



DaimlerChrysler Aerospace

Space Infrastructure



Cargo Customer Questionnaire.

ICC-RIHOU-RQ-0003 – Issue 1, Revision — - February 1, 2000

Introduction.

The Cargo Customer Questionnaire is dedicated to assess your requirements for flight on the SPACEHAB Integrated Cargo Carrier (ICC).

The information you provide us will be used for SPACEHAB ICC mission manifesting and planning, as well as for developing the Interface Control Agreement (ICA).

When filling out the questionnaire, please feel free to use every space necessary to write down your information. We would like to ask you to sign all gaps you leave with either “not applicable (N/A)”, “not required (N/R)”, or “to be delivered (TBD)”. Thank you very much for your help.

Thank you for filling out this questionnaire and using the SPACEHAB Integrated Cargo Carrier.

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CARGO CUSTOMER QUESTIONNAIRE

Contacts.

PAYLOAD MANAGER

Name	
Address	street
	city
	mail code
	country
Phone	
Facsimile	
Pager	
E-mail	

ALTERNATE CONTACT

Name	
Address	street
	city
	mail code
	country
Phone	
Facsimile	
Pager	
E-mail	

General Information.

GENERAL

Payload Name	
Acronym	
Names of Subitems	
Availability Date	month / day / year

BACKGROUND

Hardware Status	<input type="checkbox"/> new <input type="checkbox"/> concept <input type="checkbox"/> design state <input type="checkbox"/> being built <input type="checkbox"/> existing <input type="checkbox"/> under modification <input type="checkbox"/> reflight/series
Other flights	past/future flights on NSTS
Last flight documents	
Previous waivers	
Design maturity	complete/CDR/PDR/...
Available data	CAD models/analysis models/...

HARDWARE DESCRIPTION

CARGO CUSTOMER QUESTIONNAIRE

Hardware Properties.

PHYSICAL DATA	
Item ¹	name, number
Assembly drawing	number, electronic format
Interface drawing ²	number, electronic format
Static envelope	<input type="checkbox"/> m x <input type="checkbox"/> m x <input type="checkbox"/> m <input type="checkbox"/> E <input type="checkbox"/> C <input type="checkbox"/> A <input type="checkbox"/> ft x <input type="checkbox"/> ft x <input type="checkbox"/> ft
Mass	<input type="checkbox"/> kg <input type="checkbox"/> E <input type="checkbox"/> C <input type="checkbox"/> A <input type="checkbox"/> lbs
Center of gravity	CGx= <input type="checkbox"/> m <input type="checkbox"/> in CGy= <input type="checkbox"/> m <input type="checkbox"/> in CGz= <input type="checkbox"/> m <input type="checkbox"/> in maturity <input type="checkbox"/> E <input type="checkbox"/> C <input type="checkbox"/> A
Moments of inertia	Ixx= <input type="checkbox"/> kgm ² <input type="checkbox"/> slugft ² Iyy= <input type="checkbox"/> kgm ² <input type="checkbox"/> slugft ² Izz= <input type="checkbox"/> kgm ² <input type="checkbox"/> slugft ² maturity <input type="checkbox"/> E <input type="checkbox"/> C <input type="checkbox"/> A Ixy= <input type="checkbox"/> kgm ² <input type="checkbox"/> slugft ² Iyz= <input type="checkbox"/> kgm ² <input type="checkbox"/> slugft ² Izx= <input type="checkbox"/> kgm ² <input type="checkbox"/> slugft ² maturity <input type="checkbox"/> E <input type="checkbox"/> C <input type="checkbox"/> A
Comments	

¹ One data sheet per item required

² Interface drawing must include all dimensions and mounting specifications i. e. torques, interface treatments etc.



Hardware Properties II.

ORIENTATION

Launch orientation requirements

description, drawing number, drawing format

Landing orientation requirements

description, drawing number, drawing format

Comments



CARGO CUSTOMER QUESTIONNAIRE

Power.

POWER REQUIREMENTS

Item ³	name, number				
Usage of electrical power	description				
Direct Current	<input type="checkbox"/> 28 V <input type="checkbox"/> 120 V <input type="checkbox"/> other specification				
Power	peak	W	point in time	<input type="checkbox"/> prelaunch <input type="checkbox"/> ascent <input type="checkbox"/> on orbit <input type="checkbox"/> descent <input type="checkbox"/> postlanding	duration
	operating	W	point in time	<input type="checkbox"/> prelaunch <input type="checkbox"/> ascent <input type="checkbox"/> on orbit <input type="checkbox"/> descent <input type="checkbox"/> postlanding	duration

POWER CABLES

Hardware provided power cables	specification, identification number, connector type, pin assignment
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SPECIAL OPERATION REQUIREMENTS

Remote activation/deactivation	description
Comments	

³ One data sheet per item required

Structural Analysis.

DATA AVAILABILITY

Structural Finite Element Model	format	number of grids and elements
Definition of design loads	<input type="checkbox"/> yes <input type="checkbox"/> no	
Drawing of interface design/degrees of freedom	drawing number	
Launch/landing frequencies node shapes	<input type="checkbox"/> yes <input type="checkbox"/> no	
Structural design loads	<input type="checkbox"/> yes <input type="checkbox"/> no	
Quasi-static dynamic loads analysis	<input type="checkbox"/> yes <input type="checkbox"/> no	
Stress analysis	<input type="checkbox"/> yes <input type="checkbox"/> no	
Random vibration/vibroacoustic analysis	<input type="checkbox"/> yes <input type="checkbox"/> no	
Fracture analysis	<input type="checkbox"/> yes <input type="checkbox"/> no	
Structural test report	<input type="checkbox"/> yes <input type="checkbox"/> no	
Comments:		

Thermal Analysis.

DATA AVAILABILITY

Thermal mathematical model	format	number of nodes
Nodal distribution drawing	drawing number, format	
Node data block	<input type="checkbox"/> yes <input type="checkbox"/> no	
Linear conductor data block	<input type="checkbox"/> yes <input type="checkbox"/> no	
Radiative conductor data block	<input type="checkbox"/> yes <input type="checkbox"/> no	
External heat loads	<input type="checkbox"/> yes <input type="checkbox"/> no	
Thermal test report	<input type="checkbox"/> yes <input type="checkbox"/> no	
Comments		

CARGO CUSTOMER QUESTIONNAIRE

Flight Operations.

ROBOTIC MANIPULATION / EXTRA VEHICULAR ACTIVITY

EVA operations

description as per SPACEHAB Training & Flight Data File Guidelines, task duration, keep-out zones

drawing/document number

RMS operations

description as per SPACEHAB Training & Flight Data File Guidelines, task duration, keep-out zones

drawing/document number

EVA requirements

envelope, clearances, tools

drawing/document number

TRAINING

Provision of mockup

yes

from

L-

months

to

L-

months

no

EVA training requirements

mockup, tools

Participation in EVA training

yes

no

EVA tool I/F check

standard tools needed

tools to be provided

Ground Handling.

GENERAL

Packing/handling/loading/transportation/storage requirements	document number/document title
Inspection preparation requirements	description/document title
Environmental requirements	description/document title
Installation requirements/procedure	description/document title
Launch scrub requirements	description/document title

FACILITY REQUIREMENTS

Purpose	<input type="checkbox"/> unpack <input type="checkbox"/> repack <input type="checkbox"/> assembly <input type="checkbox"/> checkout <input type="checkbox"/> test <input type="checkbox"/> other	description
Spatial requirements	from month / day / year to month / day / year size of space <input type="checkbox"/> m ² <input type="checkbox"/> ft ²	
Resources requirements	<input type="checkbox"/> AC power current, power <input type="checkbox"/> gases type, pressure	<input type="checkbox"/> support equipment type <input type="checkbox"/> cleaning equipment type
Comments		

Ground Handling II.

CARGO CUSTOMER QUESTIONNAIRE

SPECIAL ACCESS

<p>Pre-launch late access requirements</p>	<p><input type="checkbox"/> yes</p> <p>point in time L- hrs min</p> <p>number of items</p> <p>activities description, necessary tools</p>	<p><input type="checkbox"/> no</p>
<p>Launch delay reservicing</p>	<p><input type="checkbox"/> yes</p> <p>description</p>	<p><input type="checkbox"/> no</p>
<p>Post-landing early retrieval requirements</p>	<p><input type="checkbox"/> yes</p> <p>point in time R+ hrs min</p> <p>number of items</p> <p>activities description, necessary tools</p>	<p><input type="checkbox"/> no</p>

SPECIAL SUPPORT

<p>Customer support requirements at SPPF</p>	<p>office, facility, other...</p>
<p>Customer support requirements at KSC</p>	<p>office, facility, other...</p>
<p>Special handling/services before/after Shuttle ICC integration</p>	<p>description</p>

Ground Handling III.



CARGO CUSTOMER QUESTIONNAIRE

HAZARDOUS MATERIALS

Hazard specification

Handling procedure

Emergency procedure for integration team

SPECIAL STORAGE

Item name	<input type="text" value="volume"/>	X	<input type="text" value=""/>	X	<input type="checkbox"/> m <input type="checkbox"/> ft	<input type="text" value="environment"/>
Item name	<input type="text" value="volume"/>	X	<input type="text" value=""/>	X	<input type="checkbox"/> m <input type="checkbox"/> ft	<input type="text" value="environment"/>
Item name	<input type="text" value="volume"/>	X	<input type="text" value=""/>	X	<input type="checkbox"/> m <input type="checkbox"/> ft	<input type="text" value="environment"/>
Item name	<input type="text" value="volume"/>	X	<input type="text" value=""/>	X	<input type="checkbox"/> m <input type="checkbox"/> ft	<input type="text" value="environment"/>
Item name	<input type="text" value="volume"/>	X	<input type="text" value=""/>	X	<input type="checkbox"/> m <input type="checkbox"/> ft	<input type="text" value="environment"/>
Item name	<input type="text" value="volume"/>	X	<input type="text" value=""/>	X	<input type="checkbox"/> m <input type="checkbox"/> ft	<input type="text" value="environment"/>
Item name	<input type="text" value="volume"/>	X	<input type="text" value=""/>	X	<input type="checkbox"/> m <input type="checkbox"/> ft	<input type="text" value="environment"/>
Item name	<input type="text" value="volume"/>	X	<input type="text" value=""/>	X	<input type="checkbox"/> m <input type="checkbox"/> ft	<input type="text" value="environment"/>



CARGO CUSTOMER QUESTIONNAIRE

Ground Support Equipment

GROUND SUPPORT EQUIPMENT & TRANSPORTATION CONTAINER FOR USE OUTSIDE KSC

GSE 1	nomenclature						identification number			quantity
	mass	<input type="checkbox"/> kg	<input type="checkbox"/> lbs	approx dimensions	length	X	height	X	width	<input type="checkbox"/> m <input type="checkbox"/> ft
	purpose									
	drawings/user manuals/...									
GSE 2	nomenclature						identification number			quantity
	mass	<input type="checkbox"/> kg	<input type="checkbox"/> lbs	approx dimensions	length	X	height	X	width	<input type="checkbox"/> m <input type="checkbox"/> ft
	purpose									
	drawings/user manuals/...									
GSE 3	nomenclature						identification number			quantity
	mass	<input type="checkbox"/> kg	<input type="checkbox"/> lbs	approx dimensions	length	X	height	X	width	<input type="checkbox"/> m <input type="checkbox"/> ft
	purpose									
	drawings/user manuals/...									
GSE 4	nomenclature						identification number			quantity
	mass	<input type="checkbox"/> kg	<input type="checkbox"/> lbs	approx dimensions	length	X	height	X	width	<input type="checkbox"/> m <input type="checkbox"/> ft
	purpose									
	drawings/user manuals/...									

CARGO CUSTOMER QUESTIONNAIRE

Ground Support Equipment II.

GSE, TRANSPORTATION CONTAINER, TOOLS FOR USE AT KSC									
GSE KSC 1	nomenclature			identification number				quantity	
	mass	<input type="checkbox"/> kg <input type="checkbox"/> lbs	approx dimensions	length	X	height	X	width	<input type="checkbox"/> m <input type="checkbox"/> ft
	purpose								
	drawings/user manuals/...								
GSE KSC 2	nomenclature			identification number				quantity	
	mass	<input type="checkbox"/> kg <input type="checkbox"/> lbs	approx dimensions	length	X	height	X	width	<input type="checkbox"/> m <input type="checkbox"/> ft
	purpose								
	drawings/user manuals/...								
GSE KSC 3	nomenclature			identification number				quantity	
	mass	<input type="checkbox"/> kg <input type="checkbox"/> lbs	approx dimensions	length	X	height	X	width	<input type="checkbox"/> m <input type="checkbox"/> ft
	purpose								
	drawings/user manuals/...								
GSE KSC 4	nomenclature			identification number				quantity	
	mass	<input type="checkbox"/> kg <input type="checkbox"/> lbs	approx dimensions	length	X	height	X	width	<input type="checkbox"/> m <input type="checkbox"/> ft
	purpose								
	drawings/user manuals/...								

Safety.

GROUND SAFETY DATA PACKAGE

Ground operations planned at KSC⁴ yes document number no

Ground Safety Data Package Phase 0/1 available yes document number no

Payload Safety Analyses & Hazard Reports available yes document number no

Ground Safety Data Package Phase 2 available yes document number no

Ground Safety Data Package Phase 3 available yes document number no

Participation in Safety Reviews yes no

Comments

⁴ This refers to the ground operations at the Kennedy Space Center, not the SPACEHAB Processing Facility

Safety II.

FLIGHT SAFETY DATA PACKAGE

Flight Safety Data Package Phase 0/1 available yes document number no

Payload Safety Analyses & Hazard Reports available yes document number no

Flight Safety Data Package Phase 2 available yes document number no

Flight Safety Data Package Phase 3 available yes document number no

Participation in Safety Reviews yes no

Cargo standalone Flight Safety Certification available yes document number no

Comments



Information Release Agreement.

I HEREBY APPROVE THE ABOVE INFORMATION FOR USE IN DECISIONS CONCERNING MISSION MANIFESTING AND DESIGN.

Signature	printed name	signature	date
Signature	printed name	signature	date
Information treatment	<input type="checkbox"/> normal <input type="checkbox"/> sensitive <input type="checkbox"/> proprietary		