

# AMS-02 WEIGHT

(IN ORBITER PAYLOAD BAY AND ON ISS TRUSS ONLY)

<b>AMS EXPERIMENT HARDWARE</b>		<b>October, 2003</b>	
		(LBS)	(KG)
1	ANTICOINCIDENCE COUNTER (ACC) (w/ STRUCTURE TO VC)	<b>117</b>	<b>53</b>
2	TRACKER (w/ STRUCTURE TO VC & LASER ALIGNMENT SYSTEM)	<b>438</b>	<b>198.5</b>
3	TIME OF FLIGHT (TOF) (w/ BOTH UPPER & LOWER SUPPORT STRUCTURES)	<b>525</b>	<b>238</b>
4	TRANSITION RADIATION DETECTOR (TRD) (WITH SUPPORT STRUCTURE)	<b>723</b>	<b>328</b>
5	TRD GAS SUPPLY SYSTEM (WITH HOUSING, 3 TANKS, PLUMBING, VALVES, AND INTERNAL & EXTERNAL MOUNTING BRACKETS)	<b>258</b>	<b>117</b>
6	RING IMAGING CHERENKOV COUNTER (RICH) (W/MOUNTING BRACKETS TO LOWER USS-02)	<b>406</b>	<b>184</b>
7	ELECTROMAGNETIC CALORIMETER (ECAL) (W/ MOUNTING BRACKETS TO LOWER USS-02)	<b>1407</b>	<b>638</b>
8	ALL AVIONICS CRATES (WITH STAR TRACKER, CABLES BETWEEN CRATES, CONNECTORS, CLAMPS, MISC. MOUNTING BRACKETS, CRATE SUPPORT STRUCTURES NOT INCLUDED WITH TCS, ETC. CAB & CCEB ARE INCLUDED WITH THE CRYOMAGNET WEIGHT; ALL EXPERIMENT COMPONENT CABLE WEIGHT INCLUDED IN COMPONENT WEIGHTS)	<b>1014</b>	<b>460</b>
9	CRYOMAGNET SYSTEM (INCLUDES MAGNET & STRUCTURE, SFHe TANK, CRYOSYSTEM, SUSPENSION, ALL VC PORT CONNECTIONS/COVERS, VENT PUMP, ALL INTERNAL & EXTERNAL PLUMBING, CRYOCOOLERS WITH MOUNTING BRACKETS, RELIEF DEVICES, "HELIOMATIC"/PNEUMATIC VALVE SUPPLY TANK, CRYOMAGNET AVIONICS BOX (CAB) WITH BATTERY/UPS, CRYOCOOLER ELECTRONICS BOX (CCEB), CLAMP RECTIFIERS & MOUNTING HARDWARE, ETC.)	<b>5196</b>	<b>2357</b>
10	THERMAL CONTROL SYSTEM (TCS) (INCLUDES HEAT PIPES, LOOP HEAT PIPES, PUMPS, RADIATORS, SUPPORT STRUCTURES, CONDENSERS, PRE-HEATERS, CO2 RESERVOIR, VALVES, ETC. ALSO INCLUDES SOME SUPPORT STRUCTURE THAT WILL CARRY ELECTRONICS CRATES.)	<b>686</b>	<b>311</b>
11	CONTINGENCY	<b>213</b>	<b>96.5</b>
12	<b>AMS EXPERIMENT HARDWARE TOTAL:</b>	<b>10981</b>	<b>4981</b>

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SPACE SHUTTLE INTEGRATION HARDWARE		October, 2003	
		(LBS)	(KG)
13	UNIQUE SUPPORT STRUCTURE - 02 (CARRIES 14,809 lbs on STS)	1592	722
14	CRYOMAGNET VACUUM CASE (CARRIES 14,809 lbs on STS)	1587	720
15	BRACKETS, MISC. FASTENERS & HARDWARE, SAFETY WIRE	23	10
16	THERMAL BLANKETS (TRD SIDES, ECAL BOTTOM, RICH SIDES, & +/-Y SIDES ON VACUUM CASE - NO OTHER BLANKETS ARE INCLUDED IN THIS WEIGHT)	35	16
17	SHUTTLE INTEGRATION HARDWARE CONTINGENCY	0	0
19	<b>SHUTTLE INTEGRATION HARDWARE TOTAL:</b>	<b>3238</b>	<b>1469</b>

ISS INTEGRATION HARDWARE		(LBS)	(KG)
20	ISS PAS/UMA INTERFACE HARDWARE WITH CABLES (CARRIES 14,809 lbs on ISS)	225	102
21	GRAPPLE FIXTURES (1 FRGF & 1 PVGF), BRACKETS, & CABLE TO EBCS	131	59
22	MICROMETEORITE/ORBITAL DEBRIS (M/OD) SHIELDS & SUPPORTS	102	46
23	EVA CONNECTOR PANEL, SCUFF PLATES & BRACKETS	55	25
24	PAYLOAD DISCONNECT ASSEMBLY (PDA) FOR THE REMOTELY OPERATED ELECTRICAL UMBILICAL (ROEU) WITH MOUNTING BRACKETS, CABLES & CONNECTORS	36	16
25	EVA HANDRAILS & PORTABLE FOOT RESTRAINT (PFR) INTERFACE	16	7
26	EXTERNAL BERTHING CAMERA SYSTEM (EBCS), MOUNTING BRACKETS & HEATER CABLES	25	11
27	ISS INTEGRATION HARDWARE CONTINGENCY	0	0
28	<b>ISS INTEGRATION HARDWARE TOTAL:</b>	<b>590</b>	<b>268</b>

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<b>TOTAL WEIGHT SUMMARY</b>		<b>October, 2003</b>	
		(LBS)	(KG)
29	AMS EXPERIMENT HARDWARE TOTAL:	<b>10981</b>	<b>4981</b>
30	SHUTTLE INTEGRATION HARDWARE TOTAL:	<b>3238</b>	<b>1469</b>
31	<b>TOTAL EXPERIMENT &amp; SHUTTLE INTEGRATION HARDWARE WEIGHT:</b>	<b>14219</b>	<b>6450</b>
32	ISS INTEGRATION HARDWARE TOTAL:	<b>590</b>	<b>268</b>
33	<b>TOTAL PAYLOAD WEIGHT:</b>	<b>14809</b>	<b>6717</b>
34	<b>TOTAL CONTROL WEIGHT:</b>	<b>14809</b>	<b>6717</b>
35	TOTAL OVER/UNDER CONTROL WEIGHT:	<b>0</b>	<b>0</b>