



Minor Change 10072228

Installation of ADL150(B), ADL190 or ADL200

Version 2

Contents of this pdf file:

- 1 MINOR CHANGE APPROVAL 10072228**
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- 3 Installation Instruction**

Please note this minor change was fully funded by Golze Engineering and we provide it free of charge to all customers having purchased an ADL150(B), ADL190 or ADL200 device. This also includes all maintenance organizations installing ADL devices.

MINOR CHANGE APPROVAL

10072228

This Certificate/Approval is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation and in accordance with Commission Regulation (EU) No. 748/2012 to

GOLZE, SEBASTIAN

**BREDOWSTR. 29
10551 BERLIN
GERMANY**

and certifies that the change in the type design for the product listed below with the limitations and conditions specified meets the applicable Type Certification Basis and, if applicable, environmental protection requirements when operated within the conditions and limitations specified below:

Type Certificate Number: SEE EASA APPROVED MODEL LIST

Type Certificate Holder: SEE EASA APPROVED MODEL LIST

Type: SEE EASA APPROVED MODEL LIST

Model: SEE EASA APPROVED MODEL LIST

Description of Design Change:

Minor Change to install an ADL inflight weather receiver (ADL200, ADL190 or ADL150(B) unit).

EASA Certification Basis:

The Certification Basis for the original product as amended by the following additional or alternative airworthiness requirements:

the following paragraph(s) at a later amendment: 23.303, 23.305, 23.307(a), 23.561(a), 23.561(b)(3), 23.561(e), 23.603, 23.609, 23.613, 23.625(a), 23.1301, 23.1309, 23.1351(b)(1)(i), 23.1357(a)+(c), 23.1365(a)+(b)+(c) from CS 23 at issue 4

The requirements for environmental protection and the associated certified noise and/ or emissions levels of the product are unchanged and remain applicable to this certificate/approval without any impact on the noise database.

See Continuation Sheet(s)

For the European Union Aviation Safety Agency

Cologne, Germany, 15 January 2020



Dominique ROLAND
Head of Department
General Aviation



Associated Technical Documentation:

Definition in accordance with Doc-No GOLZE_MC_ADL200_V2_CP, Issue 01

Installation in accordance with Doc-No GOLZE_MC_ADL200_V2_II, Issue 01

Instructions for continued airworthiness in accordance with section 10 of Doc-No GOLZE_MC_ADL200_V2_II, Issue 01

Usage in accordance with supplement to aircraft flight manual

Doc-No GOLZE_MC_ADL200_V2_AFMS, Issue 01#or later revisions of the above listed document(s) approved/ accepted under the EASA system.

Limitations/Conditions:

As stated in installation instructions

The approval holder shall fulfill the obligations of Part 21, Point 21A.109.

Prior to installation of this change/repair it must be determined that the interrelationship between this change/repair and any other previously installed change and/ or repair will introduce no adverse effect upon the airworthiness of the product.

- End -



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US A17WE	AEROSTAR AIRCRAFT CORPORATION	PA60 Aerostar	PA-60-600 PA-60-601 PA-60-601P PA-60-602P PA-60-700P	Paragraphs 23.303, 23.305, 23.307(a), 23.561(a), 23.531(b)(3), 23.561(e), 23.603, 23.609, 23.613, 23.635(a), 23.1301, 23.1309, 23.1351(b)(1)(i), 23.1357(a), 23.1357(c), 23.1365(a), 23.1365(b), 23.1365(c) from CS23 at amendment 4	<ul style="list-style-type: none"> Installation in accordance with Doc-No GOLZE_MC_ADL200_V2_II, Issue 01, dated 06.01.2020 Instructions for continued airworthiness in accordance with section 10 of Doc-No GOLZE_MC_ADL200_V2_II, Issue 01, dated 06.01.2020 Supplement to aircraft flight manual in accordance with Doc-No GOLZE_MC_ADL200_V2_AFMS Issue 01, dated 06.01.2020
EASA.IM.A.086	ALPHA AVIATION CONCEPT LIMITED	HR200 and R2000 Series	HR200-100 HR200-100S HR200-120 HR200-120B HR200-160 R2100 R2100A R2112 R2120U R2160 R2160D R2160i	As above	As above
EASA.A.527	AQUILA AVIATION INTERNATIONAL GMBH	AQUILA AT01	AT01 AT01-100 AT01-100A AT01-100B AT01-100C	As above	As above
EASA.A.539	BERND HAGER/ANATOLI STOBBE GbR	Ruschmeyer R 90	R 90-230RG	As above	As above



EASA Approved Model List (AML)

Reference	Issue	Date
10072228	0	15.01.2020

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
EASA.A.388	BRITTEN-NORMAN AIRCRAFT LTD	BN2 Islander Series Aircraft	BN2A-8 BN2A-9 BN2A-20 BN2A-21 BN2A-26 BNA2-27 BN2B-20 BN2B-21 BN2B-26 BN2B-27 BN2T BN2T-4R BN2T-4S	As above	As above
EASA.A.368	CEAPR	HR 100 and R 1000 Series	HR 100-200 HR 100-200 B HR 100-210 HR 100-210 D HR 100-250 TR HR 100-285 C HR 100-285 TIARA R 1180 T R 1180 TD	As above	As above
EASA.A.510	CEAPR	DR 200 Series	DR 200 DR 220 DR 220 A DR 220 AB DR 220 B DR 221 DR 221 B DR 250 DR 250-160 DR 250 B DR 250 B-160 DR 253 DR 253 B	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
EASA.A.367	CEAPR	DR300 and DR400 Series	DR 300/108 DR 300/120 DR 300/125 DR 300/140 DR 300/180 R DR 315 DR 340 DR 360 DR 380 DR 400/100 DR 400/120 DR 400/120 A DR 400/120 D DR 400/125 DR 400/125i DR 400/140 DR 400/140 B DR 400/160 DR 400/160 D DR 400/180 DR 400/180 R DR 400/180 S DR 400/200 I DR 400/200 R DR 400/2+2 DR 400/500 DR 400 NGL DR 400 RP	As above	As above
EASA.A.372	CEAPR	R 3000	R 3000/140 R 3000/100 R 3000/120 R 3000/120 D R 3000/160 R 3000/160 S R 3000/180	As above	As above
EASA.A.374	CEAPR	ATL	ATL ATL "L" ATL "S"	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US A13EU	CESSNA AIRCRAFT COMPANY	Cessna F150/F152 Series	F150F F150G F150H F150J F150K F150L F150M F152 FA150K FA150L FA150M FA152 FRA150L FRA150M	As above	As above
US A4EU	CESSNA AIRCRAFT COMPANY	Cessna F172 Series	F172D F172E F172F F172G F172H F172K F172L F172M F172N F172P FP172D	As above	As above
US A26EU	CESSNA AIRCRAFT COMPANY	Cessna F177RG	F177RG	As above	As above
US A42EU	CESSNA AIRCRAFT COMPANY	Cessna F182 Series	F182P F182Q FR182	As above	As above
US A23EU	CESSNA AIRCRAFT COMPANY	Cessna F172 Series	F337E F337F F337G F337H FT337E FT337F FT337GP FT337HP	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US A18EU	CESSNA AIRCRAFT COMPANY	Cessna FR172 Series	FR172E FR172F FR172G FR172H FR172J FR172K	As above	As above
EASA.IM.A.007	CIRRUS DESIGN CORPORATION	SR-20, SR-22, SR-22T	SR20 SR22 SR22T	As above	As above
EASA.IM.A.615	CIRRUS DESIGN CORPORATION	SF50	SF50	As above	As above
EASA.A.185	COSTRUZIONI AERO. TECNAM	P2006T	P2006T	As above	As above
EASA.A.576	COSTRUZIONI AERO. TECNAM	P2010	P2010	As above	As above
EASA.A.637	COSTRUZIONI AERO. TECNAM	P2012	P2012 Traveller	As above	As above
EASA.A.412	COSTRUZIONI AERO. TECNAM	Tecnam P92	P92-J P92-JS	As above	As above
EASA.A.010	DAHER AEROSPACE	TBM700	TBM700 A TBM700 B TBM700 C1 TBM700 C2 TBM700 N	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
EASA.A.377	DAHER AEROSPACE	MS 880 and RALLYE 100 Series	MS 880 B, MS 880B-D, MS 881, MS 885, MS 886, MS 883, MS 887, MS 884, RALLYE 100S, RALLYE 100 S-D, RALLYE 100 ST, RALLYE 100 ST-D, RALLYE 110 ST, RALLYE 150 T, RALLYE 150 T-D, RALLYE 150 ST, RALLYE 150 ST-D, RALLYE 150 SV, RALLYE 150 SVS, RALLYE 180 T, RALLYE 180 T-D, RALLYE 180 TS	As above	As above
EASA.A.379	DAHER AEROSPACE	MS 890 and Rallye 235 Series	MS 890 A, MS 890 B, MS 892 A.150, MS 892 B, MS 892 E, MS 892 E-D, MS 893 A, MS 893 B, MS 893 E, MS 893 E-D, MS 894 A, MS 894 C, MS 894 E, RALLYE 235 E, RALLYE 235 E-D, RALLYE 235 A, RALLYE 235 C, RALLYE 235 F	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
EASA.A.378	DAHER AEROSPACE	TB series	TB 10 TB 20 TB 200 TB 21 TB 9	As above	As above
EASA.IM.A.223	DIAMOND AIRCRAFT IND. INC	DA 20	DA20-A1 DA20-C1	As above	As above
EASA.IM.A.022	DIAMOND AIRCRAFT IND. INC	DA 40	DA40 DA40D DA40F DA40NG	As above	As above
EASA.A.005	DIAMOND AIRCRAFT INDUSTRIES	DA 42	DA42 DA42M DA42M-NG DA42NG DA62	As above	As above
EASA.A.065	DIAMOND AIRCRAFT INDUSTRIES	H36	H 36 "DIMONA" HK 36 "SUPER DIMONA" HK 36 R "SUPER DIMONA" HK 36 TS HK 36 TC HK 36 TTS HK 36 TTC HK 36 TTC-ECO	As above	As above
US 1A21	DYNAC AEROSPACE CORPORATION	Aero Commander	(Aero Commander) 100	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
EASA.A.061	AIRBUS POLAND SPOLKA AKCYJNA	PZL-104 Wilga series	PZL-104MA Wilga 2000 PZL-104MF Wilga 2000 PZL-104MN Wilga 2000 PZL-104M Wilga 2000 PZL-104 Wilga 32 PZL-104 Wilga 32A PZL-104 Wilga 35 PZL-104 Wilga 35A PZL-104 Wilga 80	As above	As above
EASA.IM.A.171	ECLIPSE AEROSPACE INCORPORATED	EA500	EA500	As above	As above
EASA.IM.A.157	EMBRAER S.A.	Embraer EMB-500	EMB-500	As above	As above
EASA.IM.A.158	EMBRAER S.A.	Embraer EMB-505	EMB-505	As above	As above
EASA.A.362	EXTRA	EA 300	EA 300 EA 300/200 EA 300/L EA 300/LC EA 300/LT EA 300/S EA 300/SC	As above	As above
EASA.A.620	EXTRA AEROBATIC AIRCRAFT GmbH	EXTRA NG	EXTRA NG	As above	As above
EASA.A.537	FLIGHT DESIGN general aviation	CT	CTLS-ELA	As above	As above
JP 20-10	FUJI HEAVY INDUSTRIES LTD.	FA-200	FA-200-160	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
JP 22-2	FUJI HEAVY INDUSTRIES LTD.	FA-200	FA-200-180AO	As above	As above
JP 22-6	FUJI HEAVY INDUSTRIES LTD.	FA-200	FA-200-180	As above	As above
EASA.IM.A.042	GA8 AIRVAN PTY. LTD.	GA8-Series	GA8 GA8-TC 320	As above	As above
EASA.A.075	GROB AIRCRAFT AG	G 120	G 120A G 120A-I	As above	As above
EASA.A.565	GROB AIRCRAFT AG	G 120TP	G 120TP-A	As above	As above
EASA.A.364	GROB AIRCRAFT AG	Grob G 115	G 115 G 115A G 115B G 115C G 115C2 G 115D G 115D2 G 115E G 115EG G 115TA	As above	As above
DE TC 817	GROB AIRCRAFT AG	G109	G109 G109B	As above	As above
EASA.A.586	LEONARDO S.p.A.	F260	F260 F260B F260C F260D F260E F260F SF260TP	As above	As above
EASA.A.587	LEONARDO S.p.A.	S205/S208	S205-18/F S205-18/R S205-20/F S205-20/R S205-22/R S208 S208A	As above	As above

EASA Approved Model List (AML)

Reference	Issue	Date
10072228	0	15.01.2020

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US A10SW	MITSUBISHI HEAVY INDUSTRIES	MU-2 (US A10SW)	MU-2B-25 MU-2B-26 MU-2B-26A MU-2B-35 MU-2B-36A MU-2B-40 MU-2B-60	As above	As above
JP 25	MITSUBISHI HEAVY INDUSTRIES	MU-2 (JP 25)	MU-2B-30 MU-2B-35 MU-2B-36	As above	As above
EASA.IM.A.266	MOONEY AVIATION COMPANY, INC.	M20	M20M M20R	As above	As above
US 2A3	MOONEY AVIATION COMPANY, INC.	M20	M20 M20A M20B M20C M20D M20E M20F M20G M20J M20K M20L M20S M20TN	As above	As above
US A6SW	MOONEY AVIATION COMPANY, INC.	M22	M22	As above	As above
EASA.A.384	PIAGGIO AVIATION S.p.A.	P.166	P.166 P.166 B P.166 C P.166 DL3 P.166 DP1 P.166 S	As above	As above
EASA.A.089	PILATUS AIRCRAFT LTD.	PC-12	PC-12 PC-12/45 PC-12/47 PC-12/47E	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
EASA.A.594	PILATUS AIRCRAFT LTD.	PC-24	PC-24	As above	As above
CH F 56-10	PILATUS AIRCRAFT LTD.	PC-6	PC-6 PC-6/350 PC-6/350-H1 PC-6/350-H2 PC-6/A PC-6/A1-H2 PC-6/A2-H2 PC-6/A-H1 PC-6/A-H2 PC-6/B1-H2 PC-6/B2-H2 PC-6/B2-H4 PC-6/B-H2 PC-6/C1-H2 PC-6/C-H2 PC-6-H1 PC-6-H2	As above	As above
US 1A10	PIPER AIRCRAFT, INC.	PA-23	PA-23-235 PA-23-250 PA-E23-250	As above	As above
US 1A15	PIPER AIRCRAFT, INC.	PA-24 (Comanche)	PA-24 PA-24-250 PA-24-260 PA-24-400	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US 2A13	PIPER AIRCRAFT, INC.	PA-28	PA-28-140 (Cherokee Cruiser) PA-28-150 (Cherokee) PA-28-151 (Cherokee Warrior) PA-28-160 (Cherokee) PA-28-161 PA-28-161 (Warrior II) PA-28-161 (Warrior III) PA-28-180 (Archer) PA-28-180 (Cherokee) PA-28-181 (Archer II) PA-28RT-201T (Turbo Dakota) PA-28-235 (Cher.Pathfinder) PA-28-236 (Dakota) PA-28R-180 (Arrow) PA-28R-200 (Arrow) PA-28R-200 (Arrow II) PA-28R-201 (Arrow III) PA-28R-201T (Turbo Arrow III) PA-28RT-201 (Arrow IV) PA-28-201T (Turbo Arrow IV) PA-28S-160 (Cherokee) PA-28S-180 (Cherokee)	As above	As above
EASA.IM.A.234	PIPER AIRCRAFT, INC.	PA-28	PA-28-181 (Archer III)	As above	As above
US A20SO	PIPER AIRCRAFT, INC.	PA-31 (Navajo)	PA-31 PA-31-300 PA-31-325 PA-31-350 (Chieftain)	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US A8EA	PIPER AIRCRAFT, INC.	PA-31P, PA-31T	PA-31P (Pressurized Navajo), PA-31T1 (Chey. I/Cheyenne IA), PA-31T2 (Cheyenne IIXL), PA-31T3, PA-31T (Cheyenne/Cheyenne II)	As above	As above
US A3SO	PIPER AIRCRAFT, INC.	PA-32	PA-32-260 (Cherokee Six 260) PA-32-300 (Cherokee Six 300) PA-32-301 (Saratoga) PA-32-301T (Turbo Saratoga) PA-32R-300 (Lance) PA-32R-301 (Saratoga SP) PA-32R-301T (Turbo SaratogaSP) PA-32RT-300 (Lance II) PA-32RT-300T (Turbo Lance II) PA-32S-300 (Cher.Six Seaplane)	As above	As above
EASA.IM.A.239	PIPER AIRCRAFT, INC.	PA-32	PA-32-301FT (Piper 6X) PA-32-301XTC (Piper 6XT) PA-32R-301 (Saratoga II HP) PA-32R-301T (Saratoga II TC) Piper 6X Piper 6XT	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US A7SO	PIPER AIRCRAFT, INC.	PA-34	PA-34-200 (Seneca) PA-34-200T (Seneca II) PA-34-220T (Seneca III) PA-34-220T (Seneca IV)	As above	As above
EASA.IM.A.090	PIPER AIRCRAFT, INC.	PA-34	PA-34-220T (Seneca V)	As above	As above
US A18SO	PIPER AIRCRAFT, INC.	PA-38	PA-38-112	As above	As above
US A23SO	PIPER AIRCRAFT, INC.	PA-42, PA-42R	PA-42-1000 (Cheyenne 400LS) PA-42-720 (Cheyenne IIIA) PA-42-720R PA-42 (Cheyenne III)	As above	As above
EASA.IM.A.232	PIPER AIRCRAFT, INC.	PA-44	PA-44-180 (Seminole) PA-44-180T (Turbo Seminole)	As above	As above
EASA.IM.A.077	PIPER AIRCRAFT, INC.	PA-46	PA-46-310P PA-46-350P PA-46-500TP PA-46-600TP PA-46R-350T	As above	As above
EASA.A.011	SST FLUGTECHNIK GmbH	EA 400	EA 400 EA 400-500	As above	As above
EASA.A.054	Stemme AG	Stemme S10	Stemme S10, Stemme S10-V, Stemme S10-VT, Stemme S12	As above	As above
US A23CE	BEECHCRAFT CORPORATION	58	58P 58PA 58TC 58TCA	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US A12CE	BEECHCRAFT CORPORATION	60	60 A60 B60	As above	As above
EASA.IM.A.277	TEXTRON AVIATION INC.	Beechcraft A100, 200, 300, 1900	B200 B200C B200CGT B200GT B300 B300C	As above	As above
US A24CE	TEXTRON AVIATION INC.	Beechcraft A100, 200, 300, 1900	1900 1900C 1900D 200 200C 200CT 200T 300 300LW A100-1 A200 A200C B200CT B200T	As above	As above
US 3A12	TEXTRON AVIATION INC.	Cessna 172 Series (Skyhawk)	172 172A 172B 172C 172D 172E 172F 172G 172H 172I 172K 172L 172M 172N 172P 172Q	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
EASA.IM.A.051	TEXTRON AVIATION INC.	Cessna 172 Series (Skyhawk)	172R 172S	As above	As above
US 3A20	TEXTRON AVIATION INC.	Beechcraft 65, 70, 90	65 65-80 65-88 65-90 65-A80 65-A80-8800 65-A90 65-A90-1 65-A90-2 65-A90-3 65-A90-4 65-B80 70 A65 A-65-8200 B90 C90 E90 H90	As above	As above
EASA.IM.A.503	TEXTRON AVIATION INC.	Beechcraft 65, 70, 90	C90A C90GT C90GTi	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US 3A13	TEXTRON AVIATION INC	Cessna 182 Series (Skylane)	182 182A 182B 182C 182D 182E 182F 182G 182H 182J 182K 182L 182M 182N 182P 182Q 182R R182 T182 TR182	As above	As above
EASA.IM.A.052	TEXTRON AVIATION INC.	Cessna 182 Series (Skylane)	182S 182T T182T	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US A4CE	TEXTRON AVIATION INC.	Cessna 206 Series (Stationair)	206 P206 P206A P206B P206C P206D P206E TP206A TP206B TP206C TP206D TP206E TU206A TU206B TU206C TU206D TU206E TU206F TU206G U206 U206A U206B U206C U206D U206E U206F U206G	As above	As above
EASA.IM.A.053	TEXTRON AVIATION INC.	Cessna 206 Series (Stationair)	206H T206H	As above	As above
EASA.IM.A.226	TEXTRON AVIATION INC.	Cessna 208 (Caravan)	208 208B	As above	As above
EASA.IM.A.502	TEXTRON AVIATION INC.	Cessna 510 (Mustang)	510	As above	As above
EASA.IM.A.078	TEXTRON AVIATION INC.	Cessna 525 Series (Citation)	525 525A 525B 525C	As above	As above
US A34CE	TEXTRON AVIATION INC.	T303	T303	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US 3A19	TEXTRON AVIATION INC.	150 Series	150 150A 150B 150C 150D 150E 150F 150G 150H 150J 150K 150L 150M 152 A150K A150L A150M A152	As above	As above
US 3A17	TEXTRON AVIATION INC.	172RG, R172 and 175	172RG 175 175A 175B 175C P172D R172E R172F R172G R172H R172J R172K	As above	As above
US A13CE	TEXTRON AVIATION INC.	177 Fixed gear	177 177A 177B	As above	As above
US A20CE	TEXTRON AVIATION INC.	177 RG	177RG	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US 5A6	TEXTRON AVIATION INC.	180 series	180 180A 180B 180C 180D 180E 180F 180G 180H 180J 180K	As above	As above
US 3A24	TEXTRON AVIATION INC.	185 series	185 185A 185B 185C 185D 185E A185E A185F	As above	As above
US A16CE	TEXTRON AVIATION INC	207 Series	207 207A T207 T207A	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US 3A21	TEXTRON AVIATION INC	210 series	210	As above	As above
			210-5 (205)		
			210-5A (205A)		
			210A		
			210B		
			210C		
			210D		
			210E		
			210F		
			210G		
			210H		
			210J		
			210K		
			210L		
			210M		
			210N		
			210R		
			P210N		
			P210R		
			T210F		
			T210G		
T210H					
T210J					
T210K					
T210L					
T210M					
T210N					
T210R					



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US 3A10	TEXTRON AVIATION INC	310 series	310 310B 310C 310D 310F 310G 310H 310I 310J 310J-1 310K 310L 310N 310P 310Q 310R E310H E310J T310P T310Q T310R	As above	As above
US A6CE	TEXTRON AVIATION INC	337 series	337 337A 337B 337C 337D 337E 337F 337G 337H M337B P337H T337B T337C T337D T337E T337F T337G T337H T337H-SP	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US A7CE	TEXTRON AVIATION INC	400 series	401 401A 401B 402 402A 402B 402C 411 411A 414 414A 421 421A 421B 421C 425	As above	As above
US 3A25	TEXTRON AVIATION INC	320-, 340-Series	320 320-1 320A 320B 320C 320D 320E 320F 335 340 340A	As above	As above
US A25CE	TEXTRON AVIATION INC	404/406	404	As above	As above
US A28CE	TEXTRON AVIATION INC	441	441	As above	As above



Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US 3A15	TEXTRON AVIATION INC	Beechcraft 33, 35, 36 (Bonanza)	35-33 35-A33 35-B33 35-C33 35-C33A 36 A36 A36TC B36TC E33 E33A E33C F33 F33A F33C G33 H35 J35 K35 M35 N35 P35 S35 V35 V35A V35B	As above	As above
EASA.IM.A.279	TEXTRON AVIATION INC	Beechcraft 33, 35, 36 (Bonanza)	G36	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US 3A16	TEXTRON AVIATION INC	Beechcraft 55, 56, 58, 95	56TC 58 58A 95 95-55 95-A55 95-B55 95-B55A 95-B55B 95-C55 95-C55A A56TC B95 B95A D55 D55A D95A E55 E55A E95	As above	As above
EASA.IM.A.280	TEXTRON AVIATION INC.	Beechcraft 55, 56, 58, 95	G58	As above	As above
US A11EA	TRUE FLIGHT HOLDINGS LLC	AA-1	AA-1 AA-1A AA-1B AA-1C	As above	As above
US A16EA	TRUE FLIGHT HOLDINGS LLC	AA-5	AA-5, AA-5A AA-5B AG-5B	As above	As above
US 6A1	TWIN COMMANDER AIRCRAFT L.L.C.	Twin Commander 500 Series	500 500A 500B 500S 500U 520 560 560A 560E	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
US 2A4	TWIN COMMANDER AIRCRAFT L.L.C.	Twin Commander 600 Series	560-F 680 680E 680F 680FL 680FL(P) 680T 680V 680W 681 685 690 690A 690B 690C 690D 695 695A 695B 720	As above	As above
US A12SW	TWIN COMMANDER AIRCRAFT L.L.C.	Twin Commander 700 Series	700	As above	As above
EASA. A.385	VULCANAIR S.P.A.	VULCANAIR P.68	AP68TP-300 "Spartacus" AP68TP-600 "Viator" P.68B "Victor" P.68C P.68C-TC P.68 "Observer" P.68 "Observer 2" P.68R "Victor" P.68TC "Observer" P.68 "Victor"	As above	As above
EASA.A.027	ZLIN AIRCRAFT A.S.	ZLIN Z 42 Series	Z 142 Z 142 C Z 242 L Z 42 M Z 42 MU	As above	As above

Type Certificate Number	Type Certificate Holder	Type	Model	Certification Basis	Associated Technical Documentation
EASA.A.028	ZLIN AIRCRAFT A.S.	ZLIN Z 43 Series	Z 143 L Z 143 LSi Z 43	As above	As above



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EASA Approved Airplane Flight Manual Supplement

AML Minor Change for ADL inflight weather receiver

Doc-No: GOLZE_MC_ADL200_V2_AFMS

Issue 01

06.01.2020

A/C Manufacturer: _____
A/C Type: _____
A/C Model: _____
A/C Serial Number: _____
A/C Registration: _____

Issue	Date	Change
01	06.01.2020	Initial Issue

The content has been approved under the authority of EASA under approval no: _____

The document must always be carried in the aircraft. It describes the operating procedures when installed according to the installation instructions Doc.-No: GLZ_MC_ADL200_V2_II Issue 01 or later.

The information contained herein, supplements the or supersedes the basic Airplane Flight Manual only in the areas listed herein. For limitations, procedures and performance information not contained within this document, consult the Airplane Flight Manual.

SECTION 1 - General

The document contains information which is necessary for safe operation of the Golze Engineering ADL200, ADL190 or ADL150/150B inflight weather receiver.

The ADL200 is a satellite weather receiver with additional 4G/LTE, ADS-B 1090 MHz traffic and AHRS. The ADS-B system is a receiver only. The 4G/LTE link is used in order to reduce satellite transmission costs when flying slow and low enough to get a connection. The system provides inflight weather through either the 4G/LTE or an Iridium data link. It distributes the weather via an WiFi Interface to an iPad/iPhone running the ADLConnect App. The AHRS functionality is for information only and not to be used for any navigational operations.

The ADL190 is a based on the ADL200 but does not contain the 4G/LTE module.

The ADL150/B is also based on the ADL200 but does not contain the 4G/LTE module, no ADS-B traffic receiver and no AHRS module.

System	4G/LTE	ADS-B IN	AHRS	IRIDIUM
ADL200	YES	YES	YES	YES
ADL190	NO	YES	YES	YES
ADL150/B	NO	NO	NO	YES

The system is powered from the aircraft avionics bus via a 1 AMP circuit breaker labelled "ADL".

The System can be integrated with Avidyne IFD Series Navigators or Garmin GNS/GTN Series Navigators or similar. The ADL system can receive flightplans or transmit graphical weather and traffic data to the connected systems.

SECTION 2 – Limitations

The system is complementary only and not to be used for primary navigation. It must not be used for guidance on icing, thunderstorms or any other weather conditions. The information provided is not verified to any airworthiness standard.

SECTION 3 – Emergency Procedures

No change to basic AFM.

SECTION 4 – Normal Procedures

No change to basic AFM.

SECTION 5 – Performance

No change to basic AFM.

SECTION 6 - Weight and Balance

The additional weight of the ADL system is 252 to 341 grams depending on the configuration. A change on weight & balance is negligible.

SECTION 7 - Systems Description

The Golze Engineering ADL200 User and Installation Manual Rev. 2.00 or later, or the ADL150/ADL150B User and Installation Manual Rev. 2.00 or later contain further information on system operation.



“Installation Instruction”

AML Minor Change for ADL inflight weather receiver V2

Doc-No: GOLZE_MC_ADL200_V2_II

Issue 01

06.01.2020

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1 Introduction

This document describes the installation of the Golze Engineering ADL200, ADL190 and ADL150/ADL150B Series inflight weather receiver system with an optional installation of the ADLRS232 interface and ADS-B 1090Mhz Low Noise Amplifier (LNA).

It covers two options for different antenna installations:

- This change approves the installation of the internal Iridium, ADS-B IN and LTE antennas.
- Alternatively, it approves the usage of an already installed and approved external Iridium, ADS-B IN or LTE antenna

1.1 References

- [1] ADL200 User and Installation Manual Rev. 2.00 or later
- [2] ADL150/ADL150B User and Installation Manual Rev. 2.00 or later
- [3] AC 43.13-1B, Acceptable Methods, Techniques, and Practices – Aircraft Inspection and Repair
- [4] AC 43.13-2B, Acceptable Methods, Techniques, and Practices – Aircraft Alterations
- [5] Airplane Flight Manual Supplement Doc-No: GLZ_MC_ADL200_V2_AFM Issue 01.
- [6] Click Bond “Internally-Fixtured Fastener Installation Instructions” CB7200168-A

2 Applicability

This change is applicable to the aircraft models listed in the Approved Model List Doc-No: GLZ_MC_ADL200_V2_AML Issue 01.

3 Limitations

The equipment is not approved for primary navigation. It must not be used for primary navigation. Usage is for improvement of situational awareness only.

4 Approved Equipment

This change covers and approves the installation of the following equipment:

- Golze Engineering ADL200 Satellite Weather Receiver
- Golze Engineering ADL190 Satellite Weather Receiver
- Golze Engineering ADL150/ADL150B Satellite Weather Receiver
- Golze Engineering ADLRS232 – ADL RS-232 Combiner
- Golze Engineering/RTL-SDR ADS-B 1090 Mhz Low Noise Amplifier (LNA)

5 Required Parts

The following parts are required:

Name	Quantity	Part Number
1A Circuit Breaker	1	MS26574 or MS22073 series (1 AMP)
Wire AWG22	As reqd.	M22759/16-22-9 or as approved per 43.13-1B
Wire shielded, 1 conductor	As reqd.	M27500-22SB1T23 or as approved per 43.13-1B
Screw	4	MS24693
Nut	4	MS21044N06
Washer	4	NAS1149FN632P
Adhesive	As reqd. (alternate)	Tesa Powerbond ULTRA STRONG or equivalent (10kg per 10cm at 19mm width)
The following parts are only required if an external antenna is being used (one set per Antenna):		
Coax Cable	As reqd.	RG400 or RG142
SMA Connector	1	SMA to RG400/RG142 connector
BNC or TNC Connector	1	BNC or TNC to RG400/RG142 connector (selection is based on installed antenna connector type)
The following parts are required if the ADLRS232 is installed:		
Cable tie mount	2	Clickbond CB3019 or CB4019. Mount with CB200-40.
Glue	As reqd.	Clickbond CB200-40
Adhesive	As reqd. (alternate)	Tesa Powerbond ULTRA STRONG or equivalent (10kg per 10cm at 19mm width)
The following parts are required if the ADS-B 1090 Mhz LNA is installed:		
Cable tie mount	2	Clickbond CB3019 or CB4019. Mount with CB200-40.
Glue	As reqd.	Clickbond CB200-40
Adhesive	As reqd. (alternate)	Tesa Powerbond ULTRA STRONG or equivalent (10kg per 10cm at 19mm width)

Table 1 - Required Parts

6 Compatible External Antennas


The following antennas are compatible with the ADL150(B)/ADL190/ADL200 System:


Type	Manufacturer	Part Number
Iridium	Comant	CI 490-1
Iridium	Sensor Systems	S67-1575-109
Iridium	Sensor Systems	S67-1575-165
Iridium	Sensor Systems	S67-1575-365
Iridium	Antcom	S3IR16RR
Iridium	Dayton Granger	L10-780
Iridium	Dayton Granger	L10-787
ADS-B IN & LTE	Comant	CI101
ADS-B IN & LTE	Comant	CI105-16
ADS-B IN & LTE	Comant	CI105
ADS-B IN & LTE	Comant	CI110-40-30
ADS-B IN & LTE	Comant	CI110-41-30
ADS-B IN & LTE	Comant	CI110-60-30
ADS-B IN & LTE	Comant	CI110-61-30
ADS-B IN & LTE	Dorne & Margolin	DMNI50-2-2

Table 2 - Compatible external antennas

The usage of similar types of antennas are permissible if the electrical specifications are similar to the listed antennas and ground testing has been successfully completed.

7 Mechanical Installation

Step	Description	Sign
01A Or	Install the ADL receiver on a suitable location by using the Tesa Powerbond ULTRA STRONG attached at the full surface of the receiver housing. Clean the surface prior to the application of the adhesive by a suitable mean to remove any residues of dirt, fat and grease.	
01B	Install the ADL receiver on a supporting structure behind the instrument panel via the 4 screws, washers and nuts.	
02 (ADL200 only)	Install the 4G/LTE antenna on either the left or right side of the windscreen (front window or side window) as close to the structural frame as possible. Make sure the view is not obstructed. Use the adhesive applied to the antenna. Clean the surface prior to the application of the adhesive by a suitable mean to remove any residues of dirt, fat and grease.  <i>Note: Not required if an external 4G/LTE antenna is being used</i>	

<p>03 (ADL200 and ADL190 only)</p>	<p>Install the ADS-B In antenna on either the left or right side of the windscreen (front window or side window) as close to the structural frame as possible. Make sure the view is not obstructed. Use the adhesive applied to the antenna. Clean the surface prior to the application of the adhesive by a suitable mean to remove any residues of dirt, fat and grease.</p> <p>Please note that cable length has a big effect on ADSB reception. We recommend a maximum of 90cm/3 feet of RG174 cable between the antennas and either the ADL190/200 device or the optional low noise amplifier. The antenna should be delivered with this cable length attached. Do not use any extensions or similar. Cable length between the low noise amplifier and the ADL device itself is less critical. 5m and more have been tested with good results.</p> <p><i>Note: Not required if an external ADS-B In antenna is being used</i></p>	
<p>04 (ADL200 and ADL190 only)</p>	<p>Install the Iridium antenna on top of the glareshield as horizontally as possible. Make sure the view is not obstructed. Use the Tesa Powerbond ULTRA STRONG attached at the full surface of the bottom of the antenna housing. Clean the surface prior to the application of the adhesive by a suitable mean to remove any residues of dirt, fat and grease.</p> <div style="text-align: center;">  </div> <p><i>Note: Not required if an external Iridium antenna is being used</i></p>	
<p>05A (ADLRS232 only) or</p>	<p>Install the ADLRS232 by using the Clickbond Swivel Cable tie mount CB3019 or CB4019 and CB200-40 glue. Follow the Clickbond installation instruction "Internally-Fixtured Fastener Installation Instructions" CB7200168-A. Install the ADLRS232 via ty-raps on the Clickbond cable tie mount.</p>	
<p>05B (ADLRS232 only)</p>	<p>Install the ADLRS232 on a suitable location by using the Tesa Powerbond ULTRA STRONG attached at the full surface of the receiver housing. Clean the surface prior to the application of the adhesive by a suitable mean to remove any residues of dirt, fat and grease.</p>	
<p>06A (ADS-B 1090 Mhz LNA only) or</p>	<p>Install the ADS-B 1090Mhz LNA by using the Clickbond Swivel Cable tie mount CB3019 or CB4019 and CB200-40 glue. Follow the Clickbond installation instruction "Internally-Fixtured Fastener Installation Instructions" CB7200168-A. Install the ADLRS232 via ty-raps on the Clickbond cable tie mount.</p>	
<p>06B (ADS-B 1090 Mhz LNA only)</p>	<p>Install the ADS-B 1090Mhz LNA on a suitable location by using the Tesa Powerbond ULTRA STRONG attached at the full surface of the receiver housing. Clean the surface prior to the application of the adhesive by a suitable mean to remove any residues of dirt, fat and grease.</p>	

8 Electrical Installation

Note: All wiring installations need to be according to the standards described within AC 43.13-1B and 43.13-2B.

Step	Description	Sign
01	Install the 1A Circuit Breaker on the avionics bus.	
02	Label the 1A CB with "ADL150" / ADL150B / "ADL190" / "ADL200"	
03A Or	Route the antenna wires to the receiver. Attach the wires with cable ties in an interval of 150-200mm.	
03B	For usage with existing external antenna only: <ul style="list-style-type: none"> - Route a RG142 or RG400 to the Iridium, 4G/LTE or ADS-B In Antenna respectively - Install the SMA and BNC/TNC connector as per OEM instruction 	
04	Connect the antenna wires to the appropriate port.	
05	Install wiring as per wiring diagram Figure 1. Label the wires according to the wiring diagram as per Figure 1.	
06 (optional)	For RS232 Interface to existing GPS/FMS refer to the corresponding installation manual (see Figure 1 or Figure 2)	
07 (optional)	Install wiring between ADL and ADLRS232 according to ADL Installation Manual (see Figure 3)	
08 (optional)	Install ADS-B 1090Mhz LNA between ADL and ADS-B IN antenna according to ADL Installation Manual	
07	Perform a continuity check of all added wiring.	
08	Perform an FOD (foreign object damage) inspection.	

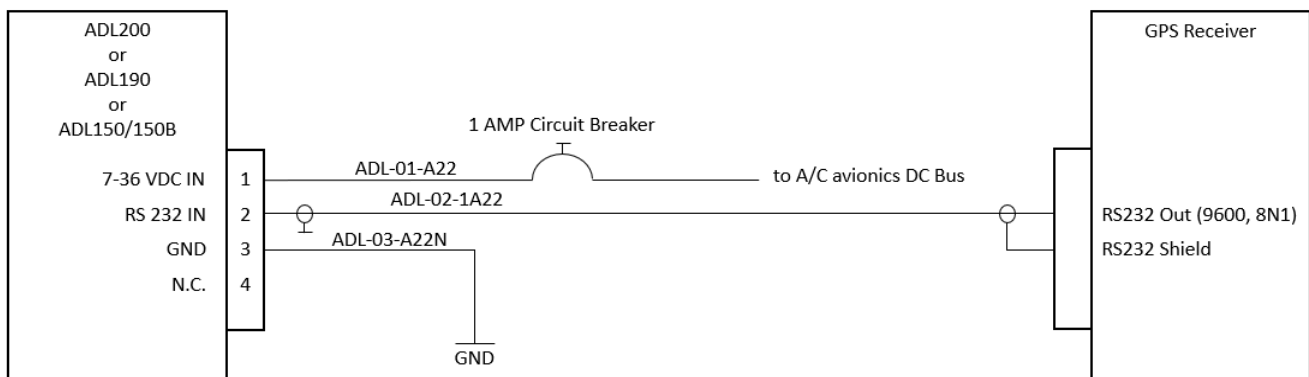
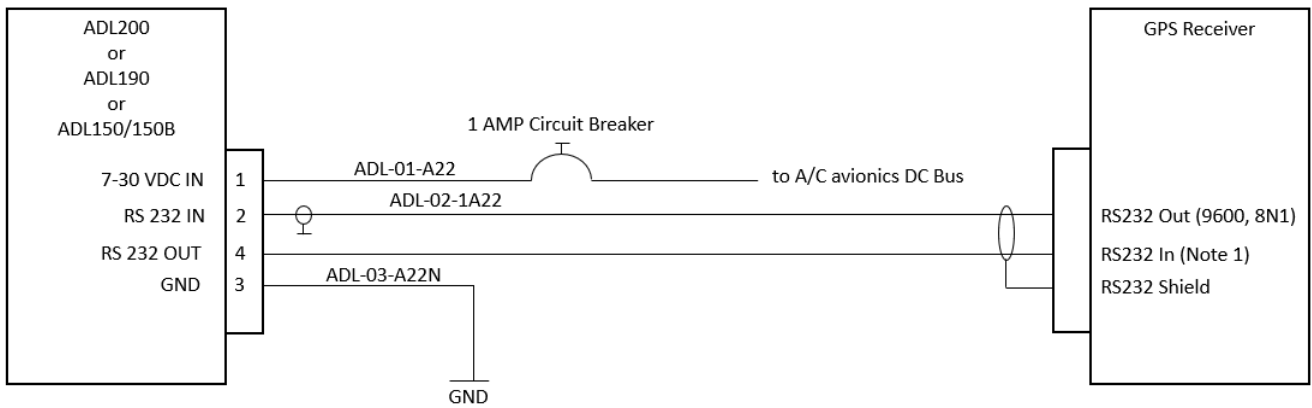
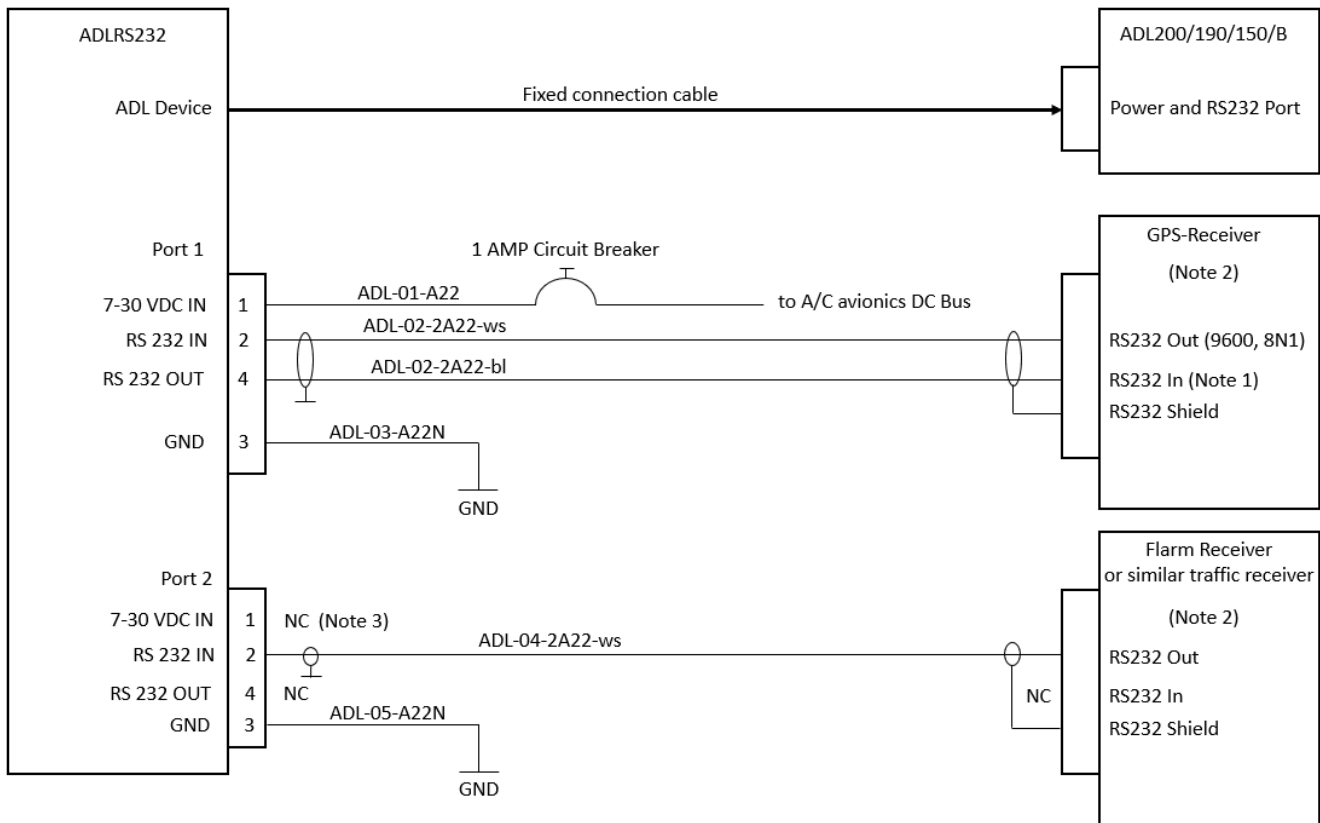


Figure 1 - Wiring Diagram – Use of RS232 (GPS) IN only



Note 1: Refer to ADL Installation Manual for proper configuration

Figure 2 - Wiring Diagram – Use of RS232 (GPS) IN and OUT



Note 1: Refer to ADL Installation Manual for proper configuration

Note 2: Refer to corresponding system installation manual for proper wiring and configuration

Note 3: Connect VCC to one port at a time only

Figure 3 - Wiring Diagram – Use of RS232 (GPS) IN and OUT and ADLRS232 with GPS and Flarm Receiver

8.1 Electrical Load

It is the installers responsibility to update the Aircraft Electrical Load Analysis.

The increase in electrical load due to the ADL200/ADL190/ADL150 or 150B Series installation is 5W (0.36A@14V or 0.2A@28V).

9 System Check Out

Perform the following tasks prior to conducting the system check out:

1. A/C power needs to be available. Consult the applicable Aircraft Maintenance Manual for further guidance and safety precautions.

9.1 Functional Test

Step	Description	Pass / Fail
01	Turn on the A/C main bus and avionics bus	NA
02	Perform the "Connecting your iPad/iPhone/Android device to the ADL" procedure as per ADL series installation manual	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
03	Start and set up the ADL connect app on an iPad/iPhone/Android as per ADL series installation manual, make sure the own callsign has been properly set up	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
04	Select "config" within the ADL connect app, scroll down and check if GPS position fix has been determined.	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
05 (ADL200 only)	Select "config" within the ADL connect app, then select "Cellular Only"	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
06 (ADL200 only)	Perform a weather download as per ADL series installation manual	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
07 (ADL200 only)	Select "config" within the ADL connect app, then select "Iridium Only"	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
08	Perform a weather download as per ADL series installation manual until the message "request uploaded" is displayed. Note: This allows testing of the unit without applying for the service.	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
09 (ADL200 only)	Select "config" within the ADL connect app, then select "Hybrid"	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
10 (ADL200 and ADL190 only)	Check if the system does receive any other ADS-B targets, perform a check-flight if no targets are being received on ground.	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
11	If the system is connected to an installed GPS source, check the RS232 interface as follows: <ul style="list-style-type: none"> - Program a flightplan in the A/C GPS/FMS system - Activate "FPL IN" within the ADL Connect app - Verify the flight plan has been received by the ADL Connect app 	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL

12	<p>If the system is connected to an installed GDL90 receiving device, check the RS232 interface as follows:</p> <ul style="list-style-type: none"> - Perform one satellite or LTE weather download and check the radar data is displayed on the GDL90 compatible device - If using an ADL200 or ADL190 check if ADS-B traffic is displayed on the GDL90 receiving device. 	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
13	<p>If the system is connected to an installed FLARM device, check the RS232 interface as follows:</p> <ul style="list-style-type: none"> - Verify FLARM target appear in the ADLConnect app when connected to the ADL device. You may use the test feature of your FLARM device to generate a signal if no real targets are received. Please note that the ADL device can only display these targets if it has got a GPS fix. 	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
14	Turn off the A/C main bus and avionics bus	NA

9.2 EMI/EMC Test

An EMI/EMC check needs to be performed after every ADL Series installation to verify no EMI/EMC impact on existing A/C systems is present.

Step	Description	Pass / Fail
01	Turn on the A/C main bus and avionics bus except the ADL Series system (PULL circuit breaker)	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
02	Verify all electrical and avionics systems are properly functioning.	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
03	Apply power to the ADL Series system (CLOSE circuit breaker).	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
04	Verify ADL Series system functions properly.	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
05 (ADL200 only)	Select "config" within the ADL connect app, then select "Cellular Only"	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
06 (ADL200 only)	Perform a weather download as per ADL series installation manual	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
07 (ADL200 only)	Verify no EMI/EMC impact is present by checking the impact on each system via Table 3 - SOURCE/VICTIM Matrix.	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
08 (ADL200 only)	Select "config" within the ADL connect app, then select "Iridium Only"	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
09	Perform a weather download as per ADL series installation manual until the message "request uploaded" is displayed. Note: This allows testing of the unit without applying for the service.	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
10	Verify no EMI/EMC impact is present by checking the impact on each system via Table 3 - SOURCE/VICTIM Matrix.	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
11 (ADL200 only)	Select "config" within the ADL connect app, then select "Hybrid"	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL
12	Turn off the A/C main bus and avionics bus	NA

SOURCE	VICTIM																														
	ADL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 3 - SOURCE/VICTIM Matrix

Note:

- Mark the tick box with a tick mark when test has been passed.
- Mark the tick box with a cross when test has been failed.

10 Maintenance and Instructions for Continued Airworthiness

Annually (during the annual inspection) check the condition of the adhesive installed to mount the antennas and as well the receiver (if applicable).

Annually (during the annual inspection) check the condition of the click bond studs installed to mount the ADLRS232, LNA or receiver (if applicable).

Further maintenance is on condition only.

For further information related to continued airworthiness refer to www.ing-golze.de.

11 Document History

Issue	Date	Change
01	06.01.2020	Initial Issue