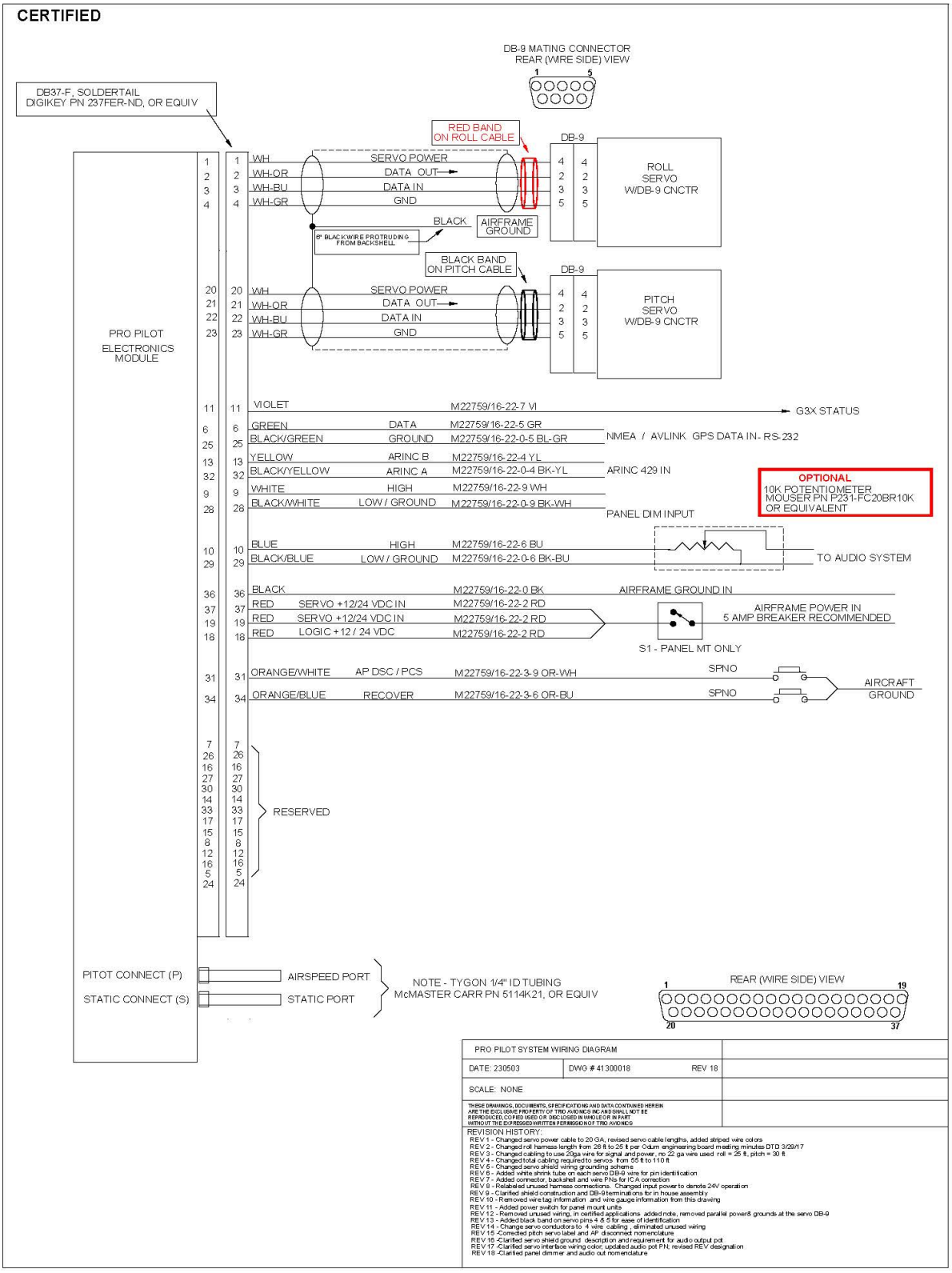
Gains are not to be changed by the aircraft owner / operator / pilot without contacting Trio Avionics or The STC Group LLC in advance for guidance.
The procedures for "fine tuning" gains are in the Avionics Addendum available on The STC Group LLC website: www.thestcgroupllc.com/documents.

APPENDIX A - TRIO PRO PILOT WIRING DIAGRAM

ORIGINAL WIRING DIAGRAM



NEW WIRING DIAGRAM (CURRENT DIAGRAM SHIPPED WITH HARNESS)



APPENDIX B – ALTERNATE ROLL PUSH PULL TUBE PROCEDURE

1. Attach the DB9 plug to the servo DB9 connector after completing the Wiring harness installation in Appendix A.
2. With servo electrically connected go to "LNAV SERVO SET" page and either set the servo arm to 0 degrees or turn the HNAV servo on to keep at 0 degrees. Alternatively, if you do not have the electrical side of the installation done then you can ensure the roll servo arm is facing aft at 90 degrees from its base .
3. With the ailerons in the neutral position mark the RH aileron bellcrank attach point on the open end of the tube with a sharpie, or equivalent marking device. Refer to Figure B-2.
4. Remove the 1006406-13.625 (1 end Open) tube from the aircraft and on the open end of the tube place the provided rod- insert bolt hole next your mark. (with 4 threads showing on the rod end). Make a new marking on the tube at the base of the taper of the insert. Cut the tube at the new marking. Refer to Figure B-2.
5. Install the rod end insert with the rivets and drill guide provided.
6. Power on the Trio Pro Pilot autopilot and enter the Maintenance menu by pressing the Encoder knob and VMODE button simultaneously.
7. Turn, or Press, the Encoder knob until the LNAV SERVO SET screen is displayed.
8. Adjust the rod ends until the LNAV SERVO SET reading is 0.00 degrees.
9. Tighten the jam nuts, P/N AN315-3R, on the rod ends and mark both ends with tamper proof torque seal.

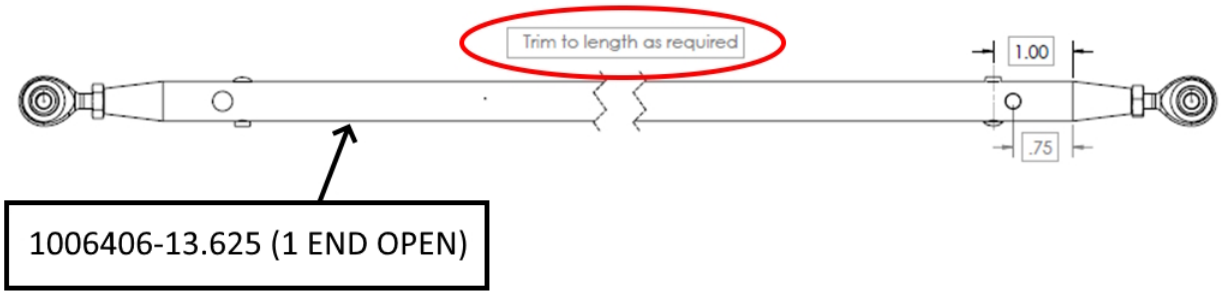


FIGURE B- 1 PUSH PULL TUBE MODIFICATION

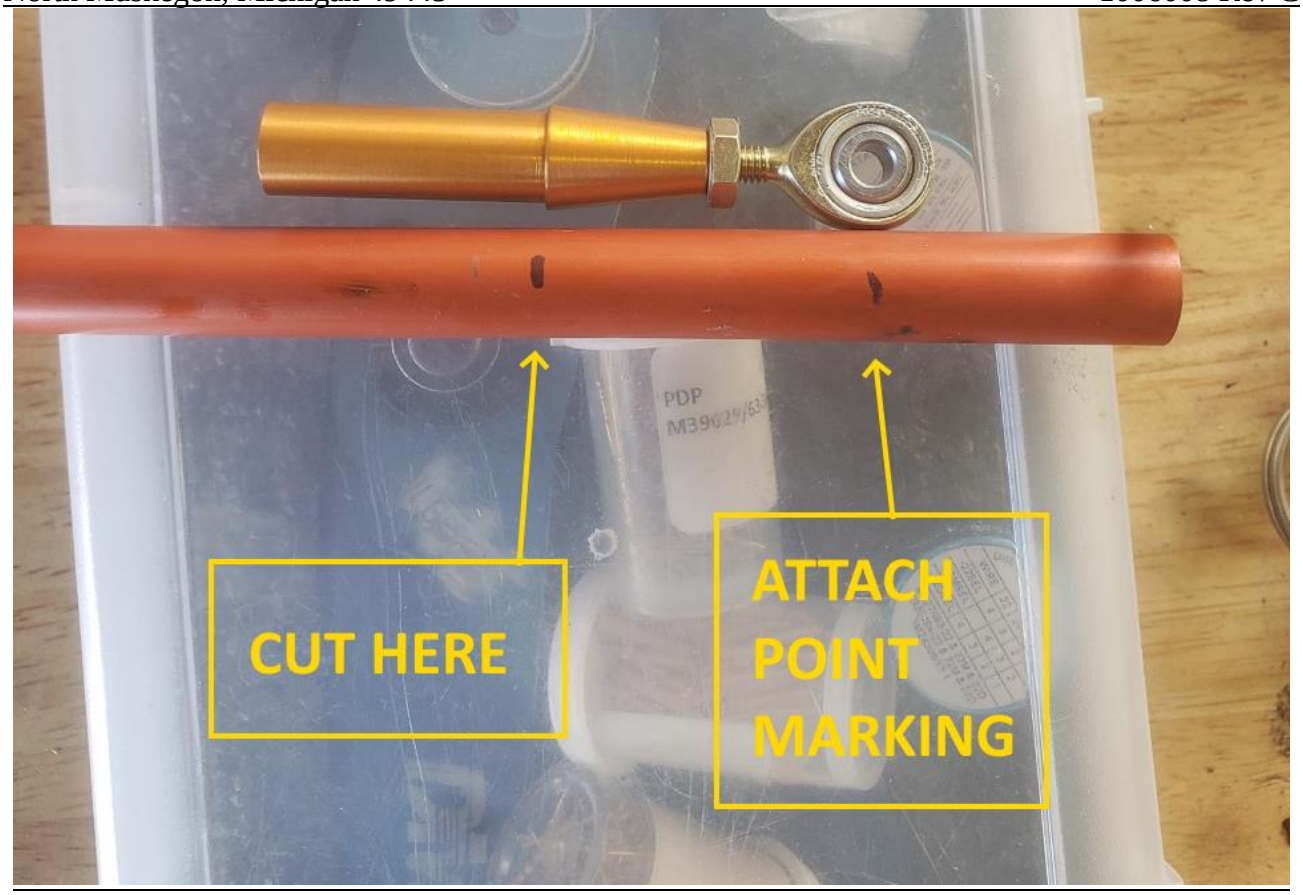


FIGURE B- 2 PUSH PULL TUBE TRIMMING

10. Install the push-pull tube through the access panel and attach to the servo arm and bellcrank with the hardware in accordance with Illustrated Parts Catalog Document # 1177800.
11. Power on the Trio Pro Pilot autopilot and enter the Maintenance menu by pressing the Encoder knob and VMODE button simultaneously.
12. Turn, or Press, the Encoder knob until the LNAV SERVO SET screen is displayed.
13. Adjust the rod ends until the LNAV SERVO SET reading is 0.00 degrees +/- 1 degree.
14. Tighten the jam nuts, P/N AN315-3R, on the rod ends.
15. Install the MS24665-134 cotter pins on both ends of the push pull tube. Refer to the Illustrated Parts Catalog Document # 1177800.
16. Continue to Pitch Installation Section 4.0.