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SERVICE LETTER

SL-AG-126

Initial Release: 06/11/2018

RUDDER PEDAL MECHANISM INSPECTION

AIRPLANES AFFECTED:	
MODEL	**SERIAL NUMBERS**
ALL	**ALL**

James Alman

Vice President of Engineering

LOG OF REVISIONS

NOTE: Re-formatting and correction of typographical errors is not considered revision. True revisions are indicated by a dark vertical line at the right margin of the lines revised.

Rev.	Page	Description of Revision	By:
IR	All	New Document Initial Release.	K. Sheppard 06/11/2018

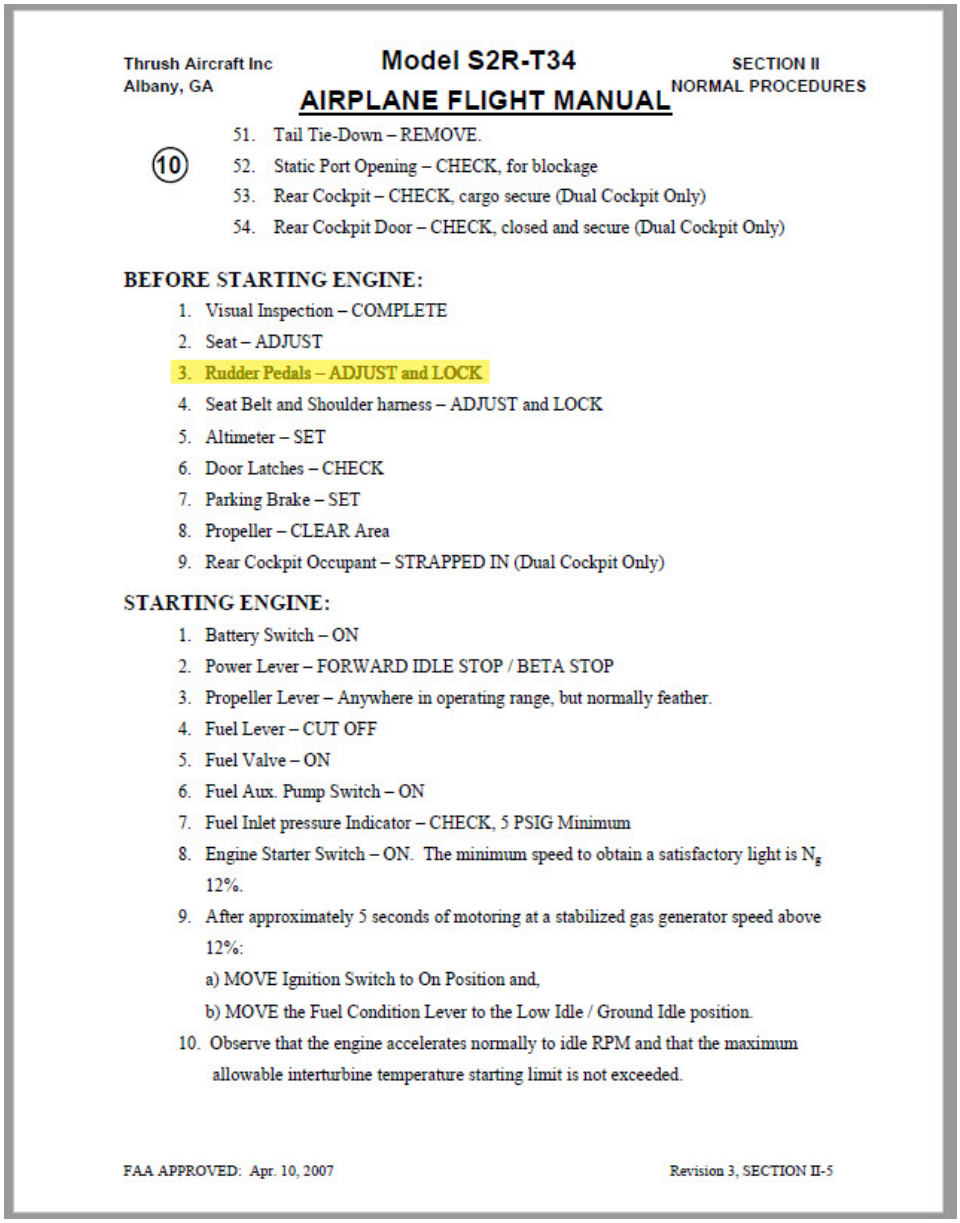
1. PURPOSE/REASON FOR PUBLICATION:

It has come to the attention of Thrush Aircraft, that some maintenance and operational practices for the rudder pedal adjustment mechanism are not coinciding with OEM published data. The improper procedures and operation practices may lead to damage of the pedal adjustment mechanism and consequent loss of control of the aircraft. The purpose of this publication is to serve as a reminder of the importance of the proper procedures taken for adjusting and servicing the rudder pedal mechanism.

2. ACCOMPLISHMENT INSTRUCTIONS:

It is imperative to follow OEM data pertaining to the aircraft. This includes the Aircraft Flight Manuals and Aircraft Maintenance Manuals for all Thrush Aircraft models.

Before starting the engine on any Thrush model, the rudder pedal shall be adjusted and locked. If adjustment is not needed, the pedal adjustment mechanism shall be locked. Proper methods are found in the "Before starting the engine" section of the Aircraft Flight Manual. This is critical for safe flight.



Thrush Aircraft Inc
Albany, GA

Model S2R-T34
AIRPLANE FLIGHT MANUAL

SECTION II
NORMAL PROCEDURES

51. Tail Tie-Down – REMOVE.

(10)

52. Static Port Opening – CHECK, for blockage
53. Rear Cockpit – CHECK, cargo secure (Dual Cockpit Only)
54. Rear Cockpit Door – CHECK, closed and secure (Dual Cockpit Only)

BEFORE STARTING ENGINE:

1. Visual Inspection – COMPLETE
2. Seat – ADJUST
3. Rudder Pedals – ADJUST and LOCK
4. Seat Belt and Shoulder harness – ADJUST and LOCK
5. Altimeter – SET
6. Door Latches – CHECK
7. Parking Brake – SET
8. Propeller – CLEAR Area
9. Rear Cockpit Occupant – STRAPPED IN (Dual Cockpit Only)

STARTING ENGINE:

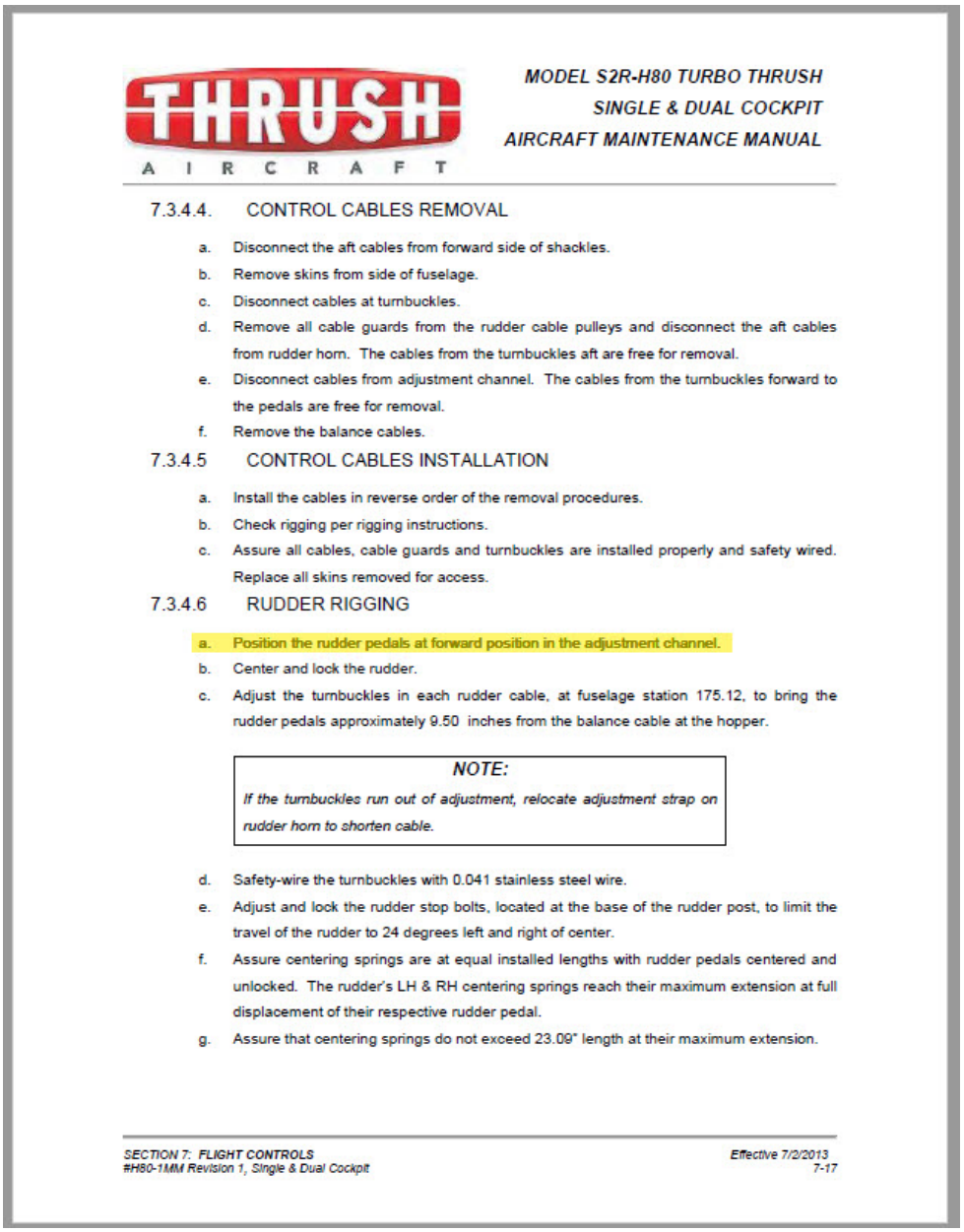
1. Battery Switch – ON
2. Power Lever – FORWARD IDLE STOP / BETA STOP
3. Propeller Lever – Anywhere in operating range, but normally feather.
4. Fuel Lever – CUT OFF
5. Fuel Valve – ON
6. Fuel Aux. Pump Switch – ON
7. Fuel Inlet pressure Indicator – CHECK, 5 PSIG Minimum
8. Engine Starter Switch – ON. The minimum speed to obtain a satisfactory light is N_g 12%.
9. After approximately 5 seconds of motoring at a stabilized gas generator speed above 12%:
   a) MOVE Ignition Switch to On Position and,
   b) MOVE the Fuel Condition Lever to the Low Idle / Ground Idle position.
10. Observe that the engine accelerates normally to idle RPM and that the maximum allowable interturbine temperature starting limit is not exceeded.

FAA APPROVED: Apr. 10, 2007

Revision 3, SECTION II-5

Figure 1
Example from S2R-T34 AFM

Proper inspection of adjustment and lubrication at the rudder pedal mechanism is significant. The inspection and adjustment procedures are found in the “Control Systems” section of the Aircraft Maintenance Manual.



THRUSH AIRCRAFT

MODEL S2R-H80 TURBO THRUSH
SINGLE & DUAL COCKPIT
AIRCRAFT MAINTENANCE MANUAL

7.3.4.4. CONTROL CABLES REMOVAL

a. Disconnect the aft cables from forward side of shackles.
b. Remove skins from side of fuselage.
c. Disconnect cables at turnbuckles.
d. Remove all cable guards from the rudder cable pulleys and disconnect the aft cables from rudder horn. The cables from the turnbuckles aft are free for removal.
e. Disconnect cables from adjustment channel. The cables from the turnbuckles forward to the pedals are free for removal.
f. Remove the balance cables.

7.3.4.5 CONTROL CABLES INSTALLATION

a. Install the cables in reverse order of the removal procedures.
b. Check rigging per rigging instructions.
c. Assure all cables, cable guards and turnbuckles are installed properly and safety wired. Replace all skins removed for access.

7.3.4.6 RUDDER RIGGING

a. Position the rudder pedals at forward position in the adjustment channel.
b. Center and lock the rudder.
c. Adjust the turnbuckles in each rudder cable, at fuselage station 175.12, to bring the rudder pedals approximately 9.50 inches from the balance cable at the hopper.

NOTE:
If the turnbuckles run out of adjustment, relocate adjustment strap on rudder horn to shorten cable.

d. Safety-wire the turnbuckles with 0.041 stainless steel wire.
e. Adjust and lock the rudder stop bolts, located at the base of the rudder post, to limit the travel of the rudder to 24 degrees left and right of center.
f. Assure centering springs are at equal installed lengths with rudder pedals centered and unlocked. The rudder's LH & RH centering springs reach their maximum extension at full displacement of their respective rudder pedal.
g. Assure that centering springs do not exceed 23.09" length at their maximum extension.

SECTION 7: FLIGHT CONTROLS
#H80-1MM Revision 1, Single & Dual Cockpit
Effective 7/2/2013
7-17

Figure 2
Example from S2R-H80 AMM

Lubrication of the rudder pedal mechanism is in the “Servicing” section of the Aircraft Maintenance Manual.

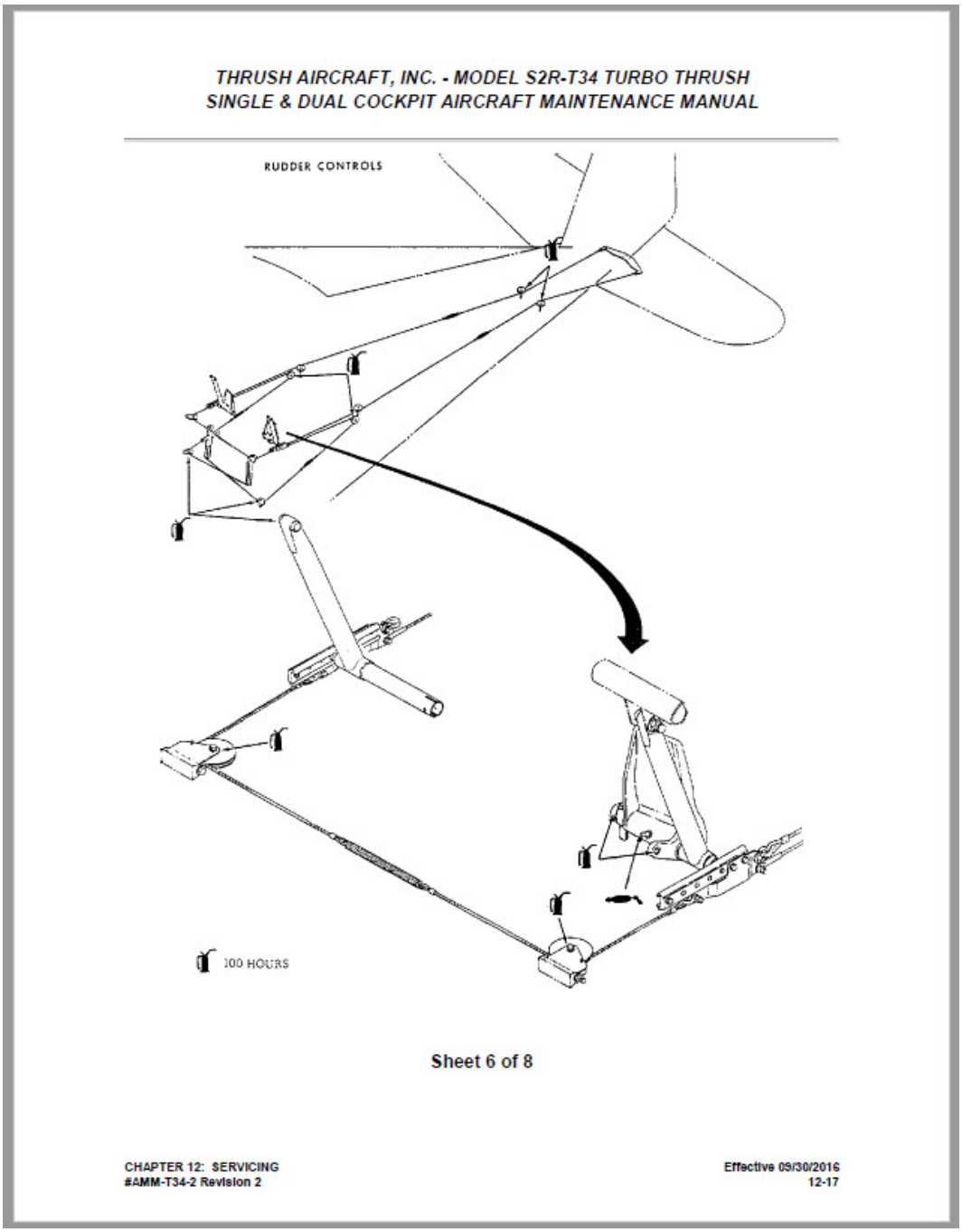
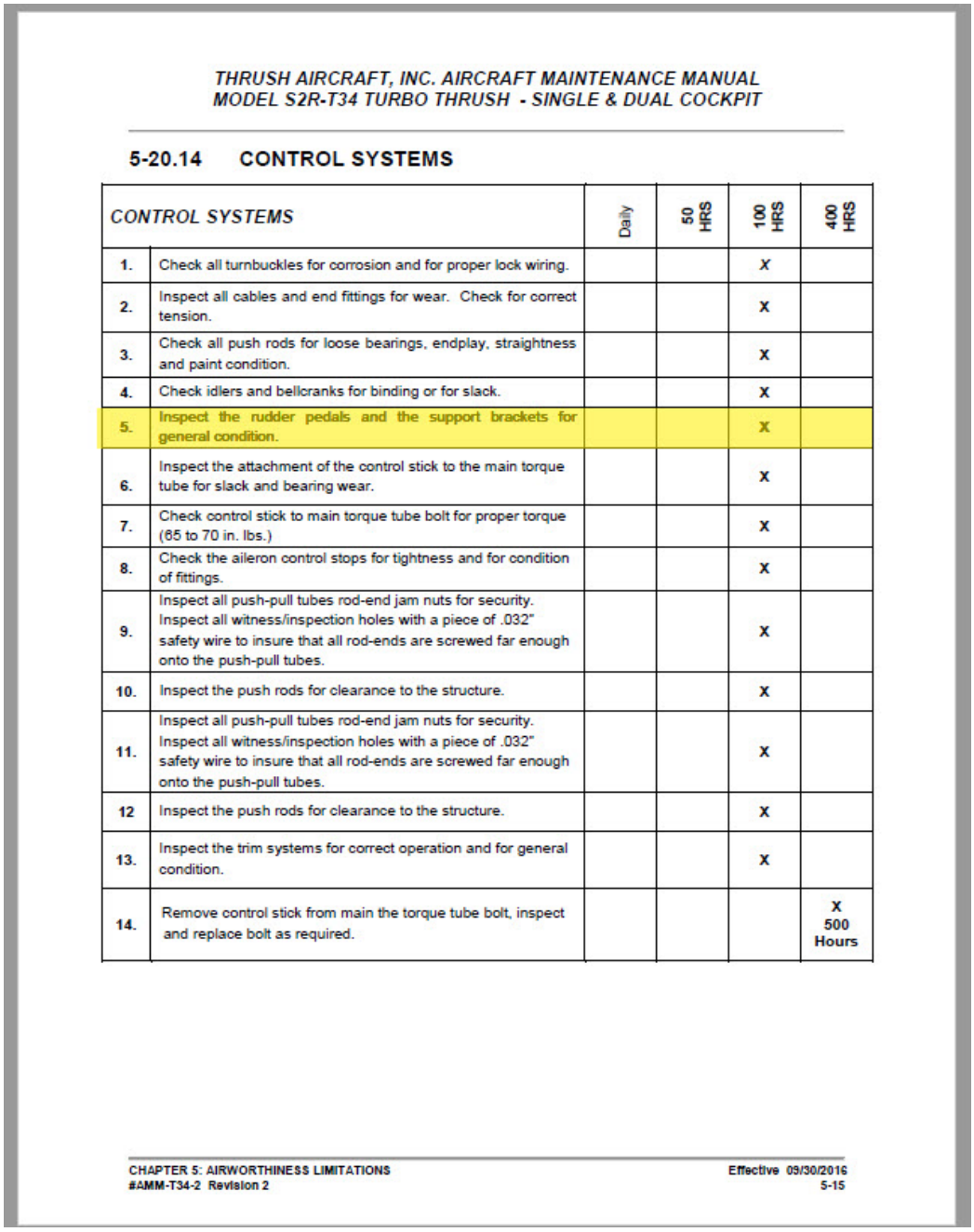


Figure 3
Example from S2R-T34 AMM

Perform a preliminary inspection of the overall general area for cleanliness, presence of foreign objects, deformed or missing fasteners, security of parts, corrosion, and damage.



THRUSH AIRCRAFT, INC. AIRCRAFT MAINTENANCE MANUAL
MODEL S2R-T34 TURBO THRUSH - SINGLE & DUAL COCKPIT

5-20.14 CONTROL SYSTEMS

CONTROL SYSTEMS		Daily	50 HRS	100 HRS	400 HRS
1.	Check all turnbuckles for corrosion and for proper lock wiring.			X	
2.	Inspect all cables and end fittings for wear. Check for correct tension.			X	
3.	Check all push rods for loose bearings, endplay, straightness and paint condition.			X	
4.	Check idlers and bellcranks for binding or for slack.			X	
5.	Inspect the rudder pedals and the support brackets for general condition.			X	
6.	Inspect the attachment of the control stick to the main torque tube for slack and bearing wear.			X	
7.	Check control stick to main torque tube bolt for proper torque (65 to 70 in. lbs.)			X	
8.	Check the aileron control stops for tightness and for condition of fittings.			X	
9.	Inspect all push-pull tubes rod-end jam nuts for security. Inspect all witness/inspection holes with a piece of .032" safety wire to insure that all rod-ends are screwed far enough onto the push-pull tubes.			X	
10.	Inspect the push rods for clearance to the structure.			X	
11.	Inspect all push-pull tubes rod-end jam nuts for security. Inspect all witness/inspection holes with a piece of .032" safety wire to insure that all rod-ends are screwed far enough onto the push-pull tubes.			X	
12	Inspect the push rods for clearance to the structure.			X	
13.	Inspect the trim systems for correct operation and for general condition.			X	
14.	Remove control stick from main the torque tube bolt, inspect and replace bolt as required.				X 500 Hours

CHAPTER 5: AIRWORTHINESS LIMITATIONS
#AMM-T34-2 Revision 2
Effective 09/30/2016
5-15

Figure 4
Example from S2R-T34 AMM