

1. Approving Civil Aviation Authority/Country: FAA/UNITED STATES		2. AUTHORIZED RELEASE CERTIFICATE FAA Form 8130-3 AIRWORTHINESS APPROVAL TAG		3. Form Tracking Number: N-138313	
4. Organization Name and Address: Aviation Technical Services, Inc. 3121 109th St.SW Everett, WA 98204				5. Work Order/Contract/Invoice Number: Work Order: 531151 Customer PO: R372276	
6. Item: 1		7. Description: STAB TRIM ACTUATOR		8. Part Number: 251A4510-11	9. Quantity: 1
				10. Serial Number: 11060004X	11. Status/ Work: Overhauled
12. Remarks: Documents describing the actual work performed on work order #531151 are provided. Note: See attached parts usage list for all replacement parts used. The described work was performed in accordance with FAA accepted / approved data for return to service by personnel who were part of a current drug and alcohol testing program as required by 14CFR120. TSO: 0.0, CSO: 0.0 STAB TRIM ACTUATOR OVERHAULED AND BENCH TESTED PER CMM 27-45-12, REV 47 DTD 07/01/2019. NOTE: POST UMBRA SB 07322-27-01 BALLSCREW INSTALLED ON UNIT. NOTE: SL 737-SL-27-247 DTD 04/21/14, VERIFIED PRODUCTION NUMBER OF INPUT CAM IS 607000459779 . Certifies that the work specified in Block 11/12 was carried out in accordance with EASA Part 145 and in respect to that work the article is considered ready for release to service under EASA Part 145 approval no. EASA 145-4942					
13a. Certifies the items identified above were manufactured in conformity to: ☐ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12.		14a. ☒ 14 CFR 43.9 Return to Service ☒ Other regulation specified in Block 12 Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, Part 43 and in respect to that work, the items are approved for return to service.			
13b. Authorized Signature: -N/A-		13c. Approval/Authorization No.: -N/A-		14c. Approval/Certificate No.: HN6R593N	
13d. Name (Typed or printed): -N/A-		14d. Name (Typed or Printed): Brian Wilkins Wilkins, Brian L		14e. Date (dd/mm/yyyy): 21/APR/2020	

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1 it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

Customer Name	A.J. WALTER AVIATION
Customer RO No	R372276
Manufacturer	BOEING
Job Number	531151

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Unit P/N (in)		Unit P/N (out)		Cust Part Num	
Part Number	251A4510-11	Part Number	251A4510-11	FCS REQ	No
Serial Number	11060004X	Serial Number	11060004X	Warranty REQ	No
Workscope	Overhauled	Workscope	Overhauled	Rtl REQ	N/A
Description	STAB TRIM ACTUATOR				
Reason for Removal	DUE FOR OH				
Customer Instructions PLEASE REPAIR UNDER FIXED PRICE.					
Type	Number	Rev	Date	Manual Reference	Notes
CMM	27-45-12	49	01-MAR-20	MBF	
SL	737-SL-27-247		21-APR-14	MBF	

P/N Verified		Preliminary Inspection	
Yes	S/N Verified Yes	Repairs Required Yes	Life Limited No
Uncert 013282	11-FEB-20	Comments	Verified P/N & S/N with customer work instructions. Ballscrew Assy requires Outside Service, Gimbals Have Worn Cadmium Plating. Visually Inspect Input Cam Assy P/N 251A4815-1 per S.L. 737-27-247 for suspect Production Order Number T000304. Housing Cover Assy Has Torn Safety Wire Hole and requires Repair per CMM.
Mechanic 003095	13-FEB-20		

Test N/A		Preliminary Functional Testing	
Uncert 013282	11-FEB-20		
Mechanic 003095	13-FEB-20		

* Issue		Issues and Resolutions	
Disassembly Required To Overhaul Unit Per CMM.			
Enter By 013282	11-FEB-20		
Resolution			
Disassembled Per CMM Pgs. 306-309 Par. 3.C.(2)(a)-(bb)			
Uncert 013282	11-FEB-20	Mechanic 003095	13-FEB-20
Inspector	001780		21-APR-20

* Issue		Issues and Resolutions	
Required Assembly Safety Closures.			
Enter By 013282	17-APR-20		
Resolution			
Accomplished all safety closures Per CMM Pgs. 728-738, Par. 2.F.(a)-(cm)			
Uncert 013282	17-APR-20	Mechanic 056650	20-APR-20
Inspector	001780		21-APR-20

* Issue		Issues and Resolutions	
Required Assembly Safety Closures.			
Enter By 013282	17-APR-20		
Resolution			
Accomplished all safety closures Per CMM Pgs. 728-738, Par. 2.F.(a)-(cm)			
Uncert 013282	17-APR-20	Mechanic 056650	20-APR-20
Inspector	001780		21-APR-20

* Issue		Issues and Resolutions	
Required Assembly Safety Closures.			
Enter By 013282	17-APR-20		
Resolution			
Accomplished all safety closures Per CMM Pgs. 728-738, Par. 2.F.(a)-(cm)			
Uncert 013282	17-APR-20	Mechanic 056650	20-APR-20
Inspector	001780		21-APR-20

* Issue		Issues and Resolutions	
Required Assembly Safety Closures.			
Enter By 013282	17-APR-20		
Resolution			
Accomplished all safety closures Per CMM Pgs. 728-738, Par. 2.F.(a)-(cm)			
Uncert 013282	17-APR-20	Mechanic 056650	20-APR-20
Inspector	001780		21-APR-20

* Issue		Issues and Resolutions	
Required Assembly Safety Closures.			
Enter By 013282	17-APR-20		
Resolution			
Accomplished all safety closures Per CMM Pgs. 728-738, Par. 2.F.(a)-(cm)			
Uncert 013282	17-APR-20	Mechanic 056650	20-APR-20
Inspector	001780		21-APR-20

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Issues and Resolutions			
ECA Issue Nuts #428, 432 & 916 Lockwire Requires Ok To Close. Uncert 013282 13-MAR-20 ECA Resolution Ok To Close		Cert 000560 06-APR-20	
Uncert ECA Issue Bolts #452 4ea. Lockwire Requires Ok To Close. Uncert 013282 17-APR-20 ECA Resolution Ok To Close	Q/C IS N/A Mechanic 000560 06-APR-20		Inspector 001780 21-APR-20
Uncert ECA Issue Anvil Swaged Staking Ring #398 Requires Ok To Close. Uncert 013282 12-MAR-20 ECA Resolution Ok To Close	Q/C IS N/A Mechanic 056650 17-APR-20		Inspector 001780 21-APR-20
Uncert ECA Issue Cotter Pin #412B Requires Ok To Close. Uncert 013282 17-APR-20 ECA Resolution Ok To Close	Q/C IS N/A Mechanic 000560 06-APR-20		Inspector 001780 21-APR-20
Uncert ECA Issue Roll Pin #956 Lockwire Requires Ok To Close. Uncert 013282 17-APR-20 ECA Resolution Ok To Close	Q/C IS N/A Mechanic 056650 17-APR-20		Inspector 001780 21-APR-20
Uncert ECA Issue Cotter Pins #544 2ea. Require Ok To Close. Uncert 013282 06-APR-20 ECA Resolution Ok To Close	Cert 056650 17-APR-20		Inspector 001780 21-APR-20
Uncert ECA Issue Screws #584 4ea. Lockwire Require Ok To Close. Uncert 013282 06-APR-20 ECA Resolution Ok To Close	Q/C IS N/A Mechanic 000560 06-APR-20		Inspector 001780 21-APR-20
Uncert ECA Issue Spring Pin #40 Requires Ok To Close. Uncert 013282 06-APR-20 ECA Resolution Ok To Close	Cert 000560 06-APR-20		Inspector 001780 21-APR-20
Uncert ECA Issue Roll Pin #956 Lockwire Requires Ok To Close. Uncert 013282 17-APR-20 ECA Resolution Ok To Close	Q/C IS N/A Mechanic 000560 06-APR-20		Inspector 001780 21-APR-20

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Issues and Resolutions	
ECA Issue Auxiliary Brake Check Apply 500" lb. load to Ball Screw Less than 720" lbs. C/W & C/CW then contact upper stop Uncert 013282 17-APR-20 Cert 056650 20-APR-20 ECA Resolution C/W: 600"lbs C/CW: 600"lbs Tooling ID: E12372 QC IS N/A Uncert 013282 17-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue Apply 660" lb. load to motor input Release less than 187" lbs. Uncert 013282 17-APR-20 Cert 056650 20-APR-20 ECA Resolution Release at: 50"lbs Tooling ID: E11163 QC IS N/A Uncert 013282 17-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue Load Check 500 lb. Tension Load C/CW less than 201" lbs. subtract Friction Difference less than 77" lbs. Cert 056650 20-APR-20 ECA Resolution 35"lbs Tooling ID: E11163 QC IS N/A Uncert 013282 17-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue Load Check 500 lb. Tension Load C/W less than 217" lbs. subtract Friction Difference between 18" & 100" lbs Cert 056650 20-APR-20 ECA Resolution 50"lbs Tooling ID: E11163 QC IS N/A Uncert 013282 17-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue Load Check 500 lb. Compression Load C/W less than 201" lbs. subtract Friction Difference less than 77" lbs. Cert 056650 20-APR-20 ECA Resolution 65"lbs Tooling ID: E11163 QC IS N/A Uncert 013282 17-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue Load Check 500 lb. Compression Load C/CW less than 217" lbs. subtract Friction Difference between 18" - 100" lbs. Cert 056650 20-APR-20 ECA Resolution 75"lbs Tooling ID: E11163 QC IS N/A Uncert 013282 17-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue Clutch Disconnect Check (dynamic) Upper & Lower Stops, less than 780" lbs. & pinion rotates freely. Cert 056650 20-APR-20 ECA Resolution Upper: 600"lbs Lower: 600"lbs Tooling ID: E12372 QC IS N/A Uncert 013282 17-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20	

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Issues and Resolutions	
ECA Issue Clutch Disconnect Check (static) C/W less than 750" lbs. X 20 C/CW less than 750" lbs. X 20 Uncert 013282 17-APR-20 Cert 056650 20-APR-20 ECA Resolution C/W: 600"lbs x 20 C/CW: 660"lbs x 20 Tooling ID: E12372 QC IS N/A Uncert 013282 17-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue Pri. & Aux. Brake Pressure Checks 15-17 psi for 3 minutes Uncert 013282 20-APR-20 Cert 056650 20-APR-20 ECA Resolution Pri. & Aux. Brakes Both Hold 18psi for 3 Minutes Tooling ID: E11011 QC IS N/A Uncert 013282 20-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue Timing Check Gap between lower stop & ballnut .150" - .170" Uncert 013282 17-APR-20 Cert 056650 20-APR-20 ECA Resolution 0.166" Tooling ID: PER2083 QC IS N/A Uncert 013282 17-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue All index marks aligned within 10 Deg. Uncert 013282 20-APR-20 Cert 056650 20-APR-20 ECA Resolution Per CMM 27-45-12 pgs. 105-108 sec. (2) Uncert 013282 20-APR-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20	
* Issue P/N: 69-37970-1 Fig. 2 Item# 56 Requires Customer Current Work Scope Validation. Enter By 013282 17-FEB-20 Resolution Parts & Certs Have Been Reviewed & Are Acceptable For Use On This Unit. Uncert 013282 17-FEB-20 Mechanic 003095 20-FEB-20 Inspector 001780 21-APR-20	
* Issue Housing Cover Assy Has Lockwire Hole Torn Out. Enter By 013282 13-FEB-20 Resolution Repaired Housing Cover Per CMM Repair 21-1 Uncert 013282 20-FEB-20 Mechanic 056650 20-APR-20 Inspector 001780 21-APR-20 ECA Issue Remove Existing Damage Uncert 013282 13-FEB-20 Cert 003095 13-FEB-20 ECA Resolution Removed The Existing Damage Per CMM Repair 21-1 Pg. 601 Par. 2. C. (3) Uncert 013282 13-FEB-20 Mechanic 003095 13-FEB-20 Inspector 001940 13-FEB-20 ECA Issue Machine New Lockwire Hole Uncert 013282 13-FEB-20 Cert 003095 13-FEB-20 ECA Resolution Machined New Lockwire Hole & Broke All Sharp Edges Per CMM Repair 21-1 Pg. 601-603 Par. 2. C. (4) (b) & (5) & Figure 601 Uncert 013282 13-FEB-20 Mechanic 003095 13-FEB-20 Inspector 001940 13-FEB-20	

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ECA Issue Penetrant Inspection Required Uncert 013282 13-FEB-20 ECA Resolution Passed Penetrant Inspection Per CMM Repair 21-1 Pg. 601 Par. 2.C. (7) & Recorded On TR-061 Dated: 02/13/20 Uncert 013282 14-FEB-20 ECA Issue Apply Alodine & Touch Up Primer Uncert 013282 13-FEB-20 ECA Resolution Applied Alodine Per SOPM 20-43-03 & One Coat Of BMS 10-11 Type 1 Per CMM Repair 21-1 Pg. 601 Par. 2.C. (8) & (9) Uncert 013282 20-FEB-20	Cert 003095 13-FEB-20 Mechanic 003095 20-FEB-20 Cert 003095 13-FEB-20 Mechanic 056650 20-APR-20	Inspector 001780 21-APR-20 Inspector 001780 21-APR-20
* Issue Comply With S.L. 737-27-247 Per Customer Request. Enter By 013282 12-FEB-20 Resolution Verified Production Number Of Input Cam Is 607000465174 And Does Not Apply To S.L. 737-27-247. Uncert 013282 13-FEB-20	Mechanic 003095 13-FEB-20	Inspector 001780 21-APR-20
* Issue Assembly Required Per CMM. Enter By 013282 12-MAR-20 Resolution Assembled Per CMM Pgs. 730-741 Par. 2.F. (a)-(cm) Uncert 013282 20-APR-20 ECA Issue Assembly required Per CMM. Uncert 013282 12-MAR-20 ECA Resolution Partially assembled unit Per CMM Pg. 729 Par. 2.F. (1)(v)-(i) & (v)-(aa). Uncert 013282 08-APR-20 ECA Issue Assembly required Per CMM. Uncert 013282 20-APR-20 ECA Resolution Partially assembled unit Per CMM Pg. 729 Par. 2.F. (1)(aq)-(bf), (bh)-(bi) & (bi). Uncert 013282 08-APR-20 ECA Issue Assembly required Per CMM. Uncert 013282 20-APR-20 ECA Resolution Partially assembled unit Per CMM Pg. 729 Par. 2.F. (1)(bn)-(bw)(3) Uncert 013282 08-APR-20	Mechanic 056650 20-APR-20 Cert 056650 20-APR-20 Mechanic 056650 20-APR-20 Cert 056650 20-APR-20 Mechanic 056650 20-APR-20	Inspector 001780 21-APR-20 Inspector 001780 21-APR-20 Inspector 001780 21-APR-20 Inspector 001780 21-APR-20 Inspector 001780 21-APR-20
* Issue Cable Drum (#848) has damage on cable grooves. Enter By 013282 21-APR-20 Resolution Replaced with cable drum from ATS Job# 532852 RO# R374785 Per customer request. Uncert 013282 21-APR-20 ECA Issue Cable Drum (#848) requires Dye Penetrant Inspection Per CMM. Uncert 013282 21-APR-20 ECA Resolution Cable Drum Inspected on ATS Job# 532582 RO# R374785 and "PASSED" Dye Penetrant Inspection Per CMM Pg. 501-502, Par. 2.B.(4) and recorded on TR-061 Dated: 04/02/2020 Uncert 013282 21-APR-20	Mechanic 056650 21-APR-20 Cert 056650 21-APR-20 Mechanic 056650 21-APR-20	Inspector 001780 21-APR-20 Inspector 001780 21-APR-20 Inspector 001780 21-APR-20

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Customer Name	A.J. WALTER AVIATION
Customer RO No	R372276
Manufacturer	BOEING
Job Number	531151

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Cleaned per	CMM Pg. 401, Par. 2.B.(2)	Uncert 013282 12-FEB-20
Inspected per	CMM Pg. 501, Par. 2.B.(1), (4) & (5).	Mechanic 003095 13-FEB-20 Uncert 013282 13-FEB-20
Passed Final Test per	CMM Pgs. 105-108, Par. 2.D.(2)(a)-(g)	Mechanic 003095 13-FEB-20 Uncert 013282 20-APR-20
Validated that all replacement parts conform to the Manual Reference listed. See attached Components Parts Usage List for discrepancy and parts being replaced. This Unit Has Been Overhauled Other Comments TSO: 0:00 Hrs. Post UMBRA S.B. 737-27A1277 Overhauled Ball Screw Assy Installed On Unit.		
The work identified on this work order was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.		
Mechanic	013282 20-APR-20	Work Order Final Inspection Signoff
Supervisor	020060 20-APR-20	AD Requirement Verified By QC 001780 21-APR-20
Inspector	001780 21-APR-20	

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Issues and Resolutions

* Issue
Removed Seal Rings # 304 And #977 Per CMM Pg. 301 Par. 2. A. (2) (d)
F-111-Pr. 040000 10 0770 00

ECA Issue
Seal rings #304 and #977 require installation Per CMM Repair 16-1 Pg. 601, Step 2.C.(1).
Uncert 013382 12-FEB-20
Cert 003095 13-FEB-20

ECA Resolution
Machined seal ring OD on pinion gear to .791" - .800" inches and chamfer edge 45 degrees by .012" - .030" per CMM 27-45-12.
Repair 16-1 para 2.B, steps (2) & (3), Pg. 801.

ECA Resolution	17-1, para 2.C, step (2), Pg. 601.
Machined seal ring O/D on sleeve to 2.8710"-2.8730" inches per CMM	27-45-12, Repair
Uncert 010596	13-FEB-20
Mechanic 020106	13-FEB-20
Inspector 007147	13-FEB-20

ECA Issue
Apply EMS 10-11 Type I Primer per CMM Repairs 1-1, 3-3, 3-5, 4-3, 5-2, 7-1, 9-1, 10-1, 13-1
Uncert 013282 17-FEB-20
Cert 003095 20-FEB-20

* Issue
Gimbals #56 Have Worn Cadmium Plating
Enter By 013262 12-FEB-20



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Issues and Resolutions

*** Issue**
Ballscrew Requires Overhaul S/N: 2417 Unit Was Exchanged With Post UMBRA S.B. 07322-27-01 Overhauled Unit P/N: 07322P000-05
S/N: 0805, Fig. 2, Item# 16 Requires Customer Current Work Scope Validation

*** Issue**
Functional Test Required.
Enter By 013282 17-APR-20

Primary Brake End Play Check .004"-.010"
Uncert 013282 17-APR-20
FCA Resolution
Cert 056650 20-APR-20

ECA Resolution
180 lbs
Tooling ID: E1163
QC IS N/A

ECA Resolution
1607bs
Tooling ID: E1163
QC IS N/A

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1 国家 Country P.R. China		2. 中国民用航空总局 CAAC ☐ 符合性 Conformity ☐ 适航性 Airworthiness 批准放行证书/适航批准标签 AUTHORIZED RELEASE CERTIFICATE/AIRWORTHINESS APPROVAL TAG				3 证书编号 Certificate Ref. No. N-138313	
4 单位 Organization Aviation Technical Services, Inc. 3121 109th St.SW Everett, WA 98204		5 工作单/合同单/货单 Work Order/Contract/Invoice 531151					
6 序号 Item	7 内容 Description	8 件号 Part No.	9 适用性 Eligibility	10 数量 Qty	11 系列号/批号 Serial/Batch No.	12 产品状态 Status/Work	
1	STAB TRIM ACTUATOR	251A4510-11	Not Known	1	11060004X	Overhauled	
13 备注 Remarks Documents describing the actual work performed on work order #531151 are provided. ts0: 0.0, cso: 0.0 stab trim actuator overhauled and bench tested per crmm 27-45-12, rev 47 dtd 07/01/2019. note: post umbra sb 07322-27-01 ballscrew installed on unit note: sl 737-sl-27-247 dtd 04/21/14, verified production number of input cam is 607000459779.							
14 新产品 New Parts 兹声明上述产品除第13项的其它规定以外, 已按照上述国家适航条例进行制造/检查, 并且该产品 (出口产品) 符合经批准的型号设计资料和进口国提出的专用要求。 Certifies that the Part(s) identified above except as otherwise specified in block 13 was(were) manufactured/inspected in accordance with the airworthiness regulations of the stated country and/or in the case of parts to be exported with the approved design data and with the notified special requirements of the importing country.		15 使用过的产品 Used Parts 兹声明上述产品除第13项的其它规定以外, 已按照上述国家适航条例和进口国通知的特殊要求进行了工作, 该产品处于安全可用状态可以批准放行使用。 Certifies that the work specified above except as specified in block 13 was carried out in accordance with the airworthiness regulations of the stated country and the notified special requirements of the importing country and in respect to that work, the part(s) is (are) in condition for safe operation and considered ready for release to service. (over)					
16 批准人签名 Signature <i>Brian L Wilkins</i>		18 批准日期 Date 21 APRIL 2020		19 中国民航总局授权 Issued by or on behalf of the CAAC F00100532			
17 批准人姓名 (打印的) Name(Printed) Wilkins, Brian L							