



AEROSPACE INFORMATION REPORT

AIR1589™**REV. C**Issued 1980-03
Revised 2022-05

Superseding AIR1589B

Aircraft Damage Caused by Ground Support Equipment

RATIONALE

The definition of the scope of this document is no longer valid. In addition, statistical information is outdated and needs to be revised with the most current information.

TABLE OF CONTENTS

1.	SCOPE.....	3
1.1	Purpose	3
2.	REFERENCES.....	3
2.1	Applicable Documents	3
2.1.1	SAE Publications.....	3
2.1.2	IATA Publications.....	3
2.1.3	ISO Publications.....	4
2.1.4	Airlines for America (A4A) Publications	4
3.	GENERAL	4
4.	SUMMARY OF AIRCRAFT DAMAGE AND CONTRIBUTORY FACTORS - BY TYPE OF GROUND SUPPORT EQUIPMENT	4
4.1	Belt Conveyors.....	4
4.2	Passenger Boarding Bridges (PBB).....	5
4.3	Container/Pallet Loaders.....	5
4.4	Ramp Tractors	6
4.5	Baggage/Cargo Carts and Dollies	6
4.6	Catering/Cleaning Trucks.....	6
4.7	Passenger Stairs/Steps.....	7
4.8	Pushback/Tow Tractors, Tow Bars	7
4.9	Ground Power Units.....	7
4.10	Lavatory/Water Service Vehicle/Cart.....	7
4.11	Fueling Vehicle.....	8
4.12	Other	8
5.	PRINCIPAL CONTRIBUTORS	8
6.	RISK MITIGATIONS	8
6.1	Operator Training and Qualifications	8
6.2	Operating Procedures	9
6.3	Equipment Design.....	9
6.4	Maintenance Condition	9

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2022 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
http://www.sae.org

SAE WEB ADDRESS:

Full document details: SAE AIR1589C

For more information on this standard, visit
<https://www.sae.org/standards/content/AIR1589C/>

Documents

Document Sharing Hub

6.5	Work/Environmental Conditions.....	9
6.6	Aircraft Design.....	10
6.7	Management Involvement.....	10
7.	NOTES	10
7.1	Revision Indicator.....	10

1. SCOPE

Incidents where a piece of ground support equipment or personnel damages an aircraft under the control of ground or maintenance operations that requires corrective action by aircraft maintenance personnel. Operations include, but are not limited to servicing, line maintenance, heavy maintenance, and aircraft movement, e.g., marshalling/pushback/tow/reposition/taxi.

1.1 Purpose

This SAE Aerospace Information Report (AIR) summarizes aircraft damage, coupled with contributory factors, caused by ground support equipment (GSE). It also offers recommendations in reducing exposure to aircraft damage.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AIR1375	Minimum Safety Requirements for Special Purpose Airline Ground Support Equipment
ARP1247	Aircraft Ground Support Equipment - General Requirements
ARP1287	SAE Standards for Use in the Design of Aerospace Vehicular Ground Equipment
ARP1558	Interface Protection - Ground Equipment to Aircraft
ARP4084	Aircraft Ground Service Connections Locations and Type

2.1.2 IATA Publications

Available from International Air Transport Association, Publications Assistant, 800 Place Victoria, P.O. Box 113, Montreal, Quebec H4Z 1M1, Canada, Tel: 1-514-874-0202, www.iata.org.

Airport Handling Manual

AHM Chapter 6- Management and Safety

AHM 910	Basic Requirements for Aircraft Ground Support Equipment
AHM 913	Basic Safety Requirements for Aircraft Ground Support Equipment
AHM 914	Compatibility of Ground Support Equipment with Aircraft Types
IATA IGOM	Chapter 4 - Aircraft Handling Procedures