

**AIRBUS ANSWER**

**Accident/Incident:** NLG Collapse after push back - LXR MSN 221

**Airbus Answer to Safety Recommendation Ref:** 01

**From Report Ref:** 01/INCID/2004

**Issued by:** GPIAA-Portugal

**Date:** 11-Nov-2005

**Issue nbr:** 1

**Text of the Safety Recommendation:**

The investigation commission recommends that Airbus issues a Service Bulletin to mandate all operators, using the same type of landing gear selector valve, to perform an inspection of static seals for any assembly fault.

**AIRBUS answer:**

The Inspection Service Bulletin ISB 32-1290 was issued in May 2006, and revised in November 2006 to request an inspection of the selector valve seals installation.

This ISB has been mandated through the AD 2007-0065 issued in March 2007. This AD requests a first inspection, then a repetitive inspection every 20000 flight cycles or 89 months.

A selector valve seal modification was done in the P/N 114079018 and P/N 114079019. A Modification Service Bulletin MSB 32-1348 was issued in December 2008 to allow the retrofit of the new selector valve.

The ISB 32-1290 was revised in July 2010 to mention the MSB 32-1348 as terminating action of the inspection.

Referenced documents are attached.

# **A318/A319/A320/A321**

SERVICE BULLETIN  
REVISION TRANSMITTAL SHEET

**AIRBUS**  
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MANDATORY

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**ATA SYSTEM : 32**

**TITLE : LANDING GEAR - NORMAL EXTENSION AND RETRACTION - INSPECTION OF THE SELECTOR VALVES 40GA AND 41GA**

**MODIFICATION No. : None**

This page transmits Revision No. 02 of Service Bulletin No. A320-32-1290

## ADDITIONAL WORK

No additional work is required by this revision for aircraft modified by any previous issue.

## REASON

This revision has been issued to include the reference to Service Bulletin A320-32-1348 (Mod. No. 38947J2915) as the terminating action for the repeat inspection. The opportunity has been taken to update the effectivity and to include changes to the Accomplishment Timescale Flowchart.

## CHANGES

### SUMMARY :

#### - REASON/DESCRIPTION/OPERATIONAL CONSEQUENCES

- . Accomplishment timescales updated. Terminating action SB reference added. Normal Jacking added to the Evaluation Table with explanatory note.

#### - EFFECTIVITY

- . Effectivity updated.

### PLANNING INFORMATION :

#### - EFFECTIVITY

- . 1.A. Effectivity updated and extended to include aircraft that are not known to have had the duplicate inspection recorded. PNs of LG selector valves and LG door selector valves included in Effectivity NOTE.

#### - Advantages

- . 1.C.(3) Accomplishment of SB A320-32-1348 added as closing action.

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# **A318/A319/A320/A321**

## SERVICE BULLETIN REVISION TRANSMITTAL SHEET

- COMPLIANCE
- Accomplishment Timescale
  - . 1.E.(2)(a) Amended to reflect the applicable AD compliance timescales.
  - . 1.E.(2)(b) Amended to reflect the applicable AD compliance timescales.
  - . 1.E.(2)(c) Amended to reflect the applicable AD compliance timescales.
  - . 1.E.(2)(d) Standard sentence updated.
  - . 1.E.(2)(e) Terminating action SB reference added.
- REFERENCES
  - . 1.J. ESPM reference and SB reference added.

### ACCOMPLISHMENT INSTRUCTIONS :

- GENERAL
  - . 3.A. Standard CAUTION added.
- Figure 1
  - . Flowchart updated.

### FILING INSTRUCTIONS

This Service Bulletin has been generated electronically and is reissued as a complete document.  
Replace the complete document.

Put this Revision Transmittal Sheet in front of the Service Bulletin.

### HISTORY OF PREVIOUS REVISIONS

Revision 01 was issued to include changes following the Service Bulletin validation on MSN 0945.

### REVISION SEQUENCE

ORIGINAL : May 02/06  
REVISION No. : 01 - Nov 10/06  
REVISION No. : 02

DATE : May 02/06

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# **A318/A319/A320/A321**

## SERVICE BULLETIN SUMMARY

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This summary is for information only and is  
not approved for modification of the aircraft

MANDATORY

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**ATA SYSTEM : 32**

**TITLE : LANDING GEAR - NORMAL EXTENSION AND RETRACTION - INSPECTION OF THE SELECTOR  
VALVES 40GA AND 41GA**

**MODIFICATION No. : None**

### REASON/DESCRIPTION/OPERATIONAL CONSEQUENCES

After a push back from the gate an A320-200 aircraft was preparing to initiate taxi, when a nose landing gear (NLG) uncommanded retraction occurred. Investigations revealed that the retract condition is caused by a combination of a faulty MLG proximity switch, or a power interruption to LGCIUs and an internal hydraulic leak through the LG selector valve 40GA. The internal leak through the LG selector valve 40GA was due to a broken seal in one of the end cap chambers for the valve spool.

A duplicate inspection of the above seal has since been introduced by the manufacturer of the LG selector valve 40GA and the LG door selector valve 41GA. The inspection is also included in their Component Maintenance Manual (CMM). Valves that have had the duplicate inspection will have been stamped on the amendment plate with the letters "DI" or "DI - BE". These valves will not require further inspection.

This Service Bulletin introduces an inspection to check the LG selector valve 40GA and the LG door selector valve 41GA to determine whether the duplicate inspection has been recorded as having been done. If the duplicate inspection has not been recorded, then a detailed inspection which involves the disconnection of hydraulic unions and a check of flow rate is to be carried out. After the first flow rate check, a further flow rate check may be necessary after the LG door selector valve has been replaced with a special blanking plate (Door Selector Test Plate), to determine which selector valve has a defective seal. A comparison of the flow rates will determine which of the two selector valves has a defective seal.

For aircraft that have accumulated up to 20,000 FC at the effective date of the AD, this inspection Service Bulletin is to be accomplished :

- unless previously accomplished, within 4,500 FC after the effective date of the AD but not exceeding 20,800 FC from first flight.

For aircraft that have accumulated over 20,000 FC at the effective date of the AD, this inspection Service Bulletin is to be accomplished :

- unless previously accomplished, within 800 FC from the effective date of the AD.

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# **A318/A319/A320/A321**

## SERVICE BULLETIN SUMMARY

A repeat inspection is to be accomplished at intervals not exceeding 20,000 FC or 89 months, whichever occurs first.

**NOTE :** Replacement of the LG selector valve 40GA and the LG door selector valve 41GA with valves that have the duplicate inspection "DI" or "DI - BE" recorded on their amendment plates will cancel the repeat inspection requirements of this Service Bulletin.

Accomplishment of this Service Bulletin, firstly will make sure that the duplicate inspection on the LG selector valve 40GA and the LG door selector valve 41GA has been recorded as having been done. Secondly, if the duplicate inspection has not been recorded as having been done, it will make sure that there is no internal hydraulic leak within the LG selector valve 40GA that could cause an uncommanded operation of the landing gear.

It will also make sure that there is no internal hydraulic leak within the LG door selector valve 41GA that could cause an uncommanded operation of the LG doors.

This Service Bulletin has been validated on A320 aircraft MSN 0945.

Accomplishment of Service Bulletin A320-32-1348 (Mod. No. 38947J2915) cancels the inspection requirements of this Service Bulletin.

The valves PN 114079018 and 114079019 (Post Mod No. 38974J2915) are not affected by the inspection requirements of this Service Bulletin ("DI" or "DI-BE" is not stamped on these PNs).

EVALUATION TABLE			
COMPLIANCE	Mandatory	CANCELS INSPECTION SB	N/A
POTENTIAL AD	Yes	A/C OPERATION AFFECTED	No
RELIABILITY AFFECTED	No	PAX COMFORT AFFECTED	No
COST SAVING	No	ETOPS AFFECTED	No
STRUCTURAL LIFE EXTN	No	VENDOR SB INVOLVED	No
KIT PRICE (USD)	No Kit	NORMAL JACKING	Yes

**NOTE :** Jacking will only be necessary if the LG selector valve 40GA and the LG door selector valve 41GA have not had the duplicate inspection recorded as having been done.

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# **A318/A319/A320/A321**

## SERVICE BULLETIN SUMMARY

### EFFECTIVITY

This Service Bulletin is applicable to these operators :

31V 31X 36V 39Z 47W 50X 53U 53Z 57W 69X 78X 86Z 93V 96W AAF AAN AAR ABQ ABY ACA ACI ADR  
AFL AFR AHY AIJ AJM ALK AMC AMU ANA ANZ ART ATC AUA AWW AZA BAB BAW BEL BER BGH BIE  
BKP BMA BMM BRS BST BTV BWG CCA CCM CES CGL CIB CQH CQN CSA CSC CSN CSZ CTN CYP  
D2F DCS DGA DLH DNJ DRK EDW EEZ EIN ETD EZD EZY F2I FFT FHY FIN G2X G4I G8E GFA GOW  
GWI GWY HDA HEJ HVN I2L IAC IBE IRA IRM ISR ISS IWD IZM JAV JBU JET JKK JSA JST KAC KBR  
KFR KGL KKK KNE KYV KZR LAN LBT LBY LFO LMJ LMU LTU LVG M2I MAU MDL MEA MHS MLD MNJ  
MON MPD MSR MXA NVR NWA OHY P2G PAL PIC QAF QTR R1T RBA RKM RNV RYW RZO S2A SAA  
SAS SBI SDM SHJ SHY SLK SSV STZ SVR SWR SYR TAE TAI TAM TAP TAR TAS TCW TCX TGW THY  
TNA TOM TRK UAL UDC UEA USA VIM VKG VLG VLK VLU VOI VUN WGT WHT WZZ XLF

### CONCURRENT REQUIREMENTS

None

### REFERENCES/REPERCUSSIONS

TFU : None

OEB : None

AOT : None

SIL : None

LIFE LIMIT : None

LINE MAINTENANCE AFFECTED : No

OTHERS : None

### NATURE OF THE WORK

AIRCRAFT : Yes

EQUIPMENT : Yes

HARD : No

SOFT : No

OBRM : No

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# **A318/A319/A320/A321**

## SERVICE BULLETIN SUMMARY

### MANPOWER

Check of Stamp "DI" or "DI-BE" on Valves 40GA and 41GA Amendment Plate

**TOTAL MANHOURS** **0.50**

**ELAPSED TIME (HOURS)** **0.50**

Inspection for Internal Hydraulic Leak through Valves 40GA and 41GA

**TOTAL MANHOURS** **6.50**

**ELAPSED TIME (HOURS)** **4.00**

Repair/Replacement of Valves 40GA or 41GA

**TOTAL MANHOURS** **5.50**

**ELAPSED TIME (HOURS)** **5.00**

NOTE : It will be necessary for the aircraft to be lifted on jacks to do a functional test of gears, after the test.

### MATERIAL INFORMATION

#### AIRCRAFT DATA

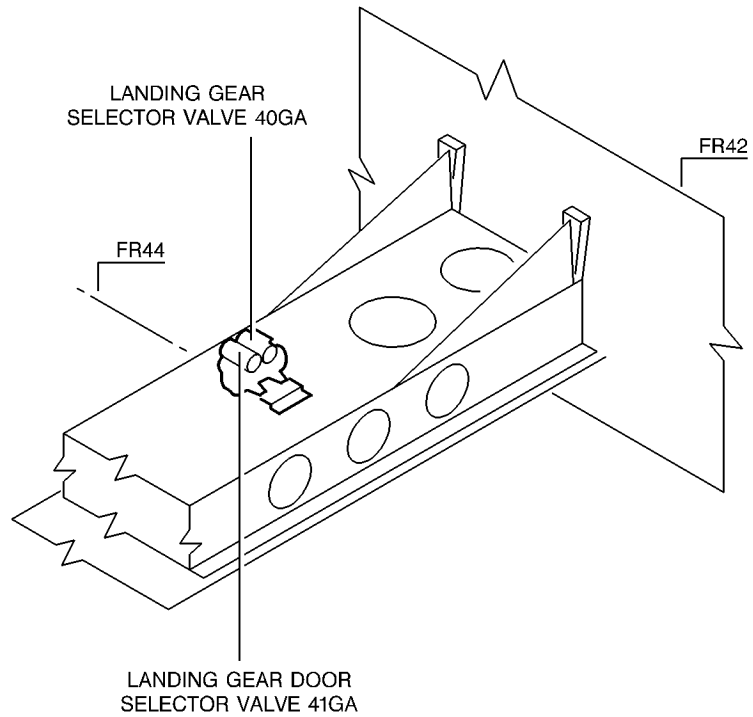
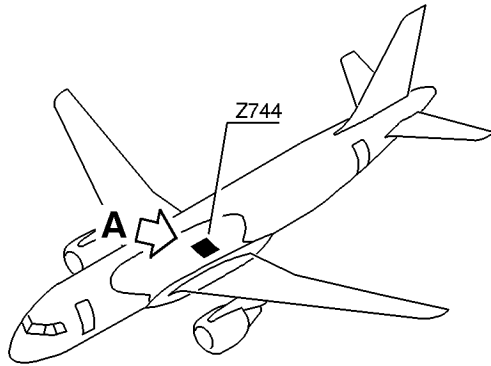
A special tool in the form of a test plate will be necessary for the accomplishment of this Service Bulletin.

### APPENDICES

Appendix 1 : Inspection Report Form

# A318/A319/A320/A321

## SERVICE BULLETIN SUMMARY



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 **A318/A319/A320/A321**

SERVICE BULLETIN

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# **A318/A319/A320/A321**

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This summary is for information only and is not approved for modification of the aircraft.

ATA SYSTEM: 32

### **TITLE: LANDING GEAR-NORMAL EXTENSION AND RETRACTION- INTRODUCE NEW SEAL FOR NLG/MLG DOOR AND GEAR SELECTOR VALVES**

**\*\*CONF ALL**

#### **MODIFICATIONS**

MODIFICATION CLASSIFICATION					
MAJOR	None				
MINOR	38947J2915				

**NOTE:** As per EASA IR 21, a minor change is one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics affecting the airworthiness of the product. All other changes are major changes.

#### **REASON/DESCRIPTION/OPERATIONAL CONSEQUENCES**

There has been an in service incident where an A320 aircraft suffered an uncommanded retraction of the Nose Landing Gear (NLG) while starting Engine No.1. The aircraft nose hit the ground causing severe damage.

An internal seal was found damaged leading to an internal leakage that caused the spool of the selector valve to move to the LG retract position. This applied pressure to the retraction and unlock actuator lines, which when coupled with an LGCIU power interrupt, resulted in an uncommanded retraction of the NLG on the ground.

This Service Bulletin introduces GE Aviation Service Bulletin No. 200-32-535. This GE Aviation Service Bulletin introduces new CX seals which are more reliable and less prone to damage.

The mandatory Inspection Service Bulletin A320-32-1290, for the gear and door selector valve inspection, will not be required if both of the valves have been modified on the selector manifold assembly. The Inspection Service Bulletin A320-32-1290 will be applicable if a Pre-Modification valve is fitted to a Post-modification selector manifold assembly.

#### **GENERAL EVALUATION**

EVALUATION TABLE			
COMPLIANCE	RECOMMENDED	CANCELS INSPECTION SB	YES
POTENTIAL AD	NO	A/C OPERATION AFFECTED	NO

7 DATE: Dec 03/08

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# A318/A319/A320/A321

## SERVICE BULLETIN SUMMARY

EVALUATION TABLE			
RELIABILITY AFFECTED	NO	PAX COMFORT AFFECTED	NO
COST SAVING	NO	ETOPS AFFECTED	NO
STRUCTURAL LIFE EXTN	NO	VENDOR SB INVOLVED	YES

### MATERIAL PRICE INFORMATION

MATERIAL PRICE INFORMATION TABLE				
TYPE	MATERIAL	QUANTITY PER A/C	PRICE PER A/C (USD)	MAINPARTS
BFE	Equipment BFE00	See SB	See SB	Selector Valves

### EFFECTIVITY

This Service Bulletin is applicable to this (these) operator(s) :

03X	06Y	15V	17W	20W	31V	31X	39Z	42W	47W	52W	53Z	57W
62X	73W	78W	80X	91X	93V	95V	95W	AAF	AAN	AAR	AAW	ABQ
ABY	ACA	ACI	ADH	ADR	AEE	AFL	AFQ	AFR	AHY	AIJ	AJM	ALK
AMC	AMU	ANA	ARG	ATC	AUA	AVA	AXM	AZA	BAB	BAW	BEC	BER
BGH	BIE	BKP	BMA	BMM	BRS	BST	BTW	BWG	CCA	CCM	CEB	CEF
CES	CHH	CIB	CLA	CLI	CQH	CQN	CSA	CSC	CSN	CSZ	CTN	CYP
DAT	DCS	DER	DGA	DKH	DKN	DLH	DRK	DXH	EDW	EEZ	EIN	ETD
EZY	F2I	FFT	FHY	FIN	FOM	G4I	G8E	GFA	GOW	GWI	GWY	GXL
HDA	HEJ	HHI	HMS	HVN	I2L	IAC	IBE	IGO	INX	IRM	ISR	ISS
IWD	IZM	JAV	JBU	JCS	JET	JKK	JSA	JST	JZR	KAC	KBR	KFR
KGL	KKK	KNE	KYV	KZR	LAN	LBT	LFO	LTC	LTE	LTU	LVG	MAU
MDL	MEA	MLD	MNJ	MON	MPD	MSC	MSR	MXA	MYW	NKS	NLY	NVR
NWA	OHY	ORF	P2G	PAL	PIC	PTI	QAF	QTR	R1T	RBA	RJA	RKM
RNV	ROT	RYW	RZO	SAA	SAS	SBI	SDM	SFJ	SHJ	SHY	SKB	SLK
SOR	SSV	SVR	SVW	SWR	SYR	TAE	TAI	TAM	TAP	TAR	TAS	TCW
TCX	TGW	THY	TNA	TOM	TWJ	UAL	UDC	UEA	UKN	USA	VBW	VIM
VKG	VLE	VLG	VLK	VLU	VOI	VRD	VUN	WGT	WHT	WVL	WZZ	XLF

### CONCURRENT REQUIREMENTS

None

### REFERENCES / REPERCUSSIONS

TFU	32.31.00.009
OEB	None
AOT	None
SIL	None
LINE MAINTENANCE AFFECTED	No
LIFE LIMIT	None
OTHERS	None

### NATURE OF THE WORK

AIRCRAFT	NO
EQUIPMENT	YES

7 DATE: Dec 03/08

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# **A318/A319/A320/A321**

## SERVICE BULLETIN SUMMARY

HARD	NO
SOFT	NO
OBRM	NO

### **MANPOWER**

Task 321348-831-895-001: MODIFICATION	
TOTAL MANHOURS	6.00
ELAPSED TIME (HOURS)	4.0
<b>Additional manhours related to Vendor SB; refer to:</b>	
MODIFICATION - Refer to GE Aviation Service Bulletin No. 200-32-535	GE Aviation Service Bulletin No. 200-32-535

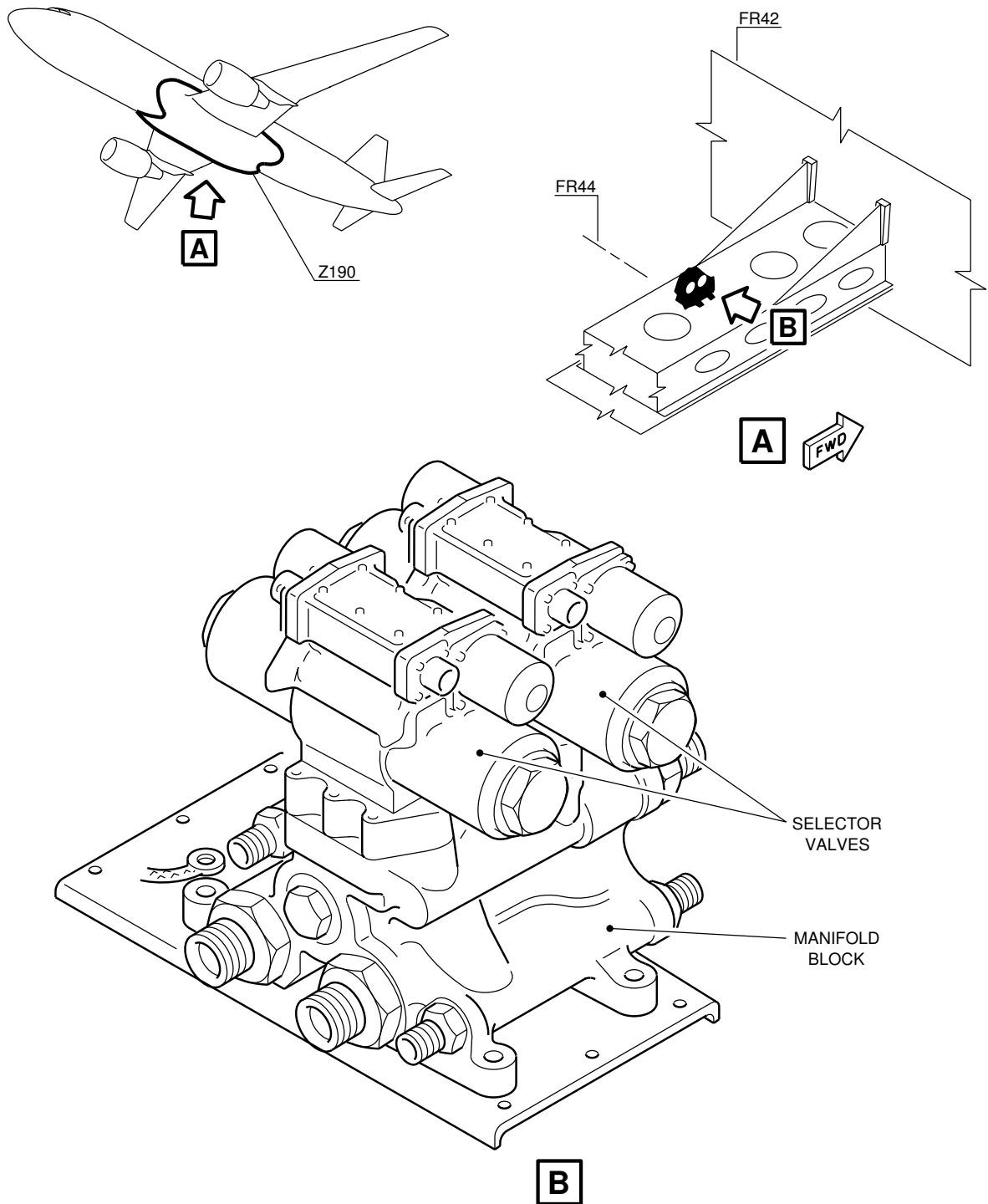
### **APPENDICES**

None

# A318/A319/A320/A321

## SERVICE BULLETIN SUMMARY

**\*\*CONF ALL**



N\_SB\_321348\_7\_SUXX\_01\_01


Figure A-USUXX - Sheet 01  
- Selector Manifold Assembly

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<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>	
	<p><b>AD No : 2007-0065</b></p> <p><b>Issued: 14 March 2007</b></p>	
<p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>		
<p><b>Type Approval Holder's Name :</b> AIRBUS</p>	<p><b>Type/Model designation(s) :</b> A318, A319, A320 and A321 aircraft</p>	
<p>TCDS Number : EASA.A.064</p>		
<p>Foreign AD : Not applicable.</p>		
<p>Supersedure : Not applicable.</p>		
<b>ATA 32</b>	<b>Landing gear – Normal extension and retraction – Inspection of the selector valves 40GA and 41GA</b>	
<p>Manufacturer(s):</p>	<p>AIRBUS, formerly AIRBUS INDUSTRIE</p>	
<p>Applicability:</p>	<p>AIRBUS A318, A319, A320 and A321 aircraft, all models, all serial numbers (MSN).</p> <p>Aircraft MSN's 2389, 2392, 2393, 2396, 2398, 2403, 2405, 2407, 2409, 2410, 2411, from 2413 through to 2439, 2441, and MSN above 2441 on which no replacement of the Landing Gear (LG) selector valve 40GA or the LG door selector valve 41GA has been performed since aircraft delivery from Airbus are compliant with the requirements of this AD.</p> <p>Aircraft on which LG selector valve 40GA and LG door selector valve 41GA have the duplicate inspection "DI" or "DI-BE" recorded on their amendment plates are compliant with the requirements of this AD.</p> <p>Reminder : It is the responsibility of the operator to ensure that any selector valve replaced on aircraft after having complied with this AD, still complies with the requirements of this AD.</p>	
<p>Reason:</p>	<p>After a push back from the gate, an A320-200 aircraft was preparing to initiate taxi, when a NLG uncommanded retraction occurred, and then the aircraft abruptly hit the ground.</p> <p>Investigations revealed that the retract condition is caused by a combination of a faulty MLG proximity switch, a power interruption to LGCIUs and an internal hydraulic leak through the LG selector valve 40GA. The internal hydraulic leak through the LG selector valve 40GA was due to a broken seal in one of the end cap chambers for the valve</p>	

	<p>spool. As a corrective action, a duplicate inspection (DI or DI-BE) for these valves has been introduced in production, and the Component Maintenance Manual (CMM) has been revised. Untimely unlocking and/or retraction of the NLG, while on the ground, could cause injury to ground personnel and significant structural damage to the aircraft.</p> <p>This Airworthiness Directive (AD) mandates the inspections of the LG selector valve 40GA and the LG door selector valve 41GA, to identify a possible hydraulic leak.</p>
Effective Date:	28 March 2007
Compliance:	<p><b>1. For aircraft that have accumulated up to 20,000 flight cycles (FC) at the effective date of the AD :</b></p> <p>- within 4,500 FC after the effective date of this AD, but not exceeding 20,800 FC from first flight, inspect and replace if necessary the LG selector valve 40GA and the LG door selector valve 41GA in accordance with the instructions given in AIRBUS Service Bulletin A320-32-1290.</p> <p><b>2. For aircraft that have accumulated over 20,000 FC at the effective date of the AD:</b></p> <p>- within 800 FC after the effective date of this AD, inspect and replace if necessary the LG selector valve 40GA and the LG door selector valve 41GA in accordance with the instructions given in AIRBUS Service Bulletin A320-32-1290.</p> <p><b>3. Repeat inspection for all aircraft :</b></p> <p>- at intervals not exceeding 20,000 FC or 89 months, whichever occurs first, repeat the inspection of the LG selector valve 40GA and the LG door selector valve 41GA and apply corrective action if necessary, in accordance with the instructions given in AIRBUS Service Bulletin A320-32-1290.</p> <p>For all affected aircraft, from the effective date of this AD, the installation of LG selector valve 40GA or LG door selector valve 41GA, that do not have the duplicate inspection "DI" or "DI-BE" recorded on their amendment plates, is possible provided that it will be inspected within 800 FC after installation, in accordance with the instructions given in AIRBUS Service Bulletin A320-32-1290.</p>
Ref. Publications:	AIRBUS Service Bulletin A320-32-1290 original issue or any later approved revisions.
Remarks :	<ol style="list-style-type: none"> <li>1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD.</li> <li>2. This AD was posted on 25 August 2006 as PAD 06-214 for consultation until 15 September 2006. The Comment Response Document can be found at <a href="http://ad.easa.europa.eu/">http://ad.easa.europa.eu/</a> .</li> <li>3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA; E-mail <a href="mailto:ADs@easa.eu.int">ADs@easa.eu.int</a>.</li> <li>4. For any question concerning the technical content of the requirements in this AD, please contact AIRBUS - Fax 33 5 61 93 44 51</li> </ol>