


SPIRE – STRUCTURE HARDWARE TREE (STM)

Document Number: MSSL/SPIRE/SP001.02 2 December 2002

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Change Record

ISSUE	Date	Brief description of change
0.1	September 2001	New document
1.0	November 2001	Issued with updated drawing numbers
1.1	December 2001	Update of drawing numbers
1.2	July 2002	Update of drawing numbers
2.0	December 2002	Update of drawing numbers


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Glossary

All terms are listed in the CIDL.

1. Scope of Document


This document presents the Hardware Tree for the Spire Structure (breakdown of the product into sub-assemblies), and a list of associated drawings.

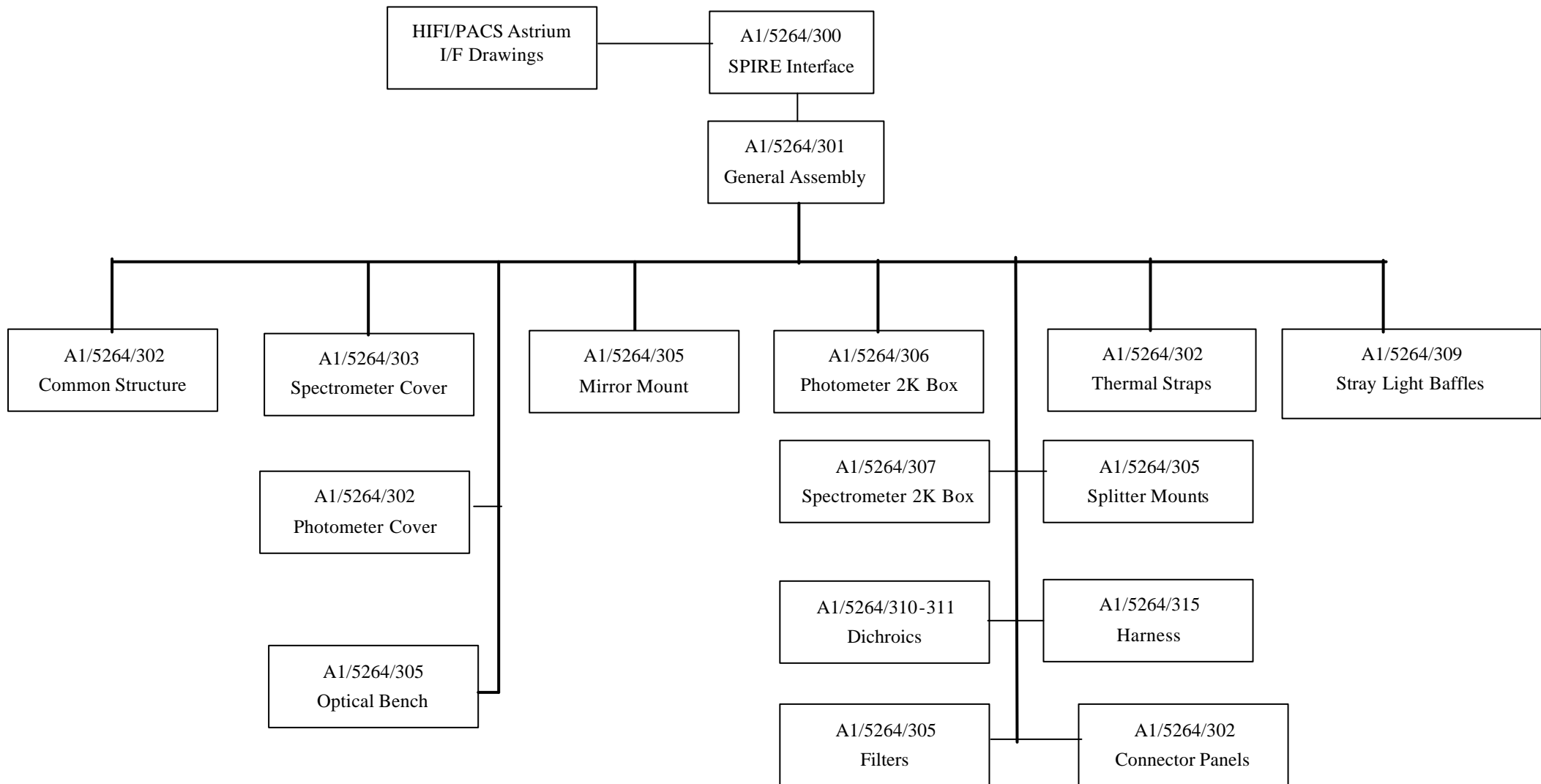
2. Documents

All documents are listed in Figure 3.2 of the CIDL.

3. Hardware Tree and Drawing List

The Structure Hardware Tree and associated Drawings are presented in the figures below.

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Dwg Level		Drawing Number	Issue	Sheets	System	Title	Material
X		A1/5264/300	17	7	SPIRE Interface	SPIRE Interface	-
	X	A2/5264/904	1	1	SPIRE Interface	Beam Splitter Mounts (Spectrometer)	-
	X	A3/5264/905	1	1	SPIRE Interface	Dichroic Mounts (Photometer)	-
	X	A3/5264/906			SPIRE Interface	Optical Bench Dimension WRT Focal Plane	-
	X	A2/5264/907	6	1	SPIRE Interface	Beam Steering Mechanism Interface	-
	X	A2/5264/908	3	1	SPIRE Interface	Cooler Interface	-
	X	A1/5264/909	3	2	SPIRE Interface	SMEC Interface	-
	X	A2/5264/910	3	1	SPIRE Interface	Spectrometer Calibrator Interface	-
	X	A3/5264/911	2	1	SPIRE Interface	Detector Interface Adapter Plate	Alum Alloy BS1470 6082 T6
	X	A1/5264/912			SPIRE Interface	Wiring Harness Spectrometer Side/Photometer Side	
	X	A3/5264/913			SPIRE Interface	Detector Focal Plane Definition	
	X	A1/5264/914	1	1	SPIRE Interface	Shutter Interface	-
	X	A3/5264/915			SPIRE Interface	4K Cooler Strap Joint & Light Baffles	
	X	A1/5264/916	1	1	SPIRE Interface	Mirror Fixing Envelope	-
	X	A1/5264/917	2	1	SPIRE Interface	RFI Filter Interface	-
	X	A2/5264/918	1	1	SPIRE Interface	PCS/PFIL 3 Interface	
	X	A2/5264/919	2	1	SPIRE Interface	SFIL - 3 Interface	
	X	A1/5264/920	4	3	SPIRE Interface	SFIL - 2 Interface	
	X	A1/5264/921	2	1	SPIRE Interface	CFIL - 1 Interface	
	X	A1/5264/922	1	1	SPIRE Interface	PFIL - 2 Interface	
	X	A1/5264/923	1	1	SPIRE Interface	Harness Hole Interface	
	X	A1/5264/924	1	1	SPIRE Interface	Interface - 4K - Baffles	
	X	A1/5264/925	2	1	SPIRE Interface	Light trap end Stops - Photometer	
	X	A1/5264/926	3	1	SPIRE Interface	Photo. Light Trap Junct. with PTC	

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Dwg Level	Drawing Number	Issue	Sheets	System	Title	Material
X	A1/5264/301			General Assembly	General Assembly	
X	A1/5264/302			Common Structure	Common Structure Assembly	
	X	A2/5264/302-1	3	1	Common Structure	FPU Blade Mount Unit
	X	A3/5264/302-2	2	1	Common Structure	Insulating Bush
	X	A3/5264/302-3	1	1	Common Structure	Special Washer
	X	A1/5264/302-4	2	5	Common Structure	Optical Bench
	X	A1/5264/302-5	4	1	Common Structure	Fixed Mount
	X	A1/5264/302-6	6	3	Common Structure	One Piece Photometer Cover
	X	A1/5264/302-6A	1	1	Common Structure	Repair Plate
	X	A1/5264/302-7	2	1	Common Structure	Photometer Cover Bottom Seal
	X	A1/5264/302-8	2	1	Common Structure	Photometer Cover Top Seal
	X	A1/5264/302-9	2	1	Common Structure	Photometer Cover Insert
	X	A1/5264/302-10	6	2	Common Structure	Photometer Top Cover
	X	A1/5264/302-11			Common Structure	Spectrometer Cover Seal
	X	A1/5264/302-12	1	1	Common Structure	Pfil 2 Backplate
	X	A1/5264/302-13	1	1	Common Structure	PFIL 2 H Seal
	X	A1/5264/302-14	1	1	Common Structure	A Frame Bracket
	X	A1/5264/302-15	2	1	Common Structure	A Frame Support Plate
	X	A1/5264/302-16	1	1	Common Structure	CFIL 1 H Section
	X	A1/5264/302-17	1	1	Common Structure	PFIL2 Clamp Ring
	X	A1/5264/302-18	1	1	Common Structure	Tubular Dowel
	X	A1/5264/302-19	1	1	Common Structure	Tubular Dowel
	X	A3/5264/302-20	2	1	Common Structure	2K Interconnecting strap
	X	A3/5264/302-21	1	1	Common Structure	Cold Strap Clamp Plate
	X	A2/5264/302-22	2	1	Common Structure	BDA Connector flange – Photo.
	X	A1/5264/302-23	2	1	Common Structure	BDA connector flange – Spectro.
	X	A1/5264/302-24		1	Common Structure	Plug, BDA Connector Flange
	X	A1/5264/302-25		1	Common Structure	Harness support BDA connector

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		<h2>Hardware Tree</h2>	

Dwg Level	Drawing Number	Issue	Sheets	System	Title	Material
X	A1/5264/302-26	1	1	Common Structure	A Frame Bracket (Spec)	
X	A1/5264/302-27			Common Structure	RFI Filter Frame Corner Bracket	
X	A1/5264/302-28			Common Structure	Temporary RF Bracket	
X	A1/5264/302-29			Common Structure	FRI Filter frame Edge Bracket	
X	A1/5264/302-30	2	1	Common Structure	Cooler to Photo Detector Box Strap	
X	A1/5264/302-31	2	1	Common Structure	Cooler to Spec Detector Box Strap	
X	A1/5264/302-32	2	1	Common Structure	Cooler Strap Isolation Plate	
X	A1/5264/302-33	1	1	Common Structure	Clamp Plate Photometer Strap	
X	A1/5264/302-34	1	1	Common Structure		
X	A1/5264/302-35	1	1	Common Structure	Isolating Plate Interconnecting Strap	
X	A1/5264/302-36	1	1	Common Structure	Insulating bush cooler straps	
X	A1/5264/302-37	1	1	Common Structure		
X	A1/5264/302-38	1	1	Common Structure	Insulating bush interconnecting straps	
X	A1/5264/302-39			Common Structure	Dowel retaining Plate	
X	A1/5264/302-40			Common Structure	Tubular Dowels (8mm)	
X	A1/5264/302-41			Common Structure	Dowel – ‘A’ Frame Support	
X	A1/5264/302-42			Common Structure	Dowel – ‘A’ Frame Top	
X	A1/5264/302-43			Common Structure		
X	A1/5264/303			Spectrometer Cover	Spectrometer Cover Assembly	
X	A1/5264/303-1	2	2	Spectrometer Cover	Spectrometer Cover Wall	
X	A1/5264/303-2	1	2	Spectrometer Cover	Spectrometer Cover Lid	
X	A1/5264/303-3	1	3	Spectrometer Cover	Spectrometer Cover Baffle	
X	A1/5264/303-4	1	1	Spectrometer Cover	Spectrometer Cover Bottom Seal	
X	A1/5264/303-5	2	1	Spectrometer Cover	Spectrometer Cover Top Seal	
X	A1/5264/303-2	1	1	Spectrometer Cover	Spectrometer Baffle SM12	Alum Alloy BS1414 6082 T6
X	A1/5264/304			Photometer Cover	Photometer Cover Assembly	
X	A1/5264/304-1			Photometer Cover	Top Plate	Not Used
X	A1/5264/304-2			Photometer Cover	Top Rear Plate	Not Used

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Dwg Level		Drawing Number	Issue	Sheets	System	Title	Material
	X	A1/5264/304-3			Photometer Cover	Front Plate	Not Used
	X	A1/5264/304-4			Photometer Cover	Back Plate	Not Used
	X	A1/5264/304-5			Photometer Cover	Outer Plate	Not Used
	X	A1/5264/304-6	6	1	Photometer Cover	CFIL 1 Baffle Mount	Alum Alloy BS1414 6082 T6
	X	A2/5264/304-7	2	1	Photometer Cover	CFIL 1 Clamp Ring	Alum Alloy BS1414 6082 T6
	X	A1/5264/304-8	1	1	Photometer Cover	CFIL 1 Baffle Tube	Alum Alloy BS1414 6082 T6
	X	A1/5264/304-9	1	2	Photometer Cover	PFIL 2 Baffle	Alum Alloy BS1414 6082 T6
X		A1/5264/305			Optical Bench	Optical Bench Assembly	
	X	A1/5264/305-1	1	1	Optical Bench	Optical Bench	
	X	A1/5264/305-2	2	1	Optical Bench	SM06 Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-3	2	1	Optical Bench	SM07 Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-4	1	1	Optical Bench	SM08A Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-5	1	1	Optical Bench	SM08B Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-6	2	1	Optical Bench	SM09A & SM10A Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-7	2	1	Optical Bench	SM09B & SM10B Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-8	2	1	Optical Bench	SM11A Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-9	1	1	Optical Bench	SM11B Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-10	1	1	Optical Bench	SM12A Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-11	1	1	Optical Bench	SM12B Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-12	1	1	Optical Bench	Secondary Optical Bench (CM3/SPMOT)	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-13	1	1	Optical Bench	PM06 Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-14	1	1	Optical Bench	PM08 Mirror Mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-15	1	1	Optical Bench	SM06 & SM07 Bulkhead	Alum Alloy BS1470 6082 T6
	X	A3/5264/305-16	7	1	Optical Bench	Optical Reference Cube	Alum Alloy BS1470 6082 T6
	X	A2/5264/305-17	1	1	Optical Bench	PM10 Mirror mount	Alum Alloy BS1470 6082 T6
	X	A1/5264/305-18	1	1	Optical Bench	SM06 Mirror mount - Spare	Alum Alloy BS1470 6082 T6

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X	A1/5264/305-19	1	1	Optical Bench	PM06 Mirror mount – Spare	Alum Alloy BS1470 6082 T6
X	A2/5264/305-20	4	1	Optical Bench	SFIL 2 Mount	Alum Alloy BS1470 6082 T6
X	A3/5264/305-21	2	1	Optical Bench	SFIL 2 Clamp	Alum Alloy BS1470 6082 T6
X	A3/5264/305-22	2	1	Optical Bench	SFIL 2 Cold Stop	Alum Alloy BS1470 6082 T6
X	A1/5264/305-23	3	1	Optical Bench	SBS 1 and SBS 2 Filter Mount	Alum Alloy BS1470 6082 T6
X	A2/5264/305-24	1	1	Optical Bench	SBS 1 and SBS 2 Filter Clamp	Alum Alloy BS1470 6082 T6
X	A1/5264/306	1	2	Photometer 2K Box	Photometer 2K Box Assembly	
X	A1/5264/306A	2	1	Photometer 2K Box	Photometer BDA Cable Routes	-
X	A1/5264/306B	2	1	Photometer 2K Box	Photometer Bus Bar Assembly	-
X	A1/5264/306-1	4	3	Photometer 2K Box	Back Cover	Alum Alloy BS1470 6082 T6
X	A1/5264/306-2	6	4	Photometer 2K Box	Spine	Alum Alloy BS1470 6082 T6
X	A1/5264/306-3	4	3	Photometer 2K Box	Front Cover	Alum Alloy BS1470 6082 T6
X	A1/5264/306-4	1	1	Photometer 2K Box	Photometer Cold Stop Clamp	Alum Alloy BS1470 6082 T6
X	A1/5264/306-5	2	1	Photometer 2K Box	Photometer Cold Stop	Phosper bronze
	A1/5264/306-6	1	1	Photometer 2K Box	Cable Anchor (Tie Down Points)	Alum Alloy BS1470 6082 T6
	A3/5264/306-7	2	1	Photometer 2K Box	Bus Bar Upper	OFHC Copper
	A3/5264/306-8	2	1	Photometer 2K Box	Busbar Lower	OFHC Copper
	A3/5264/306-9	1	1	Photometer 2K Box	BDA-Busbar Flange	OFHC Copper
	A3/5264/306-10	1	1	Photometer 2K Box	Bus Connector PLW	OFHC Copper
	A3/5264/306-11	2	1	Photometer 2K Box	Bus Junction ans PMW Connector	OFHC Copper
	A3/5264/306-12	2	1	Photometer 2K Box	Bus Junction Clamp Plate	OFHC Copper
	A3/5264/306-13	3	1	Photometer 2K Box	Light Trap to Bus Junction	OFHC Copper
	A3/5264/306-14	3	1	Photometer 2K Box	Bus Connector PSW	OFHC Copper
	A3/5264/306-15	1	1	Photometer 2K Box	BDA-Busbar Flange	OFHC Copper
	A3/5264/306-16	1	1	Photometer 2K Box	PLW Bus Strap	OFHC Copper
	A3/5264/306-17	1	1	Photometer 2K Box	PMW Bus Strap	OFHC Copper
	A3/5264/306-18	1	1	Photometer 2K Box	PSW Bus Strap	OFHC Copper
	A3/5264/306-19	1	1	Photometer 2K Box	End Stop Photometer Light Trap	OFHC Copper

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	A3/5264/306-20	1	1	Photometer 2K Box	Light Trap Feedthrough Photometer	OFHC Copper
	A3/5264/306-21			Photometer 2K Box	Stop Bush – Bus Bar Mountings	OFHC Copper
X	A1/5264/307	1	1	Spectrometer 2K Box	Spectrometer 2K Box Assembly	Various
X	A1/5264/307A	2	1	Spectrometer 2K Box	Spectrometer BDA Cable Routes	-
X	A1/5264/307B	1	1	Spectrometer 2K Box	Bus Bar Assy. Spectrometer	
X	A1/5264/307-1	4	3	Spectrometer 2K Box	Spectrometer 2K Box Assembly	Alum Alloy BS1470 6082 T6
X	A1/5264/307-2	4	2	Spectrometer 2K Box	Filter Mounting plate Spec. 2K Box	Alum Alloy BS1470 6082 T6
X	A1/5264/307-3	1	1	Spectrometer 2K Box	Clamp plate SFIL-3	Stainless Steel BS970 303/S31
X	A1/5264/307-4	2	1	Spectrometer 2K Box	Blade Mount 2K Spectrometer Box	Stainless Steel BS970 303/S31
X	A1/5264/307-5	1	1	Spectrometer 2K Box	Blade Top Bush	Stainless Steel BS970 303/S31
X	A1/5264/307-6	1	1	Spectrometer 2K Box	Light Trap Feedthrough spect.	
X	A1/5264/307-7	1	1	Spectrometer 2K Box	Light Baffle Junction	
X	A1/5264/307-8	1	1	Spectrometer 2K Box	SSW Spect. BDA to light trap strap	
X	A1/5264/307-9	1	1	Spectrometer 2K Box	SLW Spect. BDA to Light Trap Strap	
X	A1/5264/307-10	1	1	Spectrometer 2K Box	BDA Cold Interface Spectrometer	
X	A1/5264/307-11	1	1	Spectrometer 2K Box	Bush, Inner spect. Light Trap	
X	A1/5264/307-12	1	1	Spectrometer 2K Box	Bush, Outer spect. Light Trap	
X	A3/5264/309	2	1	Level 0 Feed Thorough	Strap/Light Baffle Assembly	
X	A3/5264/309-1	2	1	Level 0 Feed Thorough	Baffle Inner	
X	A3/5264/309-2	2	1	Level 0 Feed Thorough	Baffle Outer	
X	A3/5264/309-3	2	1	Level 0 Feed Thorough	Junction Plate Inner	
X	A3/5264/309-4	2	1	Level 0 Feed Thorough	Junction Plate Outer	
X	A3/5264/309-5	1	1	Level 0 Feed Thorough	Anti Torque Plate	
X	A3/5264/309-6	1	1	Level 0 Feed Thorough	Special Washer	
X	A3/5264/309-7	1	1	Level 0 Feed Thorough	Stop Screw	
X	A2/5264/310	1	1	Dichroics	PDIC-1 Assy	-
X	A2/5264/310-1	2	1	Dichroics	PDIC-1 Mount	Alum Alloy BS1470 6082 T6

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	X	A2/5264/310-2	1	1	Dichroics	PDIC-1 Clamp Ring	Alum Alloy BS1470 6082 T6
	X	A2/5264/310-3	1	1	Dichroics	Dowel Bolt 6-32 UNC	Stainless Steel BS970 303/S31
	X	A2/5264/311	1	1	Dichroics	PDIC-2 Assv	-
	X	A2/5264/311-1	2	1	Dichroics	PDIC-2 Mount	Alum Alloy BS1470 6082 T6
	X	A2/5264/311-2	1	1	Dichroics	PDIC-2 Clamp Ring	Alum Alloy BS1470 6082 T6
X		A2/5264/312	1	1	Photometer 2K Box	Cone Mount – 2K Photometer Box	Stainless Steel BS970 321/S31
X		A2/5264/313	2	1	Photometer 2K Box	A Frame Mount 2K Photometer Box	Stainless Steel BS970 321/S31
	X	A3/5264/313-1	1	1	Photometer 2K Box	Blade Washer 2K	Stainless Steel BS970 321/S31
	X	A3/5264/313-2	1	1	Photometer 2K Box	Blade top bush	Stainless Steel BS970 321/S31
X		A3/5264/314	1	2	SCAL Box	SCAL Box Assembly	Alum Alloy BS1470 6082 T6
	X	A3/5264/314-1	4	2	SCAL Box	SCAL Baffle Box Main Body	Alum Alloy BS1470 6082 T6
	X	A3/5264/314-2	1	1	SCAL Box	SCAL Cover	Alum Alloy BS1470 6082 T6
	X	A3/5264/314-3	1	1	SCAL Box	SCAL Baffle Ring	Alum Alloy BS1470 6082 T6
	X	A3/5264/314-4	1	1	SCAL Box	SCAL Baffle Mask	Phosphor Bronze
	X	A3/5264/314-5	1	1	SCAL Box	SCAL Baffle Box internal wall	Alum Alloy BS1470 6082 T6
X		A1/5264/315			Harness	Harness Assembly	
	X	A1/5264/315-1	1	1	Harness	BSM Harness 1 Assembly	
	X	A1/5264/315-2	1	1	Harness	BSM Harness 2 Assembly	
	X	A1/5264/315-3	1	1	Harness	BSM Assembly General Views	
X		A1/5264/401			Test Gear	'A' Frame Dynamic Test Rig	
	X	A1/5264/401-1			Test Gear	Dead Weight	
	X	A1/5264/401-2			Test Gear	Support Plate	
	X	A1/5264/401-3			Test Gear	Cover Plate	
X		A2/5264/402			Test Gear	Busbar Test Rig Assembly	
	X	A1/5264/402-1			Test Gear	Base Plate	
	X	A3/5264/402-2			Test Gear	Mounting Plate	
	X	A3/5264/402-3			Test Gear	Anchor Capstan	
	X	A3/5264/402-4			Test Gear	Tensioning Capstan	

