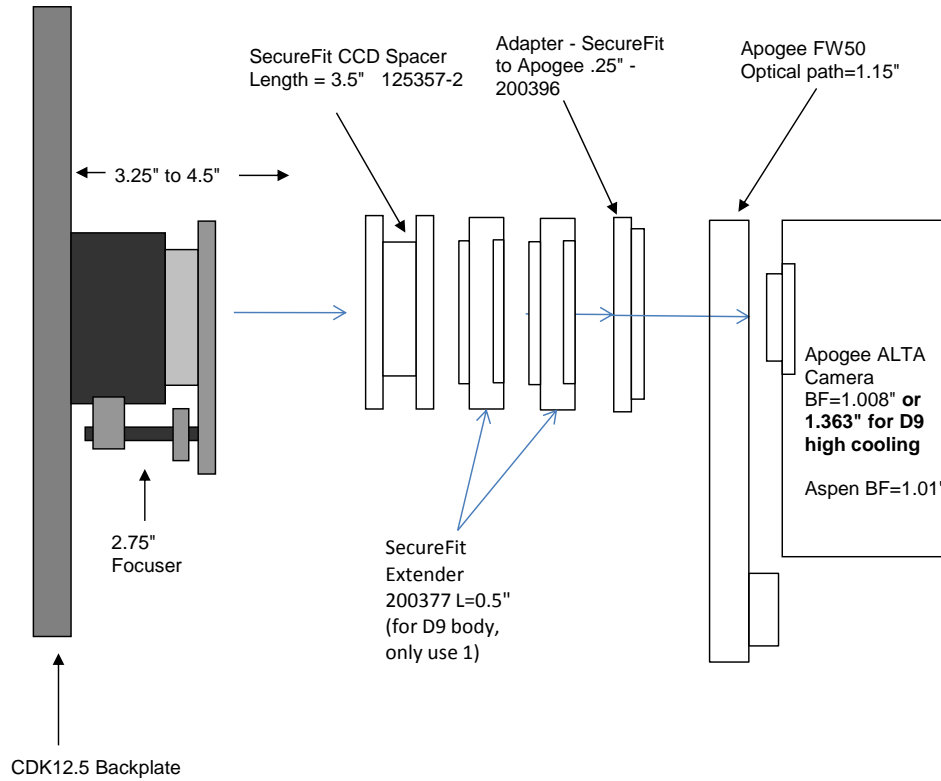


CDK12.5 - OPTICAL TRAIN: for Apogee Alta, Aspen, FW50

Distance to Focuser Mounting Surface 10.445

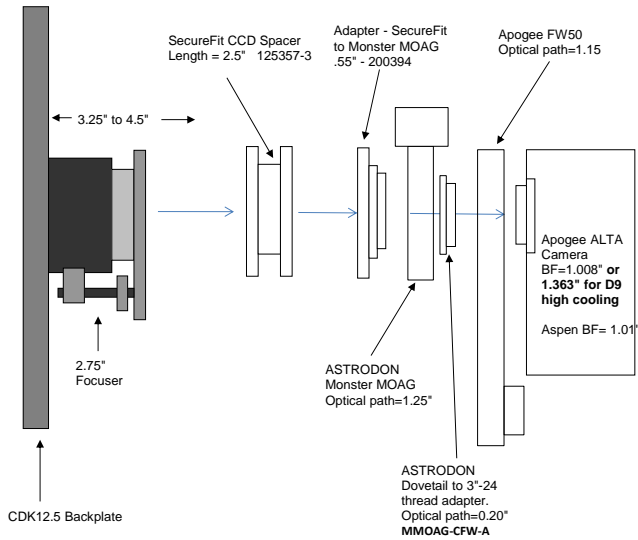


Apogee Alta, Aspen CCD, FW50	10.445	remaining BF
2.75" Focuser (racked in)	3.25	7.195
Focus position (0 to 1.3")	0.287	6.908
SecureFit CCD Spacer - 125357-2	3.5	3.408
SecureFit CCD Extender - 200377	0.5	2.908
SecureFit CCD Extender - 200377	0.5	2.408
SecureFit to Apogee Adapter - 200396	0.25	2.158
Apogee FW50	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0

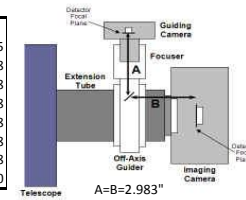
Apogee Alta CCD, FW50, (D9 High Cooling)	10.445	remaining BF
2.75" Focuser (racked in)	3.25	7.195
Focus position (0 to 1.3")	0.432	6.763
SecureFit CCD Spacer - 125357-2	3.5	3.263
SecureFit CCD Extender - 200377	0.5	2.763
SecureFit to Apogee Adapter - 200396	0.25	2.513
Apogee FW50	1.15	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

CDK12.5 - OPTICAL TRAIN: for Apogee Alta, Aspen, FW50 and MMOAG

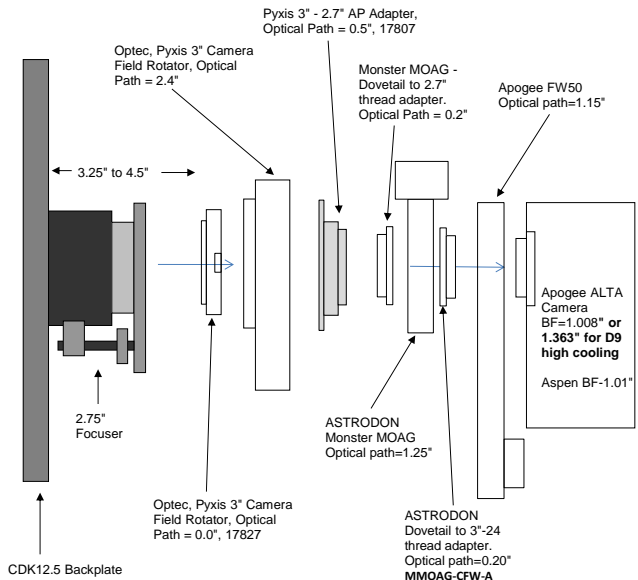
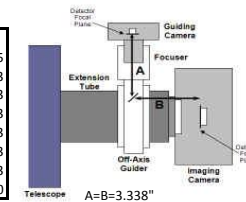
Distance to Focuser Mounting Surface 10.445



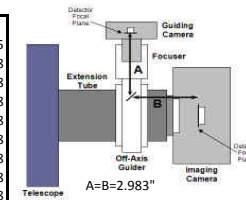
Apogee Alta, Aspen CCD, FW50, & MMOAG		
2.75" Focuser (racked in)	10.445	remaining BF
SecureFit CCD Spacer - 125357-3	3.25	7.195
Focus position (0 to 1.3")	0.537	6.658
Adapter SecureFit to Monster MOAG .55" - 200394	2.5	4.158
Monster MOAG - MMOAG	0.55	3.608
AstroDon Adapter - MMOAG-CFW-A	1.25	2.358
Apogee FW50	0.2	2.158
Apogee FW50	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0



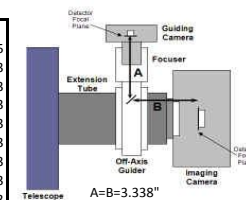
MonsterMOAG, FW50, ALTA D9 High Cooling		
2.75" Focuser (racked in)	10.445	remaining BF
SecureFit CCD Spacer - 125357-3	3.25	7.195
Focus position (0 to 1.3")	0.182	7.013
Adapter SecureFit to Monster MOAG - 200394	2.5	4.513
Monster MOAG - MMOAG	0.55	3.963
Monster MOAG - MMOAG	1.25	2.713
AstroDon Adapter - MMOAG-CFW-A	0.2	2.513
Apogee FW50	1.15	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0



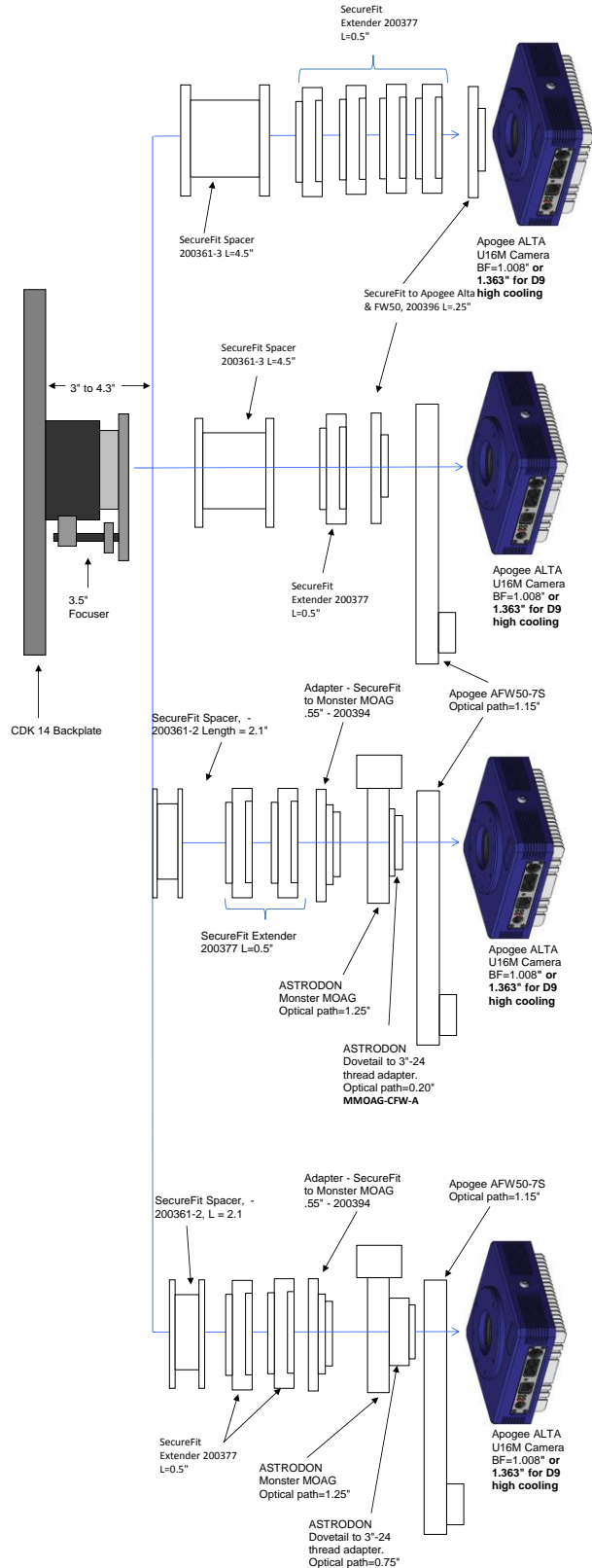
Alta, Aspen CCD, FW50, Pyxis & MMOAG		
2.75" Focuser (racked in)	10.445	remaining BF
PW 12.5 to Optec-3600 dovetail adapter - 17827	3.25	7.195
Focus position (0 to 1.3")	0.487	6.708
Optec Pyxis 3" Camera Rotator	0	6.708
Optec Pyxis 3" Camera Rotator	2.4	4.308
Optec Pyxis 2.7" AP Adapter - 17807	0.5	3.808
Monster MOAG -Dovetail to 2.7" adapter	0.2	3.608
Monster MOAG - MMOAG	1.25	2.358
AstroDon Adapter - MMOAG-CFW-A	0.2	2.158
Apogee FW50	1.15	1.008
Apogee FW50	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0



MonsterMOAG, FW50, ALTA D9 High Cooling		
2.75" Focuser (racked in)	10.445	remaining BF
PW 12.5 to Optec-3600 dovetail adapter - 17827	3.25	7.195
Focus position (0 to 1.3")	0.132	7.063
Optec Pyxis 3" Camera Rotator	0	7.063
Optec Pyxis 3" Camera Rotator	2.4	4.663
Optec Pyxis 2.7" AP Adapter - 17807	0.5	4.163
Monster MOAG -Dovetail to 2.7" adapter	0.2	3.963
Monster MOAG - MMOAG	1.25	2.713
AstroDon Adapter - MMOAG-CFW-A	0.2	2.513
Apogee FW50	1.15	1.363
Apogee FW50	1.15	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0



CDK14 - OPTICAL TRAIN: for Apogee Alta, FW50 and MMOAG



ALTA CCD		
3.5" Focuser (racked in)		11.09 remaining BF
	3	8.09
Focus position (0 to 1.3")	0.332	7.758
SecureFit, 4.5" - 200361-3	4.5	3.258
SecureFit Extender - 200377	0.5	2.758
SecureFit Extender - 200377	0.5	2.258
SecureFit Extender - 200377	0.5	1.758
SecureFit Extender - 200377	0.5	1.258
SecureFit to Apogee Alta & FW50 - 200396	0.25	1.008
Apogee Alta U16M CCD back focus	1.008	0

ALTA D9 High Cooling		
3.5" Focuser (racked in)		11.09 remaining BF
	3	8.09
Focus position (0 to 1.3")	0.447	7.643
SecureFit, 4.5" - 200361-3	4.5	3.143
SecureFit Extender - 200377	0.5	2.643
SecureFit Extender - 200377	0.5	2.143
SecureFit Extender - 200377	0.5	1.643
SecureFit to Apogee Alta & FW50 - 200396	0.25	1.393
Apogee Alta U16M High Cooling CCD back focus	1.363	0.03

ALTA CCD, FW50		
3.5" Focuser (racked in)		11.09 remaining BF
	3	8.09
Focus position (0 to 1.3")	0.682	7.408
SecureFit, 4.5" - 200361-3	4.5	2.908
SecureFit CCD Extender - 200377	0.5	2.408
SecureFit to Apogee Alta & FW50 - 200396	0.25	2.158
Apogee AFW50-7S	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0

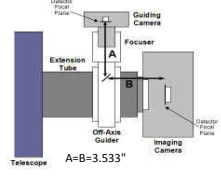
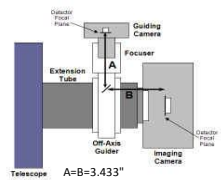
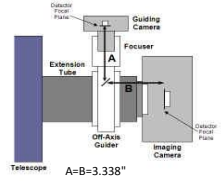
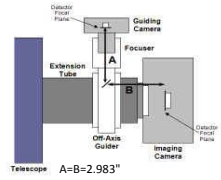
ALTA D9 High Cooling, FW50		
3.5" Focuser (racked in)		11.09 remaining BF
	3	8.09
Focus position (0 to 1.3")	0.327	7.763
SecureFit, 4.5" - 200361-3	4.5	3.263
SecureFit CCD Extender - 200377	0.5	2.763
SecureFit to Apogee Alta & FW50 - 200396	0.25	2.513
Apogee AFW50-7S	1.15	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

MonsterMOAG, FW50, ALTA		
3.5" Focuser (racked in)		11.09 remaining BF
	3	8.09
Focus position (0 to 1.3")	0.832	7.258
SecureFit Spacer - 3.8" - 200361-2	2.1	5.158
SecureFit CCD Extender - 200377	0.5	4.658
SecureFit CCD Extender - 200377	0.5	4.158
Adapter SecureFit to Monster MOAG - 200394	0.55	3.608
Monster MOAG - MMOAG	1.25	2.358
AstroDon Adapter - MMOAG-CFW-A	0.2	2.158
Apogee AFW50-7S	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0

MonsterMOAG, FW50, ALTA D9 High Cooling		
3.5" Focuser (racked in)		11.09 remaining BF
	3	8.09
Focus position (0 to 1.3")	0.477	7.613
SecureFit Spacer - 200361-2	2.1	5.513
SecureFit CCD Extender - 200377	0.5	5.013
SecureFit CCD Extender - 200377	0.5	4.513
Adapter SecureFit to Monster MOAG - 200394	0.55	3.963
Monster MOAG - MMOAG	1.25	2.713
AstroDon Adapter - MMOAG-CFW-A	0.2	2.513
Apogee AFW50-7S	1.15	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

MonsterMOAG, FW50, ALTA		
3.5" Focuser (racked in)		11.09 remaining BF
	3	8.09
Focus position (0 to 1.3")	0.282	7.808
SecureFit Spacer - 200361-2	2.1	5.708
SecureFit CCD Extender - 200377	0.5	5.208
SecureFit CCD Extender - 200377	0.5	4.708
Adapter SecureFit to Monster MOAG - 200394	0.55	4.158
Monster MOAG - MMOAG	1.25	2.908
Adapter, Astrodon dovetail to 3"-24 MMOAG-3-L	0.75	2.158
Apogee AFW50-7S	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0

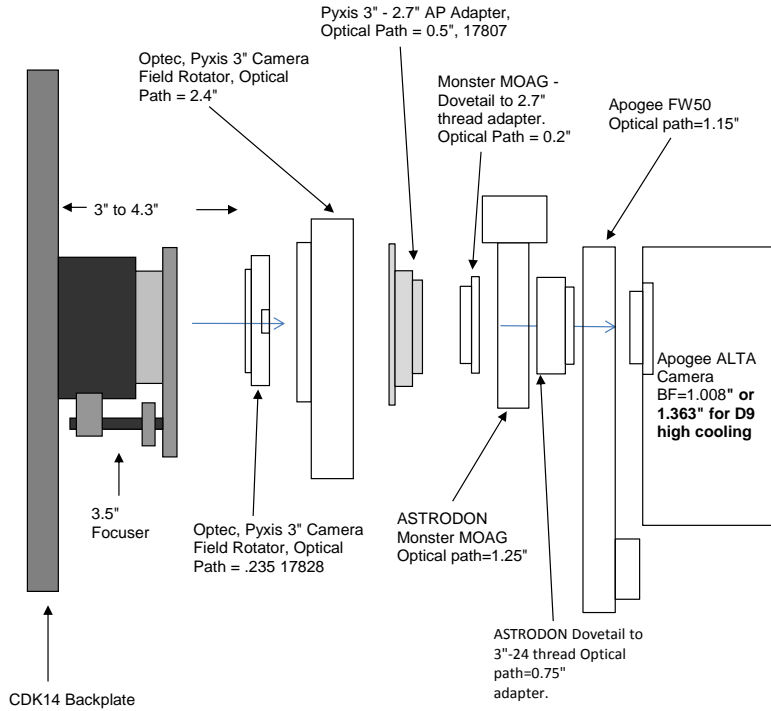
MonsterMOAG, FW50, ALTA D9 High Cooling		
3.5" Focuser (racked in)		11.09 remaining BF
	3	8.09
Focus position (0 to 1.3")	0.527	7.563
SecureFit Spacer - 200361-2	2.1	5.463
SecureFit CCD Extender - 200377	0.5	4.963
Adapter SecureFit to Monster MOAG - 200394	0.55	4.413
Monster MOAG - MMOAG	1.25	3.163
Adapter, Astrodon dovetail to 3"-24 MMOAG-3-L	0.75	2.413
Apogee AFW50-7S	1.05	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0



CDK14 - OPTICAL TRAIN: for Apogee Alta and Pyxis Rotator

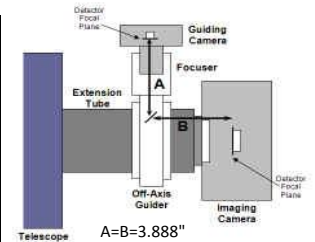
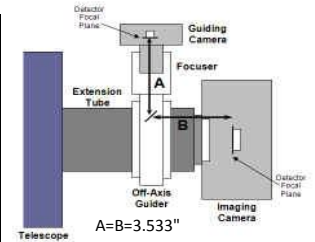
Distance to Focuser Mounting Surface

11.09

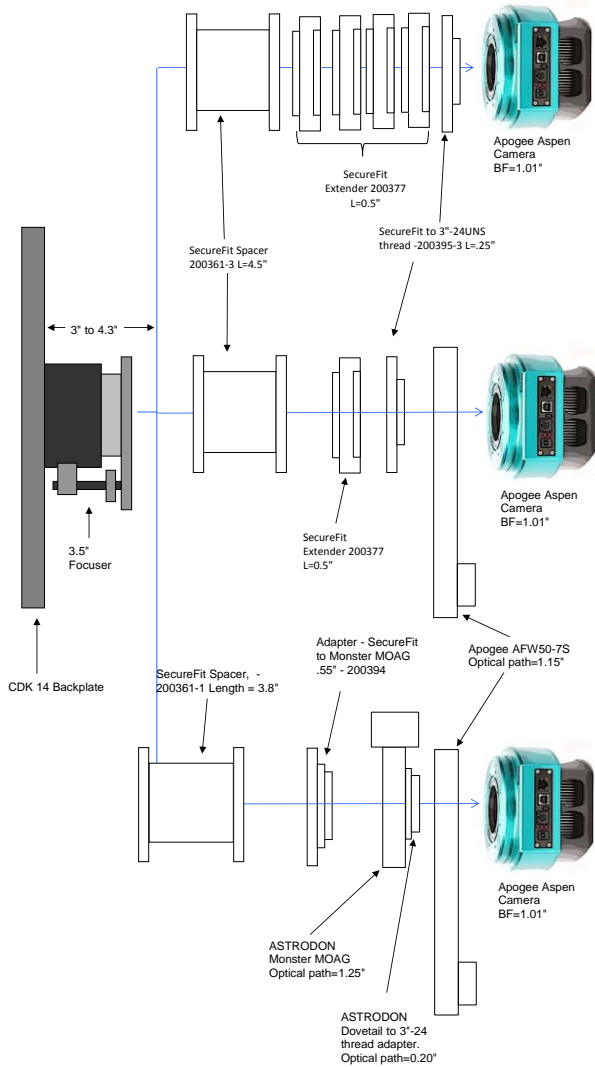


Alta, CCD, FW50, Pyxis & MMOAG		11.09 remaining BF
3.5" Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.597	7.493
PW 14/17/20 to Optec-3600 dovetail adapter - 17828	0.235	7.258
Optec Pyxis 3" Camera Rotator	2.4	4.858
Optec Pyxis 2.7" AP Adapter - 17807	0.5	4.358
Monster MOAG -Dovetail to 2.7" adapter	0.2	4.158
Monster MOAG - MMOAG	1.25	2.908
Adapter, Astrodon dovetail to 3"-24 MMOAG-3-L	0.75	2.158
Apogee FW50	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0

Alta High Cooling, CCD, FW50, Pyxis & MMOAG		11.09 remaining BF
3.5" Focuser (racked in)	3	8.09
Focus position (0 to 1.3")	0.242	7.848
PW 14/17/20 to Optec-3600 dovetail adapter - 17828	0.235	7.613
Optec Pyxis 3" Camera Rotator	2.4	5.213
Optec Pyxis 2.7" AP Adapter - 17807	0.5	4.713
Monster MOAG -Dovetail to 2.7" adapter	0.2	4.513
Monster MOAG - MMOAG	1.25	3.263
Adapter, Astrodon dovetail to 3"-24 MMOAG-3-L	0.75	2.513
Apogee FW50	1.15	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0



CDK14 - OPTICAL TRAIN: for Aspen, FW50 and MMOAG

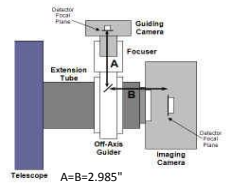


Apogee Aspen CCD	11.09	remaining BF	8.09
3.5" Focuser (racked in)	3		7.76
Focus position (0 to 1.3")	0.33		7.43
SecureFit, 4.5" - 200361-3	4.5		2.93
SecureFit Extender - 200377	0.5		2.43
SecureFit Extender - 200377	0.5		1.93
SecureFit Extender - 200377	0.5		1.43
SecureFit to 3"-24UNS thread -200395-3	0.25		1.18
Apogee Aspen CCD back focus	1.01		0.17

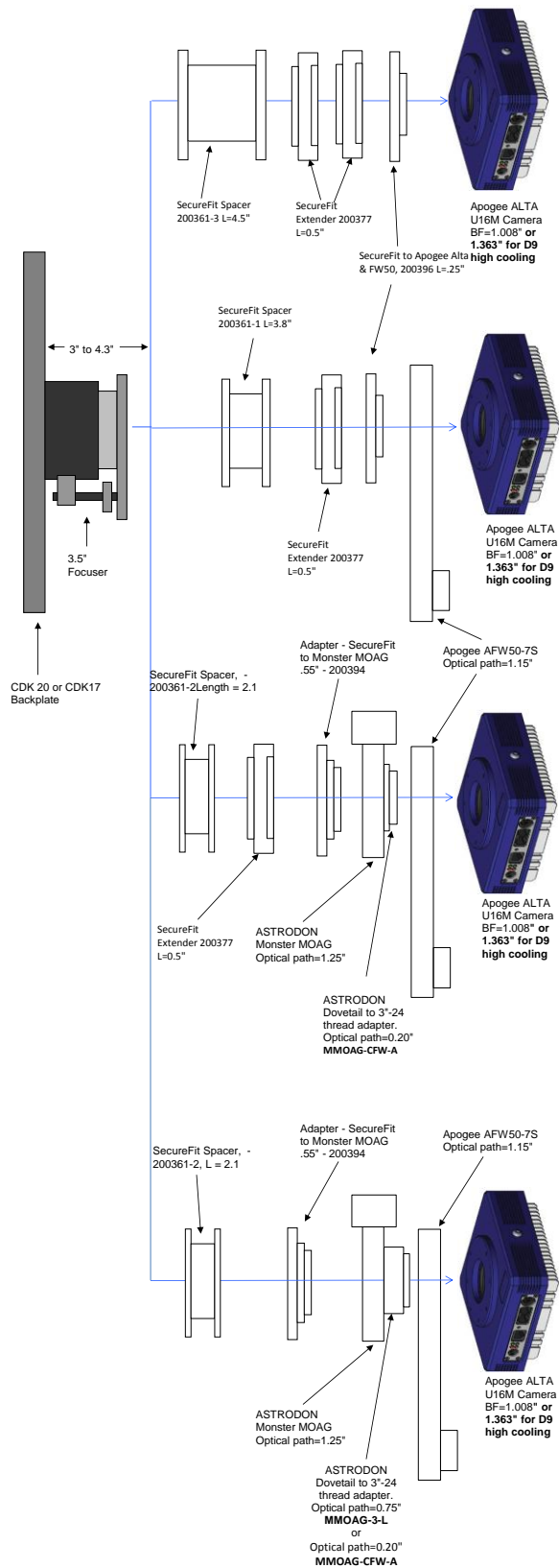
Apogee Aspen CCD & FW50	11.09	remaining BF	8.09
3.5" Focuser (racked in)	3		7.41
Focus position (0 to 1.3")	0.68		6.73
SecureFit, 4.5" - 200361-3	4.5		2.23
SecureFit CCD Extender - 200377	0.5		1.73
SecureFit to 3"-24UNS - 200395-3*	0.25		1.48
Apogee AFW50-75	1.15		0.33
Apogee Aspen CCD back focus	1.01		0

*200396 adapter can also be used to mount to AWF50 filter wheels

Apogee ASPEN CCD, MonsterMOAG, FW50	11.09	remaining BF	8.09
3.5" Focuser (racked in)	3		7.96
Focus position (0 to 1.3")	0.13		7.83
SecureFit Spacer - 3.8" -200361-1	3.8		4.03
Adapter SecureFit to Monster MOAG - 200394	0.55		3.48
Monster MOAG - MMOAG	1.25		2.23
AstroDon Adapter - MMOAG-CFW-A	0.2		2.03
Apogee AFW50-75	1.15		0.88
Apogee Aspen CCD back focus	1.01		0



CDK17 - OPTICAL TRAIN: for Apogee Alta, FW50 and MMOAG



ALTA CCD	10.24 remaining BF	
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.482	6.758
SecureFit, 4.5" - 200361-3	4.5	2.258
SecureFit Extender - 200377	0.5	1.758
SecureFit Extender - 200377	0.5	1.258
SecureFit to Apogee Alta & FW50 - 200396	0.25	1.008
Apogee Alta U16M CCD back focus	1.008	0

ALTA D9 High Cooling	10.24 remaining BF	
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.627	6.613
SecureFit, 4.5" - 200361-3	4.5	2.113
SecureFit Extender - 200377	0.5	1.613
SecureFit to Apogee Alta & FW50 - 200396	0.25	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

FW50, ALTA CCD	10.24 remaining BF	
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.53	6.708
SecureFit, 3.8" - 200361-1	3.8	2.908
SecureFit CCD Extender - 200377	0.5	2.408
SecureFit to Apogee Alta & FW50 - 200396	0.25	2.158
Apogee AFW50-7S	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0

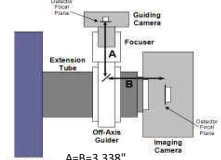
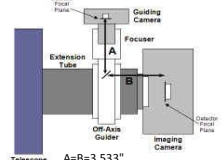
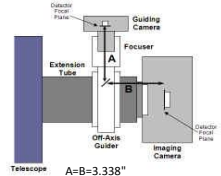
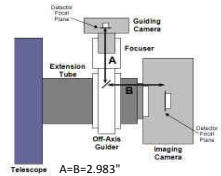
FW50, ALTA D9 High Cooling	10.24 remaining BF	
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.18	7.063
SecureFit, 3.8" - 200361-1	3.8	3.263
SecureFit CCD Extender - 200377	0.5	2.763
SecureFit to Apogee Alta & FW50 - 200396	0.25	2.513
Apogee AFW50-7S	1.15	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

MonsterMOAG, FW50, ALTA	10.24 remaining BF	
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.48	6.758
SecureFit Spacer - 2.1" - 200361-2	2.1	4.658
SecureFit CCD Extender - 200377	0.5	4.158
Adapter SecureFit to Monster MOAG - 200394	0.55	3.608
Monster MOAG - MMOAG	1.25	2.358
AstroDon Adapter - MMOAG-CF-W-A	0.2	2.158
Apogee AFW50-7S	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0

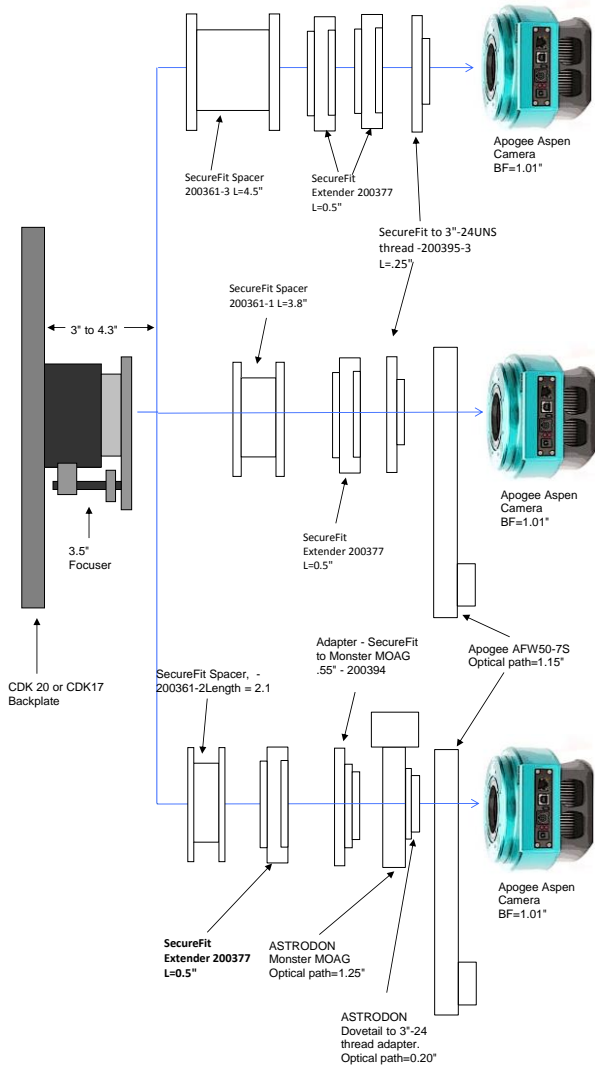
MonsterMOAG, FW50, ALTA D9 High Cooling	10.24 remaining BF	
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.13	7.113
SecureFit Spacer - 200361-2	2.1	5.013
SecureFit CCD Extender - 200377	0.5	4.513
Adapter SecureFit to Monster MOAG - 200394	0.55	3.963
Monster MOAG - MMOAG	1.25	2.713
AstroDon Adapter - MMOAG-CF-W-A	0.2	2.513
Apogee AFW50-7S	1.15	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

MonsterMOAG, FW50, ALTA	10.24 remaining BF	
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.432	6.808
SecureFit Spacer - 200361-2	2.1	4.708
Adapter SecureFit to Monster MOAG - 200394	0.55	4.158
Monster MOAG - MMOAG	1.25	2.908
Adapter, AstroDon dovetail to 3"-24 MMOAG-3-L	0.75	2.158
Apogee AFW50-7S	1.15	1.008
Apogee Alta U16M CCD back focus	1.008	0

MonsterMOAG, FW50, ALTA D9 High Cooling	10.24 remaining BF	
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.627	6.613
SecureFit Spacer - 200361-2	2.1	4.513
Adapter SecureFit to Monster MOAG - 200394	0.55	3.963
Monster MOAG - MMOAG	1.25	2.713
AstroDon Adapter - MMOAG-CF-W-A	0.2	2.513
Apogee AFW50-7S	1.15	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0



CDK17 - OPTICAL TRAIN: for Aspen, FW50 and MMOAG

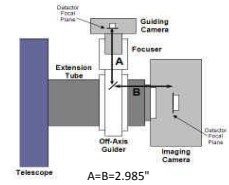


Apogee Aspen CCD	10.24	remaining BF
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.48	6.76
SecureFit, 4.5" - 200361-3	4.5	2.26
SecureFit Extender - 200377	0.5	1.76
SecureFit Extender - 200377	0.5	1.26
SecureFit to 3"-24UNS - 200395-3	0.25	1.01
Apogee Aspen CCD back focus	1.01	0

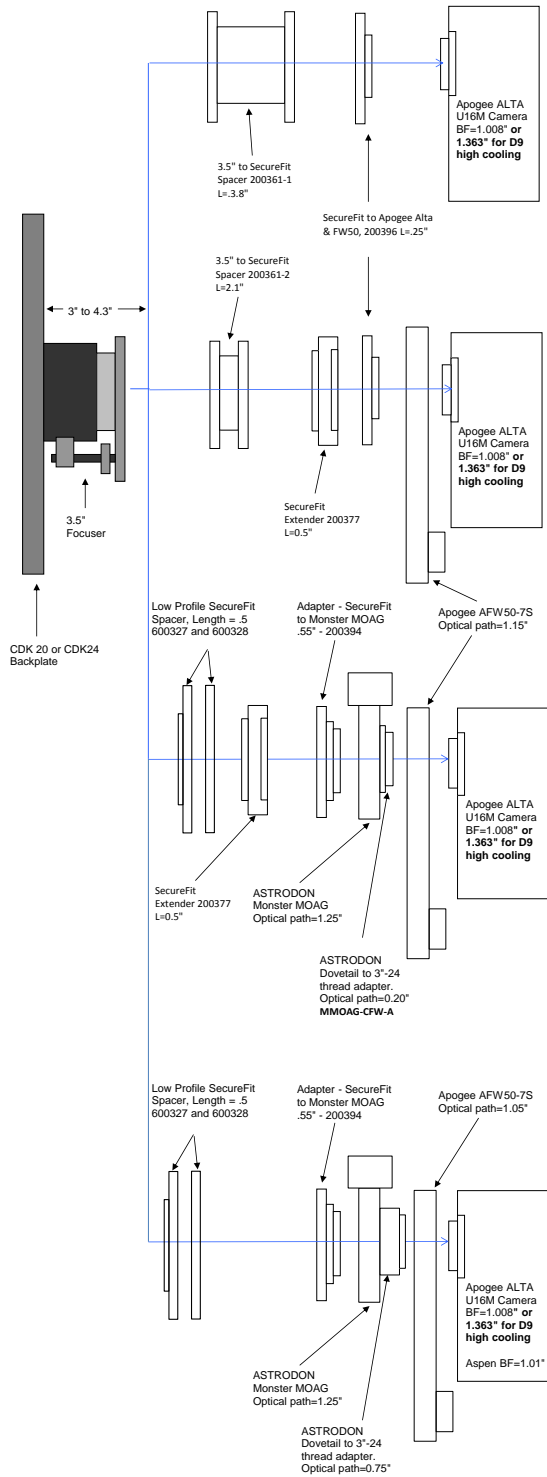
Apogee Aspen CCD & FW50	10.24	remaining BF
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.53	6.71
SecureFit, 3.8" - 200361-1	3.8	2.91
SecureFit CCD Extender - 200377	0.5	2.41
SecureFit to 3"-24UNS - 200395-3*	0.25	2.16
Apogee AFW50-75	1.15	1.01
Apogee Aspen CCD back focus	1.01	0

*200396 adapter can also be used to mount to AWF50 filter wheels

Apogee ASPEN CCD, MonsterMOAG, FW50	10.24	remaining BF
3.5" Focuser (racked in)	3	7.24
Focus position (0 to 1.3")	0.48	6.76
SecureFit Spacer - 2.1" - 200361-2	2.1	4.66
SecureFit CCD Extender - 200377	0.5	4.16
Adapter SecureFit to Monster MOAG - 200394	0.55	3.61
Monster MOAG - MMOAG	1.25	2.36
AstroDon Adapter - MMOAG-CFW-A	0.2	2.16
Apogee AFW50-75	1.15	1.01
Apogee Aspen CCD back focus	1.01	0



CDK20 and 24 - OPTICAL TRAIN: for Apogee Alta, FW50 and MMOAG



ALTA, CCD	8.81 remaining BF
3.5" Focuser (racked in)	3 5.81
Focus position (0 to 1.3")	0.752 5.058
3.5" to SecureFit, 3.8" - 200361-1	3.8 1.258
SecureFit to Apogee Alta & FW50 - 200396	0.25 1.008
Apogee Alta U16M CCD back focus	1.008 0

ALTA D9 High Cooling	8.81 remaining BF
3.5" Focuser (racked in)	3 5.81
Focus position (0 to 1.3")	0.397 5.413
3.5" to SecureFit, 3.8" - 200361-1	3.8 1.613
SecureFit to Apogee Alta & FW50 - 200396	0.25 1.363
Apogee Alta U16M High Cooling CCD back focus	1.363 0

ALTA, FW50	8.81 remaining BF
3.5" Focuser (racked in)	3 5.81
Focus position (0 to 1.3")	0.802 5.008
3.5" to SecureFit, 2.1" - 200361-2	2.1 2.908
SecureFit CCD Extender - 200377	0.5 2.408
SecureFit to Apogee Alta & FW50 - 200396	0.25 2.158
Apogee AFW50-7S	1.15 1.008
Apogee Alta U16M CCD back focus	1.008 0

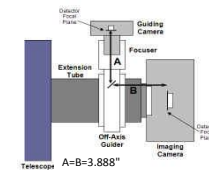
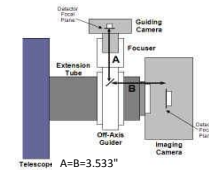
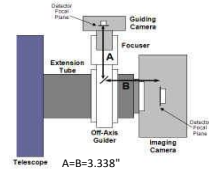
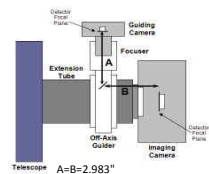
MonsterMOAG, FW50, ALTA D9 High Cooling	8.81 remaining BF
3.5" Focuser (racked in)	3 5.81
Focus position (0 to 1.3")	0.447 5.363
3.5" to SecureFit, 2.1" - 200361-2	2.1 3.263
SecureFit CCD Extender - 200377	0.5 2.763
SecureFit to Apogee Alta & FW50 - 200396	0.25 2.513
Apogee AFW50-7S	1.15 1.363
Apogee Alta U16M High Cooling CCD back focus	1.363 0

ALTA, MonsterMOAG, FW50	8.81 remaining BF
3.5" Focuser (racked in)	3 5.81
Focus position (0 to 1.3")	0.652 5.158
Low Profile SecureFit Spacer - 600327 and 600328	0.5 4.658
SecureFit CCD Extender - 200377	0.5 4.158
Adapter SecureFit to Monster MOAG - 200394	0.55 3.608
Monster MOAG - MMOAG	1.25 2.358
AstroDon Adapter - MMOAG-CFW-A	0.2 2.158
Apogee AFW50-7S	1.15 1.008
Apogee Alta U16M CCD back focus	1.008 0

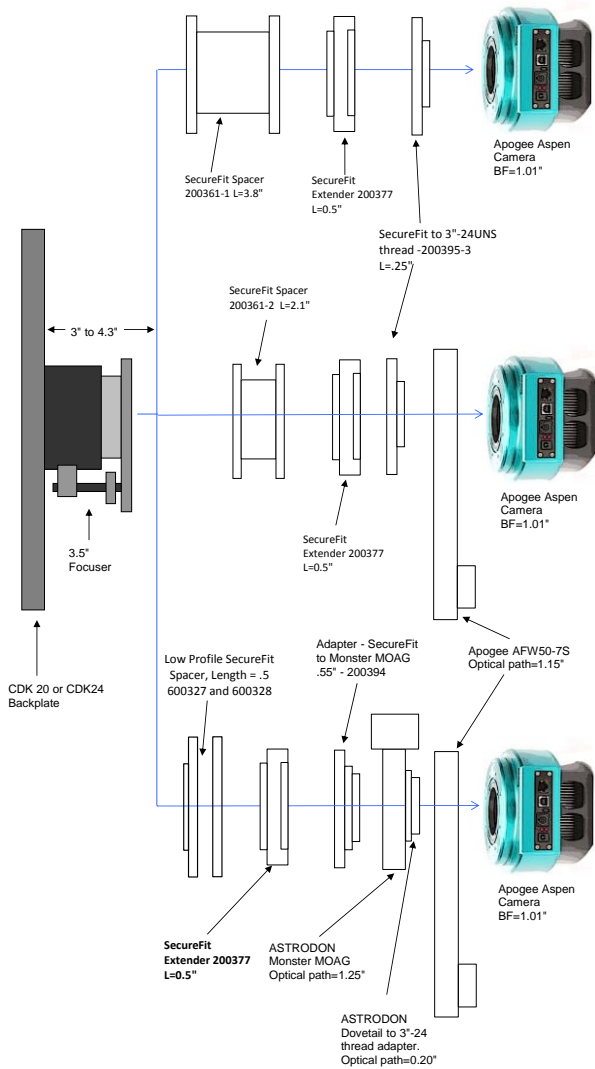
MonsterMOAG, FW50, ALTA D9 High Cooling	8.81 remaining BF
3.5" Focuser (racked in)	3 5.81
Focus position (0 to 1.3")	0.297 5.513
Low Profile SecureFit Spacer - 600327 and 600328	0.5 5.013
SecureFit CCD Extender - 200377	0.5 4.513
Adapter SecureFit to Monster MOAG - 200394	0.55 3.963
Monster MOAG - MMOAG	1.25 2.713
AstroDon Adapter - MMOAG-CFW-A	0.2 2.513
Apogee AFW50-7S	1.15 1.363
Apogee Alta U16M High Cooling CCD back focus	1.363 0

ALTA, MonsterMOAG, FW50	8.81 remaining BF
3.5" Focuser (racked in)	3 5.81
Focus position (0 to 1.3")	0.602 5.208
Low Profile SecureFit Spacer - 600327, 600328	0.5 4.708
Adapter SecureFit to Monster MOAG - 200394	0.55 4.158
Monster MOAG - MMOAG	1.25 2.908
Adapter, Astrodon dovetail to 3"-24 MMOAG-3-L	0.75 2.158
Apogee AFW50-7S	1.15 1.008
Apogee Alta U16M CCD back focus	1.008 0

MonsterMOAG, FW50, ALTA D9 High Cooling	8.81 remaining BF
3.5" Focuser (racked in)	3 5.81
Focus position (0 to 1.3")	0.247 5.563
Low Profile SecureFit Spacer - 600327, 600328	0.5 5.063
Adapter SecureFit to Monster MOAG - 200394	0.55 4.513
Monster MOAG - MMOAG	1.25 3.263
Adapter, Astrodon dovetail to 3"-24 MMOAG-3-L	0.75 2.513
Apogee AFW50-7S	1.15 1.363
Apogee Alta U16M High Cooling CCD back focus	1.363 0



CDK20/24 - OPTICAL TRAIN: for Aspen, FW50 and MMOAG

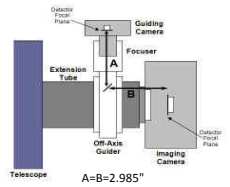


Apogee Aspen CCD	8.81	remaining BF
3.5" Focuser (racked in)	3	5.81
Focus position (0 to 1.3")	0.25	5.56
SecureFit, 3.8" - 200361-1	3.8	1.76
SecureFit Extender - 200377	0.5	1.26
SecureFit to 3"-24UNS - 200395-3	0.25	1.01
Apogee Aspen CCD back focus	1.01	0

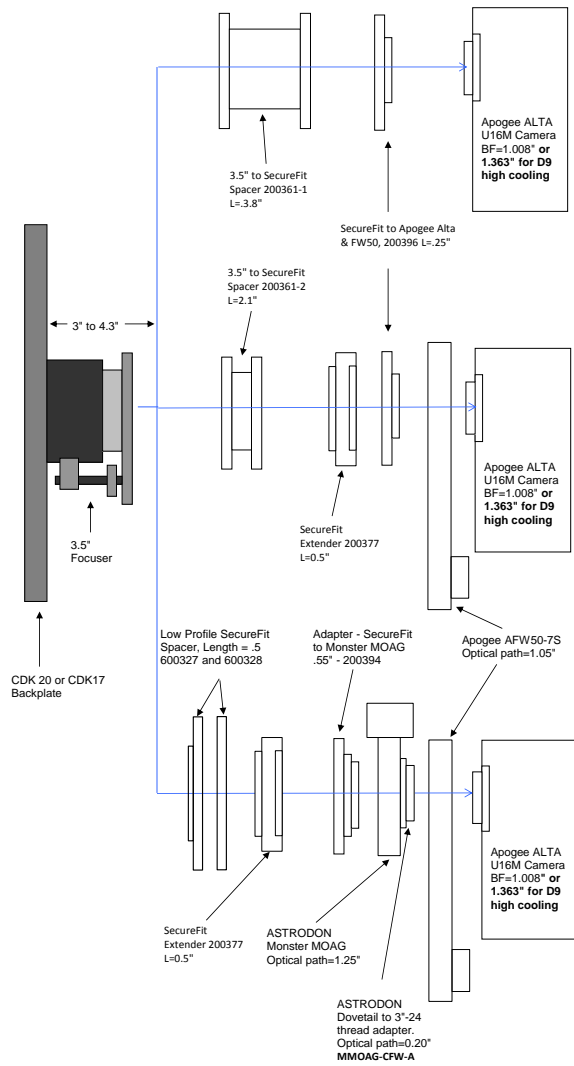
Apogee Aspen CCD & FW50	8.81	remaining BF
3.5" Focuser (racked in)	3	5.81
Focus position (0 to 1.3")	0.8	5.01
SecureFit, 2.1" - 200361-2	2.1	2.91
SecureFit CCD Extender - 200377	0.5	2.41
SecureFit to 3"-24UNS - 200395-3*	0.25	2.16
Apogee AFW50-75	1.15	1.01
Apogee Aspen CCD back focus	1.01	0

*200396 adapter can also be used to mount to AWF50 filter wheels

Apogee ASPEN CCD, MonsterMOAG, FW50	8.81	remaining BF
3.5" Focuser (racked in)	3	5.81
Focus position (0 to 1.3")	0.65	5.16
Low Profile SecureFit Spacer - 600327 and 600328	0.5	4.66
SecureFit CCD Extender - 200377	0.5	4.16
Adapter SecureFit to Monster MOAG - 200394	0.55	3.61
Monster MOAG - MMOAG	1.25	2.36
AstroDon Adapter - MMOAG-CFW-A	0.2	2.16
Apogee AFW50-75	1.15	1.01
Apogee Aspen CCD back focus	1.01	0



CDK 20, and 24 - OPTICAL TRAIN: for Apogee Alta, FW50 and MMOAG



MonsterMOAG, ALTA	8.81 remaining BF
Rotating Focuser (racked in)	3.5 5.31
Focus position (0 to 1.3")	0.252 5.058
3.5" to SecureFit, 3.8" - 200361-1	3.8 1.258
SecureFit to Apogee Alta & FW50 - 200396	0.25 1.008
Apogee Alta U16M CCD back focus	1.008 0

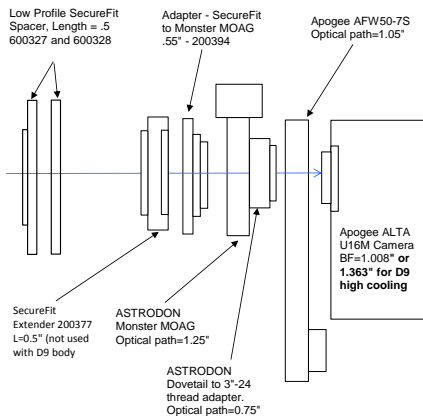
MonsterMOAG, ALTA D9 High Cooling	8.81 remaining BF
Rotating Focuser (racked in)	3.5 5.31
Focus position (0 to 1.3")	0.597 4.713
3.5" to SecureFit, 2.1" - 200361-2	2.1 2.613
SecureFit CCD Extender - 200377	0.5 2.113
SecureFit CCD Extender - 200377	0.5 1.613
SecureFit to Apogee Alta & FW50 - 200396	0.25 1.363
Apogee Alta U16M High Cooling CCD back focus	1.363 0

MonsterMOAG, FW50, ALTA	8.81 remaining BF
3.5" Focuser (racked in)	3.5 5.31
Focus position (0 to 1.3")	0.402 4.908
3.5" to SecureFit, 2.1" - 200361-2	2.1 2.808
SecureFit CCD Extender - 200377	0.5 2.308
SecureFit to Apogee Alta & FW50 - 200396	0.25 2.058
Apogee AFW50-7S	1.05 1.008
Apogee Alta U16M CCD back focus	1.008 0

MonsterMOAG, FW50, ALTA D9 High Cooling	8.81 remaining BF
3.5" Focuser (racked in)	3.5 5.31
Focus position (0 to 1.3")	0.547 4.763
3.5" to SecureFit, 2.1" - 200361-2	2.1 2.663
SecureFit CCD Extender - 200377	0 2.663
SecureFit to Apogee Alta & FW50 - 200396	0.25 2.413
Apogee AFW50-7S	1.05 1.363
Apogee Alta U16M High Cooling CCD back focus	1.363 0

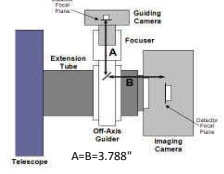
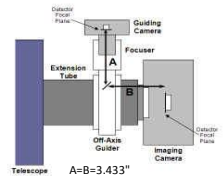
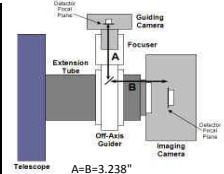
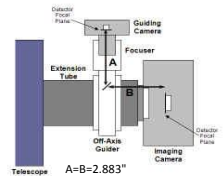
MonsterMOAG, FW50, ALTA	8.81 remaining BF
3.5" Focuser (racked in)	3.5 5.31
Focus position (0 to 1.3")	0.252 5.058
Low Profile SecureFit Spacer - 600327 and 600328	0.5 4.558
SecureFit CCD Extender - 200377	0.5 4.058
Adapter SecureFit to Monster MOAG - 200394	0.55 3.508
Monster MOAG - MMOAG	1.25 2.258
AstroDon Adapter - MMOAG-CF-W-A	0.2 2.058
Apogee AFW50-7S	1.05 1.008
Apogee Alta U16M CCD back focus	1.008 0

MonsterMOAG, FW50, ALTA D9 High Cooling	8.81 remaining BF
3.5" Focuser (racked in)	3.5 5.31
Focus position (0 to 1.3")	0.397 4.913
Low Profile SecureFit Spacer - 600327 and 600328	0.5 4.413
SecureFit CCD Extender - 200377	0 4.413
Adapter SecureFit to Monster MOAG - 200394	0.55 3.863
Monster MOAG - MMOAG	1.25 2.613
AstroDon dovetail to 3"-24 thread adapter, Optical path=0.20" MMOAG-CF-W-A	0.2 2.413
Apogee AFW50-7S	1.05 1.363
Apogee Alta U16M High Cooling CCD back focus	1.363 0

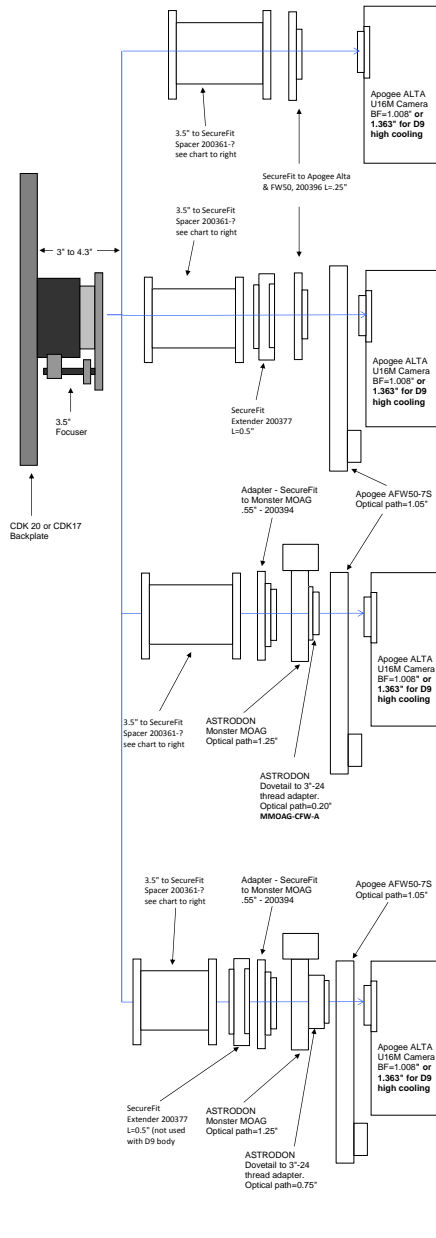


MonsterMOAG, FW50, ALTA	8.81 remaining BF
3.5" Focuser (racked in)	3.5 5.31
Focus position (0 to 1.3")	0.202 5.108
Low Profile SecureFit Spacer - 200383	0.5 4.608
SecureFit CCD Extender - 200377	0.5 4.108
Adapter SecureFit to Monster MOAG - 200394	0.55 3.558
Monster MOAG - MMOAG	1.25 2.308
Adapter, Astrodon dovetail to 3"-24 MMOAG-3-L	0.75 1.558
Apogee AFW50-7S	1.05 0.508
Apogee Alta U16M CCD back focus	1.008 -0.5

MonsterMOAG, FW50, ALTA D9 High Cooling	8.81 remaining BF
3.5" Focuser (racked in)	3.5 5.31
Focus position (0 to 1.3")	0.347 4.963
Low Profile SecureFit Spacer - 600327, 600328	0.5 4.463
SecureFit CCD Extender - 200377	0 4.463
Adapter SecureFit to Monster MOAG - 200394	0.55 3.913
Monster MOAG - MMOAG	1.25 2.663
Adapter, Astrodon dovetail to 3"-24 MMOAG-3-L	0.75 1.913
Apogee AFW50-7S	1.05 0.863
Apogee Alta U16M High Cooling CCD back focus	1.363 -0.5



CDK24 - OPTICAL TRAIN: for Apogee Alta, FW50 and MMOAG



MonsterMOAG, ALTA		13.45 remaining BF
Adapter, CDK24 to 3.5" Focuser	1	12.45
3.5" Focuser (racked in)	3	9.45
Focus position (0 to 1.3")	0.192	9.258
3.5" to SecureFit, 7.5" - 200361-7.5	7.5	1.758
SecureFit CCD Extender - 200377	0.5	1.258
SecureFit to Apogee Alta & FW50 - 200396	0.25	1.008
Apogee Alta U16M CCD back focus	1.008	0

MonsterMOAG, ALTA D9 High Cooling		13.45 remaining BF
Adapter, CDK24 to 3.5" Focuser	1	12.45
3.5" Focuser (racked in)	3	9.45
Focus position (0 to 1.3")	0.337	9.113
3.5" to SecureFit, 7.5" - 200361-7.5	7.5	1.613
SecureFit to Apogee Alta & FW50 - 200396	0.25	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

MonsterMOAG, FW50, ALTA		13.45 remaining BF
Adapter, CDK24 to 3.5" Focuser	1	12.45
3.5" Focuser (racked in)	3	9.45
Focus position (0 to 1.3")	0.392	9.058
3.5" to SecureFit, 6.75" - 200361-6.75	6.75	2.308
SecureFit to Apogee Alta & FW50 - 200396	0	2.308
SecureFit to Apogee Alta & FW50 - 200396	0.25	2.058
Apogee AFW50-7S	1.05	1.008
Apogee Alta U16M CCD back focus	1.008	0

MonsterMOAG, FW50, ALTA D9 High Cooling		13.45 remaining BF
Adapter, CDK24 to 3.5" Focuser	1	12.45
3.5" Focuser (racked in)	3	9.45
Focus position (0 to 1.3")	0.287	9.163
3.5" to SecureFit, 6" - 200361-6.0	6	3.163
SecureFit CCD Extender - 200377	0.5	2.663
SecureFit to Apogee Alta & FW50 - 200396	0.25	2.413
Apogee AFW50-7S	1.05	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

MonsterMOAG, FW50, ALTA		13.45 remaining BF
Adapter, CDK24 to 3.5" Focuser	1	12.45
3.5" Focuser (racked in)	3	9.45
Focus position (0 to 1.3")	0.142	9.308
3.5" to SecureFit, 5.25" - 200361-5.25	5.25	4.058
Adapter SecureFit to Monster MOAG - 200394	0.55	3.508
Monster MOAG - MMOAG	1.25	2.258
AstroDon Adapter - MMOAG-CFW-A	0.2	2.058
Apogee AFW50-7S	1.05	1.008
Apogee Alta U16M CCD back focus	1.008	0

MonsterMOAG, FW50, ALTA D9 High Cooling		13.45 remaining BF
Adapter, CDK24 to 3.5" Focuser	1	12.45
3.5" Focuser (racked in)	3	9.45
Focus position (0 to 1.3")	0.537	8.913
3.5" to SecureFit, 4.5" - 200361-4.5	4.5	4.413
Adapter SecureFit to Monster MOAG - 200394	0.55	3.863
Monster MOAG - MMOAG	1.25	2.613
AstroDon Adapter - MMOAG-CFW-A	0.2	2.413
Apogee AFW50-7S	1.05	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

MonsterMOAG, FW50, ALTA		13.45 remaining BF
Adapter, CDK24 to 3.5" Focuser	1	12.45
3.5" Focuser (racked in)	3	9.45
Focus position (0 to 1.3")	0.342	9.108
3.5" to SecureFit, 4.5" - 200361-4.5	4.5	4.608
SecureFit CCD Extender - 200377	0	4.608
Adapter SecureFit to Monster MOAG - 200394	0.55	4.058
Monster MOAG - MMOAG	1.25	2.808
Adapter, AstroDon dovetail to 3"-24 MMOAG-3-L	0.75	2.058
Apogee AFW50-7S	1.05	1.008
Apogee Alta U16M CCD back focus	1.008	0

MonsterMOAG, FW50, ALTA D9 High Cooling		13.45 remaining BF
Adapter, CDK24 to 3.5" Focuser	1	12.45
3.5" Focuser (racked in)	3	9.45
Focus position (0 to 1.3")	0.197	9.263
3.5" to SecureFit, 4.5" - 200361-3.8	3.8	5.463
SecureFit CCD Extender - 200377	0.5	4.963
Adapter SecureFit to Monster MOAG - 200394	0.55	4.413
Monster MOAG - MMOAG	1.25	3.163
Adapter, AstroDon dovetail to 3"-24 MMOAG-3-L	0.75	2.413
Apogee AFW50-7S	1.05	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

Focuser / Rotator instead of 3.5" Focuser		13.45 remaining BF
MonsterMOAG, ALTA	13.45 remaining BF	
Focuser / Rotator Fully Racked in	3.25	10.2
Focus position (0 to 1")	0.192	10.008
3.5" to SecureFit, 8.25" - 200361-8.25	8.25	1.758
SecureFit CCD Extender - 200377	0.5	1.258
SecureFit to Apogee Alta & FW50 - 200396	0.25	1.008
Apogee Alta U16M CCD back focus	1.008	0

Focuser / Rotator instead of 3.5" Focuser		13.45 remaining BF
MonsterMOAG, ALTA D9 High Cooling	13.45 remaining BF	
Focuser / Rotator Fully Racked in	3.25	10.2
Focus position (0 to 1")	0.337	9.863
3.5" to SecureFit, 8.25" - 200361-8.25	8.25	1.613
SecureFit to Apogee Alta & FW50 - 200396	0.25	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

Focuser / Rotator instead of 3.5" Focuser		13.45 remaining BF
MonsterMOAG, FW50, ALTA	13.45 remaining BF	
Focuser / Rotator Fully Racked in	3.25	10.2
Focus position (0 to 1")	0.392	9.808
3.5" to SecureFit, 7.5" - 200361-7.5	7.5	2.308
SecureFit to Apogee Alta & FW50 - 200396	0	2.308
SecureFit to Apogee Alta & FW50 - 200396	0.25	2.058
Apogee AFW50-7S	1.05	1.008
Apogee Alta U16M CCD back focus	1.008	0

Focuser / Rotator instead of 3.5" Focuser		13.45 remaining BF
MonsterMOAG, FW50, ALTA D9 High Cooling	13.45 remaining BF	
Focuser / Rotator Fully Racked in	3.25	10.2
Focus position (0 to 1")	0.287	9.913
3.5" to SecureFit, 6.75" - 200361-6.75	6.75	3.163
SecureFit CCD Extender - 200377	0.5	2.663
SecureFit to Apogee Alta & FW50 - 200396	0.25	2.413
Apogee AFW50-7S	1.05	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

Focuser / Rotator instead of 3.5" Focuser		13.45 remaining BF
MonsterMOAG, FW50, ALTA	13.45 remaining BF	
Focuser / Rotator Fully Racked in	3.25	10.2
Focus position (0 to 1")	0.392	9.808
3.5" to SecureFit, 5.25" - 200361-5.25	5.25	4.558
SecureFit CCD Extender - 200377	0.5	4.058
Adapter SecureFit to Monster MOAG - 200394	0.55	3.508
Monster MOAG - MMOAG	1.25	2.258
AstroDon Adapter - MMOAG-CFW-A	0.2	2.058
Apogee AFW50-7S	1.05	1.008
Apogee Alta U16M CCD back focus	1.008	0

Focuser / Rotator instead of 3.5" Focuser		13.45 remaining BF
MonsterMOAG, FW50, ALTA D9 High Cooling	13.45 remaining BF	
Focuser / Rotator Fully Racked in	3.25	10.2
Focus position (0 to 1")	0.537	9.663
3.5" to SecureFit, 5.25" - 200361-5.25	5.25	4.413
Adapter SecureFit to Monster MOAG - 200394	0.55	3.863
Monster MOAG - MMOAG	1.25	2.613
AstroDon Adapter - MMOAG-CFW-A	0.2	2.413
Apogee AFW50-7S	1.05	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

Focuser / Rotator instead of 3.5" Focuser		13.45 remaining BF
MonsterMOAG, FW50, ALTA	13.45 remaining BF	
Focuser / Rotator Fully Racked in	3.25	10.2
Focus position (0 to 1")	0.342	9.858
3.5" to SecureFit, 5.25" - 200361-5.25	5.25	4.608
SecureFit CCD Extender - 200377	0	4.608
Adapter SecureFit to Monster MOAG - 200394	0.55	4.058
Monster MOAG - MMOAG	1.25	2.808
Adapter, AstroDon dovetail to 3"-24 MMOAG-3-L	0.75	2.058
Apogee AFW50-7S	1.05	1.008
Apogee Alta U16M CCD back focus	1.008	0

Focuser / Rotator instead of 3.5" Focuser		13.45 remaining BF
MonsterMOAG, FW50, ALTA D9 High Cooling	13.45 remaining BF	
Focuser / Rotator Fully Racked in	3.25	10.2
Focus position (0 to 1")	0.237	9.963
3.5" to SecureFit, 4.5" - 200361-4.5	4.5	5.463
SecureFit CCD Extender - 200377	0.5	4.963
Adapter SecureFit to Monster MOAG - 200394	0.55	4.413
Monster MOAG - MMOAG	1.25	3.163
Adapter, AstroDon dovetail to 3"-24 MMOAG-3-L	0.75	2.413
Apogee AFW50-7S	1.05	1.363
Apogee Alta U16M High Cooling CCD back focus	1.363	0

