Instructions for Continued Airworthiness 123-020-00

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Instructions for Continued Airworthiness

Fuel Drain Guard Kit For the Airbus Helicopters AS350 Series, EC130B4 Helicopters

Part Number 200-299-00

STC SR01588SE



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# **Record of Revisions**

Revision	Date	Page(s)	Reason for Revision
0	05/11/05	All	First Issue
1	09/1/05	25-00-00: page 2, 3, 4, 5, 6, 7	Added fuel valve seal, P/N 610-024-00 to kit. Clarified re-installation instructions.
2	05/23/08	00-00-00 page 2, 25-00-00 page 5 & 25-00-00 page 6	Added section 0.12 to explain warnings, cautions and notes. Added fuel loss caution and cable trim note to component re-installation instructions.
3	03/11/11	00-00-00 page 1 and 2, 25-00-00 page 1 and 6.	Added EC130B4 model, updated format of Precaution flags.
4	05/14/14	25-00-00 Pages 2-4	Replaced fuel drain guard P/N 290-889-00 with 290-889-01.

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# Section 0 Introduction

Scope	The following information is proceeding to community the maintenance and	
	inspection of the Fuel Drain Guard Kit P/N 200-299-00.	
Purpose		
	The purpose of this Instructions for Continued Airworthiness (ICA) manual is to provide the information necessary to inspect and maintain in an airworthy condition the P/N 200-299-00 Fuel Drain Guard Kit.	
Arrangement		
	This manual contains instructions for the service, maintenance, inspection and operation of the Fuel Drain Guard Kit P/N 200-299-00 on Airbus Helicopters Model AS350 series and EC130B4 helicopters. The manual is arranged in the general order that maintenance personnel would use to install and maintain the Fuel Drain Guard Kit in service. The arrangement is: Section 0 Introduction. Section 4 Airworthiness limitations (None apply to this System.) Section 5 Inspection and overhaul schedule Section 25 Equipment and Furnishings	
Applicability		
	These Instructions for Continued Airworthiness are applicable to Fuel Drain Guard Kit P/N 200-299-00 for the Airbus Helicopters AS350 series and EC130B4 helicopters. Refer to the appropriate Airbus Helicopters maintenance documentation for instructions regarding parts of the aircraft that interface with the P/N 200-299-00 kit.	
Abbreviations		
	Scope Purpose Arrangement Applicability Abbreviations	

- FAA Federal Aviation Administration
- FAR Federal Aviation Regulation
- ICA Instructions for Continued Airworthiness

# Instructions for Continued Airworthiness 123-020-00

### **0.12 Precautions**

The following definitions apply to precaution flags used in this manual.



Indicates a hazardous situation which, if not avoided, <u>will</u> result in death or serious injury.

Indicates a hazardous situation which, if not avoided, <u>could</u> result in death or serious injury.

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Draws the reader's attention to important or unusual information not directly related to safety.

Used to address practices not related to personal injury.

# 0.19 Distribution of Instructions for Continued Airworthiness

Before performing maintenance ensure that the Instructions for Continued Airworthiness (ICA) in your possession is the most recent revision. Current revision levels of all manuals are posted on Onboard Systems Int'l web site at <u>www.onboardsystems.com</u>. Current revision levels of all manuals are available from the factory.

# Section 4 Airworthiness Limitations

# 4.2 Airworthiness Limitations

No airworthiness limitations are associated with this type design change.

# Section 5 Inspection and Overhaul Schedule

# **5.1 Fuel Drain Guard Inspection Schedule**

Annually inspect the Fuel Drain Guard Kit (refer to Figures 25.1 and 25.2 for location and identification of parts) per the following. Refer to Section 25 for remove and replace instructions.

- □ Inspect all parts for corrosion, gouges, nicks, and dents. If depth of corrosion pits, gouges, nicks, or dents exceed .060", remove and replace damaged part(s).
- □ Inspect Guard for damage that causes lever to bind or rub. Remove and replace Guard if it is obstructing free operation of lever.
- □ Inspect for fuel leakage. If leakage is noted, re-apply sealant to Retainer as described in Section 25. Refer to Airbus Helicopters maintenance instructions for other possible causes.

Inspect and maintain the fuel valve, lever and control cable per Airbus Helicopters maintenance documentation.

# Section 25 Equipment and Furnishings

**25.2 Description** 

The Fuel Drain Guard Kit protects the fuel drain valve on AS350 and EC130B4 helicopters from accidentally being opened. The fuel drain valve is located on the bottom of the fuel tank and extends below the belly of the helicopter. This location makes it vulnerable to damage or un-commanded fuel drainage on helicopters equipped with a cargo hook swing suspension. The most common occurrence of the cargo hook swing suspension striking the fuel drain valve happens when the helicopter lands on snow or on uneven terrain. The swing suspension has limited ground clearance and when the skid gear sinks into the snow, the swing suspension is pushed upward into the fuel drain valve, opening it and causing fuel to drain. The fuel drain valve can also be opened in flight by the swing suspension flying vertically due to aerodynamics when ferrying with no load or from recoil effects from releasing large cargo hook loads.

The Fuel Drain Guard Kit provides mechanical protection for the fuel drain valve to prevent accidental contact while interfacing with Airbus Helicopters's existing valve, lever and control cable. The kit includes a Bracket, which replaces Airbus Helicopters's bracket and provides an optimized mounting point for the control cable.



Figure 25.1 Fuel Drain Guard Overview

### 25.2 Description continued

The Fuel Drain Guard Kit P/N 200-299-00 includes the following items.



Figure 25.2 Fuel Drain Guard Kit Components

# **25.5 Component Weights**

The weight and cg of the kit is listed in Table 25.2.

Table 25.2 Component Weights and CGs

Item	Weight	Station
P/N 200-299-00	0.40 lbs	135 in.
	(.18 kgs)	(3430 mm)

### **25.12 Storage Instructions**

Clean the Fuel Drain Guard Kit components thoroughly of excess dirt and grease with a rag before packaging. Pack the components in a heat-sealable package. If the kit is to be stored for long periods in a tropical climate it should be packed in a reliable manner to suit local conditions.

Package the kit in a suitable fiberboard box and cushion the unit to prevent shifting. Seal the fiberboard box with tape and mark the box with the contents and date of packaging.

### 25.16 Component Removal Fuel Drain Guard Removal

Remove the fuel drain guard per the following instructions, refer to Figure 25.3 for part identification.

- 1. Drain fuel tank.
- 2. Remove cotter pins from Guard.
- 3. Loosen cable grip from cable (Airbus parts, not shown in figure below) to allow removal of lever from the slot in the retainer.
- 4. Remove safety wire between fuel tank valve and retainer tab.
- 5. Remove ground strap from Retainer.
- 6. Unthread fuel drain valve from tank and remove it and washer.
- 7. Gently pry Retainer from bottom of fuel tank. The Retainer is installed with sealant so use care to not damage it or the fuel tank.
- 8. Remove Guard.



Guard P/N 290-889-01 supersedes P/N 290-889-00. These P/Ns are the same except P/N 290-889-01 includes a slot for inspection of the gap between the contact surfaces of the lever and fuel drain valve per Airbus Helicopters' Service Bulletin No. AS350-05.00.76.





regarding these items.

### **25.17** Component Re-installation

### **Fuel Drain Guard Re-installation**

- 1. Remove residual sealant from the tank and Retainer, P/N 290-888-00, taking care not to mar the sealing surfaces. Prepare the areas for sealing per Airbus Helicopters Standard Practices Manual.
- 2. Prepare PR1422-B or equivalent sealant per Airbus Helicopters Standard Practices Manual. Apply sealant to Retainer as shown in Figure 25.4.

#### Figure 25.4 Sealant Application Location



3. Place the Retainer (P/N 290-888-00) inside the Guard (P/N 290-889-01), by inserting the tab through the slot in the Guard. See Figure 25.5.

Figure 25.5 Guard/Retainer Assembly



4. Place these two items onto the boss on the bottom of fuel tank, aligning the notch in the Guard with the key on the bottom of the fuel tank.

### 25.17 Component Re-installation, continued

- 5. Secure the Guard and Retainer by re-installing the Fuel Drain Valve with new Fuel Valve Seal, 610-024-00. Use a flat-blade screwdriver to prevent the Retainer from twisting when tightening the Fuel Drain Valve. Torque per Airbus Helicopters specifications.
- 6. Secure the Fuel Drain Valve with safety wire using the small hole in the retainer tab.
- 7. Re-install the electrical connections to the Retainer tab per Airbus Helicopters Electrical Bonding Procedure. Refer to Airbus Helicopters Standard Practices Manual, 20.02.07.
- 8. Install the Lever by placing it in Retainer slot and rotating upwards. Secure with cotter pin (P/N 510-526-00). See Figure 25.6.



#### **Figure 25.6 Lever Installation**

9. Install a second cotter pin through the other holes in the Guard (this cotter pin is for valve protection only and is not used for rigging purposes).

### 25.17 Component Re-installation, continued

- 10. Prepare to install Bracket (P/N 290-893-00) by threading the control cable through the Bracket hole. Install Bracket using the two screws removed previously.
- 11. Pass the cable through the Spring (Airbus Helicopters P/N 350A55-1044-21) and Lever (Airbus Helicopters P/N 350A55-1043-21). Slide the Sleeve (Airbus Helicopters P/N N1-5ALU) over the cable and secure with Cable Grip (Airbus Helicopters P/N 58-2-009).



To avoid inadvertent fuel loss, Airbus Helicopters *P/N* 58-2-009 Cable Grip must be used with this installation.

12. Adjust the cable travel by doing the following: allow the lever to rest against the cotter pin stop. Slide the Cable Grip up to the bottom of the lever and secure (see Figure 25.7).

### Figure 25.7 Cable Setting



- 13. Allow the sealant to cure per Airbus Helicopters Standard Practices Manual before adding fuel. Verify proper cure of unused sealant.
- 14. Refill fuel tank and check for leaks.

# **25.18 General Procedural Instructions-Testing**

1. Check the cable adjustment with the release handle on the side of the aircraft. There should be a minimum of .25 inch (6mm) cable travel before valve opens. Adjust the Cable Grip as required.