AIRGLAS MANUAL # L2700-427-105

INSTRUCTIONS for CONTINUED AIRWORTHINESS

Including

INSTALLATION, MAINTENANCE & SERVICE INSTRUCTIONS

AIRGLAS ®
Model L2700-427 Ski Kit
for
Bell 427 Helicopter

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RECORD OF REVISIONS

REVISION NUMBER	ISSUE DATE	Page & Revision #	BY	EXPLATION OF REVISION
Original	2/6/2007	-	David W. Schade	Original Document
A	4/5/2007	3 / 1	David W. Schade	Changed form of revision recording to show explanations.
B	5/5/2007	1-13 / 1	Christopher E. Donnelly	Corrected C.G. & weight data on page 5. Corrected grammar, punctuation, structure and wording throughout the manual.

Distribution of Changes

In the event that any changes are made to any portion of this manual L2700-427-105; a new copy of the revised manual or affected pages will be sent to the STC holder that is on record.

LIST OF EFFECTIVE PAGES

LIST OF REVISIONS	Revision 0 (Original Issue)	6 March 2007
	Revision A	5 April 2007
	Revision B	5 May 2007

Revised Portions	Pages	Revision No.
COVER	1	1
2 (Blank)	2 (Blank)	0
RECORD OF REVISION	3	1
LIST OF EFFECTIVE PAGES	4	1
SKI SPECIFICATION / DEFINITIONS	5	1
INITIAL INSTALLATION INSTRUCTIONS	6-9	1
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS	10-13	1

MODEL L2700-427 SKI KIT
INSTALLATION, MAINTENANCE & SERVICE INSTRUCTIONS

SKI SPECIFICATION

At a gross weight of 6550 lbs., the floatation of the Airglas L2700-427 Ski Kit is 2.05 pounds per square inch of ski contact area.

Dimensions	138" x 15"
Approx. Area per ski	1595 square inches
Approx. Weight per ski	43 lbs. including straps

C.G. of Skis: The installation of the Airglas P/N 2700-427 skis (2) adds 86 lbs. at fuselage station 222.93.

Definitions:

FAA/Authority = Federal Aviation Administration or another airworthiness authority
FAR = Federal Aviation Regulation
ICA = Instructions for Continued Airworthiness
JAR = Joint Airworthiness Regulations
LOAP = List of Applicable Publications
TDC = Type Design Changes
STC = Supplemental Type Certificate

INITIAL INSTALLATION INSTRUCTIONS

(See Installation Drawings attached for additional detail)

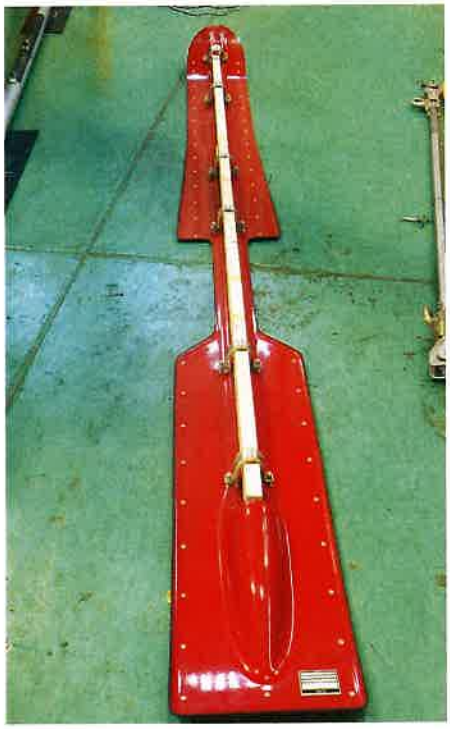
1) Removal of skis from packaging:

a) Remove outer burlap wrap by cutting/removing string (if used).

b) Remove shrink-wrap and foam from around skis. Use care.
(Do not to cut through the foam.)

c) Remove installation manual/drawing for use in installing the ski set.

Packaged ski as shipped without burlap.



Ski with 2x3 still attached after packaging has been removed.

Continued

Remove nuts (AN365-524) and washers (AN960-516) each attach bolt using care not to damage parts; they will be used to install ski on helicopter.

d) Remove straps from ski and inventory straps for use in final installation.
Note: Front Strap (L2700-206A-3) is double stacked and located with the strap in front of the cutout. The Double Strap (L2700-206A-2) can be removed by hand.

2) Attaching skis on the skid tubes:

a) Jack up the helicopter using the Bell approved jacking points or an approved alternative jacking system.

For the alternative lifting procedure of using the ground handling wheels; complete steps b. thru e.

b) Raise the helicopter using the ground handling wheels.

c) Position ski behind the skid in preparation to slide ski between ground handling wheels.

d) Remove all skid plates.

e) Lift tail of ski up to the point that the tip of the ski will slide under the skid.

f) Slide ski between tires with a forward motion. The ski will have to be twisted in order to miss the tires as the main part of the ski front section passes the wheels.

g) Lift each ski into place on the skid tube, making sure to have adequate personnel to hold the ski in place while other personnel place the straps across the tube.

h) Place straps in the appropriate locations across skid tube and on to the ski attach studs. (SEE Installation Drawing L2700-427)

i) Attach and hand tighten hardware on the studs.

Remove Skid Shoes from skis.

Position ski to insure the skid is tight against the socket face.

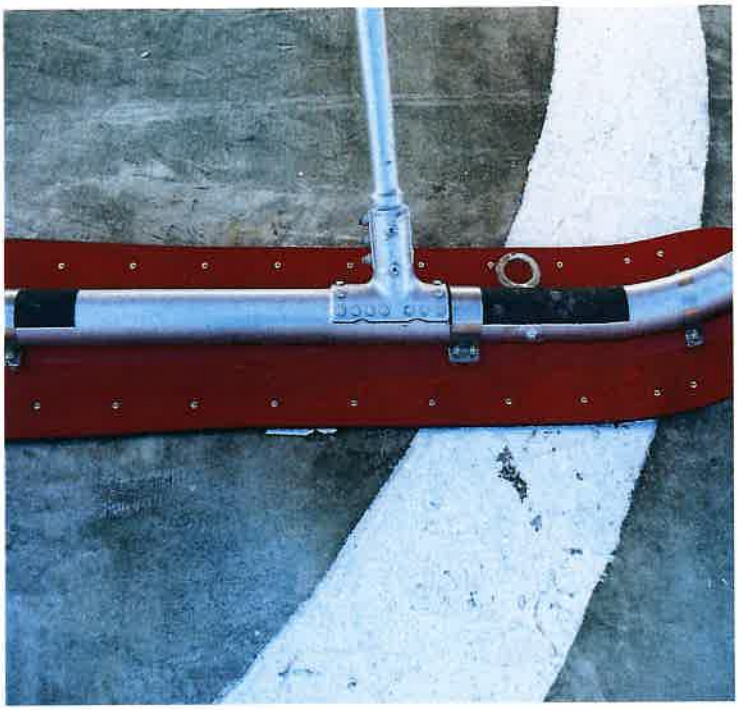
3) Tighten and torque attaching hardware:

a) Lower helicopter to the ground in order to position and seat the skis.

b) Make sure the straps (PN 2700-206A-3 & 2700-206A-2) are positioned at equal thread depths on the studs from inboard to outboard.

c) Torque nuts to 36 inch pound (+/- 5). See note #2 on installation drawing.

Leave straps loose until full weight is on the ski.



Tension straps evenly on each side of skid tube.

REMOVAL INSTRUCTIONS

1) Remove skis from the skid by reversing installation process.
    a) Remove nuts/washers holding the straps on.
    b) Remove the straps from the skis.
    c) Lift or fly the helicopter off of the skis.
    d) Replace straps and hardware on ski in order to keep from loosing them.

Caution: Replace self locking nuts after two installations.

Instructions for Continued Airworthiness
L2700-427 Skis

Airworthiness Limitations

(1) **Each mandatory replacement time:**
a) There are NO mandatory replacement time limited parts on the L2700-427 Ski Kit.

Daily Inspection

A visual inspection is required prior to each flight for overall condition of ski, skid attachment bracket slippage marks, and all associated hardware condition.

I) Inspect for loose or stripped strap attach screws or damage to attaching clamps.
a) **Replace any damaged attaching parts before next flight.**

II) Inspect for cracks, holes or abraded areas in the fiberglass.
a) If minor (field repairable damage); complete repair within 120 days of noted discrepancy.
b) **If major (manufacturer required repairs); repair or replace before next flight**.

III) Inspect for loose/cracked/working rivets.
a) Replace within 120 days of noted discrepancy.

IV) Inspect for worn, cracked or missing runners.
a) Replace within 120 days of noted discrepancy.

Periodic Inspection

A **120 Day Inspection** is required and includes removal of ski to thoroughly inspect for damage. This inspection requires:

1) Inspect for loose, stripped strap attach screws.
   a) Replace any damage parts before next flight.

2) Inspect for cracks or holes and/or abrasion areas in fiberglass.
   a) Repair or return to factory for repair before next flight.

3) Inspect for loose/cracked/working rivets.
   a) Replace before next flight.

4) Inspect for missing/cracked runners.
   a) Replace before next flight.

5) Inspect for corrosion on the bottom of skid tube and at the heel cap.
   a) Refer to Bell Helicopter Factory Maintenance Procedures for any corrosion control issues that may occur.

Types of Possible Damage

Negligible Damage

1) Small and shallow nicks, scratches and abraded areas on the top or bottom.
2) Stress Cracks in the gel coat.

Field Repairable Damage

1) Replacement of studs i.e. screws.
2) Cracks or fractures less than 3"; more than 3" require consultation with Airglas.
3) Delamination of 0.5" horizontal penetration from edge and 3-5" in length.
4) Small holes that are no more than 1-2 inches in diameter.
5) Abrasions to the ski from terrain contact.
6) Replacement of worn runners.
7) Replacement of loose or missing rivets.

NOTE: Stress Cracks in the gel coat from flexing ARE NOT an airworthiness issue.

Non-Field Repairable Damage (Factory Repair Only)

1) Strap mounting screws pulled through the ski.
2) Delamination within 1" of a mounting screw.
3) Cracks and delaminations longer than 3"

Replacement of Straps and Strap Attach Screws

1) Remove Nut (AN365-524) and washer from screw.
2) Remove attaching strap assembly.
3) Remove Nut (AN316-5R) and washer from screw.
4) Remove old screw (NAS514P524-24P) from ski.
    i) This may require chipping or grinding the coating material from around the screw head on the ski bottom.
    ii) Lightly tap the damaged screw through the ski with an appropriate hammer.
5) Replace the screw and nut. (See installation drawing L2700-427)

Rivet / Runner Replacement

1) Place the ski on a solid surface; drill the heads only off of the rivets with #9 drill bit.

2) Drive the rivet shanks through the ski with a 3/16 straight punch.

3) Remove the damaged runner from the ski.

4) Inspect ski for damage around runner. Make repairs to the ski as necessary.

5) Position the new runner in the same location of old runner.

6) Align the runner holes with an awl or #9 drill bit.

7) Clamp the runner to the ski with enough clamps to maintain correct positioning.

8) Install SSB6-8 Stainless Steel Rivet using an appropriate rivet puller.

9) Grind rivet stems flush with the surface of the runner.

10) Heat the ski base and runners with a heat gun and apply a coating of paraffin wax.

11) Inspect replacement runner installation and return ski to service.

Base Surface Maintenance

If the bottom surface sustains excessive wear; it may be sanded down with a 36 grit belt or disc sander and then recoated with epoxy or abrasion resistant gel coat. Once the epoxy or abrasion resistant gel coat is cured, the surface should be re-sanded with 80 grit paper using an orbiting sander. When more advanced and complicated repairs are necessary; Airglas, Inc. should be consulted.

Note 1: Excessive Wear is defined as when the ski base epoxy coating is scraped or worn off to the point that the underlying fiberglass composite is exposed.

Note 2: Epoxy and abrasion resistant gel coat formulas change over time; so contact Airglas, Inc. for current information.

THE AIRWORTHINESS LIMITATIONS SECTION IS FAA APPROVED AND SPECIFIES INSPECTIONS AND OTHER MAINTENANCE REQUIRED UNDER §§ 43.16 AND 91.403 OF THE FEDERAL AVIATION REGULATIONS UNLESS AN ALTERNATIVE PROGRAM HAS BEEN FAA APPROVED.

For any other information, or questions, comments or concerns; contact us at:

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ATTACHMENT 1
PART 29 REQUIREMENTS

The following is a breakdown of Appendix A to FAR/JAR Part 29 and is intended to provide guidance to assist an applicant for a Type Design Change under a Type Certificate (TC), Supplemental Type Certificate (STC), or Field Approval (FA) requiring Instructions for Continued Airworthiness (ICA). This breakdown is intended to provide guidance to assist an applicant in understanding the ICA requirements of § 29.1529. An applicant may use the guidance to prepare the ICA. Completion of this appendix will provide information needed for the evaluation and will reduce the time required for evaluation of the proposed ICA. The open parentheses ( ) in the Requirement column indicates the status of ICA Requirements: Y = applicable; N/A = non-applicable. In the Location column, list the page number in the applicant's ICA that contains the information.

Project Number(s) STO793AK-R
ACO/FSDO Fort Worth Project Engineer John Cox for ICA
Applicant Airglas Inc. Make Bell/Textron Model 427 High Skid Date September 18, 2006

Requirement	Regulation	Location
(N/A) ICA for each engine.	***A29.1(b)***	N/A
(N/A) ICA for each rotor.	***A29.1(b)***	N/A
(Y) ICA for each appliance required by this chapter.	***A29.1(b)***	All
(Y) Any required information relating to the interface of the (Y) appliances, (N/A) engines and (N/A) rotors with the rotorcraft.	***A29.1(b)***	
(Y) If ICA are not supplied by the manufacturer of an (Y) appliance, (N/A) engine or (N/A) rotor installed in the rotorcraft, the ICA for the rotorcraft must include (Y) the information essential to the continued airworthiness of the rotorcraft.	***A29.1***	10 -13
(Y) A program showing how changes to the applicant's ICA will be distributed.	***A29.1(c)***	3
(N/A) A program showing how changes to the ICA of the manufacture of the engine(s), rotor(s) and appliances installed in the rotorcraft will be distributed, if referenced in applicant's ICA	***A29.1(c)***	N/A
(Y) ICA must be in the form of a manual or manuals as appropriate for the quantity of data.	***A29.2(a)***	All
(Y) A format of the manual or manuals which must provide for a practical arrangement.	***A29.2(b)***	All
(Y) Content must be prepared in the English language.	***A29.3***	All
(Y) Introduction information that includes (Y) an explanation of the rotorcraft's features and (Y) data to the extent necessary for maintenance and preventive maintenance.	***A29.3(a)(1)***	5

FIGURE 1

ATTACHMENT 1
PART 29 REQUIREMENTS

Requirement	Regulation	Location
(Y) A description of the (N/A) rotorcraft and its systems and installations, (N/A) engines and its systems and installations, (N/A) rotors and its systems and installations, and (Y) appliances and its systems and installations.	***A29.3(a)(2)***	5-9
(N/A) Basic control and operating information describing (N/A) how the rotorcraft components and systems are controlled and (N/A) how the rotorcraft components and systems are operated including (N/A) any special procedure and limitations.	***A29.3(a)(3)***	N/A
(N/A) Servicing information that covers details regarding (N/A) servicing points, (N/A) capacities of tanks, (N/A) capacities of reservoirs, (N/A) types of fluids to be used, and (N/A) pressures applicable to the various systems.	***A29.3(a)(4)***	N/A
(N/A) Location of access panels for (N/A) inspection and (N/A) servicing.	***A29.3 (a)(4)***	N/A
(N/A) Servicing information that covers details regarding (N/A) locations of lubrication points, and (N/A) the lubricant to be used.	***A29.3(a)(4)***	N/A
(N/A) Equipment required for servicing.	***A29.3(a)(4)***	N/A
(N/A) Tow instructions and limitations.	***A29.3(a)(4)***	N/A
(N/A) Mooring information.	***A29.3(a)(4)***	N/A
(Y) Jacking information.	***A29.3(a)(4)***	7
(N/A) Leveling information.	***A29.3(a)(4)***	N/A
(Y) Scheduling information for each part of the (N/A) rotorcraft that provides the recommended periods at which they should be (N/A) cleaned, (N/A) inspected, (N/A) adjusted, (N/A) tested, (N/A) lubricated and (N/A) the work recommended at these periods.	***A29.3(b)(1)***	N/A
(N/A) Scheduling information for the (N/A) rotorcraft's engine(s) that provides the recommended periods at which they should be (N/A) cleaned, (N/A) inspected, (N/A) adjusted, (N/A) tested, (N/A) lubricated and (N/A) the work recommended at these periods. *NOTE: This information may be in the FAA/AUTHORITY-accepted engine ICA.*	***A29.3(b)(1)***	N/A
(N/A) Scheduling information for the (N/A) rotorcraft's auxiliary power unit(s) (APU) that provides the recommended periods they should be (N/A) cleaned, (N/A) inspected, (N/A) adjusted, (N/A) tested, (N/A) lubricated, and (N/A) the work recommended at these periods.	***A29.3(b)(1)***	N/A

Figure 1 (continued)

ATTACHMENT 1
PART 29 REQUIREMENTS

Requirement	Regulation	Location
(N/A) Scheduling information for the (N/A) rotorcraft's rotor(s) that provides the recommended periods at which they should be (N/A) cleaned, (N/A) inspected, (N/A) adjusted, (N/A) tested, (N/A) lubricated, and (N/A) the work recommended at these periods.	***A29.3(b)(1)***	N/A
(N/A) Scheduling information for the (N/A) rotorcraft's accessories that provides the recommended periods at which they should be (N/A) cleaned, (N/A) inspected, (N/A) adjusted, (N/A) tested, (N/A) lubricated, and (N/A) the work recommended at these periods.	***A29.3(b)(1)***	N/A
(N/A) Scheduling information for the (N/A) rotorcraft's instruments that provides the recommended periods at which they should be (N/A) cleaned, (N/A) inspected, (N/A) adjusted, (N/A) tested, (N/A) lubricated, and (N/A) the work recommended at these periods.	***A29.3(b)(1)***	N/A
(N/A) Scheduling information for the (N/A) rotorcraft's equipment that provides the recommended periods at which they should (N/A) cleaned, (N/A) inspected, (N/A) adjusted, (N/A) tested, (N/A) lubricated, and (N/A) the work recommended at these periods.	***A29.3(b)(1)***	N/A
(Y) The degree of inspection for each part of the (Y) rotorcraft and its (N/A) engine(s), (N/A) auxiliary power unit, (N/A) rotor(s), (Y) accessories, (N/A) Instruments, and (N/A) equipment.	***A29.3(b)(1)***	6-7
(N/A) The applicable wear tolerances	***A29.3(b)(1)***	N/A
The applicant may refer to an (N/A)accessory, (N/A) instrument, or (Y) equipment manufacturer as the source of this information if the applicant shows (Y) that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise.	***A29.3(b)(1)***	11
(N/A) The recommended overhaul periods and necessary cross references to the Airworthiness Limitation Section.	***A29.3(b)(1)***	N/A
(Y) An inspection program that includes (Y) the frequency and (Y) extent of the inspection necessary to provide for the continued airworthiness of the rotorcraft.	***A29.3(b)(1)***	11-12
(N/A) Troubleshooting information describing (N/A) problem malfunctions, (N/A) how to recognize those malfunctions, and (N/A) the remedial action for those malfunctions.	***A29.3(b)(2)***	N/A
(N/A) Information describing the order and method of (N/A) removing and (N/A) replacing engine(s) with any necessary precautions to be taken.	***A29.3(b)(3)***	N/A

Figure 1 (continued)

ATTACHMENT 1
PART 29 REQUIREMENTS

Requirement	Regulation	Location
(N/A) Information describing the order and method of (N/A) removing and (N/A) replacing rotor(s) with any necessary precautions to be taken.	***A29.3(b)(3)***	N/A
(Y) Information describing the order and method of (Y) removing and (Y) replacing parts with any necessary precautions to be taken.	***A29.3(b)(3)***	12 -13
(N/A) Other general procedural instructions including (N/A) storage limitations and procedures for (N/A) testing system during ground running, (N/A) making symmetry checks, (N/A) weighing and determining the center of gravity, (N/A) lifting, and (N/A) shoring.	***A29.3(b)(4)***	N/A
(N/A) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	***A29.3(c)***	N/A
(N/A) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	***A29.3(d)***	N/A
(N/A) Information needed to apply projective treatment to structure after inspection.	***A29.3(e)***	N/A
(Y) All data relative to structural fasteners such as (Y) identification, (N/A) discarded recommendations, and (Y) torque values.	***A29.3(f)***	Installation Drawing
(N/A) A list of special tools needed.	***A29.3(g)***	N/A
(Y) The Instructions for Continued Airworthiness must contain a section, titled Airworthiness Limitations that is (Y) segregated and (Y) clearly distinguishable from the rest of the document. *NOTE: The Airworthiness Limitations Section in the applicant's ICA will be evaluated by the appropriate FAA/AUTHORTY.*	***A29.4***	10 -13
(Y) The Airworthiness Limitations Section must set forth each mandatory replacement time, structural inspection procedure approved under § 29.571.	***A29.4***	10 -11
(N/A) If the Instructions for Continued Airworthiness consist of multiple documents, the Airworthiness Limitations Section required by this paragraph must be included in the principal manual.	***A29.4***	N/A

Figure 1 (continued)

ATTACHMENT 1
PART 29 REQUIREMENTS

Requirement	Regulation	Location
(Y) The Airworthiness Limitations Section must contain a legible statement in a prominent location indicating that the Airworthiness Limitations Section is FAA/AUTHORITY-approved and specifies required maintenance and/or inspections. The exact, required wording of this statement is found in the FAR/JAR.	***A29.4***	13

Figure 1 (continued)

NOTE: The Airworthiness Limitations Section (ALS) is evaluated and approved by the FAA/AUTHORITY. The applicant's proposed ICA is submitted to the FAA/AUTHORITY.

~END~