

## Painting the ARA – Science Equipment Requirements

V1\_0 draft, 20<sup>th</sup> January 2010

V1\_1 draft, 20<sup>th</sup> January 2010, updated cloud physics requirements from Phil Rosenberg

V2\_0 draft 24th March 2010, instrument requirements split to jobs in Cranfield (prior to departure for painting) and in Eindhoven (where the aircraft will be painted).

V2\_1 29th March 2010, update to Core Console, Cloud Physics, DI/NDI thermometers, Johnson-Williams, ASP information.

Rack	Item	Instructions: Cranfield	Instructions: Eindhoven
Core Consoles	rack	remove	
	Non-deiced/deiced thermometers	Remove & blank	
	General Eastern	Remove and blank	
	Buck CR2 Hygrometer		Cover inlet
	GPS/GIN/cruciform antennae		Do not paint antennae
	Video cameras		cover windows
	SATCOM-C		Do not paint antenna
	SATCOM-Swift64		Do not paint antenna
	RADAR altimeter		As for the general aircraft instrument requirements
	Turbulence probe		Cover inlet holes, ensure inlets do not become recessed with respect to the nose paint
	Heimann IR thermometer	Ensure cover is closed	Ensure paint does not enter the Heimann aperture
	BBR upper	Remove and blank all upper BBR hardpoints	
	BBR lower	Remove and blank all lower BBR hardpoints. Keep black paint scheme for lower shutter	
	TWC	remove	
	Johnson-Williams	Remove and blank	
	Nevzorov	Remove vane, fit blank	cover vane housing
AVAPS	rack	remove	
	SAW hygrometer	remove	
	Leosphere Aerosol LIDAR	Remove. Blank windows	do not over-paint blank
	dropsonde launcher	remove	
Radiometers 1	rack	remove	
	TAFTS	Not fitted	

	IR Camera	Not fitted	
Radiometers 1 & 2	ARIES	remove	
Radiometers 2	rack	remove	
	DEIMOS	Not fitted	
	MARSS	Not fitted	
SWS/SHIMS	rack	remove	
	SWS	remove	
	SHIMS upper	Remove, see BBRs	
	SHIMS lower	Remove, see BBRs	
Core Chemistry	rack	remove	
Nitrate/ORAC/PAN/WAS	rack	remove	
	WAS cases	Remove, double-bag all the pipe connectors in the hold to prevent contamination	
JIF		remove	
FAGE	FAGE racks	Not fitted	
	FAGE inlet	Not fitted	
CASI/ATM	rack	Remove (if fitted)	
	ATM aperture		Cover to prevent contamination
	CASI aperture		See LIDAR
CIMS	Rack	Remove	
	inlet	Remove (if fitted)	
BBCEAS Spectrometer	rack	Remove (if fitted)	
	inlet	Remove (if fitted)	
VACC	VACC	Remove	
Peroxide/Formaldehyde	rack	Not fitted	
PERCA	PERCA	Not fitted	
	inlet	Not fitted	
PTRMS	PTRMS	Not fitted	
Cloud Physics	rack	remove	
	canisters	Remove all probes, cap. Remove lower canister.	Do not paint caps. Ensure 1) The front mounting surfaces of the canisters are not painted 2) No paint gets inside the canisters

Manchester Aerosol/Cloud	rack	remove	
	ADA-100	Not fitted	
CCN/CNC/FWVS	rack	remove	
	FWVS	Remove inlet and blank	
Neph/PSAP/Filters	rack	remove	
	Filters inlets	Remove internal pipework, close valves and wire-lock	cover inlet orifices
AMS	AMS	remove	
CVI	CVI	remove	
	CVI inlet	Remove and blank	
Air Sample Pipes	outer		ensure closed with bungs wrapped in plastic bags (inlets and exhausts) so that contamination is not possible. Remove inlet cover butterflies.
	manifolds	All connections capped to prevent contamination	
	pipework	remove	
Rosemount Pairs			cover
Seats	seat-pairs	Remove if necessary	
Storage	Banham-Hart	Remove if necessary	
	Butty box	Remove if necessary	
	Air-bag store	Not fitted	