

## Document BSC Only

## QTY /BSC Description

D040001-A	1 LIGO BSC HEPI Top Assembly
D030690-A	4 HEPI General Assembly
D020004-C	4 Housing
D030322-A	4 Caging Brace Assembly
D020279-A	4 Brace, Rear
D020250-A	4 Brace, Front
D020276-A	8 Brace, Left
D020248-A	8 Brace, Right
F.W. SAE 1/2, 1.063 OD	32 McMaster -Carr 97416A722
1/2-20 x 1.75 Hex Cap Screw	32 McMaster -Carr 92316A758
1/2 -20 x 1.25 Hex Head Cap Screw	32 McMaster-Carr 92316A750
D020330-C	2 Stiffener, Long, Left
D030329-A	2 Stiffener, Short, Right
D030331-A	2 Stiffener, Left Actuator
D030332-A	2 Stiffener, Right Panel
SAE 3/8 FW 0.813 OD	48 McMaster-Carr 97416a127
3/8-16 x 1.00 Hex Head Cap Screw	48 Holo Krome 73130
D0330326-A	4 Crossbeam Attachment Assembly
D020195-D	2 Crossbeam Foot Type 00 Left
D020195-D	2 Crossbeam Foot Type 01 Right
D030325-A	4 Crossbeam Foot Sensor Holddown
D030586-A	4 Horizontal L4-C Mount
D030323A	4 Vert. Actuator Crossbeam Foot Interface
L-4C, 1 HZ, 5500 ohm vertical	4 Sercel 005310-001-0
L-4C, 1 HZ, 5500 ohm horizontal	4 Sercel 005310-002-0
1/4-20 x .50 SHCS	12 Holo Krome 72092
8-32 x 0.375 SHCS	16 Holo Krome 72054
1/4-20 x 1.50 SHCS	20 Holo Krome 72104
D030320-B	8 Spring Assembly Type 00
D020408-D	8 Double Start Spring Assy Type 00
D020406-C	8 Double Start Spring Type 00
D020407-E	16 Double Start Spring Connector Tyoe00
D020002-C	8 Offload Spring Cap Type00
D020001-B	8 Spring Adjust Plate
D030786-B	24 Hardened Nut
S.H.C.S. 1/2-20 x 1.75	24 Holo Krome 73136
3K Load Cell	8 Transsducer Techniques THD-3K-Y
F.W. Jumbo 13/16 ID, 3.0 OD	8 McMaster-Carr 91117A240
Thrust Bearing Cage Assy	8 McMaster-Carr 5909K15
Thrust Bearing Washer	8 McMaster-Carr 5909K75
St. Steel Spherical Washer Set	16 McMaster-Carr 91944A490
D030339-A	4 Horizontal Actuator Assembly
D020016-B	4 Horizontal Angle Mount
D030694-A	4 Angle Mount Backup Plate
D030575-A	8 Unified Actuator Bracket
D020011-B	4 Spherical Washer Assembly
1/2-20 x 2,5 SHCS	12 Holo Krome 72142
1/2 FW 2.00 OD	16 McMaster-Carr 98029A033
1/2-20 x 1.25 SHCS	16 Holo Krome 73132

D020284-B	4 Actuator Assembly
D030340-A	4 Vertical Actuator Assembly
D030575-A	8 Unified Actuator Bracket
D030575-A Alternate	4 Unified Actuator Bracket wit clear cut
D020284-B	4 Actuator Assembly
D020375-01-A	4 Pneumatic Lift Assembly
D020367-A	8 Double Clamp Assembly Type 01
D020269-A	8 Double Clamp
SHCS 1/2-20 x 1.75	32 Holo Krome 73136
SHCS 1/2-13 x 3.0	8 Holo Krome 72242
D020367-02-A	4 Double Clamp Assembly Type 02
D020271-A	4 Double Clamp
SHCS 1/2-20 x 1.75	4 Holo Krome 73136
SHCS 1/2-13 x 3.0	4 Holo Krome 72242
SHCS 1/2-20 x 2.5	4 Holo Krome 73136
D020367-03-A (right)	2 Offset Clamp Assembly Type 03 Right
D020270-A	2 Offset Clamp Right
SHCS 1/2-20 x 1.75	2 Holo Krome 73136
SHCS 1/2-13 x 3.0	2 Holo Krome 72242
SHCS 1/2-20 x 2.5	2 Holo Krome 73136
D020367-03-A (left)	2 Offset Clamp Assembly Type 03 Left
D020453-A	2 Offset Clamp Left
SHCS 1/2-20 x 1.75	2 Holo Krome 73136
SHCS 1/2-13 x 3.0	2 Holo Krome 72242
SHCS 1/2-20 x 2.5	2 Holo Krome 73136
SAE 3/8 FW 0.813 OD	48 McMaster-Carr 97416A127
3/8-16 x 1.0 Hex Head Cap Screw	48 McMaster-Carr 92965A624
1/2-20 x 1.0 SHCS	48 Holo Krome 73130
1/2-20 x .75 SHCS	8 McMaster-Carr 91251A011
M6521110	4 HEPI Electronics Control Unit
SAE 1/2 FW 1.125 OD	32 McMaster-Carr 98029A033
1/2-13 x 1.0 Hex Head Cap Screw	32 McMaster-Carr 92316A712
SHCS 1/2-20 x 1.25	12 Holo Krome 73132
SAE 1/2 FW 1.063 OD	12 McMaster-Carr 97416A722
8-32 x 0.50 FHSS	8 McMaster-Carr 91253A194
8-32 x 0.50 BHSS	8 McMaster-Carr 91255A194
D040261-A	4 HEPI Circuit Box Mounting Plate
D040262-A	8 HEPI Circuit Box Sliding Clamp
D040094-A	4 HEPI Circuit Box Mount

## Document HAM Only

## QTY /HAM Description

D040002-A	1 LIGO HAM HEPI Top Assembly
D0900060-V1	4 HEPI HAM Support Structure
D020004-C	4 Housing
D080496-V1	4 HAM HEPI Caging Brace Assembly
D080491-A	8 Brace, Front Right/ Rear Left Type 00
D080491-A	8 Brace, Front Left / Rear Right Type 01
D080492-A	4 Brace, Front Plate
D080493-A	4 Brace, Rear Plate
D080494-A	12 HEPI Caging F-Clamp
D080495-A	8 HEPI Caging Side Cap
1/4-20 x 1.0 SHCS	24 Holo Krome 78062
SHCS 1/2-13 x 1.25	56 Holo Krome 78114
F.W. SAE 1/2, 1.063 OD	72 McMaster -Carr 90126A033
F.W. SAE 1/4, 0.625 OD	24 McMaster -Carr 90126A029
3/8-24 x 1.25 Socket Set Screw	8 McMaster -Carr 92311A640
3/8-24 x 1.50 Socket Set Screw	24 McMaster -Carr 92311A642
D020330-C	2 Stiffener, Long, Left
D030329-A	2 Stiffener, Short, Right
D030331-A	2 Stiffener, Left Actuator
D030332-A	2 Stiffener, Right Panel
SAE 3/8 FW 0.813 OD	48 McMaster-Carr 97416a127
3/8-16 x 1.00 Hex Head Cap Screw	48 Holo Krome 73130
D030326-V1	4 HAM Crossbeam Attachment Assembly
D020195-D	2 Crossbeam Foot Type 02 Left
D020195-D	2 Crossbeam Foot Type 03 Right
D080547-V1	4 Horizontal Actuator Adapter 1
D080548-V1	4 Horizontal Actuator Adapter 2
D080546-V1	4 Vertical L4-C Adapter
D030586-A	8 Horizontal L4-C Mount
D030323A	4 Vert. Actuator Crossbeam Foot Interface
L-4C, 1 HZ, 5500 ohm vertical	4 Sercel 005310-001-0
L-4C, 1 HZ, 5500 ohm horizontal	4 Sercel 005310-002-0
1/4-20 x .50 SHCS	12 Holo Krome 72092
1/4-20 x 2.75 SHCS	16 McMaster-Carr 92196A553
1/2-20 x 1.75 Socket Set Screw	12 McMaster-Carr 92311A747
1/2-20 x 1.5 SHCS	24 McMaster-Carr 92196A387
3/8-16 x 1.25 SHCS	24 Holo Krome 78100
1/4 FW .625 OD	40 McMaster-Carr 90126A029
1/4-20 x .5 Helicoil Insert	28 HeliCoil 1185-4EN500
D030320-B	8 Spring Assembly Type 01
D020408-D	8 Double Start Spring Assy Type 01
D020406-C	8 Double Start Spring
D020407-E	16 Double Start Spring Connector Type 01
D020002-C	8 Offload Spring Cap Type 01
D030786-B	24 Hardened Nut
S.H.C.S. 1/4-20 x 1.2500	24 Holo Krome
2K Load Cell	8 Transducer Techniques THD-2K-Y
F.W. Jumbo 13/16 ID, 3.0 OD	8 McMaster-Carr 91117A240
Thrust Bearing Cage Assy	8 McMaster-Carr 5909K15
Thrust Bearing Washer	8 McMaster-Carr 5909K75
St. Steel Spherical Washer Set	16 McMaster-Carr 91944A490
D030339-A	4 Horizontal Actuator Assembly

D020016-B	4 Horizontal Angle Mount
D030694-A	4 Angle Mount Backup Plate
D030575-A	8 Unified Actuator Bracket
D020011-B	4 Spherical Washer Assembly
1/2-20 x 2,5 SHCS	12 Holo Krome 72142
1/2 FW 2.00 OD	16 McMaster-Carr 98029A033
1/2-20 x 1.25 SHCS	16 Holo Krome 73132
D020284-B	4 Actuator Assembly
D030340-A	4 Vertical Actuator Assembly
D030575-A	8 Unified Actuator Bracket
D030575-A Alternate	4 Unified Actuator Bracket wit clear cut
D020284-B	4 Actuator Assembly
D020375-01-A	4 Pneumatic Lift Assembly
D020367-A	8 Double Clamp Assembly Type 01
D020269-A	8 Double Clamp
SHCS 1/2-20 x 1.75	32 Holo Krome 73136
SHCS 1/2-13 x 3.0	8 Holo Krome 72242
D020367-02-A	4 Double Clamp Assembly Type 02
D020271-A	4 Double Clamp
SHCS 1/2-20 x 1.75	4 Holo Krome 73136
SHCS 1/2-13 x 3.0	4 Holo Krome 72242
SHCS 1/2-20 x 2.5	4 Holo Krome 73136
D020367-03-A (right)	2 Offset Clamp Assembly Type 03 Right
D020270-A	2 Offset Clamp Right
SHCS 1/2-20 x 1.75	2 Holo Krome 73136
SHCS 1/2-13 x 3.0	2 Holo Krome 72242
SHCS 1/2-20 x 2.5	2 Holo Krome 73136
D020367-03-A (left)	2 Offset Clamp Assembly Type 03 Left
D020453-A	2 Offset Clamp Left
SHCS 1/2-20 x 1.75	2 Holo Krome 73136
SHCS 1/2-13 x 3.0	2 Holo Krome 72242
SHCS 1/2-20 x 2.5	2 Holo Krome 73136
SAE 3/8 FW 0.813 OD	48 McMaster-Carr 97416A127
3/8-16 x 1.0 Hex Head Cap Screw	48 McMaster-Carr 92965A624
1/2-20 x 1.0 SHCS	48 Holo Krome 73130
1/2-20 x .75 SHCS	8 McMaster-Carr 91251A011
M6521110	4 HEPI Electronics Control Unit
SAE 1/2 FW 1.125 OD	32 McMaster-Carr 98029A033
1/2-13 x 1.0 Hex Head Cap Screw	32 McMaster-Carr 92316A712
SHCS 1/2-20 x 1.25	12 Holo Krome 73132
SAE 1/2 FW 1.063 OD	12 McMaster-Carr 97416A722
8-32 x 0.50 FHSS	8 McMaster-Carr 91253A194
8-32 x 0.50 BHSS	8 McMaster-Carr 91255A194
D0xxxxxx	4 HEPI Circuit Box Mounting Plate
D0xxxxxx	8 HEPI Circuit Box Sliding Clamp
D0xxxxxx	4 HEPI Circuit Box Mount
D080465-V1	4 HEPI Adapter
1/2-13 x 1.25 SHCS	64 Holo Krome 78114
D020126-C	4 HAM Pier Type 01 LLO, Type 02 LHO

Document	Actuator Only	QTY/ Act.	Description
	D020284-B		Actuator Assembly
	D020358-B		ACTUATOR PLATE ASSEMBLY
	D020359-B		SMALL ACTUATOR PLUG W/ O-RING
	AS_568A-012_O-ring		O-RING AS 568A-012
	D020359-B		ACTUATOR PLATE PLUG
	D020359-B		ACTUATOR SMALL PIN VALVE ASSEMBLY
	AS_568A-007_O-ring		O-RING AS 568A-007
	D020359_		ACTUATOR_small_pin_valve
	Bypass_Spacer		BYPASS SPACER
	D020285-B		ACTUATION PLATE
	D020286-B		DIAPHRAM
	D020286-B		DIAPHRAM RESTRAINT
	D020288-A		BYPASS RESISTOR RING
	D020289-A		BYPASS RESISTOR CAP
	FHSS_8-32_625		F.H.S.S. 8-32 x .625
	D020360-B		BELLOWS ASSEMBLY
	D020302-A		BELLOWS SHIELD ASSEMBLY
	D020302-A		ALUMINUM BELLOWS SHIELD
	SHCH_4-40_875		SCH CAP SCR 4-40 ~ 75
	D020294-A		AMERIFLEX BELLOWS
	D020295-A		AMERIFLEX BELLOWS RING
	D020361-B		TOP FOUNDATION PLATE ASSEMBLY
	D020290-A		TOP FOUNDATION PLATE
	D020291-B		TOP BELLOW CAP
	D020291-B		TOP BELLOW SLUG
	D020362-B		BOTTOM FOUNDATION PLATE ASSEMBLY
	D020291-B		TOP BELLOW CAP
	D020292-A		BOTTOM FOUNDATION PLATE
	D020293-B		BOTTOM BELLOW SLUG
	D020363-B		SIDE FOUNDATION ASSEMBLY
	D020297-A		SIDE FOUNDATION PLATE
	D020299-A		PARALLEL FLEXURE HOLDER
	D020299-A		PARALLEL MOTION FLEXURE
	D020364-B		BACK FOUNDATION PLATE ASSEMBLY
	D020298-A		BACK FOUNDATION PLATE
	D020299-A		PARALLEL FLEXURE HOLDER
	D020299-A		PARALLEL MOTION FLEXURE
	D020365-B		MANIFOLD ASSEMBLY
	D020359-B		SMALL ACTUATOR PLUG W/ O-RING
	AS_568A-012_O-ring		O-RING AS 568A-012
	D020359-B		ACTUATOR PLATE PLUG
	D020359-B		ACTUATOR SMALL PIN VALVE ASSEMBLY
	AS_568A-007_O-ring		O-RING AS 568A-007
	D020359_		ACTUATOR_small_pin_valve
	D020367-A		MANIFOLD LARGE PIN VALVE W/ O-RING
	AS_568A-012_o-ring		O-RING AS 568A-012
	D020367-A		MANIFOLD LARGE PIN VALVE
	D020367-B		MANIFOLD LARGE PLUG WITH O-RING
	AS_568A-015_O-ring		AS_568A-015_O-ring
	D020367-B		ACTUATOR_manifold_large_plug
	D020300-B		MANIFOLD
	D020301-B		MANIFOLD WELD CAP LOWER INBOARD
	D020301-B		MANIFOLD WELD CAP LOWER OUTBOARD

D020301-B	MANIFOLD WELD CAP TOP INBOARD
D020301-B	MAINFOLD WELD CAP TOP OUTBOARD
D020303-B	OIL CATCH
DYP2S_manifold_valve	MANIFOLD VALVE DYP2S
D020368-A	TRIPOD ASSEMBLY
D020368-B	TRIPOD DISPLACEMENT ASSEMBLY
D020369-A	
D020372-A	TRIPOD SENSOR HOUSING
D020372-A	TRIPOD SENSOR POST
DIT_5200_20N_tripod_sensor	TRIPOD SENSOR DIT 5200 20N
external_retaining_snap_ring	EXTERNAL RETAINING SNAP RING
FHSS_4-40_375	FLH SC SCR 4-40 ~ 375
linear_ball_bearing	FIXED-ALIGNMENT LINEAR BALL BEARING
precision_compression_spring	302 SS PRECISION COMPRESSION SPRING
SHCS_8-32_625	SCH CAP SCR 8-32 ~ 625
tripod_micrometer	tripod_micrometer
D020369-A	ATTACHMENT PLATE
D020369-A_	TRIPOD BAR
D020370-A	L4C NUT
D020371-B	TRIPOD BASE
D020371-B	TRIPOD VERTICAL POST
Sensor Flag	Quarter Round Displacement Sensor Flag
D020374-00	ACTUATOR BLEED TUBE ASSEMBLY
D020373-00	ACTUATOR BLEED TUBE INSERT SLEEVE
D020374-00	ACTUATOR BLEED TUBE
FEMALE_TUBE_ADAPTER	FEMALE_TUBE_ADAPTER
SS-8-VCO-4_1_Swage	Female Nut
Tube_Adapter_Gland	Tube Adapter Gland Adapts O-Ring Face Seal
FEMALE_TUBE_ADAPTER	
SS-8-VCO-4_1_Swage	Female Nut
Tube_Adapter	Tube Adapter Gland Adapts O-Ring Face Seal
LIMIT_ASSEMBLY_DETAIL	LIMIT ASSEMBLY
limit_bottom_washer_DETAIL	limit_bottom_washer
limit_spacer_DETAIL	limit_spacer_DETAIL
limit_top_washer_DETAIL	limit_top_washer
SHCH_1_4-20_1_DETAIL	SCH CAP SCR
SHCS_7_16-20_75	SCH CAP SCR 7/16-20 ~ 75
FW_7_16_washer	FLHD 7/16 WSH
SHCS_7_16-20_750	
D020296-A	RIGHT SIDE FOUNDATION PLATE
D030705-A Sensor Flag	Quarter Round Displacement Sensor Flag
SCH_~190-32 UNF_0~375	S.H.C.S. #10-32 x 0.375
SHCH_4-40_75	SCH CAP SCR 4-40 ~ 75
SHCS_10-32_1125	S.H.C.S 10-32 x 1.125
SHCS_1_4-20_50	S.H.C.S. 1/4-20 x 0.50
SHCS_4_40 x 075	SCH CAP SCR