



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-SIXTH MEETING

Montréal, 16 to 27 October 2017

Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284)* for incorporation in the 2019-2020 Edition

BATTERY POWERED MOBILITY AIDS

(Presented by M. Paquette)

SUMMARY

This working paper proposes revisions to the provisions for battery powered mobility aids. The purpose is to simplify the provisions.

Action by the DGP: The DGP is invited to consider the proposed amendments to Part 7;2 and Part 8 as shown in the appendices to this working paper.

1. INTRODUCTION

1.1 A working paper presented at the last Dangerous Goods Panel Working Group Meeting (DGP-WG/17-WP/34, see 3.2.8.6 of the DGP-WG/17 report) proposed to revise the passenger provisions for battery-powered mobility aids. It proposed to merge the three entries currently included in Table 8-1 for mobility aids powered by non-spillable wet batteries, mobility aids powered by spillable batteries, and mobility aids powered by lithium ion batteries 5), 6) and 7) respectively. The proposal also incorporated all operator responsibilities relating to mobility aids in the storage and loading chapter of Part 7.

1.2 The current entries for mobility aids in Table 8-1 include requirements that can only be applied by the operator and which are out of the passenger's control (e.g., loading, stowing, securing and unloading the mobility aid). The proposed single entry limits the provisions to those that are within the passenger's control. Provisions that are the responsibility of the operator are moved to the storage and loading chapter of Part 7.

1.3 There was support for the proposal in principle. A number of suggestions for improvement were discussed. The majority of these suggestions are incorporated in this proposal.

1.4 It was proposed in DGP-WG/17-WP/34 that an operator secure a battery powered mobility aid to prevent movement and protect it from being damaged by the movement of baggage, mail or cargo. This was deemed to be insufficient as it did not specifically state that loading a battery powered mobility aid with unsecured baggage, mail or cargo was not permitted. It was argued that volumetric loading of a battery powered mobility aid with other baggage, mail or cargo would not ensure that the mobility aid is secured to prevent movement and protected from damage. Therefore, it is proposed in this working paper to require that the battery powered mobility aid with installed batteries, baggage, mail and cargo stowed within the same unit load device or netted section of a cargo compartment be secured by means of straps, tie-downs or other restrain devices. This would prevent operators from securing the battery powered mobility aid with other unsecured items.

2. ACTION BY THE DGP

2.1 The DGP is invited to consider the proposed amendments to Part 7;2 and Part 8 as shown in the appendices to this working paper.

APPENDIX A

PROPOSED AMENDMENT TO PART 7 OF THE TECHNICAL INSTRUCTIONS

Part 7

OPERATOR'S RESPONSIBILITIES

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Chapter 2

STORAGE AND LOADING

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2.13 LOADING OF BATTERY POWERED MOBILITY AIDS CARRIED UNDER THE PROVISIONS OF PART 8

2.13.1 Loading of non-spillable wet battery powered mobility aids

2.13.1.1 An operator must secure, by use of straps, tie-downs or other restraint devices, a battery powered mobility aid with installed batteries. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.

2.13.1.2 An operator must verify that:

a) each non-spillable wet battery complies with Special Provision A67 or the vibration and pressure differential tests of Packing Instruction 872;

b) the battery terminals are protected from short circuits (e.g. by being enclosed within a battery container); and

c) the battery is either:

1) securely attached to the mobility aid and the electrical circuits are isolated in accordance with the manufacturer's instructions; or

2) removed from the mobility aid in accordance with the manufacturer's instructions when the mobility aid does not adequately protect the battery.

2.13.1.3 An operator must ensure that the batteries removed from the mobility aid are carried in strong, rigid packagings, protected from short circuit and stowed in the cargo compartment.

2.13.1.4 The operator must inform the pilot-in-command of the location of any removed batteries.

2.13.2 Loading of spillable battery powered mobility aids

2.13.2.1 An operator must secure, by use of straps, tie-downs or other restraint devices, a battery powered mobility aid with installed batteries. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.

2.13.2.2 An operator must verify that:

a) the battery terminals are protected from short circuits (e.g. by being enclosed within a battery container);

b) the battery should be fitted, where feasible, with spill resistant-vent caps; and

c) the battery is either:

1) securely attached to the mobility aid and the electrical circuits are isolated in accordance with the manufacturer's instructions; or

- 2) removed from the mobility aid in accordance with the manufacturer's instructions when the mobility aid does not adequately protect the battery or when required by 2.13.2.3.

2.13.2.3 An operator must load, stow, secure, and unload a spillable battery-powered mobility aid in an upright position. If the mobility aid cannot be loaded, stowed, secured and unloaded always in an upright position or if the mobility aid does not adequately protect the battery, the operator must remove the batteries and carry them in strong, rigid packagings, as follows:

- a) packagings must be leak-tight, impervious to battery fluid and be protected against being overturned by securing them to pallets or by securing them in cargo compartments using appropriate means of securement;
- b) batteries must be protected against short circuits, secured upright in these packagings and surrounded by compatible absorbent material sufficient to absorb their total liquid contents; and
- c) these packagings must be marked "Battery, wet, with wheelchair" or "Battery, wet, with mobility aid" and be labelled with a "Corrosive" label (Figure 5-24) and with package orientation labels (Figure 5-29) as required by 5:3.

2.13.2.4 The operator must inform the pilot-in-command of the location of any mobility aids with installed spillable batteries or any removed batteries.

2.13.3 Loading of lithium ion battery powered mobility aids

2.13.3.1 An operator must secure, by use of straps, tie-downs or other restraint devices, a battery powered mobility aid with installed batteries. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.

2.13.3.2 An operator must verify that:

- a) the battery terminals are protected from short circuits (e.g. by being enclosed within a battery container);
- b) the battery is either:

1) securely attached to the mobility aid and the electrical circuits are isolated in accordance with the manufacturer's instructions; or

2) removed from the mobility aid in accordance with the manufacturer's instructions when the mobility aid does not adequately protect the battery; and

- c) the removed battery does not exceed 300Wh and that its spare battery does not exceed 300Wh or its two spare batteries do not exceed 160Wh each.

2.13.3.3 An operator must ensure that the battery removed from the mobility aid and any spare batteries are carried in the cabin and protected from damage (e.g., by placing each battery in a protective pouch) and the battery terminals protected from short circuit (by insulating the terminals, e.g. by taping over exposed terminals).

2.13.3.4 The operator must inform the pilot-in-command of the location of any mobility aids with installed lithium ion batteries, removed batteries and spare batteries.

RENUMBER subsequent paragraph
accordingly.

APPENDIX B

PROPOSED AMENDMENT TO PART 8 OF THE TECHNICAL INSTRUCTIONS

Part 8

PROVISIONS CONCERNING
PASSENGERS AND CREW

Table 8-1. Provisions for dangerous goods carried by passengers or crew

Items or articles	Location			Approval of the operator(s) is required	The pilot-in-command must be informed	Restrictions
	Checked baggage	Carry-on baggage	On the person			
Medical necessities						
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5) <u>Battery powered mobility aids (e.g. wheelchairs)</u>	<u>Yes</u>	<u>(see d)</u>	<u>No</u>	<u>Yes</u>	<u>Yes</u>	<u>a) the mobility aid is for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg);</u> <u>b) the passenger should make advance arrangements with each operator and provide information on the type of battery installed and on the handling of the mobility aid (including instructions on how to isolate the battery);</u> <u>c) in the case of a non-spillable wet battery, each battery must comply with Special Provision A67 or the vibration and pressure differential tests of Packing Instruction 872;</u> <u>d) in the case of a lithium ion battery:</u> <u>i) each battery must be of a type which meets the requirements of each test in the UN Manual of Test and Criteria, Part III, subsection 38.3;</u> <u>ii) when the mobility aid does not provide adequate protection to the battery:</u> <u>— the battery must be removed in accordance with the manufacturer's instructions;</u> <u>— the battery must not exceed 300 Wh;</u>

<i>Items or articles</i>	<i>Location</i>			<i>Approval of the operator(s) is required</i>	<i>The pilot-in-command must be informed</i>	<i>Restrictions</i>
	<i>Checked baggage</i>	<i>Carry-on baggage</i>	<i>On the person</i>			
						<ul style="list-style-type: none"> <u>— the battery terminals must be protected from short circuit (by insulating the terminals, e.g. by taping over exposed terminals);</u> <u>— the battery must be protected from damage (e.g. by placing each battery in a protective pouch);</u> <u>— the battery must be carried in the cabin; and</u> <u>— a maximum of one spare battery not exceeding 300 Wh or two spare batteries not exceeding 160Wh each may be carried.</u>
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