

TEMPORARY REVISION

TR 09-01

NOSE FWD BULKHEAD BALLAST INSTALLATION

This Temporary Revision TR 09-01 is approved and is valid in conjunction with the latest revision of the DA42 L360 Airplane Flight Manual (D42L-AFM-002) until this Temporary Revision has been incorporated into the Airplane Flight Manual.

The limitations and information contained herein either supplement or, in the case of conflict, override those in the Airplane Flight Manual.

Doc. No.	Chapter	Affected Pages
D42L-AFM-002, Rev. 5	Chapter 0	Pages 0-5 and 0-6
	Chapter 9	Pages 9-1 and 9-2
	Chapter 9 Supplement 1	Pages 9-S -1 to 9-S -26

Instruction

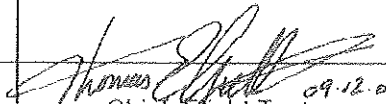
- Print this document on 8.5 x 11 inch yellow paper (double-sided), centered in the landscape orientation. This will print the document 8.5 inches high by 11 inches wide.
- Cut the sheets to make the document 6 inches wide by trimming each side proportionally.
- Punch the holes on the left side of each sheet.
- Insert this cover page as the first page of the AFM.
- Insert the other pages of this Temporary Revision in front of the corresponding AFM pages.

D42L-AFM-002	02-Dec-09	Cover Page
TR 09-01		

Intentionally left blank

Cover page	02-Dec-09	D42L-AFM-002 TR 09-01
------------	-----------	--------------------------

RECORD OF REVISIONS

Rev. No	Affected Pages	Approved	
		Date	Name
Rev. 3	All	16-Jul-09	Chief, Flight Test Transport Canada
Rev. 4	Cover Page, Pages 0-5 to 0-14 Pages 4A-46, 4A-47 Pages 5-1, 5-5, 5-6.	18-Aug-09	Chief, Flight Test Transport Canada
Rev. 5	Cover Page and Back side Pages 0-5 to 0-18 Pages 1-11, 1-12 Pages 2-7, 2-8 Pages 3-23 to 3-24 Pages 3-27 to 3-68 Pages 4A-5 to 4A-10 Pages 4A-21, 4A-22 Pages 4A-35 to 4A-60 Pages 4B-9, 4B-14 Pages 4B-19, 4B-20 Pages 5-1, 5-2 Pages 5-9, 5-10 Pages 5-39 to 5-48 Pages 6-11, 6-12 Pages 7-7, 7-8 Pages 7-21, 7-22 Pages 7-31, 7-32 Pages 7-53 to 7-56	03-Nov-09	Chief, Flight Test Transport Canada
TR 09-1	Pages 0-5 and 0-6 Pages 9-1 and 9-2 Pages 9-S1-1 to 9-S1-26	02-Dec-09	 09.12.09 Chief, Flight Test Transport Canada

D42L-AFM-002	02-Dec-09	Page 0 - 5
TR 09-01		DOT Approved

Intentionally left blank

Page 0 - 6	02-Dec-09	D42L-AFM-002
DOT Approved		TR 09-01

CHAPTER 9
SUPPLEMENTS
SECTION 1 - GENERAL

Table of Contents

	Page
9.1 INTRODUCTION	9-2
9.2 LIST OF SUPPLEMENTS	9-2

D42L-AFM-002	02-Dec-09	Page 9 - 1
TR 09-01		

9.1 INTRODUCTION

Chapter 9 contains information concerning additional (optional) equipment of the DA42 L360

Unless otherwise stated, the procedures given in the Supplements must be applied in addition to the procedures given in the main part of the Airplane Flight Manual.

All approved supplements are listed in the List of Supplements in this Chapter.

The Airplane Flight Manual contains exactly those Supplements which correspond to the installed equipment according to the Equipment Inventory of Section 6.5.

9.2 LIST OF SUPPLEMENTS

Airplane S/N:		Registration:		Date:	
Sup. No.	Title	Rev. No.	Date	Applicable	
				YES	NO
A13	BENDIX/KING KAP 140 AUTOPILOT	0	01-Dec-04	<input checked="" type="checkbox"/>	<input type="checkbox"/>
S1	NOSE FWD BULKHEAD BALLAST INSTALLATION	0	02-Dec-09	<input checked="" type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>

Page 9 - 2 TR 09-01	02-Dec-09	D42L-AFM-002
------------------------	-----------	--------------

SUPPLEMENT 1
TO THE AIRPLANE FLIGHT MANUAL (AFM)
DA42 L360

NOSE FWD BULKHEAD BALLAST INSTALLATION

Doc. No. : D42L-AFM-002
Date of Issue : 02 December 2009

Signature

Authority

Date of Approval



This Flight Manual Supplement 1 has been verified by the Transport Canada Civil Aviation (TCCA) Authority as primary certification authority in accordance with the valid certification procedures and is approved.

D42L-AFM-002	02-Dec-09	Page 9 - S1 - 1
TR 09-01		DOT Approved

Intentionally left blank

Page 9 - S1 - 2 DOT Approved	02-Dec-09	D42L-AFM-002 TR 09-01
---------------------------------	-----------	--------------------------

LIST OF EFFECTIVE PAGES

Chapter	Page		Date
0 TOC	DOT-approved	9-S1-1	02-Dec-09
		9-S1-2	02-Dec-09
		9-S1-3	02-Dec-09
		9-S1-4	02-Dec-09
		9-S1-5	02-Dec-09
		9-S1-6	02-Dec-09
1		9-S1-7	02-Dec-09
		9-S1-8	02-Dec-09
2	DOT-approved	9-S1-9	02-Dec-09
	DOT-approved	9-S1-10	02-Dec-09
3	DOT-approved	9-S1-11	02-Dec-09
	DOT-approved	9-S1-12	02-Dec-09
4A	DOT-approved	9-S1-13	02-Dec-09
	DOT-approved	9-S1-14	02-Dec-09
4B	DOT-approved	9-S1-15	02-Dec-09
5	DOT-approved	9-S1-15	02-Dec-09
	DOT-approved	9-S1-16	02-Dec-09
6	DOT-approved	9-S1-17	02-Dec-09
	DOT-approved	9-S1-18	02-Dec-09
	DOT-approved	9-S1-19	02-Dec-09
	DOT-approved	9-S1-20	02-Dec-09
	DOT-approved	9-S1-21	02-Dec-09
	DOT-approved	9-S1-22	02-Dec-09
D42L-AFM-002	02-Dec-09		Page 9 - S1 - 3
TR 09-01			

Chapter	Page	Date
7	9-S1-23	02-Dec-09
	9-S1-24	02-Dec-09
8	9-S1-25	02-Dec-09
	9-S1-26	02-Dec-09

Page 9 - S1 - 4	02-Dec-09	D42L-AFM-002 TR 09-01
-----------------	-----------	--------------------------

CHAPTER 9

SUPPLEMENT 1

NOSE FWD BULKHEAD BALLAST INSTALLATION

TABLE OF CONTENTS

	Page
1. GENERAL	7
2. OPERATING LIMITATIONS	9
3. EMERGENCY PROCEDURES	11
4A. NORMAL OPERATING PROCEDURES	13
4B. ABNORMAL OPERATING PROCEDURES	15
5. PERFORMANCE.....	15
6. MASS AND BALANCE / EQUIPMENT LIST	17
7. DESCRIPTION OF THE AIRPLANE AND SYSTEMS.....	23
8. AIRPLANE HANDLING, CARE AND MAINTENANCE	25

D42L-AFM-002	02-Dec-09	Page 9 - S1 - 5
TR 09-01		

Intentionally left blank

Page 9 - S1 - 6	02-Dec-09	D42L-AFM-002 TR 09-01
-----------------	-----------	--------------------------

1. GENERAL

This Supplement 1 supplies the information necessary for the efficient operation of the DA42 L360 airplane when the Nose Fwd Bulkhead Ballast System is installed as an optional system. The information contained within this Supplement 1 is to be used in conjunction with the complete AFM.

This Supplement 1 to the AFM is provided to acquaint the pilot with the normal operating procedures and the weight and balance characteristics with the Nose Fwd Bulkhead Ballast System installed.

This Supplement 1 is a permanent part of this Manual and must remain in this Manual as long as the Nose Fwd Bulkhead Ballast System is installed.

D42L-AFM-002 TR 09-01	02-Dec-09	Page 9 - S1 - 7
--------------------------	-----------	-----------------

Intentionally left blank

Page 9 - S1 - 8	02-Dec-09	D42L-AFM-002
		TR 09-01

2. OPERATING LIMITATIONS

2.1 MASS WEIGHT

Only Diamond Aircraft part number C61-2550-106-001 can be installed in the nose ballast locations. Each cylindrical ballast is limited to 5.08 kg (11.2 lbs).

Ballast Cylinders may only be carried in the nose baggage area installed in the ballast locations or in the ballast case part number C61-2550-109-001 in the rear baggage tray with the baggage net installed.

2.2 LIMITATION PLACARDS

The placard related to the Nose Fwd Bulkhead Ballast System is shown below. A list of all placards is included in the Aircraft Maintenance Manual (D42L-AMM-001), Chapter 11 or in the Airplane Maintenance Manual (Doc. No. 7.02.01), Chapter 11.

NOTE

Aircraft Maintenance Manual (D42L-AMM-001) supplements the Airplane Maintenance Manual (Doc. No. 7.02.01).

On each cylindrical ballast: The placard comes with the cylindrical ballast.

Ballast Mass=5.08 kg (11.2 lbs)
--

On each nose baggage door, above the baggage weight limit placard.

Max. Ballast Mass: 6 x 5.08 kg = 30.5 kg [67.2 lb] C61-133-102-001

D42L-AFM-002 TR 09-01	02-Dec-09	Page 9 - S1 - 9 DOT Approved
--------------------------	-----------	---------------------------------

Intentionally left blank

Page 9 - S1 - 10 DOT Approved	02-Dec-09	D42L-AFM-002 TR 09-01
----------------------------------	-----------	--------------------------

3. EMERGENCY PROCEDURES

No Change.

D42L-AFM-002 TR 09-01	02-Dec-09	Page 9 - S1 - 11 DOT Approved
--------------------------	-----------	----------------------------------

Intentionally left blank

Page 9 - S1 - 12 DOT Approved	02-Dec-09	D42L-AFM-002 TR 09-01
----------------------------------	-----------	--------------------------

4A. NORMAL OPERATING PROCEDURES

4A.1 CHECKLISTS FOR NORMAL OPERATING PROCEDURES

4A.1.1 PRE-FLIGHT INSPECTION

- (a) Front fuselage and nose landing gear:
 - (1) Make sure that the cylindrical ballasts are secure and all of the ballast clamps are closed.

- (b) Installation of the cylindrical ballasts:

CAUTION

THE PILOT IS RESPONSIBLE FOR LOADING OF THE CYLINDRICAL BALLASTS, TO MAKE SURE THAT THE CENTER OF GRAVITY REMAINS WITHIN THE DEFINED LIMITS THROUGH ALL FLIGHT PHASES AND MAXIMUM LOADING IS NOT EXCEEDED.

- (1) Open the nose baggage compartment doors.
- (2) Open the applicable cylindrical ballast clamp.

NOTE

If both ballast mounting bracket assemblies are installed and loaded, it is recommended that the cylindrical ballasts be loaded symmetrically starting from the center of the aircraft.

- (3) Align the holes in the cylindrical ballast with the dowel pins on the ballast mounting bracket.
- (4) Carefully slide the cylindrical ballast fully forward to fit into the dowel pins.

D42L-AFM-002	02-Dec-09	Page 9 - S1 - 13
TR 09-01		DOT Approved

CAUTION

DO NOT BEND THE BALLAST CLAMP MORE THAN NECESSARY WHEN THE CYLINDRICAL BALLAST IS PUT INTO PLACE ON THE BASEPLATE. THE CLAMP COULD BE DAMAGED IF IT IS BENT TOO MUCH.

- (5) Close the ballast clamp. Make sure that the cylindrical ballast is correctly attached.
 - (6) Close the nose baggage compartment doors.
- (c) Removal and storage of the cylindrical ballasts:
- (1) Open the nose baggage compartment doors.

CAUTION

DO NOT LET THE CYLINDRICAL BALLAST FALL OR HIT THE SURROUNDING STRUCTURE. THE CYLINDRICAL BALLAST IS HEAVY AND COULD DAMAGE THE AIRCRAFT STRUCTURE.

- (2) Open the applicable cylindrical ballast clamp.
- (3) Carefully remove the cylindrical ballast.
- (4) Put the cylindrical ballast in the padded case provided with the aircraft.
- (5) Close the cylindrical ballast clamp.
- (6) Close the nose baggage compartment doors.

Page 9 - S1 - 14	02-Dec-09	D42L-AFM-002
DOT Approved		TR 09-01

4B. ABNORMAL OPERATING PROCEDURES

No Change.

5. PERFORMANCE

No Change.

D42L-AFM-002 TR 09-01	02-Dec-09	Page 9 - S1 - 15 DOT Approved
--------------------------	-----------	----------------------------------



Intentionally left blank

Page 9 - S1 - 16 DOT Approved	02-Dec-09	D42L-AFM-002 TR 09-01
----------------------------------	-----------	--------------------------

6. MASS AND BALANCE

6.1 CALCULATION OF LOADING CONDITION

CALCULATION OF LOADING CONDITION	DA42 L360 (EXAMPLE)			Your DA42 L360		
	Mass (Weight)	CG	Moment	Mass (Weight)	CG	Moment
	(kg) (lb)	(m) (in)	(kg.m) (in.lb)/1000	(kg) (lb)	(m) (in)	(kg.m) (in.lb)/1000
1. Empty Mass (from Mass & Balance Report)	1252	2.408	3014			
	2760	94.78	262			
2. Front Seats	163	2.300	376		2.300	
	360	90.55	33		90.55	
3. Rear Seats	82	3.250	265		3.250	
	180	127.95	23		127.95	
4. Nose Baggage Compartment	15	0.600	9		0.600	
	33	23.62	1		23.62	
5. DA42L Cylindrical Ballast EACH - Adjustable	5	0.065	0		0.065	
	11	2.56	0		2.56	
6. Cockpit Baggage Compartment	0	3.890	0		3.890	
	0	153.15	0		153.15	
7. Baggage Extension	0	4.540	0		4.540	
	0	178.74	0		178.74	
8. De-icing Fluid (if installed) (1.1 kg/L) (9.2 lb/USG)	0	1.000	0		1.000	
	0	39.37	0		39.37	
9. Zero Fuel Mass (Weight) (Total of 1. through 8.)	1517	2.416	3664			
	3344	95.10	318			

D42L-AFM-002	02-Dec-09	Page 9 - S1 - 17
TR 09-01		DOT Approved

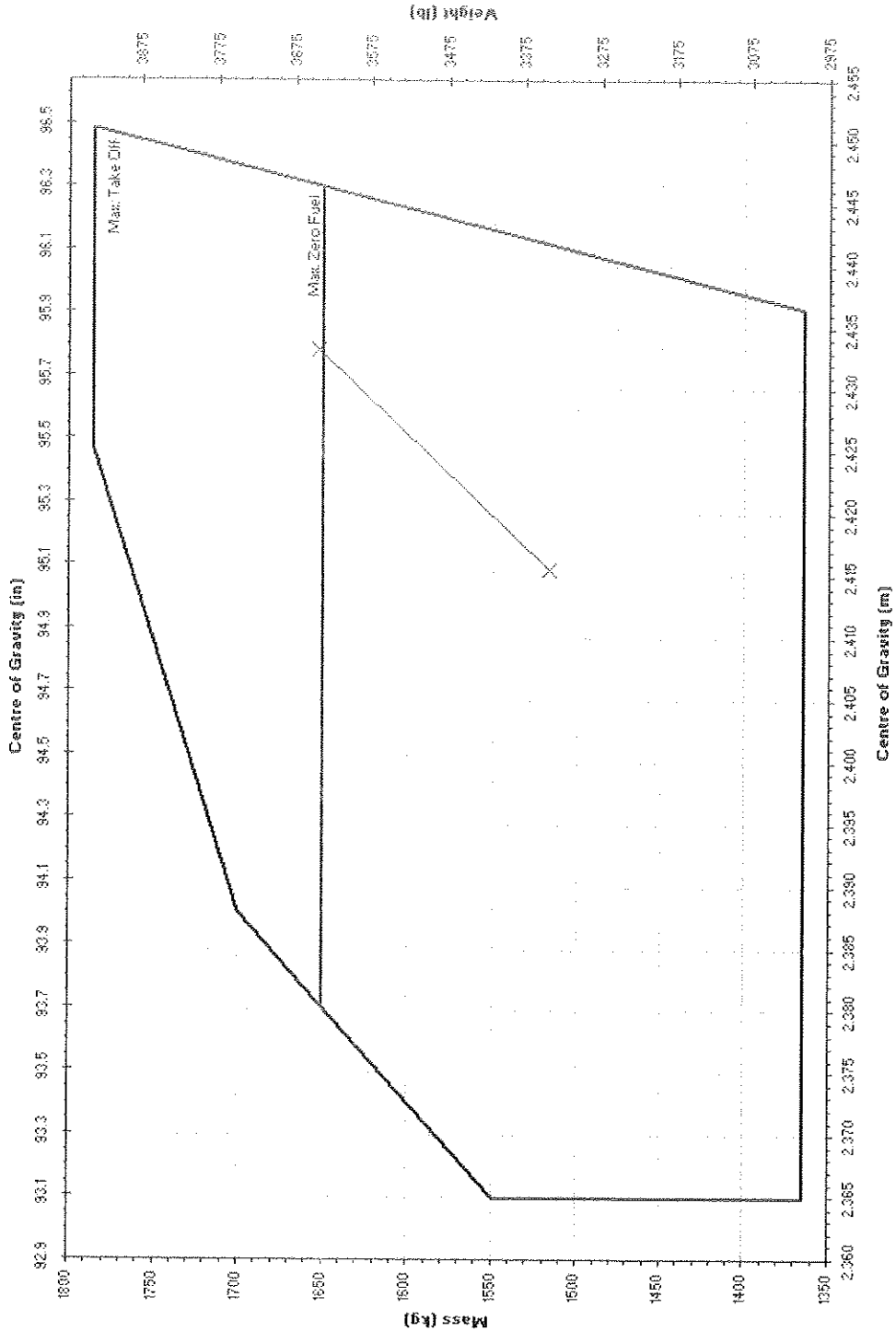
CALCULATION OF LOADING CONDITION	DA42 L360 (EXAMPLE)			Your DA42 L360		
	Mass (Weight)	CG	Moment	Mass (Weight)	CG	Moment
	(kg) (lb)	(m) (in)	(kg.m) (in.lb)/1000	(kg) (lb)	(m) (in)	(kg.m) (in.lb)/1000
10. Usable Fuel Main Tanks (0.72 kg/L) (6.02 lb/USG)	136	2.630	358		2.630	
	300	103.54	31		103.54	
11. Usable Fuel Auxiliary Tanks (0.72 kg/L) (6.02 lb/USG)	0	3.200	0		3.200	
	0	125.98	0		125.98	
12. Ramp Weight Total of 9. through 11.)	1653	2.433	4022			
	3644	95.80	349			

6.2 PERMISSABLE CENTER OF GRAVITY RANGE

The Centre of Gravities shown in the diagram on the next page are those from the example in the Table "CALCULATION OF LOADING CONDITION", rows 9 and 12.

The flight Centre of Gravity (CG) position must be within the limits stated in Chapter 2.

Page 9 - S1 - 18	02-Dec-09	D42L-AFM-002
DOT Approved		TR 09-01



D42L-AFM-002	02-Dec-09	Page 9 - S1 - 19
TR 09-01		DOT Approved

6.3 EQUIPMENT LIST AND EQUIPMENT INVENTORY

All equipment that is approved for installation of the Nose Fwd Bulkhead Ballast in the DA42 L360 is shown in the Equipment List that follows.

The items of equipment installed in your particular airplane are indicated in the appropriate column. The set of items marked as 'installed' constitutes the Equipment Inventory.

Page 9 - S1 - 20	02-Dec-09	D42L-AFM-002
DOT Approved		TR 09-01



Airplane Serial No.:	Registration:		Date:	Mass		Lever Arm	
	Type	Manufacturer		Installed	lb	kg	in
NOSE FWD BULKHEAD BALLAST SYSTEM		Diamond Aircraft					
DA42L Ballast System – LH Fixed Provisions		Diamond Aircraft		3.86	+1.75	2.56	+0.065
DA42L Ballast System – RH Fixed Provisions		Diamond Aircraft		3.86	+1.75	2.56	+0.065
DA42L Cylindrical Ballast EACH - Adjustable		Diamond Aircraft		11.20	+5.08	2.56	+0.065

D42L-AFM-002	15 November 2009	Page 9-A1 - 21
TR 09-01		DOT Approved

Intentionally left blank

Page 9 - S1 - 22 DOT Approved	02-Dec-09	D42L-AFM-002 TR 09-01
----------------------------------	-----------	--------------------------

7. DESCRIPTION OF THE AIRPLANE AND SYSTEMS

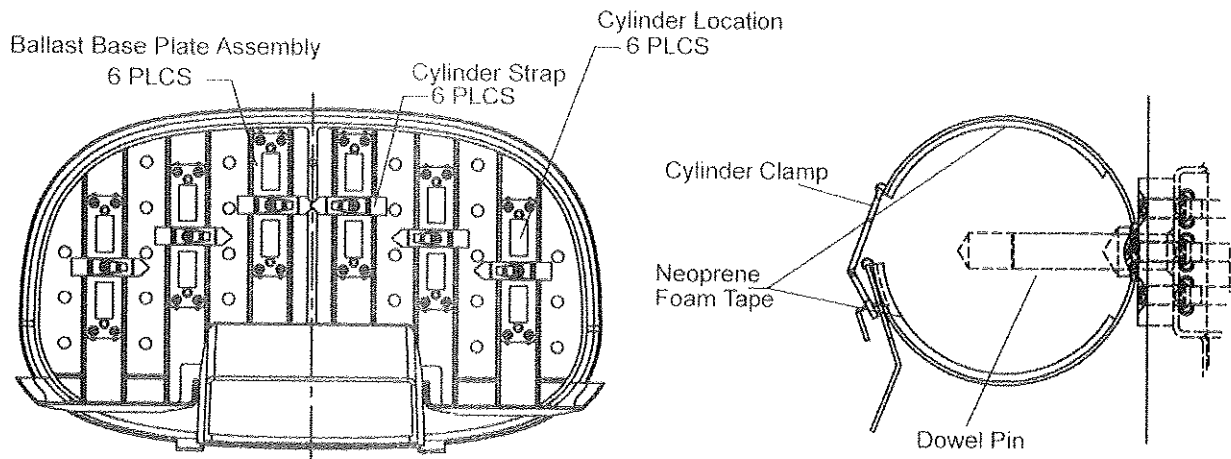
7.1 BAGGAGE COMPARTMENT

7.1.1 BALLAST INSTALLATION

A ballast assembly has been installed within the nose baggage bay area of the aircraft for identified loading configurations in order to maintain the specified aircraft centre of gravity envelope. The ballast assembly installed can be comprised of one ballast mounting bracket, installed on only the left hand side of the aircraft or two ballast mounting brackets, installed on the left hand side and the right hand side of the aircraft.

Each ballast mounting bracket weighs 1.81 kg (3.90 lbs) and can be loaded with up to three cylindrical ballasts. The cylindrical ballasts each weigh 5.08 kg (11.20 lbs). Both ballast mounting brackets loaded with three cylindrical ballasts will give a total weight of 34.10 kgs (75.00 lbs).

The ballast assembly permits the pilot to maintain the weight limits and C of G for the DA42 L360 at all payload configurations. The necessity to install, remove or relocate cylindrical ballasts on the mounting bracket(s) will be determined by weight and balance calculations before flight.



Ballast Mounting Brackets and Cylindrical Ballast Clamps

D42L-AFM-002	02-Dec-09	Page 9 - S1 - 23
TR 09-01		

Intentionally left blank

Page 9 - S1 - 24	02-Dec-09	D42L-AFM-002 TR 09-01
------------------	-----------	--------------------------

8. AIRPLANE HANDLING, CARE AND MAINTENANCE

No Change.

D42L-AFM-002 TR 09-01	02-Dec-09	Page 9 - S1 - 25
--------------------------	-----------	------------------

Intentionally left blank

Page 9 - S1 - 26	02-Dec-09	D42L-AFM-002 TR 09-01
------------------	-----------	--------------------------