

ZTF telescope changeover work plan_V7-Base

ID	Task Name	Duration	Start	Finish	Predecessors	Jan 22,	Feb 12,	Mar 5,	Mar 26,	Apr 16,	May 7,	May 28,	Jun 18,	Jul 9,	Jul 30,	Aug 20,	Sep 10,	Oct 1,	Oct 22,
1	PTF/ZTF Changeover	137 days	Wed 3/1/17	Wed 9/13/17															
2	PTF camera & e-rack removal	2 days	Wed 3/1/17	Thu 3/2/17				0%											
3	Primary mirror removal	1 day	Fri 3/3/17	Fri 3/3/17	2			0%											
4	Dummy mirror install	0.5 days	Mon 3/6/17	Mon 3/6/17	3			0%											
5	Remove shutter & baffle	0.5 days	Mon 3/6/17	Mon 3/6/17	4			0%											
6	Doublet ass'y removal and balance	0.5 days	Tue 3/7/17	Tue 3/7/17	5			0%											
7	Remove focus hub and spiders	1.5 days	Tue 3/7/17	Wed 3/8/17	6			0%											
8	TCS Testing	2 days	Thu 3/9/17	Fri 3/10/17	7			0%											
9	Doublet optics removal from cell	1 day	Wed 3/8/17	Thu 3/9/17	6FS+1 day			0%											
10	Doublet cell clean and replate	3 wks	Thu 3/9/17	Thu 3/30/17	9			0%											
11	Grounding & lightning protection upgrade	3 wks	Thu 3/16/17	Wed 4/5/17	8FS+3 days			0%											
12	Dome power rewiring	3 days	Wed 3/15/17	Fri 3/17/17	8FS+2 days			0%											
13	Doublet cell/optics assembly	3 days	Tue 4/4/17	Fri 4/7/17	10FS+3 day				0%										
14	Enlarge access hatch in tube	3 days	Tue 3/14/17	Thu 3/16/17	8FS+1 day			0%											
15	Cut CCD cable port holes in tube	1 day	Fri 3/17/17	Fri 3/17/17	14			0%											
16	Add primary end c'wgt mounts	1 day	Mon 3/20/17	Mon 3/20/17	15			0%											
17	Remove South Finder Scope	1 day	Tue 3/21/17	Tue 3/21/17	16			0%											
18	Add elect. rack mtg features to tube	0.5 days	Wed 3/22/17	Wed 3/22/17	17			0%											
19	Add filter exchanger mount features	1 day	Wed 3/22/17	Wed 3/22/17	17			0%											
20	ZTF ICS and TCS testing	3 days	Thu 3/23/17	Mon 3/27/17	19			0%											
21	Clean, prep and paint tube inside	6 days	Fri 3/24/17	Fri 3/31/17	19FS+1 day			0%											
22	Primary re-aluminize	5 days	Mon 4/10/17	Fri 4/14/17	21FS+5 day				0%										

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23	Install instrument support assy/hexapod	3 days	Tue 4/4/17	Thu 4/6/17	21FS+1 day				0%										
24	Cable routing & mgt system install (prelim)	2 days	Fri 4/7/17	Mon 4/10/17	23				0%										
25	Install doublet & shutter	2 days	Tue 4/11/17	Wed 4/12/17	24				0%										
26	Dry air system testing (prelim)	2 days	Thu 4/13/17	Fri 4/14/17	25				0%										
27	TCS Testing	3 days	Mon 4/17/17	Wed 4/19/17	26				0%										
28	Wind screen improvements	3 days	Thu 4/20/17	Mon 4/24/17	27				0%										
29	Install Flat Field Assembly	2 days	Wed 4/26/17	Thu 4/27/17	28FS+1 day				0%										
30	Enviornmental sensor installation	3 days	Wed 4/26/17	Fri 4/28/17	28FS+1 day				0%										
31	RA Worm Bearing Adjustment	2 days	Tue 4/25/17	Wed 4/26/17	28				0%										
32	Cable and hose routing h'ware (finalize)	2 days	Mon 5/1/17	Tue 5/2/17	31FS+2 day				0%										
33	Air treatment system (final install & testing)	3 days	Wed 5/3/17	Fri 5/5/17	32				0%										
34	Install and align primary mirror	2 days	Wed 5/10/17	Thu 5/11/17	33FS+2 day				0%										
35	ZTF camera transport to summit (Baseline)	0 days	Mon 5/15/17	Mon 5/15/17	34FS+2 day				5/15										
36	Install Cryotiger lines & cabling	1 day	Wed 5/17/17	Wed 5/17/17	35FS+1 day				0%										
37	Initial installation of ZTF camera	3 days	Tue 5/16/17	Thu 5/18/17	35				0%										
38	Install e-rack & connect glycol plumbing	2 days	Wed 5/17/17	Thu 5/18/17	35FS+1 day				0%										
39	ZTF camera functional verification	2 days	Fri 5/19/17	Mon 5/22/17	38				0%										
40	ZTF Camera Alignment Testing	0 days	Mon 5/22/17	Mon 5/22/17	39				5/22										
41	ZTF Camera Alignment Testing	10 days	Tue 5/23/17	Tue 6/6/17	39				0%										
42	ZTF camera and cabling removal	2 days	Wed 6/7/17	Thu 6/8/17	41				0%										
43	Install testing c'wgts & camera surrogate	2 days	Fri 6/9/17	Mon 6/12/17	42				0%										
44	Telescope drive & TCS testing	5 days	Wed 6/14/17	Tue 6/20/17	43FS+1 day				0%										

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45	Transport Filter Exchanger to Palomar	1 day	Mon 6/12/17	Mon 6/12/17	43FS+1 day								0%						
46	Install Filter Exchanger	2 days	Tue 6/20/17	Wed 6/21/17	44FS+1 day								0%						
47	Filter exchanger testing	10 days	Thu 6/22/17	Fri 7/7/17	46								0%						
48	Baffle Installation	1 day	Wed 8/2/17	Wed 8/2/17	51										0%				
49	Trim plate delivery	0 days	Mon 7/17/17	Mon 7/17/17											7/17				
50	Crane certification	2 days	Mon 7/24/17	Tue 7/25/17											0%				
51	ZTF trim plate install & c'wgt adjust	1 day	Tue 8/1/17	Tue 8/1/17											0%				
52	ZTF camera reinstall	3 days	Fri 7/28/17	Tue 8/1/17	51SF+1 day										0%				
53	ZTF First Light	0 days	Tue 8/1/17	Tue 8/1/17	52										8/1				
54	Camera, filter exchanger engineering check-out (incl. DIQ verification, scattered light eval.)	5 days	Wed 8/2/17	Tue 8/8/17	53										0%				
55	Full robotic operations check-out (open/close, weather interrupts, fault recovery, queue I/F, safety)	10 days	Wed 8/9/17	Tue 8/22/17	54										0%				
56	Operational efficiency optimization	10 days	Wed 8/16/17	Tue 8/29/17	55FS-5 days										0%				
57	Engineering contingency	10 days	Wed 8/30/17	Wed 9/13/17	56										0%				
58	Begin ZTF Science Verification	0 days	Wed 9/13/17	Wed 9/13/17	57										9/13				