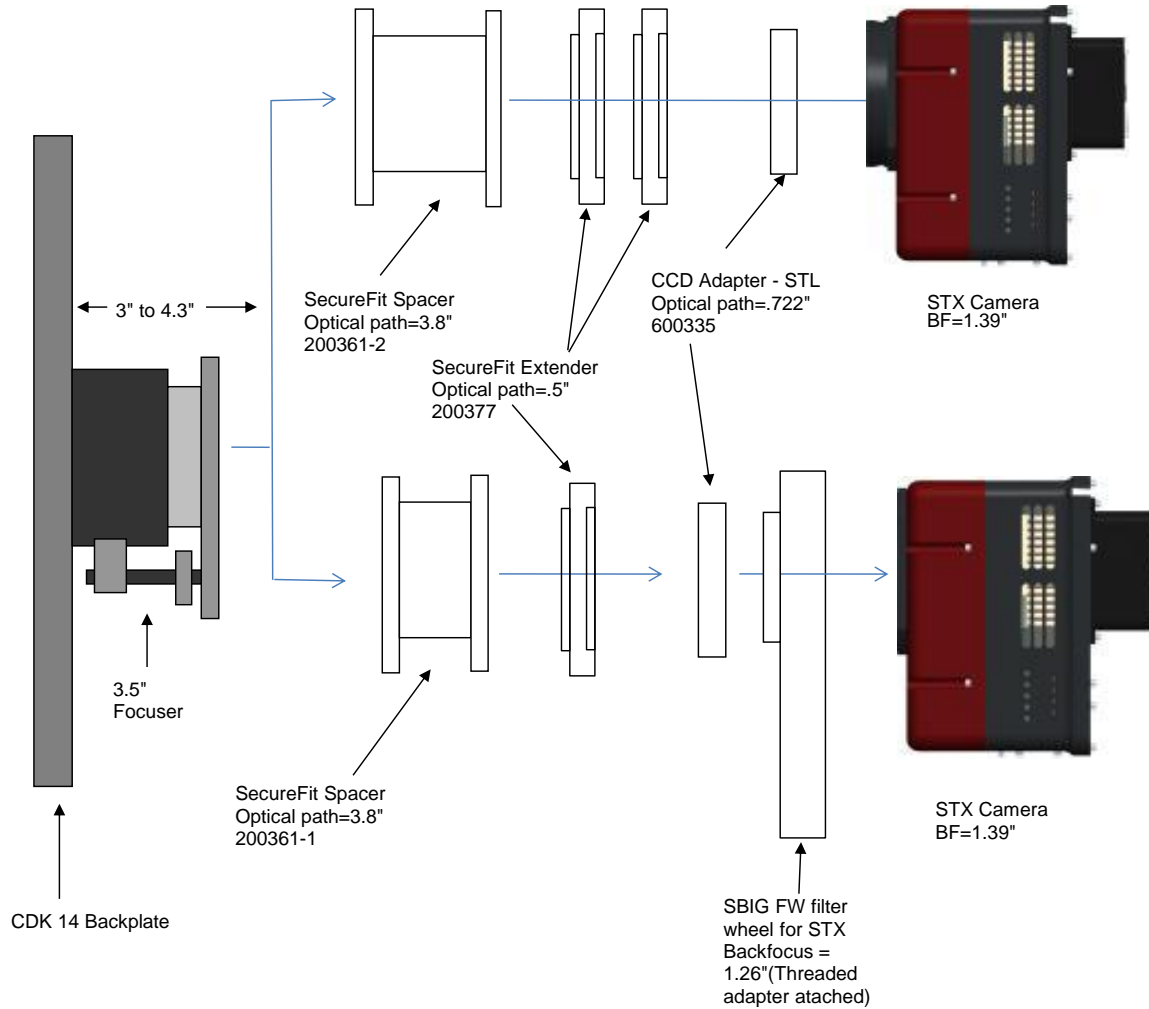


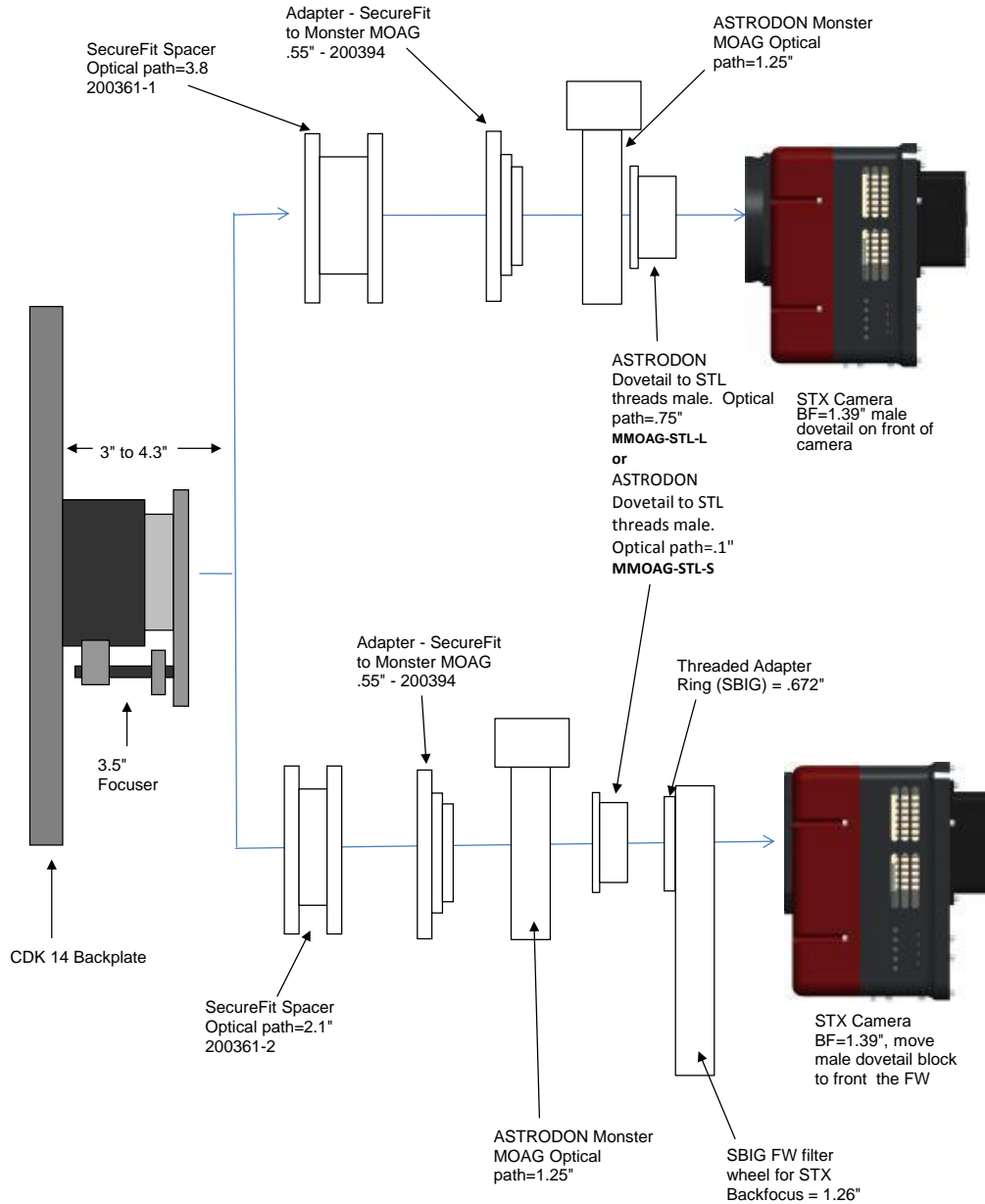
PLANEWAVE INSTRUMENTS
CDK14 SPACERS FOR STX CAMERAS



STX	11.09	remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.478	7.612
CCD Spacer 4.5" - 200361-3	4.5	3.112
CCD SecureFit Extender - 200377	0.5	2.612
CCD SecureFit Extender - 200377	0.5	2.112
CCD Adapter STX - 600335	0.722	1.39
STX Back Focus w/ mounting adapter	1.39	0

STX w/ FW	11.09	remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.418	7.672
CCD Spacer 3.8" - 200361-1	3.8	3.872
SecureFit Extender - 200377	0.5	3.372
CCD Adapter STX - 600335	0.722	2.65
Filter Wheel (w/threaded adapter ring attached)	1.26	1.39
STX Back Focus	1.39	0

PLANEWAVE INSTRUMENTS
CDK14 SPACERS FOR STX CAMERAS

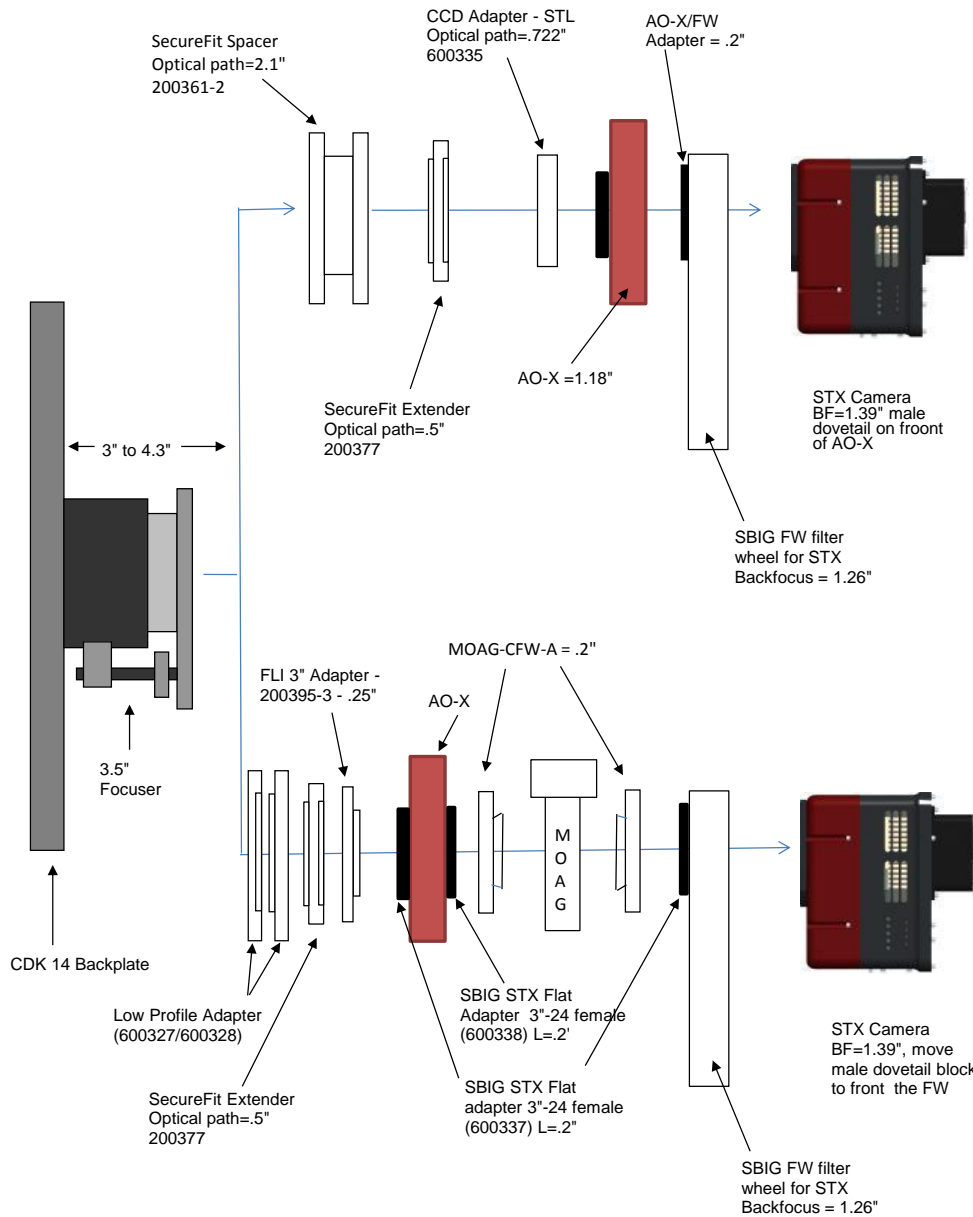


STX camera and MMOAG		11.09 remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.35	7.74
CCD Spacer 3.8 - 200361-1	3.8	3.94
CCD SecureFit to MMOAG - 200394	0.55	3.39
AstroDon part - MMOAG	1.25	2.14
MMOAG-STL-L	0.75	1.39
STX Back Focus	1.39	0

STX camera and MMOAG		11.09 remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.5	7.59
CCD Spacer 2.1 - 200361-2	3.8	3.79
SecureFit Extender - 200377	0.5	3.29
CCD SecureFit to MMOAG - 200394	0.55	2.74
AstroDon part - MMOAG	1.25	1.49
AstroDon part - MMOAG-STL-S	0.1	1.39
SLT Back Focus	1.39	0

STX camera and MMOAG		11.09 remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.77	7.32
CCD Spacer 2.1 - 200361-2	2.1	5.22
CCD SecureFit to MMOAG - 200394	0.55	4.67
AstroDon part - MMOAG	1.25	3.42
AstroDon part - MMOAG-STL-S	0.1	3.32
Filter Wheel, FW8	1.93	1.39
SLX Back Focus	1.39	0

PLANEWAVE INSTRUMENTS
CDK14 SPACERS FOR STX CAMERAS & AO-X



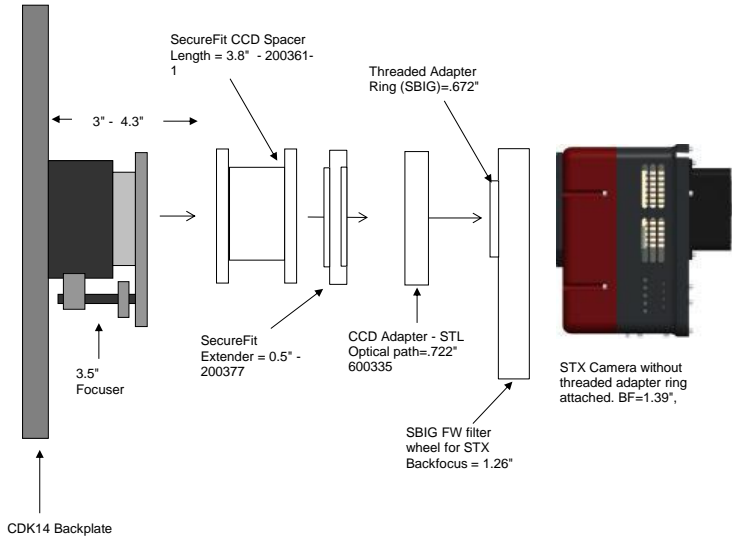
STX camera, AO-X, CFW		11.09 remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.54	7.55
SecureFit Spacer- 200361-2	2.1	5.45
SecureFit 1/2" Spacer - 200377	0.5	4.95
CCD SecureFit to STL - 600335	0.722	4.23
AO-X (W/ Threaded adapter attached)	1.38	2.85
AO-X to FW Adapter	0.2	2.65
SBIG Filter Wheel	1.26	1.39
STX Back Focus	1.39	0.00

STX camera and MMOAG		11.09 remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.76	7.33
Low profile adapters- 600327/328	0.5	6.83
SecureFit 1/2" Spacer - 200377	0.5	6.33
SecureFit to 3"-24 male (FLI and SBIG) - 200395-3	0.25	6.08
SBIG Flat Adapter (3"-24 female) - 600337	0.2	5.88
AO-X	1.18	4.7
SBIG Flat Adapter (3"-24 female) - 600338	0.2	4.5
MOAG-CWF-A	0.2	4.3
AstroDon part - MMOAG	1.25	3.05
MOAG-CWF-A	0.2	2.85
SBIG Flat Adapter (3"-24 female) - 600337	0.2	2.65
Filter Wheel, FW8	1.26	1.39
SLX Back Focus	1.39	0

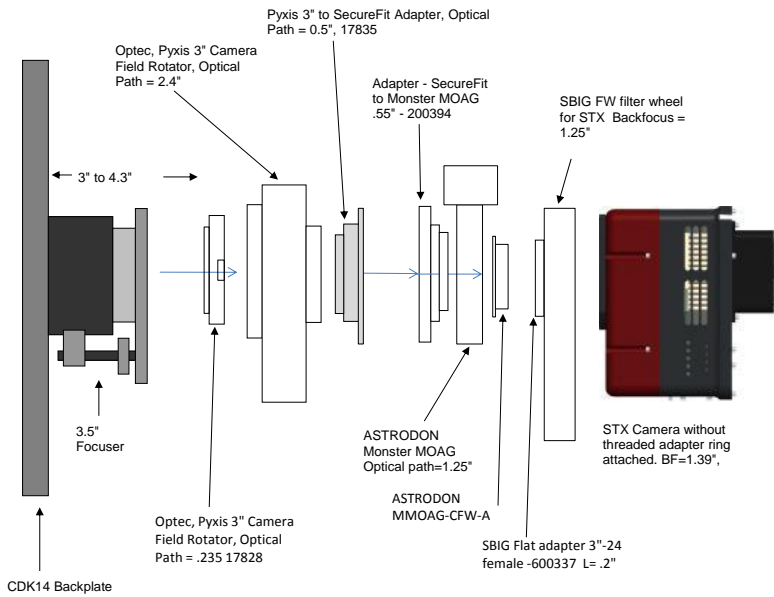
CDK14- OPTICAL TRAIN: for SBIG STX BODY, AND MMOAG

Distance to Focuser Mounting Surface

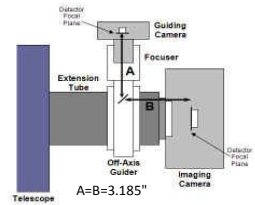
11.09



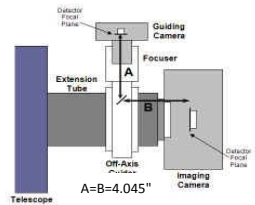
STX and FW		11.09 remaining BF
Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.418	7.672
SecureFit CCD Spacer - 200361-1	3.8	3.872
SecureFit Extender - 200377	0.5	3.372
CCD Adapter -STL - 600335	0.722	2.65
SBIG FW STX (w/ threaded adapter ring attached)	1.26	1.39
STX Camera	1.39	0



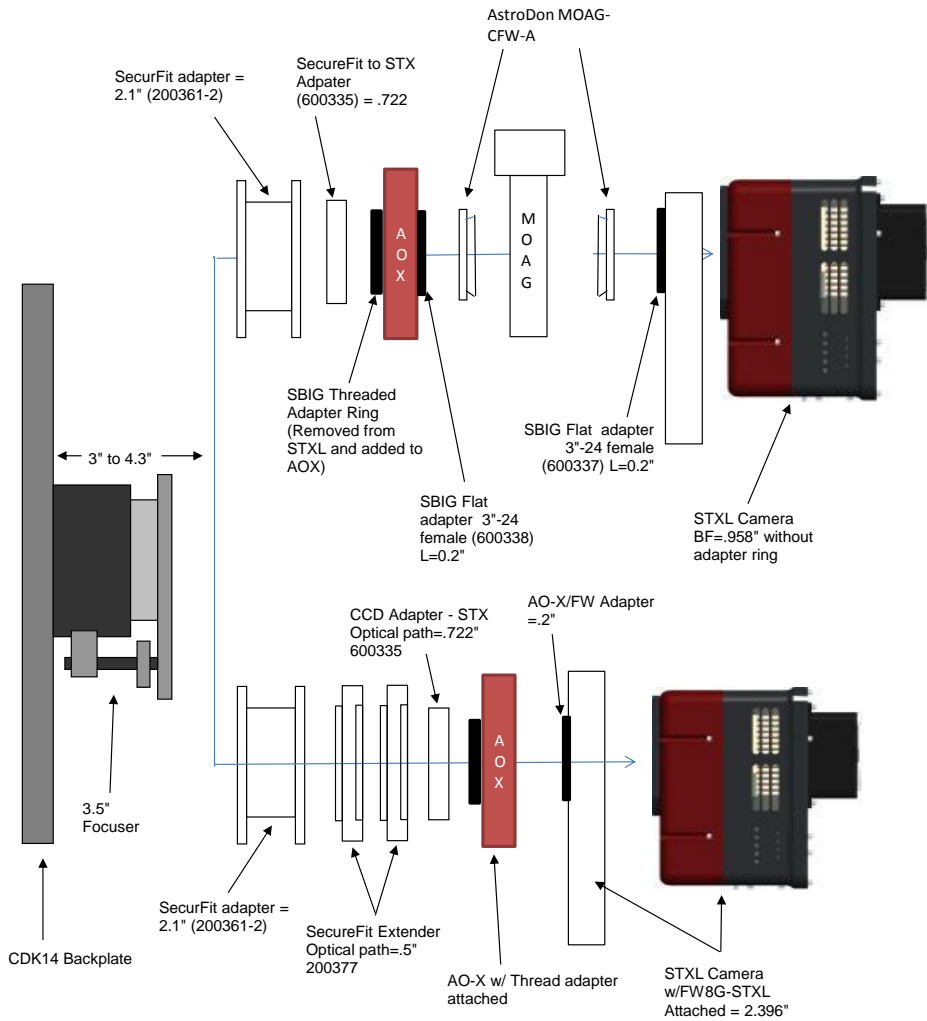
STL CCD, Pyxis & MMOAG		11.09 remaining BF
Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.595	7.495
PW 14/17/20 to Optec-3600 dovetail adapter - 17828	0.235	7.26
Optec Pyxis 3 inch Camera Rotator	2.4	4.86
Optec Pyxis 3 inch to SecureFit Adapter - 17835	0.5	4.36
Adapter SecureFit to Monster MOAG - 200394	0.55	3.81
Monster MOAG - MMOAG	1.25	2.56
AstroDon Adapter - MMOAG-SLT-M	0.5	2.06
SBIG STX Camera with threaded adapter ring attached	2.06	0



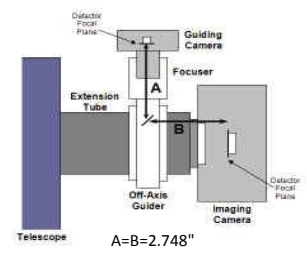
STL CCD, FW8, Pyxis & MMOAG		11.09 remaining BF
Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.115	7.975
PW 14/17/20 to Optec-3600 dovetail adapter - 17828	0.235	7.74
Optec Pyxis 3 inch Camera Rotator	2.4	5.34
Optec Pyxis 3 inch to SecureFit Adapter - 17835	0.5	4.84
Adapter SecureFit to Monster MOAG - 200394	0.55	4.29
Monster MOAG - MMOAG	1.25	3.04
AstroDon Adapter - MMOAG-CFW-A	0.2	2.84
SBIG Flat adapter 3 inch-24 female - 600337	0.2	2.64
SBIG FW8 Filter Wheel	1.25	1.39
SBIG STX Camera without threaded adapter ring	1.39	0



PLANEWAVE INSTRUMENTS
CDK14 SPACERS FOR STXL CAMERAS

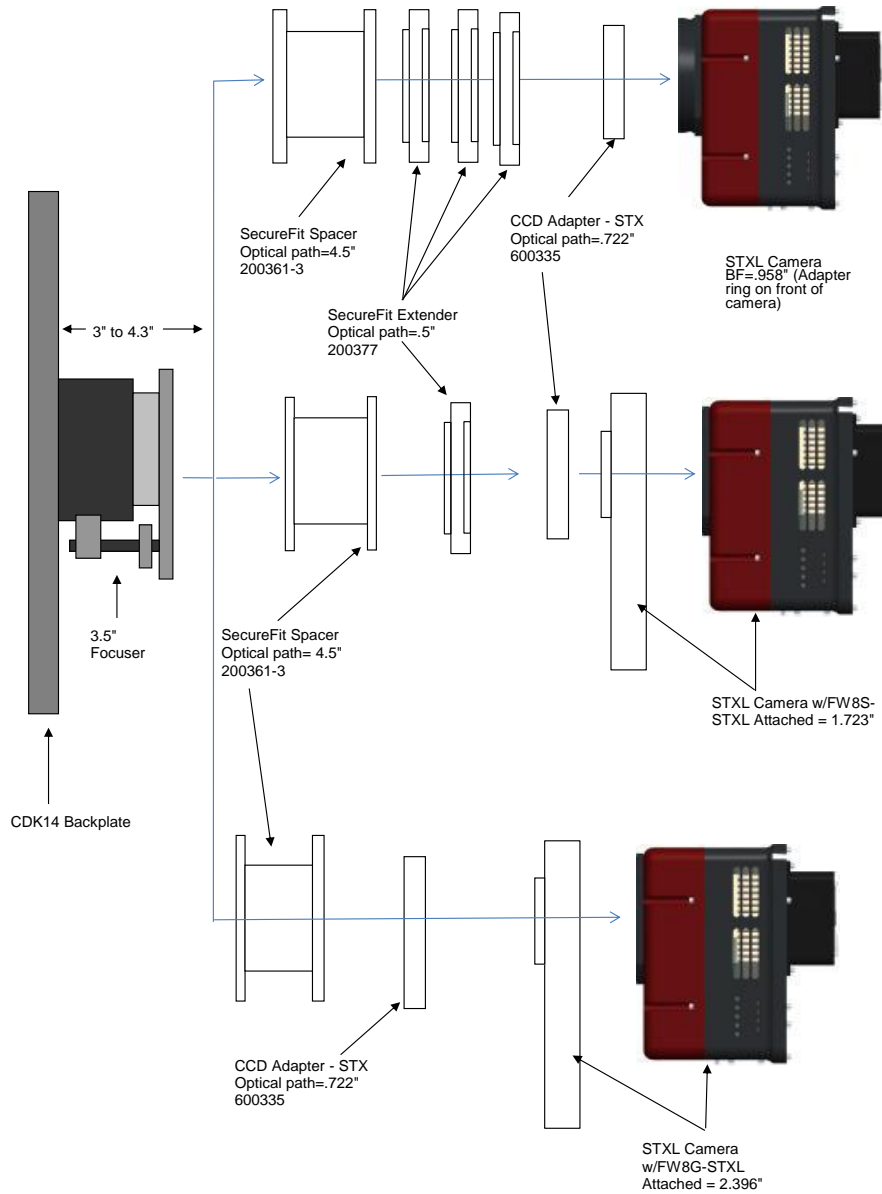


STXL camera w standard FW and MMOAG		11.09	remaining BF
Focuser racked in		3	8.09
Focuser position (0-1.3")		0.32	7.77
SecureFit CCD Spacer - 200361-2		2.1	5.67
CCD Adapter STX - 600335		0.722	4.95
AO-X		1.18	3.77
SBIG Flat Adapter (3"-24 female) - 600338		0.2	3.57
AstroDon MOAG-CFW-A		0.2	3.37
AstroDon - MMOAG		1.25	2.12
AstroDon MOAG-CFW-A		0.2	1.92
SBIG Flat Adapter (3"-24 female) - 600337		0.2	1.72
STXL w/filter wheel FW8S-STXL		1.723	0.00



STXL w/ Self Guiding FW		11.09	remaining BF
Focuser racked in		3	8.09
Focuser position (0-1.3")		0.292	7.798
SecureFit CCD Spacer - 200361-2		2.1	5.698
SecureFit Extender - 200377		0.5	5.198
SecureFit Extender - 200377		0.5	4.698
CCD Adapter STX - 600335		0.722	3.976
AO-X (w/ threaded adapter attached)		1.38	2.596
AO-X to FW adapter (SBIG)		0.2	2.396
STXL Camera w/FW8G-STXL Attached		2.396	0

PLANEWAVE INSTRUMENTS
CDK14 SPACERS FOR STXL CAMERAS



STXL	11.09	remaining BF
Focuser (200340) racked in	3	8.09
Focuser position (0-1.3")	0.41	7.68
SecureFit CCD Spacer - 200361-3	4.5	3.18
CCD SecureFit Extender - 200377	0.5	2.68
CCD SecureFit Extender - 200377	0.5	2.18
CCD SecureFit Extender - 200377	0.5	1.68
CCD Adapter STX - 600335	0.722	0.958
STXL Back Focus w/ threaded adapter ring attached	0.958	0

STXL w/ Standard FW	11.09	remaining BF
Focuser (200340) racked in	3	8.09
Focuser position (0-1.3")	0.645	7.445
SecureFit CCD Spacer - 200361-3	4.5	2.945
SecureFit Extender - 200377	0.5	2.445
CCD Adapter STX - 600335	0.722	1.723
STXL Camera w/FW8S-STXL Attached	1.723	0

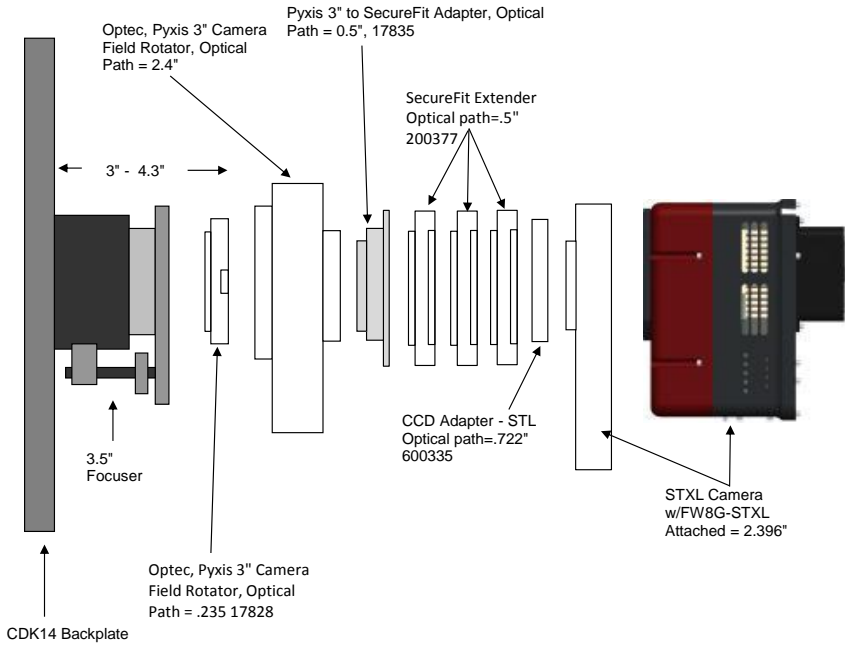
STXL w/ Standard FW & IRF0	11.09	remaining BF
Focuser (600180) racked in	3.5	7.59
Focuser position (0-1.3")	0.345	7.245
SecureFit CCD Spacer - 200361-3	3.8	3.445
SecureFit Extender - 200377	0.5	2.945
SecureFit Extender - 200377	0.5	2.445
CCD Adapter STX - 600335	0.722	1.723
STXL Camera w/FW8S-STXL Attached	1.723	0

STXL w/ Self Guiding FW	11.09	remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.472	7.618
SecureFit CCD Spacer - 200361-3	4.5	3.118
CCD Adapter STX - 600335	0.722	2.396
STXL Camera w/FW8G-STXL Attached	2.396	0

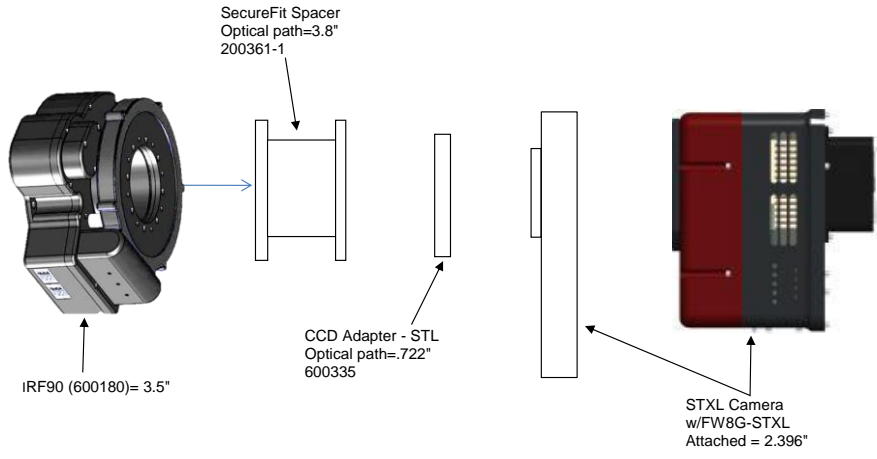
STXL w/ Self Guiding FW & IRF90	11.09	remaining BF
Focuser (600180) racked in	3.5	7.59
Focuser position (0-1.3")	0.672	6.918
SecureFit CCD Spacer - 200361-1	3.8	3.118
CCD Adapter STX - 600335	0.722	2.396
STXL Camera w/FW8G-STXL Attached	2.396	0

CDK14- OPTICAL TRAIN: for SBIG STXL CAMERA & IMAGE ROTATORS

Distance to Focuser Mounting Surface 11.09



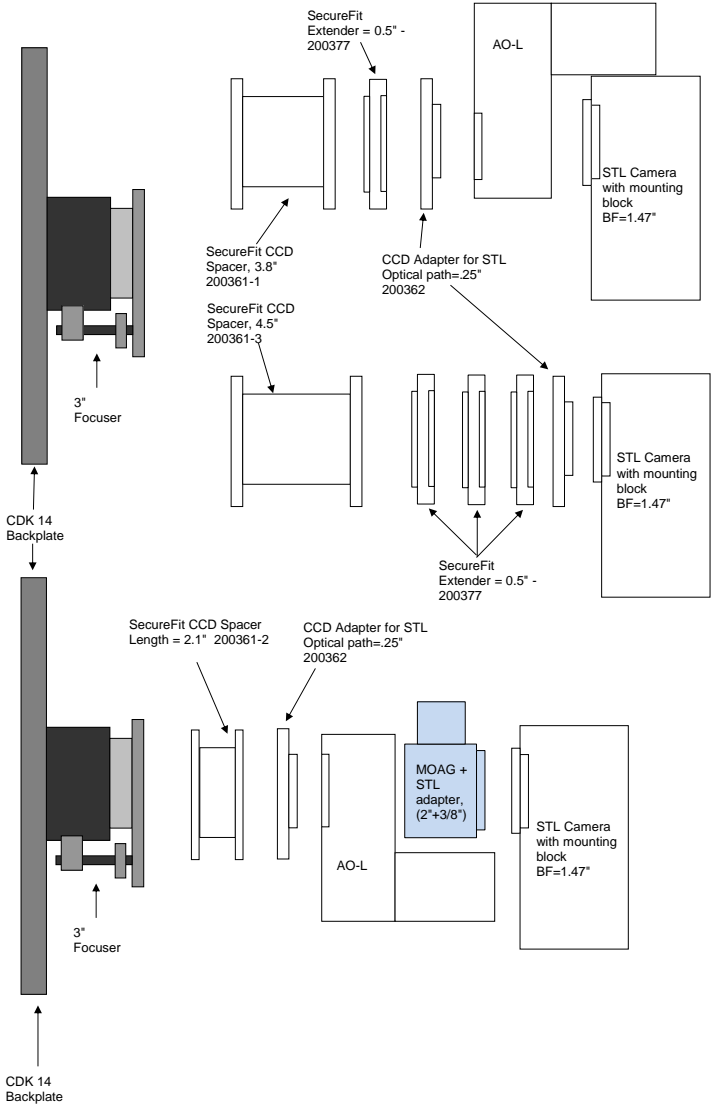
STXL, Self-Guiding FW, Pyxis	11.09	remaining BF
Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.337	7.753
PW 14/17/20 to Optec-3600 dovetail adapter - 17828	0.235	7.518
Optec Pyxis 3" Camera Rotator	2.4	5.118
Optec Pyxis 3" to SecureFit Adapter - 17835	0.5	4.618
SecureFit Spacer (200377)	0.5	4.118
SecureFit Spacer (200377)	0.5	3.618
SecureFit Spacer (200377)	0.5	3.118
CCD Adapter STX - 600335	0.722	2.396
STXL Camera w/FW8G-STXL Attached	2.396	0



STXL, Self-Guiding FW, IRF90	11.09	remaining BF
IRF90 (600180)	3.5	7.59
Focus position (0 to 1.3")	0.672	6.918
SecureFit adapter 200361-1	3.8	3.118
CCD Adapter STX - 600335	0.722	2.396
STXL Camera w/FW8G-STXL Attached	2.396	0

PLANEWAVE INSTRUMENTS
SECUREFIT CCD SPACERS FOR STL CAMERAS
for CDK14

← 11.09 →
Distance from focuser mounting surface to focal plane

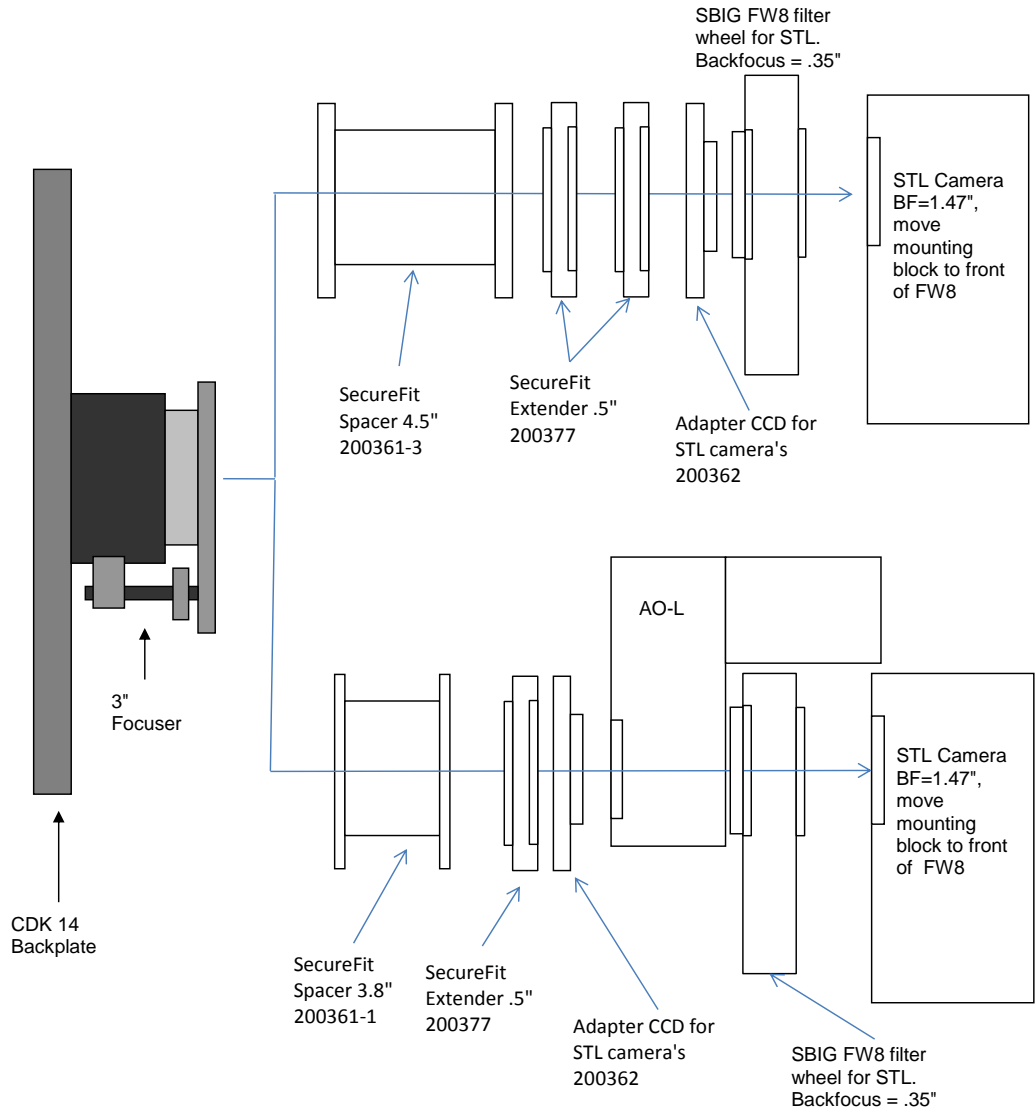


STL and AO-L required spacers			11.09 remaining BF
Focuser (racked in)	3		8.09
Focus position (0 to 1.3")	0.58		7.51
SecureFit CCD Spacer 3." - 200361-1	3.8		3.71
SecureFit Extender - 200377	0.5		3.21
CCD Adapter, STL - 200362	0.25		2.96
AO-L	1.49		1.47
STL Back Focus	1.47		0

STL Camera			11.09 remaining BF
Focuser (racked in)	3		8.09
Focus position (0 to 1.3")	0.37		7.72
SecureFit CCD Spacer 4.5" - 200361-3	4.5		3.22
SecureFit Extender - 200377	0.5		2.72
SecureFit Extender - 200377	0.5		2.22
SecureFit Extender - 200377	0.5		1.72
CCD Adapter, STL - 200362	0.25		1.47
STL Back Focus	1.47		0

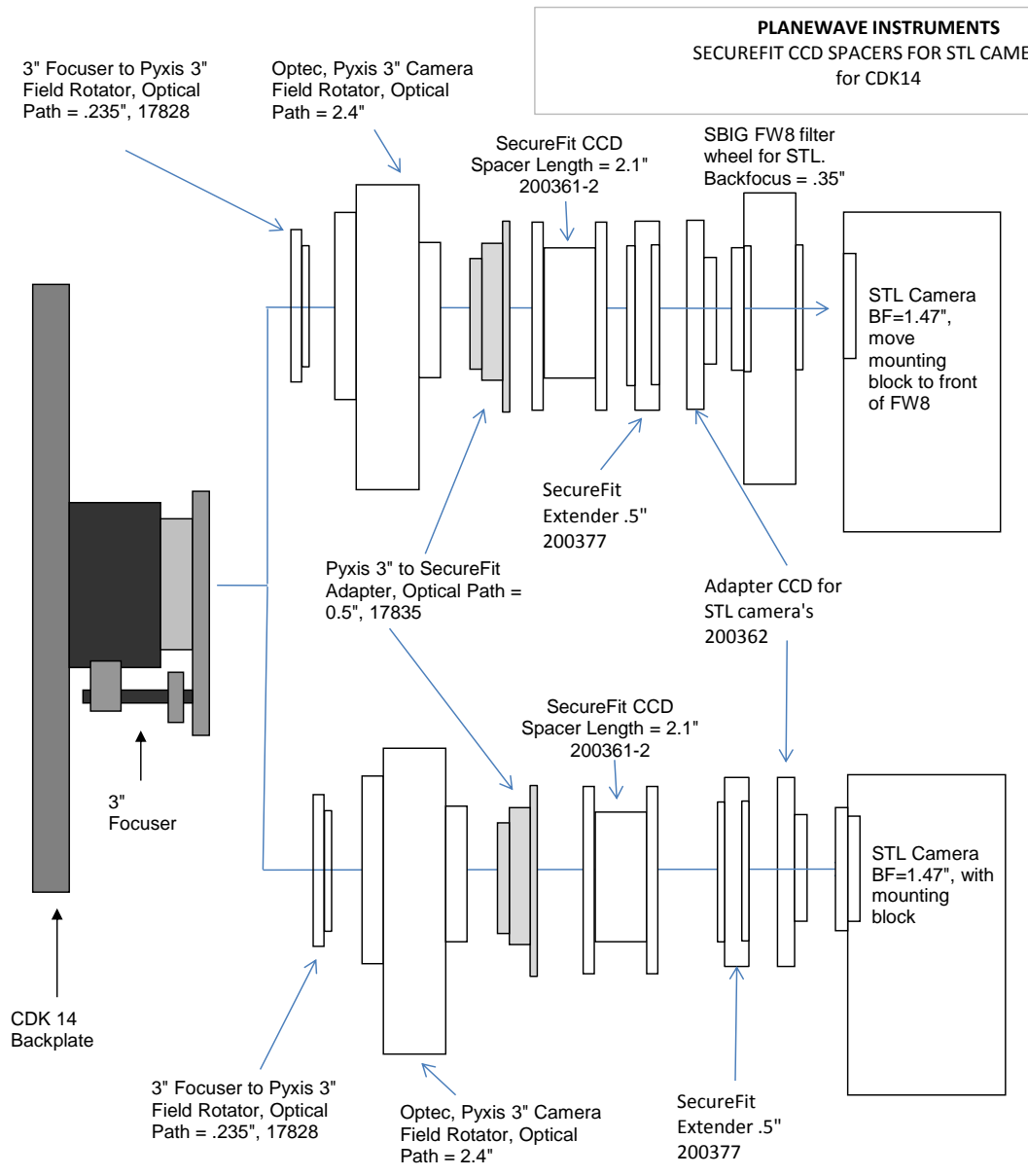
STL, AO-L and MOAG			11.09 remaining BF
Focuser (racked in)	3		8.09
Focus position (0 to 1.3")	0.366		7.724
SecureFit CCD Spacer - 200361-2	2.1		5.624
CCD Adapter, STL - 200362	0.25		5.374
AO-L	1.49		3.884
MOAG from Astrodon (2" of backfocus)	2		1.884
MOAG to SLT Adapter (3/8")	0.375		1.509
STL Back Focus	1.509		0

PLANEWAVE INSTRUMENTS
SECUREFIT CCD SPACERS FOR STL CAMERAS
 for CDK14



STL w/ FW8		11.09 remaining BF
Focuser racked in	3	8.09
Focus position (0 to 1.3")	0.52	7.57
SecureFit CCD Spacer 4.4" - 200361-3	4.5	3.07
SecureFit CCD Extender .5" - 200377	0.5	2.57
SecureFit CCD Extender .5" - 200377	0.5	2.07
CCD Adapter, STL - 200362	0.25	1.82
FW8	0.35	1.47
SLT Back Focus	1.47	0

STL + FW8 + AO-L		11.09 remaining BF
Focuser racked in	3	8.09
Focus position (0 to 1.3")	0.23	7.86
SecureFit CCD Spacer 3.8" - 200361-1	3.8	4.06
SecureFit CCD Extender .5" - 200377	0.5	3.56
CCD Adapter, STL - 200362	0.25	3.31
AO-L	1.49	1.82
FW8	0.35	1.47
SLT Back Focus	1.47	0

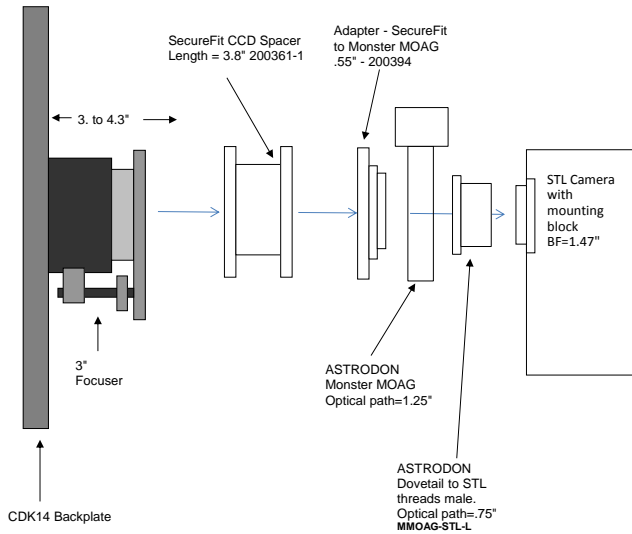


STL w/ FW8	11.09 remaining BF	
Focuser racked in	3	8.09
Focus position (0 to 1.3")	0.285	7.805
3" Focuser to Pyxis Rotator - 17828	0.235	7.57
Optec Pyxis 3" Rotator - PYXIS 3	2.4	5.17
Pyxis Rotator to SecureFit - 17835	0.5	4.67
SecureFit CCD Adapter - 200361-2	2.1	2.57
SecureFit Extender - 200377	0.5	2.07
CCD Adapter, STL - 200362	0.25	1.82
FW8	0.35	1.47
SLT Back Focus	1.47	0

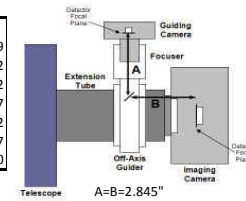
STL + Pyxis	11.09 remaining BF	
Focuser racked in	3	8.09
Focus position (0 to 1.3")	0.635	7.455
3" Focuser to Pyxis Rotator - 17828	0.235	7.22
Optec Pyxis 3" Rotator - PYXIS 3	2.4	4.82
Pyxis Rotator to SecureFit - 17835	0.5	4.32
SecureFit CCD Adapter - 200361-2	2.1	2.22
SecureFit CCD Extender .5" - 200377	0.5	1.72
CCD Adapter, STL - 200362	0.25	1.47
SLT Back Focus	1.47	0

CDK14 - OPTICAL TRAIN: for SBIG STL BODY, AND MMOAG

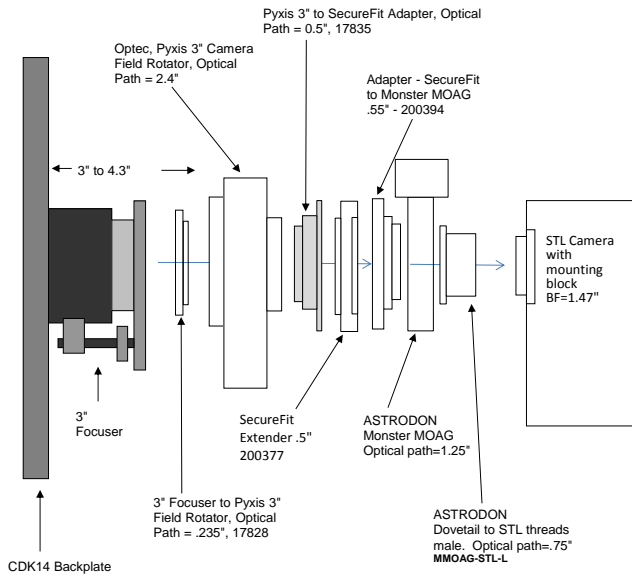
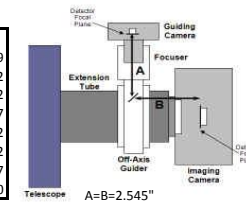
Distance to Focuser Mounting Surface 11.09



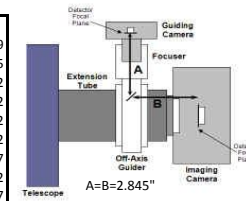
STL CCD & MMOAG		11.09 remaining BF
Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.27	7.82
SecureFit CCD Spacer - 200361-1	3.8	4.02
Adapter SecureFit to Monster MOAG - 200394	0.55	3.47
Monster MOAG - MMOAG	1.25	2.22
AstroDon Adapter - MMOAG-STL-L	0.75	1.47
SBIG STL Camera with mounting block	1.47	0



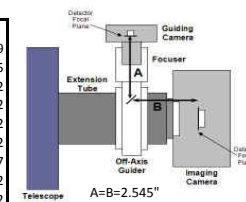
STL CCD, FW8 FILTER WHEEL & MMOAG		11.09 remaining BF
Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.57	7.52
SecureFit CCD Spacer - 200361-2	3.8	3.72
Adapter SecureFit to Monster MOAG - 200394	0.55	3.17
Monster MOAG - MMOAG	1.25	1.92
AstroDon Adapter - MMOAG-STL-S	0.1	1.82
SBIG FW8 Filter Wheel	0.35	1.47
SBIG STL Camera with mounting block	1.47	0



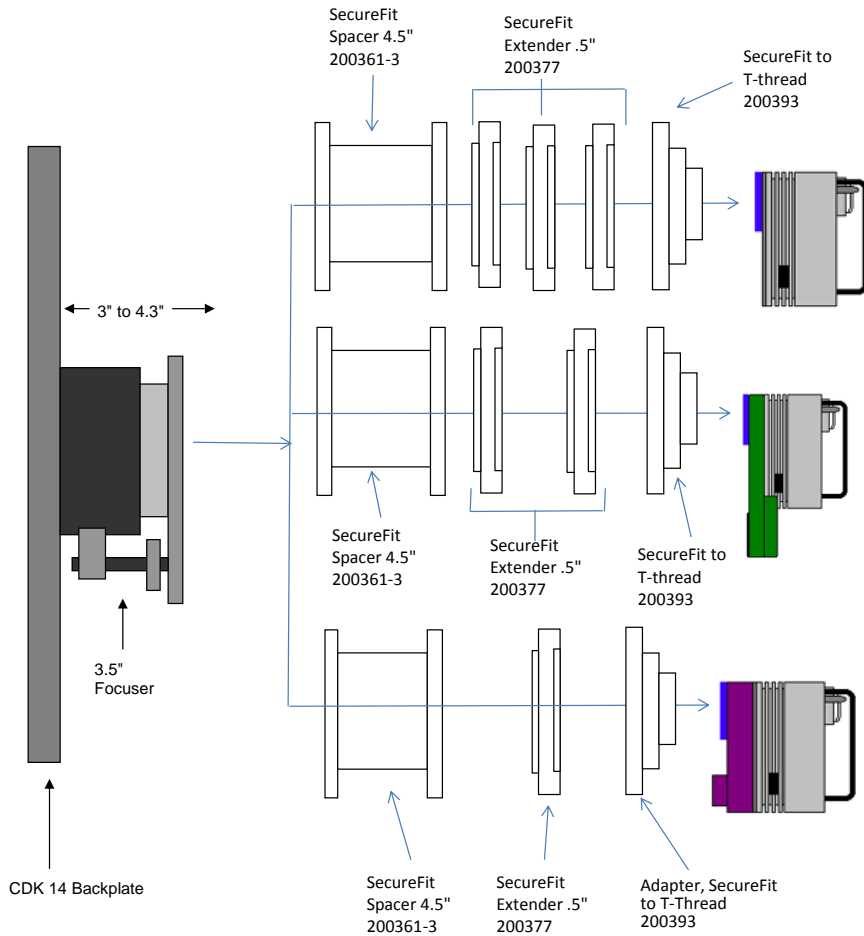
STL CCD, Pyxis & MMOAG		11.09 remaining BF
Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.435	7.655
3" Focuser to Pyxis Rotator - 17828	0.235	7.42
Optec Pyxis 3" Camera Rotator	2.4	5.02
Optec Pyxis 3" to SecureFit Adapter - 17835	0.5	4.52
SecureFit Extender - 200377	0.5	4.02
Adapter SecureFit to Monster MOAG - 200394	0.55	3.47
Monster MOAG - MMOAG	1.25	2.22
AstroDon Adapter - MMOAG-STL-L	0.75	1.47
SBIG STL Camera with mounting block	1.47	0



STL CCD, FW8, Pyxis & MMOAG		11.09 remaining BF
Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.735	7.355
3" Focuser to Pyxis Rotator - 17828	0.235	7.12
Optec Pyxis 3" Camera Rotator	2.4	4.72
Optec Pyxis 3" to SecureFit Adapter - 17835	0.5	4.22
SecureFit Extender - 200377	0.5	3.72
Adapter SecureFit to Monster MOAG - 200394	0.55	3.17
Monster MOAG - MMOAG	1.25	1.92
AstroDon Adapter - MMOAG-STL-S	0.1	1.82
SBIG FW8 Filter Wheel	0.35	1.47
SBIG STL Camera with mounting block	1.47	0



PLANEWAVE INSTRUMENTS
CDK14 SECUREFIT CCD SPACERS FOR ST CAMERAS



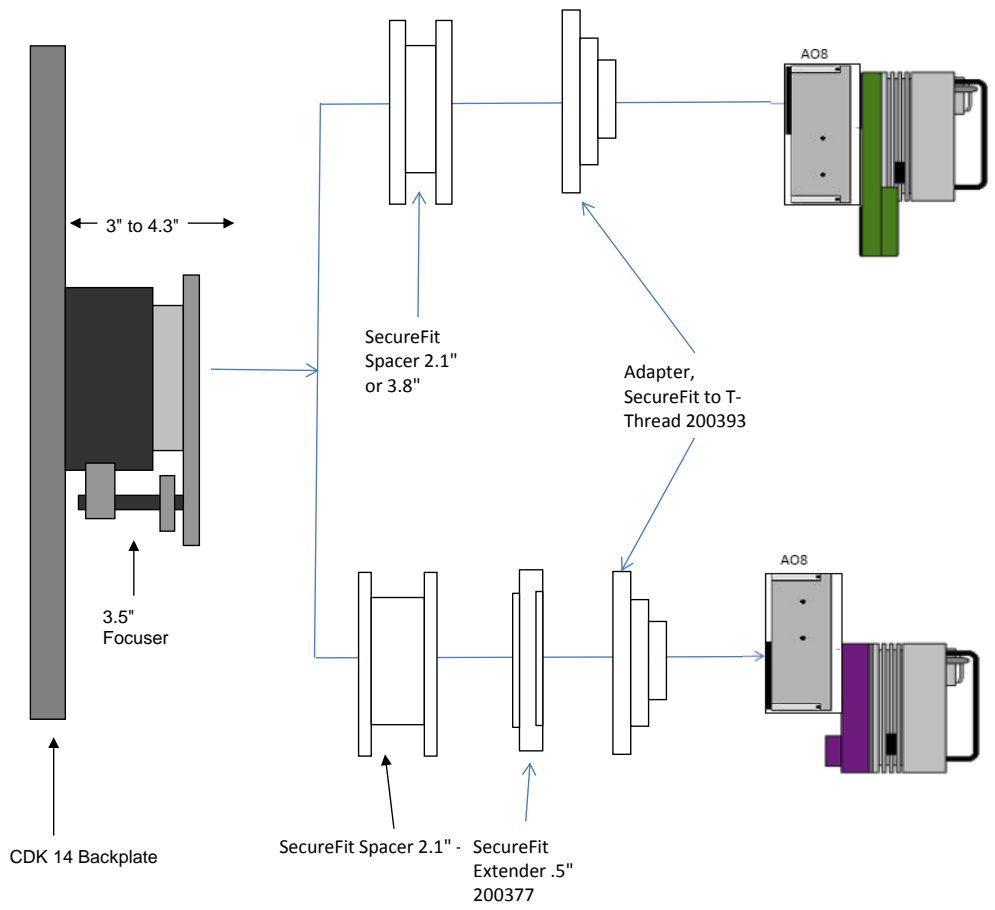
SecureFit w/ ST		11.09 remaining BF
Focuser racked in	3	8.09
Focuser Position (0 - 1.3")	0.528	7.562
SecureFit 4.5 - 200361-3	4.5	3.062
CCD SecureFit Extender - 200377	0.5	2.562
CCD SecureFit Extender - 200377	0.5	2.062
CCD SecureFit Extender - 200377	0.5	1.562
Adapter, SecureFit to T thread - 200393	0.55	1.012
ST Back Focus (with D-block)	1.012	0

SecureFit with ST and CFW10		11.09 remaining BF
Focuser racked in	3	8.09
Focuser Position (0 - 1.3")	0.448	7.642
SecureFit 4.5 - 200361-3	4.5	3.142
SecureFit Extender - 200377	0.5	2.642
SecureFit Extender - 200377	0.5	2.142
Adapter, SecureFit to T thread - 200393	0.55	1.592
ST w/ CFW10 Back Focus (with D-block)	1.592	0

SecureFit with ST and CFW10SA		11.09 remaining BF
Focuser racked in	3	8.09
Focuser Position (0 - 1.3")	0.73	7.36
SecureFit 4.5 - 200361-3	4.5	2.86
SecureFit Extender - 200377	0.5	2.36
Adapter, SecureFit to T thread - 200393	0.55	1.81
ST w/ CFW10 Back Focus, (w/ D-block)	1.81	0

SecureFit with ST and CFW8		11.09 remaining BF
Focuser racked in	3	8.09
Focuser Position (0 - 1.3")	0.528	7.562
SecureFit 4.5 - 200361-3	4.5	3.062
SecureFit Extender - 200377	0.5	2.562
Adapter, SecureFit to T thread - 200393	0.55	2.012
ST w/ CFW8 Back Focus, (w/ D-block)	2.012	0

PLANEWAVE INSTRUMENTS
CDK14 SECUREFIT CCD SPACERS FOR ST CAMERAS

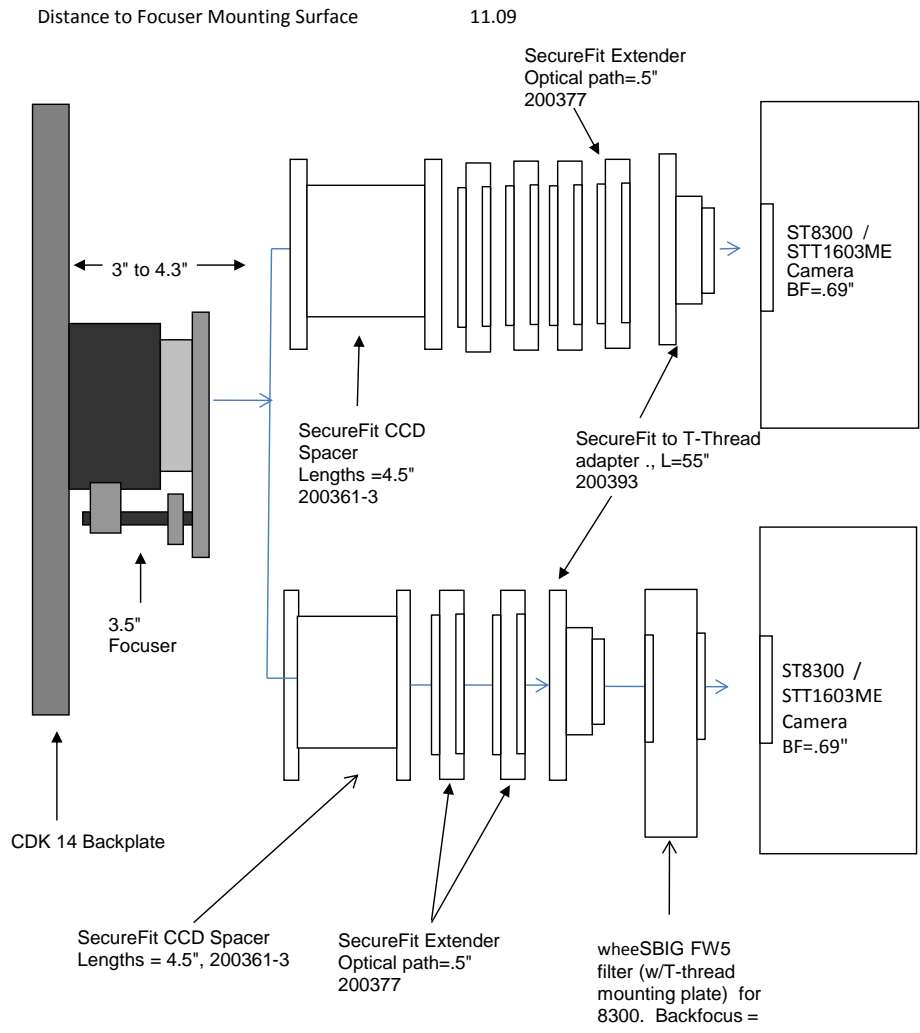


SecureFit with ST, CFW10, & AO-8	11.09 remaining BF	
Focuser racked in	3	8.09
Focuser Position (0 - 1.3")	0.248	7.842
SecureFit Spacer 2.1 - 200361-2	3.8	4.042
Adapter, SecureFit to T thread - 200393	0.55	3.492
AO-8, 1.9" of backfocus + .27 for D-block	2.17	1.322
ST w/ CFW10 Back Focus (w/o D-block)	1.322	0

SecureFit with ST and CFW10SA	11.09 remaining BF	
Focuser racked in	3	8.09
Focuser Position (0 - 1.3")	0.73	7.36
SecureFit Spacer 4.5 - 200361-3	4.5	2.86
SecureFit Extender - 200377	0.5	2.36
Adapter, SecureFit to T thread - 200393	0.55	1.81
ST w/ CFW10 Back Focus, (w/ D-block)	1.81	0

SecureFit with ST, CFW8, & AO-8	11.09 remaining BF	
Focuser racked in	3	8.09
Focuser Position (0 - 1.3")	0.758	7.332
SecureFit Spacer 2.1 - 200361-2	2.1	5.232
SecureFit Extender - 200377	0.5	4.732
Adapter, SecureFit to T thread - 200393	0.55	4.182
AO-8, 1.9" of backfocus + .27 for D-block	2.17	2.012
ST w/ CFW8 Back Focus, (w/ D-block)	2.012	0

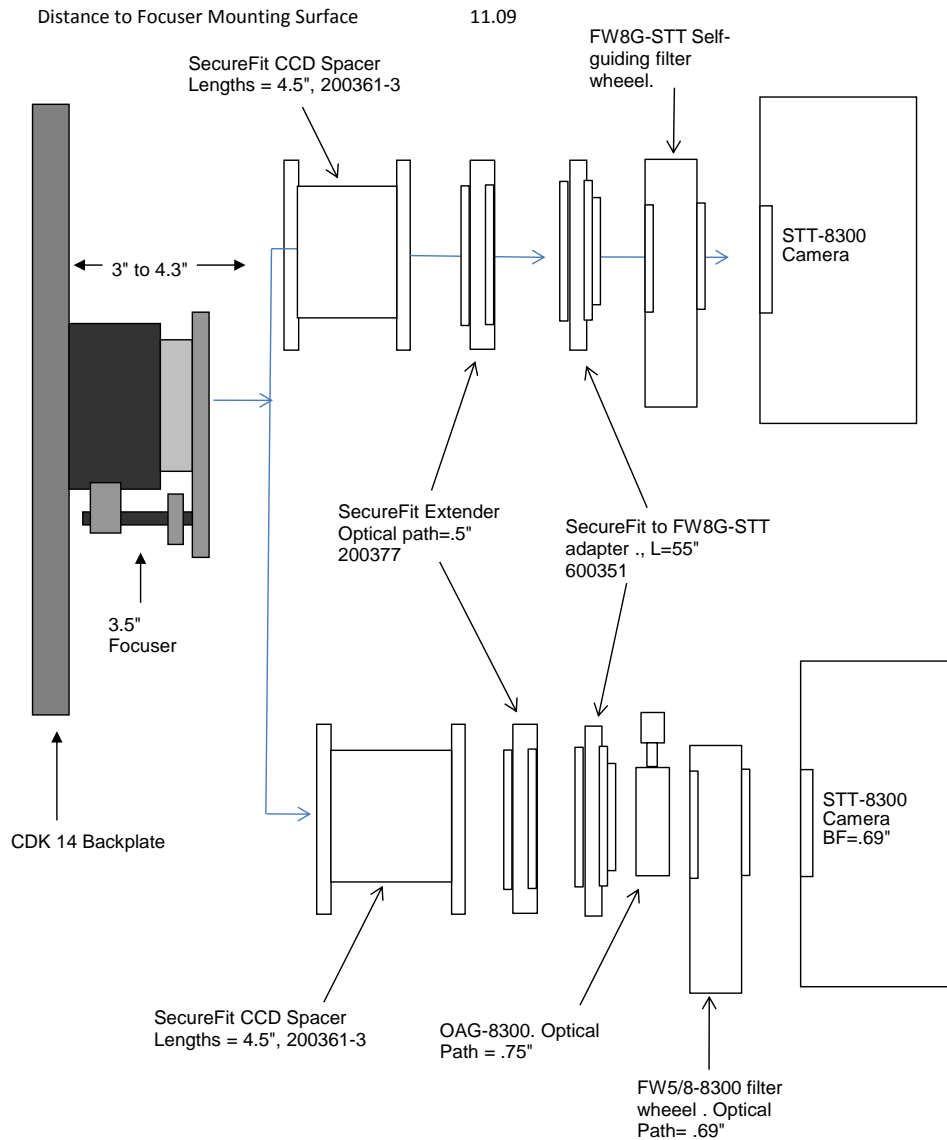
PLANEWAVE INSTRUMENTS
CDK14 SECUREFIT SPACERS FOR ST8300/STT-1603ME CAMERAS



ST8300 Camera Alone	11.09	remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.35	7.74
CCD Spacer 4.5- 200361-3	4.5	3.24
CCD SecureFit Extender - 200377	0.5	2.74
CCD SecureFit Extender - 200377	0.5	2.24
CCD SecureFit Extender - 200377	0.5	1.74
CCD SecureFit Extender - 200377	0.5	1.24
SecureFit to T-Thread - 200393	0.55	0.69
STT Back Focus	0.69	0

ST8300 Camera FW8 or FW5 for 8300	11.09	remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.56	7.53
CCD Spacer 3.8 - 200361-1	4.5	3.03
CCD SecureFit Extender - 200377	0.5	2.53
CCD SecureFit Extender - 200377	0.5	2.03
SecureFit to T-Thread - 200393	0.55	1.48
FW5 or 8 for 8300, Back Focus=.79"	0.79	0.69
STT Back Focus	0.69	0

PLANEWAVE INSTRUMENTS
CDK14 SECUREFIT SPACERS FOR STT CAMERAS



STT8300 Camera w/ Self Guiding Filter Wheel	11.09	remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.412	7.678
SecureFit Spacer 4.5- 200361-3	4.5	3.178
CCD SecureFit Extender - 200377	0.5	2.678
SecureFit to FW8G-STT - 600351	0.55	2.128
FW8G-SST attached to STT-8300 Camera	2.128	0

STT8300 Camera w/Filter Wheel, OAG8300	11.09	remaining BF
Focuser racked in	3	8.09
Focuser position (0-1.3")	0.31	7.78
SecureFit Spacer 4.5- 200361-3	4.5	3.28
CCD SecureFit Extender - 200377	0.5	2.78
SecureFit to FW8G-STT - 600351	0.55	2.23
OAG-8300	0.75	1.48
FW5-8300 / FW8-8300	0.79	0.69
STT-8300 Camera	0.69	0