

Worldwide Industry Meeting A-5 Committee

Aerospace Landing Gear Systems

MEETING AGENDA Overview

Attend and participate

Apr 9-11, 2013 Calgary, Alberta - Canada



SAE A-5 Aerospace Landing Gear System

Apr 9-11, 2013 - Calgary, Alberta

One World / One Standard / One Source

About SAE A-5 Committee:

A-5 Aerospace Landing Gear Systems

A-5A Wheels, Brakes, and Brake Controls

A-5B Struts and Couplings

A-5C Aircraft Tires

For more information contact:

Maureen Lemankiewicz

(lemankm@sae.org)

A-5 SPRING 2012 CONFERENCE AGENDA

BLACKFOOT HOTEL CALGARY, AB - APR 9-11, 2013 MEETING NO. 95

Tuesday: Apr 9		
7:30 - 8:00	Registration	
8:00 - 8:30	Welcome Meeting	
8:45 - 10:15	Symposium*	
10:30 - 11:30	Panel Meetings (A-5)	
11:30 - 1:00	Lunch	
1:00 - 5:00	Panel Meetings (A-5A, A-5B)	
5:00 - 5:30	Officer's Meeting	

Wednesday: Apr 10		
8:00 - 11:30	Panel Meetings (all committees)	
11:30 - 1:00	Lunch	
1:00 - 5:00	Panel Meetings (A-5, A-5C)	

Thursday: Apr 11	
8:00 - 9:45	Committee A-5A
9:45 - 11:30	Committee A-5B
11:30 - 12:45	Lunch
12:45 - 2:15	Committee A-5C
2:15 - 5:30	Committee A-5

^{*} See Symposium Agenda

A-5 SPRING 2012 SYMPOSIUM AGENDA

BLACKFOOT HOTEL CALGARY, AB - APR 9-11, 2013 MEETING NO. 95

8:45 AM, TUESDAY: APR 9, 2013

Moderator: TBD

8:45 - 9:30 "Redesign of Landing Gear Components Using S53 to Replace

300M/4340", Jared Hanson, ES3

9:45 – 10:15 "My Life as a Landing Gear Designer", John Davies

PANEL MEETING SCHEDULE

TUESDAY - 16 OCT, 2012

TIME	ROOM A	ROOM B
10:30	Protection From Debris Impact D Jones	
11:00	Protection From Debris Impact D Jones	
11:30	LUNCH	LUNCH
1:00	AIR5372 Brake by Wire E Cahill (A5A-08-02)	Cold Temperature Qualification/ Operation (A5B-12-4) J. Hagelin
1:30	AS1145B Temperature Monitoring Systems E Cahill / G Cedarlind (A5A-12-03)	AIR 5565 Historical Retract Extend Info G Ataman / R Juergens (A5B-07-04)
2:00	AS5714 Minimum Performance Requirements for Electric Brakes S McCrillis / D Flask	ARP 5569 Retract Extend G Ataman / J Griffin (A5B-08-01)
2:30	AS5714 Minimum Performance Requirements for Electric Brakes S McCrillis / D Flask	Towbarless Towing G Ataman (A5B-02-03)
3:00	AIR5490 Carbon Contamination D Lahue / D Johnson (A5A-00-02)	Disposition of Composite Landing Gear Components Involved in Accidents F Lefebvre / T Sijpkes (A5B 10-02)
3:30	ARP4777A Non-Destructive Inspection Methods T Walker / S McCrillis (A5A-12-01)	AIR 5024: Position Sensing Switch Selection Criteria- (A5B-12-03), G. Cederlind
4:00	AS707B Fuse Plugs T Nemcheck / H Steele (A5A-12-02)	AIR 4004: Guide, Wiring (A5B 05-2), A. Cepic / H. Beaton / H. Forrest
4:30	AS707B Fuse Plugs T Nemcheck / H Steele (A5A-12-02)	Environmentally Compliant Processes J Randolph / C Forrest (A5-08-01)
5:00	Officer's Meeting	

PANEL MEETING SCHEDULE

WEDNESDAY – 10 APR, 2013

TIME	ROOM A	ROOM B
8:00	AIR4762 Frozen Brakes	Landing Gear Loads Lessons Learned
	D Lahue / H Steele (A5A-08-03)	J Hagelin / P. McNally (A5B 08-05)
8:30	ARP 1619 Replacement & Modified Brakes and Wheels	ARP 5429 Landing Gear Fatigue Tests with Equivalent Damage Spectra
	D Flask (A5A-11-03)	J Close (A5B-12-02)
9:00	ARP 5567 Test Method for Catalytic Carbon Brake Disk Oxidation	AIR 5883 Landing Gear Shock Bearing Selection
	Steve McCrillis / Dan LaHue (A5A-12-04)	N Leroux (A5B 11-03)
9:30	AIR6441 Information on Parking Brake	Landing Gear Service Experience
	Systems M Shea / E Cahill (A5A-07-04)	C Forrest / D Wiser (A5B 00-01)
10:00	R-64 Data Regeneration for Radials CB Alsobrook / H Pollack (A5C-09-01)	ARP 5644: Landing Gear Shock Absorption Testing of Civil Aircraft (A-5B 97-1), J. Hagelin / D. Ball
10:30	Tire Burst Characteristics	AIR5631 Catalog of LG Systems
	K Hauge / M Vogel (A5C-10-05)	C Hogan / G Ataman (A5-08-03)
11:00	Tire Burst Characteristics	Landing Gear Health Monitoring Systems
	K Hauge / M Vogel (A5C-10-05)	K Schmidt, F Lefebvre (A5-12-03)
11:30	LUNCH	LUNCH
1:00	ARP4955B Recommended Practice for Measurement of Dynamic Properties of	AIR6452 LG Endurance Test Considerations
	AC Tires CB Alsobrook (A5C 11-02)	R Dufour (A5-09-02)
1:30	Rotorcraft Tires	Airline Operator Involvement
	A Schonfeld (A5C-12-02)	D LaHue (A5-02-01)
2:00	A/C Tire In-Service Issues: Lessons	AIR XXXX Shimmy Analysis Methods
	Learned	P McNally (A5-12-01)
	K Finch / D Frederick (A5C-07-04)	
2:30	ARPxxxx Aircraft Tire Removal Criteria M. DeWitt / R. Ranucci (A5C-11-01)	AIR XXXX Shimmy Analysis Methods P McNally (A5-12-01)
3:00	ARPxxxx Aircraft Tire Removal Criteria	Rotorcraft LG
	M. DeWitt / R. Ranucci (A5C-11-01)	A Schoenfeld
3:30	New Tire Appearance Criteria	Landing Gear Engine Off Taxi Systems
	R Villanueva / M DeWitt / R Ranucci (A5C-12-01)	G Ataman (A5-12-02)
4:00	New Tire Appearance Criteria	Landing Gear Engine Off Taxi Systems
	R Villanueva / M DeWitt / R Ranucci (A5C-12-01)	G Ataman (A5-12-02)



AGENDA A-5A

BLACKFOOT HOTEL, CALGARY, AB
APR 9-11, 2013
MEETING NO. 95 - WHEELS, BRAKES
AND SKID CONTROL
8:00-9:45 AM – THURSDAY, APR 11, 2013

1.0 Meeting Opening

- 1.1 Introductions
- 1.2 Announcements / Awards Next Meeting: Detail
- 1.3 Membership Review
- 1.4 Approval of Meeting #94 Minutes (Bar Harbor, Fall 2012)

2.0 New Document Preparation

- 2.1 TSO C26e (AS 5714) –Minimum Performance Standard for Part 23, 27, and 29 Aircraft Wheels, Brakes, and Wheel and Brake Assemblies (update TSO-C26d) (A5A-07-1) Steve McCrillis/David Flask FAA publish status / EASA inputs to TSO C26e and TSO C135a
- 2.2 AIR6441- Parking Brake Systems (A5A-07-04) Mark Shea/Eric Cahill
- 2.3 ARP 6184 Military Electrically Actuated Brakes and Wheels (A5A-10-02) – Steve McCrillis/Dave Flask – On hold pending resolution of process compliant with ITAR
- 2.4 Brake Control Input Parameters (A5A-11-05) Eric Cahill– Panel cancelled spring of 2012

3.0 Document Updates

- 3.1 AIR5490 Carbon Contamination (A5A 11-2), Dan La Hue / Steve McCrillis
- 3.2 AIR 5372- Brake-By-Wire update to include new architectures (A5A-08-02)- Eric Cahill/ Jon Lumb
- 3.3 AIR 4762 Frozen Brakes (A5A-08-03) Dan LaHue/Henry Steele
- 3.4 ARP 1786 Wheel Roll on Rim Criteria (A5A-11-01) Henry Steele/ Dave Flask
- 3.5 ARP 1619 Replacement & Modified Brakes and Wheels (A5A-11-03) – Dave Flask / Steve McCrillis
- 3.6 AIR 4777A Non-Destructive Inspection Methods Used During Production and Operation of Aircraft Wheels and Brakes (A5A-12-01) Todd Walker / Steve McCrillis
- 3.7 AS 707B Fuse Plugs (A5A-12-02) Tom Nemchek / Henry Steele
- 3.8 AS 1145B Temperature Monitoring Systems (A5A-12-03) Eric Cahill / Greg Cederlind
- 3.9 ARP 5567 Test Method for Catalytic Carbon Brake Disk Oxidation (A5A-12-04) Steve McCrillis / Dan LaHue

4.0 Five Year Document Review, Documents up for Review in 2013

- 4.1 AIR 5372 Brake-By-Wire
- 4.2 ARP 597C Wheels and Brakes, Supplementary Criteria for Design Endurance Civil Transport Aircraft
- 4.3 ARP 1070C Antiskid Brake Control Systems
- 4.4 ARP1493B Military Wheels and Brakes
- 4.5 AS1188 Aircraft Tire Inflation Deflation Equipment
- 4.6 AS8584A Update of Mil Specification Brake Control System

5.0 Old Business

- 5.1 AIR 5381 Minimum Performance Recommendations for Part 23, 27, and 29 Aircraft Wheels, Brakes and Wheel and Brake Assemblies stabilized
- 5.2 Status G-12 liaison report on deicers and carbon oxidation
- 5.3 A-6 documents activity

6.0 New Business

7.0 Adjourn

Panel Chairmen:

- Please arrange for someone (Co-Chair) to lead your Panel if you cannot attend.
- Provide a written or electronic copy of your Panel Report to the A-5A Secretary before close of meeting. (If possible, use the report template provided).
- Include time required for your next Panel Meeting in the report.

Committee Officers:

Henry Steele, Chairman, henry.steele@ga-si.com

Dan LaHue, Vice-Chairman dan.lahue@meggitt.com

Steve McCrillis, Secretary steve.mccrillis@goodrich.com





AGENDA A-5B

BLACKFOOT HOTEL, CALGARY, AB APR 9-11, 2013

MEETING NO. 95 - GEARS, STRUTS AND SKID COUPLINGS 9:45-11:30 AM- THURSDAY, APR 11, 2013

1.0 Meeting Opening

- 1.1 Introductions
- 1.2 Announcements Next Meeting:
- 1.3 Membership Review
- 1.4 Approval of Meeting Minutes No. 94 Bar Harbor, Maine

2.0 New Document Preparation

- 2.1 AIR 5565: Historical Design Information for Various Landing Gear Retraction/Extension Systems (A5B 07-4), G. Ataman/ R. Jurgens
- 2.2 ARP 5569: Landing Gear Retraction/Extension Systems (A5B 08-1), G. Ataman/J. Griffin

3.0 Document Updates

- 3.1 ARP 5644: Landing Gear Shock Absorption Testing of Civil Aircraft (A-5B 97-1), J. Hagelin/D. Ball
- 3.2 AIR 4004: Guide, Wiring (A5B 05-2), A. Cepic/H. Beaton/ H. Forrest
- 3.3 AIR 5883: Landing Gear Shock Strut Bearing Selection (A5B-11-03), N. Leroux
- 3.4 ARP 5429: Landing Gear Fatigue Tests and Equivalent Damage Spectra (A5B 12-02), J. Close/F. Lefebvre
- 3.5 AIR 5024: Position Sensing Switch Selection Criteria-(A5B-12-03),G. Cederlind
- ARP 4912: Design Requirements for Spare Seals (A5B-12-02), S. Okladek/S. White

4.0 Discussion Panels

- 4.1 Landing Gear Service Experience (A-5B 00-1),C. Forrest/D. Wiser
- 4.2 Towbarless Towing (A-5B 02-3), G. Ataman
- 4.3 Landing Gear Loads Lessons Learned (A-5B 08-5), J. Hagelin/P. McNally
- 4.4 Disposition of Composite Landing Gear Components
 Involved in Accidents/Incidents) Review
 (A5B 10-2), F. Lefebvre/T. Sijpkes
- 4.5 Cold Temperature Qualification/Operation (A5B-12-4) J. Hagelin
- 4.6 Landing Gear Structural Integrity Programs (A5B-12-5) C. Hogan

5.0 5-Year Document Review

- 5.1 ARP 1538B: Arresting Hook
- 5.2 ARP 5908: Landing Gear Servicing

6.0 Old Business

7.0 New Business

8.0 Adjourn

Panel Chairmen

- Please arrange for someone (Co-Chair) to lead your Panel if you cannot attend.
- Provide a written or electronic copy of your Panel Report to the A-5B Secretary before close of meeting. (If possible, use the report template provided).
- Include time required for your next Panel Meeting in the report.

Committee Officers:

Craig Edwards, Chairman

craig.edwards@es3inc.com

Clint Forrest, Vice-Chairman

clint.forrest@es3inc.com

Mike Schow, Secretary

michael.schow@hill.af.mil



AGENDA A-5C

BLACKFOOT HOTEL, CALGARY, AB APR 9-11, 2013 MEETING NO. 95 - LANDING GEAR TIRES 12:45 – 2:15 THURSDAY, APR 11, 2013

1.0 Meeting Opening

- 1.1. Introductions & Announcements
- 1.2. Membership Review Letter Issued
- 1.3. Approval of Minutes of Meeting No. 94
- 1.4. Document Publications

2.0 New Document Preparation

2.1 ARP6152 Service Overload Capability – Aircraft Tires (A5C 09-03)
H. Beaton/ R. Juergens
2.2 ARP6225 Aircraft Tire Removal Criteria (A5C 11-01)
M. DeWitt/ R. Ranucci
2.3 ARP6265 Tire Burst Characteristics (A5C 10-05)

3.0 Document Updates

3.1 ARP4955A Recommended Practice for the Measurement of Dynamic Properties of Aircraft Tires (A5C 11-02)

CB Alsobrook/ M. DeWitt

3.2 ARP5265A Min. Operational & Maintenance Responsibilities for AC Tire Usage

G. Felder/ R. Villanueva

K. Hauge/ M. Vogel

4.0 Discussion Panels

4.1 R-64 Data Regeneration – Ref. Radial Tire (A5C-09-01)

CB Alsobrook / M. Vogel

4.2 AC Tire In-Service Issues; Lessons Learned (A5C-07-04)

K. Finch/ D. Frederick

4.3 New Tire Appearance Criteria - prior to Aircraft Installation (A5C-12-01) Roel

Villanueva/M. DeWitt/ R. Ranucci

4.4 Rotorcraft Tires - unique fitments (A5C-12-02)

A. Schonfeld/TBA

5.0 Five Year Document Status Review - D. Baker

6.0 Committee Topics

- a. OLD Business
- b. NEW Business (Symposium topics discussion/ direction)

7.0 Adjournment

Panel Chairmen:

- Please arrange for someone (Co-Chair) to lead your Panel if you cannot attend.
- Provide a written or electronic copy of your Panel Report to the A-5C Secretary before close of meeting. (If possible, use the report template provided).
- Include time required for your next Panel Meeting in the report.

Committee Officers:

Greg Felder, Chairman, greg.felder@us.michelin.com **Dave Baker, Vice Chairman**, david.baker@dunlopati.co.uk **Rudy Ranucci, Secretary**, ranucci-r@bridgestone-bau.com

AGENDA A-5

BLACKFOOT HOTEL, CALGARY, AB APR 9-11, 2013

MEETING NO. 95 - LANDING GEAR SYSTEMS 2:15 PM - 5:30 PM THURSDAY, APR 11, 2013

1. Introductions

2. Announcements

3. Membership Changes

4. Approval of Minutes, Meeting 94

5. SAE Staff Report

6. Activity Reports

6.6

7.

Naval Air Systems Command, 6.1 6.7 NASA, Tom Yager Transport Canada, Don Agtarap John Bortz 6.8 USAF - 46 TG/OL-AC (WPAFB), 6.2 6.9 EASA, Duncan Jones Marty Vogel 6.10 Brazilian Civil Aviation Authority USAF - ASC (WPAFB), Brett 6.3 ANAC, Renato Passos Piepke CAA, Martin Churly 6.11 6.4 USAF - AFMC 417th (HAFB), Ron 6.12 RMA, Steven Butcher A-6 Liaison Report Montgomery 6.13 6.5 European Air Forces 6.14 Airline Report

Five Year Document Review

FAA, George Soteropoulos

8. New Document Panel Reports

- 8.1 AIR5631 Catalog of Landing Gear Systems (A5-08-03) C Hogan / G Ataman
- 8.2 AIR 6452 LG Endurance Test Considerations (A5-09-02) R Dufour
- 8.3 AlR XXXX Shimmy Analysis Methods and Data Requirements Verification (A5-12-01) TBD

9. Document Update Panel Reports

- 9.1 AIR5451 Guide to LG System Integration (A5-10-01) H Beaton, D Wiser
- 9.2 ARP1598A LG System Development Plan (A5-10-02) M Long /

10. Discussion Panel Reports

- 10.1 Airline Operator Involvement (A5-02-01) Dan LaHue
- 10.2 Rotorcraft Discussion Panel (A5-09-04) A Schonfeld
- 10.3 Environmentally Compliant Processes Discussion Panel (A5-08-01) J Randolph / C Forrest
- 10.4 Unique Landing Gear Requirements for UAVs (A5-09-03) P McNally
- 10.5 Landing Gear Health Monitoring Systems (A5-12-3) K Schmidt / F Lefebvre
- 10.6 Landing Gear Engine Off Taxi Systems (A5-12-2) G Ataman
- 10.7 Protection From Debris Impact D Jones

11. Old Business

- 11.1 Future PCASE presentation
- 11.2 ITAR

12. New Business

13. Meeting Location Selection

Oct 8-10, 2013 Hilton Dublin City

Dublin, Ireland

Spring 2014 Primary: Santa Barbara, CA

Alternate: Corpus Christi, TX

Fall 2014 Primary:

Alternate:

14. Adjourn

Committee Officers:

Mark Shea, Chairman, mark.shea@ga.com

Marty Vogel, Vice Chairman, martin.vogel@wpafb.af.mil

Michael Long, Secretary, michael.a.long@boeing.com



Thank you for attending the Worldwide Industry Meeting of the SAE International A-5 Aerospace Landing Gear Systems Committees

