

ZTF telescope changeover work plan\_V7

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	<b>PTF/ZTF Changeover</b>	<b>147 days</b>	<b>Wed 3/1/17</b>	<b>Wed 9/27/17</b>																<b>0%</b>
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%												

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22	Primary re-aluminize	5 days	Mon 4/10/17	Fri 4/14/17	21FS+5 day				0%											
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	2 days	Mon 4/17/17	Tue 4/18/17	26				0%											
28	Install and align primary mirror	2 days	Thu 4/20/17	Fri 4/21/17	27FS+1 day				0%											
29	ZTF camera transport to summit	0 days	Mon 4/24/17	Mon 4/24/17	28FS+1 day				4/24											
30	Install Cryotiger lines & cabling	1 day	Wed 4/26/17	Wed 4/26/17	29FS+1 day				0%											
31	Initial installation of ZTF camera	3 days	Tue 4/25/17	Thu 4/27/17	29				0%											
32	Install e-rack & connect glycol plumbing	2 days	Wed 4/26/17	Thu 4/27/17	29FS+1 day				0%											
33	ZTF camera functional verification	2 days	Fri 4/28/17	Mon 5/1/17	32				0%											
34	ZTF Camera Alignment Testing	0 days	Mon 5/1/17	Mon 5/1/17	33				5/1											
35	ZTF Camera Alignment Testing	10 days	Tue 5/2/17	Mon 5/15/17	33				0%											
36	ZTF camera and cabling removal	2 days	Tue 5/16/17	Wed 5/17/17	35				0%											
37	Install testing c'wgts & camera surrogate	2 days	Thu 5/18/17	Fri 5/19/17	36				0%											
38	Telescope drive & TCS testing	5 days	Tue 5/23/17	Tue 5/30/17	37FS+1 day				0%											
39	Filter exchanger testing	10 days	Wed 5/31/17	Tue 6/13/17	38				0%											
40	Wind screen improvements	3 days	Wed 6/14/17	Fri 6/16/17	39				0%											
41	Enviornmental sensor installation	2 days	Thu 6/15/17	Fri 6/16/17	39FS+1 day				0%											
42	RA Worm Bearing Adjustment	2 days	Mon 6/19/17	Tue 6/20/17	40				0%											

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43	Cable and hose routing (finalize)	2 days	Fri 6/23/17	Mon 6/26/17	42FS+2 day								0%							
44	Air treatment system (final install & testing)	3 days	Tue 6/27/17	Thu 6/29/17	43								0%							
45	Trim plate delivery	0 days	Mon 7/17/17	Mon 7/17/17										7/17						
46	ZTF trim plate install & c'wgt adjust	1 day	Tue 8/1/17	Tue 8/1/17										0%						
47	ZTF camera reinstall	3 days	Fri 7/28/17	Tue 8/1/17	46SF+1 day										0%					
48	<b>ZTF First Light</b>	<b>0 days</b>	<b>Tue 8/1/17</b>	<b>Tue 8/1/17</b>	<b>47</b>										8/1					
49	Camera, filter exchanger engineering check-out incl. DIQ verification, scattered light eval.)	5 days	Wed 8/2/17	Tue 8/8/17	48										0%					
50	Full robotic operations check-out (open/close, weather interrupts, fault recovery, queue I/F, safety)	15 days	Wed 8/9/17	Tue 8/29/17	49											0%				
51	Operational efficiency optimization	10 days	Wed 8/23/17	Wed 9/6/17	50FS-5 days												0%			
52	Engineering contingency	15 days	Thu 9/7/17	Wed 9/27/17	51													0%		
53	<b>Begin ZTF Science Verification</b>	<b>0 days</b>	<b>Wed 9/27/17</b>	<b>Wed 9/27/17</b>	<b>52</b>														9/27	