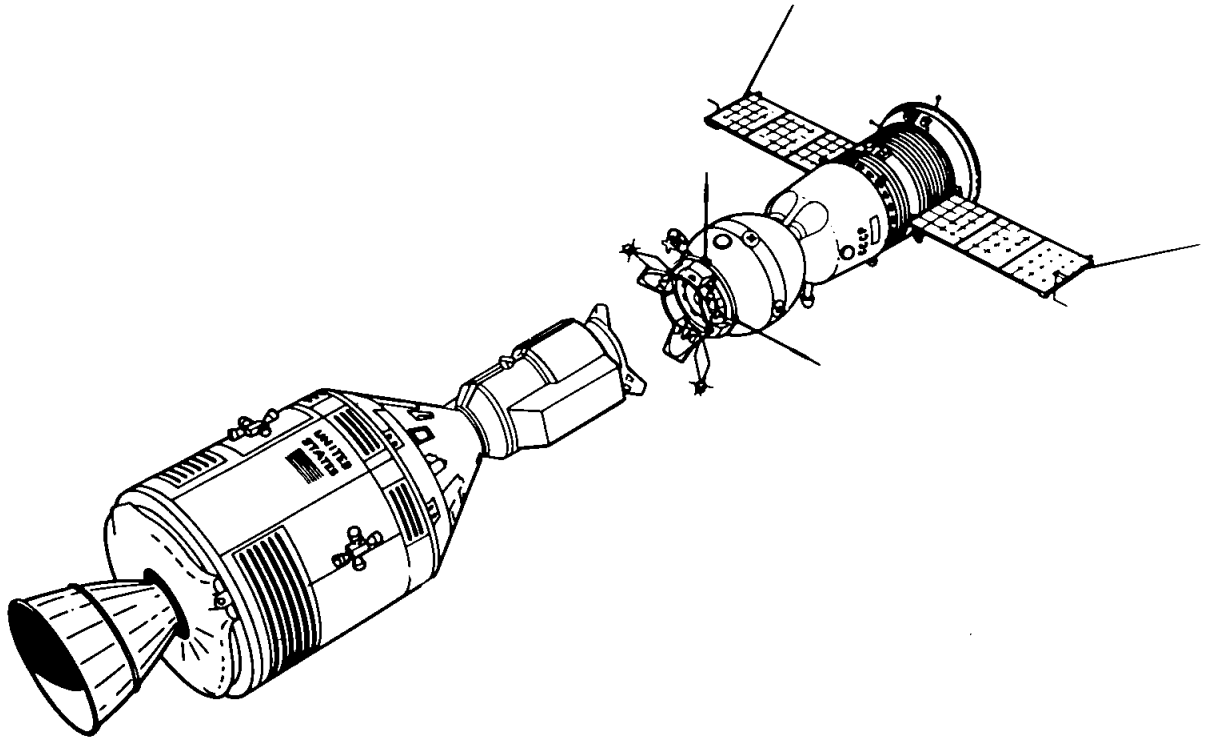


APOLO SOYUZ TEST PROJECT



JOINT CREW ACTIVITIES PLAN

USA - USSR

JOINT CREW ACTIVITIES PLAN

REVISION 7 6/14/75

REVISION 8 (Partial) 7/3/75 (P&I)

REVISION 9 (Partial) 7/8/75 (P&I)

PAGE	DATE	PAGE	DATE
*1	7/3/75 (P&I)	4.2-17	6/14/75
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1b	6/14/75	4.2-19	6/14/75
1c	6/14/75	*4.2-20	7/3/75 (P&I)
2	6/14/75	4.2-21	6/14/75
2a	6/14/75	*4.2-22	7/3/75 (P&I)
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1-1	6/14/75	*4.2-24	7/3/75 (P&I)
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3-1	6/14/75	*4.2-27	7/3/75 (P&I)
3.1-1	6/14/75	*4.2-28	7/3/75 (P&I)
3.1-2	6/14/75	4.2-29	6/14/75
3.2-1	6/14/75	*4.2-30	7/3/75 (P&I)
3.2-2	6/14/75	4.2-31	6/14/75
3.2-3	6/14/75	*4.2-32	7/3/75 (P&I)
3.2-4	6/14/75	*4.2-33	7/3/75 (P&I)
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3.2-6	6/14/75	4.2-35	6/14/75
3.2-7	6/14/75	4.2-36	6/14/75
3.2-8	6/14/75	*4.2-37	7/3/75 (P&I)
3.2-9	6/14/75	4.2-38	6/14/75
3.2-10	6/14/75	4.2-39	6/14/75
3.2-11	6/14/75	*4.2-40	7/3/75 (P&I)
3.3-1	6/14/75	4.2-41	6/14/75
3.3-2	6/14/75	*4.2-42	6/14/75 7/8/75 (P&I)
4-1	6/14/75	4.2-43	6/14/75
4.1-1	6/14/75	4.2-44	6/14/75
4.1-2	6/14/75	4.2-45	6/14/75
4.1-3	6/14/75	4.2-46	6/14/75
4.1-4	6/14/75	4.2-47	6/14/75
4.2-1	6/14/75	4.2-48	6/14/75
4.2-2	6/14/75	4.2-49	6/14/75
4.2-3	6/14/75	*4.2-50	7/3/75 (P&I)
4.2-4	6/14/75	4.2-51	6/14/75
4.2-5	6/14/75	4.2-52	6/14/75
*4.2-6	7/3/75 (P&I)	4.2-53	6/14/75
4.2-7	6/14/75	*4.2-54	6/14/75 7/8/75 (P&I)
*4.2-8	7/3/75 (P&I)	4.2-55	6/14/75
*4.2-9	7/3/75 (P&I)	4.2-56	6/14/75
*4.2-10	7/3/75 (P&I)	4.2-57	6/14/75
*4.2-11	7/3/75 (P&I)	4.2-58	6/14/75
4.2-12	6/14/75	4.3-1	6/14/75
4.2-13	6/14/75	5-1	6/14/75
*4.2-14	7/3/75 (P&I)	5-2	6/14/75
4.2-15	6/14/75	5-3	6/14/75
*4.2-16	7/3/75 (P&I)	5-4	6/14/75

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5-7	6/14/75
5-8	6/14/75
5-9	6/14/75
5-10	6/14/75
6.0-1	6/14/75
6.0-2	6/14/75
6.1	6/14/75
6.2	6/14/75
6.3	6/14/75
6.4	6/14/75
6.4-1	6/14/75
6.4-2	6/14/75
6.4-3	6/14/75
6.5	6/14/75
6.5-1	6/14/75
6.5-2	6/14/75
6.5-3	6/14/75
*6.6	7/3/75
*6.6A	7/3/75
6.6-1	6/14/75
6.6-2	6/14/75
6.6-3	6/14/75
*6.6-4	7/3/75
6.7	6/14/75
6.7-1	6/14/75
6.7-2	6/14/75
6.7-3	6/14/75
6.7-4	6/14/75
6.8	6/14/75
6.9	6/14/75
6.10	6/14/75
6.11	6/14/75
6.12	6/14/75
6.12-1	6/14/75
6.12-2	6/14/75
6.13	6/14/75
6.14	6/14/75
6.14-1	6/14/75
7-1	6/14/75
7-2	6/14/75
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7-4	6/14/75
7-5	6/14/75
7-6	6/14/75
A	6/14/75
A-1	6/14/75
3RD LAUNCH OPPORTUNITY	
A-2	6/14/75
4.2-1	6/14/75
4.2-2	6/14/75
4.2-3	6/14/75
4.2-4	6/14/75
4.2-5	6/14/75
*4.2-6	7/3/75 (P&I)

PAGE	DATE
4.2-7	6/14/75
4.2-8	6/14/75
*4.2-9	7/3/75 (P&I)
*4.2-10	7/3/75 (P&I)
*4.2-11	7/3/75 (P&I)
*4.2-12	7/3/75 (P&I)
4.2-13	6/14/75
*4.2-14	7/3/75 (P&I)
4.2-15	6/14/75
4.2-16	6/14/75
*4.2-16A	7/3/75 (P&I)
4.2-17	6/14/75
*4.2-18	7/3/75 (P&I)
4.2-19	6/14/75
*4.2-20	7/3/75 (P&I)
4.2-21	6/14/75
*4.2-22	7/3/75 (P&I)
*4.2-23	7/3/75 (P&I)
*4.2-24	7/3/75 (P&I)
*4.2-25	7/3/75 (P&I)
*4.2-26	7/3/75 (P&I)
*4.2-27	7/3/75 (P&I)
*4.2-28	7/3/75 (P&I)
4.2-29	6/14/75
*4.2-30	7/3/75 (P&I)
4.2-31	6/14/75
*4.2-32	7/3/75 (P&I)
*4.2-33	7/3/75 (P&I)
4.2-34	6/14/75
4.2-35	6/14/75
4.2-36	6/14/75
4.2-37	6/14/75
4.2-38	6/14/75
4.2-39	6/14/75
*4.2-40	7/3/75 (P&I)
4.2-41	6/14/75
*4.2-42	6/14/75 7/3/75 (P&I)
4.2-43	6/14/75
4.2-44	6/14/75
4.2-45	6/14/75
4.2-46	6/14/75
4.2-47	6/14/75
4.2-48	6/14/75
4.2-49	6/14/75
*4.2-50	7/3/75 (P&I)
4.2-51	6/14/75
4.2-52	6/14/75
4.2-53	6/14/75
*4.2-54	6/14/75 7/3/75 (P&I)
4.2-55	6/14/75
4.2-56	6/14/75
4.2-57	6/14/75
4.2-58	6/14/75
*5-1	7/3/75 (P&I)
*5-2	7/3/75 (P&I)
5-3	6/14/75

PAGE	DATE
5-4	6/14/75
5-5	6/14/75
5-6	6/14/75
5-7	6/14/75
5-8	6/14/75
5-9	6/14/75
5-10	6/14/75
6.0-1	6/14/75
4TH LAUNCH OPPORTUNITY	
A-3	6/14/75
4.2-1	6/14/75
*4.2-2	7/3/75 (P&I)
4.2-3	6/14/75
4.2-4	6/14/75
4.2-5	6/14/75
4.2-6	6/14/75
4.2-7	6/14/75
*4.2-8	7/3/75 (P&I)
4.2-9	6/14/75
4.2-10	6/14/75
*4.2-11	7/3/75 (P&I)
*4.2-12	7/3/75 (P&I)
*4.2-13	7/3/75 (P&I)
*4.2-14	7/3/75 (P&I)
4.2-15	6/14/75
*4.2-16	7/3/75 (P&I)
4.2-17	6/14/75
*4.2-17A	7/3/75 (P&I)
4.2-17B	6/14/75
*4.2-18	7/3/75 (P&I)
4.2-19	6/14/75
*4.2-20	7/3/75 (P&I)
4.2-21	6/14/75
*4.2-22	7/3/75 (P&I)
4.2-23	6/14/75
*4.2-24	6/14/75 7/3/75 (P&I)
*4.2-25	7/3/75 (P&I)
4.2-26	6/14/75
4.2-27	6/14/75

PAGE	DATE
4.2-28	6/14/75
4.2-29	6/14/75
4.2-30	6/14/75
4.2-31	6/14/75
4.2-32	6/14/75
4.2-33	6/14/75
4.2-34	6/14/75
*5-1	7/3/75 (P&I)
*5-2	7/3/75 (P&I)
*5-3	7/3/75 (P&I)
5-4	6/14/75
6.0-1	6/14/75
*6.0-2	7/3/75
*6.0-3	7/3/75 (P&I)
5TH LAUNCH OPPORTUNITY	
A-4	6/14/75
4.2-1	6/14/75
*4.2-2	7/3/75 (P&I)
4.2-3	6/14/75
4.2-4	6/14/75
4.2-5	6/14/75
*4.2-6	7/3/75 (P&I)
4.2-7	6/14/75
*4.2-8	7/3/75 (P&I)
*4.2-9	7/3/75 (P&I)
*4.2-10	7/3/75 (P&I)
*4.2-11	7/3/75 (P&I)
*4.2-12	7/3/75 (P&I)
4.2-13	6/14/75
4.2-14	6/14/75
4.2-15	6/14/75
4.2-16	6/14/75
4.2-17	6/14/75
4.2-18	6/14/75
4.2-19	6/14/75
4.2-20	6/14/75
5-1	6/14/75
5-2	6/14/75
5-3	6/14/75
*6.0-1	7/3/75 (P&I)
6.0-2	6/14/75

CHANGE CONTROL RECORD

APOLLO/SOYUZ TEST PROJECT JOINT CREW ACTIVITIES PLAN CHECKLIST

CONTROL NO.	FDF EDITION INCORPORATED		DISAPPROVED OR OTHER DISPOSITION
	TITLE	DATE	
001	REVISION 7	6/14/75	
002	REVISION 6	4/28/75	
003	REVISION 7	6/14/75	
004	REVISION 7	6/14/75	
005			DISAPPROVED
006	REVISION 7	6/14/75	DISAPPROVED
007			
008			DISAPPROVED
009	REVISION 7	6/14/75	
010	REVISION 7	6/14/75	
011	REVISION 7	6/14/75	
012	REVISION 7	6/14/75	
013	REVISION 7	6/14/75	
014	REVISION 7	6/14/75	
015	REVISION 7	6/14/75	
016	REVISION 7	6/14/75	
017	REVISION 7	6/14/75	
018	REVISION 7	6/14/75	
019	REVISION 7	6/14/75	
020	REVISION 7	6/14/75	
021	REVISION 7	6/14/75	
022	REVISION 7	6/14/75	
023	REVISION 7	6/14/75	
024	REVISION 7	6/14/75	
025	REVISION 7	6/14/75	
026	REVISION 7	6/14/75	
027	REVISION 7	6/14/75	
028	REVISION 7	6/14/75	
029	REVISION 7	6/14/75	
030	REVISION 7	6/14/75	
031	REVISION 7	6/14/75	
032	REVISION 7	6/14/75	
033	REVISION 7	6/14/75	
034	REVISION 7	6/14/75	
035	REVISION 7	6/14/75	
036	REVISION 7	6/14/75	
037	REVISION 7	6/14/75	
038	REVISION 7	6/14/75	
039	REVISION 7	6/14/75	
040	REVISION 7	6/14/75	
041	REVISION 7	6/14/75	
042	REVISION 7	6/14/75	
043	REVISION 7	6/14/75	
044	REVISION 7	6/14/75	

CHANGE CONTROL RECORD

APOLLO/SOYUZ TEST PROJECT JOINT CREW ACTIVITIES PLAN CHECKLIST

CONTROL NO.	FDF EDITION INCORPORATED		DISAPPROVED OR OTHER DISPOSITION
	TITLE	DATE	
045	REVISION 7	6/14/75	
046	REVISION 7	6/14/75	
047	REVISION 7	6/14/75	
048	REVISION 7	6/14/75	
049	REVISION 7	6/14/75	
050	REVISION 7	6/14/75	
051	REVISION 7	6/14/75	
052	REVISION 7	6/14/75	
053	REVISION 7	6/14/75	
054	REVISION 7	6/14/75	
055	REVISION 7	6/14/75	
056	REVISION 7	6/14/75	
057	REVISION 7	6/14/75	
058	REVISION 7	6/14/75	
059	REVISION 7	6/14/75	
060	REVISION 8 (P ₁ I)	7/3/75	
061	REVISION 8 (P ₁ I)	7/3/75	
062	REVISION 8 (P ₁ I)	7/3/75	
063	REVISION 8 (P ₁ I)	7/3/75	
064	REVISION 8 (P ₁ I)	7/3/75	
065	REVISION 9 (P ₁ I)	7/8/75	
066	REVISION 9 (P ₁ I)	7/8/75	

Reissue No. 4	USA	<i>СВРипперт</i> E. PIPPERT	<i>И.Мамантов</i> I. MAMANTOV	<i>П.Франк</i> P. FRANK	<i>Г.Ланни</i> G. LUNNEY
РЕДАКЦИИ № 4	СССР	<i>В.Варшавский</i> V. VARSHAVSKIY	<i>Б.Артемов</i> B. ARTEMOV	<i>В.Тимченко</i> V. TIMCHENKO	<i>К.Бущуев</i> K. BUSHUYEV
Reissue No. 3	USA	<i>СВРипперт</i> E. PIPPERT	<i>А.Тейлор</i> A. TAYLOR	<i>П.Франк</i> P. FRANK	<i>Г.Ланни</i> G. LUNNEY
РЕДАКЦИИ № 3	СССР	<i>В.Варшавский</i> V. VARSHAVSKIY	<i>Р.Гарипова</i> R. GARIPOVA	<i>В.Тимченко</i> V. TIMCHENKO	<i>К.Бущуев</i> K. BUSHUYEV
Reissue No. 2	USA	<i>СВРипперт</i> E. PIPPERT	<i>М.Путятин</i> M. POUTIATINE	<i>Ф.Литтлтон</i> F. LITTLETON	<i>Г.Ланни</i> G. LUNNEY
РЕДАКЦИИ № 2	СССР	<i>В.Варшавский</i> V. VARSHAVSKIY	<i>Т.Симосина</i> T. SIMOSHINA	<i>А.Елизеев</i> A. YELISEYEV	<i>К.Бущуев</i> K. BUSHUYEV
REISSUE NO. 1	USA	<i>СВРипперт</i> E. PIPPERT	<i>А.Тейлор</i> A. TAYLOR	<i>П.Франк</i> P. FRANK	<i>Г.Ланни</i> G. LUNNEY
РЕДАКЦИИ № 1	СССР	<i>В.Варшавский</i> V. VARSHAVSKIY	<i>В.Ятсенко</i> V. YATSENKO	<i>В.Тимченко</i> V. TIMCHENKO	<i>К.Бущуев</i> K. BUSHUYEV
ORIGINAL	USA	<i>СВРипперт</i> E. PIPPERT	<i>И.Мамантов</i> I. MAMANTOV	<i>П.Франк</i> P. FRANK	<i>Г.Ланни</i> G. LUNNEY
ОРИГИНАЛ	СССР	<i>В.Варшавский</i> V. VARSHAVSKIY	<i>Р.Гарипова</i> R. GARIPOVA	<i>В.Тимченко</i> V. TIMCHENKO	<i>К.Бущуев</i> K. BUSHUYEV
REISSUE NO.	COUNTRY	PREPARED	TRANSLATION VERIFIED	WORKING GROUP CHAIRMAN	DIRECTOR
№ РЕДАКЦИИ	СТРАНА	ИСПОЛНИТЕЛЬ	ПЕРЕВОД СВЕРИЛ	РУКОВОДИТЕЛЬ РАБОЧЕЙ ГРУППЫ	ДИРЕКТОР

TITLE JOINT CREW ACTIVITIES PLAN ЗАГЛАВИЕ ПЛАН СОВМЕСТНОЙ ДЕЯТЕЛЬНОСТИ ЭКИПАЖЕЙ	APOLLO/SOYUZ "АПОЛЛОН-СОЮЗ" TEST PROJECT ЭКСПЕРИМЕНТАЛЬНЫЙ ПОЛЕТ	
	SCALE МАСШТАБ	DOC. NO. № ДОКУМЕНТА ASTP 40301.6
	SHEET ЛИСТ	I I OF ИЗ

.5	USA WG5		<i>W. Guy</i> W. Guy		
.5	CCCP PT5		<i>I. Lavrov</i> I. Lavrov		
.5	USA WG4		<i>E. P. Lathier for.</i> R. Dietz		
.5	CCCP PT4		<i>B. Nikitin</i> B. Nikitin		
.5	USA WG3		<i>R. White</i> R. White		
.5	CCCP PT3		<i>V. Syromyatnikov</i> V. Syromyatnikov		
.5	USA WG2		<i>H. Smith</i> H. Smith		
.5	CCCP PT2		<i>V. Legostayev</i> V. Legostayev		
.5	USA	<i>E. Pippert</i> E. Pippert	<i>N. Karakulko</i> N. Karakulko	<i>F. C. Lathier</i> M. Frank	<i>G. Lunney</i> G. Lunney
.5	CCCP	<i>V. Varshavskiy</i> V. Varshavskiy	<i>L. Sokolov</i> L. Sokolov	<i>A. Yeliseyev</i> A. Yeliseyev	<i>K. Bushuyev</i> K. Bushuyev
REISSUE NO.	COUNTRY	PREPARED	TRANSLATION VERIFIED	WORKING GROUP CHAIRMAN	DIRECTOR
РЕИЗДАНИЕ	СТРАНА	ИСПОЛНИТЕЛЬ	ПЕРЕВОД СВЕРИЛ	РУКОВОДИТЕЛЬ РАБОЧЕЙ ГРУППЫ	ДИРЕКТОР
TITLE JOINT CREW ACTIVITIES PLAN			APOLLO/SOYUZ "АПОЛЛОН-СОЮЗ"		
ЗАГЛАВИЕ ПЛАН СОВМЕСТНОЙ ДЕЯТЕЛЬНОСТИ ЭКИПАЖЕЙ			TEST PROJECT ЭКСПЕРИМЕНТАЛЬНЫЙ ПОЛЕТ		
			SCALE МАСШТАБ	DOC. NO. № ДОКУМЕНТА ASTP 40301.5 СПАС 40301.5	
			Sheet ЛИСТ	1a	OF ИЗ

.6	USA WG5			<i>W. W. Guy</i> W. Guy	
.6	CCCP PT5			<i>I. Lavrov</i> I. Lavrov	
.6	USA WG4			<i>R. Dietz</i> R. Dietz	
.6	CCCP PT4			<i>B. Nikitin</i> B. Nikitin	
.6	USA WG3			<i>R. White</i> R. White	
.6	CCCP PT3			<i>V. Syromyatnikov</i> V. Syromyatnikov	
.6	USA WG2			<i>H. Smith</i> H. Smith	
.6	CCCP PT2			<i>V. Logostayev</i> V. Logostayev	
.6	USA	<i>E. Pinnert</i> E. Pinnert	<i>A. Taylor</i> A. Taylor	<i>M. Frank</i> M. Frank	<i>G. Lunney</i> G. Lunney
.6	CCCP	<i>V. Varshavskiy</i> V. Varshavskiy	<i>R. Garipova</i> R. Garipova	<i>A. Yeliseyev</i> A. Yeliseyev	<i>K. Bushayev</i> K. Bushayev
REISSUE N	COUNTRY	PREPARED	TRANSLATION VERIFIED	WORKING GROUP CHAIRMAN	DIRECTOR
№ РЕДАКЦИИ	СТРАНА	ИСПОЛНИТЕЛЬ	ПЕРЕВОД СВЕРИЛ	РУКОВОДИТЕЛЬ РАБОЧЕЙ ГРУППЫ	ДИРЕКТОР
TITLE JOINT CREW ACTIVITIES PLAN			APOLLO/SOYUS "АПОЛЛОН-СОЮЗ"		
ЗАГЛАВИЕ ПЛАН СОВМЕСТНОЙ ДЕЯТЕЛЬНОСТИ ЭКИПАЖЕЙ			TEST PROJECT ЭКСПЕРИМЕНТАЛЬНЫЙ ПОЛЕТ		
			SCALE МАСШТАБ	DOC. NO. № ДОКУМЕНТА ASTP 40301.6 ЭПАС 40301.6	
			SHEET 1a ЛИСТ 1a	OF ИЗ	

.7	USA	<i>E. Pippert</i> E. Pippert	<i>N. Karakulko</i> N. Karakulko	<i>M. Frank</i> M. Frank	<i>G. Lunney</i> G. Lunney
.7	СССР	<i>V. Varshavskiy</i> V. Varshavskiy	<i>T. Nevskaya</i> T. Nevskaya	<i>A. Yeliseyev</i> A. Yeliseyev	<i>K. Bushuyev</i> K. Bushuyev
REISSUE NO.	COUNTRY	PREPARED	TRANSLATION VERIFIED	WORKING GROUP CHAIRMAN	DIRECTOR
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TITLE JOINT CREW ACTIVITIES PLAN ЗАГЛАВИЕ ПЛАН СОВМЕСТНОЙ ДЕЯТЕЛЬНОСТИ ЭКИПАЖЕЙ				APOLLO/SOYUZ "АПОЛЛОН-СОЮЗ" TEST PROJECT ЭКСПЕРИМЕНТАЛЬНЫЙ ПОЛЕТ	
				SCALE МАСШТАБ	DOC. NO. № ДОКУМЕНТА ASTP 40301.7 ЭПАС 40301.7
				SHEET _____ ЛИСТ _____	OF _____ ИЗ _____

REVISION LOG

REVISION NUMBER	CHANGE NO.	DESCRIPTION OF CHANGE	COUNTRY	DATE APPROVED
.1	USA-011	Complete Reissue Replace ASTP 40301 dated October 13, 1973 with ASTP 40301.1 dated February 1, 1974	USA	2-1-74
.2	USA-013	Partial Reissue Replace pages 1, 2, 1-1, 3.1-1, 3.1-2, 3.2-1 thru 3.2-6, 4.1-1 thru 4.1-4, 4.2-1 thru 4.2-52, 4.3-1, 5-1 thru 5-9 of ASTP 40301.1 dated February 1, 1974 with Pages 1, 2, 1-1, 1-2, 3.1-1 thru 3.1-2, 3.2-1 thru 3.2-11, 4.1-1 thru 4.1-4, 4.2-2 thru 4.2-62, 4.3-1, 5-1 thru 5-10 of ASTP 40301.2 dated May 3, 1974.	USA	5-3-74
.3	USSR-015	Partial Reissue Replace pages 1, 2, 4.2-1 thru 4.2-62, 5-1 thru 5-10 of ASTP 40301.2 dated May 3, 1974 with Pages 1, 2, 4.2-1 thru 4.2-58, 5-1 thru 5-10 of ASTP 40301.3 dated September 19, 1974	USSR	9-12-74
.4	USA-019	Partial Reissue Replace pages 1, 2, 4.2-1 thru 4.2-58, 5-1 thru 5-10 of ASTP 40301.3 dated September 19, 1974 with pages 1, 2, 4.2-1 thru 4.2-58, 5-1 thru 5-10, 6.0-1 thru 6.11-2 of ASTP 40301.4 dated December 19, 1974	USA	12-19-74

REVISION LOG

REVISION NUMBER	CHANGE SUMMARY NO.	DESCRIPTION OF CHANGE	COUNTRY	DATE APPROVED
.5	USSR-023	Complete Reissue Replace ASTP 40301.4 dated December 19, 1974 with ASTP 40301.5 dated March 13, 1975	USA	3-13-75
.6	USSR-023	Complete Reissue Replace ASTP 40301.5 dated March 13, 1975 with ASTP 40301.6 dated April 28, 1975	USSR	4-28-75
.7	USSR-025	Complete Reissue Replace ASTP 40301.6 dated April 28, 1975 with ASTP 40301.7 dated June 14, 1975	USSR	6-14-75

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ASTP 40301.7

SECTION 1

SECTION 1

1.0 Introduction

The purpose of this document is to define the detailed and summary sequence of activities to be carried out by the USA and USSR crews for the joint phase of the ASTP mission.

This document also contains the activity plans for the second through fifth launch opportunities that would be used in the event the first opportunity was missed.

After the baseline of this document has been jointly signed off, any changes must be jointly agreed to prior to their being incorporated into the document. An exception to this is that either country may make changes to systems related tasks that do not affect the joint mission. These changes will be provided to the other country at the next scheduled update of this document.

The Training and inflight activities of the crews will be in accordance with the agreements in this document. The onboard document used by the crews must be an exact copy of Sections 4.2, 5 and 6 for the first launch opportunity or the appropriate sections of Appendix A and Section 6 for the alternate launch opportunities.

The documents for all of the launch opportunities will be carried onboard the Soyuz spacecraft. Only the documents required for the actual launch opportunity will be carried onboard the Apollo spacecraft. The joint documents carried onboard each spacecraft will be available in an English and Russian text.

Sections 4.1 and 4.3 are provided for information only.

Detailed and summary plans incorporate only the operations for the joint phase of the mission. (Beginning approximately 30 minutes prior to NC2, and ending with the completion of the Apollo final separation maneuver.)

SECTION 2

2.0 Referenced Documents

The Joint Crew activities plan defined by this document was developed in accordance with the following documents:

Mission Requirements	- ASTP 40000
Launch Window Plan	- ASTP 40100
Trajectory Plan	- ASTP 40200
Flight Plan Guidelines	- ASTP 40300
Mission Operations Plan	- ASTP 40400
Control Centers Interaction Plan	- ASTP 40401
Contingency Plan	- ASTP 40500
Onboard Joint Operations Instructions	- ASTP 40600
Crew Transfer Operations Definition	- IED 50719

SECTION 3

3.0 Definitions

This section contains all agreements, abbreviations, acronyms, definitions, and nomenclature used in this document.

3.1 Agreements

- 3.1.1 The column labeled "MCC" or "ЦУП" (Mission Control Center) will contain the ground communications (data to be radioed to the spacecraft, etc.).
- 3.1.2 The time scale presenting Houston Local Time will be labeled "CDT" or "ЦДВ" for Central Daylight Time. Houston goes on Central Daylight Time beginning on the last Sunday of April and returns to Central Standard Time on the last Sunday of October. Central Daylight Time is 5 hours less than Greenwich Mean Time and Central Standard Time is 6 hours less than Greenwich Mean Time.
- 3.1.3 The time scale presenting elapsed time from Soyuz launch for both Apollo and Soyuz will be labeled "GET" or "ПВ" (ground elapsed time or flight time).
- 3.1.4 The time scale presenting Moscow Local Time will be labeled "MT" or "МВ". Moscow Local Time is Greenwich Mean Time plus 3 hours.
- 3.1.5 The Apollo will count revolutions with each new revolution beginning at the time the Apollo spacecraft crosses the earth fixed longitude of the US launch site. The following abbreviations will be used for indicating the Apollo revolutions:

English (REV XX)

Russian (ОВ XX)

3.1.6 The Soyuz will count orbital revolutions with each new revolution beginning at the time the Soyuz spacecraft crosses the equator (ascending node). The following abbreviations will be used for indicating the Soyuz orbital revolutions:

English (ORB XX)

Russian (БИТ XX)

3.1.7 The communications zones will be split so that the Soviet communication coverage is to the right of the column and the American communication coverage is to the left of the column.

3.1.8 The major dynamic events will be enclosed in a box with the hour and minute of the beginning of the event provided where possible.

3.1.9 Horizontal lines divide the activity blocks listed in IED 50719 and other activities as required.

3.1.10 In the cases when a task includes a number of actions, such a task should have a general title which is placed in the document at the time the task is to be begun. In this case the detailed actions are indented two spaces and asterisked and are not required to be translated into the other language. Only the general title is required to be translated.

3.2 Сокращения и определения 3.2 ABBREVIATIONS AND DEFINITIONS

USA/США	USSR/СССР	USA/США	USSR/СССР
AC	КА	Apollo Commander	Командир "Аполлона"
AC1	-	AC Electrical Bus 1	Кабель переменного тока 1
AC2	-	AC Electrical Bus 2	Кабель переменного тока 2
-	P	Acceleration direction	Разгон
ACN	-	Ascension, United Kingdom	О-в Вознесения, Великобритания
AGO	-	Santiago, Chile	Сант-Яго, Чили
AJ-Box	РКА	Apollo Junction Box	Распределительная коробка "Аполлона"
ALIGN	-	Alignment	Юстировка
AM	AM	Amplitude Modulation	Амплитудная модуляция
-	Д или ДУС	Angular Rate Sensor	Датчик угловой скорости
AOS	НЗС	Acquisition of signal	Начало зоны связи
APDS	АПСС	Androgynous peripheral docking system	Андрогинная периферийная система стыковки
-	ПРИЧАЛ	Approach	Причаливание
ASTP	ЭПАС	Apollo Soyuz Test Project	Экспериментальный полет "Аполлон-Союз"
AS-1	AC-1	Zone Forming Fungi Experiment	Эксперимент "Зонообразующие грибы"
AS-2	AC-2	Microbial Exchange Experiment	Эксперимент "Микробный обмен"
AS-3	AC-3	Furnace System Experiment	Эксперимент "Универсальная печь"
AS-4	AC-4	Artificial Solar Eclipse Experiment	Эксперимент "Искусственное солнечное затмение"
AS-5 (UVA, UV)	AC-5	Ultraviolet Absorption Experiment	Эксперимент "Ультрафиолетовое поглощение"

3.2 Сокращения и определения

3.2 ABBREVIATIONS AND DEFINITIONS

USA/США	USSR/СССР	USA/США	USSR/СССР
ATS	-	Advanced Technology Satellite (Communication Satellite)	Спутник связи
ATT	ПП	Attitude	Пространственное положение
BAT	-	Battery	Батарея
BDA	-	Bermuda, United Kingdom	Бермудские острова, Великобритания
BMAG	-	Body Mounted Attitude Gyros	Гироплатформа
BT	t	Burn time	Время работы двигателя
BRKT	-	Bracket	Кронштейн
-	T	Braking direction	Торможение
-	ПЕРЕПУСК	Bypass	Перепускной
CB or cb	АЗС	Circuit breaker	Автомат защиты сети
CCU	ФАЛ	Crew communications umbilical	Фал звуковой связи
CDT	ЦДВ	Central Daylight Time	Центральное дневное время
CEX	-	Color Exterior Film	Цветная пленка дневного света
CK	ПРОВ	Check	Проверка
-	ЗАКР	Closed	Закрыт
CM	КМ	Command module (APOLLO)	Командный модуль "Аполлона"
CM2	-	Command Module Left Hand Rendezvous Window	Левый иллюминатор сближения командного модуля
CMC	-	Command Module Computer	Компьютер командного модуля
COAS	-	Crew Optical Alignment Sight	Визир экипажа

3.2 Сокращения и определения 3.2 ABBREVIATIONS AND DEFINITIONS

USA/США	USSR/СССР	USA/США	USSR/СССР
COMM	-	Communication	Связь
COMM HEAD	-	Communications Head	Тангента /связи/
CONFIG	-	Configure	Подготовить, включить
CP	ПК	Command Module Pilot	Пилот командного модуля
CSM	KCM	Command and Service Module (APOLLO)	Командно-служебный модуль "Аполлона"
CTR	-	Center	Центр
CYI	-	Grand Canary Island, Spain	Большие Канарские острова, Испания
DAC	КФА	Data acquisition camera	Кинофотоаппаратура
DAP	-	Digital Auto Pilot	Цифровой автопилот
DB	-	Deadband	Диапазон колебаний
DEPRESS	-	Depressurize, Depressurization	Сброс давления
DET	ИТВ	Digital event timer	Индикатор текущего времени
-	БЦИ	Digital Indication Unit	Блок цифровой индикации
DIR	-	Direct	Непосредственный
-	НАПРАВЛ	Direction	Направление
DM	СМ	Docking Module (APOLLO)	Стыковочный модуль "Аполлона"
DP	ПС	Docking Module Pilot	Пилот стыковочного модуля
DSE	ЗУ	Data storage equipment (CSM)	Запоминающее устройство командно-служебного модуля
DV	СА	Descent Vehicle (SOYUZ)	Спускаемый аппарат "Союза"
EMS	-	Entry monitor system	Система контроля параметров входа в атмосферу

3.2 Сокращения и определения 3.2 ABBREVIATIONS AND DEFINITIONS

ASTP 40301.7

USA/CMA	USSR/СССР	USA/CMA	USSR/СССР
EVA	-	Extra Vehicular Activity	Обозначение органов управления системами, расположенными вне корабля
-	НАРУЖН	Exterior	Наружный
FAN	ВЕНТ	Ventilator (fan)	Вентилятор
FE	БИ	Flight engineer or onboard engineer (SOYUZ)	Бортинженер "Союза"
FM	ЧМ	Frequency Modulation	Частотная модуляция
FPS	ФУТ/СЕК	Feet per second	Футов в секунду
fps	-	frames per second	Кадров в секунду
FUNC	-	Function	Функционирование
FWD	-	Forward	Вперед
G&C	-	Guidance and Control	Система управления ориентацией и движением
GDC	-	Gyro display coupler	Блок согласования гироскопов и индикаторов
GDS	-	Goldstone, California	Голдстоун, Калифорния
GET	ПВ	Ground elapsed time (flight time)	Полетное время /время, отсчитываемое на земле/
GWM	-	Guam	Остров Гуам
-	Г	Gyro	Гироскоп
H2	H2	Hydrogen	Водород
HAW	-	Hawaii	Гавайи
-	ДЭМШ	Headset (microphone)	Микрофон шлемофона

3.2-4

3.2 Сокращения и определения 3.2 ABBREVIATIONS AND DEFINITIONS

USA/CMA	USSR/СССР	USA/CMA	USSR/СССР
HGA	-	High Gain Antenna	Направленная антенна
HR	ЧАС	Hour(s)	Час
HSK	-	Honeysuckle, Australia	Ханисакл, Австралия
HTRS	-	Heaters	Нагреватели
IED	ДВО	Interacting Equipment Document	Документ взаимодействующего оборудования
IMU	-	Inertial measurement unit	Инерциальный измерительный блок
INTEG	ГЕРМ	Integrity	Герметичность конструкции
IV	СТЫК	Interface Volume	Полость стыка
km	км	Kilometer	Километр
LF	-	Left	Левый
LiOH	-	Lithium Hydroxide	Гидроокись лития
LOS	КЗС	Loss of signal	Конец зоны связи
LOS	ЛВ	Line-of-sight	Линия визирования
MAD	-	Madrid, Spain	Мадрид, Испания
MAG	-	Film Magazine	Кассета
MCC	ЦУП	Mission Control Center	Центр Управления Полетом
MCC-H	ЦУП-Х	Mission Control Center - Houston	Центр Управления Полетом - Хьюстон
MCC-M	ЦУП-М	Mission Control Center - Moscow	Центр Управления Полетом - Москва
MICR	-	Microphone	Микрофон

3.2 Сокращения и определения 3.2 ABBREVIATIONS AND DEFINITIONS

USA/CMA	USSR/СССР	USA/CMA	USSR/СССР
MIL	-	Merrit Island Launch Area, Florida	Территория запуска на острове Меррит, Флорида; полигон
MIN	МИН	Minutes, minimum	Минута, минимум
MIN IMP	-	Minimum Impulse	Минимальный импульс
mm Hg	мм рт.ст.	Millimeter of Mercury	Миллиметр ртутного столба
MNA	-	Main Electrical Bus A	Кабель постоянного тока А
MNB	-	Main Electrical Bus B	Кабель постоянного тока В
MNVR	KOPP	Translation Maneuver	Маневр коррекции орбиты
MO	PO	Manual orientation	Ручная ориентация
MPS	м/сек	Meter(s) per second	Метр в секунду
MT	MB	Moscow Time	Московское время
N2	N2	Nitrogen	Азот
NC1	-	First phasing maneuver	Первый фазирующий маневр
NC2	-	Second phasing maneuver	Второй фазирующий маневр
NCC	-	Corrective combination maneuver	Комбинированный маневр коррекции
NFL	-	Newfoundland, Canada	Ньюфаундленд, Канада
NM	-	Nautical mile	Морская миля
-	$\alpha X, \alpha Y, \alpha Z$	Nomenclature for rotation angles around X, Y & Z axis	Обозначение углов разворота вокруг осей X, Y и Z
NPC	-	Plane Change Maneuver	Маневр изменения плоскости орбиты
NSR	-	Coelliptic maneuver	Коэллиптический маневр
NXX	-	Noun XX	Необходимое существительное № XX
O2	O2	Oxygen	Кислород

3.2 Сокращения и определения 3.2 ABBREVIATIONS AND DEFINITIONS

USA/США	USSR/СССР	USA/США	USSR/СССР
OFF	ВЫКЛ	Off	Выключить
OM	ОМ	Orbital Module (SOYUZ)	Орбитальный модуль "Союза"
ON	ВКЛ	On	Включить
-	ПОМ	Orbital Module Panel	Пульт орбитального модуля
ORB <u>XX</u>	ВИТ <u>XX</u>	Orbit number <u>XX</u>	Виток № XX
ORIENT	ОРИЕНТ	Orientation Maneuver, orientation	Ориентация
-	ДО	Orientation Engines	Двигатели ориентации
P	-	Pitch or program	Тангаж или программа
PAD	-	Voice update	Метка в документации о получении данных с Земли
PCM	-	Phase correction maneuver	Корректирующий маневр фазирования
-	РАЗРЕШ ИНЕРЦ ОРИЕНТ	Permission to Perform Inertial Orientation	Разрешение инерциальной ориентации
-	РАЗРЕШ ПРОГР РАЗВ	Permission to Perform Programmed Rotation	Разрешение программных разворотов
-	ИДТ	Pressure and Temperature Indicator	Индикатор давления и температуры
PGA	СК	Pressure garment assembly	Герметичный костюм, скафандр
P/M	КФ	Photos & Movies	Кинофотосъемки, кинофоторепортаж
PREL	-	Preliminary	Предварительно
PREP	ПОДГ	Preparation(s)	Подготовка
-	ДАВЛ	Pressure	Давление
PWR	-	Power	Электропитание

3.2 Сокращения и определения

3.2 ABBREVIATIONS AND DEFINITIONS

USA/США	USSR/СССР	USA/США	USSR/СССР
QUI	-	Quito, Ecuador	Кито, Эквадор
R	-	Roll or range	Крен или дальность
REV <u>XX</u>	ОБ <u>XX</u>	Revolution number <u>XX</u>	Оборот № XX
RHC	-	Rotation Hand Controller	Ручка управления вращением
RNDZ	СБЛИЖ	Rendezvous	Сближение
RT	-	Right	Правый
ROS	-	Rosman, North Carolina	Розман, Северная Каролина
SC	KC	Soyuz Commander	Командир "Союза"
SCS	-	Stabilization Control System	Система управления стабилизацией
SEP	-	Separation	Отделение
SP1, SP2	-	USSR tracking ship	Корабль станции слежения СССР
SJ-Box	PKC	Soyuz Junction Box	Распределительная коробка "Союза"
SPS	-	Service propulsion system	Основной двигатель "Аполлона"
SR	BC	Sunrise	Восход солнца
STBY	-	Standby	Запасной
S.V.	ВП	State vector	Вектор положения
SXT	-	Sextant	Секстант
TAN	-	Tananarive, Madagascar	Тананарива, Мадагаскар
TBD	ПО	To Be Determined	Подлежит определению
THC	-	Translation Hand Controller	Ручка управления перемещением

3.2 Сокращения и определения 3.2 ABBREVIATIONS AND DEFINITIONS

USA/США	USSR/СССР	USA/США	USSR/СССР
-	ТРЕХОСН ОРИЕНТ	Three axis orientation	Трехосная ориентация
TPI	-	Terminal phase initiation maneuver	Начальный маневр конечной фазы
TPM	-	Terminal phase midcourse maneuver	Промежуточный маневр конечной фазы
T/R	-	Transmit/Receive	Передать/принять
-	ТОНН	Tunnel	Тоннель
TV	TB	Television transmissions only to the Control Centers (TV Report)	ТВ-передача только в ЦУП-ы
TV CAMR	ТЕЛЕКАМ	TV Camera	Телекамера
TV-X	TB-X	Television in accordance with the Public Information Plan	ТВ-передача по плану информации общественности
USA	США	United States of America	Соединенные Штаты Америки
USR OR USSR	СССР	Union of Soviet Socialist Republics	Союз Советских Социалистических Республик
VAN	-	USNS Vanguard	Корабль США "Авангард"
VHF	УКВ	Very high frequency	Сверхвысокая частота /ультракороткие волны/
VOX	-	Voice Operated Transmitting	Режим связи, когда передатчик включается от голоса
VTR	-	Video Tape Recorder	Видеомагнитофон
VXX	-	Verb XX	Глагол № XX
WT	-	Weight	Вес

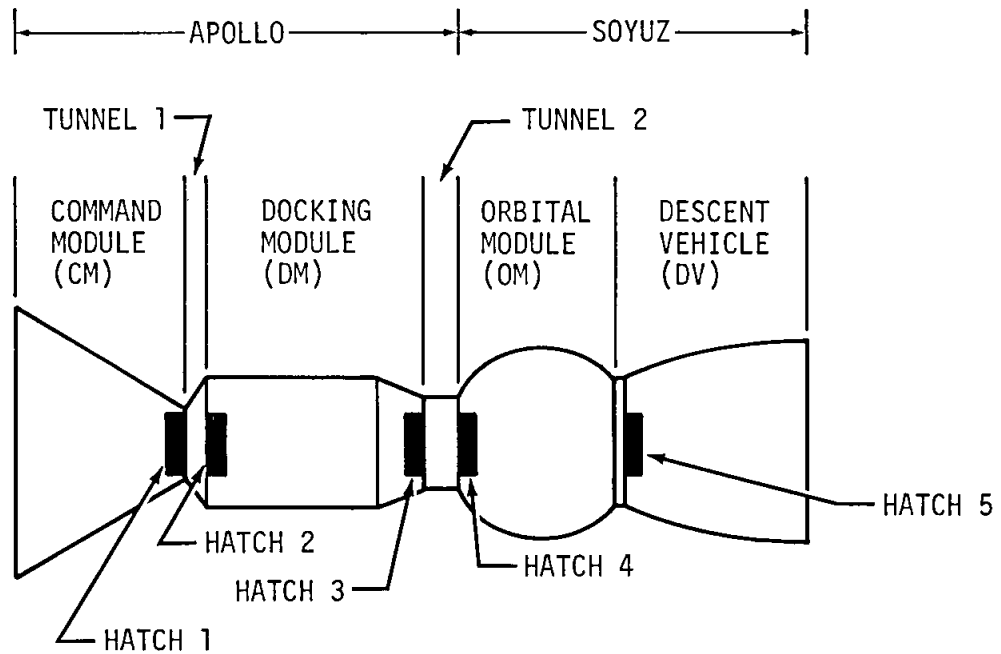
3.2 Сокращения и определения
3.2 ABBREVIATIONS AND DEFINITIONS

USA/США	USSR/СССР	USA/США	USSR/СССР
XFER	-	Transfer	Переход
Y	-	Yaw	Рыскание
ΔP	ΔP	Pressure change (difference)	Изменение давления /разность/
ΔV	ΔV	Velocity change (incremental)	Изменение скорости /приращение/
ΔVT	-	Total Change in velocity	Полное изменение скорости
&	И	And	И
*	*	Indicates statements not required to be either translated or included into the other country's document	Обозначение действий, которые не требуют перевода или включения в документ другой страны
CONTACT	КАСАНИЕ	The moment when both docking assemblies contact.	Момент соприкосновения стыковочных агрегатов кораблей
DOCKING	СТЫКОВКА	The moment when the docking sequence is completed and the interface seal is compressed.	Момент окончания работы стыковочного механизма для обжатия уплотнения стыка
INITIATE UNDOCKING (SOYUZ)	НАЧАЛО РАС- СТЫКОВКИ /СОЮЗ/	The moment when the Soyuz undocking sequence is initiated.	Момент включения стыковочного агрегата "Союза" в режим расстыковки

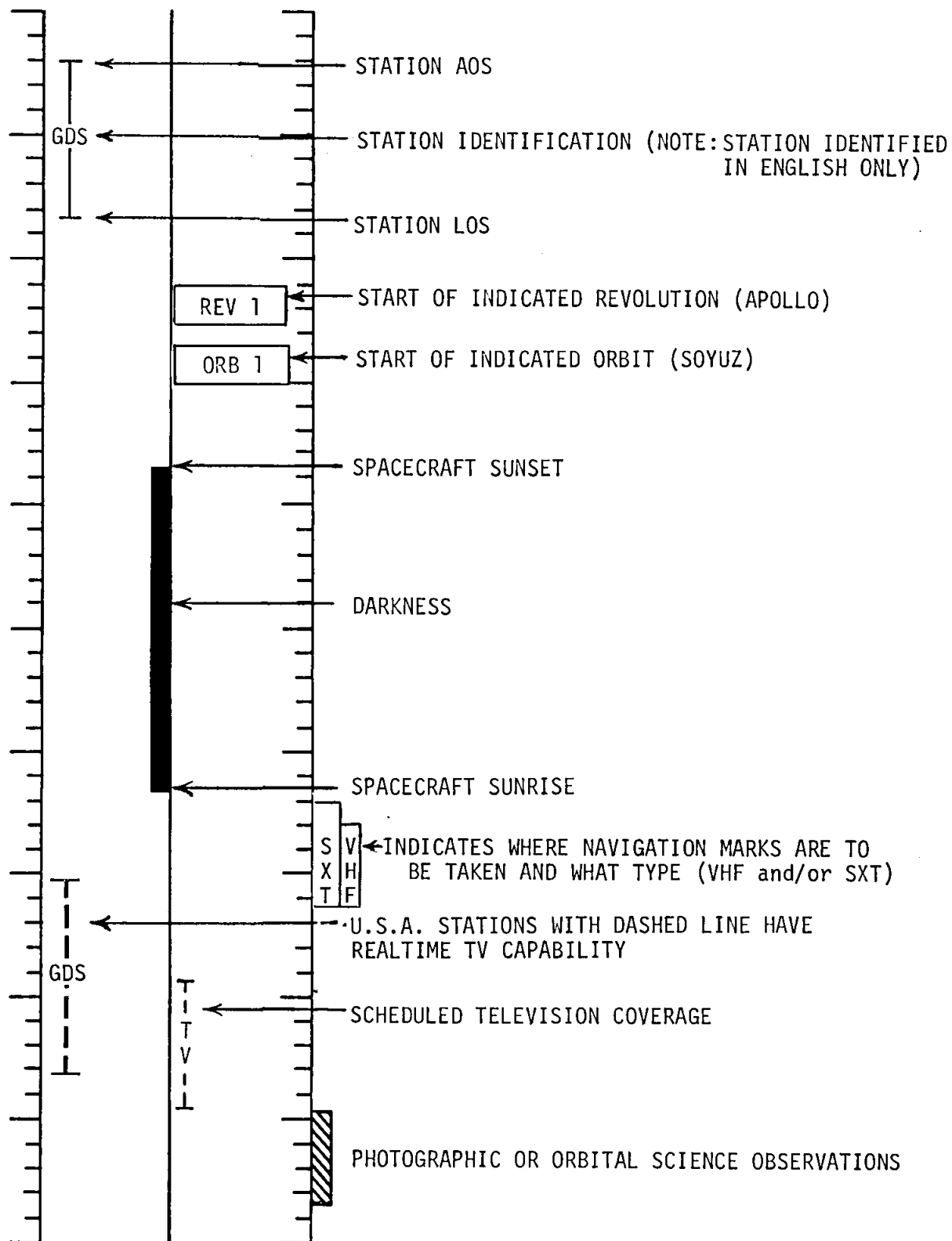
3.2 Сокращения и определения 3.2 ABBREVIATIONS AND DEFINITIONS

USA/США	USSR/СССР	USA/США	USSR/СССР
UNDocking	РАССТЫКОВКА	The moment of mechanical separation of the vehicles.	Момент механического разъединения кораблей
SEPARATION	ОТДЕЛЕНИЕ	Maneuver performed by Apollo at the end of the joint mission in order to transfer to another orbit.	Маневр, выполняемый "Аполлоном" в конце совместного участка полета с целью перехода на другую орбиту
COURSE	КУРС	The direction of the motion of the surface of the earth as viewed in the Soyuz periscope when in the orbital orientation position.	Направление движения поверхности земли в оптическом визире "Союза" в положении для орбитальной ориентации

3.3 NOMENCLATURE
3.3.1 SPACECRAFT NOMENCLATURE



3.3.2 SYMBOL NOMENCLATURE



SECTION 4

4.0 Detailed Activities

This section contains brief summaries of the spacecraft independent flight and the detailed timeline for the joint phase of the mission.

4.1 Pre Rendezvous Orbital Phase

The Soyuz is launched from the Baikonur, Kazakhstan launch complex at 1220 GMT (1520 MT) on July 15, 1975. On the fourth Soyuz orbit the first of two maneuvers, which will circularize the Soyuz orbit at 225 KM, is scheduled. This maneuver is normally zero. The Soyuz crew begins their first rest period at 11:00 GET (2000 MT) and it last for 8 hours.

Seven hours 30 minutes after Soyuz launch (1950 GMT or 1450 CDT), the Apollo will be launched from the Kennedy Space Center launch site. Approximately 1 hour 11 minutes after Apollo orbit insertion, the Apollo CSM will begin the transposition and docking procedure to extract the DM from the Launch Vehicle. The extraction of the DM will be completed by 10 hours 4 minutes GET, at which time the Apollo will perform a 1 MPS posigrade evasive maneuver to avoid recontact with the Launch Vehicle.

At the third apogee the Apollo performs a circularization maneuver to establish the Apollo rendezvous maneuver sequence. The first phasing maneuver (NC1), occurs at 13 hours 12 minutes GET and adjusts the Apollo orbital period.

A plane change maneuver (NPC) is scheduled at 13 hours 56 minutes GET to place the Apollo in plane with the Soyuz at rendezvous. This maneuver is normally zero.

The Apollo Crew begins their first rest period at 15 hours 50 minutes GET (2310 CDT) and it lasts for 8 hours.

After wake up the Apollo and Soyuz crews spend a day in orbit in which final adjustments are made to the respective spacecraft orbits for rendezvous on the next day. The Soyuz on the 17th orbit performs the second maneuver to complete the circularization of their orbit. A pre-docking DM checkout is performed at approximately 26:00 GET by the Apollo crew.

The planned voice communication modes will be tested as follows:

1. Communications from USSR Control Center via USA communications network to Soyuz (2:51 GET)
2. Communications from Communications Specialist in USA Control Center to Soyuz (2:53 GET)
3. Communications from USA Control Center via USSR communications network to Apollo (26:49 GET)
4. Communications from Communications Specialist in USSR Control Center to Apollo (26:52 GET)

If a phasing correction is required, the Apollo will perform the phase correction maneuver (PCM) scheduled at 32 hours 22 minutes. This maneuver is normally zero.

The Soyuz crew begins their second rest period at 34 hours 30 minutes GET (0150 MT) and the Apollo crew begins their second rest period at 37 hours GET (2020 CDT). Both crew rest periods will last 8 hours.

After wakeup the Apollo crew eats and begins preparation for the second phasing maneuver (NC2) at this point the joint phase of the mission begins.

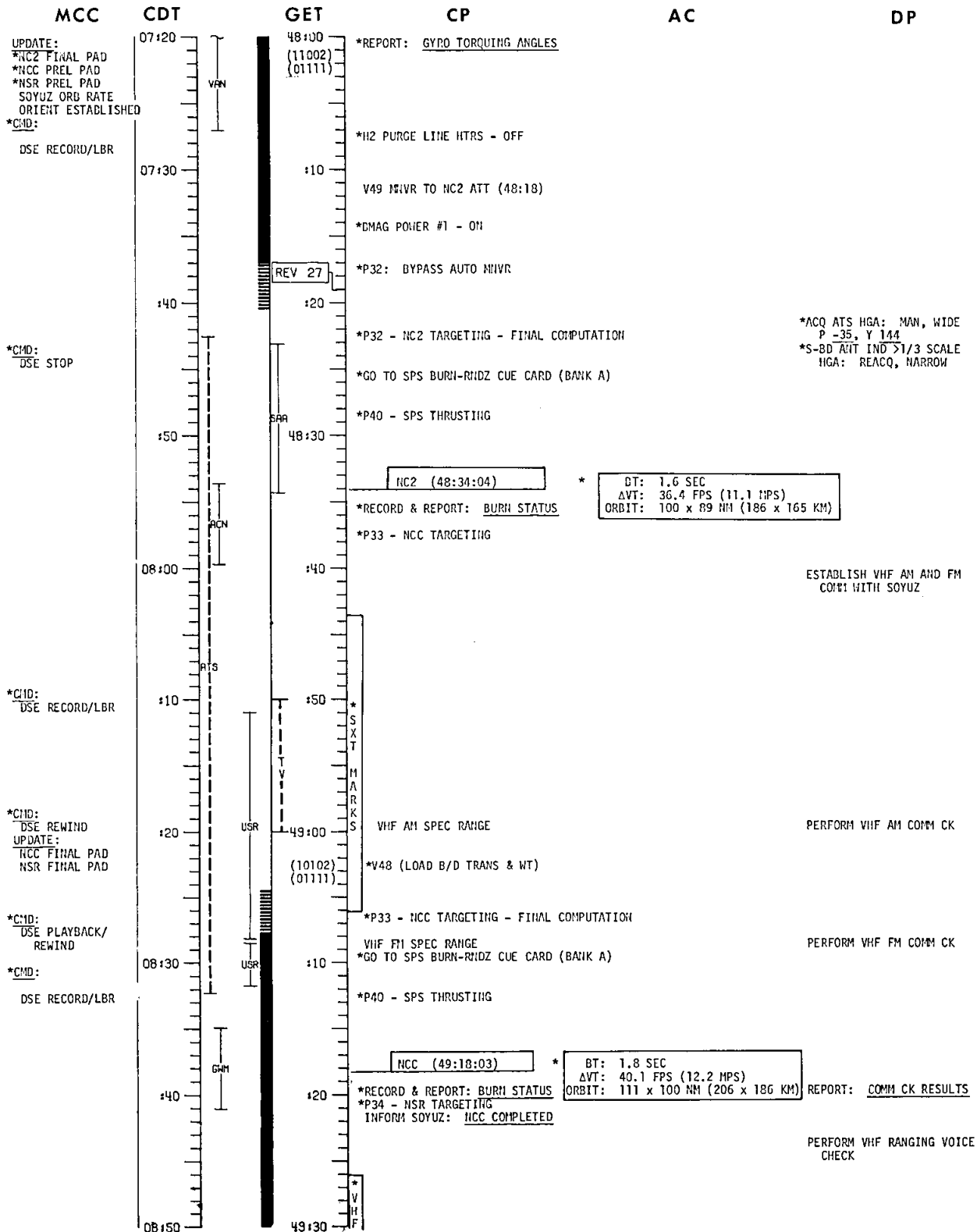
ASTP 40301.7

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JOINT MISSION PHASE

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 17, 1975	26-27



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-2

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 17, 1975	33-34

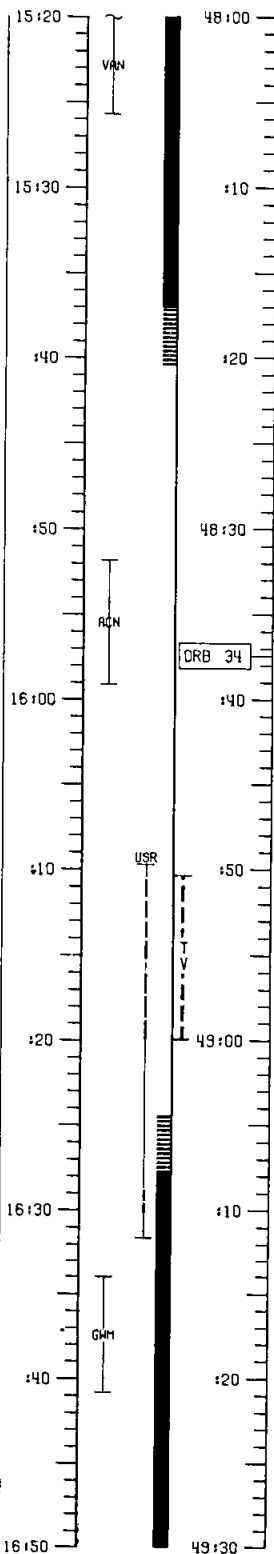
MCC

MT

GET

SC

FE



ATTENTION:
DURING TV-TRANSMISSION MAKE
PERIODICAL (EVERY MINUTE)
BREAKS FOR 10 SEC TO ENABLE
APOLLO TO CALL SOYUZ

CONFIGURE RECORDER FOR VOX MODE
(ON RECORDER)

CAMERA - ON
HORIZON PHOTOGRAPHY

MONITOR ORBITAL ORIENTATION
(YAW DEVIATION LESS THAN 5°)

ONBOARD INSTRUCTIONS, BOOK 3, Pg. 6.2-77
SOYUZ/APOLLO VHF COMM ESTABLISHMENT & CHECK

INFORM MCC: COMM WITH APOLLO
ESTABLISHED (NOT ESTABLISHED)
TV-5 SCHEDULED ACTIVITIES WITH
MCC'S EXPLANATIONS (TK-2)

CAMERA - OFF

VHF AM SPEC RANGE
PERFORM VHF AM COMM CK

BEACON - ON

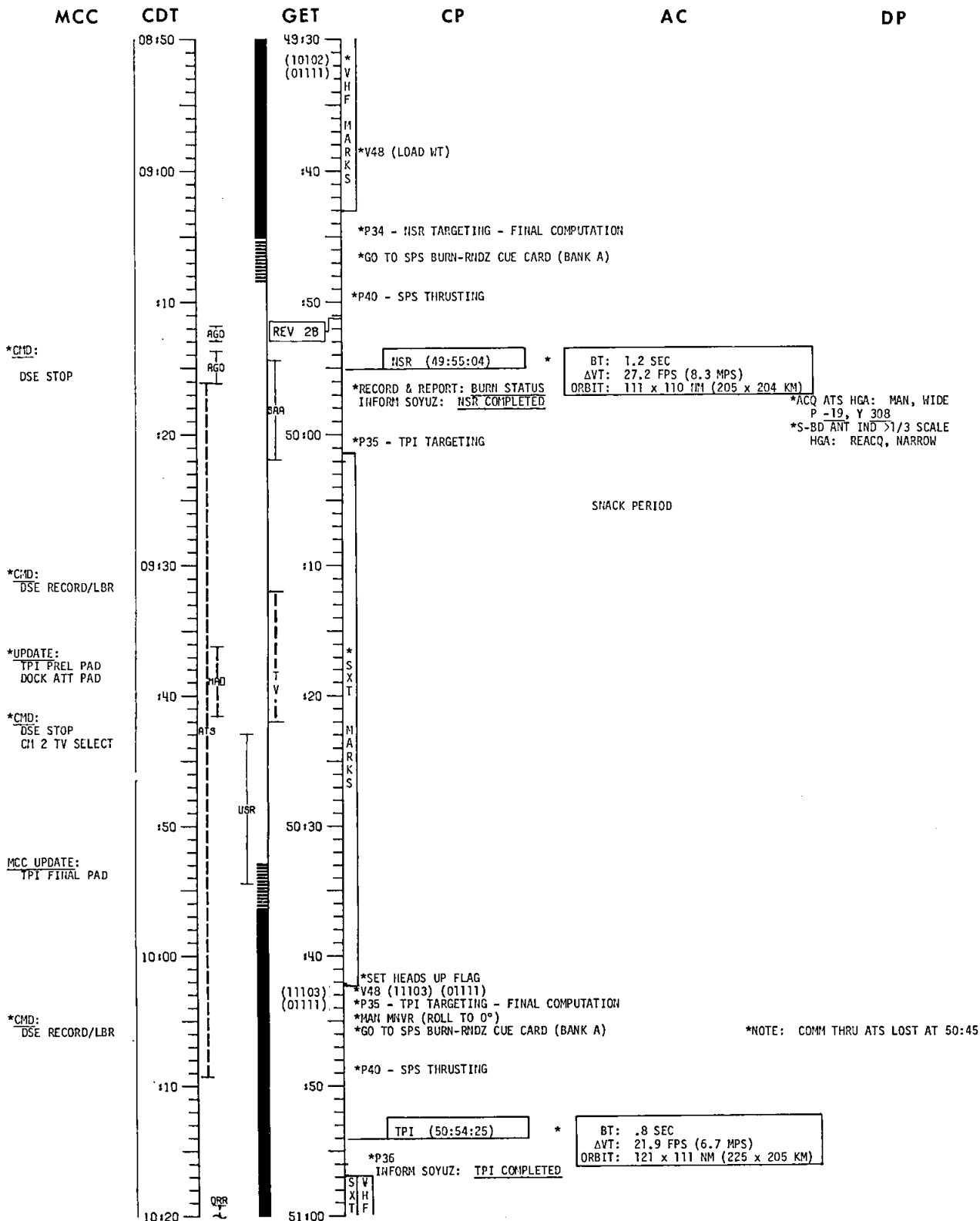
VHF FM SPEC RANGE
PERFORM VHF FM COMM CK

PERFORM VHF RANGING VOICE CHECK

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-3

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 17, 1975	27-28



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-4

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 17, 1975	34-35

MCC

MT

GET

SC

FE

TRANSFER TO OM
 REMOVE CAMERA FROM HATCH 4 BRACKET
 PREPARE K-3A FOR P/M-6
 (ONBOARD INSTRUCTIONS, BOOK 3, Pg. 6.2-55)

UPDATE:
 TIME TO INITIATE
 INERTIAL ORIENT.

PERMISSION
 FOR DOCKING

DOCKING TIME

16:50
17:00
17:10
17:20
17:30
17:40
17:50
18:00
18:10
18:20

49:30
49:40
49:50
50:00
50:10
50:20
50:30
50:40
50:50
51:00

BEACON - OFF

MONITOR ORBITAL ORIENTATION
 (YAW DEVIATION LESS THAN 5°)

ORB 35

CHANNEL SEPARATION - ON

TV-5.1 SCHEDULED ACTIVITIES WITH MCC COMMENTS (TK-2)

TRANSFER TO OM

DON PGA

BEACON - ON
 INFORM APOLLO: OUR BEACONS ON

TRANSFER TO OM

OM PRV - ELECTRIC CONTROL

DON PGA

RELOAD OM TAPE RECORDER (NO. 8; NO. 7 → CONT 1 IN DV)

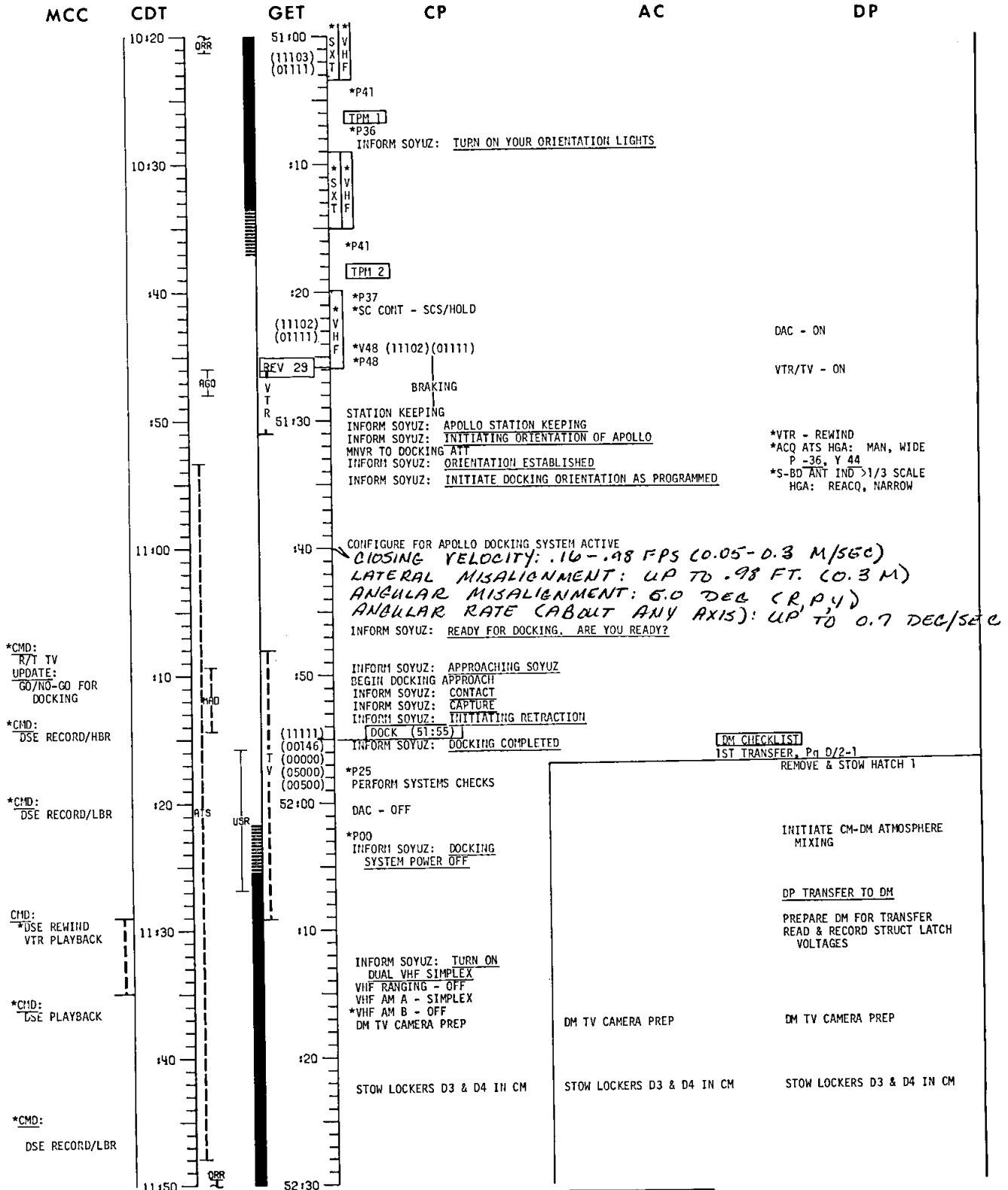
TRANSFER TO DV

TRANSFER TO DV

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-5

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 17, 1975	28-29



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-6

Rev 8 July 3, 1975

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 17, 1975	35-36

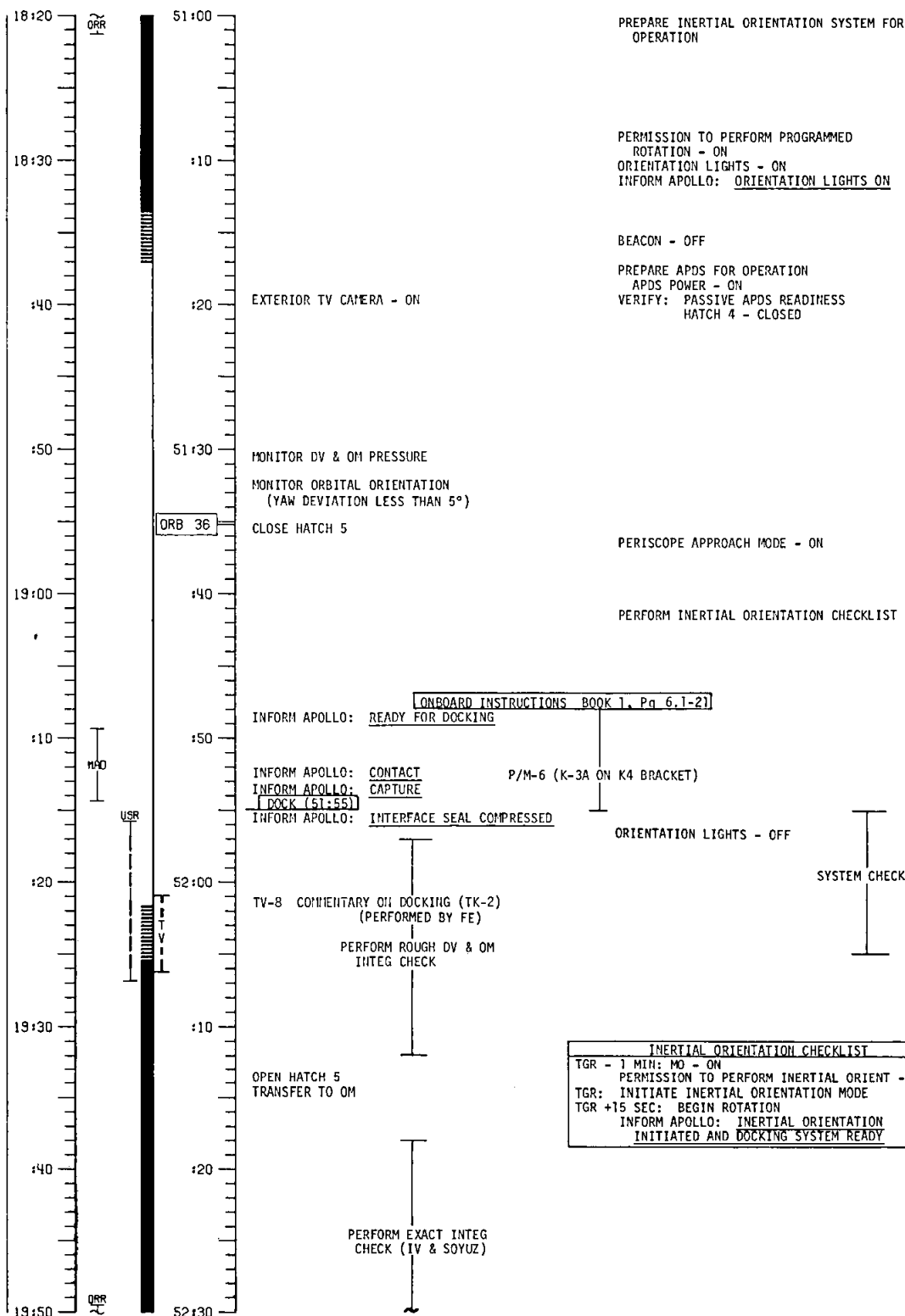
MCC

MT

GET

SC

FE



INERTIAL ORIENTATION CHECKLIST	
TGR - 1 MIN: MO - ON	PERMISSION TO PERFORM INERTIAL ORIENT - ON
TGR: INITIATE INERTIAL ORIENTATION MODE	
TGR +15 SEC: BEGIN ROTATION	
INFORM APOLLO: INERTIAL ORIENTATION INITIATED AND DOCKING SYSTEM READY	

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-7

MCC	CDT	GET	CP	AC	DP
*UPLINK: HGA EMP (PARTIAL)	11:50	52:30 (11111) (00146) (00000) (05000) (00500)	*CHARGE BATTERY A (TERMINATE ON MCC CUE)		
	12:00			PACK TSB: DAC 01 WITH: MAG CS01 & CS02 5 M1 LENS, U-MOUNT, & PWR CABLE 10mm LENS NK WITH: FILM CASSETTE, 35 M1 LENS & FLASH ZFF DEVICE RHYTHM 1-A (AS-1) [REDACTED], FLAGS & "1ST SOYUZ PHOTO" CUE CARD PASS EQUIPMENT TO DM TSB TV CAMERA	FURNACE HELIUM INJECT (SA 001) Pg D/7-5
	12:10				
*CMD: DSE STOP/REWIND *UPLINK: HGA EMP (COMPL) CSM & ATS S.V.	12:20	53:00 REV 30			DP TRANSFER TO CM
	12:30		*ACQ ATS HGA: MAN, WIDE P -43, Y 16 *S-BD ANT IHD >1/3 SCALE HGA: REACQ, NARROW		
*CMD: DSE PLAYBACK *UPLINK: DESIRED ORIENT (ORBITAL) *UPDATE: BLOCK DATA REV 63	12:40				
	12:50	53:30			
*CMD: DSE STOP R/T TV	13:00		P52 (OPTION 3) (RNDZ ORIENT)		
*CMD: DSE PLAYBACK	13:10		*REPORT: GYRO TORQUING ANGLES *P52 (OPTION 1) (ORBITAL ORIENT) (316,344,343) ON ORBITAL ORIENT *POO, CMC MODE - AUTO GDC ALIGN *OPTICS ZERO-ZERO *G/N POWER OPTICS-OFF *STOW OPTICS		
	13:20	54:00			
					P52 IMU REALIGN N71: _____ N05: _____ N93: _____ X ☐ _____ Y ☐ _____ Z ☐ _____ GET _____

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 2	JUNE 14, 1975	4.2-8

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 17, 1975	36-37

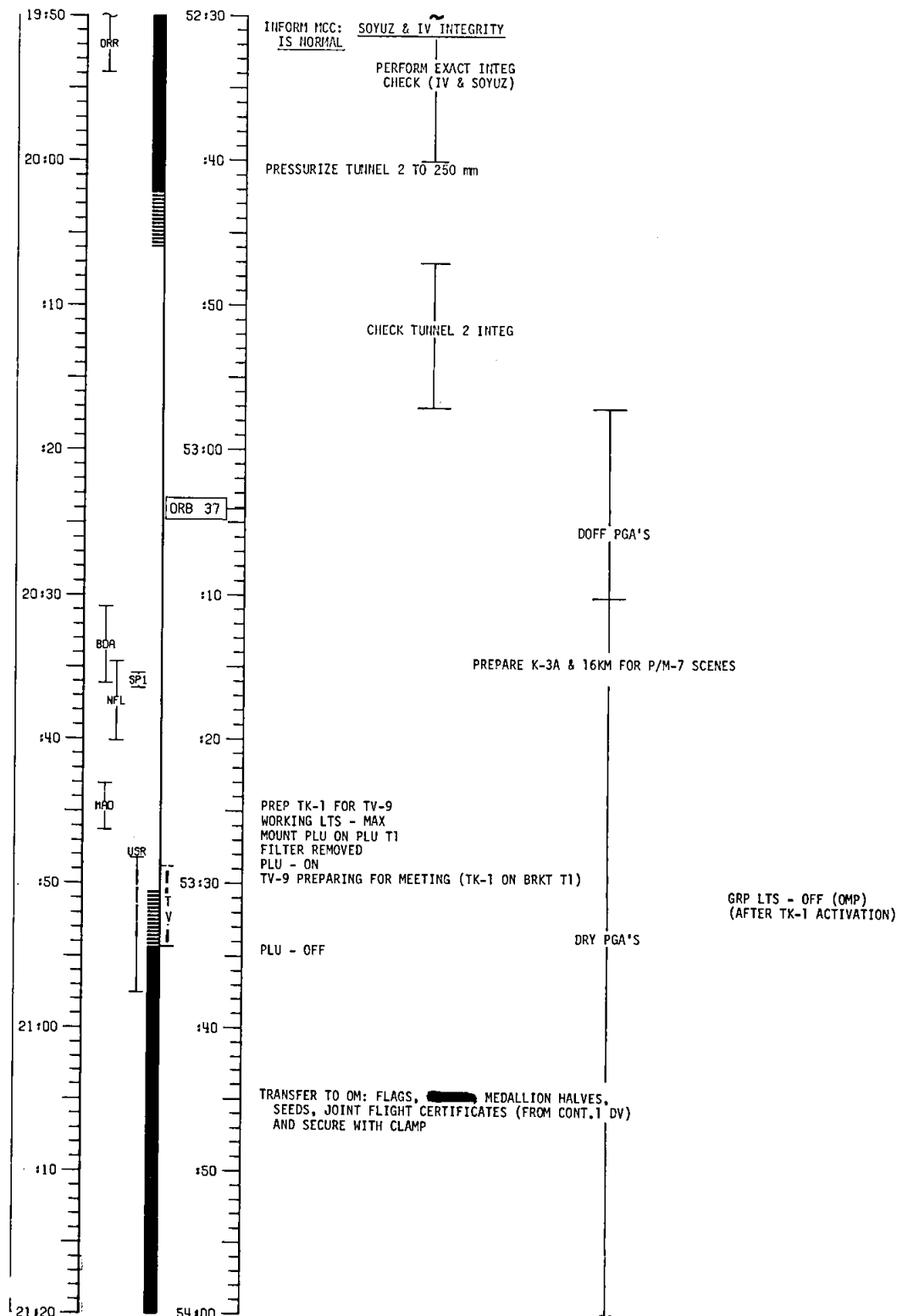
MCC

MT

GET

SC

FE

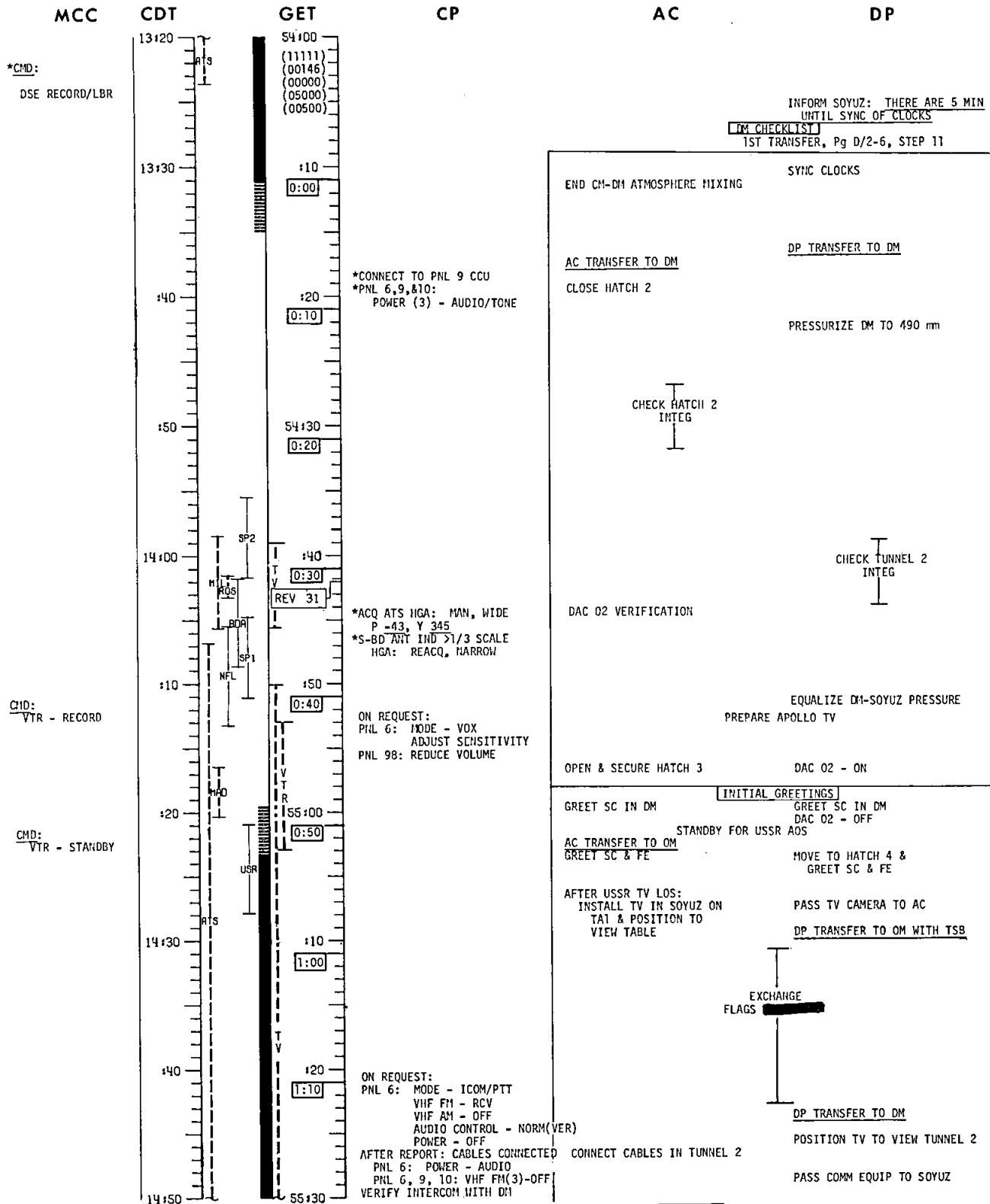


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-9

7-3-75

APOLLO DETAILED CREW ACTIVITIES PLAN

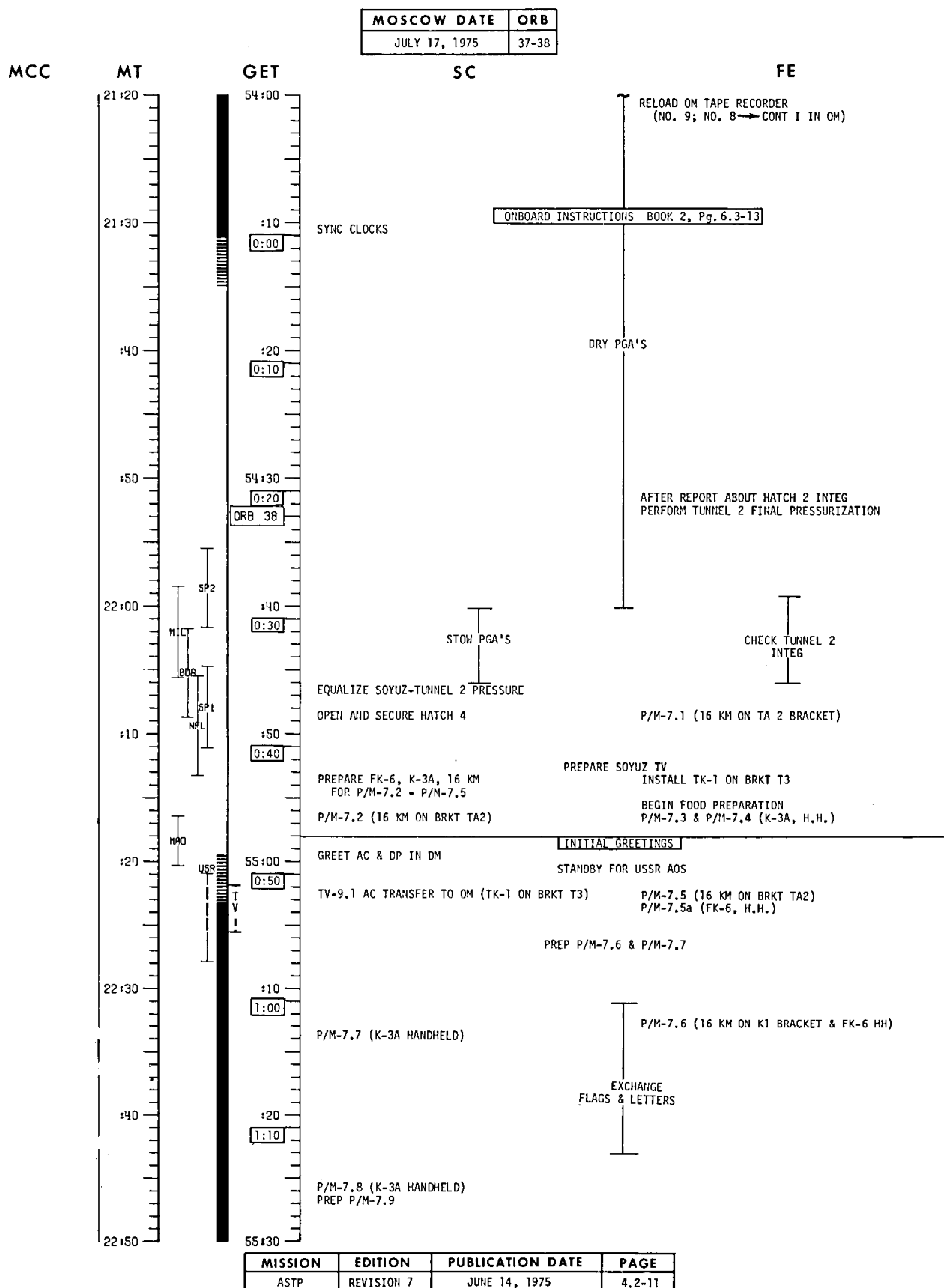
HOUSTON DATE	REV
JULY 17, 1975	30-31



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 2	JUNE 19, 1975	4.2-10

Rev. 8 July 3, 1975

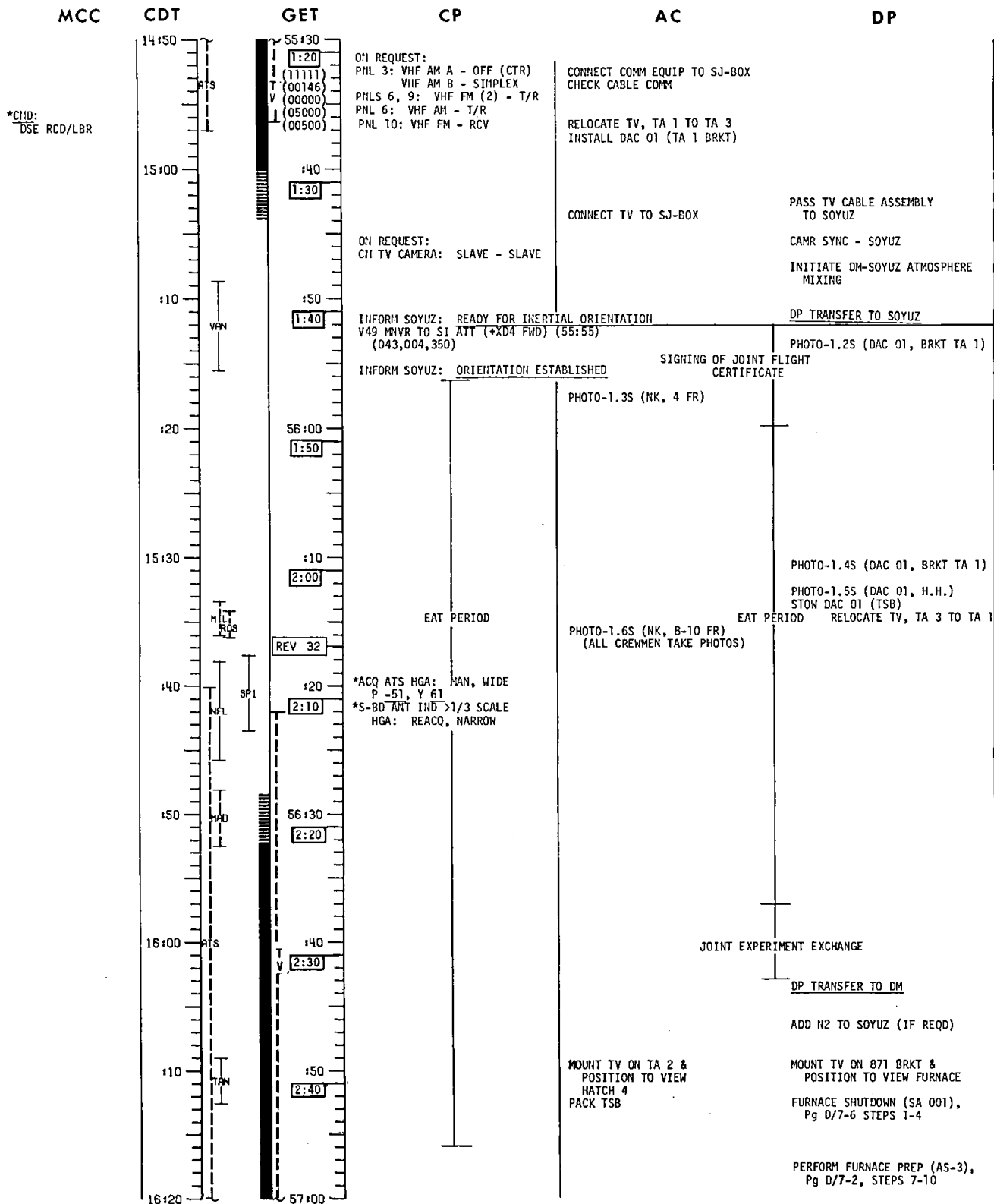
SOYUZ DETAILED CREW ACTIVITIES PLAN



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-11

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 17, 1975	31-32



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-12

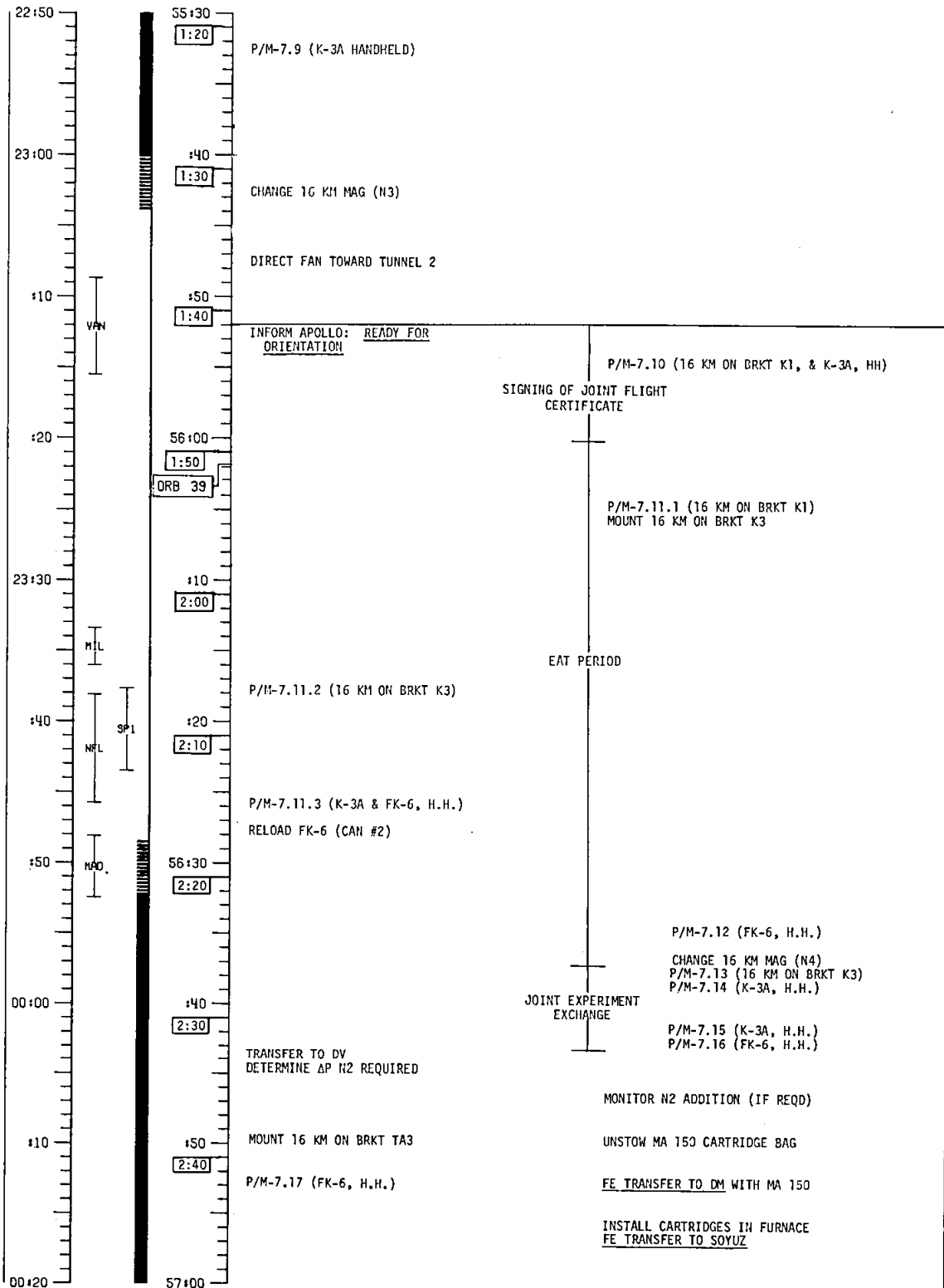
MOSCOW DATE	ORB
JULY 17, 1975	38-39

MCC

MT

GET

SC

FE

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-13

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 17, 1975	32-33

MCC

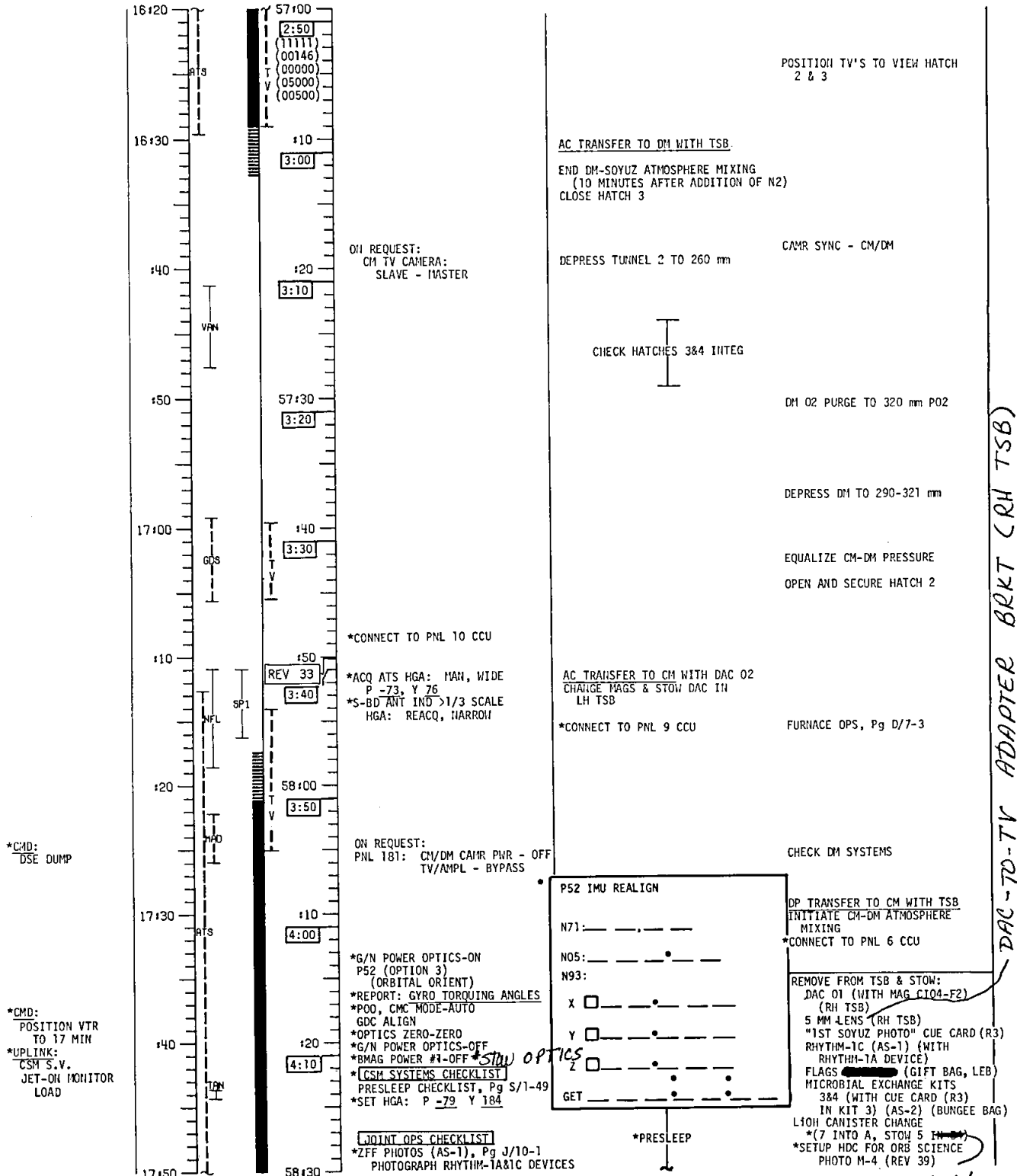
CDT

GET

CP

AC

DP



DAC-TO-TV ADAPTER BRKT (RH TSB)

under couch

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-14

7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	39-40

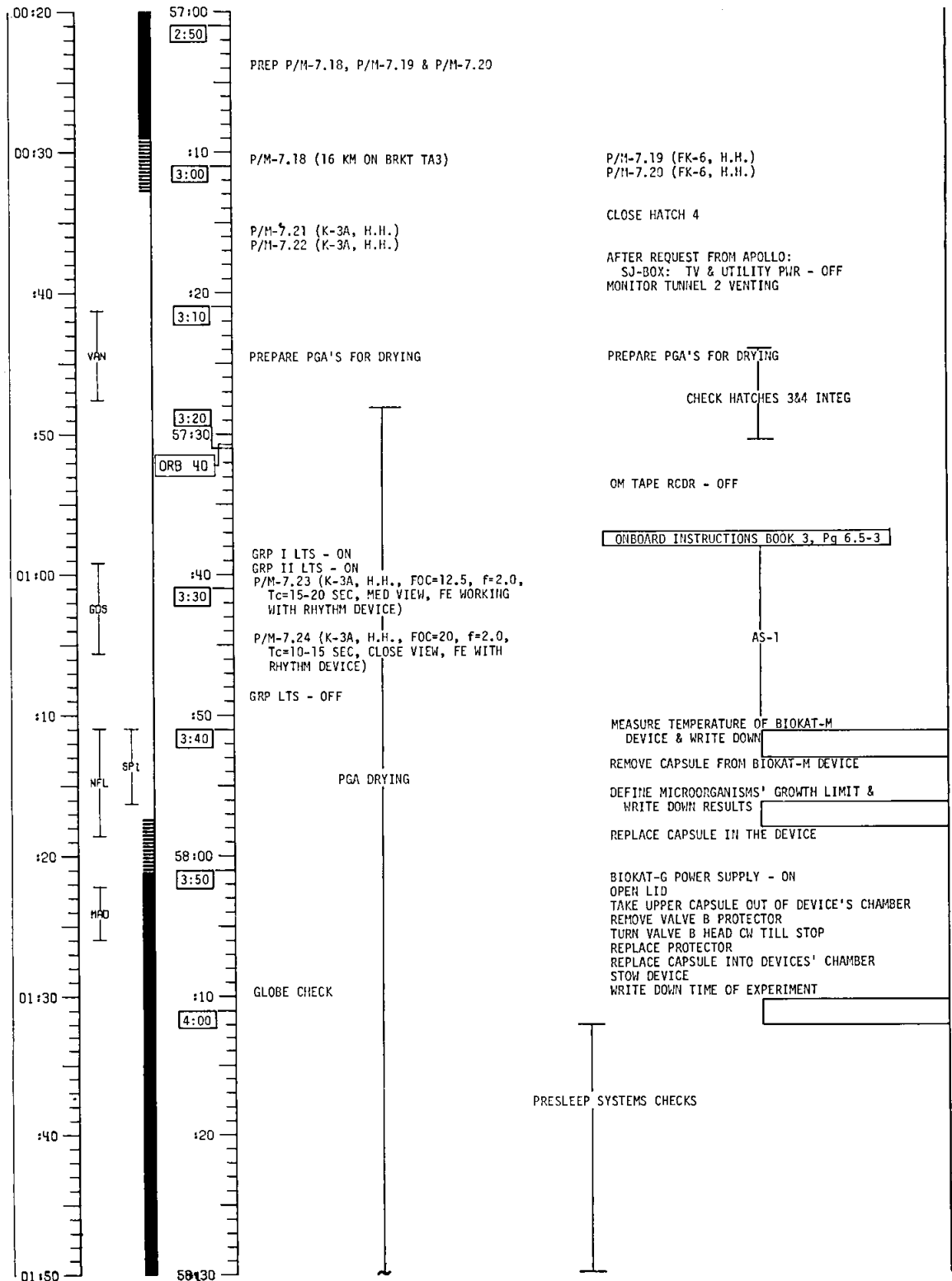
MCC

MT

GET

SC

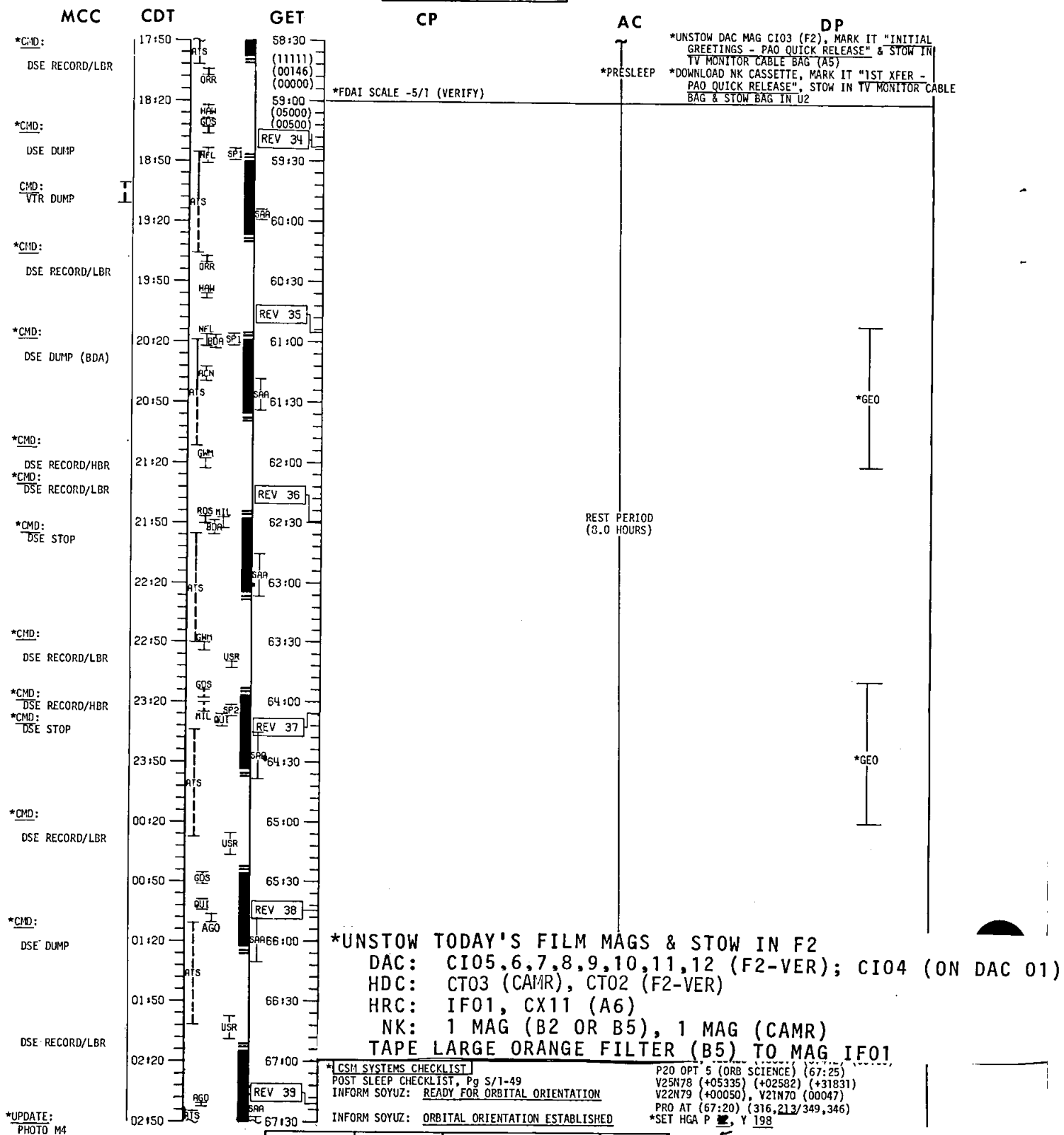
FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-15

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 17, 1975	33-39



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-16

7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	40-46

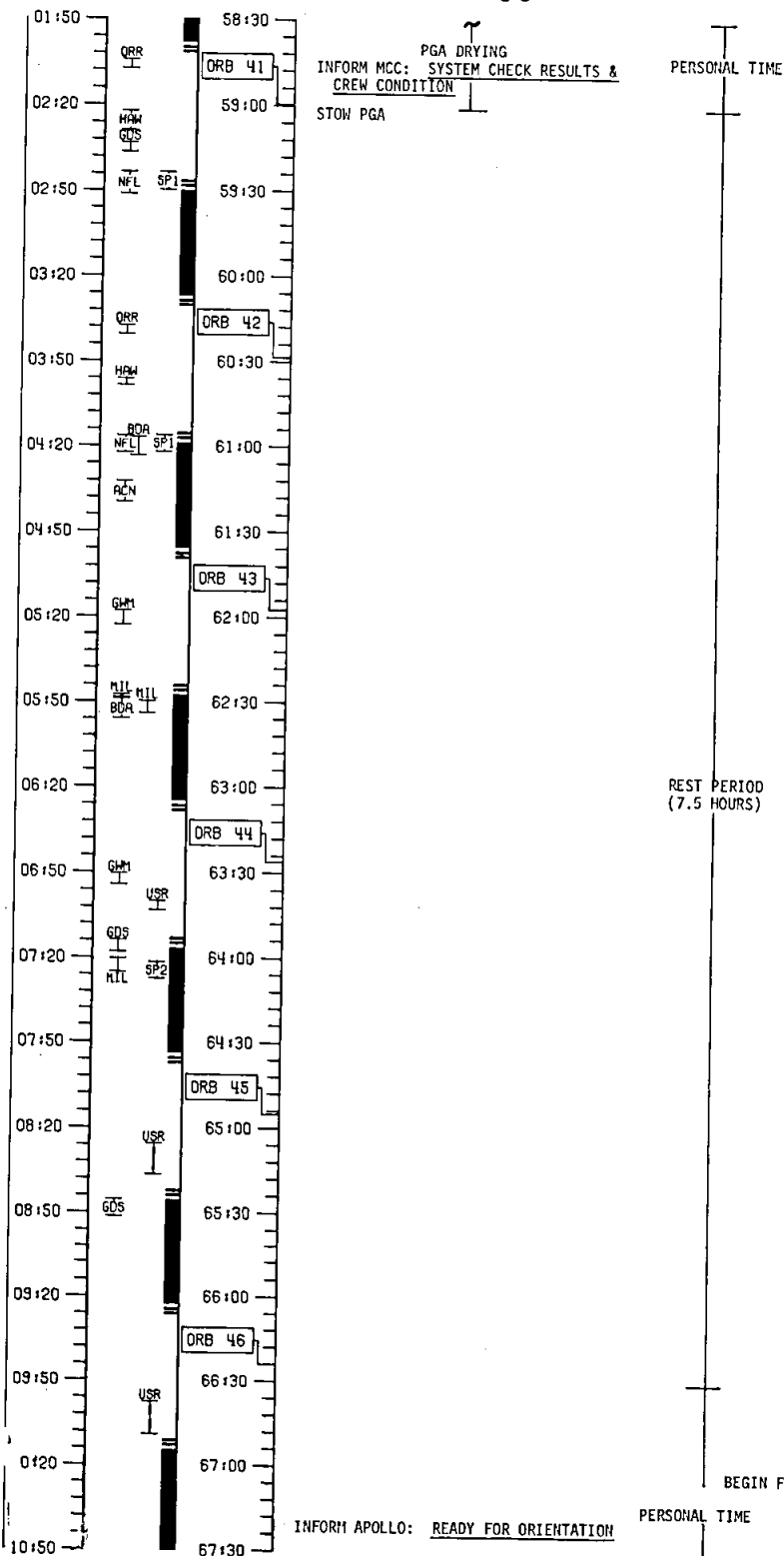
MCC

MT

GET

SC

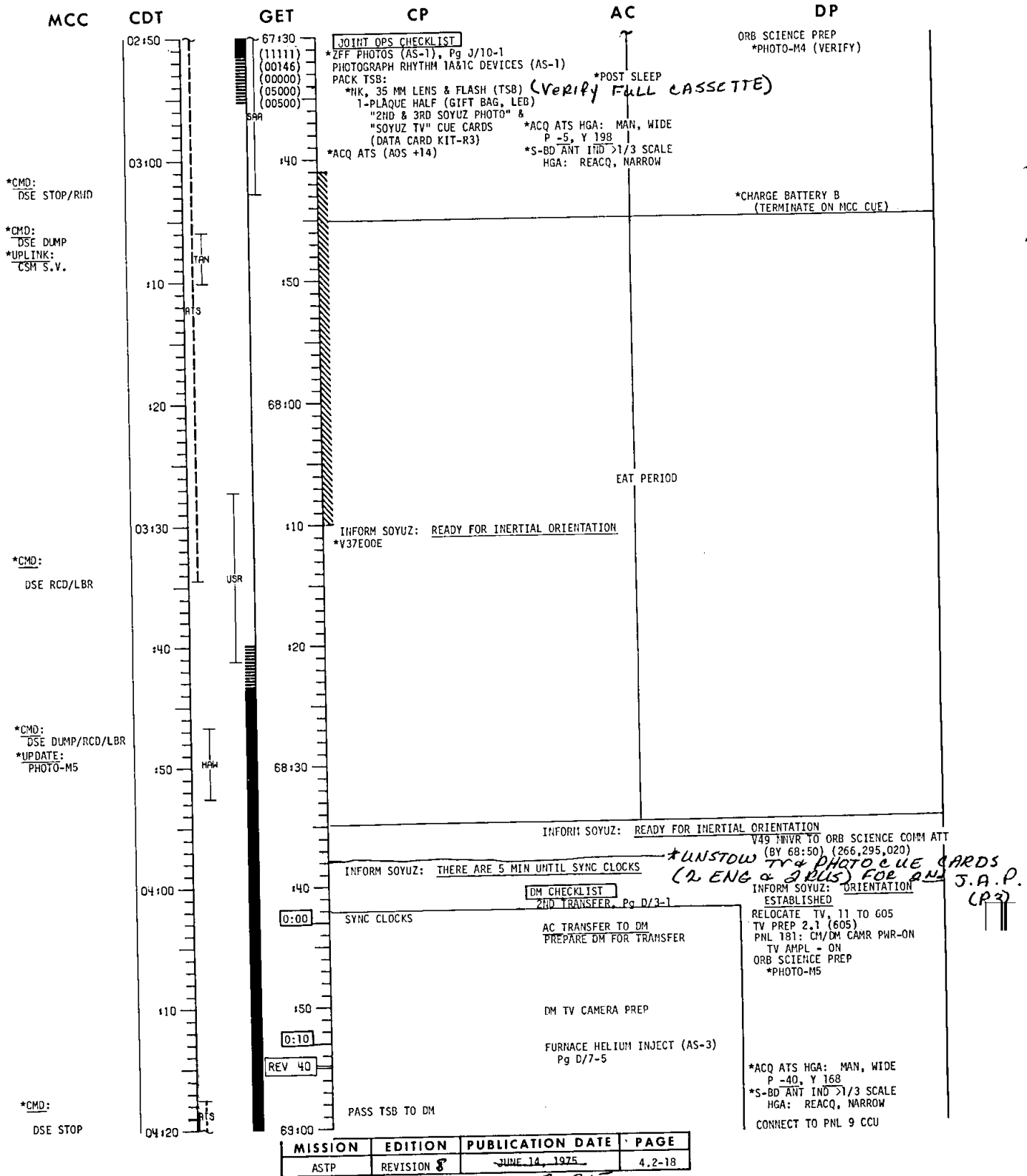
FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-17

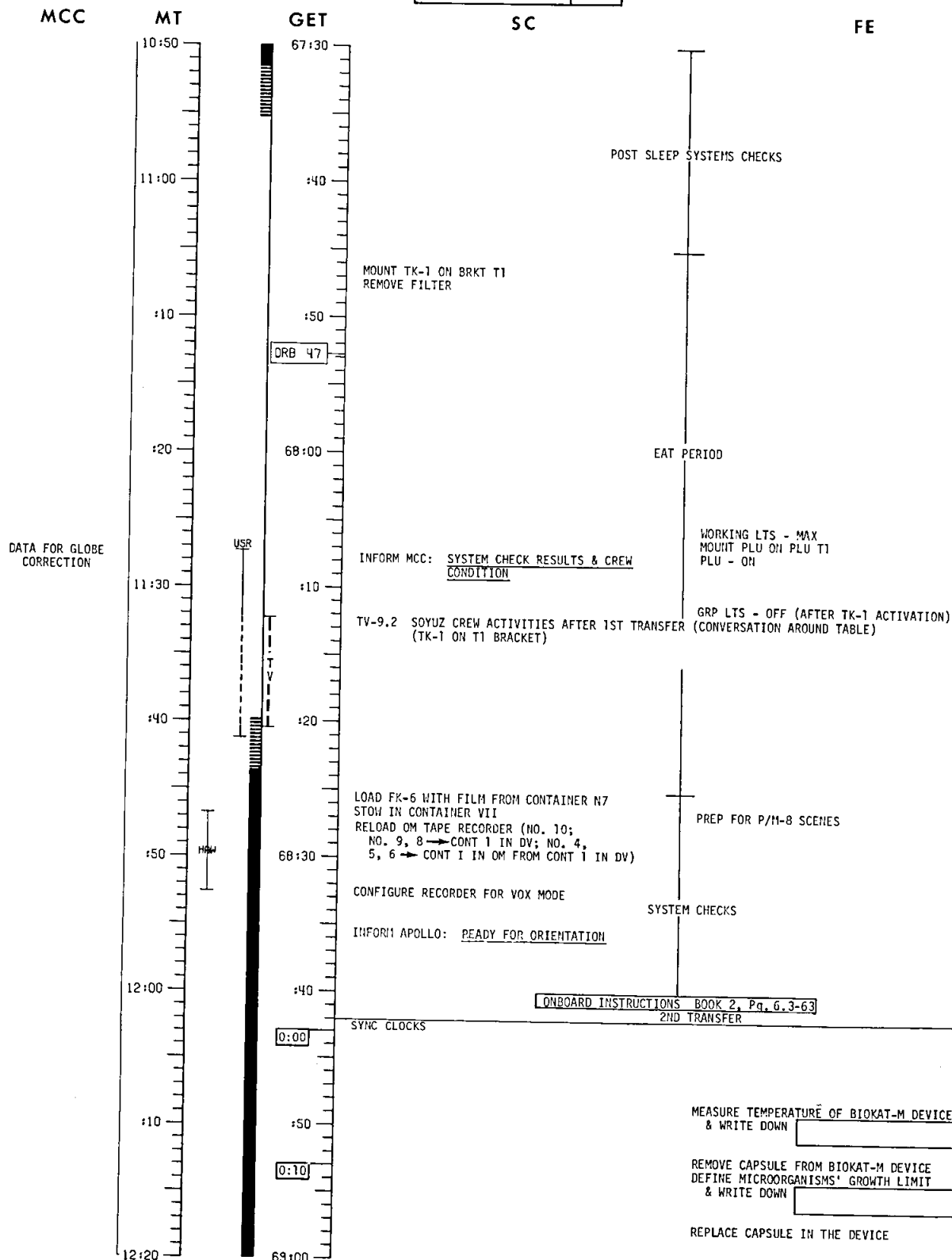
APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	39-40



SOYUZ DETAILED CREW ACTIVITIES PLAN

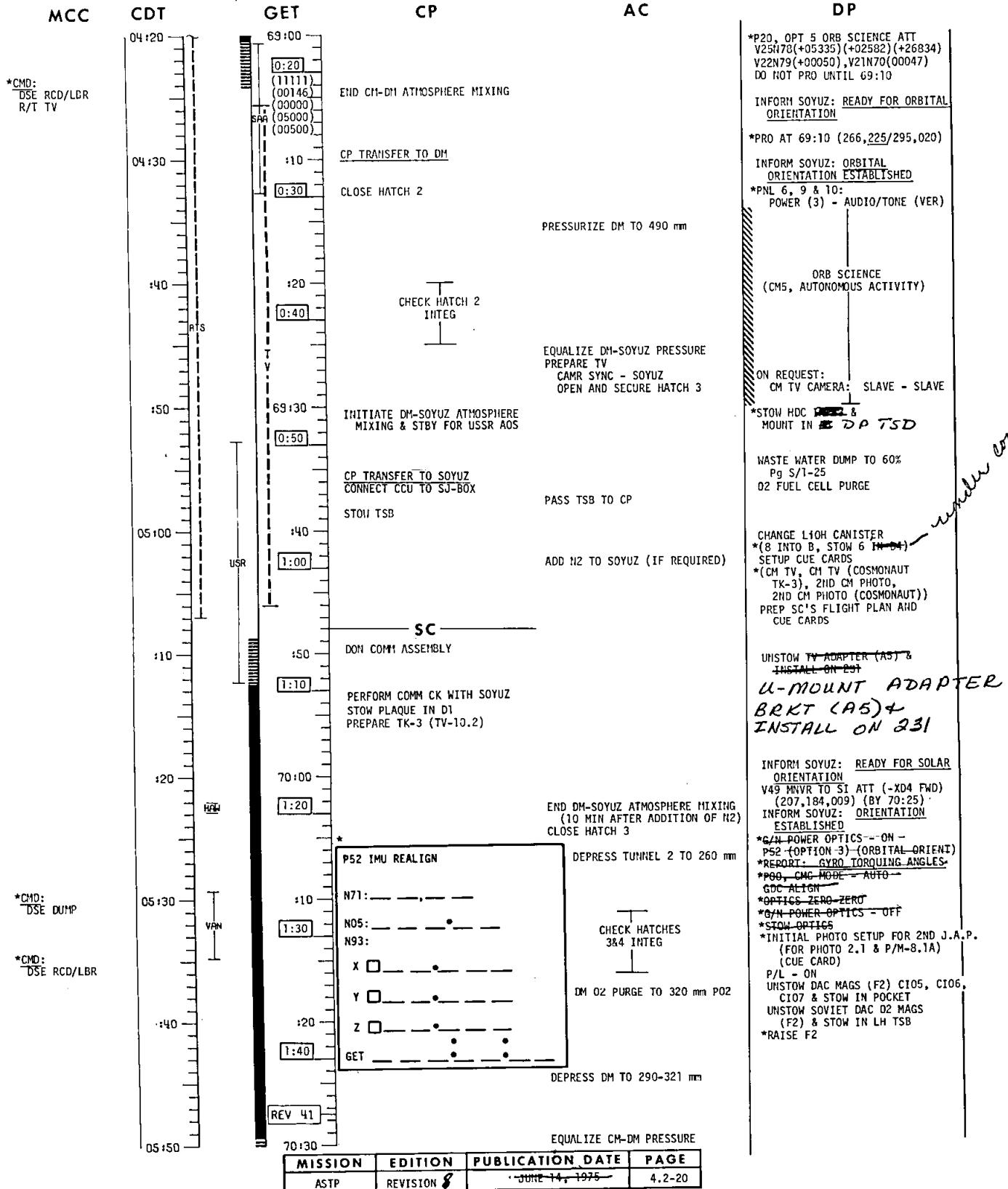
MOSCOW DATE	ORB
JULY 18, 1975	46-47



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-19

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	40-41



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	47-48

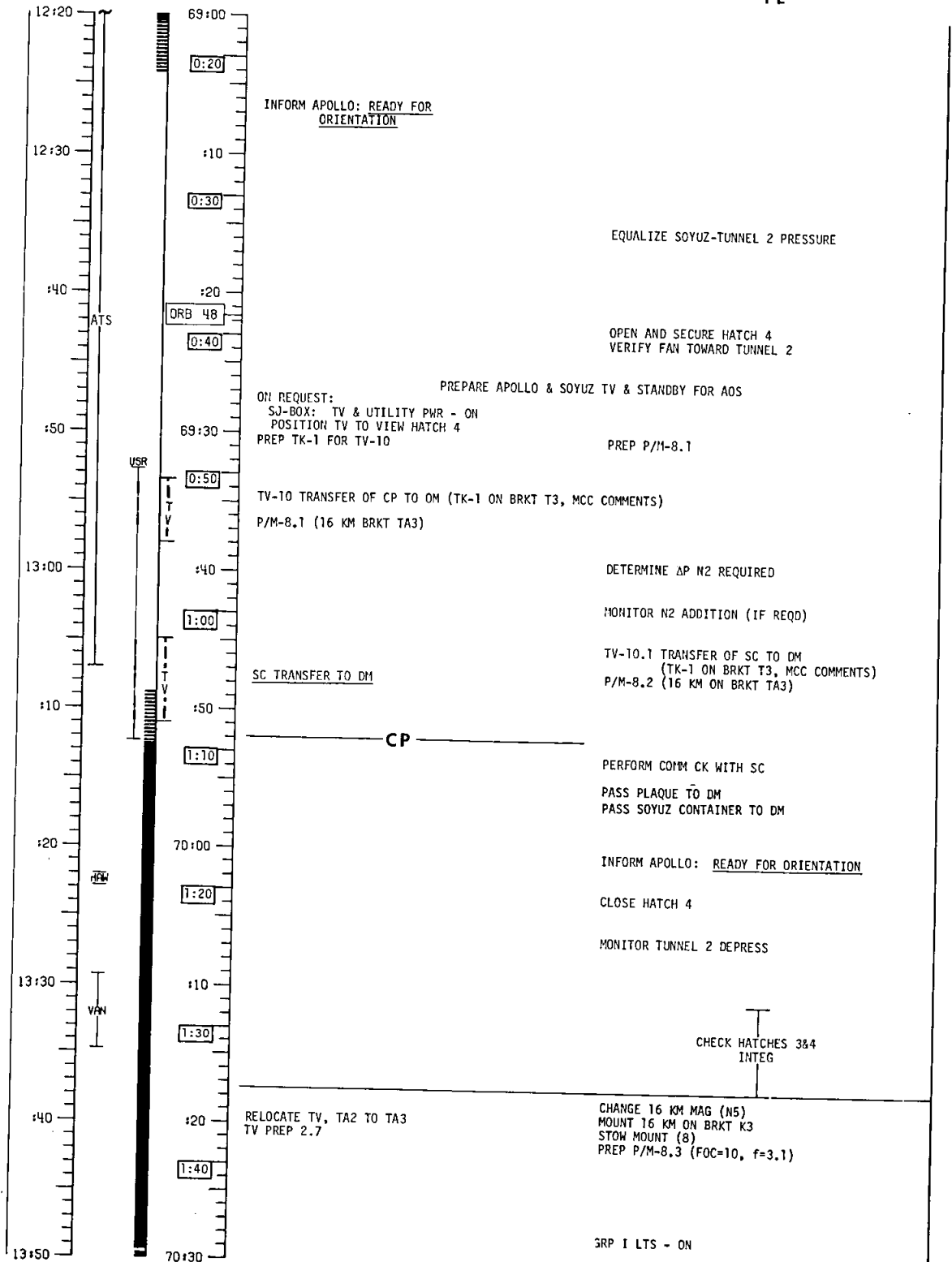
MCC

MT

GET

SC

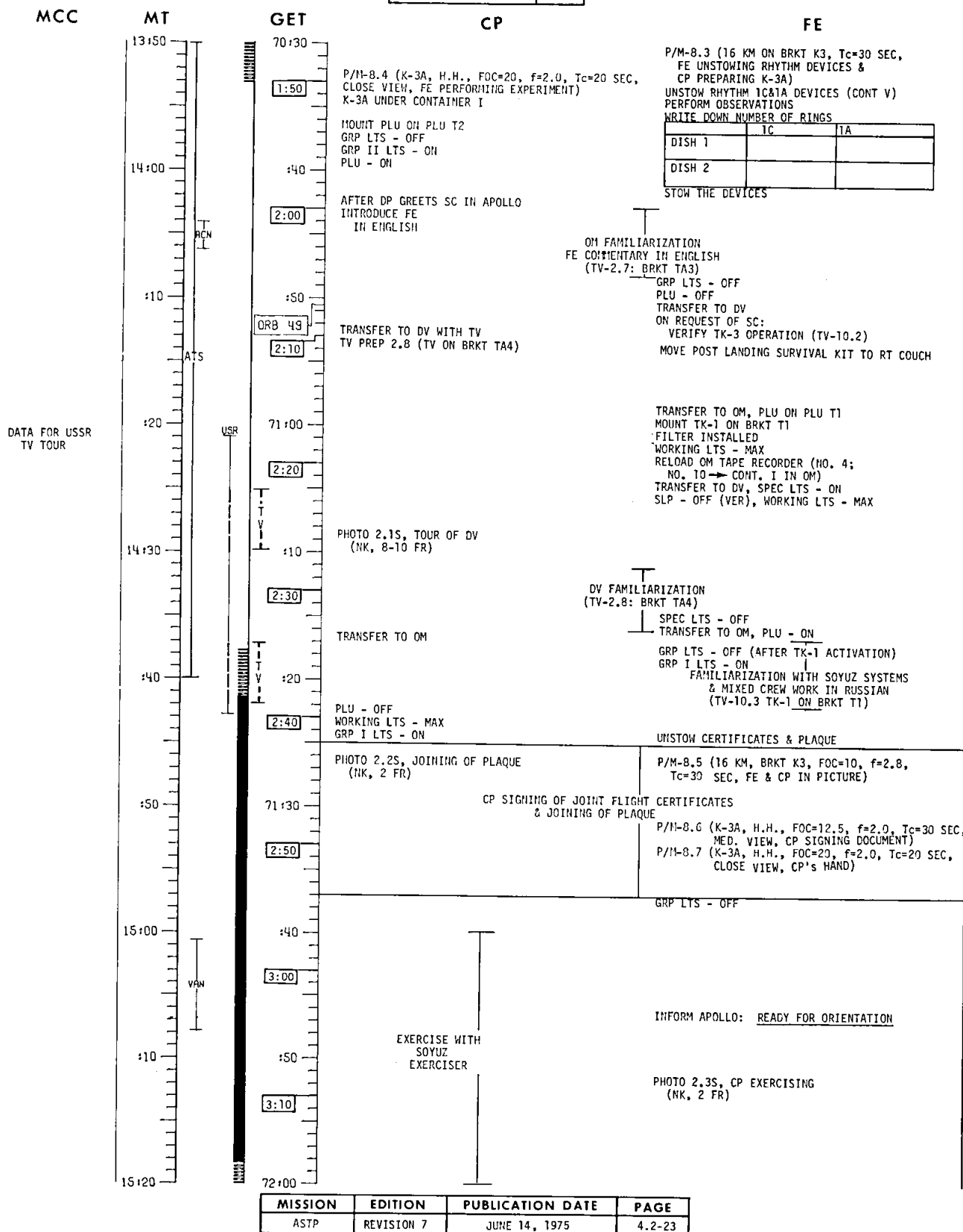
FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-21

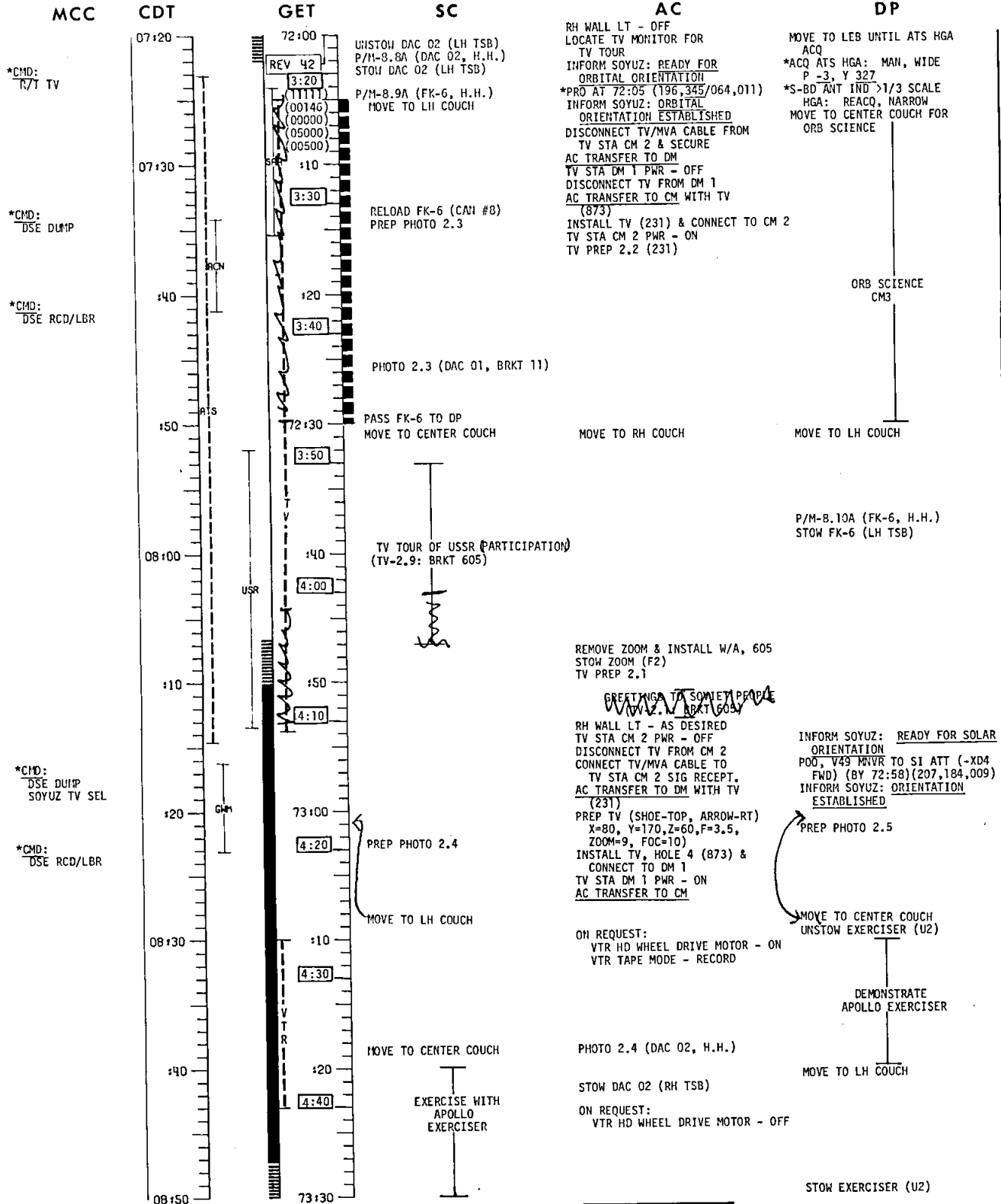
SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	48-49



APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	42



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-24

July 3, 1975

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	49-50

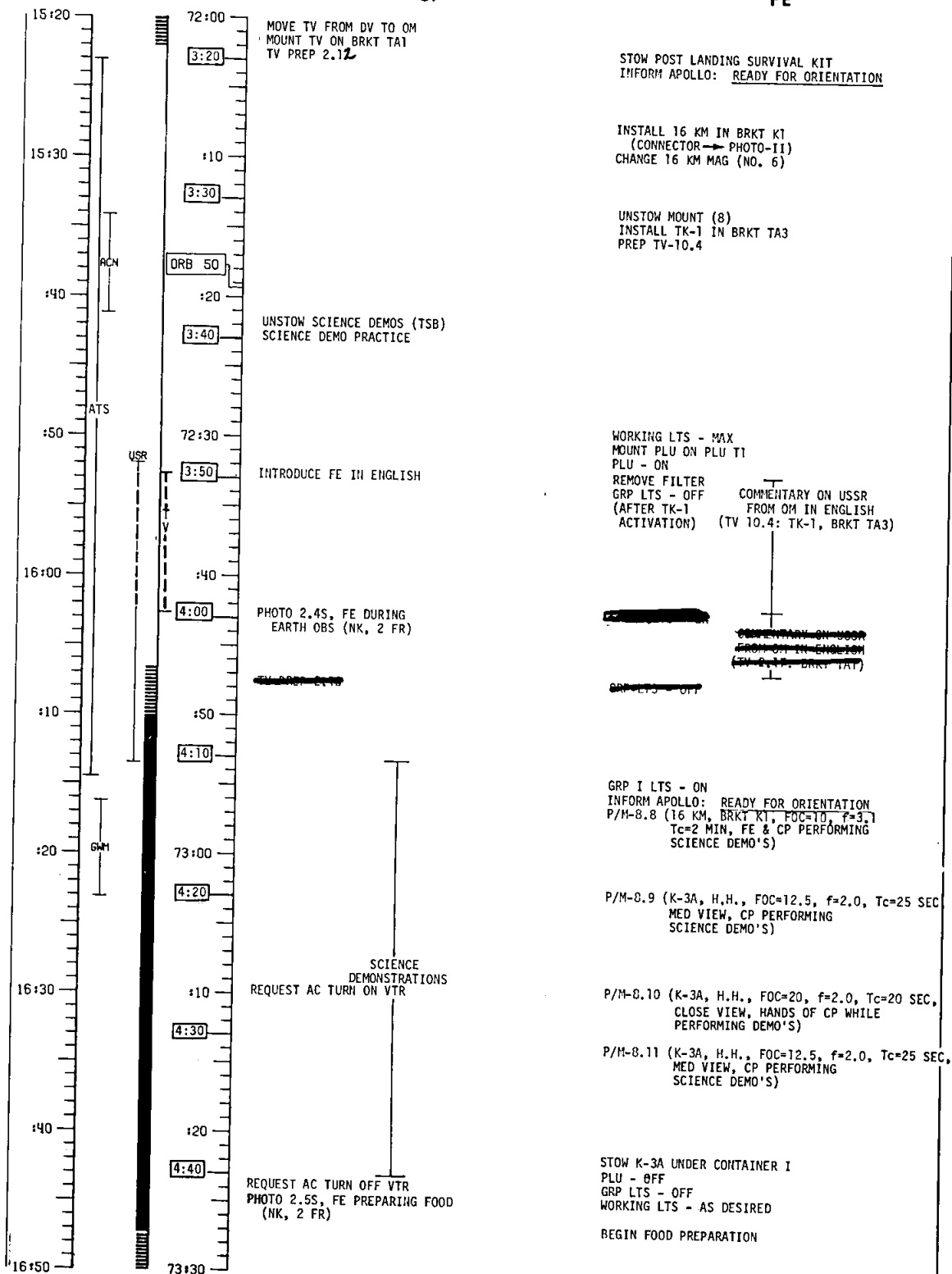
MCC

MT

GET

CP

FE

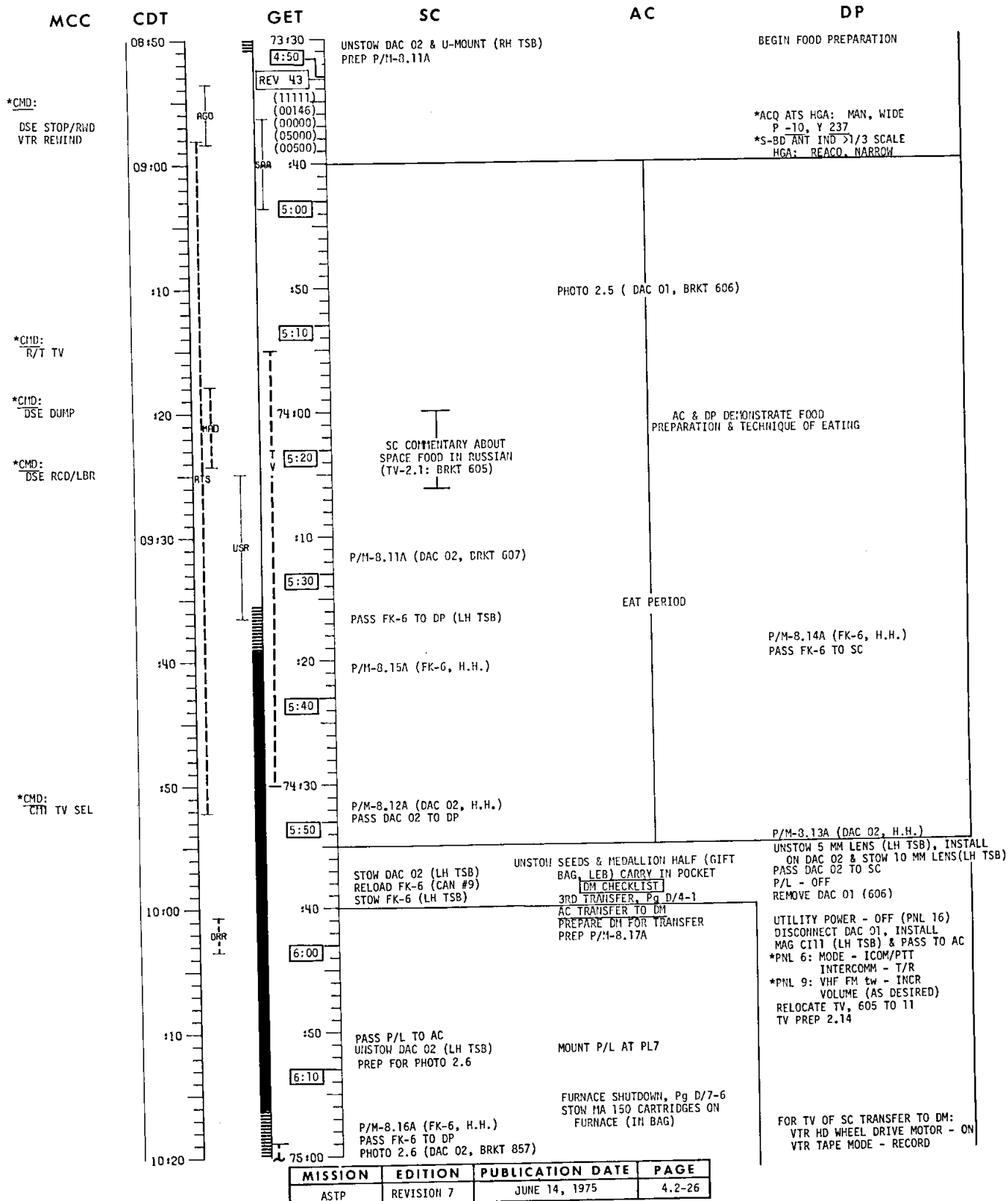


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 3	JUNE 14, 1975	4.2-25

7-3-75

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	42-43



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	50-51

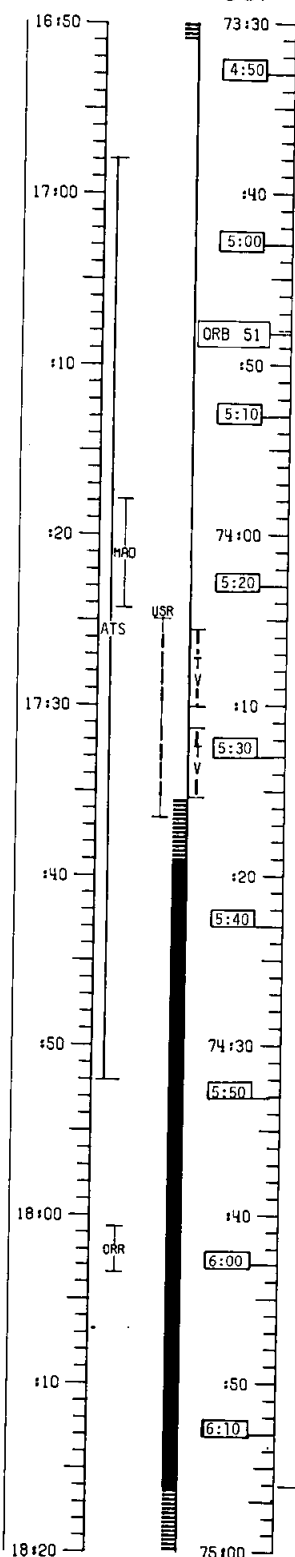
MCC

MT

GET

CP

FE



CHANGE 16KM MAG (N7)
MOUNT 16KM ON BRKT K2
PREP P/M-9
(ONBOARD INSTRUCTIONS, BOOK 3,
Pg. 6.2-69)

MOUNT TK-1 ON BRKT T1
INSTALL FILTER
UNSTOW MOUNT (8)

WORKING LTS - MAX
MOUNT PLU ON PLU T1
PLU - ON
TV-10.5 SCHEDULED ACTIVITIES IN RUSSIAN
(TK-1 ON BRKT T1)

GRP LTS - OFF
(AFTER TK-1 ACTIVATION)
GRP I LTS - ON

TV-10.5 (CONTINUANCE)
COMMENTARY ABOUT SPACE FOOD IN RUSSIAN

GRP I LTS - ON

FE DEMONSTRATES FOOD PREPARATION
& TECHNIQUES OF EATING

EAT PERIOD
GRP LTS - OFF
PLU - OFF
WORKING LTS - AS DESIRED

ONBOARD INSTRUCTIONS, BOOK 2, Pg. 6.3-81

3RD TRANSFER

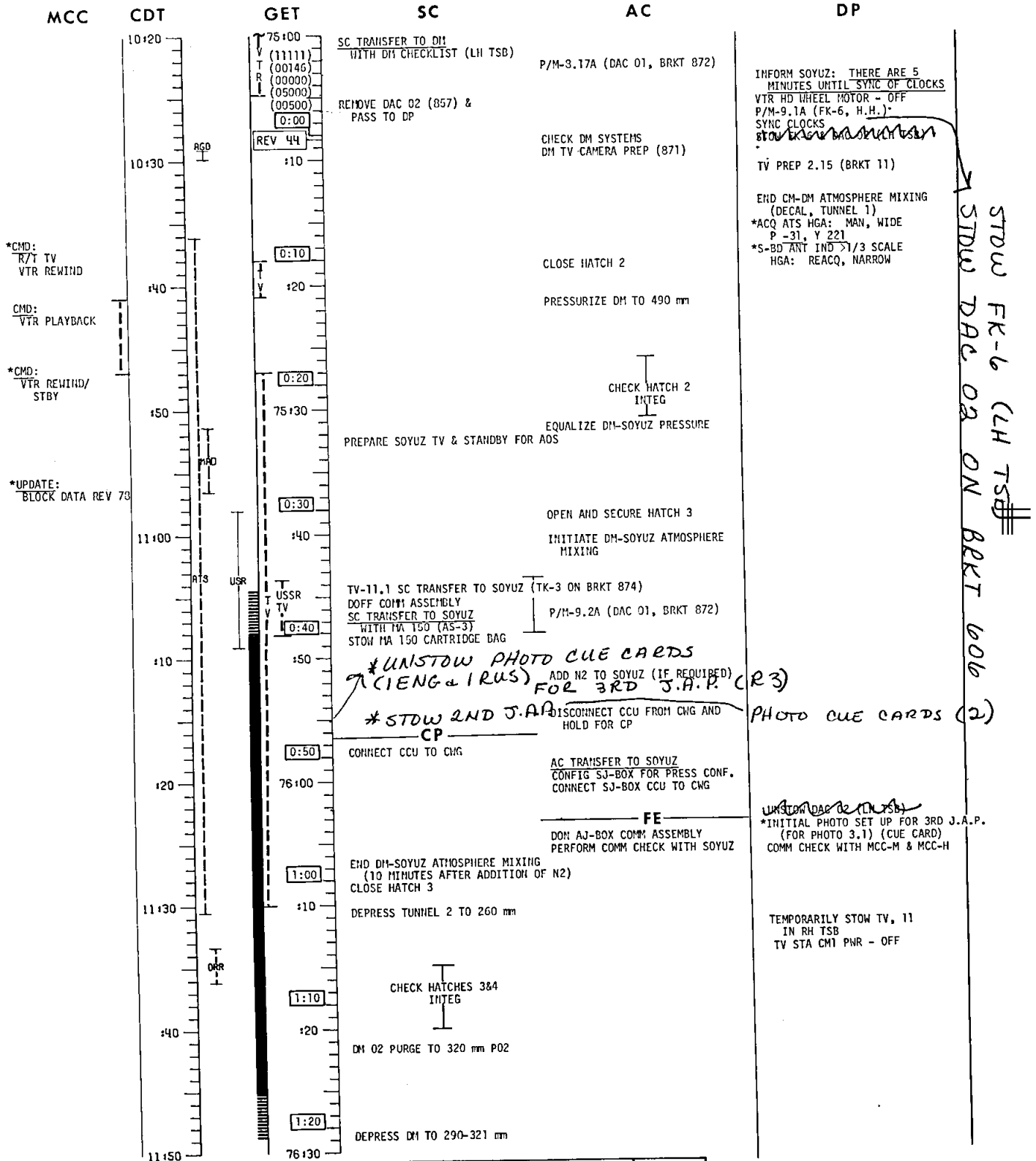
STOW TSB

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-27

7-8-75

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	43-44



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	7-3-75 JUNE 14, 1975	4.2-28

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	51-52

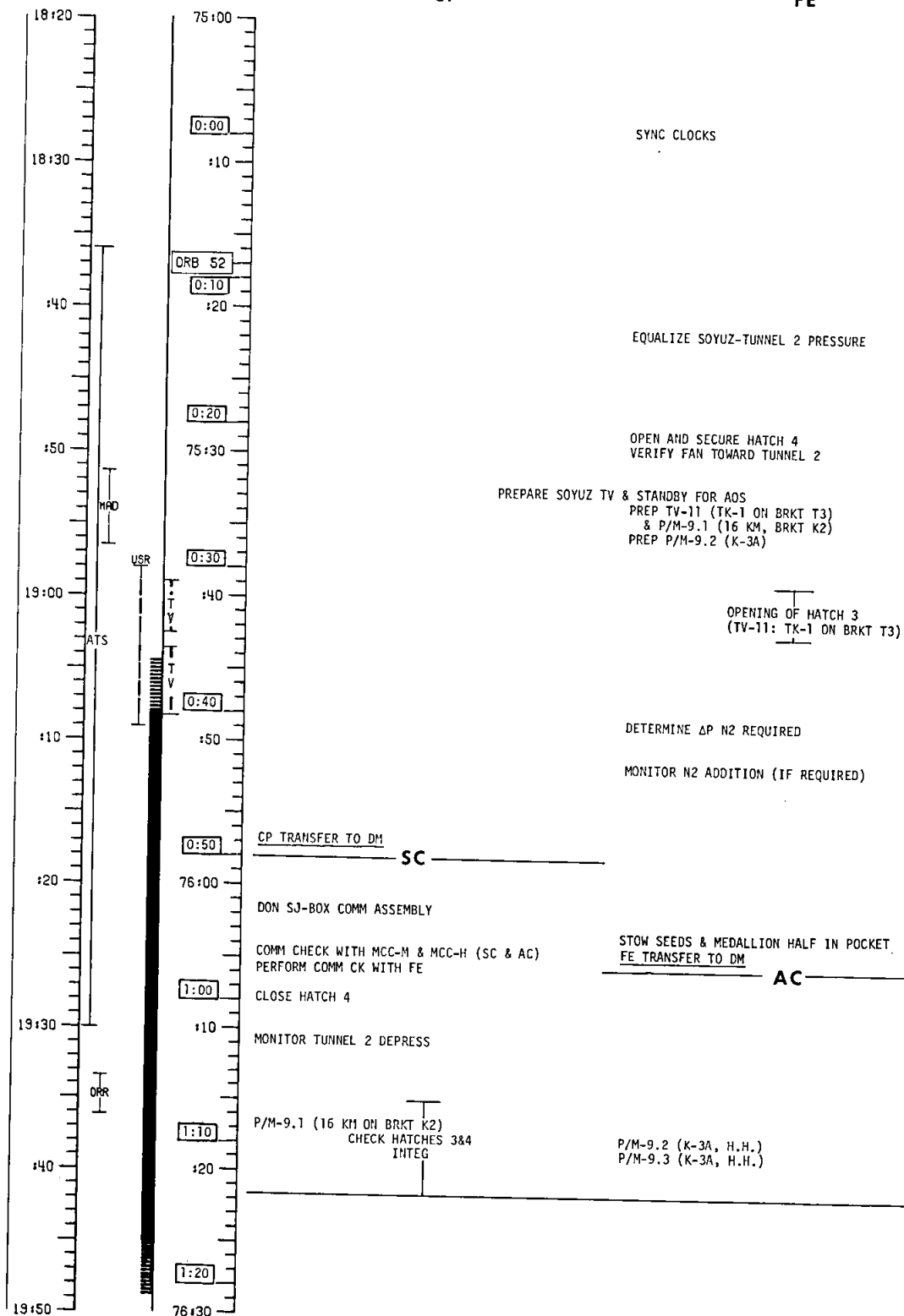
MCC

MT

GET

CP

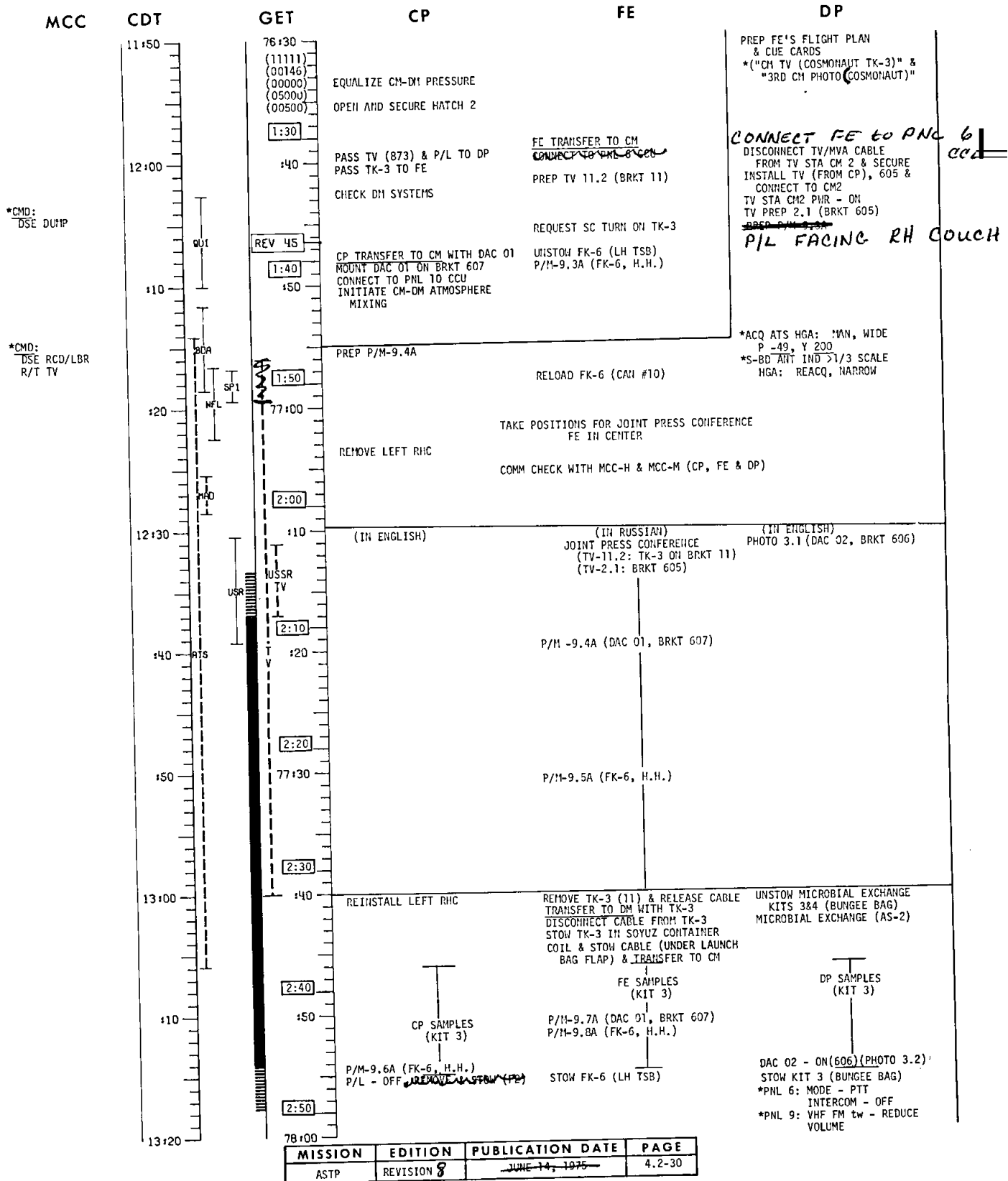
FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-29

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	44-45



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	52-53

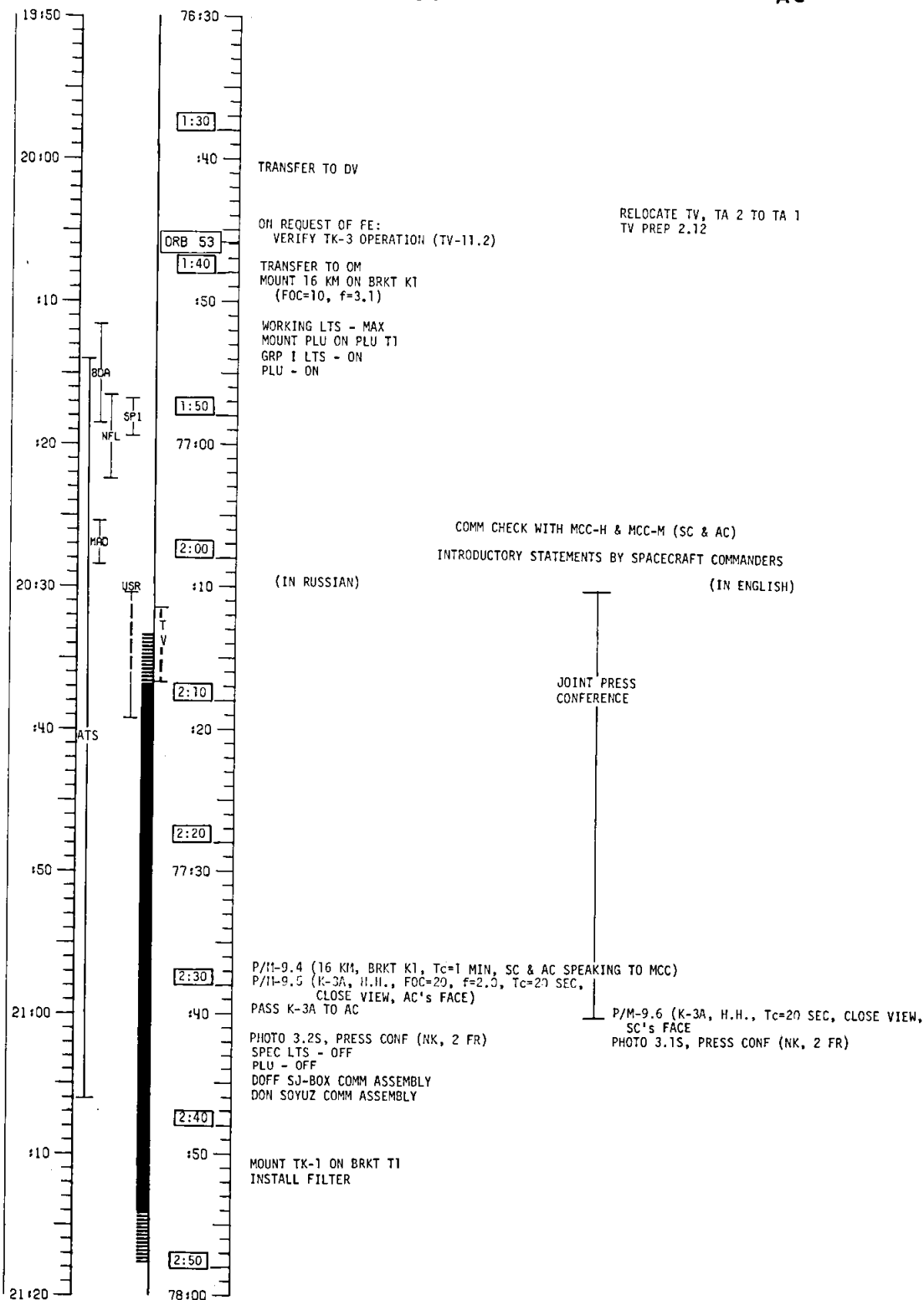
MCC

MT

GET

SC

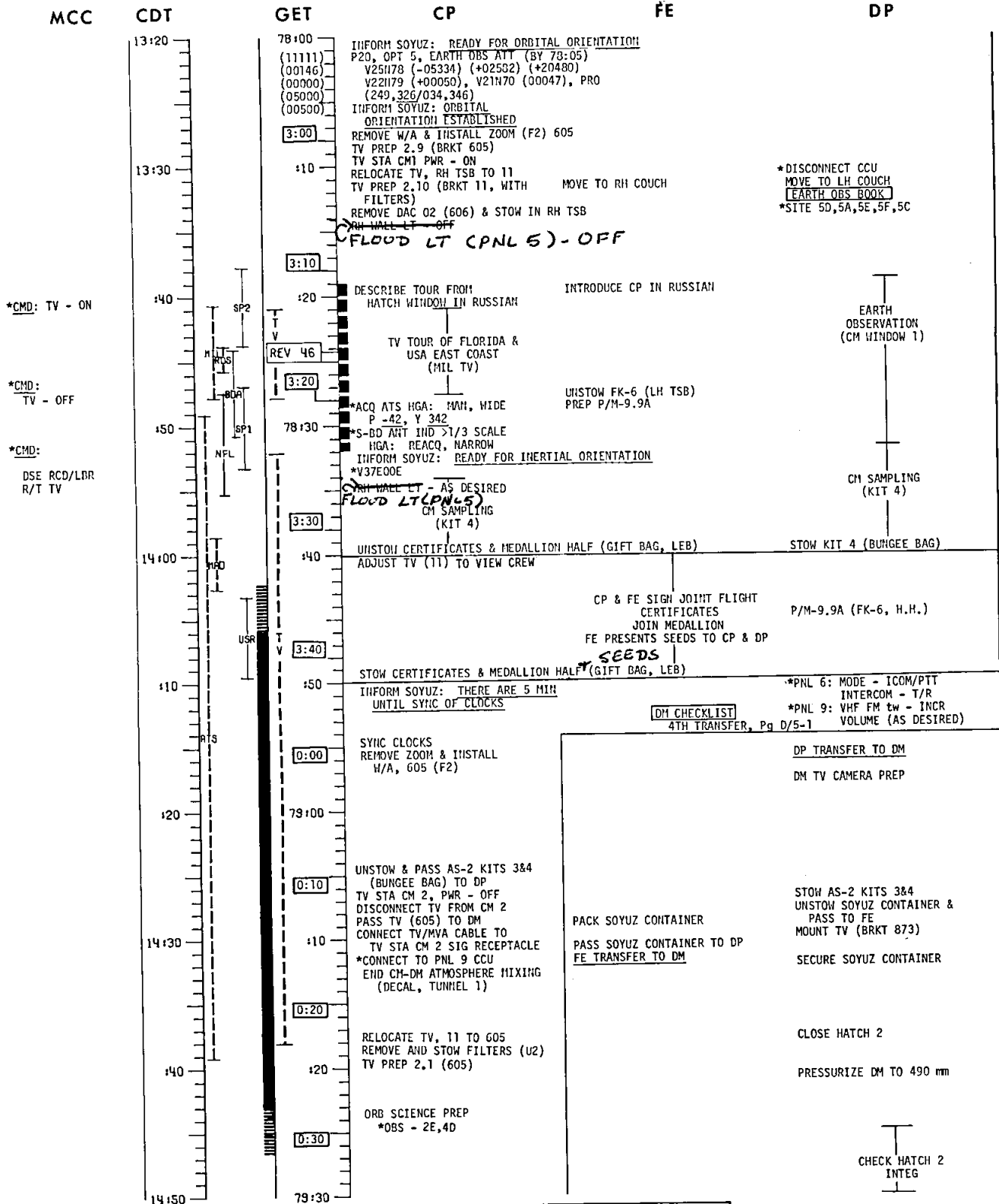
AC



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-31

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	45-46



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-32

7-3-76

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	53-54

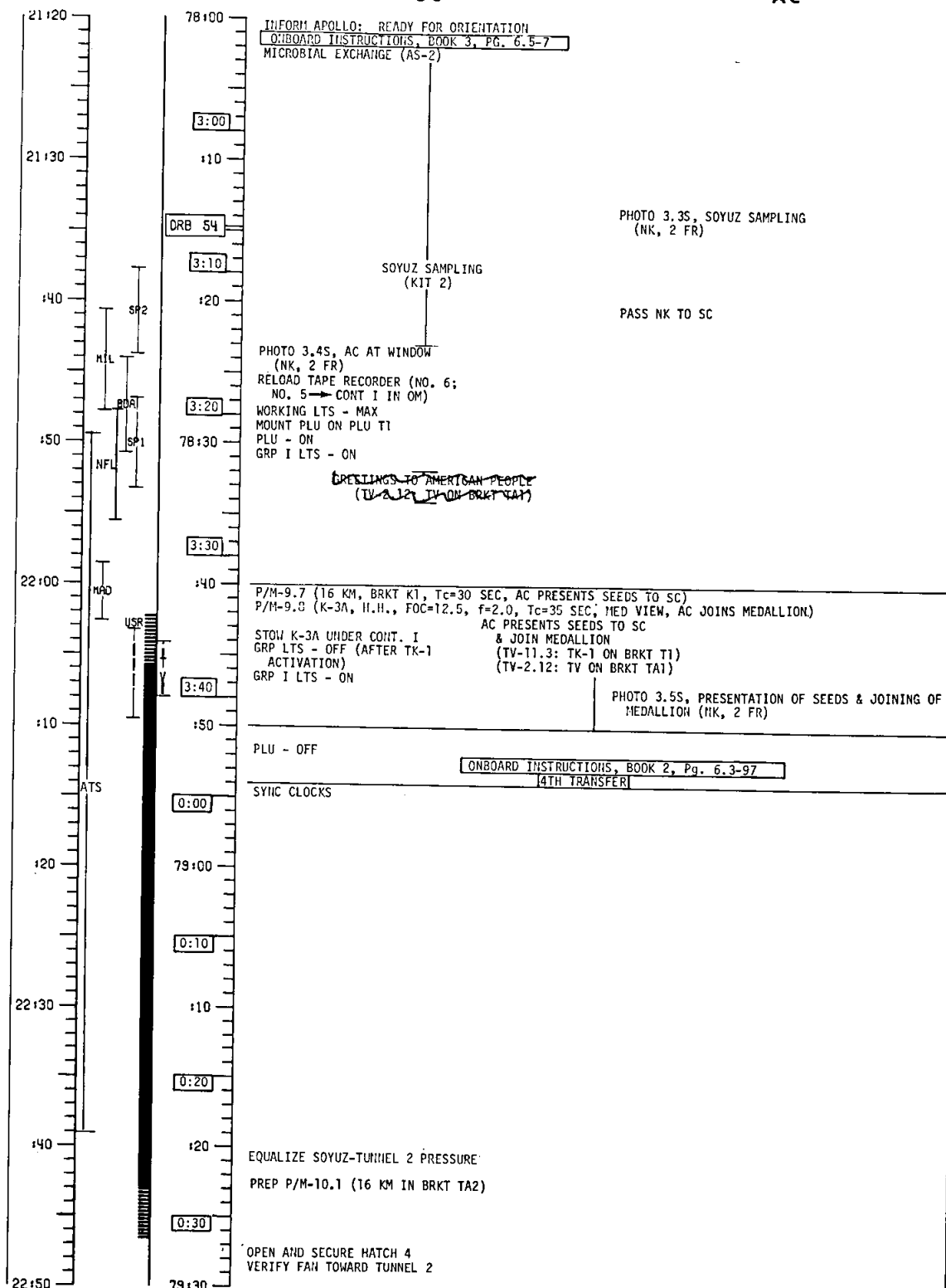
MCC

MT

GET

SC

AC

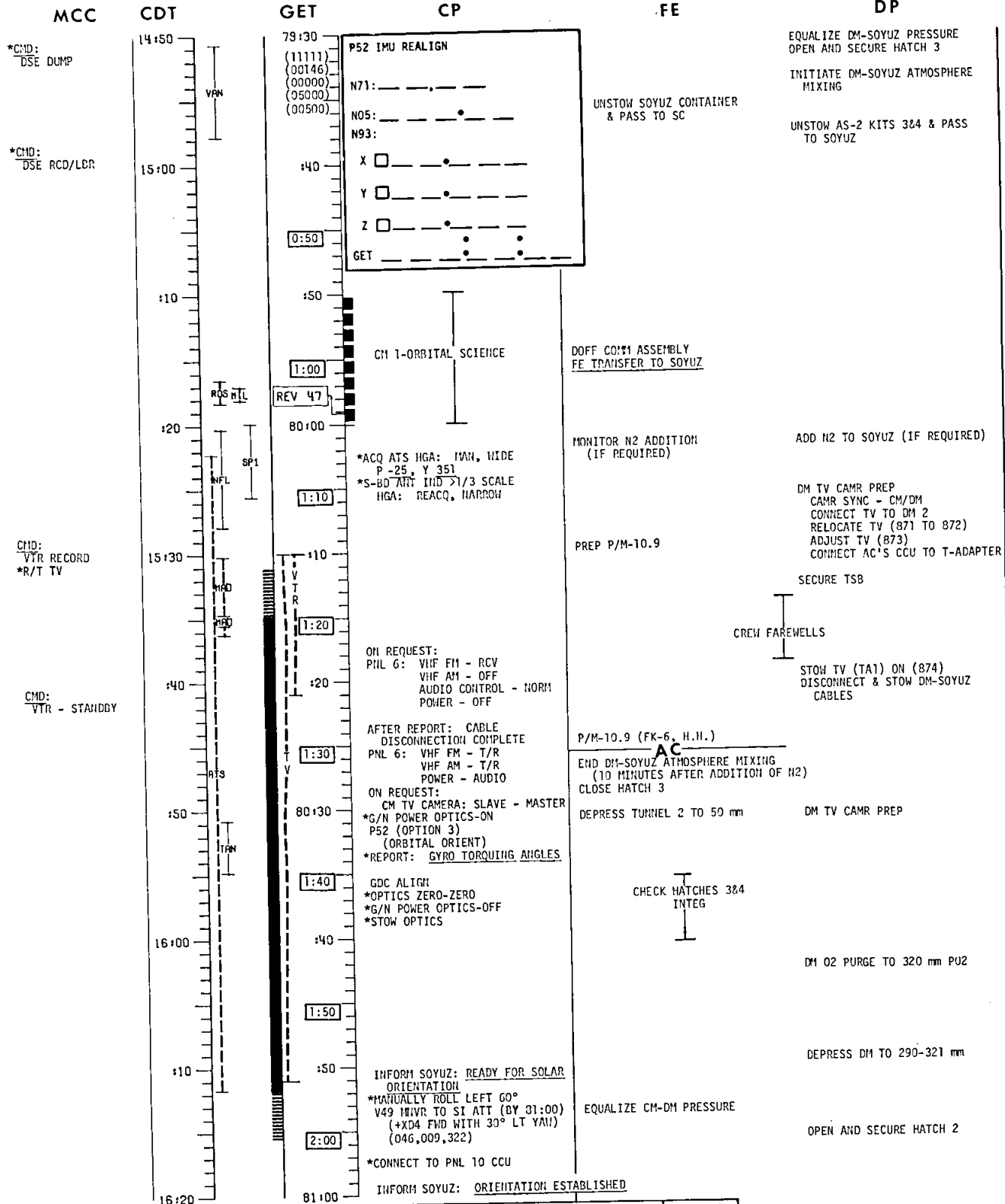


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-33

7-3-75

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	46-47



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-34

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	54-55

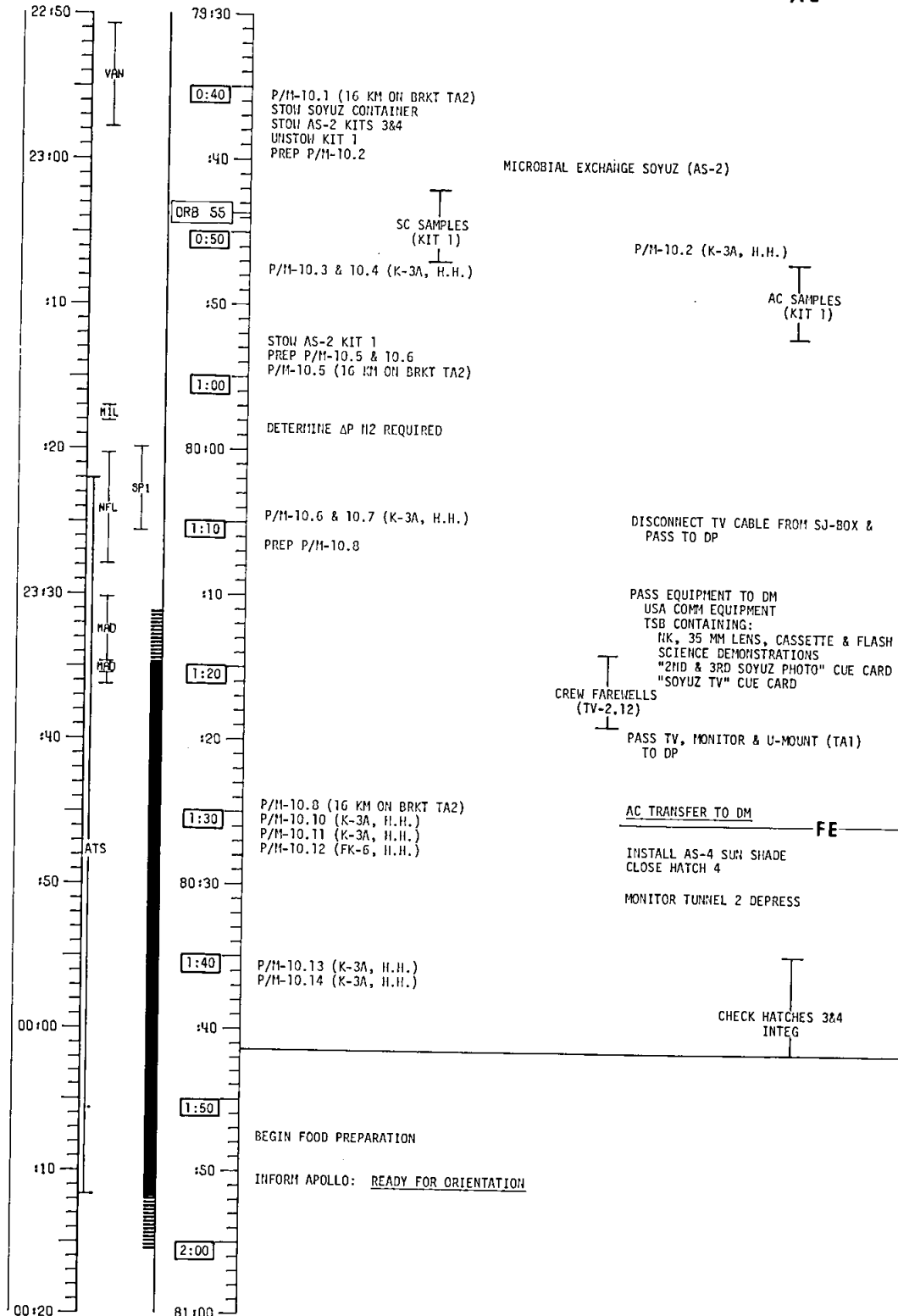
MCC

MT

GET

SC

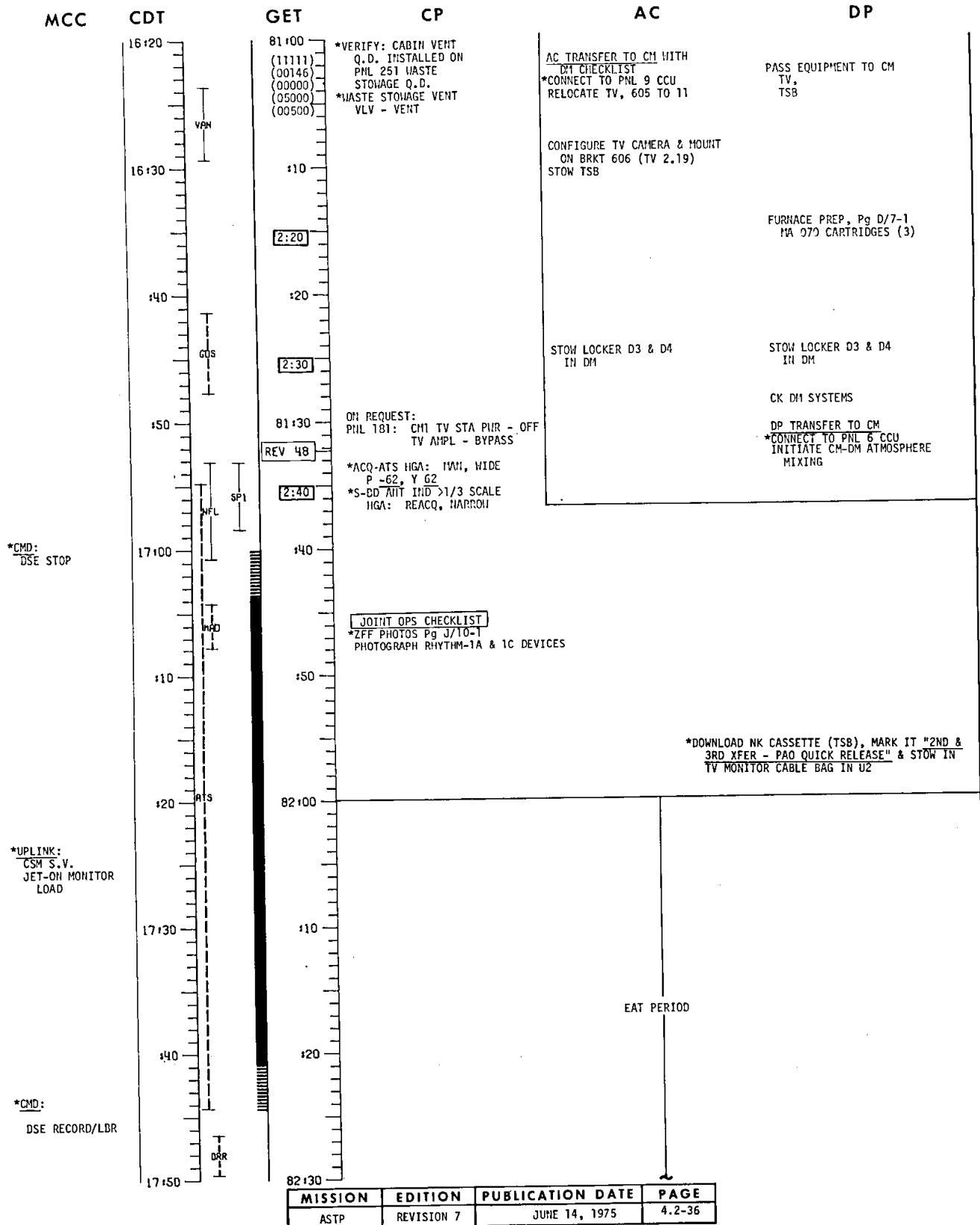
AC



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-35

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	47-48



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	55-56

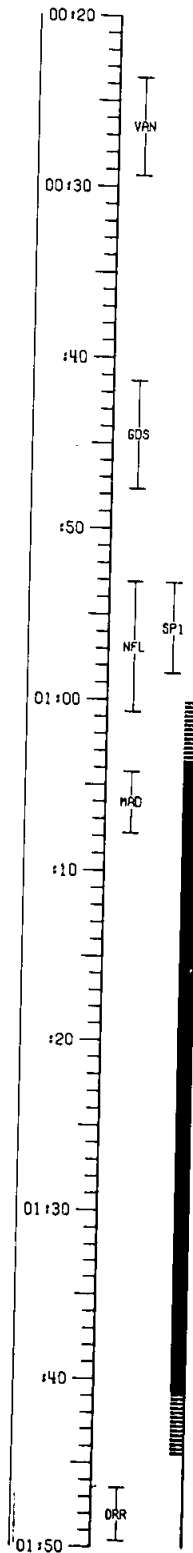
MCC

MT

GET

SC

FE



RELEASE CONTAINER 1
TRANSFER POT. CONDENSATE COLLECTOR
TO OM

PACK IN CONTAINER 1:
MA 150 CARTRIDGES (AS-3)

PACK IN CONTAINER 5:
FLAGS, JOINT FLIGHT CERTIFICATE, MEDALLION,
PLAQUE, SEEDS

OM TAPE RCDR - OFF
RELOAD OM TAPE RECORDER
(NO. 3 FROM CONT 1 IN DV;
NO. 4, 5, 6, 10 -> CONT 1
IN DV)

*610N 11115 ONBOARD
DOCUMENTATION CASE 1*

INFORM MCC: HATCH 4 CLOSED
& PRESSURE TIGHT

PRESLEEP SYSTEMS CHECKS

INFORM MCC: SYSTEM CHECK RESULTS
& CREW CONDITION

ONBOARD INSTRUCTIONS, BOOK 3, Pg 6.5-3

AS-1

MEASURE TEMPERATURE OF BIOKAT-M DEVICE & WRITE
DOWN

UNSTOW CAPSULE FROM BIOKAT-M
DEFINE MICROORGANISMS' GROWTH LIMIT
WRITE DOWN RESULTS:

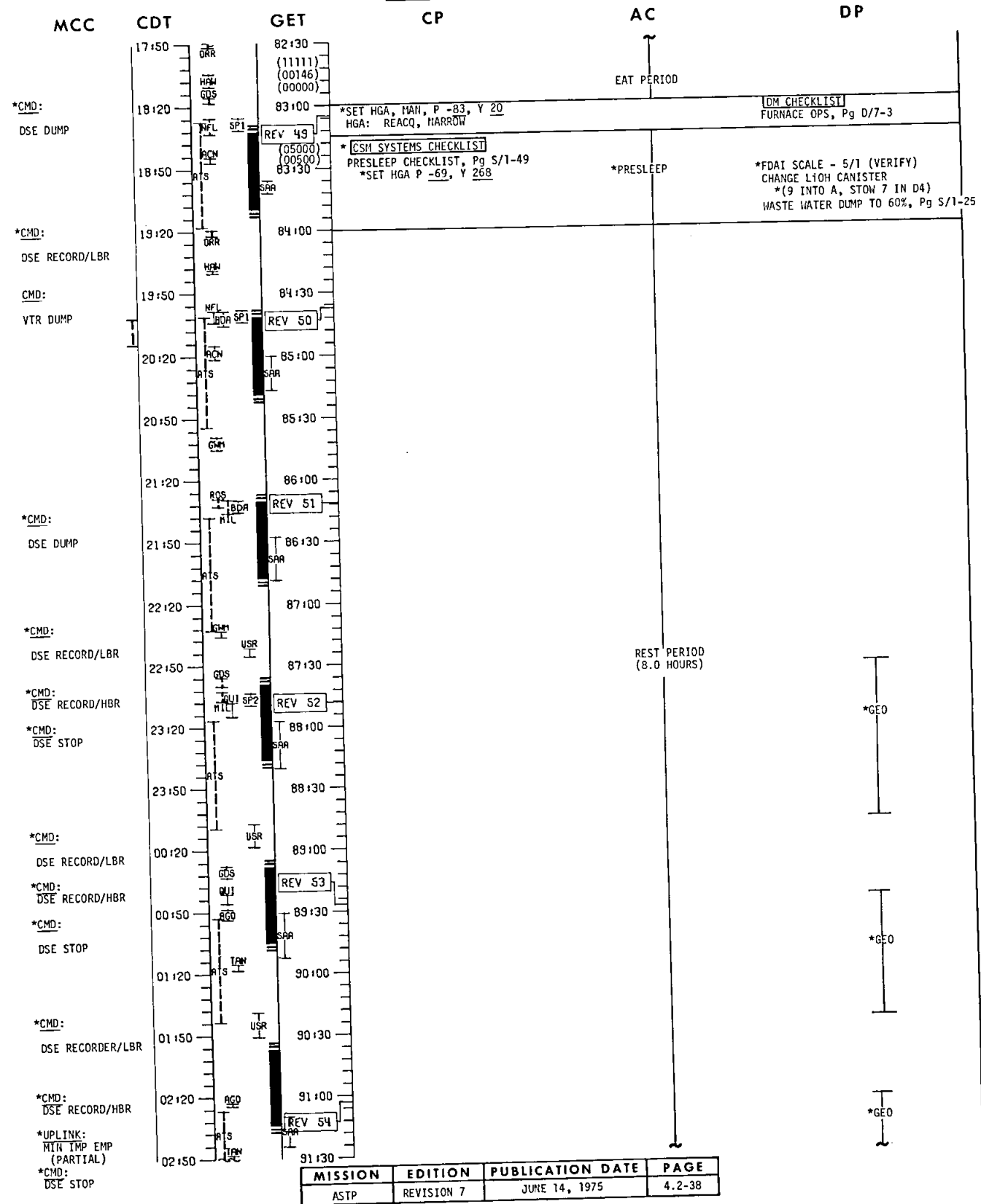
STOW CAPSULE IN THE DEVICE

EAT PERIOD

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-37

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	48-54



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	56-62

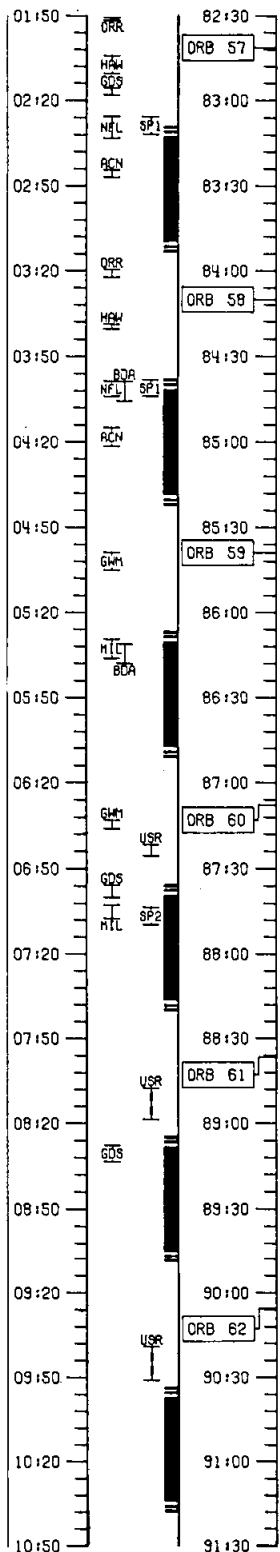
MCC

MT

GET

SC

FE



PERSONAL TIME

REST PERIOD
(7 HR, 10 MIN)

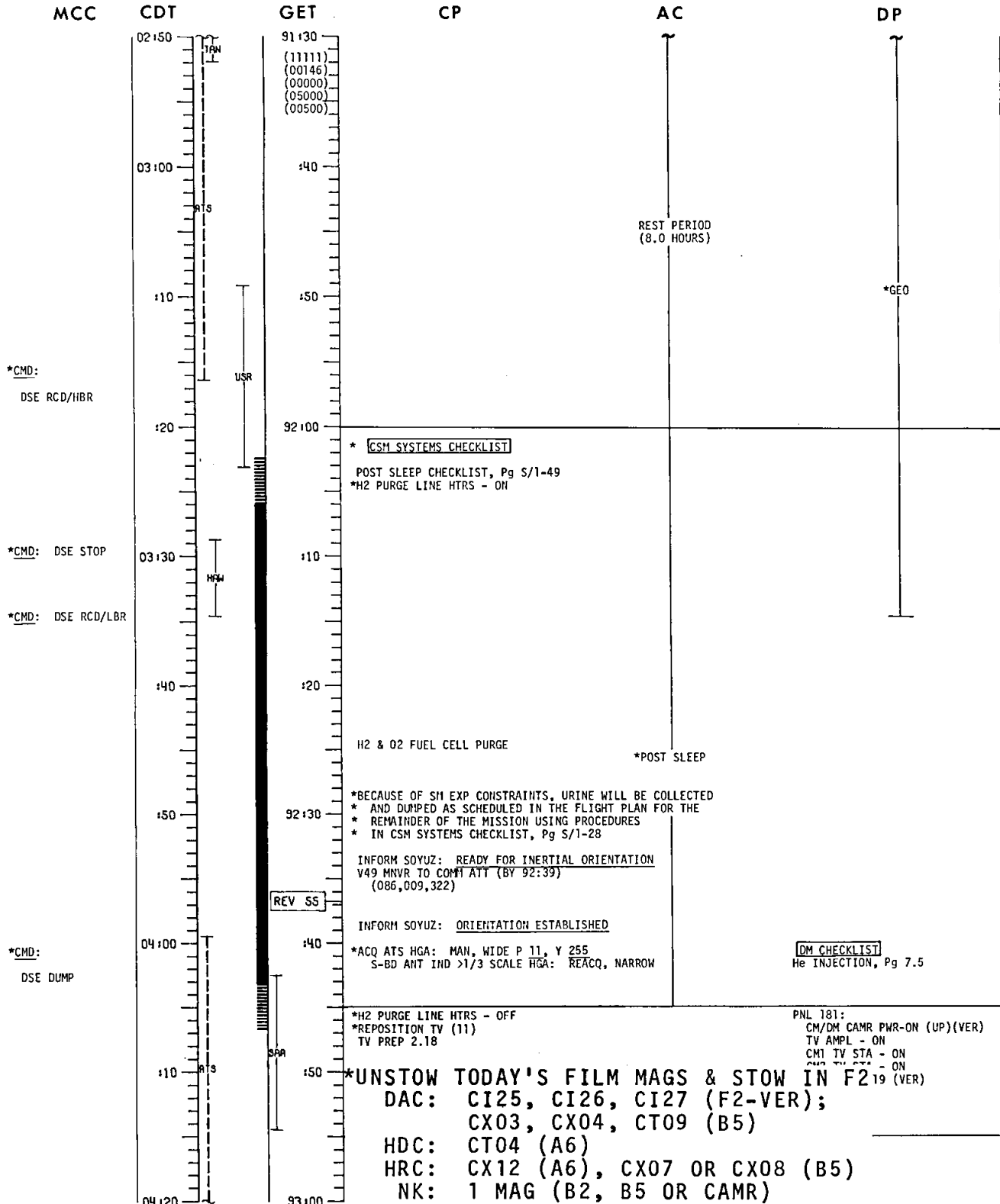
PERSONAL TIME

BEGIN FOOD PREPARATION

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-39

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	54-55



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUN 19 1975	4.2-40

11-3-76

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	62-63

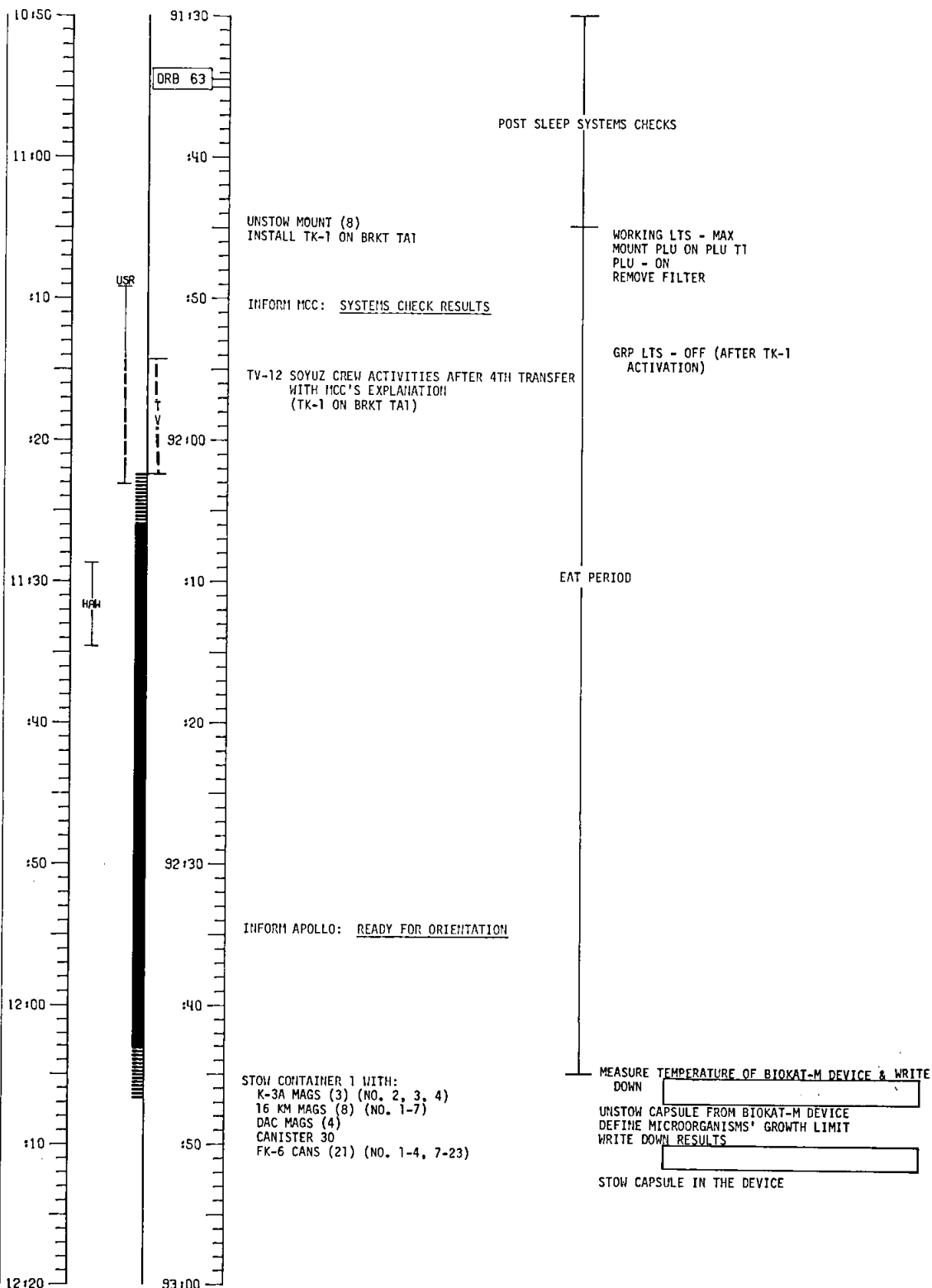
MCC

MT

GET

SC

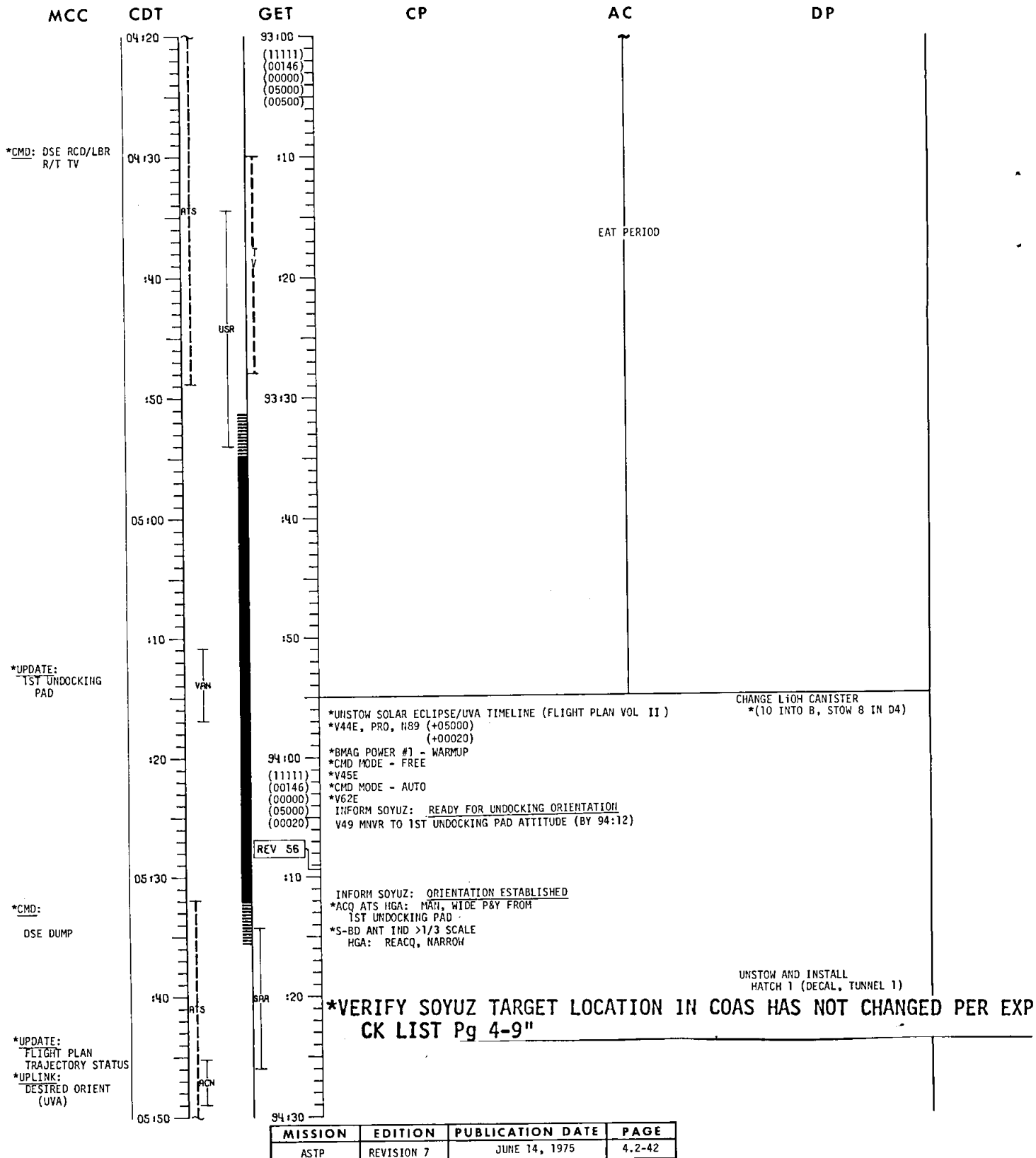
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MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-41

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	55-56



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	63-64

MCC

MT

GET

SC

FE



MOUNT TK-1 ON BRKT TA3
MOUNT PLU ON PLU T2
WORKING LTS - MAX
PLU - ON
REMOVE FILTER

SCHEDULED ACTIVITIES WITH
MCC'S EXPLANATION
(TV-14: TK-1 ON BRKT TA3)

PRESSURIZE
TO 800 MM

TV-14 (CONTINUANCE)

INSTALL TK-1 ON BRKT TA1
MOUNT PLU ON PLU T1

INFORM APOLLO: READY FOR ORIENTATION

ONBOARD INSTRUCTIONS, BOOK 3, Pg 6.5-3

AS-1

GRP LTS - OFF (AFTER TK-1
ACTIVATION)

SYSTEM CHECKS

PLU - OFF
WORKING LTS - AS DESIRED

ONBOARD INSTRUCTIONS, BOOK 3, Pg 6.5-9

AS-4 PREP

ONBOARD INSTRUCTIONS, BOOK 3, Pg. 6.2-75
PREPARE K-3A & FK-6 FOR PHOTOGRAPHING
APOLLO AFTER 2ND UNDOCKING

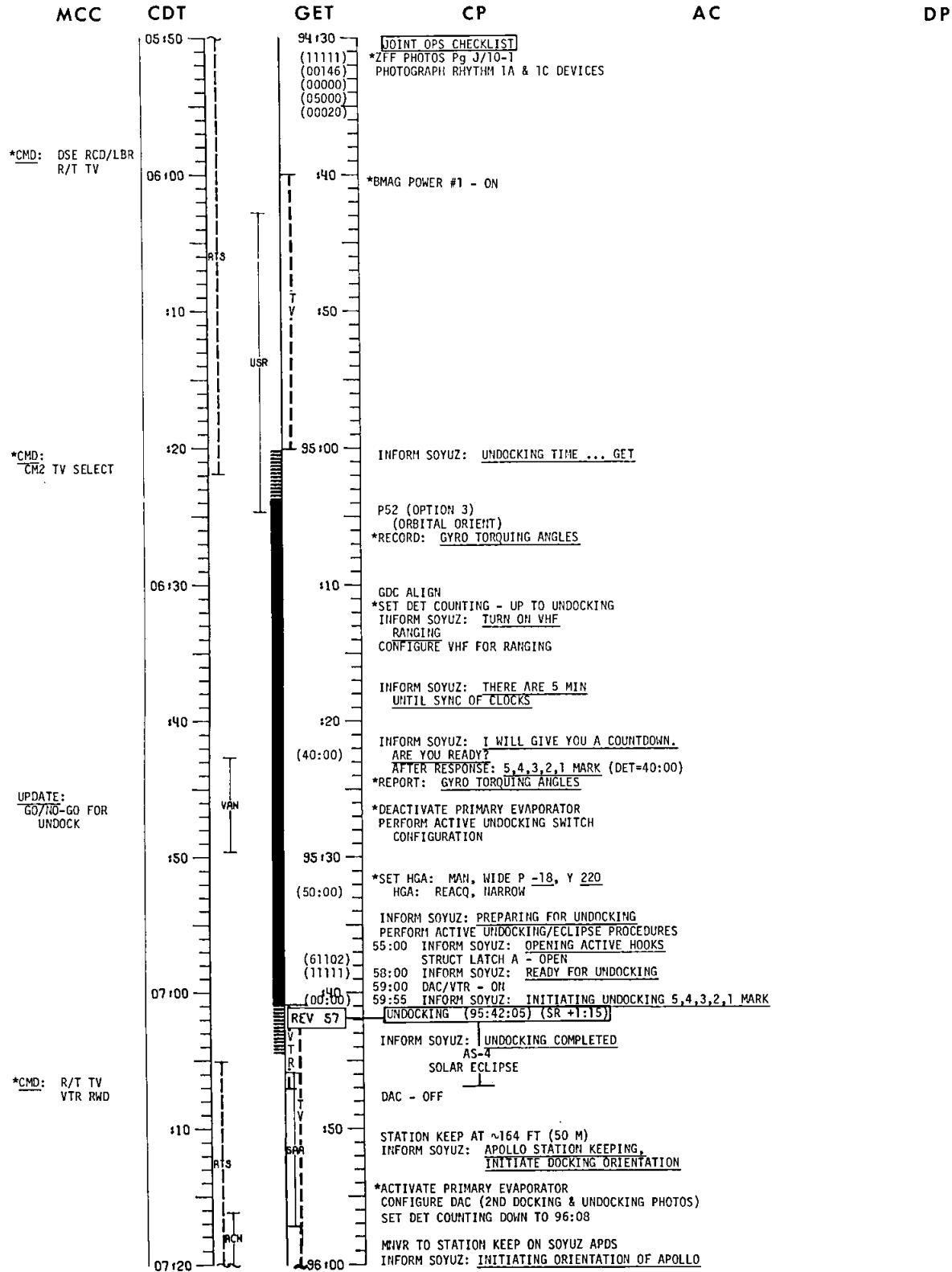
OM PRV - ELECTR CONTR

DON PGA'S

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-43

APOLLO DETAILED CREW ACTIVITIES PLAN

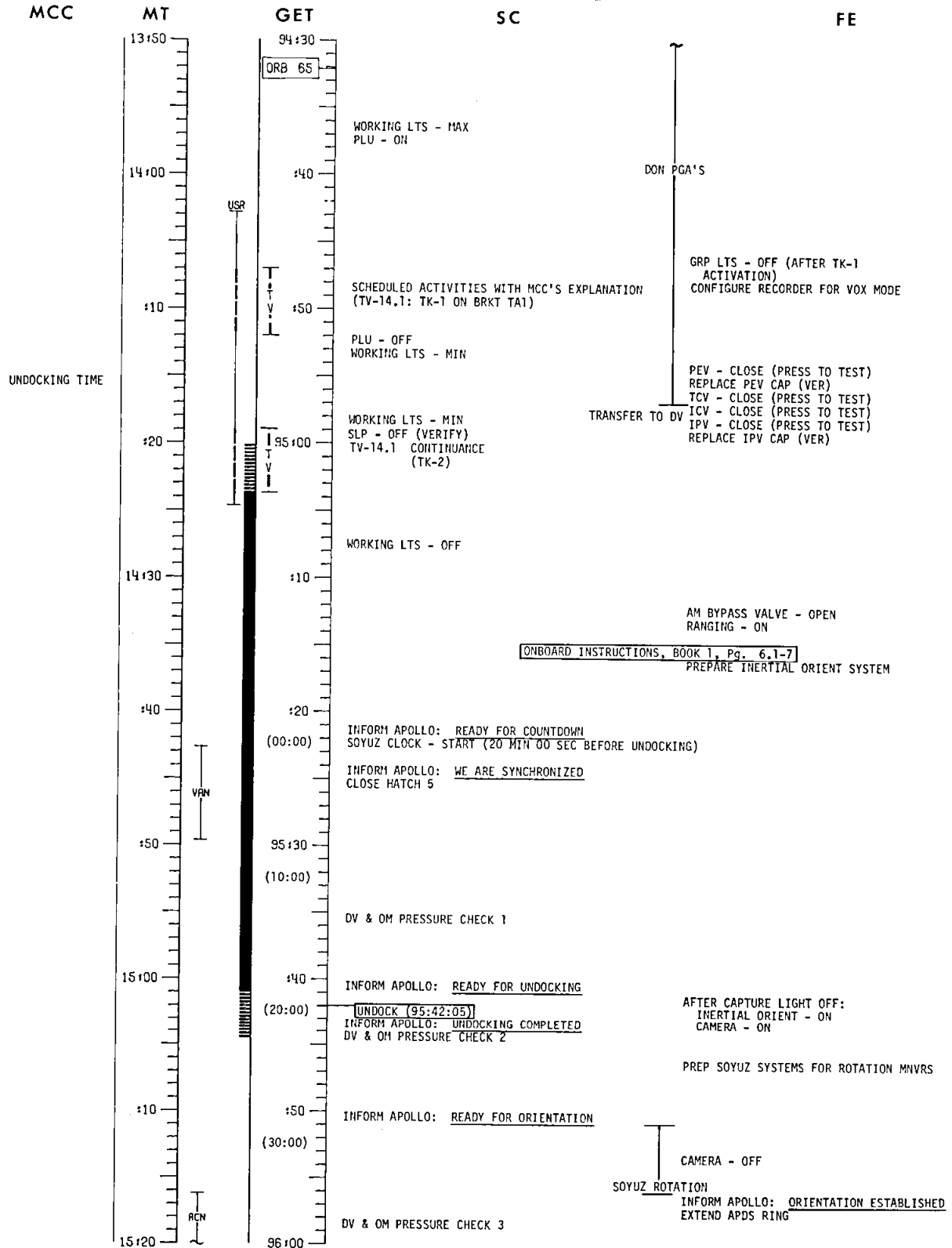
HOUSTON DATE	REV
JULY 19, 1975	56-57



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7		4.2-44

SOYUZ DETAILED CREW ACTIVITIES PLAN

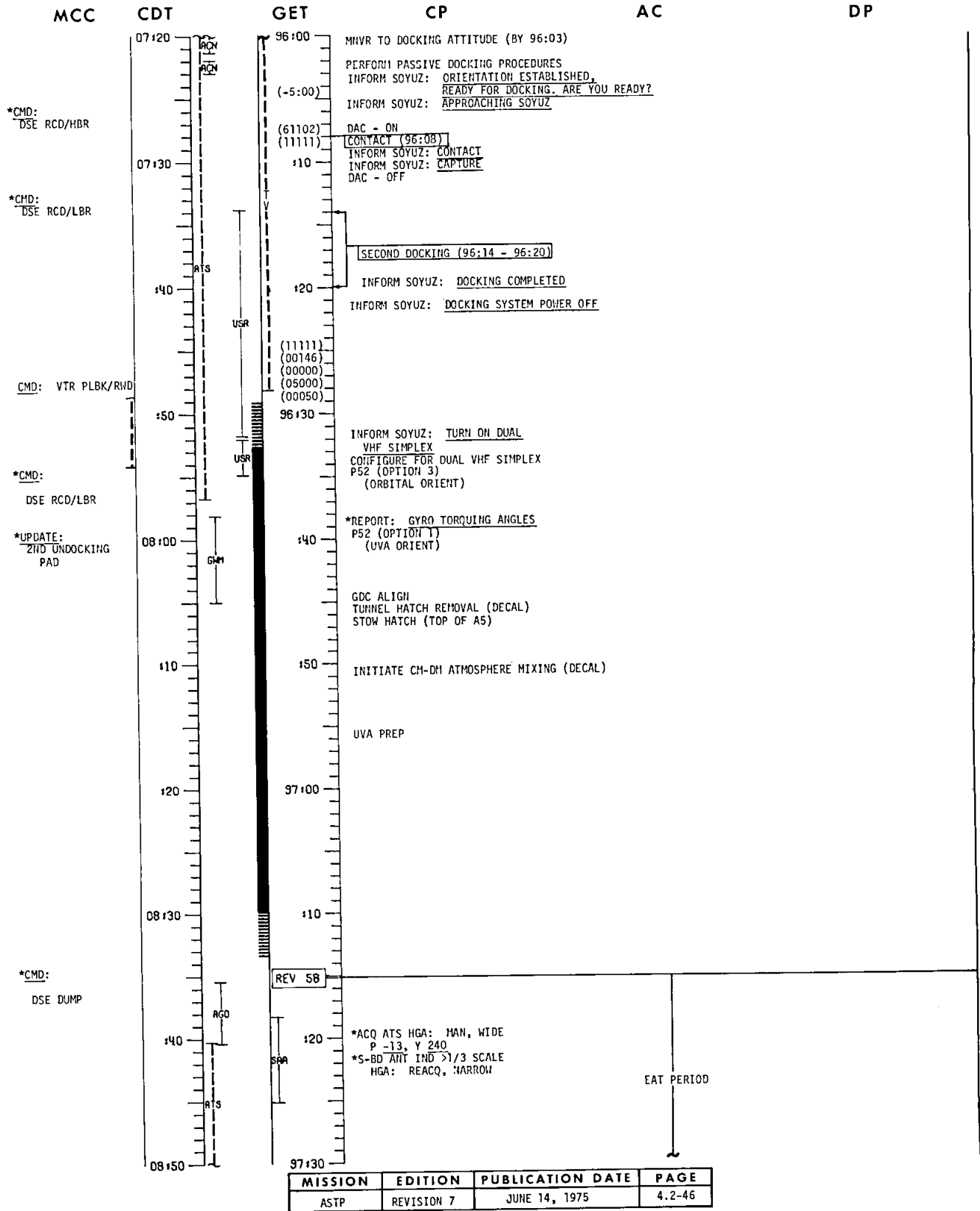
MOSCOW DATE	ORB
JULY 19, 1975	64-65



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-45

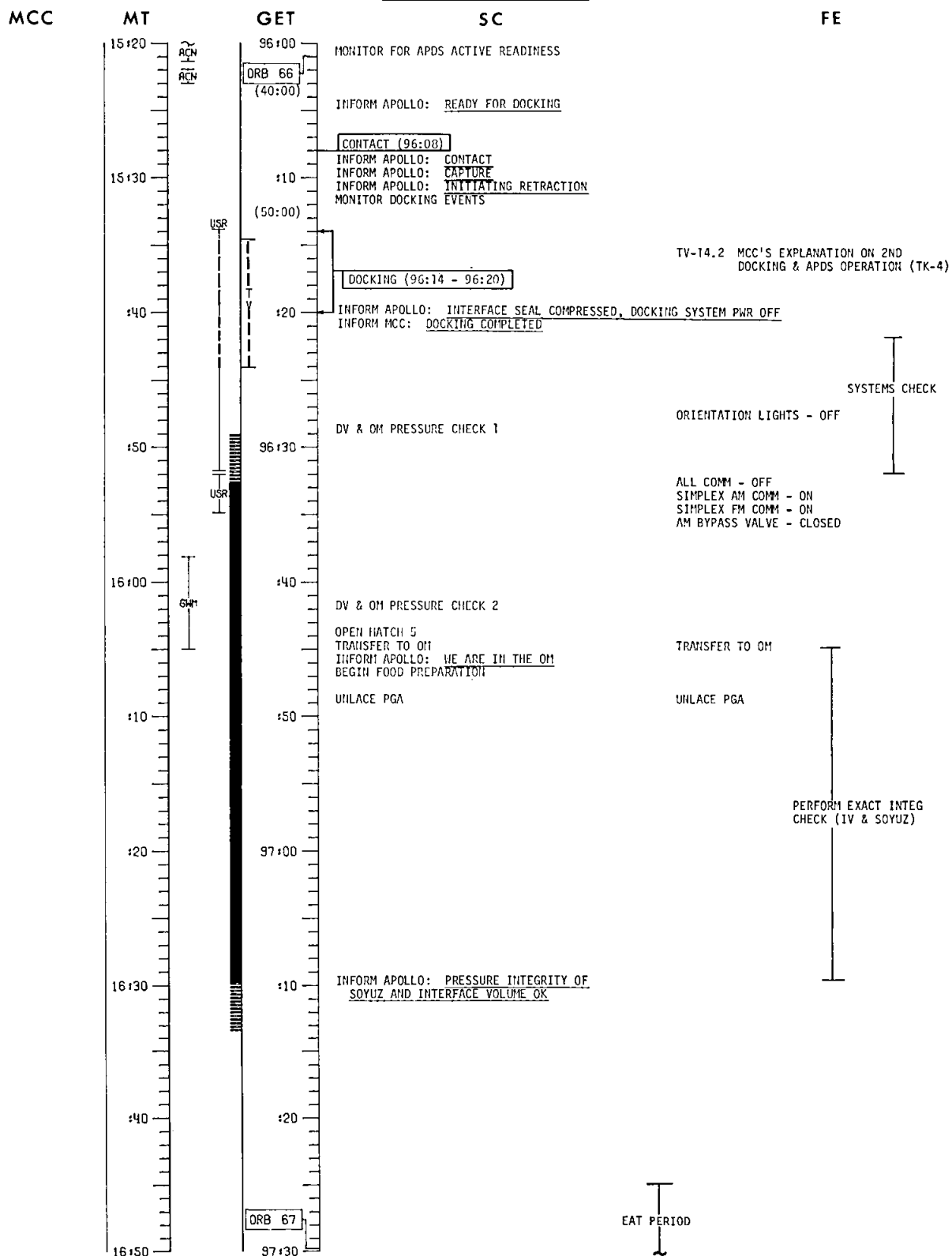
APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	57-58



SOYUZ DETAILED CREW ACTIVITIES PLAN

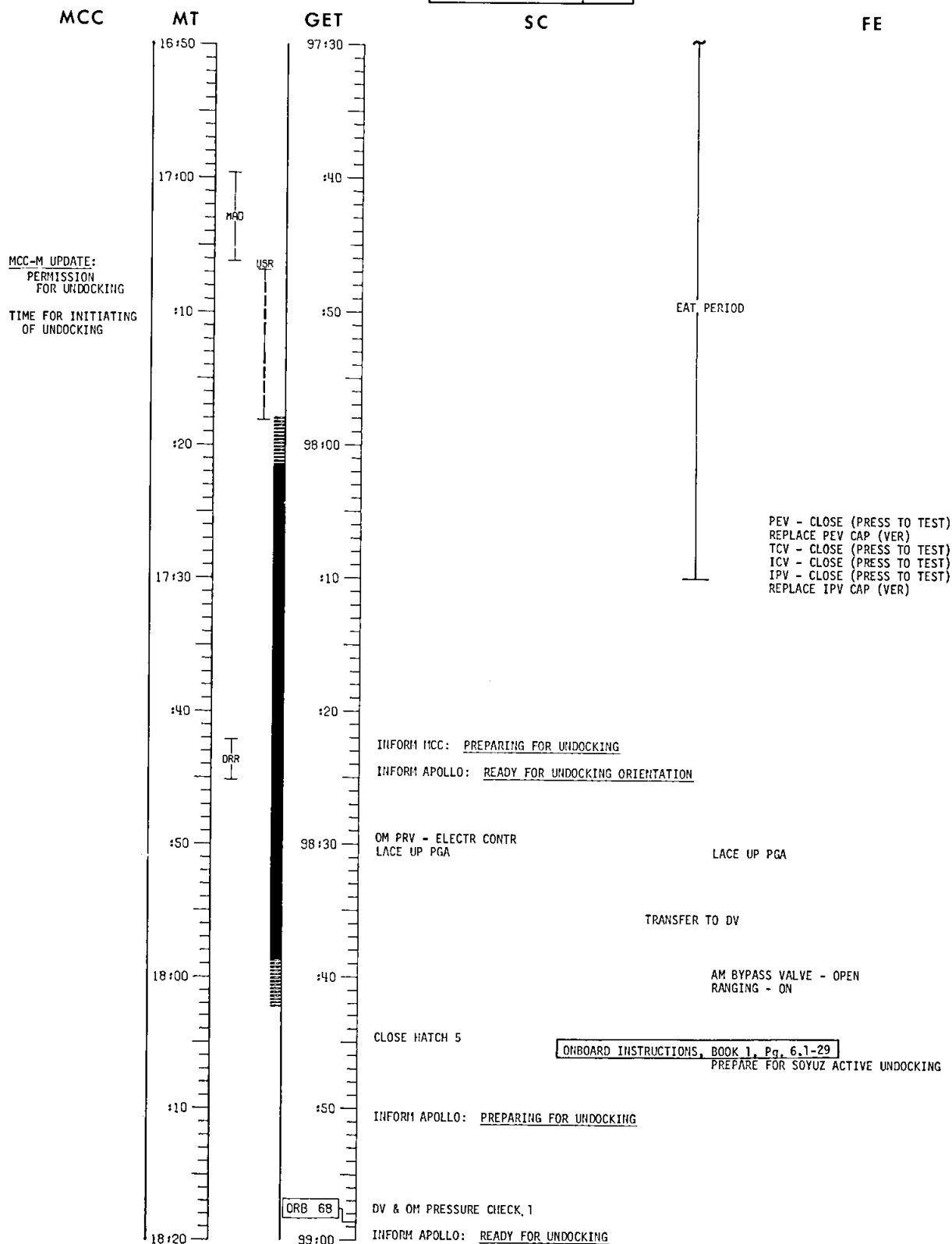
MOSCOW DATE	ORB
JULY 19, 1975	65-67



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-47

SOYUZ DETAILED CREW ACTIVITIES PLAN

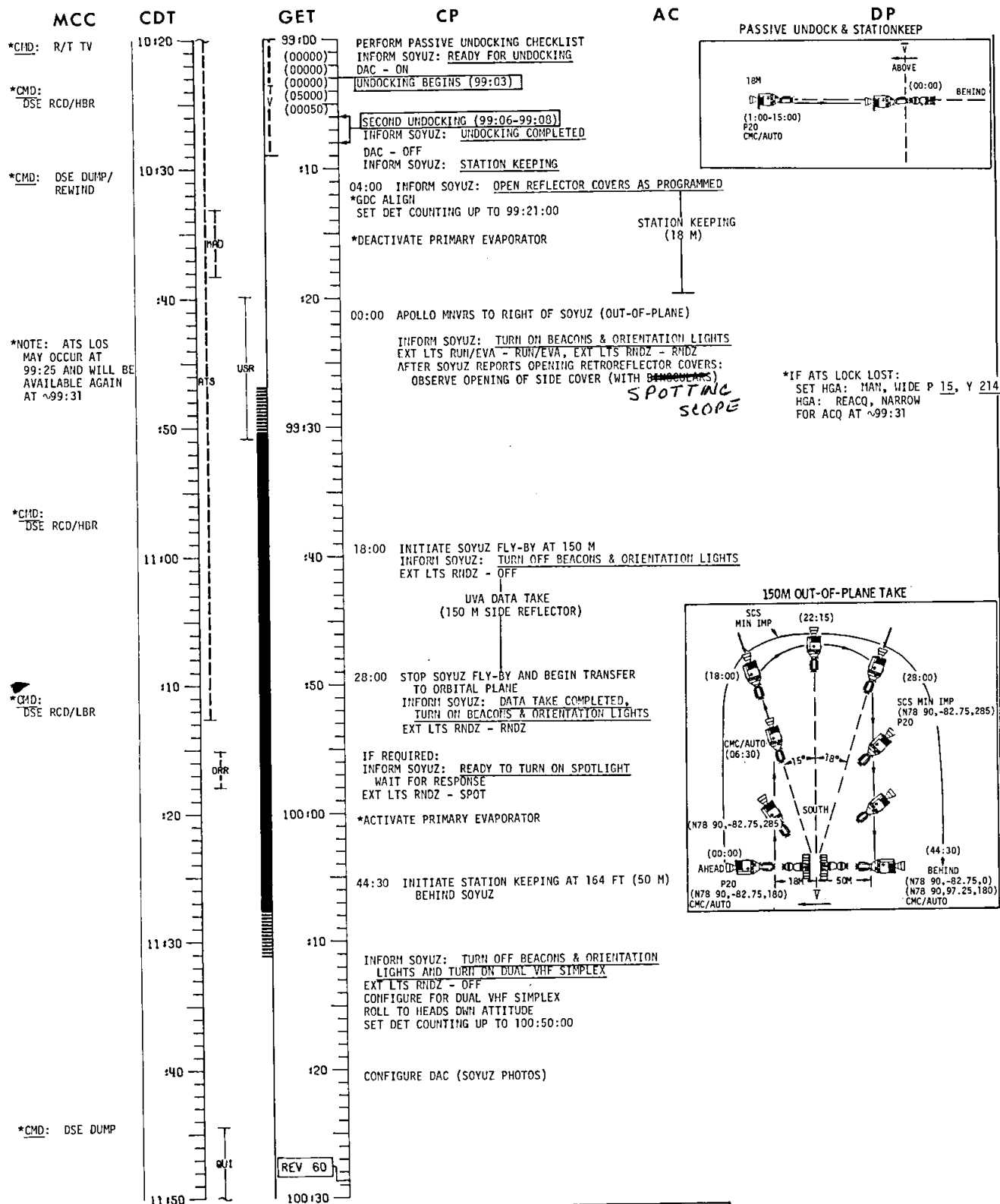
MOSCOW DATE	ORB
JULY 19, 1975	67-68



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-49

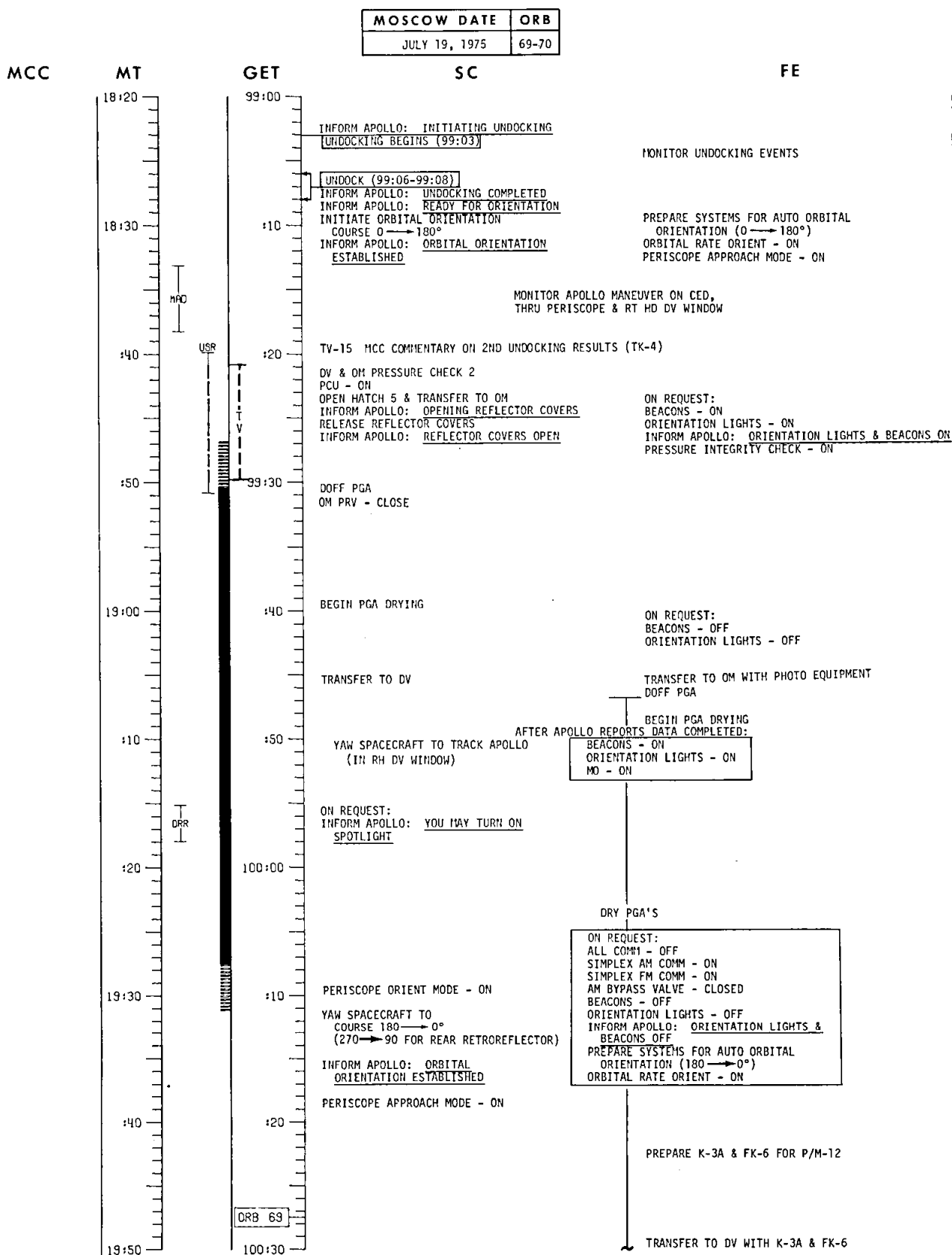
APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	59-60



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	7-3-75	4.2-50

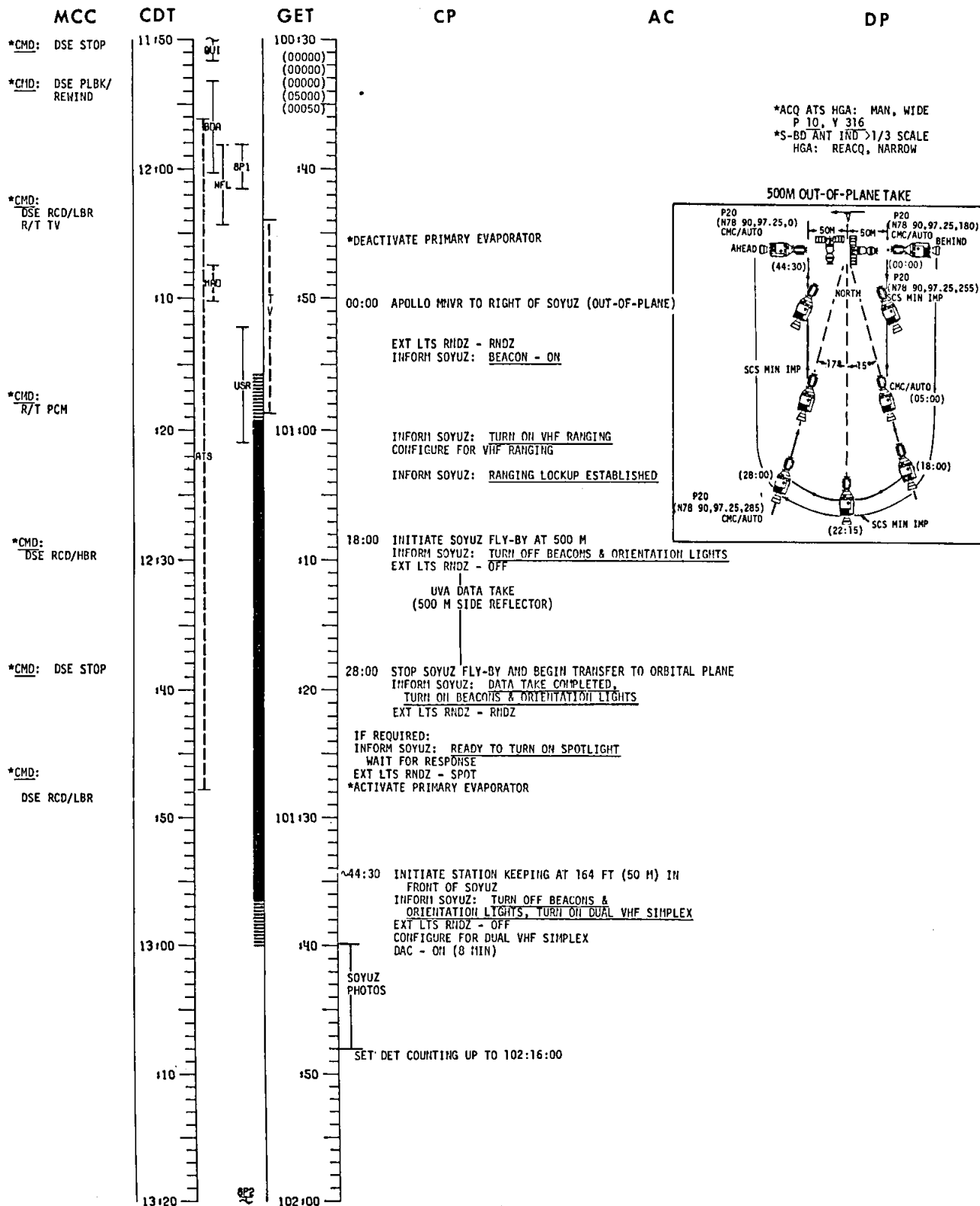
SOYUZ DETAILED CREW ACTIVITIES PLAN



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUN 14, 1975	4.2-51

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	60



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-52

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	70-71

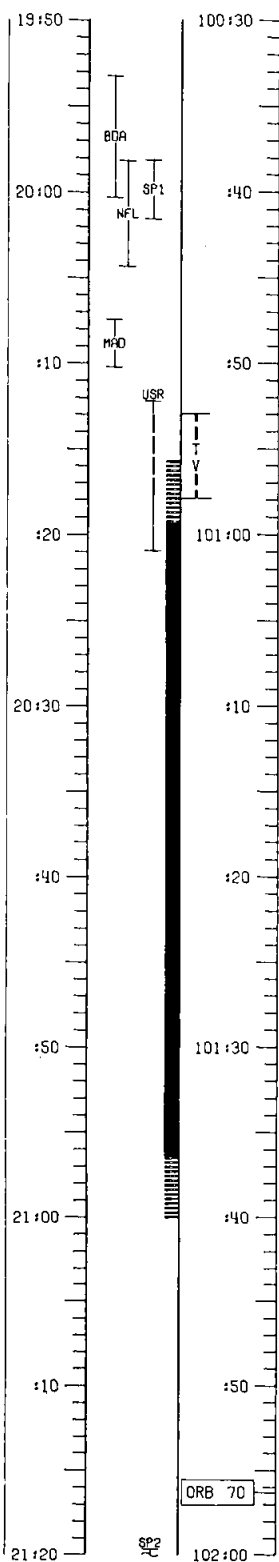
MCC

MT

GET

SC

FE



TV-18 MCC REPORT ON PROGRAM ACCOMPLISHING (TK-2)

SELECT MAX DENSITY FILTER
EXTERNAL TV CAMERA - OFF
BEACONS - ON
ORIENTATION LIGHTS - ON
INFORM APOLLO: ORIENTATION LIGHTS & BEACONS ON

AM BYPASS VALVE - OPEN
VHF AM HEADSET MICR - OFF
RANGING - ON
AFTER APOLLO REPORTS RANGING LOCKUP ESTABLISHED
VHF AM HEADSET MICR - ON

ON REQUEST:
BEACONS - OFF
ORIENTATION LIGHTS - OFF

DRY PGA'S

AFTER APOLLO REPORTS DATA TAKE COMPLETED:
YAW SPACECRAFT TO TRACK APOLLO (IN RH DV WINDOW)
(YAW RIGHT IF REAR RETROREFLECTOR IS USED)
ON REQUEST:
INFORM APOLLO: YOU MAY TURN ON SPOTLIGHT

BEACONS - ON
ORIENTATION LIGHTS - ON
MO - ON

ON REQUEST:
ALL COMM - OFF
SIMPLEX AM COMM - ON
SIMPLEX FM COMM - ON
AM BYPASS VALVE - CLOSED
BEACONS - OFF
ORIENTATION LIGHTS - OFF
INFORM APOLLO: ORIENTATION LIGHTS & BEACONS OFF
ORBITAL ORIENTATION MODE - OFF
MO - ON

PREPARE TO PHOTOGRAPH APOLLO

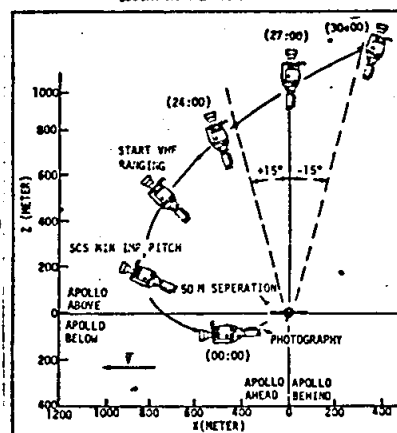
MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-53

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	60-61

MCC	CDT	GET	CP	AC	DP
*CMD: DSE DUMP	13:20	102:00			
		(00000)			
		(00000)			
		(00000)			
		(05000)			
		(00050)			
		REV 61			
	13:30	:10	52:00 TRANSLATE DWN FOR SOYUZ PHOTOS INFORM SOYUZ: INITIATING PITCH ROTATION PITCH UP 2°/SEC FOR 360°		
*CMD: DSE RCD/LBR R/T TV			INFORM SOYUZ: PITCH ROTATION COMPLETED		
		00:00	APOLLO SEP (102:16)		*ACQ ATS HGA: MAN, WIDE P -35, Y 144 *S-BD ANT IND >1/3 SCALE HGA: REACQ, NARROW
	:40	:20	*DEACTIVATE PRIMARY EVAPORATOR		
		102:30	INFORM SOYUZ: TURN ON VHF RANGING CONFIGURE FOR VHF RANGING INFORM SOYUZ: RANGING LOCKUP ESTABLISHED		
*CMD: R/T PCM	:50				
		21:00	START DATA TAKE INFORM SOYUZ: TURN OFF BEACONS & ORIENTATION LIGHTS		
*CMD: DSE RCD/HBR	14:00	:40	UVA DATA TAKE (1000 M TOP REFLECTOR)		
		~30:00	INFORM SOYUZ: AS-5 COMPLETED VHF RANGING - OFF EXT LTS RU/V-EVA - OFF *V48 (61112) (01111), V46E V49 MVR FOR UV IN-PLANE SCAN (BY 102:52)		
	:10	ATS LOS (61112) (01111)	~37:00 *V49 MVR TO OUT-OF-PLANE DATA ATT (BY 102:56)		
		ATS AOS	~41:00 *ACQ ATS HGA: MAN, WIDE P -30, Y 249 *S-BD ANT IND >1/3 SCALE, HGA: REACQ, NARROW		
	:20	103:00	*PREP FOR URINE DUMP, Pg S/1-28		
			*ACTIVATE PRIMARY EVAPORATOR, Pg S/1-18		
	14:30	:10	*BMAG POWER #1 - OFF		
	:40	:20	*MARK HRC MAG "SOYUZ PHOTOS - PAO QUICK RELEASE" & STOW IN TV MONITOR CABLE BAG IN U2		
	14:50	103:30	WASTE WATER DUMP TO 60%, Pg S/1-25 *URINE DUMP, Pg S/1-28		

1000M IN-PLANE DATA TAKE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7		4.2-54

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	71-72

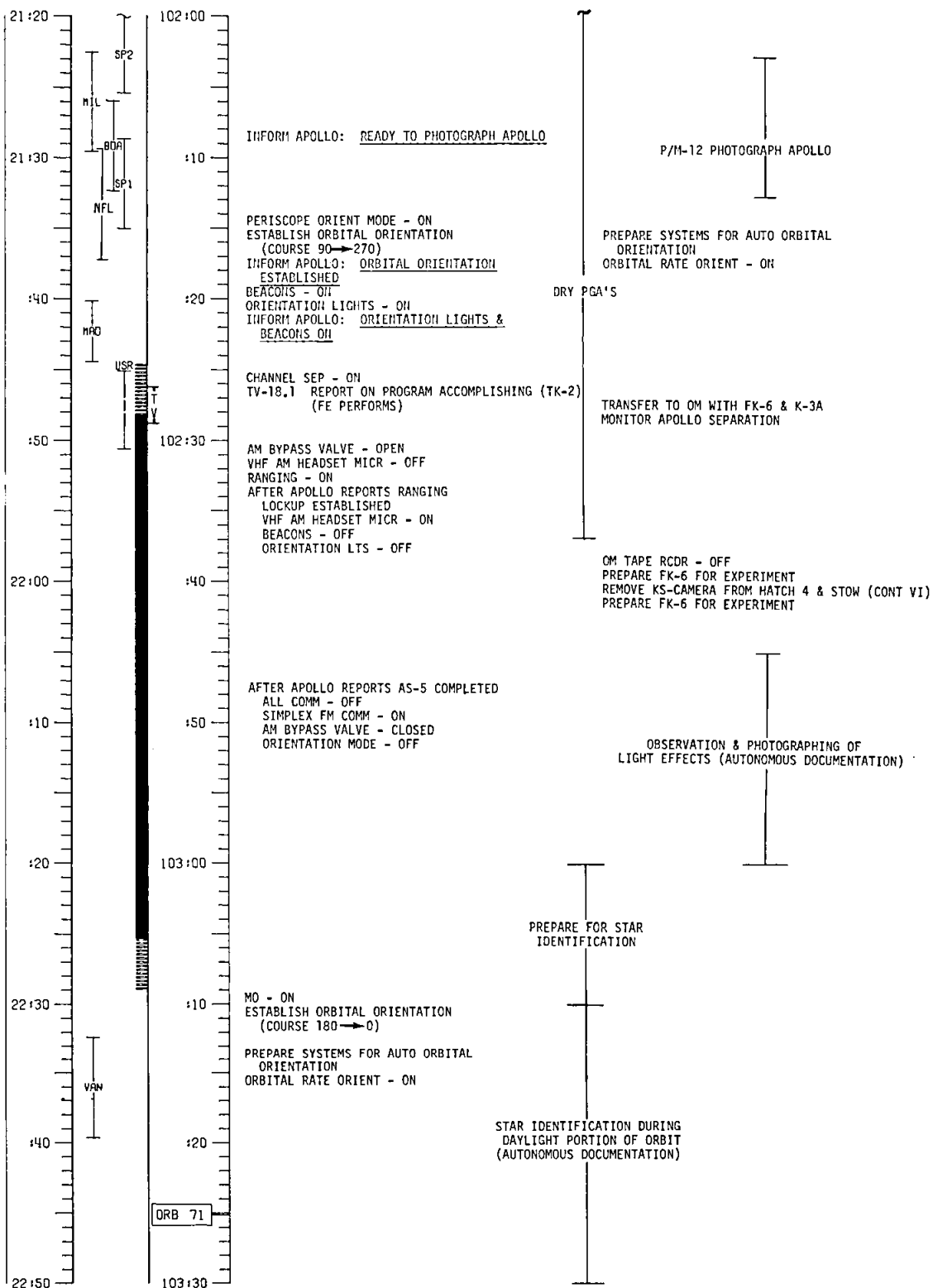
MCC

MT

GET

SC

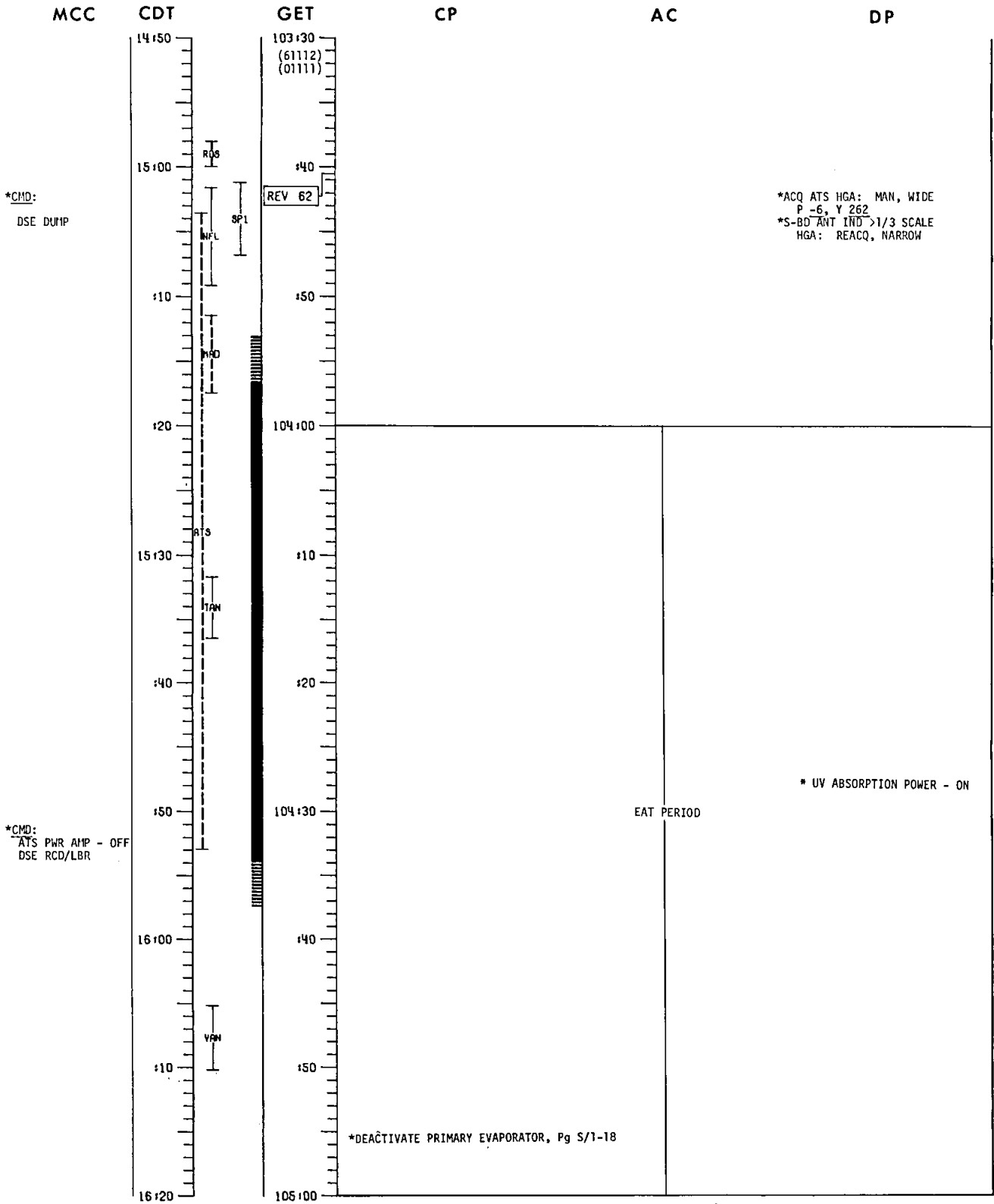
FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-55

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	61-62



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-56

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	71-72

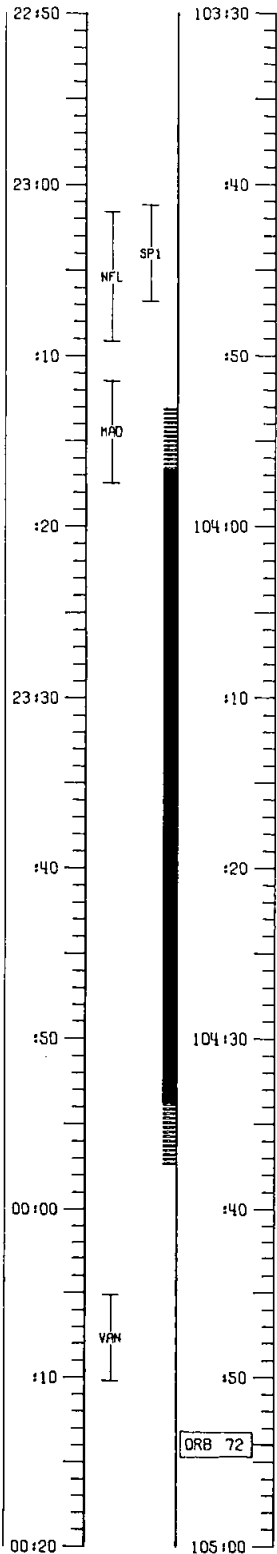
MCC

MT

GET

SC

FE



AUTONOMOUS ACTIVITIES

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-57

ASTP 40301.7

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4.3 Post Separation Orbital Phase

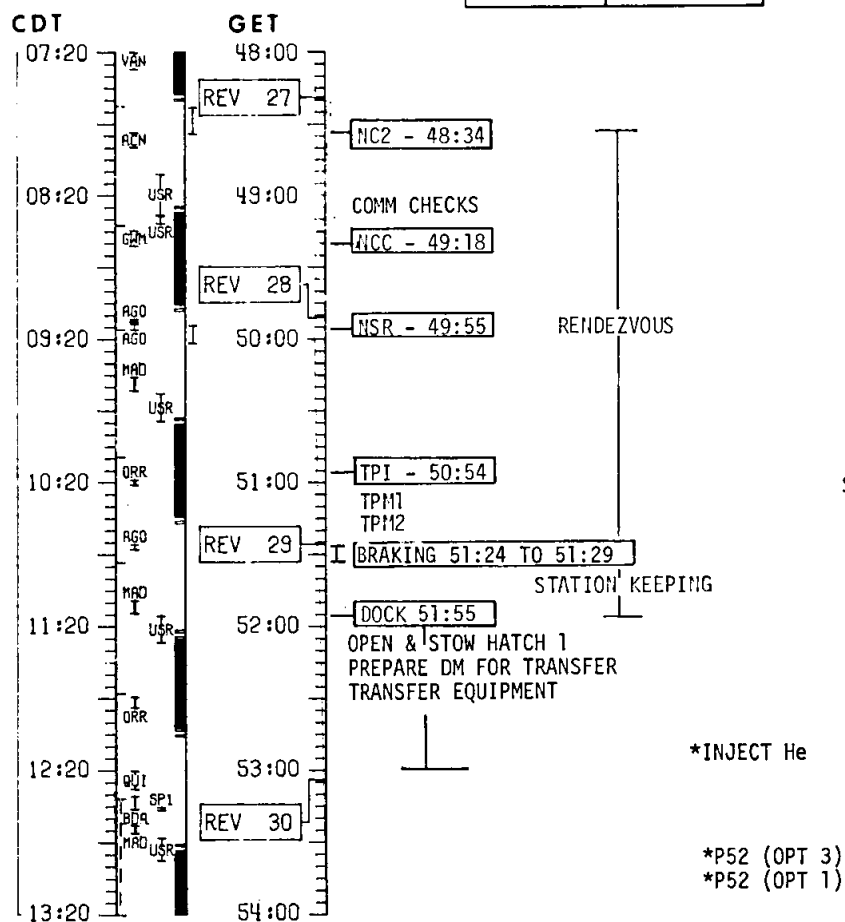
After the Apollo separation maneuver at approximately 106 hours 34 minutes GET each spacecraft will conduct independent activities. The Soyuz will continue in orbit for approximately 36 hours after separation, landing at about 142 hours 30 minutes GET in Kazakhstan. The Apollo will continue to orbit for up to 189 hours after separation, landing in the Pacific Ocean near Hawaii.

SECTION 5

SUMMARY CREW ACTIVITIES PLAN

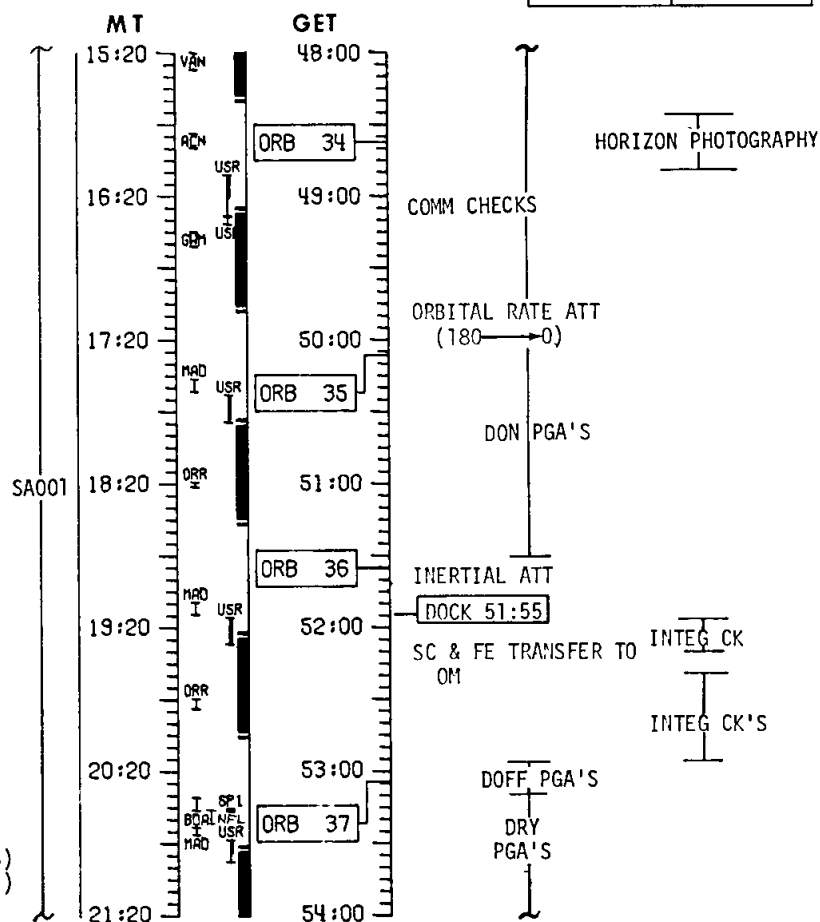
APOLLO

DATE	REV
7/17/75	26-30



SOYUZ

DATE	ORB
7/17/75	33-37

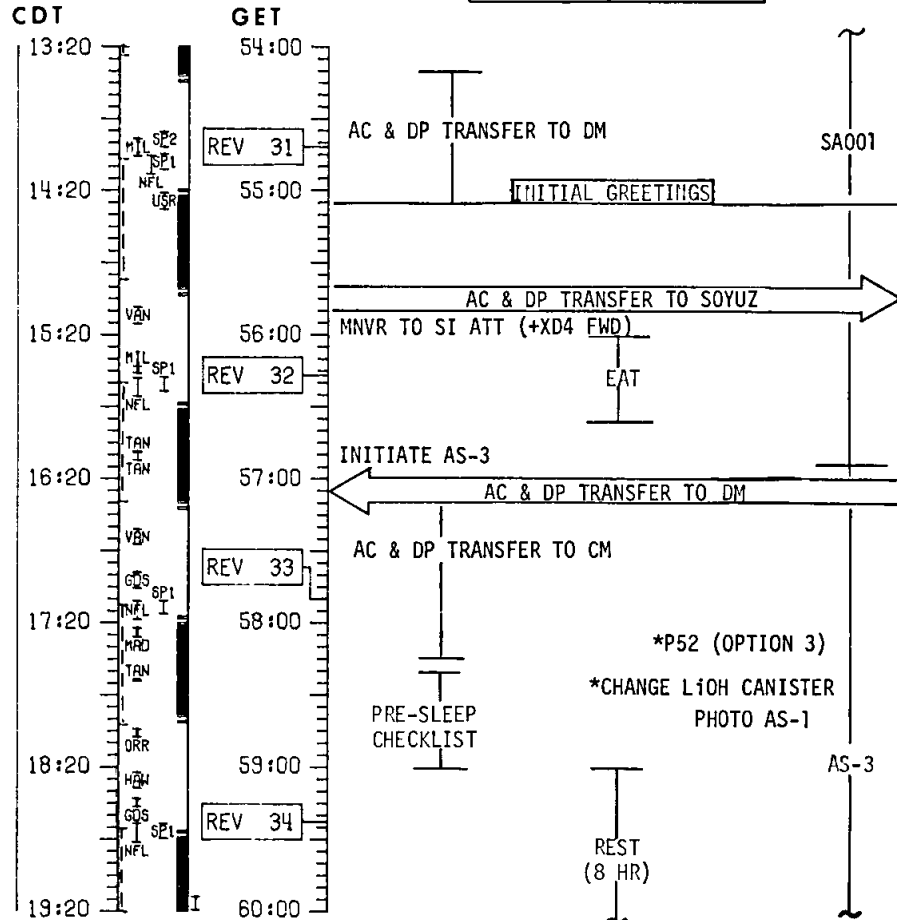


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-1

SUMMARY CREW ACTIVITIES PLAN

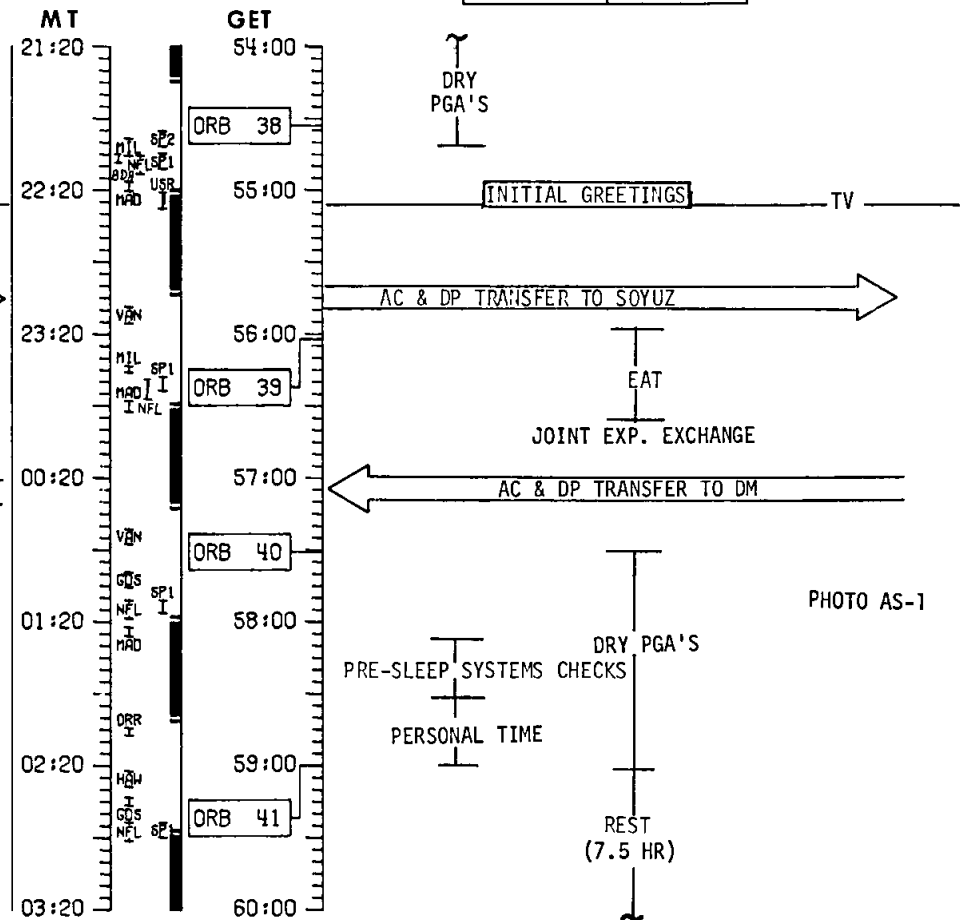
APOLLO

DATE	REV
7/17/75	30-34



SOYUZ

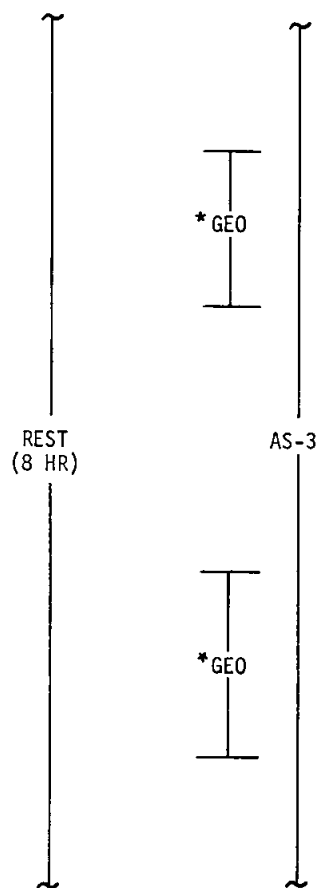
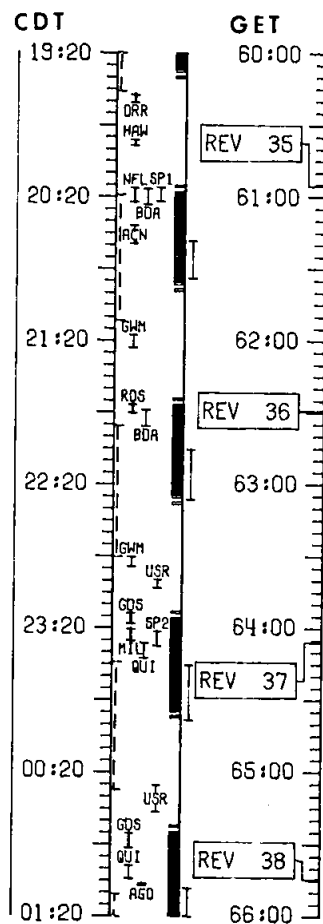
DATE	ORB
7/17/75	37-41



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-2

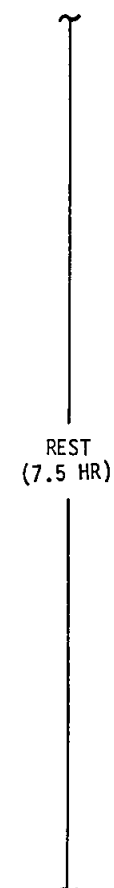
SUMMARY CREW ACTIVITIES PLAN APOLLO

DATE	REV
7/17/75	34-38



SOYUZ

DATE	ORB
7/18/75	41-45

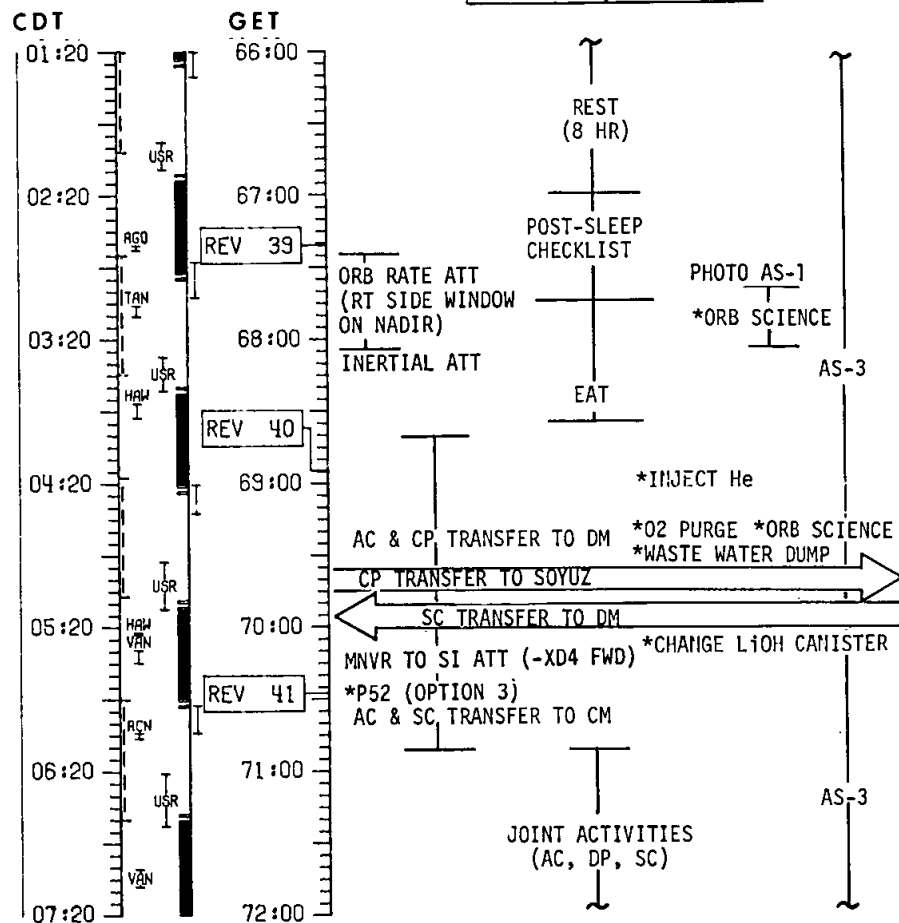


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-3

SUMMARY CREW ACTIVITIES PLAN

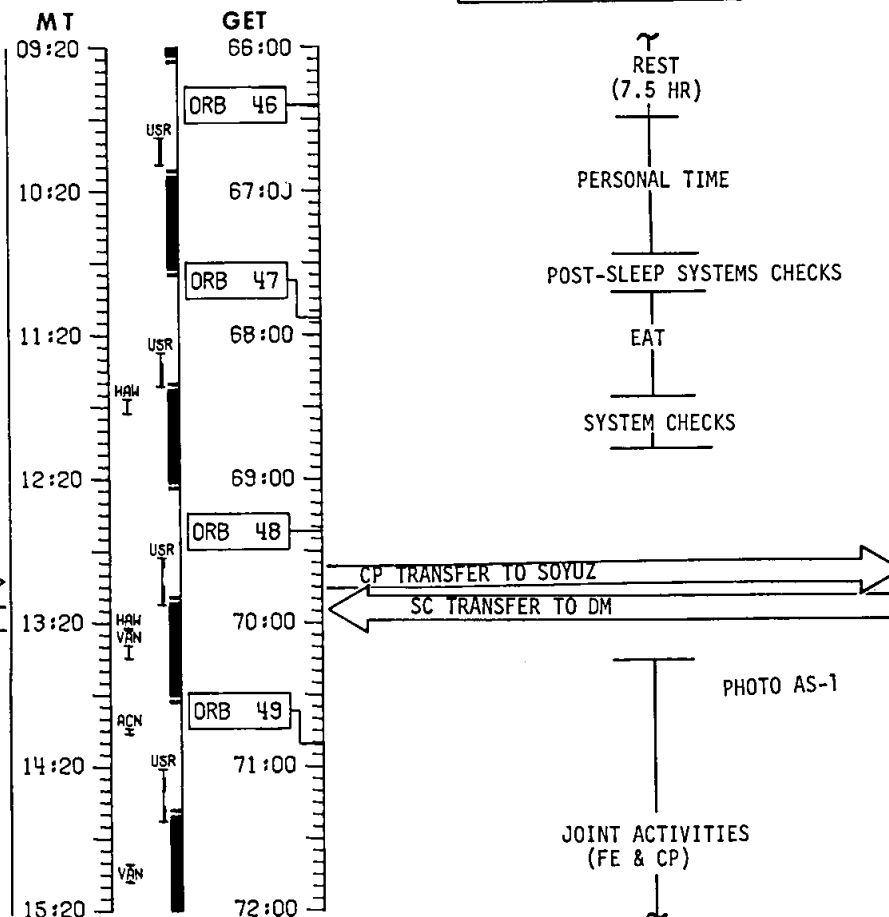
APOLLO

DATE	REV
7/18/75	38-41



SOYUZ

DATE	ORB
7/18/75	45-49

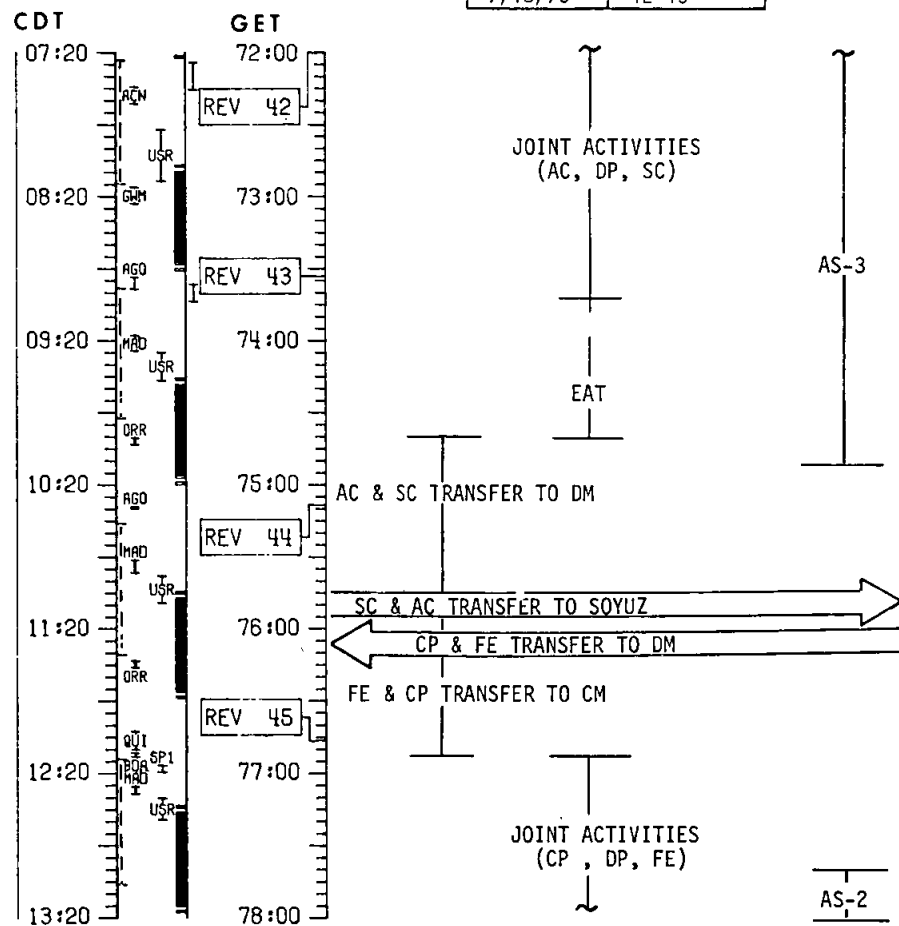


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-4

SUMMARY CREW ACTIVITIES PLAN

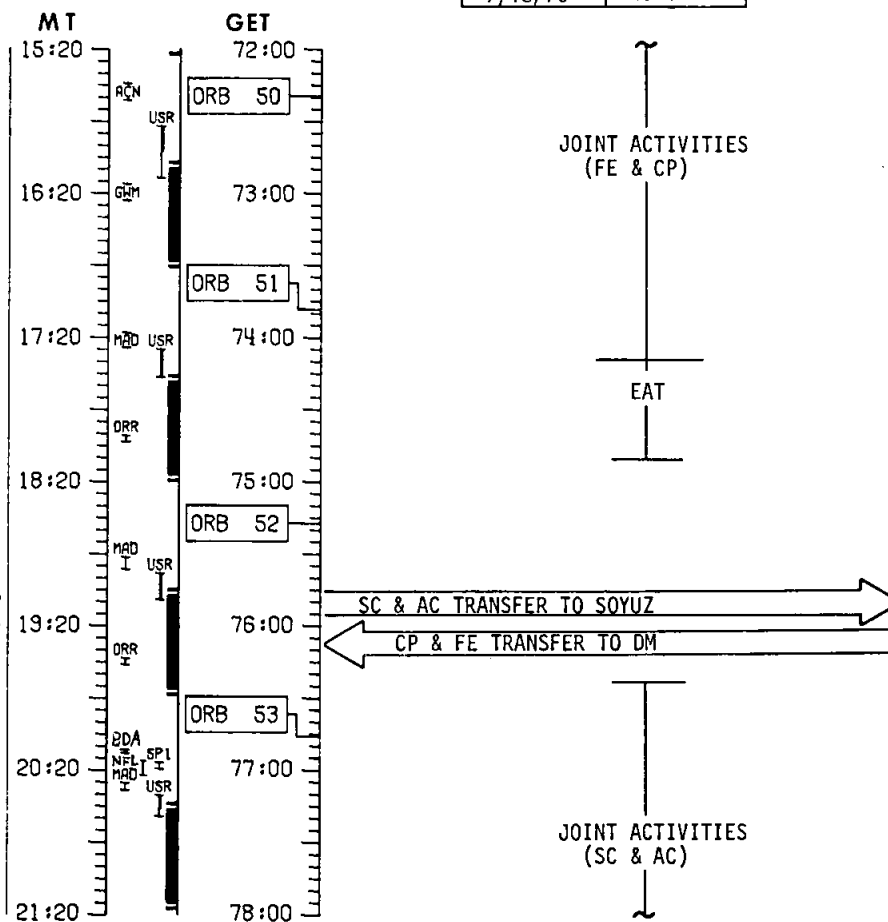
APOLLO

DATE	REV
7/18/75	42-45



SOYUZ

DATE	ORB
7/18/75	49-53

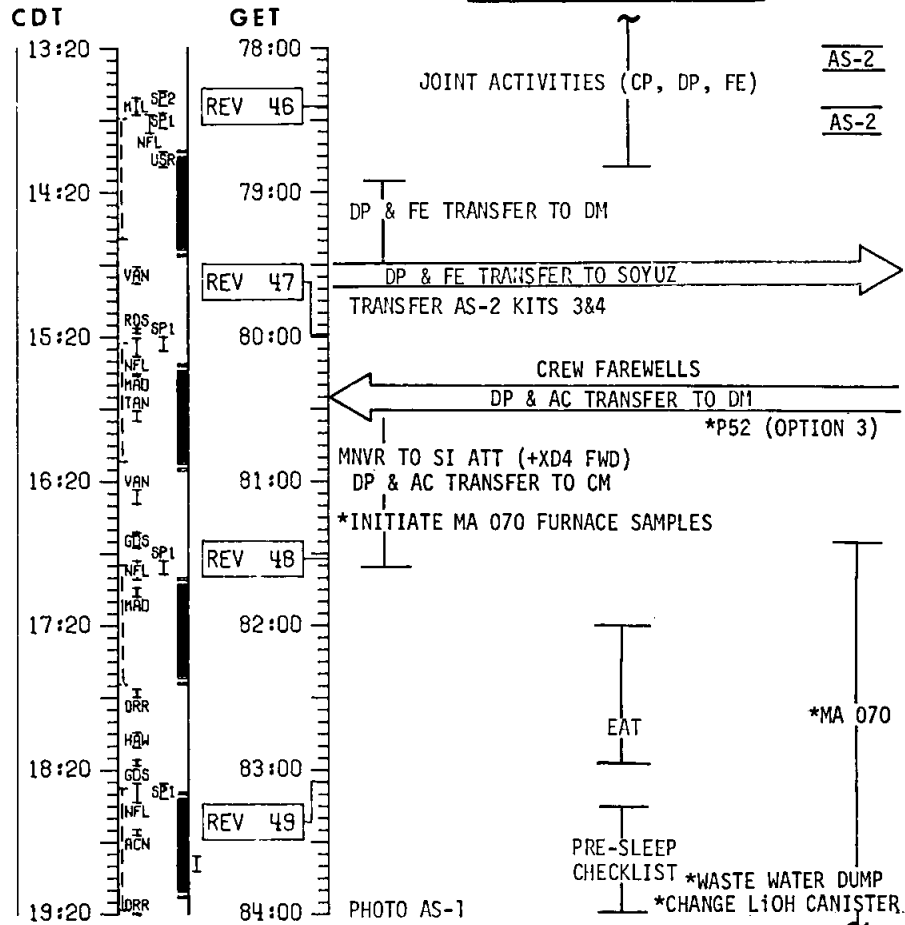


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-5

SUMMARY CREW ACTIVITIES PLAN

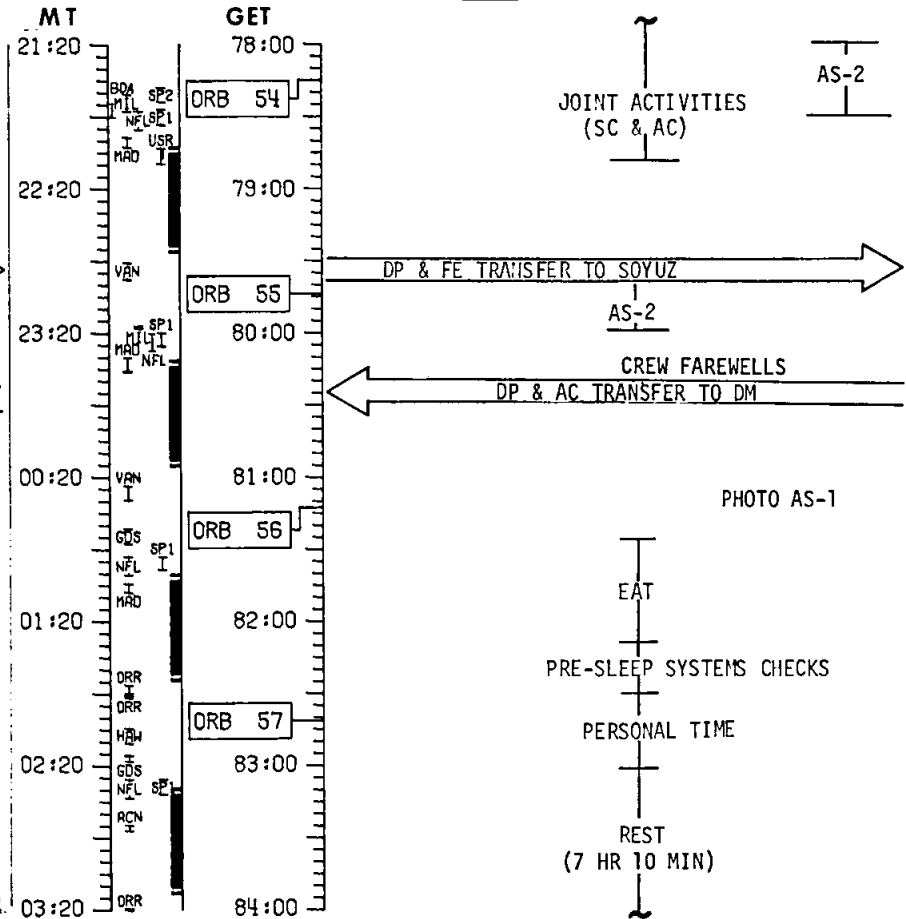
APOLLO

DATE	REV
7/18/75	45-49



SOYUZ

DATE	ORB
7/18/75	53-57

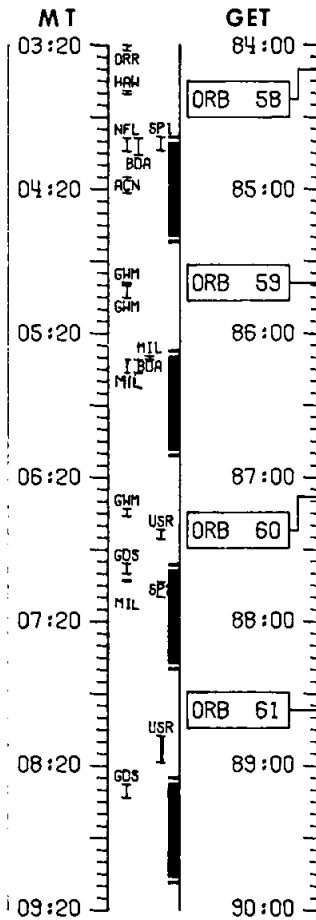
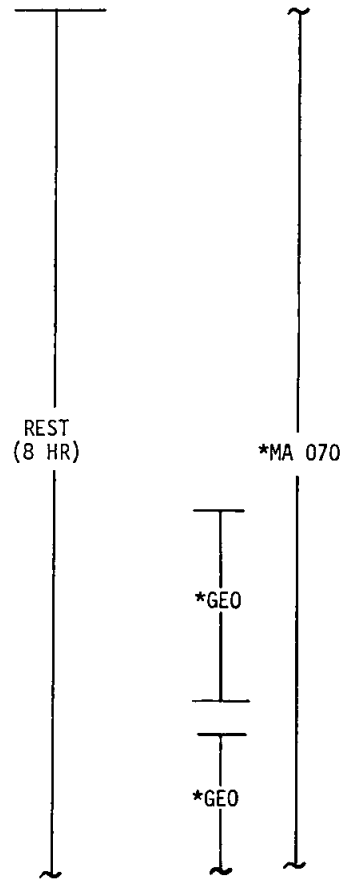
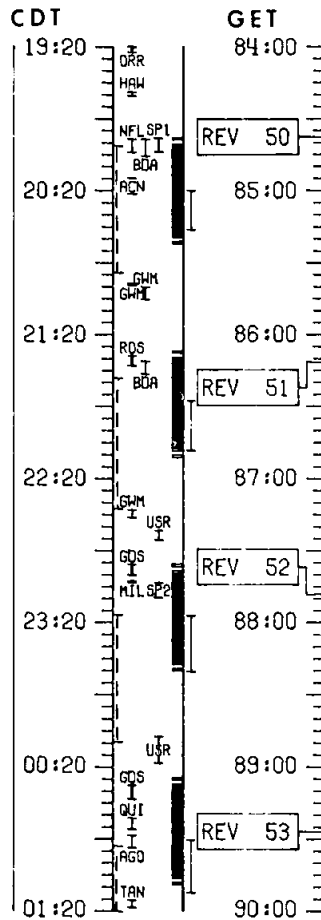


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-6

SUMMARY CREW ACTIVITIES PLAN

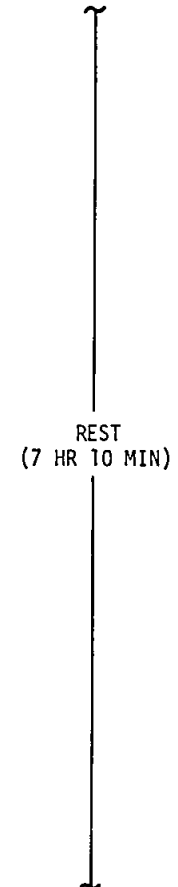
APOLLO

DATE	REV
7/18/75	49-53



SOYUZ

DATE	ORB
7/19/75	57-61

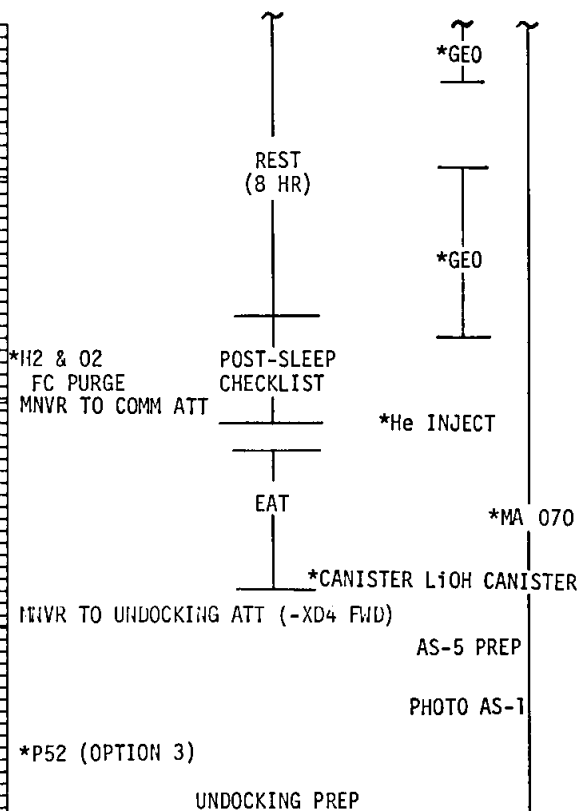
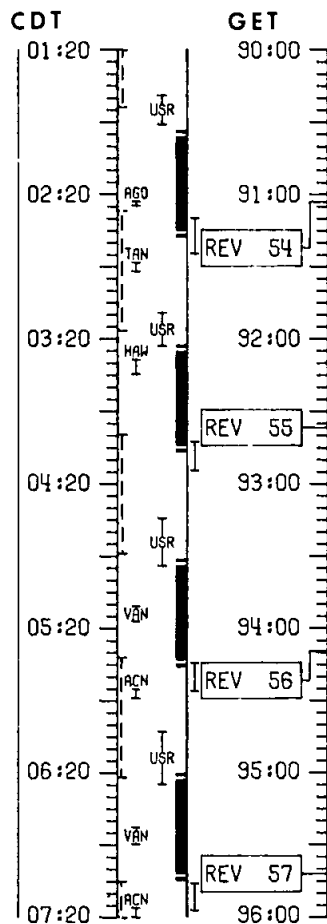


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-7

SUMMARY CREW ACTIVITIES PLAN

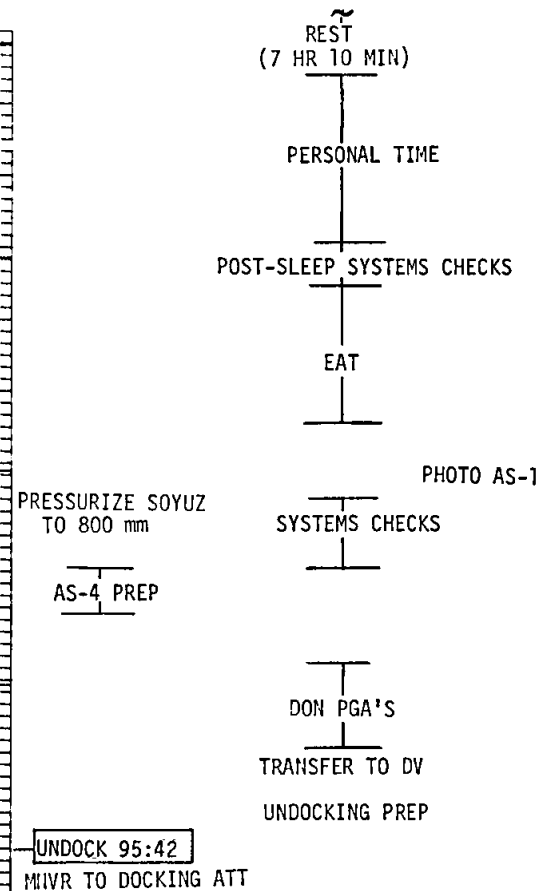
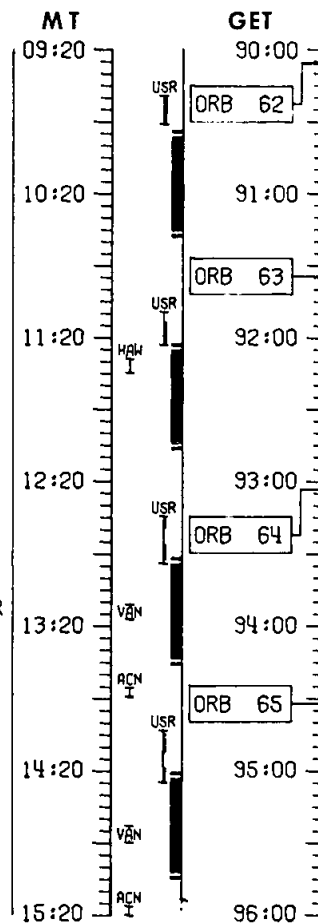
APOLLO

DATE	REV
7/18/75	53-57



SOYUZ

DATE	ORB
7/19/75	61-65

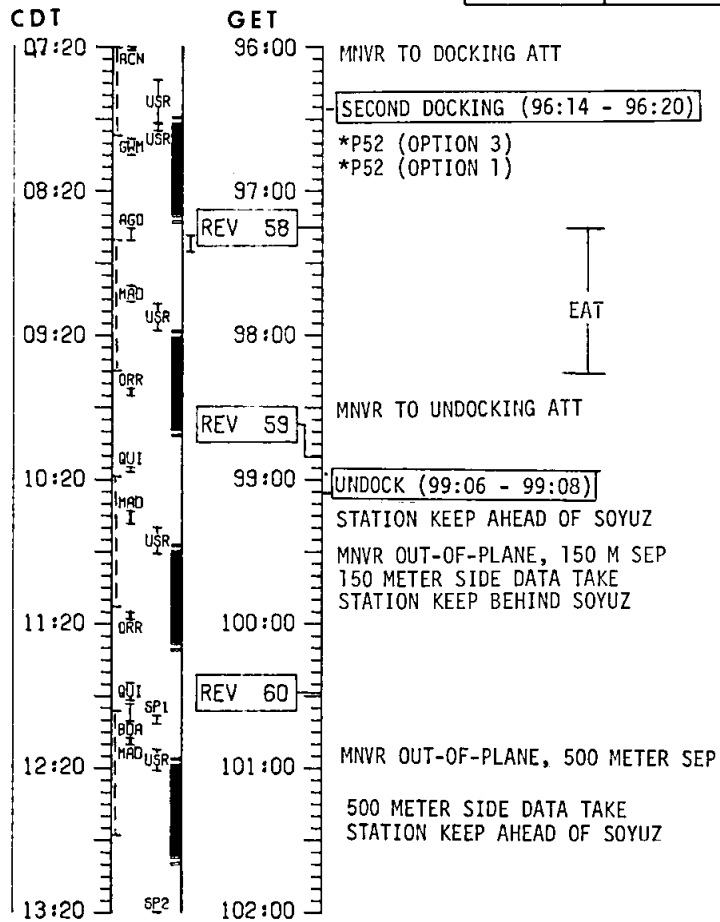


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-8

SUMMARY CREW ACTIVITIES PLAN

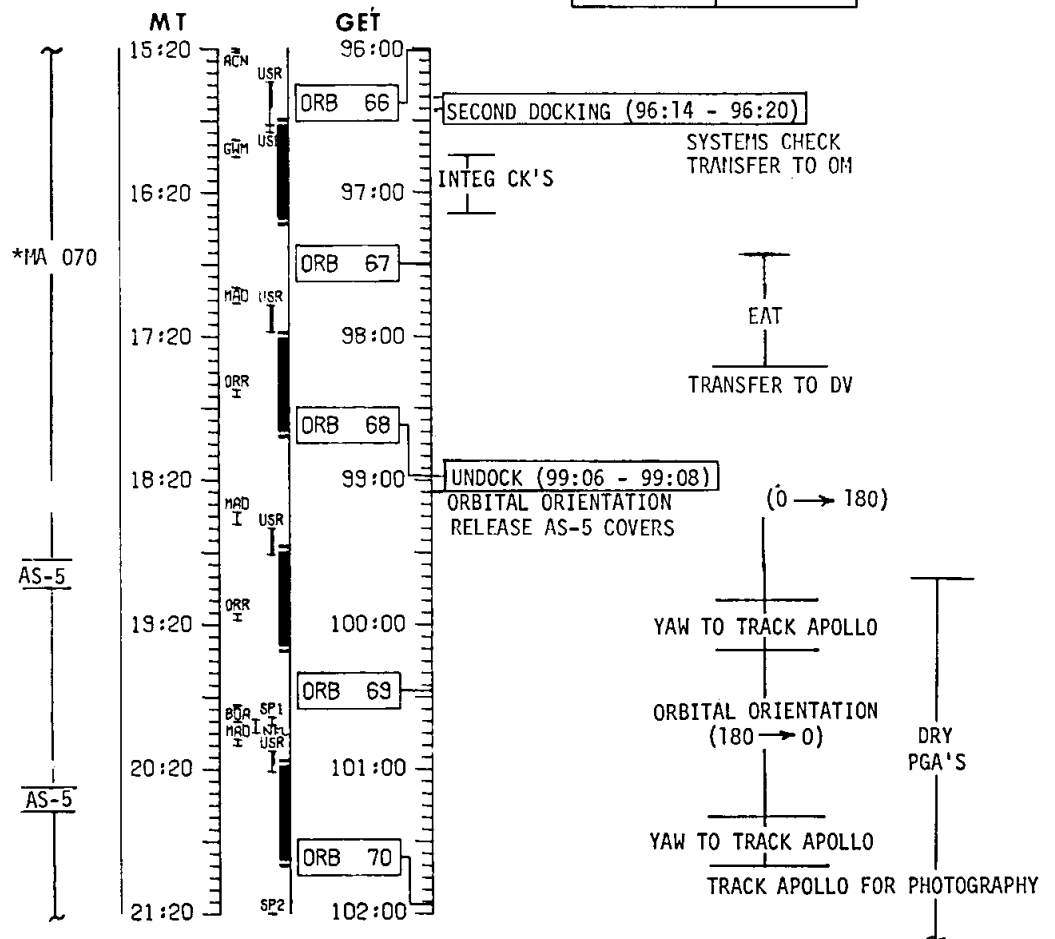
APOLLO

DATE	REV
7/19/75	57-60



SOYUZ

DATE	ORB
7/19/75	65-70



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-9

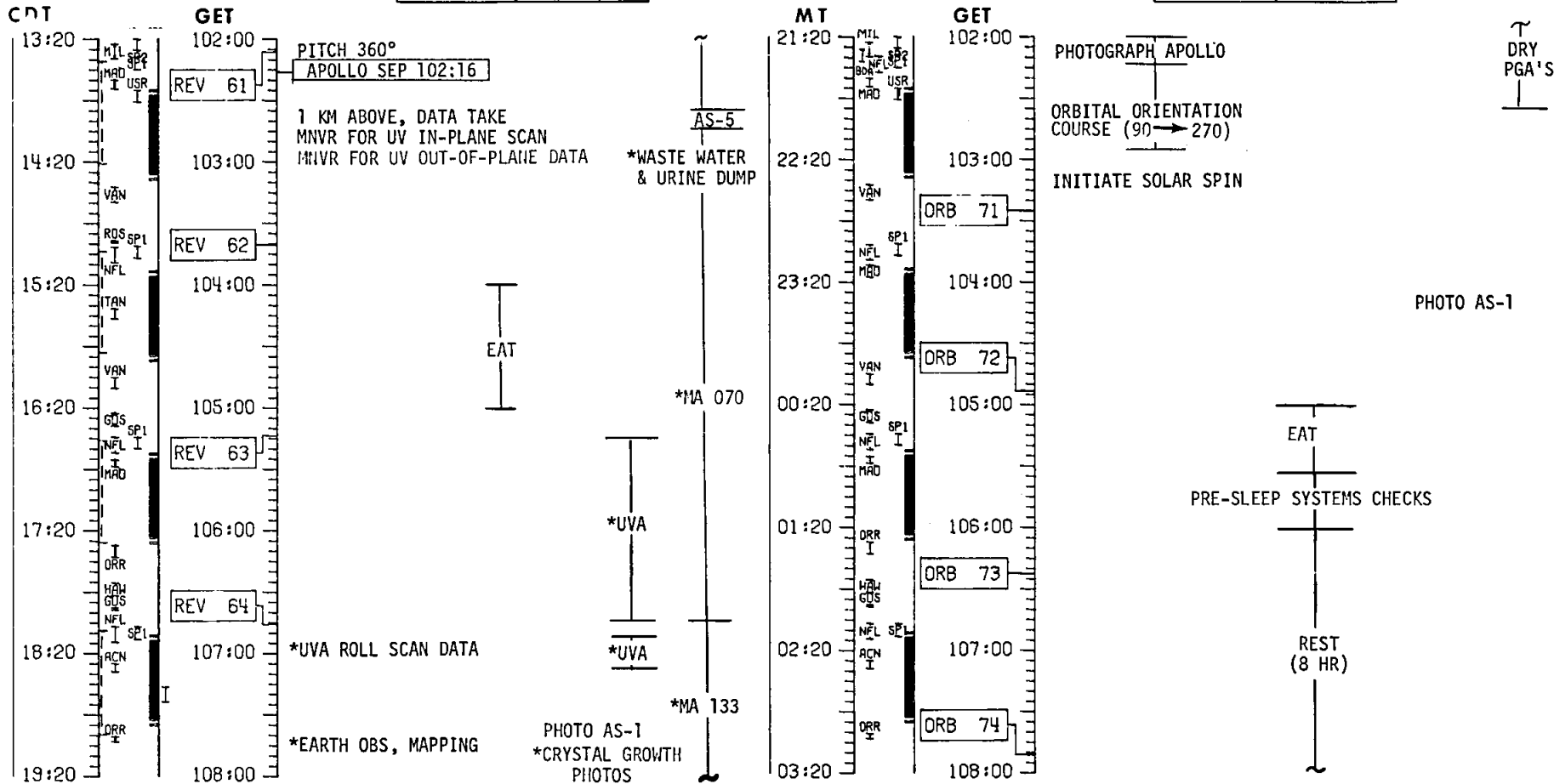
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/19/75	60-64

SOYUZ

DATE	ORB
7/19/75	70-74



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-10

SECTION 6

CONTINGENCY SITUATIONS

MISSION PHASE	SITUATION	CONT. NO.
SOYUZ LAUNCH ↓ DOCKING	Systems failures of either spacecraft do not permit a long duration joint flight.	6.1
	No docking of CM and DM.	6.1
	Unable to pressurize docking module.	6.9
	Unable to open Hatch 2.	6.9
	DM or Tunnel 1 not pressure tight (unacceptable leak rate).	6.9
	Loss of pressure integrity of OM before docking.	6.1
	One Soyuz solar battery panel not deployed	6.10
	An Apollo maneuver is completed non-nominally, and requires docking to be shifted 1 revolution.	6.4
	An Apollo maneuver is completed non-nominally, and requires docking to be shifted 2 revolutions.	6.5
	An Apollo maneuver is completed non-nominally, and requires docking to be shifted 3 revolutions.	6.6
	An Apollo maneuver is completed non-nominally, and requires docking to be shifted by more than 3 revolutions.	6.7
	An Apollo maneuver is completed non-nominally, and requires docking to be shifted by 24 hours.	6.8
	The Apollo NC2 maneuver was shifted.	6.4
	The Apollo NCC or NSR maneuvers were not executed on time.	6.5
	The Apollo TPI maneuver was not executed on time.	6.6
	Apollo or Soyuz NO-GO for Docking before Soyuz establishes the inertial mode.	6.4
	The Apollo or Soyuz is not GO for docking until 2 revolutions later than nominal.	6.5
	The Apollo or Soyuz is not GO for docking until 3 revolutions later than nominal.	6.6
	The Apollo or Soyuz is not GO for docking until more than 3 revolutions later than nominal.	6.7

MISSION PHASE	SITUATION	CONT. NO.
DOCKING	Apollo or Soyuz not ready for docking.	6.3
	First attempt at docking not successful.	6.3
	A "capture" indication in Soyuz but no mechanical capture. (Soyuz crew identifies and corrects the problem.)	6.4
	A "capture" indication in Soyuz but no mechanical capture. (Soyuz crew did not identify the problem.)	6.5 6.6 6.7
DOCKING ↓ FIRST XFR	After docking the OM leakage rate is higher than acceptable.	6.2
	Unable to pressurize docking module.	6.9
	Unable to open Hatch 2.	6.9
	DM or Tunnel 1 not pressure tight (unacceptable leak rate).	6.9
	Docking interface sealing prolonged more than nominal time, but less than 2 hours. (Docking occurred as scheduled.)	6.4
	Docking interface sealing prolonged more than 2 hours, but less than 3 hours. (Docking occurred as scheduled.)	6.5
	Docking interface sealing prolonged more than 3 hours. (Docking occurred as scheduled.)	6.6
	Tunnel 2 is not pressure-tight.	6.9
FIRST UNDOCKING	Not ready for undocking at nominal time.	6.11
	Unable to undock within 1 minute of nominal time.	6.11
	Not ready for undocking by 1 revolution later than nominal time	6.12
	Not ready for undocking by 2 revolutions later than nominal time	6.13
	Soyuz docking system pyrotechnics were used during undocking.	6.14
TEST DOCKING	Orbital module is not pressure tight after first undocking.	6.14
	Direct radio communication between crews is not possible	6.14
	Soyuz docking system cannot be configured to active mode using nominal and backup operations.	6.14
	Apollo docking system cannot be configured to passive mode using nominal and backup operations.	6.14
	Soyuz unable to maintain the inertial stabilization mode.	6.14

6.1 DOCKING NOT POSSIBLE

A. Causes:

1. No docking of CM and DM.
2. Systems failures of either spacecraft do not permit a long duration joint flight.
3. Loss of pressure integrity of OM before docking.

B. Course of Action:

1. Perform nominal rendezvous with Soyuz.
2. If UVA cannot be performed Apollo will station keep for one revolution and then perform the final separation maneuver.
3. If UVA can be performed Apollo will station keep with Soyuz until 53:12 GET. At 53:12 GET the crews will perform the UVA experiment which begins at 99:09 GET in the nominal timeline.
4. Perform ZFF experiment at the times specified in the nominal timeline (without an exchange of Rhythm 1 devices).

C. Notes:

1. In the case of loss of OM pressure, no joint experiments can be performed on Soyuz.
2. Station keeping will be at range of 50 meters.

6.2 OM NOT PRESSURE TIGHT AFTER DOCKING

A. Causes:

After docking the OM leakage rate is higher than acceptable.

B. Course of Action:

1. The docked flight continues for not more than 3 hours.
2. After undocking Apollo performs the final separation maneuver.

C. Notes:

1. No joint experiments can be performed.

6.3 DOCKING DELAYED UNTIL DARKNESS

A. Causes:

1. Apollo or Soyuz not ready for docking.
2. First attempt at docking not successful.

B. Course of Action:

Apollo:

1. Continue station keeping with Soyuz until docking can be accomplished after leaving darkness.
2. If Soyuz is already in the inertial mode docking may be attempted immediately after entering daylight.
3. If Soyuz is still in the orbital mode go to the appropriate timeline docking delayed by 1, 2, 3 revolutions or delayed until after crew rest period.

Soyuz:

1. If Soyuz is already in the inertial mode, it will maintain this mode for one revolution. Docking will be attempted as soon after entering daylight as possible, after the problem has been corrected.
2. If Soyuz is still in the orbital mode go to the appropriate timeline, docking delayed by 1, 2, 3 revolutions or delayed until after crew rest period.

C. Notes:

1. This case can be entered also from the docking delayed 1 and 2 revolutions cases.
2. If docking is completed after emerging from darkness, but not later than 52:55 GET, perform first transfer operations immediately after docking. Perform transfer clock synchronization at nominal time. PGA's drying time on Soyuz after the first transfer will be extended by 1 hour. Sleep period will be shortened by 1 hour.

6.4 DOCKING DELAYED BY 1 REVOLUTION OR FIRST TRANSFER DELAYED LESS THAN 2 HOURS

A. Causes:

1. The Apollo NC2 maneuver was shifted.
2. An Apollo maneuver is completed non-nominally, and requires docking to be shifted 1 revolution.
3. A "capture" indication in Soyuz but no mechanical capture. (Soyuz crew identifies and corrects the problem.)
4. Apollo or Soyuz NO-GO for Docking before Soyuz establishes the inertial mode.
5. Docking interface sealing prolonged more than nominal time, but less than 2 hours. (Docking occurred as scheduled.)

B. Course of Action:

1. Docking is delayed 1 revolution.
2. First day activities delayed 1 revolution.
3. Rest period reduced to 6.5 hours.
4. Return to nominal timeline after the rest period.

C. Notes:

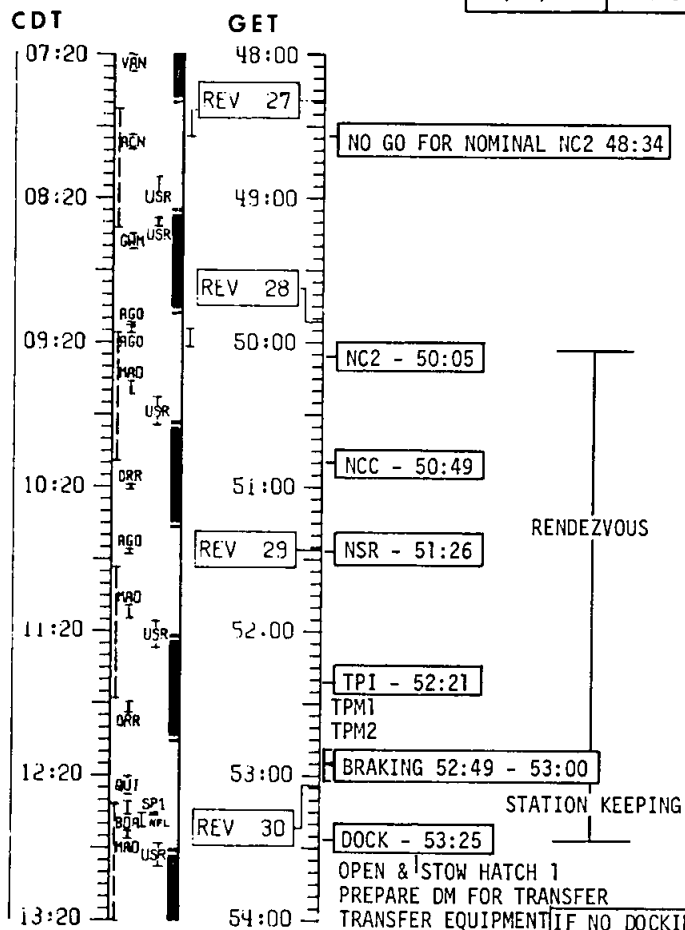
1. For a delayed first transfer of less than 2 hours use this timeline beginning with first transfer. (Docking occurred as scheduled.)
2. If NO Docking occurs by 53:35 go to the "Docking Delayed 2 Revolutions" timeline (6.5).
3. If FIRST TRANSFER is delayed more than 2 hours go to the "Docking Delayed 2 Revolutions" timeline (6.5).

6.4 DOCKING DELAYED 1 REV OR FIRST TRANSFER DELAYED LESS THAN 2 HOURS

SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/17/75	26-30

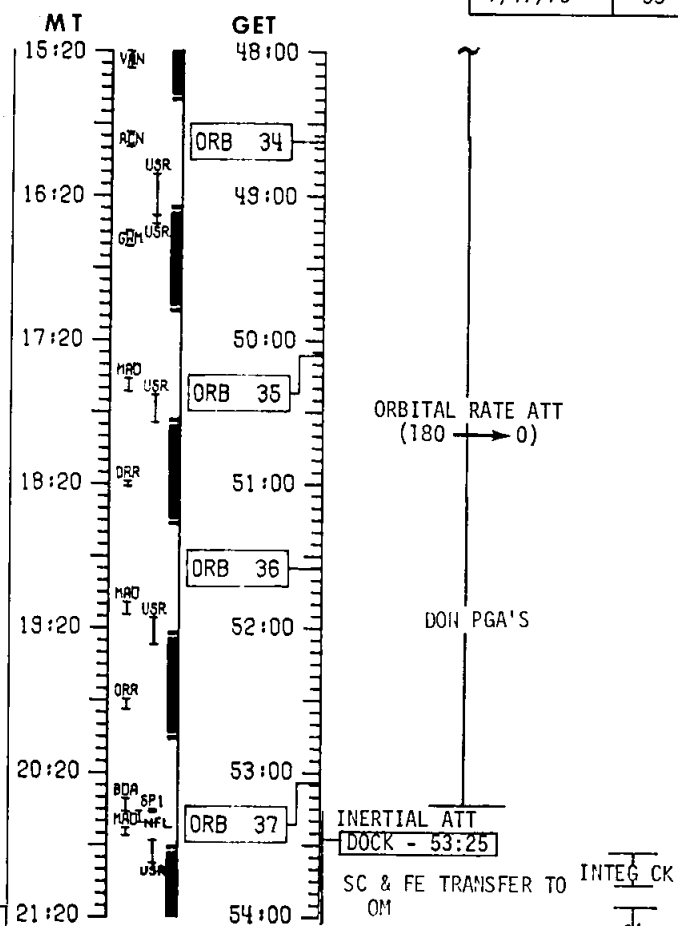


IF NO DOCKING BY 53:35 GO
TO 2 REV DELAY TIMELINE (6.5)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.4-1

SOYUZ

DATE	ORB
7/17/75	33-37



IF NO DOCKING BY 53:35 GO
TO 2 REV DELAY TIMELINE (6.5)

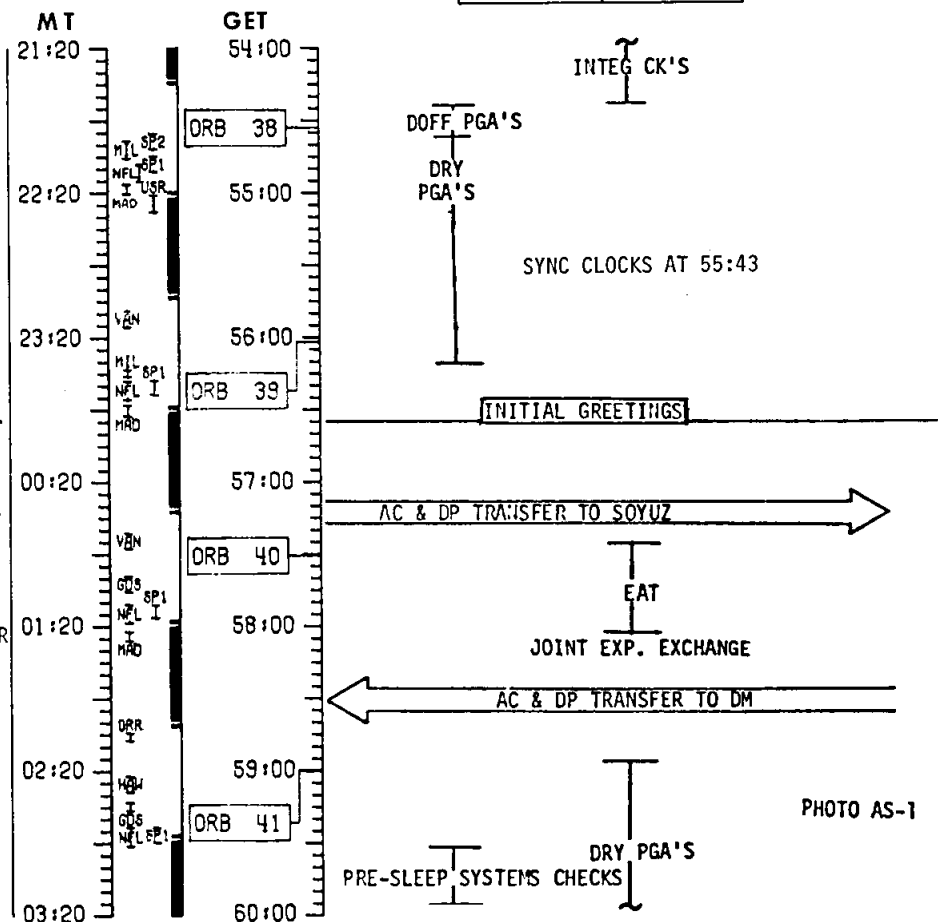
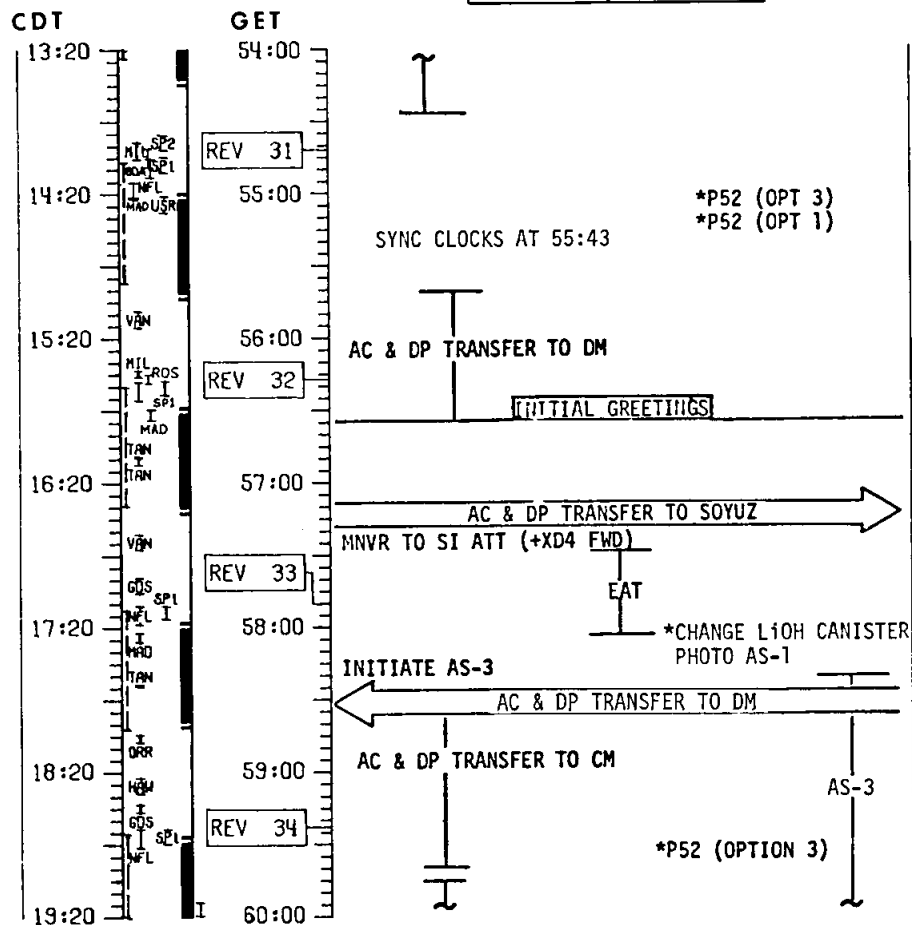
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/17/75	30-34

SOYUZ

DATE	ORB
7/17/75	37-41

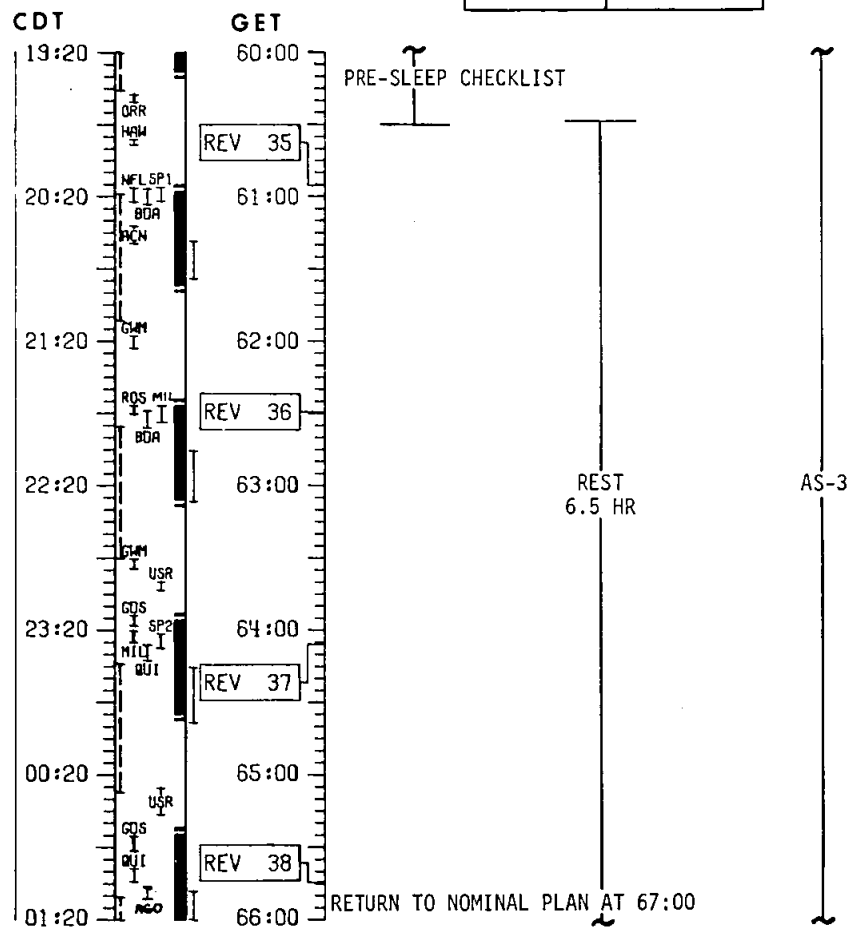


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.4-2

SUMMARY CREW ACTIVITIES PLAN

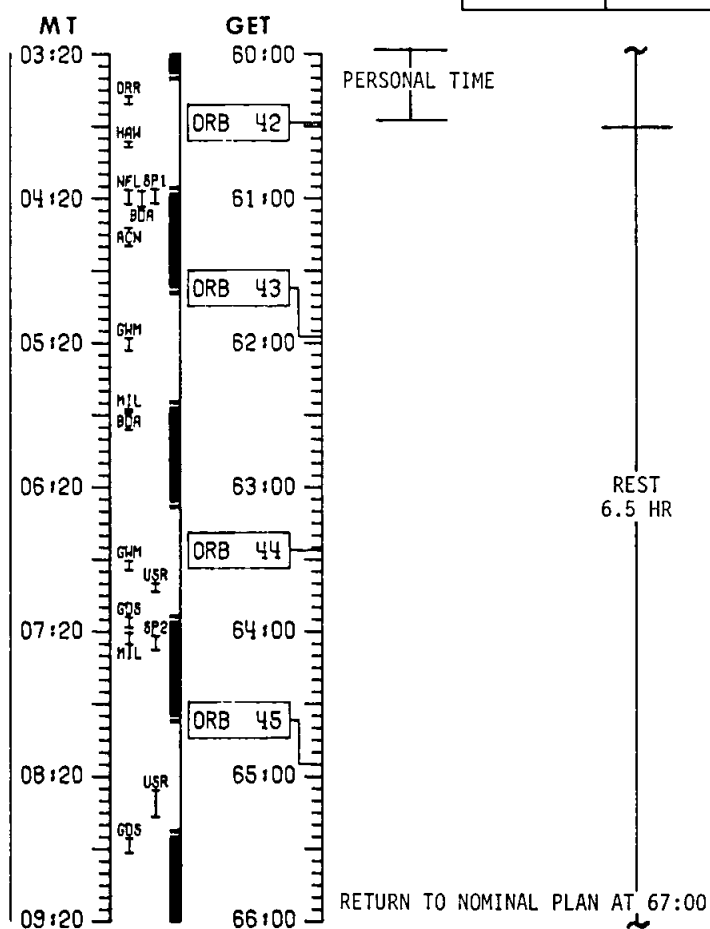
APOLLO

DATE	REV
7/17/75	34-38



SOYUZ

DATE	ORB
7/18/75	41-45



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.4-3

6.5 DOCKING DELAYED BY 2 REVOLUTIONS OR FIRST TRANSFER DELAYED LESS THAN 3 HOURS

A. Causes:

1. An Apollo maneuver is completed non-nominally, and requires docking to be shifted 2 revolutions.
2. The Apollo NCC or NSR maneuvers were not executed on time.
3. The Apollo or Soyuz is not GO for docking until 2 revolutions later than nominal.
4. A "Capture" indication in Soyuz but no mechanical capture. (Soyuz crew did not identify the problem.)
5. Docking interface sealing prolonged more than 2 hours, but less than 3 hours. (Docking occurred as scheduled.)

B. Course of Action:

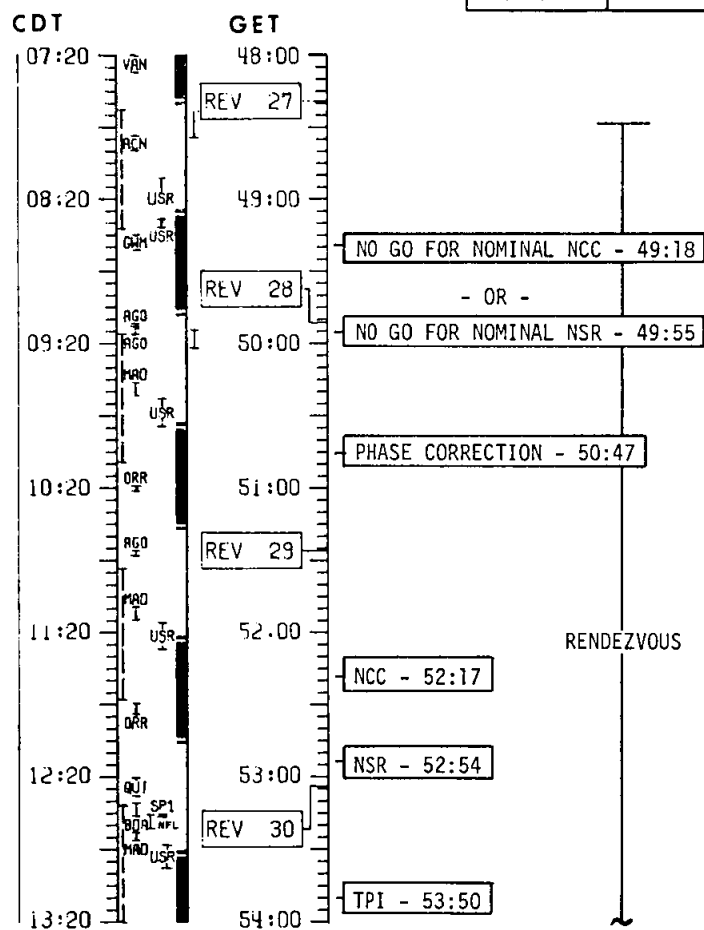
1. Docking is delayed 2 revolutions.
2. The first day activities are reduced by 1 hour (Soyuz PGA drying time is reduced by one hour)
3. The rest period is reduced to 6 hours.
4. Return to nominal timeline after the rest period.

C. Notes:

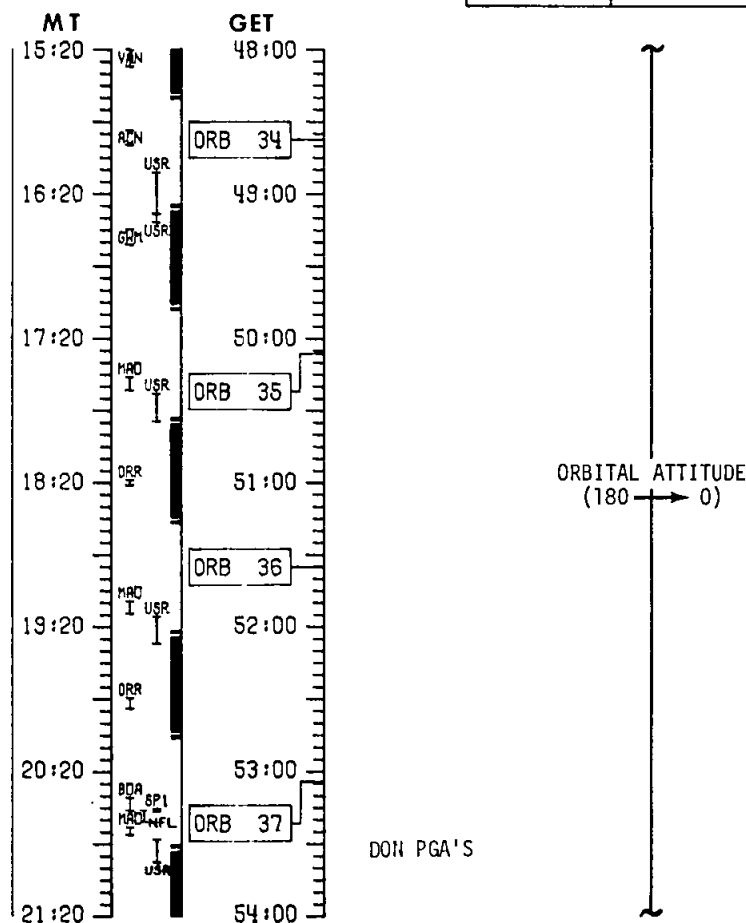
1. For a delayed first transfer of more than 2 hours and less than 3 hours use this timeline beginning with first transfer. (Docking occurred as scheduled.)
2. If NO docking occurs by 55:05 GO TO the "Docking Delayed 3 Revolutions" timeline (6.6).
3. If first transfer is delayed more than 3 hours GO TO the "Docking Delayed 3 Revolutions" timeline (6.6).

6.5 DOCKING DELAYED 2 REVS OR FIRST TRANSFER DELAYED LESS THAN 3 HOURS**SUMMARY CREW ACTIVITIES PLAN****APOLLO**

DATE	REV
7/17/75	26-30

**SOYUZ**

DATE	ORB
7/17/75	33-37

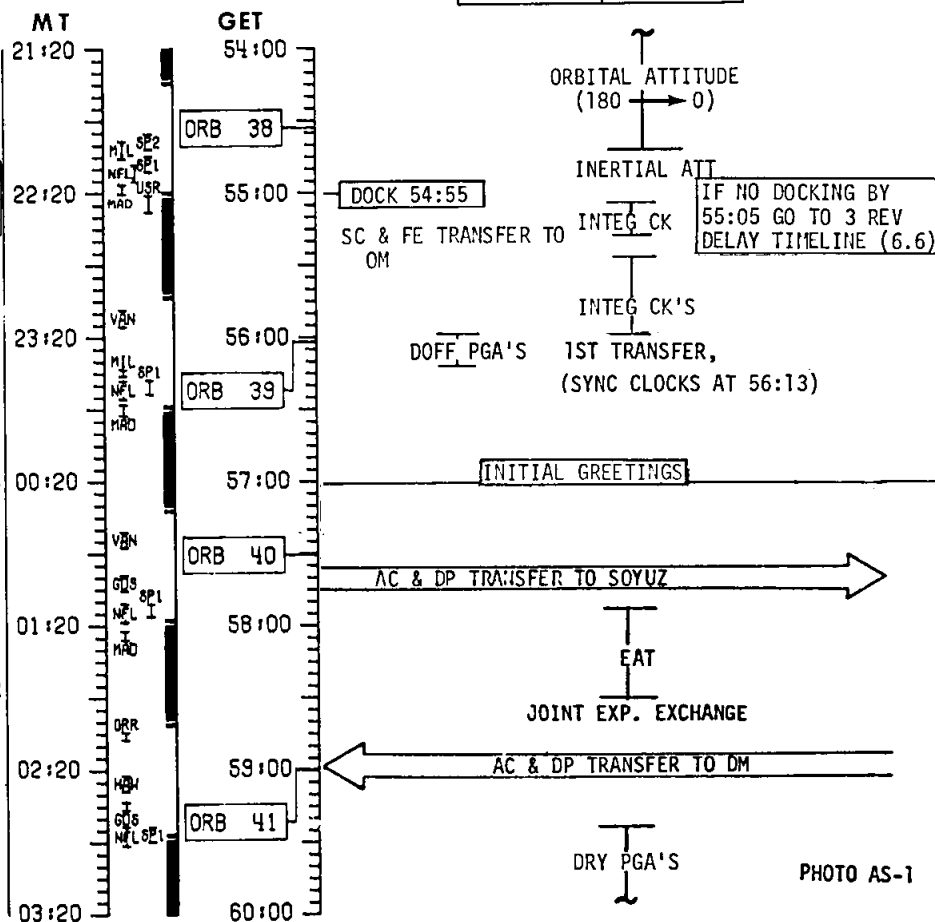
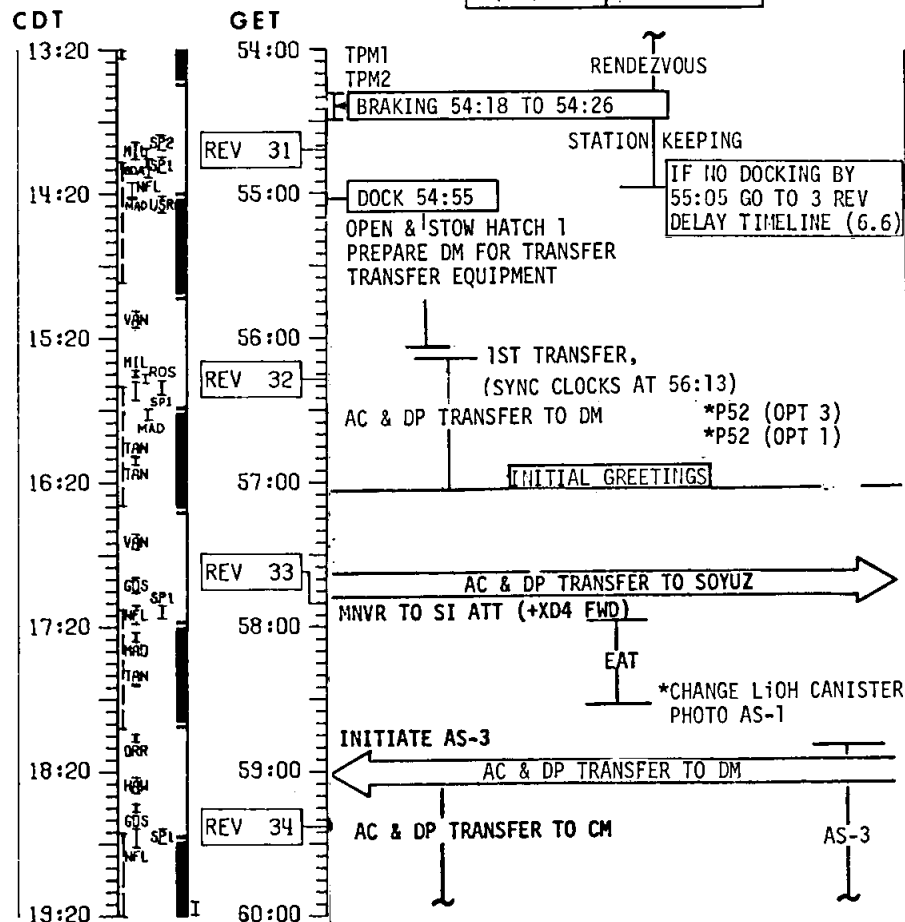


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.5-1

SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/17/75	30-34



SOYUZ

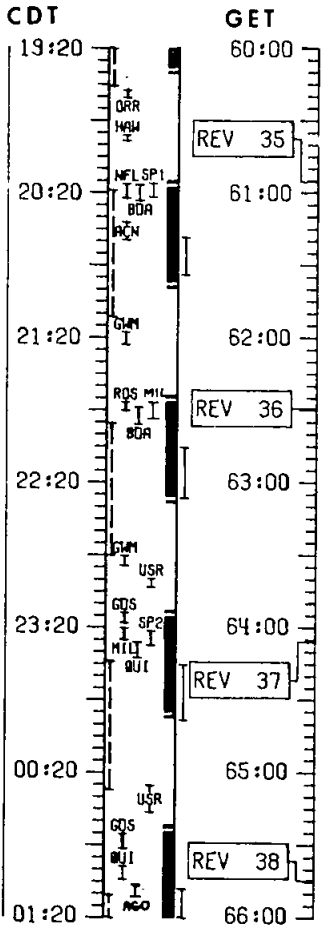
DATE	ORB
7/17/75	37-41

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.5-2

SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/17/75	34-38



PRE-SLEEP
CHECKLIST

*P52 (OPTION 3)

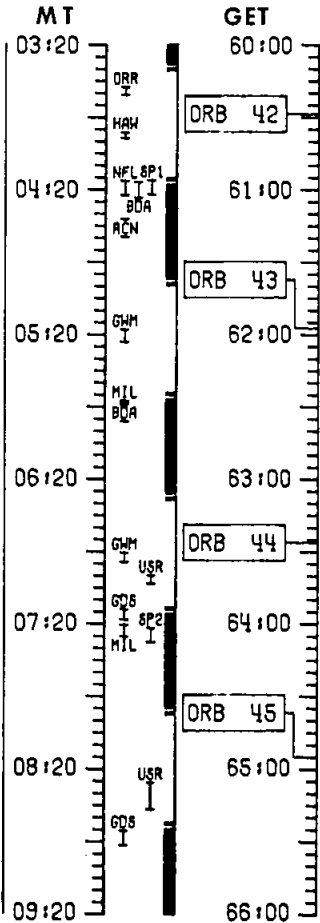
REST PERIOD
6.0 HOURS

RETURN TO NOMINAL PLAN AT 67:00

AS-3

SOYUZ

DATE	ORB
7/18/75	41-45



PRE-SLEEP SYSTEMS CHECKS

PERSONAL TIME

DRY PGA'S

REST PERIOD
6.0 HOURS

RETURN TO NOMINAL PLAN AT 67:00

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.5-3

6.6 DOCKING DELAYED BY 3 REVOLUTIONS OR FIRST TRANSFER DELAYED MORE THAN 3 HOURS

A. Causes:

1. An Apollo maneuver is completed non-nominally, and requires docking to be shifted 3 revolutions.
2. The Apollo TPI maneuver was not executed on time.
3. The Apollo or Soyuz is not GO for docking until 3 revolutions later than nominal.
4. A "Capture" indication in Soyuz, but no mechanical capture (Soyuz crew did not identify the problem.)
5. Docking interface sealing prolonged more than 3 hours. (Docking occurred as scheduled.)

B. Course of Action:

1. Docking is delayed 3 revolutions.
2. The first day systems and integrity checks are performed using steps 1-9 of 1st transfer with the following exceptions:
In step 7., add the following items to the TSB packing list:
 - 1) 1-Plaque half (Gift Bag, LEB)
 - 2) "2nd & 3rd Soyuz Photo" & "Soyuz TV" Cue Cards (Data Card Kit-R3)
3. The Apollo rest period is delayed one hour to allow completion of DM preparation and equipment transfer. Soyuz rest period is delayed 30 minutes to allow additional PGA drying. Rest periods on both spacecraft are reduced to 6 hours, and are ended one hour earlier than in the nominal plan.
4. The transfer to Soyuz is begun 1 hour 30 min early, at a clock sync of 67:10 GET. The transfer will be performed using steps 12-44 of the 1st transfer, but with the CP in place of the DP. This will provide for tunnel 2 cable connections, transfer of equipment for experiments AS-1, AS-2 & AS-3 and Apollo TV & DAC setup in Soyuz with the following exceptions:
 - 1) In step 38., the eat period will be shortened to 11 min of "symbolic" eating and picture taking.
 - 2) In steps 39-44, 26 min should be subtracted from each transfer clock time reference.
 - 3) In step 43, the AC's CCU should be removed from the T-adapter and left attached to the SJ-Box prior to passing the T-adapter into the DM
 - 4) In step 44, the AC and the CP should exchange places (AC goes to DM, CP goes to OM), disconnecting from their respective CCU's prior to transferring

5. Return to the nominal timeline at 69:45 GET (2+35 transfer clock time) beginning with step 19 of the 2nd transfer with the following exception:

In steps 19-34, add 1 hr 33 min to each transfer clock time reference to provide transfer clock continuity

C. Notes:

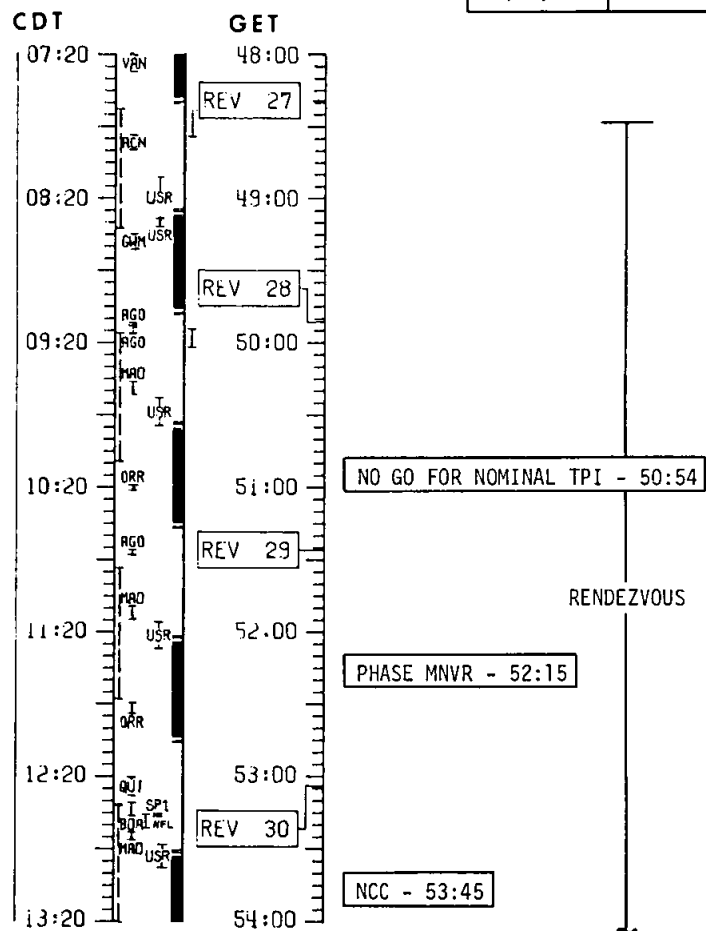
1. For a delayed first transfer of more than 3 hours use this timeline starting at ~ 57:00 GET. (Docking occurred as scheduled.)
2. If NO docking occurs by 56:35 go to the "Docking Delayed Until after Crew Rest Period" timeline (6.7).

6.6 DOCKING DELAYED 3 REVS OR FIRST TRANSFER DELAYED MORE THAN 3 HOURS

SUMMARY CREW ACTIVITIES PLAN

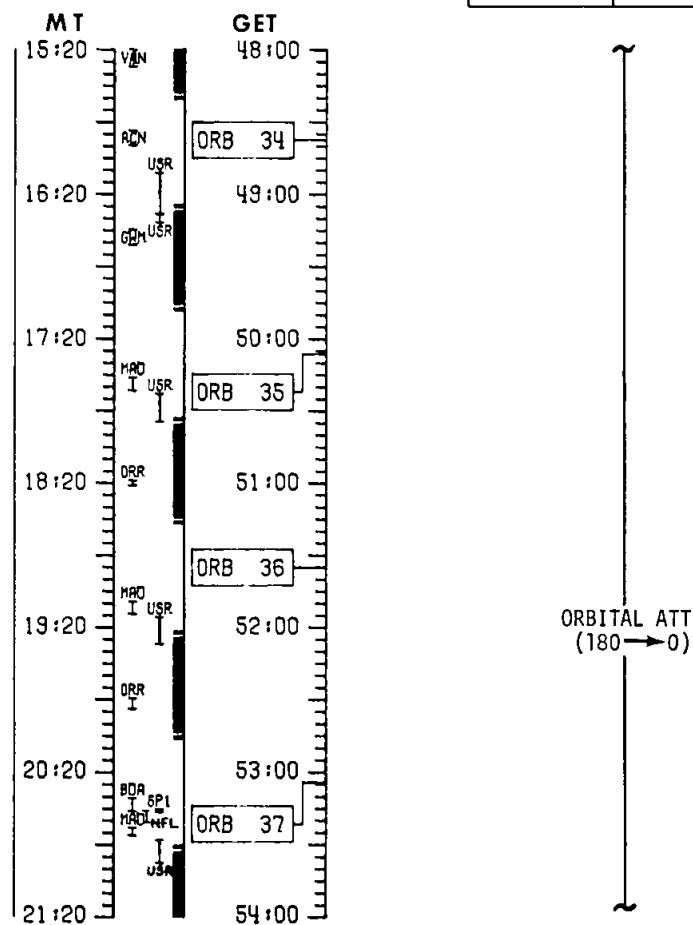
APOLLO

DATE	REV
7/17/75	26-30



SOYUZ

DATE	ORB
7/17/75	33-37



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.6-1

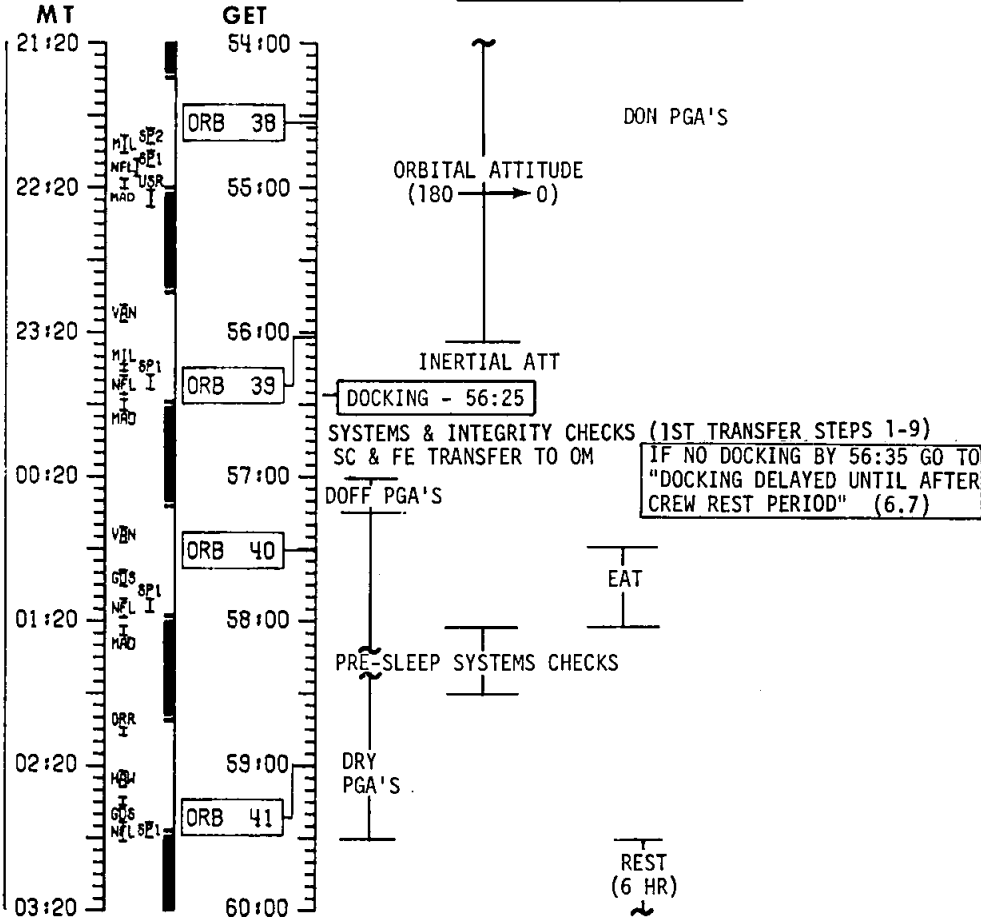
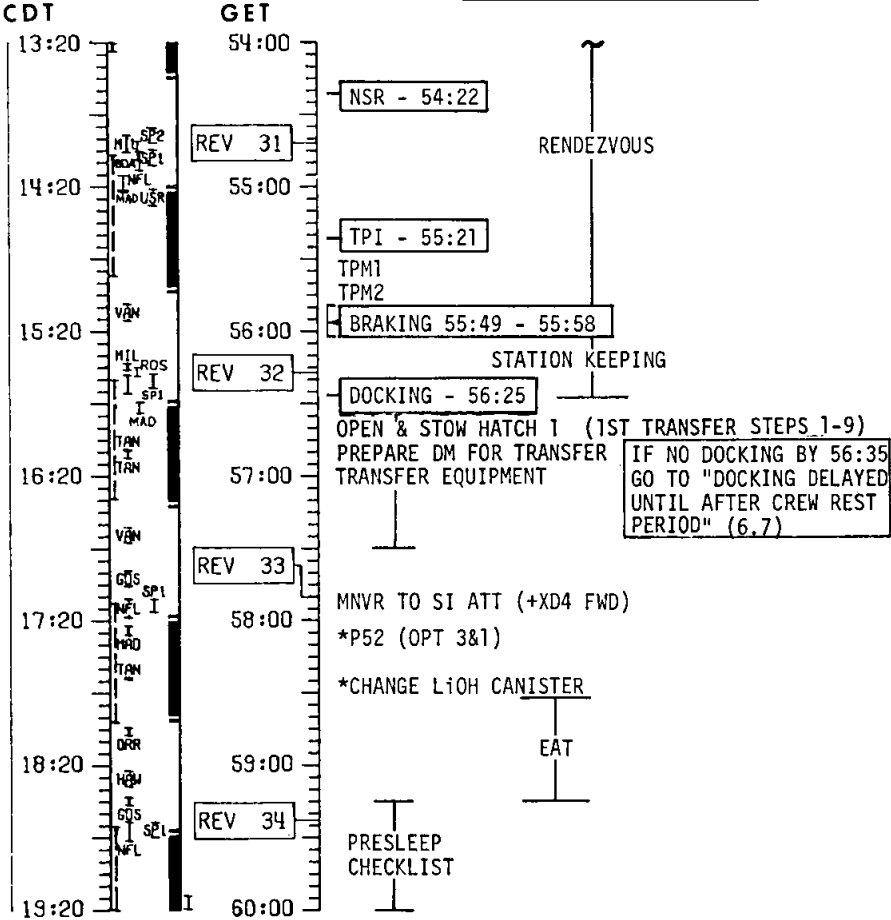
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/17/75	30-34

SOYUZ

DATE	ORB
7/17/75	37-41

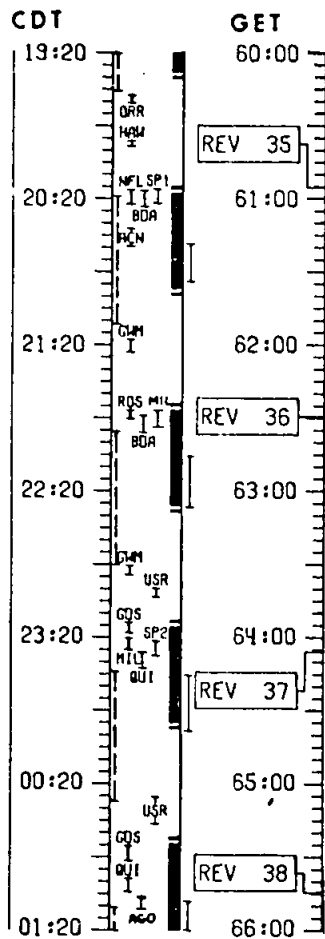


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.6-2

SUMMARY CREW ACTIVITIES PLAN

APOLLO

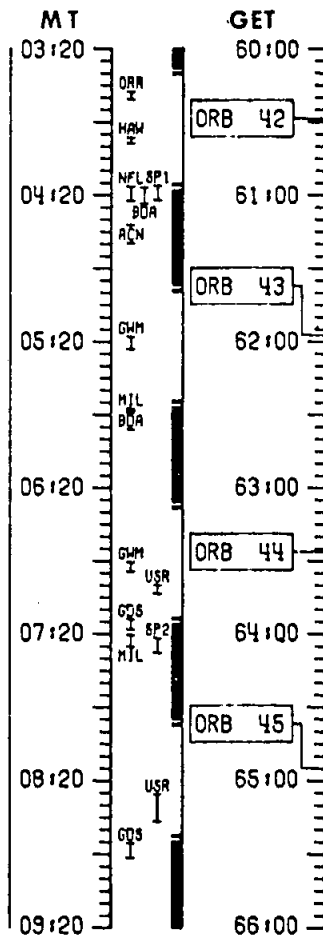
DATE	REV
7/17/75	34-38



REST
(6.0 HR)

SOYUZ

DATE	ORB
7/18/75	41-45



REST
(6.0 HR)

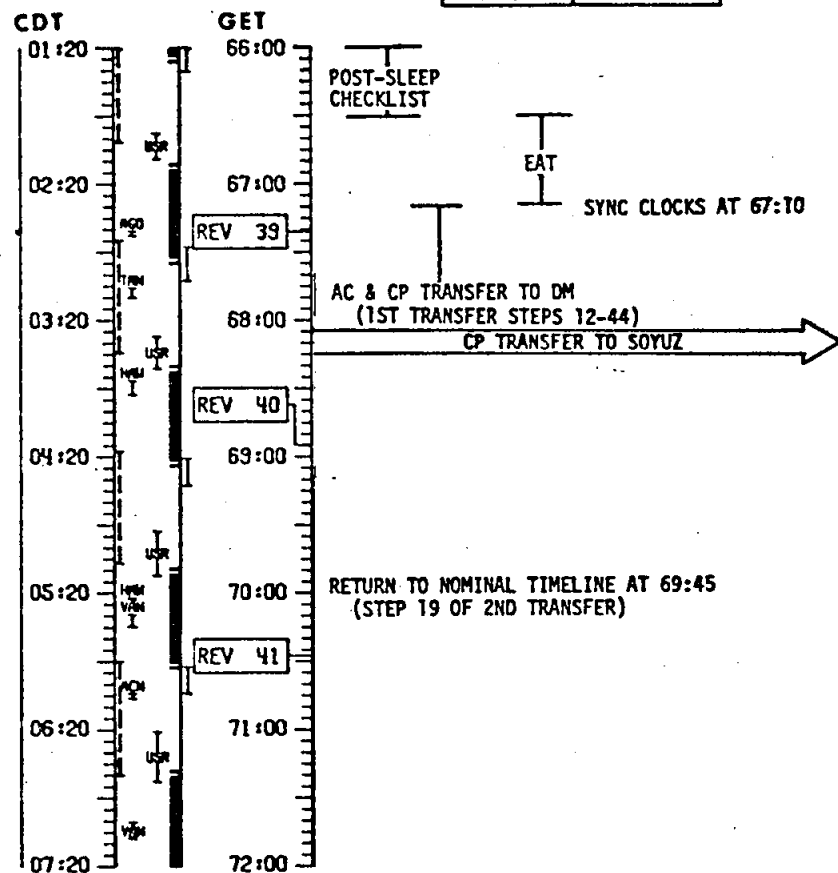
PERSONAL TIME

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.6-3

SUMMARY CREW ACTIVITIES PLAN

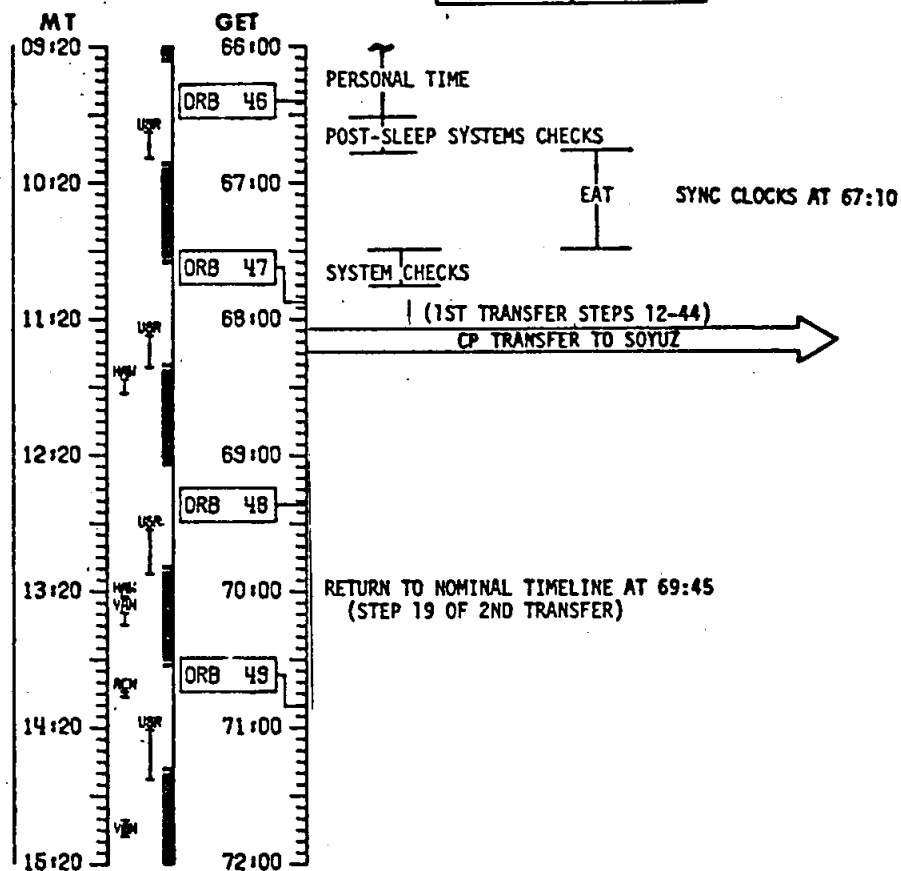
APOLLO

DATE	REV
7/18/75	38-41



SOYUZ

DATE	ORB
7/18/75	45-49



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JULY 3, 1975	6.6-4

6.7 DOCKING DELAYED UNTIL AFTER CREW REST PERIOD

A. Causes:

1. An Apollo maneuver is completed non-nominally, and requires docking to be shifted by more than 3 revolutions.
2. The Apollo or Soyuz is not GO for docking until more than 3 revolutions later than nominal.
3. A "Capture" indication in Soyuz, but no mechanical capture. (Soyuz crew did not identify the problem.)

B. Course of Action:

1. Apollo station keeps with Soyuz until the Apollo separation maneuver is performed.
2. Apollo performs a separation maneuver and a stable orbit maneuver.
3. Both crews rest (Apollo for 7 hours, Soyuz for 7.5 hours).
4. Apollo performs maneuvers to rendezvous with Soyuz and performs docking at 72:40.
5. After docking, perform steps 1-9 of the 1st transfer. Continue the transfers per the 3rd launch opportunity timeline.

C. Notes:

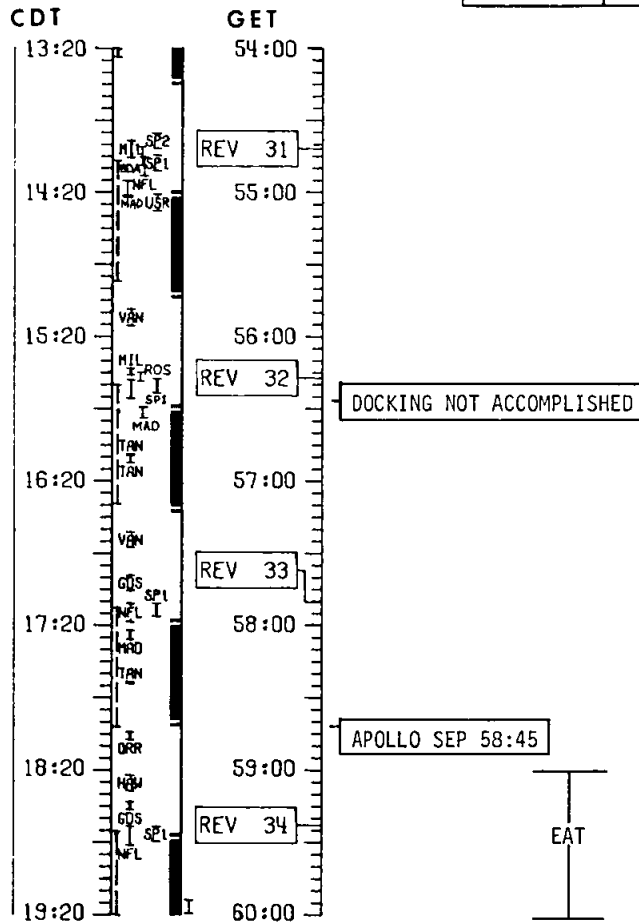
1. Docking can occur anytime from 72:40 until 75:38 without affecting the timeline for the 3rd launch opportunity.
2. If docking is not possible, both crews will update their mission event timers by +23 hr 43 min so that at 75:17 GET the mission event timers read 99:00 GET.
3. Soyuz will maneuver for orbital orientation (course 0 → 180) and Apollo will maneuver so that it leads Soyuz in orbit (with -X FWD, heads up). The sequence and time of those maneuvers will be determined by the real-time situation, and the maneuvers must be completed by 99:08 GET.
4. At 99:09 the crews will perform the activities as in the 1st launch opportunity timeline.
5. After update of mission event timers, CDT and MT time scales will be behind actual CDT and MT by 17 minutes.
6. Mission event timer updates are approximate. The GET for timer updates and the corresponding GET values will be determined real-time.

6.7 DOCKING DELAYED UNTIL AFTER CREW REST PERIOD

SUMMARY CREW ACTIVITIES PLAN

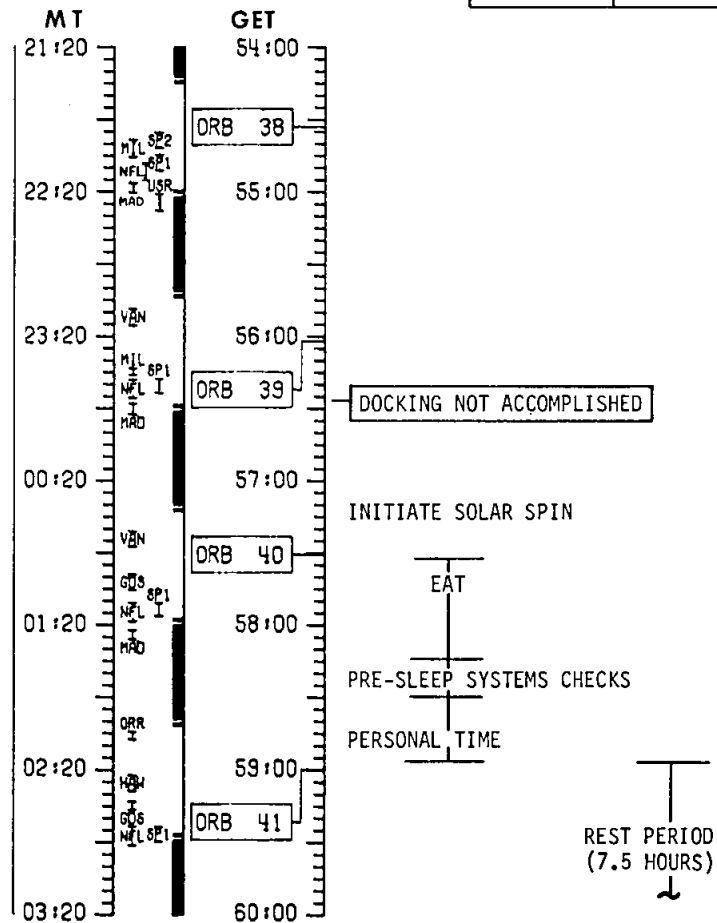
APOLLO

DATE	REV
7/17/75	30-34



SOYUZ

DATE	ORB
7/17/75	37-41

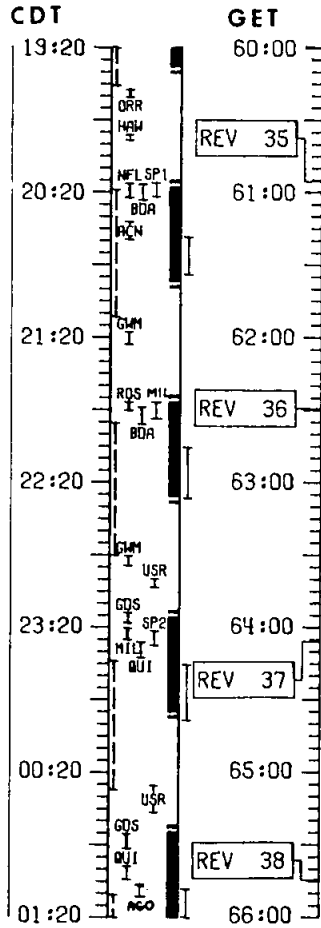


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.7-1

SUMMARY CREW ACTIVITIES PLAN

APOLLO

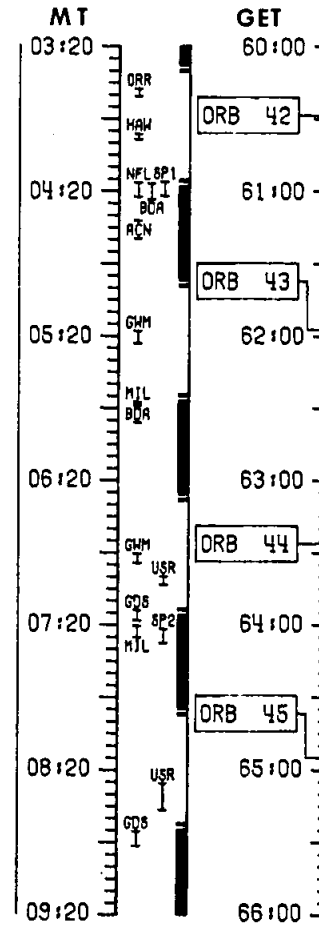
DATE	REV
7/17/75	34-38



APOLLO STABLE ORBIT MANEUVER - 60:14

PRE-SLEEP
CHECKLIST

REST PERIOD
(7.0 HOURS)



SOYUZ

DATE	ORB
7/18/75	41-45

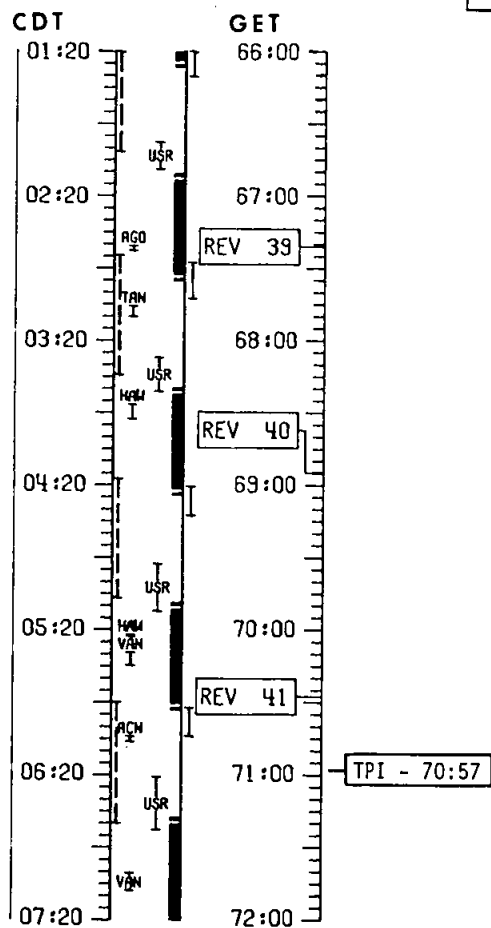
REST PERIOD
(7.5 HOURS)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.7-2

SUMMARY CREW ACTIVITIES PLAN

APOLLO

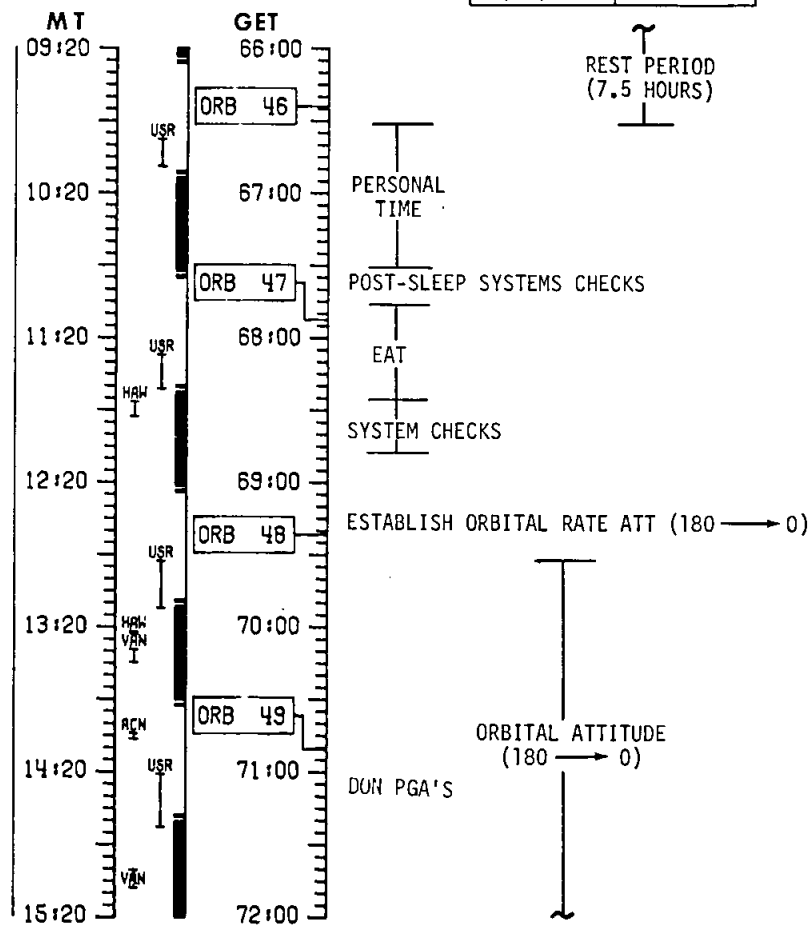
DATE	REV
7/18/75	38-41

REST PERIOD
(7.0 HOURS)

RENDEZVOUS

SOYUZ

DATE	ORB
7/18/75	45-49

REST PERIOD
(7.5 HOURS)PERSONAL
TIME

POST-SLEEP SYSTEMS CHECKS

EAT

SYSTEM CHECKS

ESTABLISH ORBITAL RATE ATT (180 → 0)

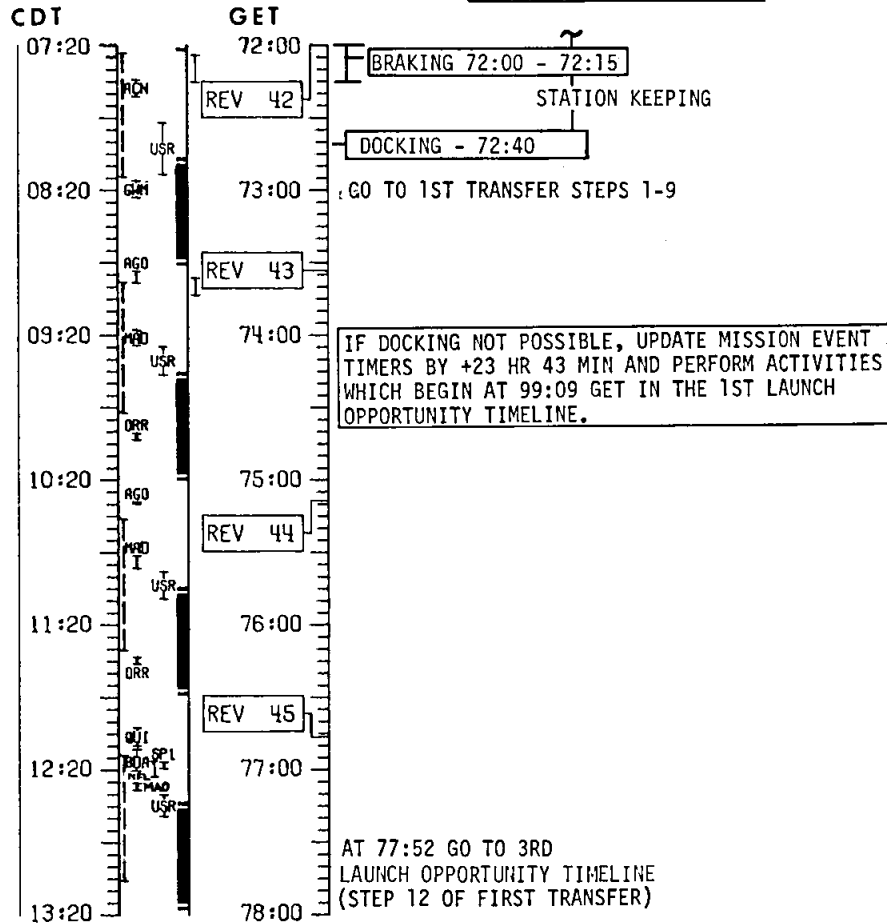
ORBITAL ATTITUDE
(180 → 0)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.7-3

SUMMARY CREW ACTIVITIES PLAN

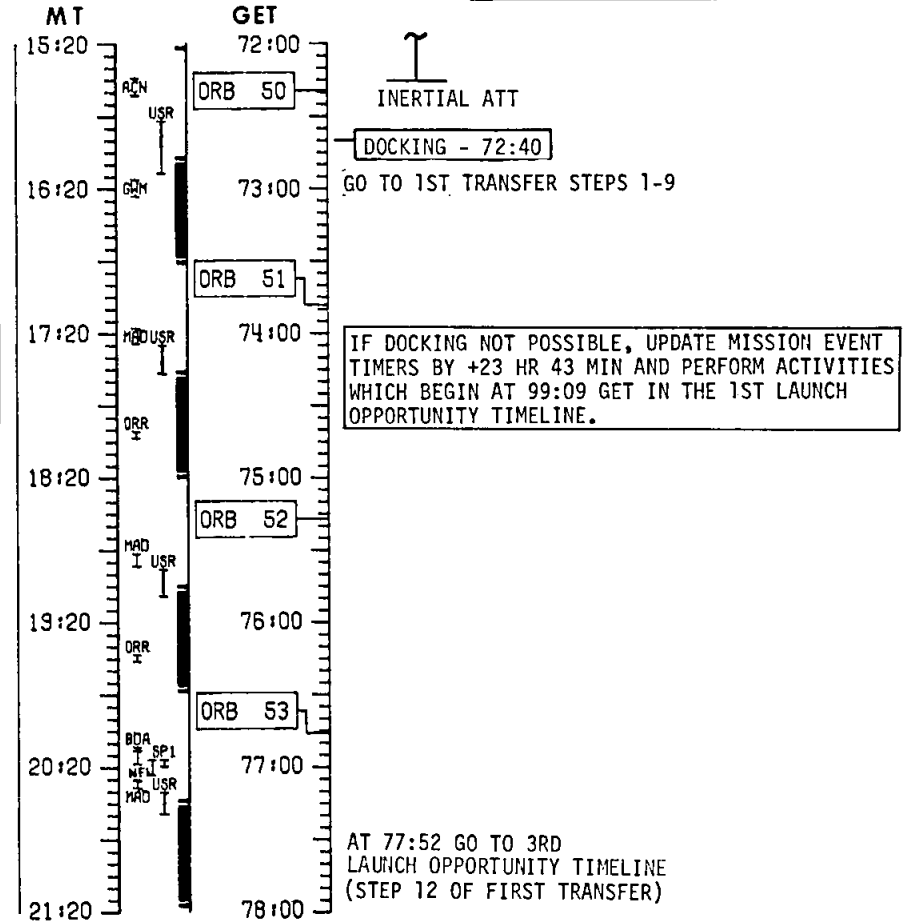
APOLLO

DATE	REV
7/18/75	42-45



SOYUZ

DATE	ORB
7/18/75	49-53



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	6.7-4

6.8 DOCKING DELAYED 24 HOURS

A. Causes:

1. An Apollo maneuver is completed non-nominally, and requires docking to be shifted by 24 hours.

B. Course of Action:

1. Perform rendezvous and docking using the third launch opportunity timeline.

C. Notes:

None

6.9 CREW TRANSFER NOT POSSIBLE (OM PRESSURE TIGHT)

A. Causes:

1. Unable to pressurize docking module.
2. Unable to open Hatch 2.
3. DM or Tunnel 1 not pressure tight (unacceptable leak rate).
4. Tunnel 2 is not pressure-tight.

B. Course of Action:

1. The rendezvous and docking are performed nominally.
2. No transfers are performed and the crews rest for 8 hours.
3. The docked duration is shortened by 24 hours.
4. Both crews update their mission event timers by +23 HR 43 MIN so that at 57:00 GET the mission event times will read 80:43 GET and return to the nominal timeline at 81:20 GET (Apollo) and 81:00 GET (Soyuz).

C. Notes:

1. Artificial solar eclipse experiment is not performed, except for cause A-2.
2. After update of mission event timers, CDT and MT time scales will be behind actual CDT and MT by 17 minutes.
3. The mission event timer updates are approximate. The GET for timer updates and the corresponding GET value will be determined real-time.

6.10 DOCKED FLIGHT DURATION IS REDUCED

A. Causes:

One Soyuz solar battery panel not deployed.

B. Course of Action:

1. Soyuz will use an economy mode of operation, except for systems supporting joint operations.
2. Docked flight duration may be reduced to either 24 hours or 7.5 hours.

C. Notes:

1. If docked flight is reduced to 24 hours the first transfer is performed as in the transfer procedures for the 4th launch opportunity. Both crews will update their mission event timers by +47 hr 25 min so that at 53:05 GET the mission event timers will read 100:30 GET. Subsequent activities will be performed as in the timeline and transfer procedures for the 4th launch opportunity.
2. If docked flight is reduced to 7.5 hours, after docking the crews will go to the timeline and transfer procedures for the 5th launch opportunity. Both crews will update their mission event timers by +69 hr 38 min so that at 51:57 GET the mission event timers will read 121:35 GET.
3. After the update of mission event timers, CDT and MT time scales will be behind actual CDT and MT by 35 min for situation C-1 and by 2 hr 22 min for situation C-2.
4. The mission event timer updates are approximate. The GET for timer updates and the corresponding GET value will be determined real-time.
5. For situation C-1, the solar eclipse experiment and the UVA experiment will be performed as in the 4th launch opportunity.

6.11 FIRST UNDOCKING DELAYED 1 REVOLUTION

A. Causes:

1. Not ready for undocking at nominal time.
2. Unable to undock within 1 minute of nominal time.

B. Course of Action:

1. Undocking and test docking will be delayed one revolution.
2. Time between test docking and second undocking is reduced one revolution, causing the eat period to occur during other activities.
3. Second undocking and all subsequent activities occur as in the nominal timeline. Return to nominal timeline at 98:15 GET.

C. Notes:

1. Solar eclipse experiment will be performed.
2. All data takes of the UVA experiment will be performed.

6.12 FIRST UNDOCKING DELAYED 2 REVOLUTIONS

A. Causes:

1. Not ready for undocking by 1 revolution later than nominal time.

B. Course of Action:

1. First undocking is delayed 2 revolutions.
2. Time between test docking and second undocking is reduced one revolution.
3. Second undocking and start of the UVA experiment will be one revolution later than the nominal time.
4. Final separation will occur on the Soyuz 71st orbit.
5. Return to autonomous timeline at 104:30 GET.

C. Notes:

1. Solar eclipse experiment will be performed.
2. All data takes of the UVA experiment will be performed.

6.12 FIRST UNDOCKING DELAYED 2 REVOLUTIONS

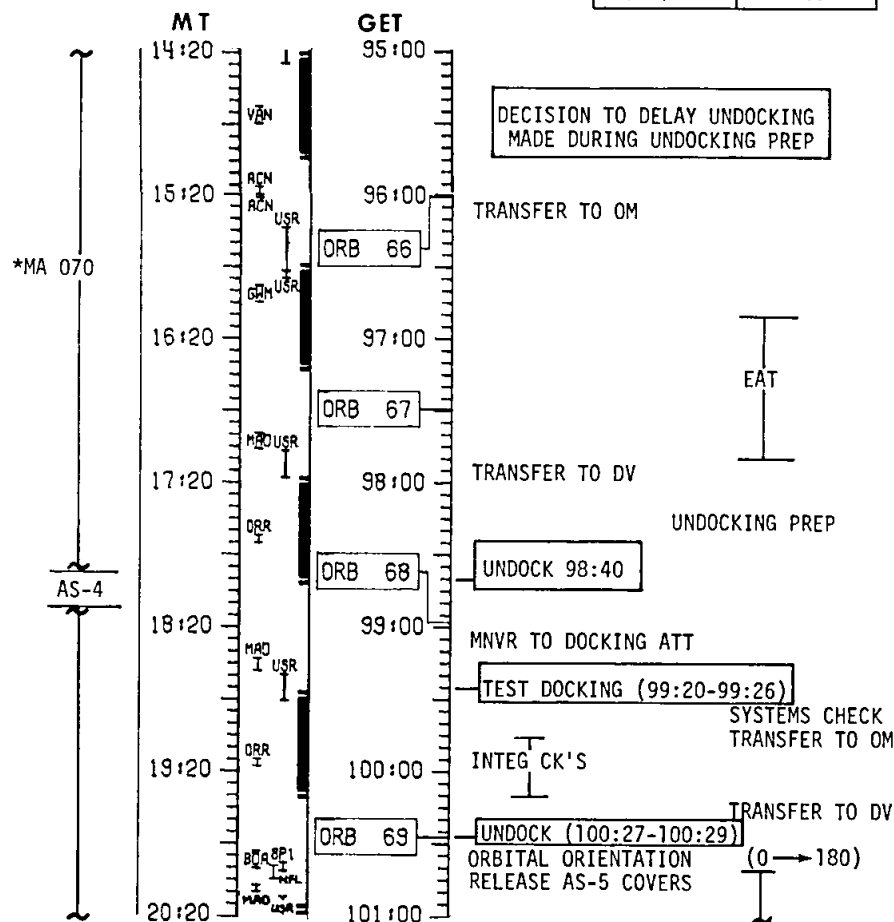
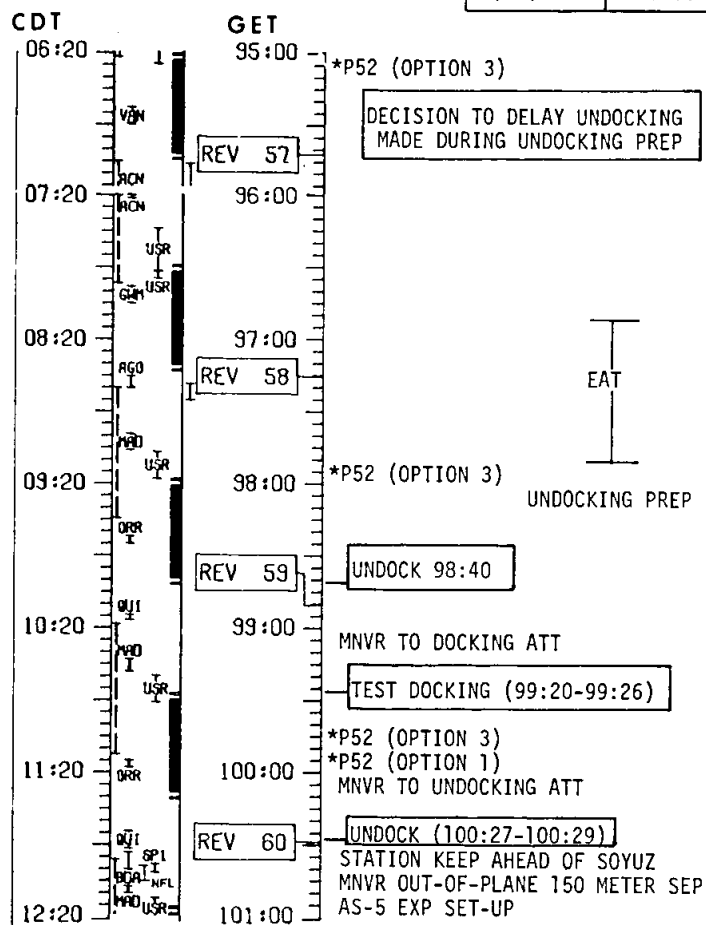
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/19/75	56-60

SOYUZ

DATE	ORB
7/19/75	65-69

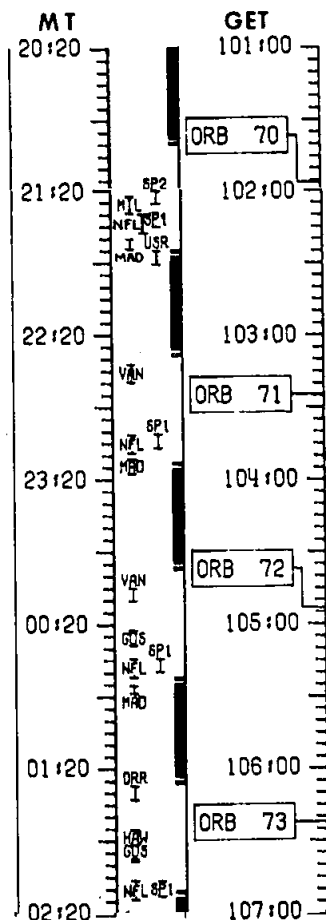
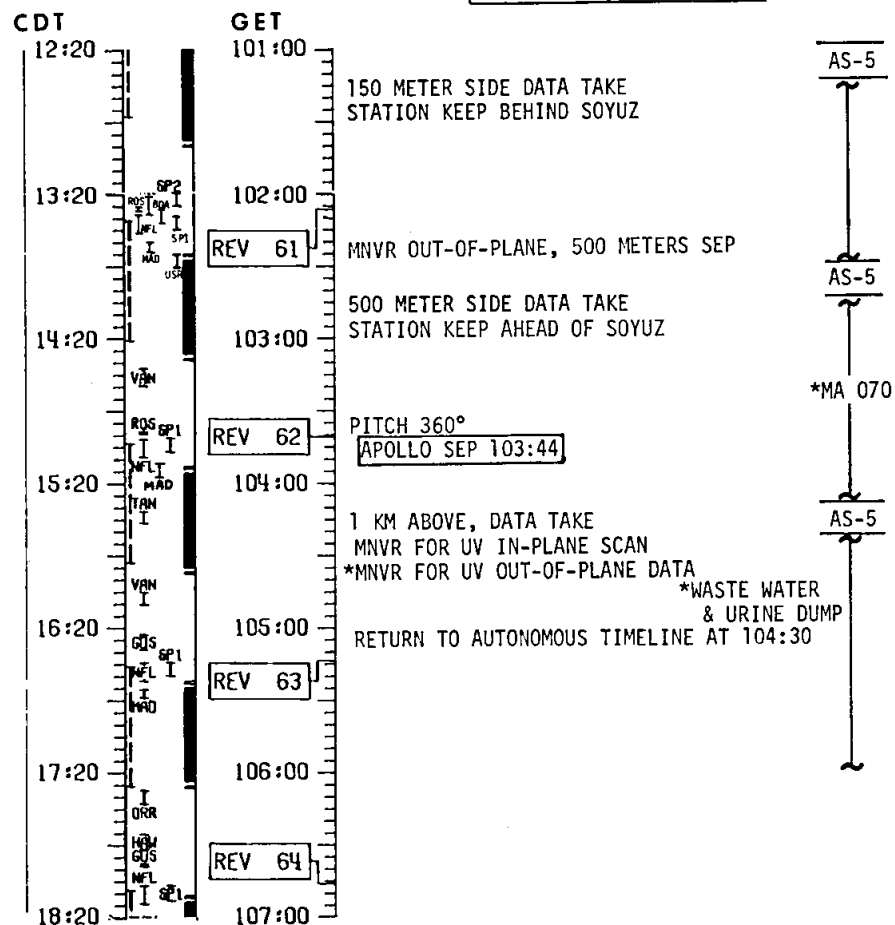


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SUMMARY CREW ACTIVITIES PLAN

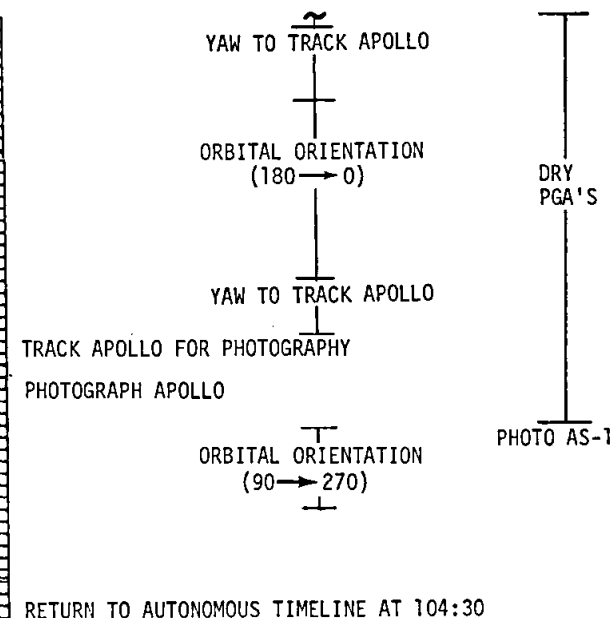
APOLLO

DATE	REV
7/19/75	60-64



SOYUZ

DATE	ORB
7/19/75	69-73



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6.13 FIRST UNDOCKING DELAYED 3 REVOLUTIONS

A. Causes:

1. Not ready for undocking by 2 revolutions later than nominal time.

B. Course of Action:

1. First undocking is delayed 3 revolutions.
2. Test docking is not performed.
3. The UVA experiment is begun after first undocking, one revolution later than the nominal time.
4. Final separation will occur on the Soyuz 71st Orbit.
5. Return to autonomous timeline at 104:30 GET.

C. Notes:

1. After undocking the timeline is the same as for "First Undocking Delayed 2 Revolutions" (6.12).
2. Apollo IMU realignment to UVA orientation must occur prior to first undocking.
3. The solar eclipse experiment is not performed.
4. All data takes of the UVA experiment will be performed.

6.14 TEST DOCKING NOT POSSIBLE

A. Causes:

1. Soyuz docking system pyrotechnics were used during undocking.
2. Orbital module is not pressure tight after first undocking.
3. Direct radio communication between crews is not possible.
4. Soyuz docking system cannot be configured to active mode using nominal and backup operations.
5. Apollo docking system cannot be configured to passive mode using nominal and backup operations.
6. Soyuz unable to maintain the inertial stabilization mode.

B. Course of Action:

1. At 97:38 GET the crews will perform the UVA experiment operations which begin at 99:09 GET in the nominal timeline.
2. Final separation will occur on the Soyuz 69th Orbit.

C. Notes:

In cases A-2 and A-3, Apollo will perform the final separation maneuver after leaving darkness.

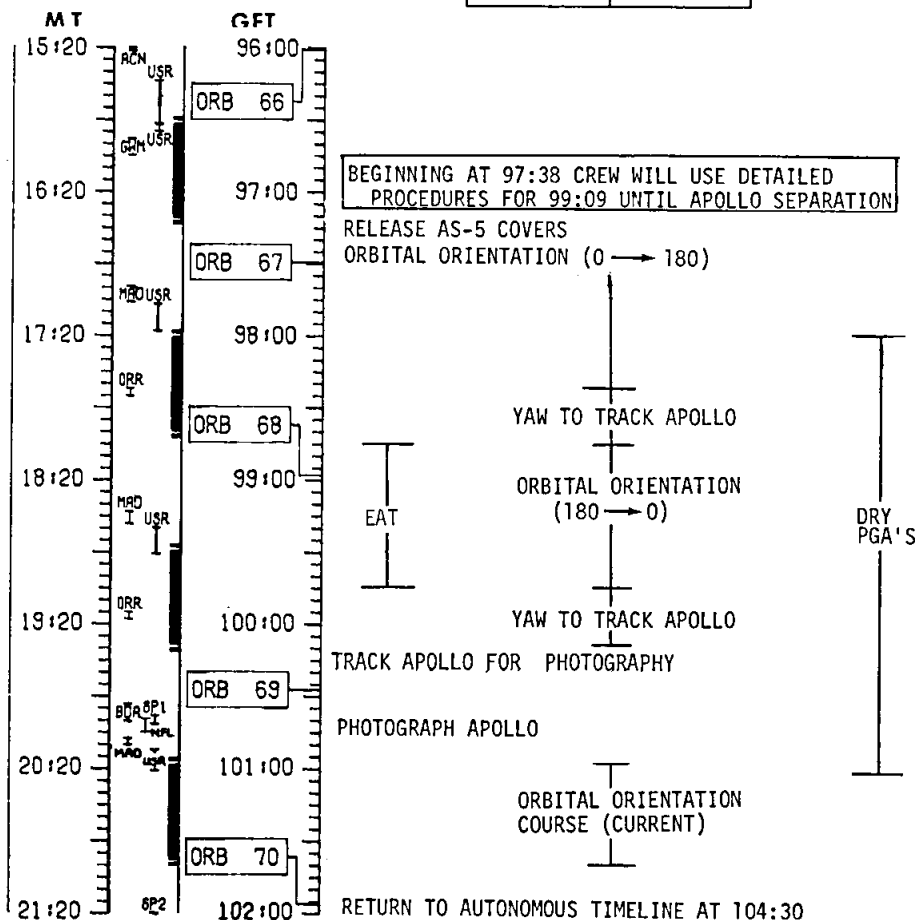
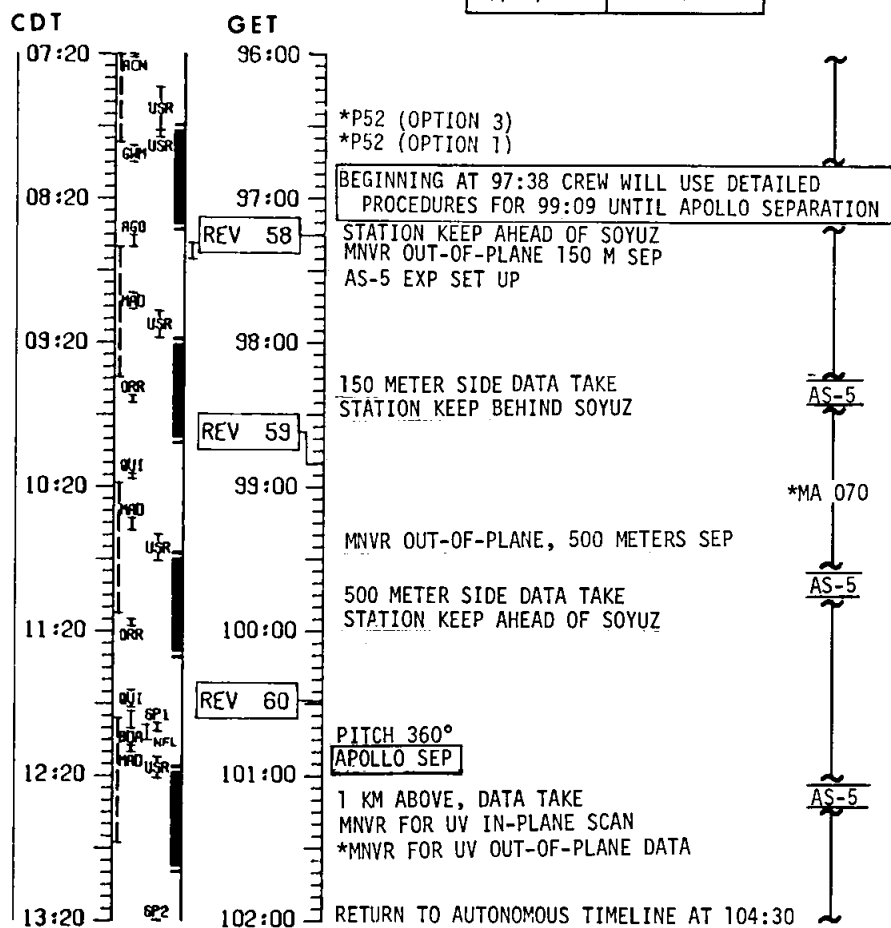
6.14 DOCKING TEST NOT POSSIBLE

SUMMARY CREW ACTIVITIES PLAN
APOLLO

DATE	REV
7/19/75	57-60

SOYUZ

DATE	ORB
7/19/75	65-70



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Section 7

7.0 JOINT PHASE ATTITUDE TIMELINE

This section contains the major events and spacecraft attitudes for the Apollo and Soyuz spacecraft during the joint phase of the ASTP mission. The convention used for expressing the Apollo and Soyuz attitudes is documented in IED 50406 Axis Convention to be used for spacecraft maneuver definition. The look angles to the Sun, Earth and other vehicles are expressed in the coordinate system documented in WG2-054 ASTP nominal and contingency attitudes for first docking and test docking.

Joint Phase Attitude Time Line

Soyuz GET HR:MN:SC	Event	Rev/ Orbit	Vehicle	Altitude ^a km	Range ^b km	Vehicle Attitude ^c			Look Angles to Sun		Look Angles to Earth		Look Angles ^b to Other Vehicle	
						deg	deg	deg	deg	deg	deg	deg	deg	deg
48:34:04	Apollo NC2 maneuver, Soyuz orb rate	27 33	Apollo Soyuz	165.5 223.0	496.1	P = 181.6 $\theta_R = 0.0$	Y = 359.8 $\psi_R = 0.0$	R = 0.0 $\phi_R = 0.0$	124.6 119.0	196.8 15.7	88.4 90.0	0.0 180.0	177.1 8.8	184.2 180.3
48:43:00	Apollo in sextant tracking attitude, line of sight maintenance	27 34	Apollo Soyuz	166.8 222.8	438.9	P = 330.4 $\theta_R = 0.0$	Y = 0.0 $\psi_R = 0.0$	R = 179.9 $\phi_R = 0.0$	121.0 84.0	164.1 13.8	60.4 90.0	0.1 180.0	35.0 9.2	180.0 180.3
49:12:00	Apollo in NCC inertial attitude	27 34	Apollo Soyuz	183.9 222.4	292.3	P = 324.5 $\theta_R = 0.0$	Y = 359.4 $\psi_R = 0.0$	R = 179.9 $\phi_R = 0.0$	112.6 35.9	15.1 156.5	54.5 90.0	359.7 180.0	41.8 8.8	180.9 179.8
49:18:03	Apollo NCC maneuver	27 34	Apollo Soyuz	186.2 223.3	270.5	P = 349.3 $\theta_R = 0.0$	Y = 359.3 $\psi_R = 0.0$	R = 179.9 $\phi_R = 0.0$	112.6 59.1	15.1 164.2	79.3 90.0	0.0 180.0	17.4 9.0	182.4 179.7
49:26:00	Apollo in VHF tracking attitude, line of sight maintenance	27 34	Apollo Soyuz	187.3 223.1	245.3	P = 332.7 $\theta_R = 0.0$	Y = 0.0 $\psi_R = 0.0$	R = 180.1 $\phi_R = 0.0$	65.2 90.2	15.5 166.1	62.7 90.0	359.9 180.0	35.0 9.6	180.0 179.6
49:50:00	Apollo in NSR inertial attitude	27 34	Apollo Soyuz	200.2 221.2	160.5	P = 286.6 $\theta_R = 0.0$	Y = 357.4 $\psi_R = 0.0$	R = 176.2 $\phi_R = 0.0$	79.1 164.7	170.6 61.7	16.8 90.0	355.0 180.0	80.3 8.2	184.2 179.8
49:55:04	Apollo NSR maneuver	28 34	Apollo Soyuz	203.4 222.0	151.0	P = 307.2 $\theta_R = 0.0$	Y = 357.4 $\psi_R = 0.0$	R = 176.3 $\phi_R = 0.0$	79.1 149.3	170.6 27.0	37.3 90.0	0.3 180.0	59.3 7.7	185.3 180.0
50:02:00	Apollo in sextant tracking attitude, line of sight maintenance	28 34	Apollo Soyuz	204.3 222.8	137.7	P = 332.1 $\theta_R = 0.0$	Y = 0.0 $\psi_R = 0.0$	R = 180.1 $\phi_R = 0.0$	82.8 123.0	166.5 16.0	62.1 90.0	359.9 180.0	35.0 8.3	180.0 179.8
50:48:00	Apollo in TPI inertial attitude	28 35	Apollo Soyuz	205.2 223.3	51.0	P = 2.7 $\theta_R = 0.0$	Y = 1.6 $\psi_R = 0.0$	R = 359.0 $\phi_R = 0.0$	120.5 62.9	195.4 165.1	92.7 90.0	180.9 180.0	17.9 21.0	355.4 180.6
50:54:25	Apollo TPI maneuver	28 35	Apollo Soyuz	205.1 223.2	39.7	P = 28.8 $\theta_R = 0.0$	Y = 1.6 $\psi_R = 0.0$	R = 359.0 $\phi_R = 0.0$	120.5 62.9	195.4 165.1	118.8 90.0	180.1 180.0	2.7 27.3	227.2 180.7
50:57:00	Apollo in VHF and sextant tracking attitude, line of sight maintenance	28 35	Apollo Soyuz	205.4 222.9	34.4	P = 65.5 $\theta_R = 0.0$	Y = 0.0 $\psi_R = 0.0$	R = 0.8 $\phi_R = 0.0$	144.9 98.3	202.6 166.6	155.5 90.0	179.2 180.0	35.0 30.7	180.0 180.9
51:20:00	Apollo in COAS tracking attitude, line of sight maintenance	28 35	Apollo Soyuz	217.7 221.3	3.6	P = 94.6 $\theta_R = 0.0$	Y = 357.5 $\psi_R = 0.0$	R = 0.0 $\phi_R = 0.0$	82.5 162.5	192.9 49.0	174.8 90.0	331.7 180.0	0.0 94.6	0.0 182.5

NOTES

^aAbove a spherical earth of 6378.16-km radius^bNo data when vehicles are docked^cApollo attitudes are specified with respect to the local horizontal attitude. Soyuz attitudes are specified with respect to either the posigrade orbital attitude or the retrograde orbital attitude, whichever provides the smallest required rotation.

Joint Phase Attitude Time Line

Soyuz GET HR:MN:SC	Event	Rev/ Orbit	Vehicle	Altitude ^a km	Range ^b km	Vehicle Attitude ^c			Look Angles to Sun		Look Angles to Earth		Look Angles ^b to Other Vehicle	
						deg	deg	deg	deg	deg	deg	deg	deg	deg
51:30:00	Apollo end braking, begin station keeping	29 35	Apollo Soyuz	222.4 222.4	0.1	P = 0.0 $\theta_R = 0.0$	Y = 0.0 $\psi_R = 0.0$	R = 0.0 $\phi_R = 0.0$	53.2 126.8	342.5 17.5	90.0 90.0	180.0 180.0	0.0 0.0	0.0 0.0
51:44:25	Soyuz initiate inertial attitude mode	29 36	Apollo Soyuz	222.2 222.2	0.0	P = 0.0 $\theta_R = 0.0$	Y = 0.0 $\psi_R = 0.0$	R = 0.0 $\phi_R = 0.0$	110.0 70.0	346.1 13.9	90.0 90.0	180.0 180.0	0.0 0.0	0.0 0.0
51:46:53	Soyuz in inertial docking attitude	29 36	Apollo Soyuz	221.9 221.9	0.0	P = 10.0 $\theta_R = 10.0$	Y = 0.0 $\psi_R = 0.0$	R = 307.0 $\phi_R = 60.0$	110.0 70.0	53.1 313.9	100.0 80.1	233.0 120.0	0.0 0.0	0.0 0.0
51:47:00	Apollo in inertial docking attitude	29 36	Apollo Soyuz	221.8 221.8	0.0	P = 10.4 $\theta_R = 10.4$	Y = 0.0 $\psi_R = 0.0$	R = 300.0 $\phi_R = 60.0$	110.0 70.0	46.1 313.9	100.4 79.6	240.0 120.0	0.0 0.0	0.0 0.0
51:55:00	Apollo/Soyuz docking	29 36	Apollo Soyuz	221.0 221.0	-	P = 42.7 $\theta_R = 42.7$	Y = 0.0 $\psi_R = 0.0$	R = 300.0 $\phi_R = 60.0$	110.0 70.0	46.1 313.9	132.7 47.3	240.2 119.8	- -	- -
55:55:00	Apollo/Soyuz in SI attitude +XD4 forward	31 38	Apollo Soyuz	225.2 225.2	-	P = 314.8 $\theta_R = 314.8$	Y = 0.1 $\psi_R = 359.9$	R = 22.9 $\phi_R = 337.1$	90.0 90.0	325.0 35.0	44.8 135.2	157.3 202.7	- -	- -
67:25:00	Apollo/Soyuz in earth observations attitude, orb rate	39 46	Apollo Soyuz	220.2 220.2	-	P = 212.5 $\theta_P = 327.5$	Y = 0.0 $\psi_P = 0.0$	R = 301.1 $\phi_P = 238.9$	105.6 74.4	48.7 311.3	57.5 122.5	58.9 301.1	- -	- -
68:10:00	Apollo/Soyuz begin inertial attitude maintenance	39 47	Apollo Soyuz	220.0 220.0	-	P = 212.5 $\theta_P = 327.5$	Y = 359.9 $\psi_P = 359.9$	R = 301.1 $\phi_P = 238.9$	72.2 107.8	249.0 111.0	57.5 122.5	58.9 301.1	- -	- -
68:50:00	Apollo/Soyuz in inertial attitude for next earth observations	39 47	Apollo Soyuz	220.6 220.6	-	P = 143.7 $\theta_P = 36.3$	Y = 40.3 $\psi_P = 40.3$	R = 268.5 $\phi_P = 271.5$	143.9 36.1	144.2 215.8	116.8 63.2	116.9 243.1	- -	- -
69:10:00	Apollo/Soyuz in earth observations attitude, orb rate	40 47	Apollo Soyuz	220.3 220.3	-	P = 224.7 $\theta_P = 315.3$	Y = 40.2 $\psi_P = 40.2$	R = 268.5 $\phi_P = 271.5$	143.9 36.1	144.2 215.8	57.5 122.5	58.9 301.1	- -	- -
70:25:00	Apollo/Soyuz in SI attitude -XD4 forward	40 48	Apollo Soyuz	219.6 219.6	-	P = 57.2 $\theta_R = 57.2$	Y = 0.0 $\psi_R = 0.0$	R = 224.2 $\phi_R = 135.8$	90.0 90.0	325.0 35.0	147.2 32.8	315.8 44.2	- -	- -
71:51:00	Apollo/Soyuz begin inertial attitude maintenance	41 49	Apollo Soyuz	219.6 219.6	-	P = 288.1 $\theta_R = 288.1$	Y = 0.0 $\psi_R = 0.0$	R = 180.0 $\phi_R = 180.0$	28.4 151.6	161.1 198.9	18.1 161.9	0.0 0.0	- -	- -

NOTES

^aAbove a spherical earth of 6378.16-km radius^bNo data when vehicles are docked^cApollo attitudes are specified with respect to the local horizontal attitude. Soyuz attitudes are specified with respect to either the posigrade orbital attitude or the retrograde orbital attitude, whichever provides the smallest required rotation.

Joint Phase Attitude Time Line

Soyuz GET HR:MN:SC	Event	Rev/ Orbit	Vehicle	Altitude ^a km	Range ^b km	Vehicle Attitude ^c			Look Angles to Sun		Look Angles to Earth		Look Angles ^b to Other Vehicle	
						deg	deg	deg	deg	deg	deg	deg	deg	deg
72:05:00	Apollo/Soyuz in earth observations attitude, orb rate	42 49	Apollo Soyuz	219.7 219.7	-	P =345.0 θ_R =345.0	Y = 0.0 ψ_R = 0.0	R =180.0 ϕ_R =180.0	28.4 151.6	161.1 198.9	75.0 105.0	0.0 0.0	- -	- -
72:58:00	Apollo/Soyuz in SI attitude -XD4 forward	42 50	Apollo Soyuz	221.6 221.6	-	P =316.7 θ_R =316.7	Y = 0.0 ψ_R = 0.0	R =223.7 ϕ_R =136.3	90.0 90.0	325.0 35.0	46.7 133.3	316.3 43.7	- -	- -
78:05:00	Apollo/Soyuz in earth observations attitude, orb rate	45 53	Apollo Soyuz	225.3 225.3	-	P =326.3 θ_R =326.3	Y =345.8 ψ_R = 14.2	R =229.6 ϕ_R =130.4	62.6 117.4	129.3 230.7	57.5 122.5	301.1 58.9	- -	- -
78:31:00	Apollo/Soyuz begin inertial attitude maintenance	46 54	Apollo Soyuz	219.4 219.4	-	P =326.3 θ_R =326.3	Y =345.8 ψ_R = 14.2	R =229.6 ϕ_R =130.4	155.6 24.4	68.1 291.9	57.5 122.5	301.1 58.9	- -	- -
81:00:00	Apollo/Soyuz in SI attitude +XD4 forward, yawed 30 degrees	47 55	Apollo Soyuz	219.2 219.2	-	P =284.5 θ_R =284.5	Y =330.5 ψ_R = 29.5	R = 27.1 ϕ_R =332.9	90.0 90.0	325.0 35.0	32.6 147.4	90.6 269.4	- -	- -
92:39:00	Apollo/Soyuz in inertial attitude for Apollo communications	55 63	Apollo Soyuz	217.8 217.8	-	P =236.7 θ_P =303.3	Y =329.6 ψ_P =329.6	R = 69.2 ϕ_P =110.8	90.0 90.0	285.3 74.7	43.9 136.1	328.5 31.5	- -	- -
94:12:00	Apollo/Soyuz in inertial undocking attitude	56 64	Apollo Soyuz	217.5 217.5	-	P =166.2 θ_P = 13.8	Y = 4.3 ψ_P = 4.3	R =181.1 ϕ_P =358.9	180.0 0.0	0.0 0.0	103.7 76.3	179.7 180.3	- -	- -
95:42:05	Apollo/Soyuz undocking, inertial attitude	57 65	Apollo Soyuz	218.5 218.5	0.0	P =170.0 θ_P = 10.0	Y = 4.1 ψ_P = 4.1	R =181.1 ϕ_P =358.9	180.0 0.0	0.0 0.0	99.9 80.1	179.6 180.4	0.0 0.0	0.0 0.0
95:42:20	Apollo begin first separation maneuver	57 65	Apollo Soyuz	218.5 218.5	0.0	P =171.0 θ_P = 9.0	Y = 4.1 ψ_P = 4.1	R =181.1 ϕ_P =358.9	180.0 0.0	0.0 0.0	98.9 81.1	179.5 180.5	0.0 0.0	0.0 0.0
95:42:35	Apollo begin second separation maneuver	57 65	Apollo Soyuz	218.5 218.5	0.0	P =172.1 θ_P = 7.9	Y = 4.1 ψ_P = 4.1	R =181.1 ϕ_P =358.9	180.0 0.0	0.0 0.0	97.9 82.1	179.4 180.6	0.0 0.0	0.0 0.0
95:46:05	Apollo null separation rate, begin closing rate on Soyuz	57 65	Apollo Soyuz	218.7 218.7	0.2	P =186.2 θ_P =353.8	Y = 4.1 ψ_P = 4.1	R =181.1 ϕ_P =358.9	180.0 0.0	0.0 0.0	83.8 96.2	178.4 181.6	0.0 0.0	0.0 0.0
95:49:51	Apollo station keeping 50 meters from Soyuz, line of sight maintenance	57 65	Apollo Soyuz	219.0 219.0	0.1	P =201.4 θ_P =338.6	Y = 4.1 ψ_P = 4.1	R =181.1 ϕ_P =358.9	180.0 0.0	0.0 0.0	68.6 111.4	177.3 182.7	0.0 0.0	0.0 0.0

NOTES

^aAbove a spherical earth of 6378.16-km radius^bNo data when vehicles are docked^cApollo attitudes are specified with respect to the local horizontal attitude. Soyuz attitudes are specified with respect to either the posigrade orbital attitude or the retrograde orbital attitude, whichever provides the smallest required rotation.

Joint Phase Attitude Time Line

Soyuz GET HR:MN:SC	Event	Rev/ Orbit	Vehicle	Altitude ^a km	Range ^b km	Vehicle Attitude ^c			Look Angles to Sun		Look Angles to Earth		Look Angles ^b to Other Vehicle	
						deg	deg	deg	deg	deg	deg	deg	deg	deg
95:58:00	Soyuz in inertial test docking attitude	57 65	Apollo Soyuz	220.6 220.6	0.0	P = 163.8 $\theta_P = 16.2$	Y = 11.5 $\psi_P = 11.5$	R = 180.1 $\phi_P = 327.7$	110.0 70.0	295.8 32.1	106.3 73.7	114.8 213.0	0.0 0.0	0.0 0.0
96:03:00	Apollo in inertial test docking attitude	57 66	Apollo Soyuz	219.8 219.8	0.0	P = 184.1 $\theta_P = 355.9$	Y = 11.5 $\psi_P = 11.5$	R = 212.3 $\phi_P = 327.7$	110.0 70.0	327.9 32.1	86.0 94.0	146.9 213.1	0.0 0.0	0.0 0.0
96:08:00	Apollo/Soyuz test docking contact	57 66	Apollo Soyuz	219.4 219.4	-	P = 204.3 $\theta_P = 335.7$	Y = 11.5 $\psi_P = 11.5$	R = 212.3 $\phi_P = 327.7$	110.0 70.0	327.9 32.1	66.2 113.8	142.6 217.4	- -	- -
98:35:00	Apollo/Soyuz in inertial undocking attitude	58 67	Apollo Soyuz	218.3 218.3	-	P = 50.4 $\theta_R = 50.4$	Y = 0.0 $\psi_R = 0.0$	R = 180.0 $\phi_R = 180.0$	80.1 99.9	3.5 356.5	140.4 39.6	0.0 0.0	- -	- -
99:07:00	Apollo/Soyuz undocking, inertial attitude	59 67	Apollo Soyuz	219.4 219.4	0.0	P = 180.0 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 0.0$	R = 180.0 $\phi_P = 0.0$	80.1 99.9	3.5 356.5	90.0 90.0	180.0 180.0	0.0 0.0	0.0 0.0
99:11:00	Apollo in station keep- ing attitude, heads up, Apollo and Soyuz orb rate	59 67	Apollo Soyuz	219.1 219.1	0.0	P = 180.0 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 0.0$	R = 187.5 $\phi_P = 0.0$	63.9 116.1	356.3 356.2	90.0 90.0	172.5 180.0	0.0 0.0	0.0 0.0
99:21:00	Apollo perform out of plane burn to the south, orb rate	59 67	Apollo Soyuz	218.8 218.8	0.0	P = 180.0 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 0.0$	R = 187.5 $\phi_P = 0.0$	23.6 156.4	1.0 351.5	90.0 90.0	172.5 180.0	0.0 0.0	0.0 0.0
99:39:00	Apollo begin UVA data take, orb rate, Apollo track Soyuz	59 67	Apollo Soyuz	221.3 221.3	0.1	P = 180.0 $\theta_P = 0.0$	Y = 285.0 $\psi_P = 0.0$	R = 187.5 $\phi_P = 0.0$	77.1 130.4	211.3 184.3	90.0 90.0	172.5 180.0	0.0 75.0	0.0 90.0
99:49:00	Apollo end UVA data take	59 67	Apollo Soyuz	221.0 221.0	0.1	P = 0.0 $\theta_P = 0.0$	Y = 285.0 $\psi_P = 0.0$	R = 7.5 $\phi_P = 0.0$	86.8 90.0	173.3 183.3	90.0 90.0	172.5 180.0	0.0 105.0	0.0 90.0
99:50:00	Soyuz yawed to track Apollo, orb rate	59 67	Apollo Soyuz	220.8 220.8	0.1	P = 0.0 $\theta_P = 0.0$	Y = 285.0 $\psi_P = 336.0$	R = 7.5 $\phi_P = 0.0$	85.8 87.6	169.4 184.7	90.0 90.0	172.5 180.0	0.0 81.0	0.0 90.0
100:11:00	Apollo station keep- ing roll heads down, +XD4 forward, orb rate, Soyuz retrograde	59 68	Apollo Soyuz	218.4 218.4	0.0	P = 0.0 $\theta_R = 0.0$	Y = 0.0 $\psi_R = 0.0$	R = 187.5 $\phi_R = 0.0$	3.3 176.7	67.0 105.5	90.0 90.0	352.5 180.0	0.0 0.0	0.0 0.0
100:50:00	Apollo perform out of plane burn to the north, orb rate	60 68	Apollo Soyuz	218.8 218.8	0.0	P = 0.0 $\theta_R = 0.0$	Y = 0.0 $\psi_R = 0.0$	R = 187.5 $\phi_R = 0.0$	156.9 23.1	164.6 7.9	90.0 90.0	352.5 180.0	0.0 0.0	0.0 0.0

NOTES

^aAbove a spherical earth of 6378.16-km radius^bNo data when vehicles are docked^cApollo attitudes are specified with respect to the local horizontal attitude. Soyuz attitudes are specified with respect to either the postgrade orbital attitude or the retrograde orbital attitude, whichever provides the smallest required rotation.

Joint Phase Attitude Time Line

Soyuz GET HR:MN:SC	Event	Rev/ Orbit	Vehicle	Altitude ^a km	Range ^b km	Vehicle Attitude ^c			Look Angles to Sun		Look Angles to Earth		Look Angles ^b to Other Vehicle	
						deg	deg	deg	deg	deg	deg	deg	deg	deg
101:08:00	Apollo begin UVA data take, orb rate, Apollo track Soyuz	60 68	Apollo Soyuz	221.3 221.3	0.5	P = 0.0 $\theta_R = 0.0$	Y = 75.0 $\psi_R = 0.0$	R = 187.5 $\phi_R = 0.0$	102.5 50.0	314.0 176.1	90.0 90.0	352.5 180.0	0.0 75.0	0.0 90.0
101:18:00	Apollo end UVA data take	60 68	Apollo Soyuz	221.0 221.0	0.5	P = 180.0 $\theta_R = 0.0$	Y = 75.0 $\psi_R = 0.0$	R = 7.5 $\phi_R = 0.0$	93.0 90.5	352.2 177.0	90.0 90.0	352.5 180.0	0.0 105.0	0.0 90.0
101:19:00	Soyuz yawed to track Apollo, orb rate	60 68	Apollo Soyuz	220.8 220.8	0.5	P = 180.0 $\theta_R = 0.0$	Y = 75.0 $\psi_R = 336.0$	R = 7.5 $\phi_R = 0.0$	94.1 92.9	356.1 175.4	90.0 90.0	352.5 180.0	0.0 81.0	0.0 90.0
101:40:00	Apollo in station keeping attitude heads down, -XD4 forward, orb rate	60 69	Apollo Soyuz	218.5 218.5	0.0	P = 180.0 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 81.0$	R = 7.5 $\phi_P = 0.0$	177.1 78.1	271.3 90.5	90.0 90.0	352.5 180.0	0.0 81.0	0.0 90.0
102:08:00	Apollo thrust along -Z for photo displacement, orb rate	61 69	Apollo Soyuz	219.1 219.1	0.0	P = 180.0 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 81.0$	R = 7.5 $\phi_P = 0.0$	67.1 90.7	175.6 336.9	90.0 90.0	352.5 180.0	0.0 81.0	0.0 90.0
102:10:00	Apollo begin 360 deg pitch, Soyuz track Apollo (yaw, roll, pitch-if reqd).	61 69	Apollo Soyuz	218.9 218.9	0.0	P = 163.3 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 81.0$	R = 7.5 $\phi_P = 0.0$	42.0 91.8	175.8 328.9	107.0 90.0	352.5 180.0	0.0 81.0	0.0 107.0
102:13:00	Apollo complete pitch rotation, center Soyuz in COAS	61 69	Apollo Soyuz	218.7 218.7	0.0	P = 150.0 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 81.0$	R = 7.5 $\phi_P = 0.0$	16.8 93.3	176.4 316.8	120.0 90.0	352.5 180.0	0.0 83.2	0.0 119.1
102:16:00	Apollo separation maneuver, orb rate	61 69	Apollo Soyuz	218.6 218.7	0.1	P = 146.0 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 81.0$	R = 7.5 $\phi_P = 0.0$	0.7 94.6	177.4 304.7	124.0 90.0	352.5 180.0	0.0 85.3	0.0 122.2
102:40:00	Apollo begin UVA data take, Apollo line of sight maintenance	61 69	Apollo Soyuz	222.3 221.5	0.8	P = 258.0 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 81.0$	R = 7.5 $\phi_P = 0.0$	15.7 91.5	182.9 207.5	12.0 90.0	352.5 180.0	0.0 88.0	0.0 11.9
102:46:00	Apollo end UVA data take	61 69	Apollo Soyuz	222.4 221.1	1.3	P = 292.0 $\theta_P = 0.0$	Y = 0.0 $\psi_P = 81.0$	R = 7.5 $\phi_P = 0.0$	25.3 87.8	178.9 183.5	22.0 90.0	172.5 180.0	0.0 93.3	0.0 338.2

NOTES

^aAbove a spherical earth of 6378.16-km radius^bNo data when vehicles are docked^cApollo attitudes are specified with respect to the local horizontal attitude. Soyuz attitudes are specified with respect to either the postgrade orbital attitude or the retrograde orbital attitude, whichever provides the smallest required rotation.

Appendix - A

Alternate Launch Timelines

	<u>Page</u>
A-1.0 Second Launch Opportunity	A-1
A-1.1 Detailed Activities	A-1
A-1.2 Summary Activities	A-1
A-2.0 Third Launch Opportunity	A-2
A-2.1 Detailed Activities	4.2-1
A-2.2 Summary Activities	5-1
A-3.0 Fourth Launch Opportunity	A-3
A-3.1 Detailed Activities	4.2-1
A-3.2 Summary Activities	5-1
A-4.0 Fifth Launch Opportunity	A-4
A-4.1 Detailed Activities	4.2-1
A-4.2 Summary Activities	5-1

A-1.0 Second Launch Opportunity

A-1.1 Detailed Activities

The Detailed Activities for the Second Launch Opportunity are the same as the Detailed Activities for the First Launch Opportunity. (See Section 4.2).

A-1.2 Summary Activities

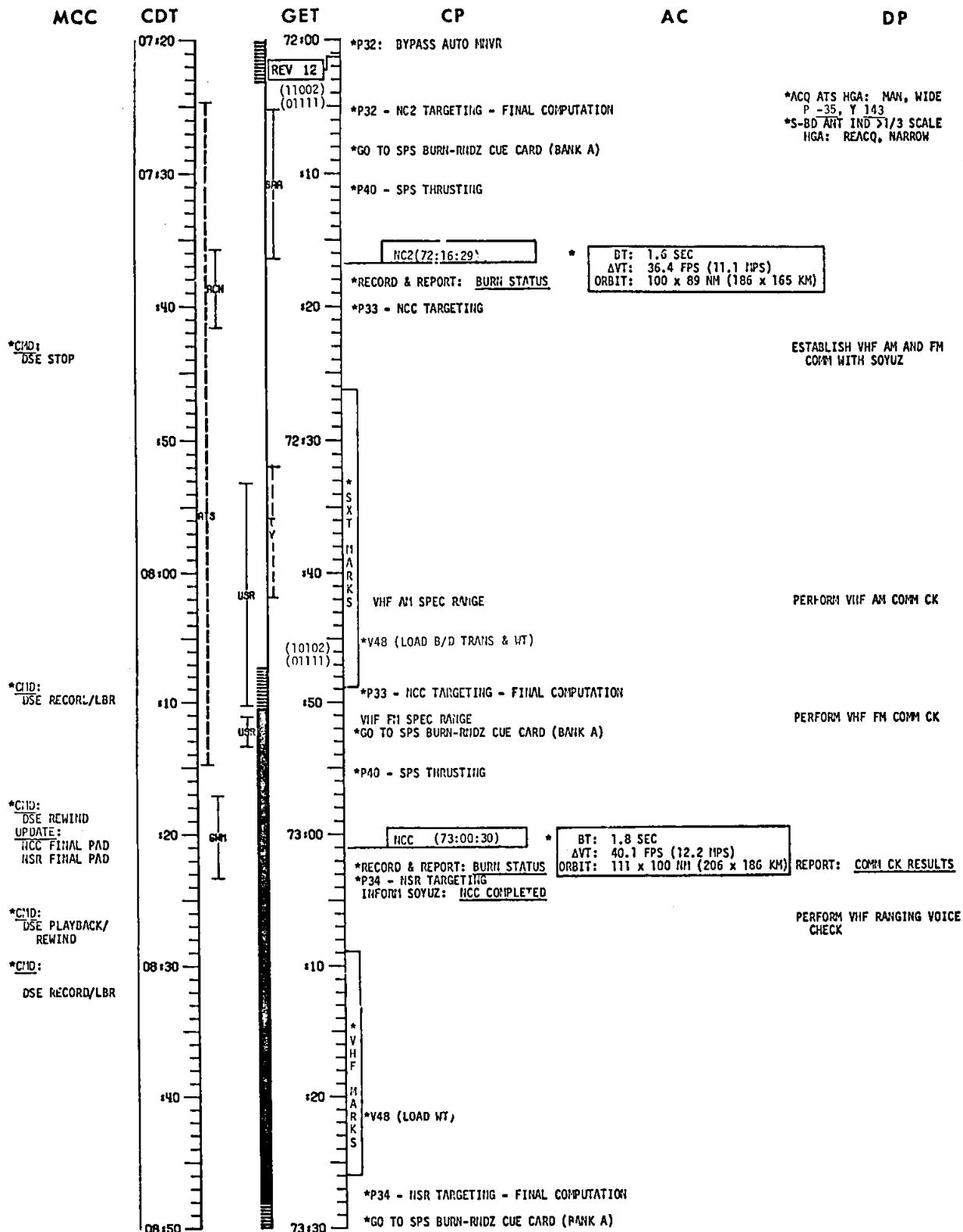
The Summary Activities for the Second Launch Opportunity are the same as the Summary Activities for the First Launch Opportunity. (See Section 5).

A-2.0 Third Launch Opportunity

JOINT MISSION PHASE
(THIRD OPPORTUNITY)

APOLLO DETAILED CREW ACTIVITIES PLAN

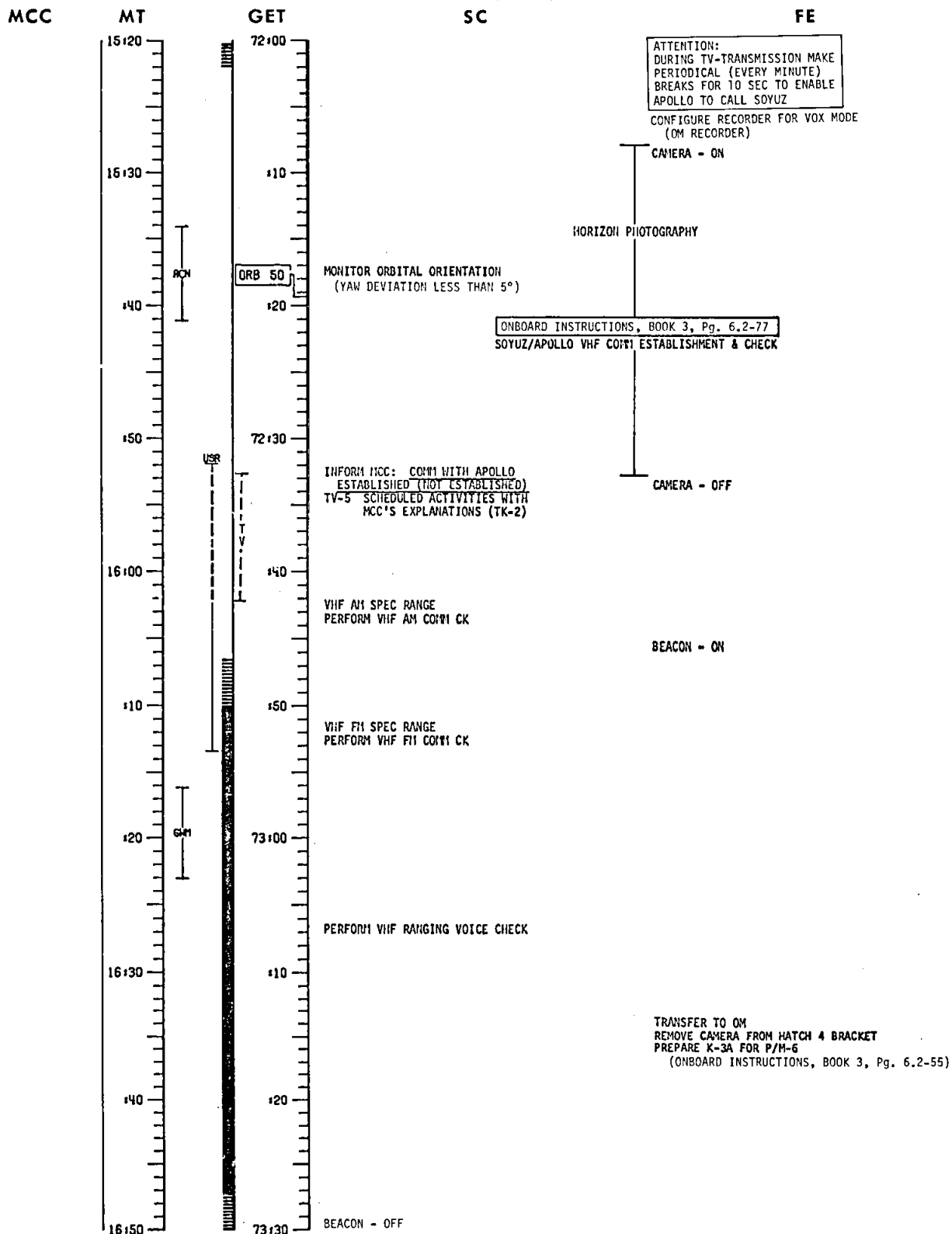
HOUSTON DATE	REV
JULY 18, 1975	11-12



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-2

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	49-50



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-3

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	12-13

MCC

CDT

GET

CP

AC

DP

*CMD:

DSE STOP

*CMD:

DSE RECORD/LBR

*UPDATE:

TPI PREL PAD
DOCK ATT PAD

*CMD:

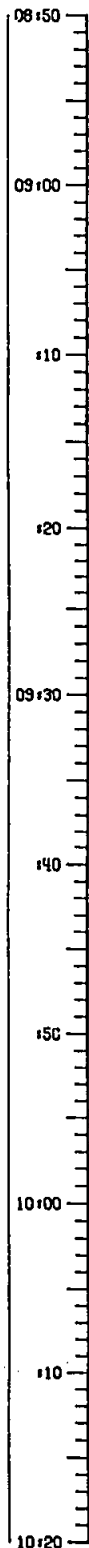
DSE STOP
CM 2 TV SELECT

MCC UPDATE:

TPI FINAL PAD

*CMD:

DSE RECORD/LBR



*P40 - SPS THRUSTING

HSR (73:37:09)

*RECORD & REPORT: BURN STATUS
INFORM SOYUZ: HSR COMPLETED

*P35 - TPI TARGETING

BT: 1.2 SEC
ΔVT: 27.2 FPS (8.3 MPS)
ORBIT: 111 x 110 NM (205 x 204 KM)

*ACQ ATS HGA: MAN, WIDE
P-9, Y 311
*S-BD ANT IND 5/3 SCALE
HGA: REACQ, NARROW

SHACK PERIOD

*SET HEADS UP FLAG

(11103) V48 (11103) (J1111)

*P35 - TPI TARGETING - FINAL COMPUTATION

*HMI MIVR (ROLL TO 0°)

*GO TO SPS BURN-RIDZ CUE CARD (BANK A)

*NOTE: COMM THRU ATS LOST AT 74:28

*P40 - SPS THRUSTING

TPI (74:37:09)

*P36
INFORM SOYUZ: TPI COMPLETED

BT: .8 SEC
ΔVT: 21.9 FPS (6.7 MPS)
ORBIT: 121 x 111 NM (225 x 205 KM)

*P41

TPM 1

*P36

INFORM SOYUZ: TURN ON YOUR ORIENTATION LIGHTS

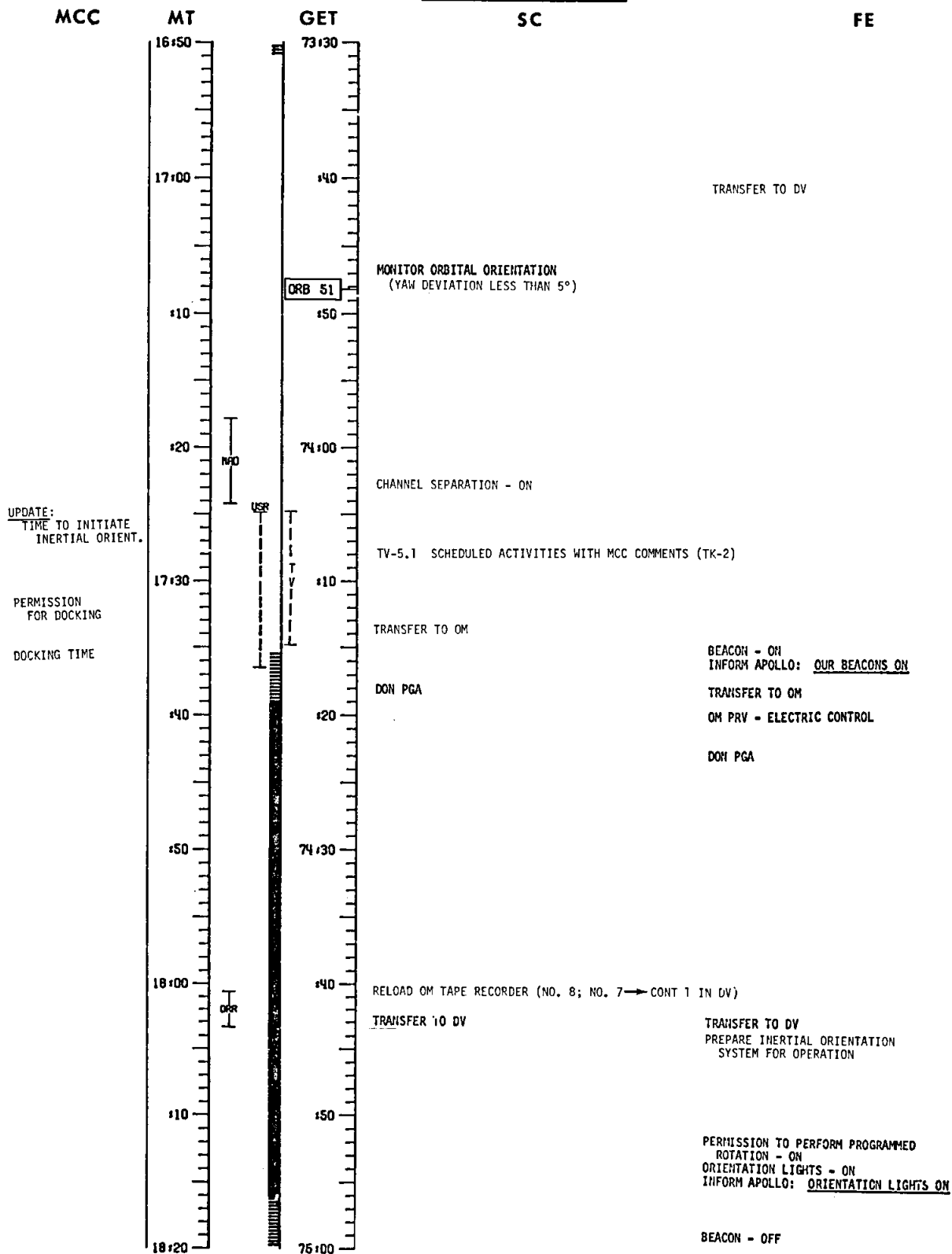
*P41

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-4

3RD LAUNCH OPPORTUNITY

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	50-51

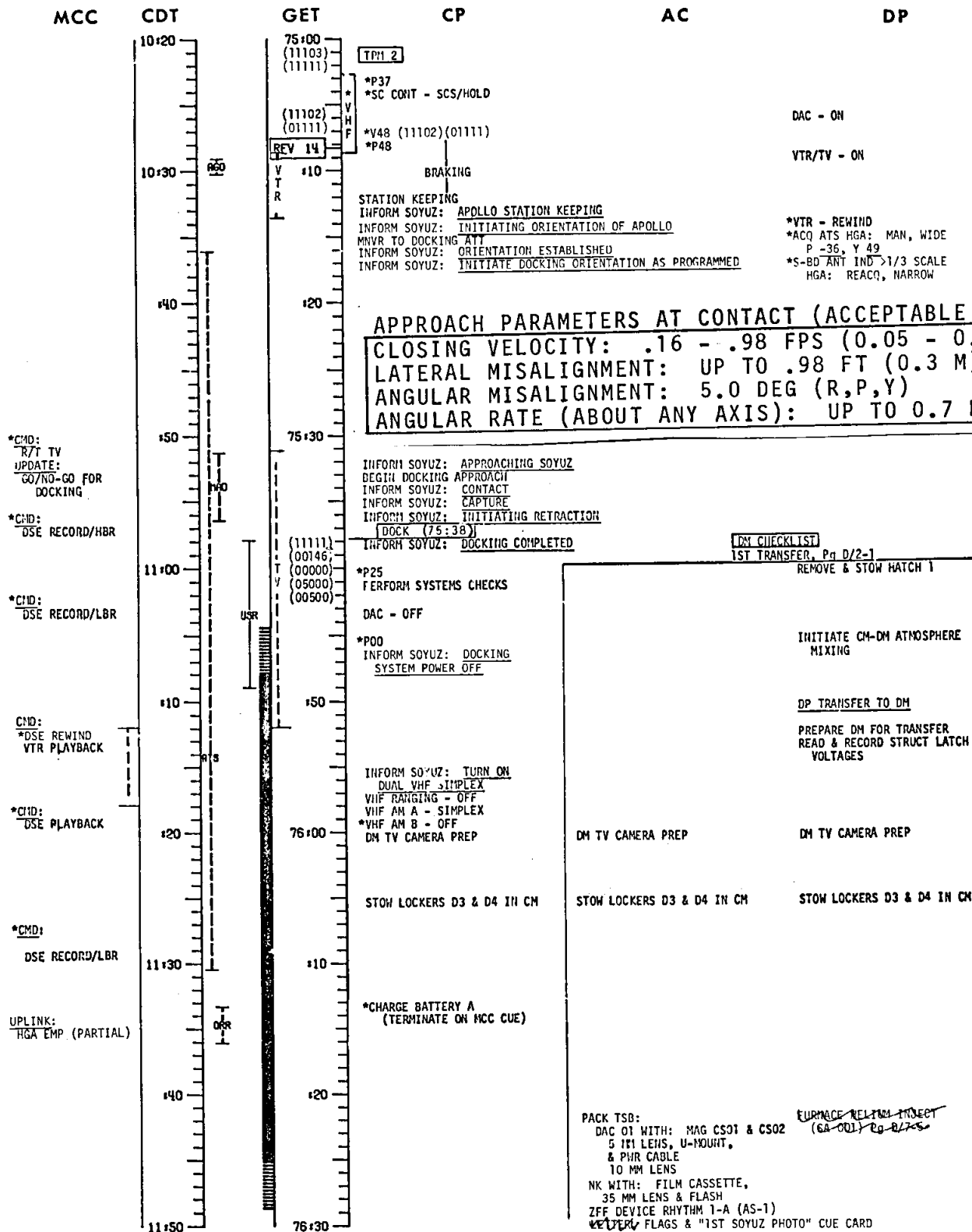


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-5

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

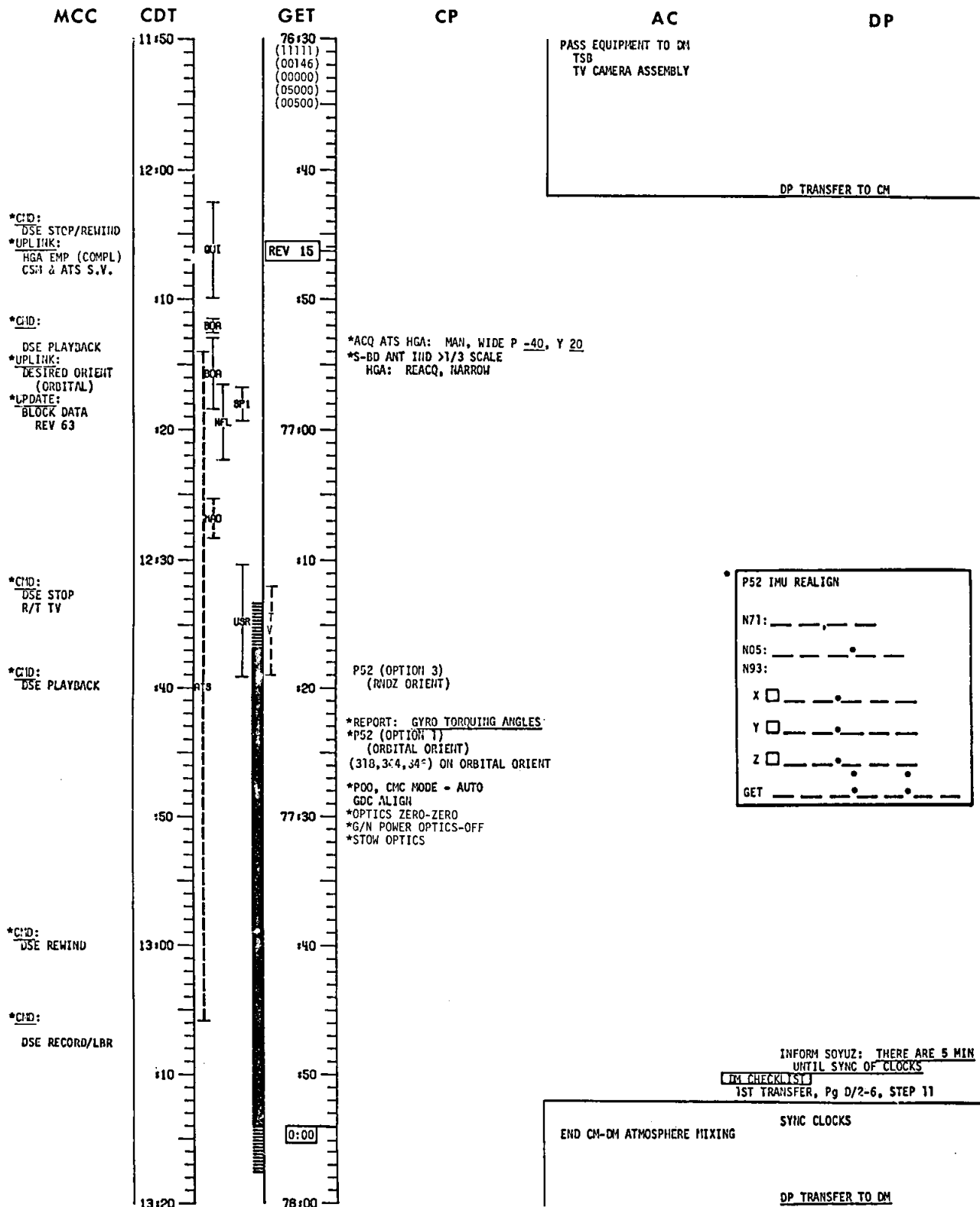
HOUSTON DATE	REV
JULY 18, 1975	13-14



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	WAVE 1975	4.2-6

APOLLO DETAILED CREW ACTIVITIES PLAN

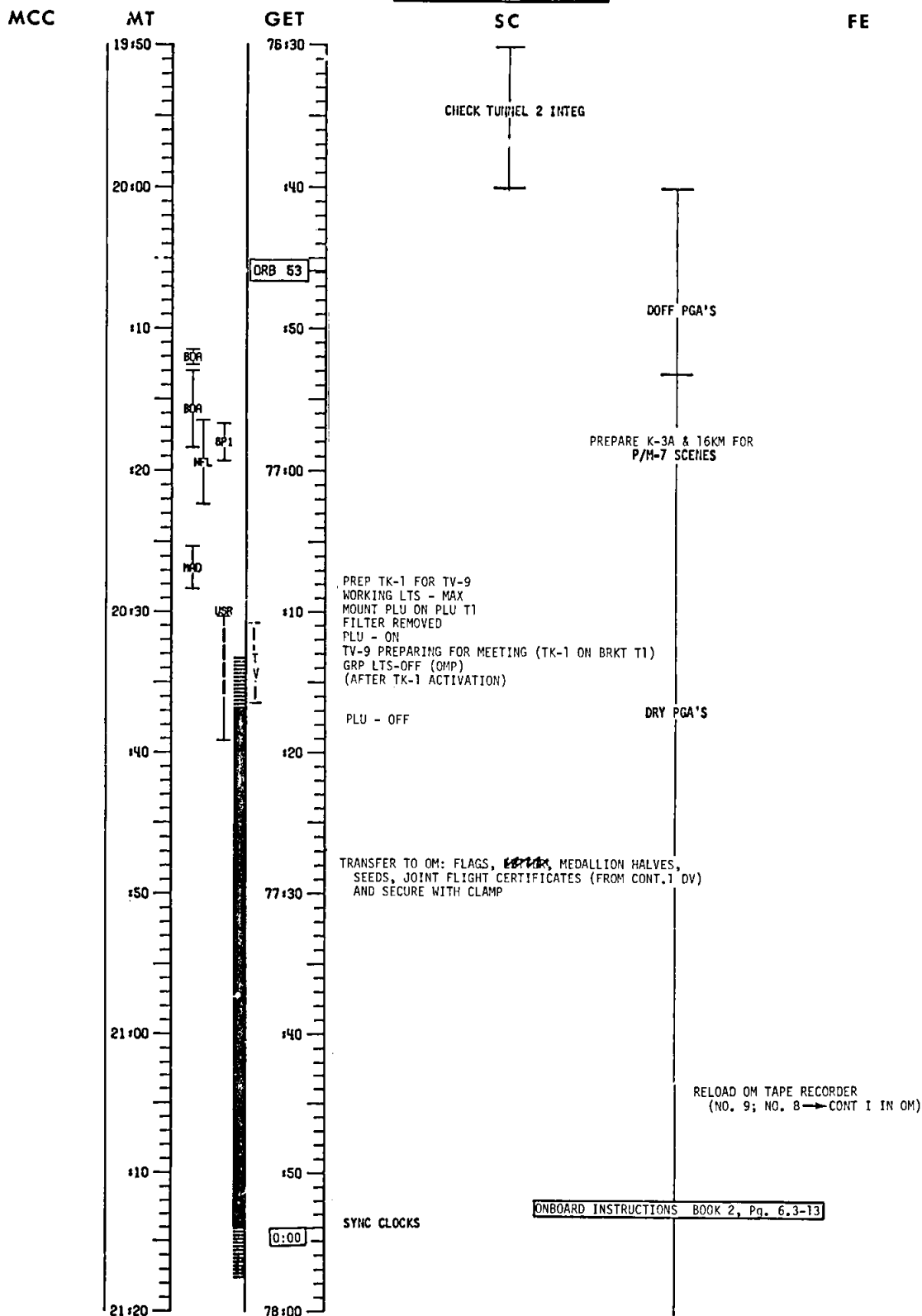
HOUSTON DATE	REV
JULY 18, 1975	14-15



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-8

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 18, 1975	52-53

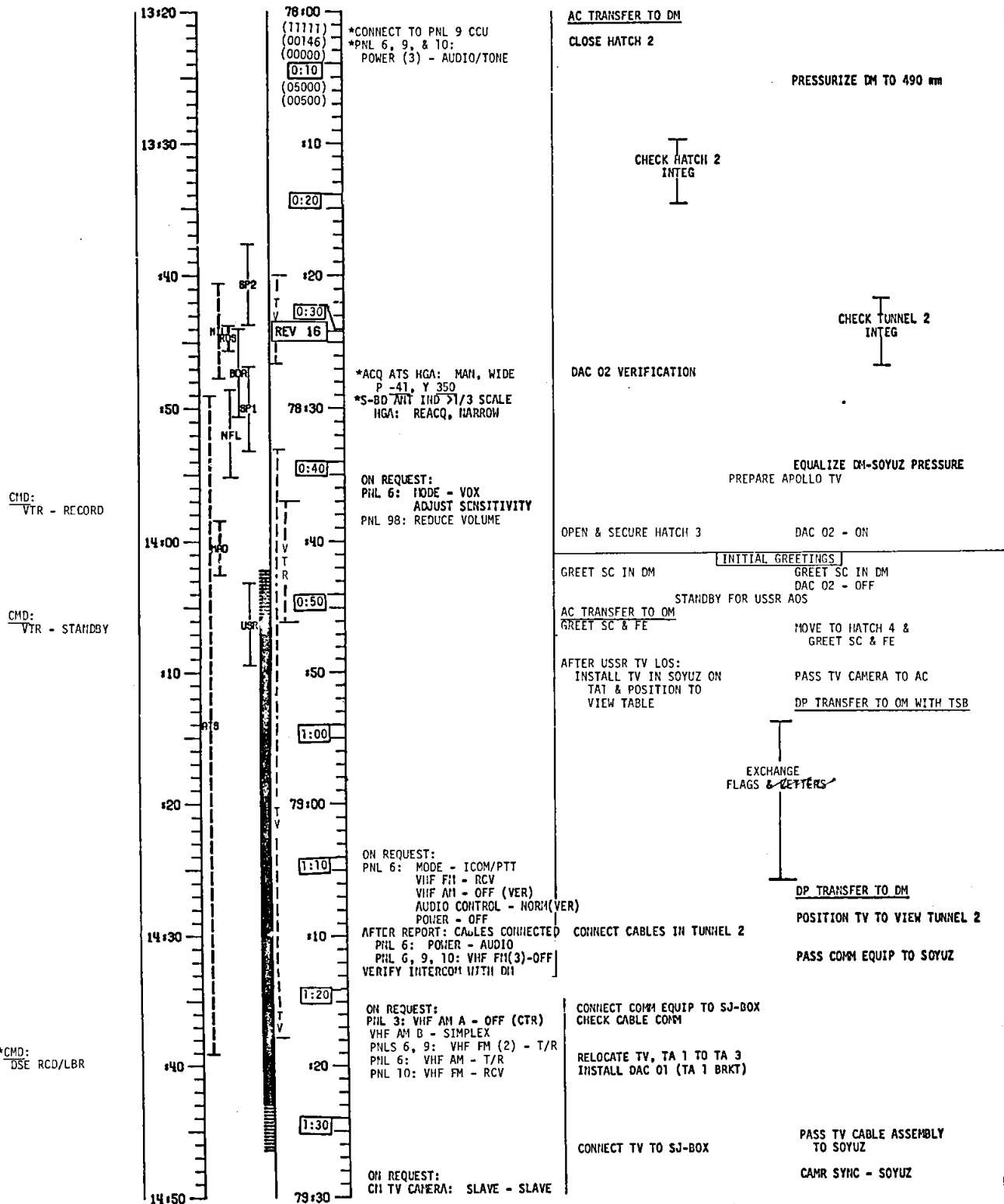


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JULY 14, 1975	4.2-9

3RD LAUNCH OPPORTUNITY 7-3-75

HOUSTON DATE	REV
JULY 18, 1975	15-16

DP

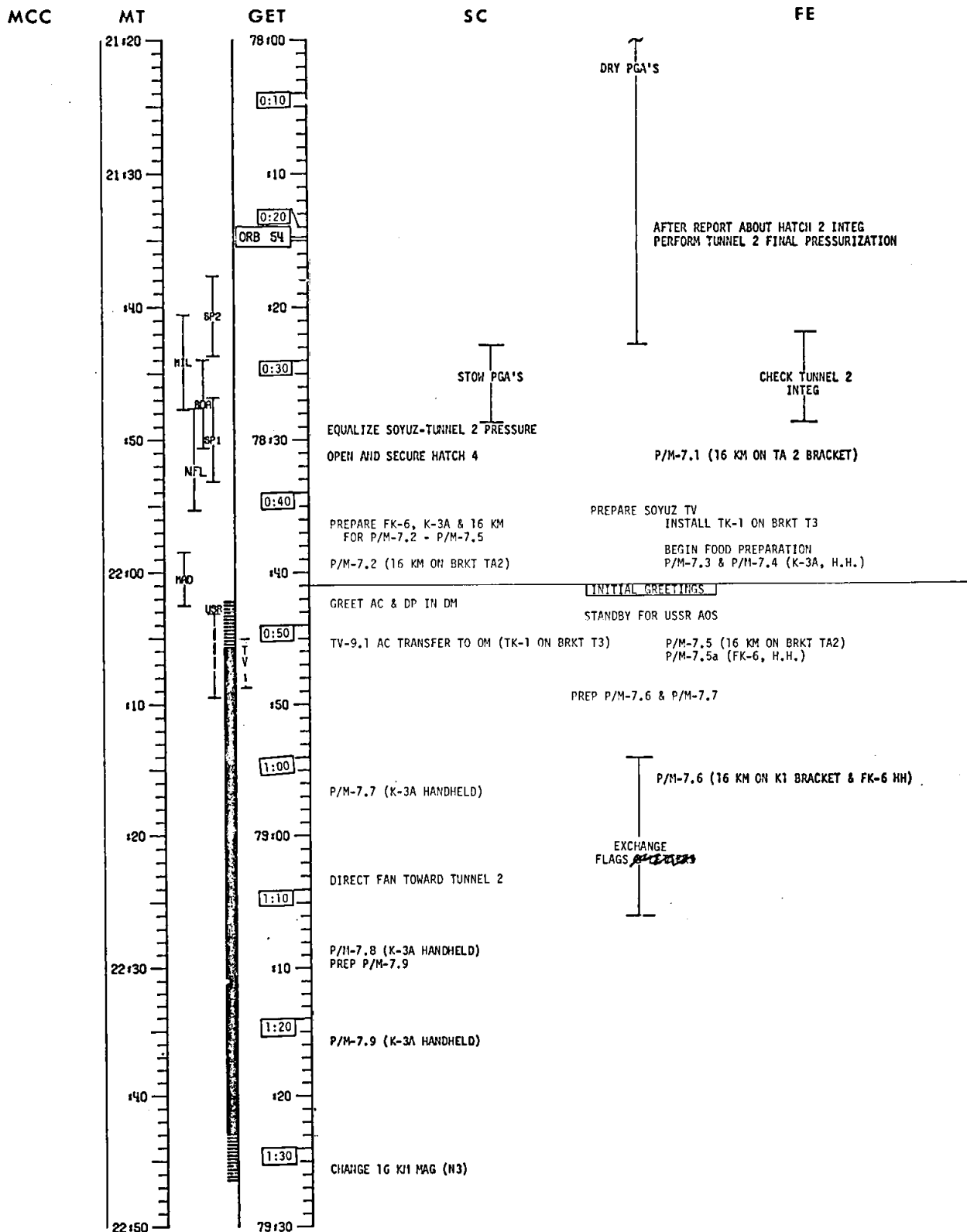


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 9	JUNE 1975	4.2-10

200 LAUNCH OPERATIONS 7-3-76

SOYUZ DETAILED CREW ACTIVITIES PLAN

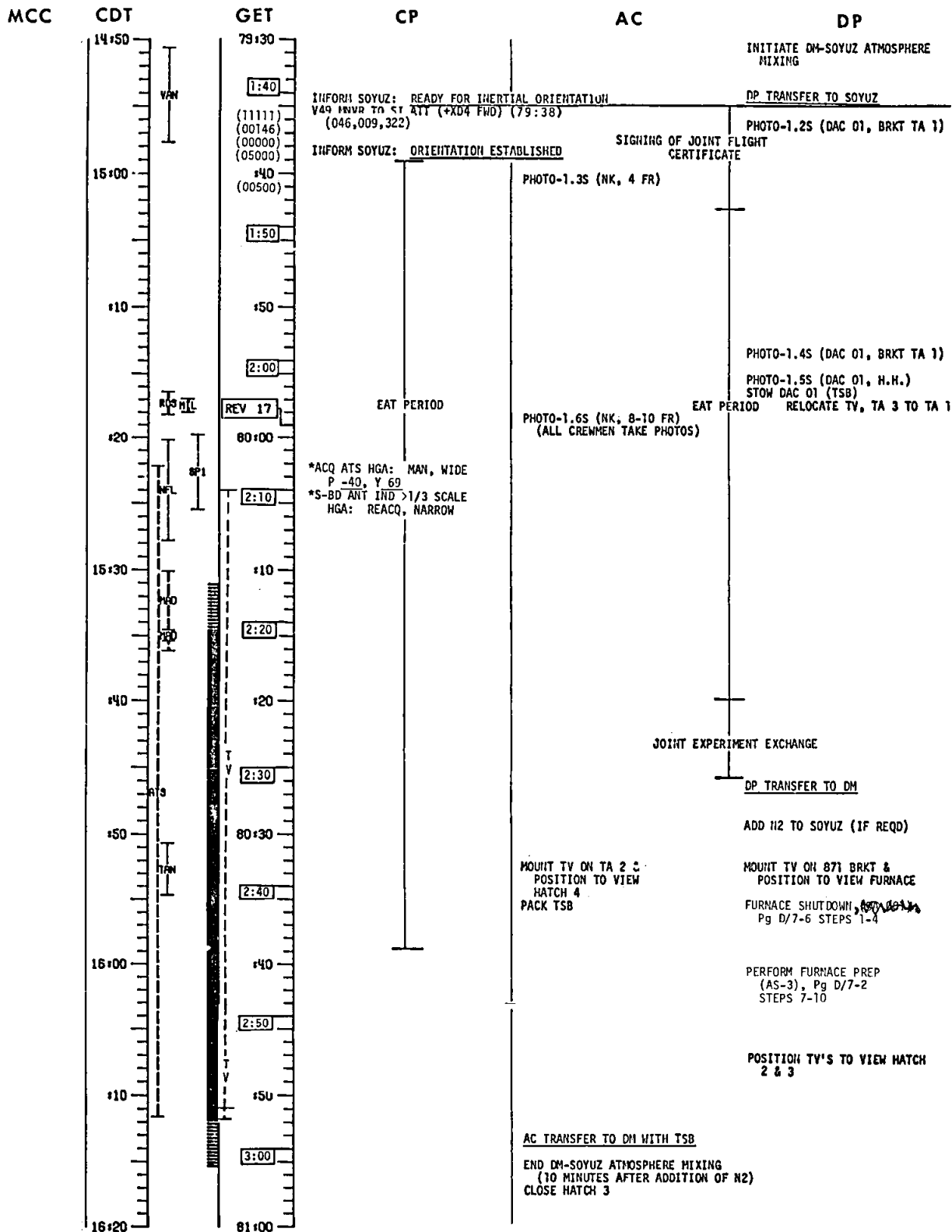
MOSCOW DATE	ORB
JULY 18, 1975	53-54



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JULY 18, 1975	4.2-11

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	16-17

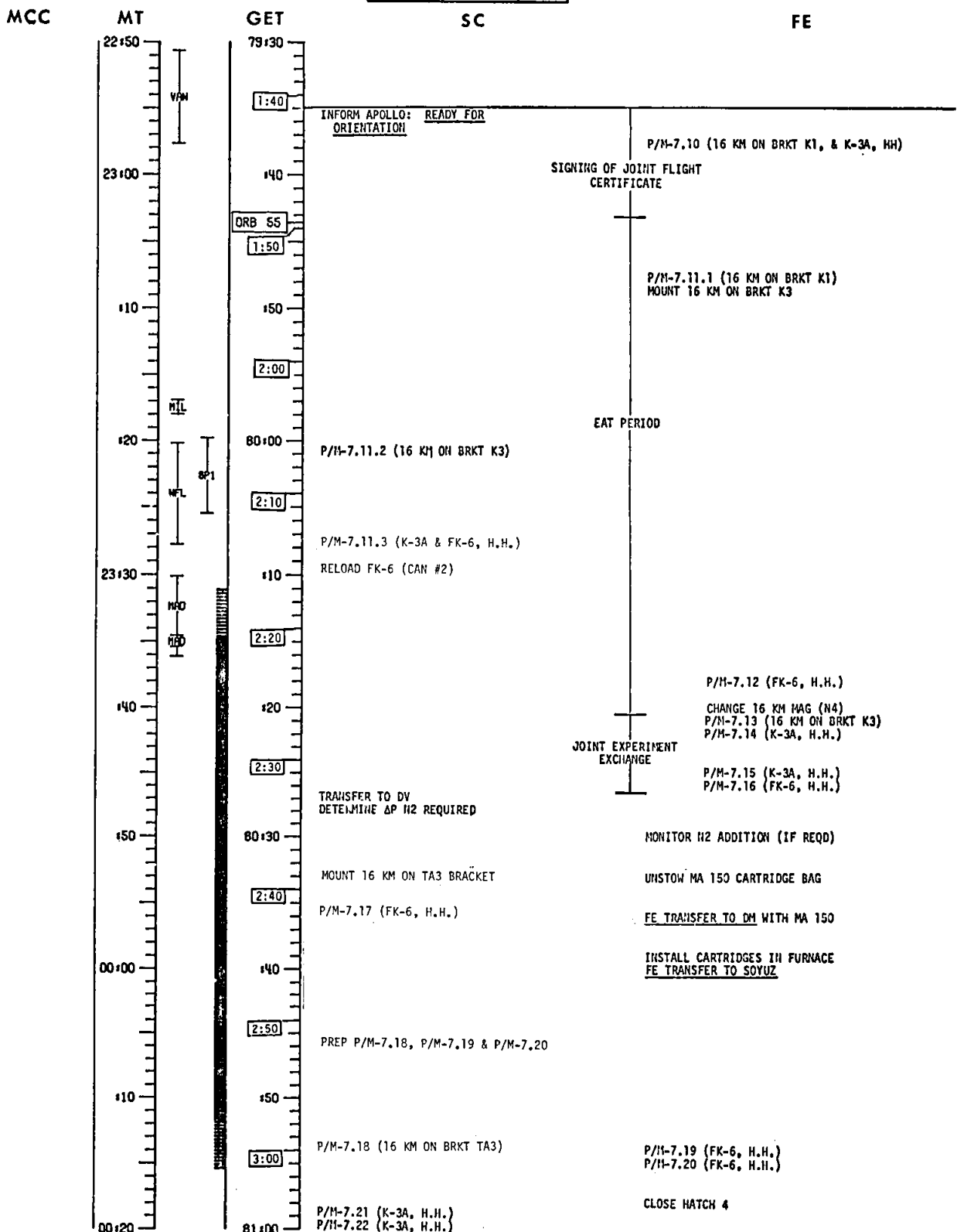


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JULY 18, 1975	4.2-12

3RD LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

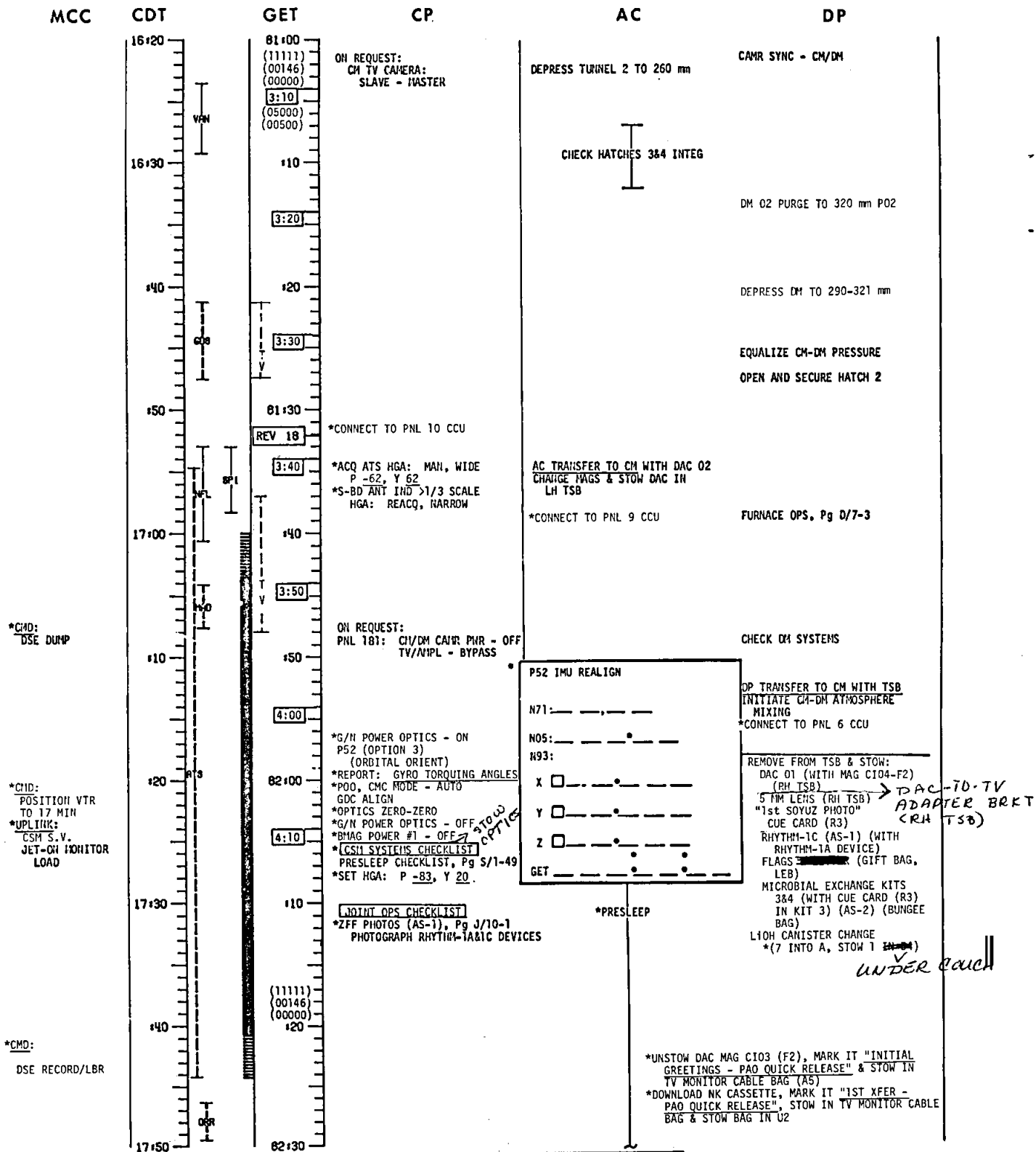
MOSCOW DATE	ORB
JULY 18, 1975	54-55



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-13

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	17-18



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 3	JUNE 1975	4.2-14

3RD LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	55-56

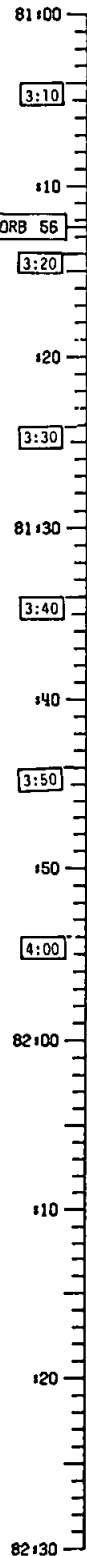
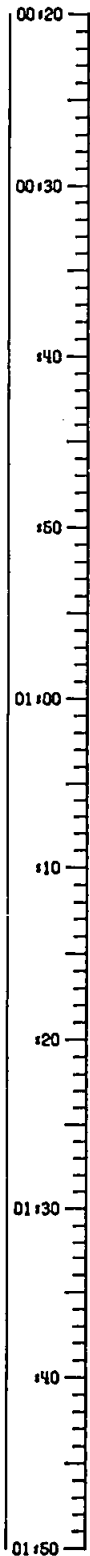
MCC

MT

GET

SC

FE



PREPARE PGA'S FOR DRYING

GRP I LTS - ON
GRP II LTS - ONP/M-7.23 (K-3A H.H., FOC=12.5, f=2.0,
Tc=15-20 SEC, MED VIEW, FE WORKING
WITH RHYTHM DEVICE)P/M-7.24 (K-3A, H.H., FOC=20, f=2.0,
Tc=10-15 SEC, CLOSE VIEW, FE WITH
RHYTHM DEVICE)
GRP LTS - OFF

PGA DRYING

GLOBE CHECK

INFORM MCC: SYSTEM CHECK RESULTS &
CREW CONDITIONAFTER REQUEST FROM APOLLO:
SJ-BOX: TV & UTILITY PHR - OFF
MONITOR TUNNEL 2 VENTING

PREPARE PGA'S FOR DRYING

CHECK HATCHES 3&4 INTEG

ON TAPE RCOR - OFF

ONBOARD INSTRUCTIONS BOOK 3, Pg 6,5-3

AS-1

MEASURE TEMPERATURE OF DEVICE &
WRITE DOWN

REMOVE CAPSULE FROM BIOKAT-M DEVICE

DEFINE MICROORGANISMS' GROWTH LIMIT &
WRITE DOWN RESULTS

REPLACE CAPSULE IN THE DEVICE

PRESLEEP SYSTEMS CHECKS

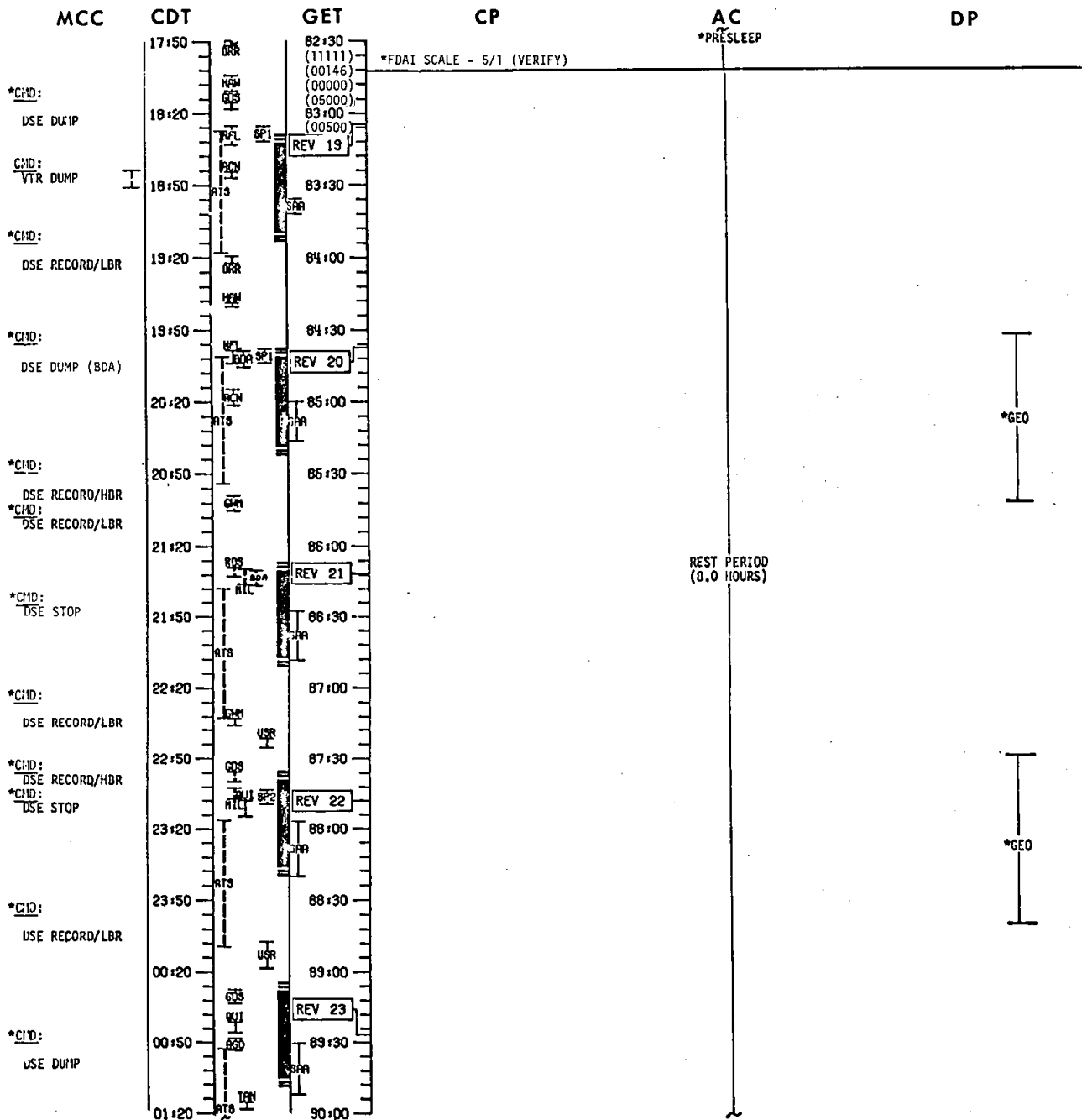
PERSONAL TIME

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-15

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 18, 1975	18-23



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION: 07	JUNE 14, 1975	4.2-16

3RD LAUNCH OPPORTUNITY *man*

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	23-24

MCC

CDT

GET

CP

AC

DP

*C/D:
DSE RECORD/LBR

*UPDATE:
PHOTO M4

*CMD:
DSE STOP/REWIND

*CMD:
DSE DUMP

REST PERIOD
(8.0 HOURS)

*UNSTOW TODAY'S FILM MAGS & STOW IN F2
 DAC: CI05,6,7,8,9,10,11,12 (F2-VER); CI04 (ON DAC 01)
 HDC: CT03 (B3/CAMR), CT02 (U1)
 HRC: IF01, CX11 (A6)
 NK: 1 MAG (B2 OR B5), 1 MAG (CAMR)
 TAPE LARGE ORANGE FILTER (B5) TO MAG IF01

INFORM SOYUZ: READY FOR ORBITAL ORIENTATION

INFORM SOYUZ: ORBITAL ORIENTATION ESTABLISHED

JOINT OPS CHECKLIST

*ZFF PHOTOS (AS-1), Pg J/10-1
 PHOTOGRAPH RHYTHM 1A&1C DEVICES (AS-1)
 PACK TSB:
 *NK, 35 MM LENS & FLASH (TSB)
 1-PLAQUE HALF (GIFT BAG, LEB)
 "2ND & 3RD SOYUZ PHOTO" &
 "SOYUZ TV" CUE CARDS (DATA
 CARD KIT-R3)
 *ACQ ATS (AOS +15)

*POST SLEEP

VERIFY FULL CASSETTE

*ACQ ATS HGA: MAN, WIDE
 P 198
 *S-BD ANT: IND >1/3 SCALE
 HGA: REACQ, NARROW

P20 OPT 5 (ORB SCIENCE) (91:08)
 V25N78 (+05335) (+02582) (+31831)
 V22N79 (+00050), V21N70 (00047)
 PRO AT (91:03) (312,213/345,348)
 *SET HGA P -5, Y 198

*NOTE NO COMM THRU ATS
 UNTIL 91:21

ORB SCIENCE PREP
 *PHOTO-M4 (VERIFY)

*CHARGE BATTERY B
 (TERMINATE ON MCC CUE)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUL 16 1975	4.2-16A

3RD LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	56-62

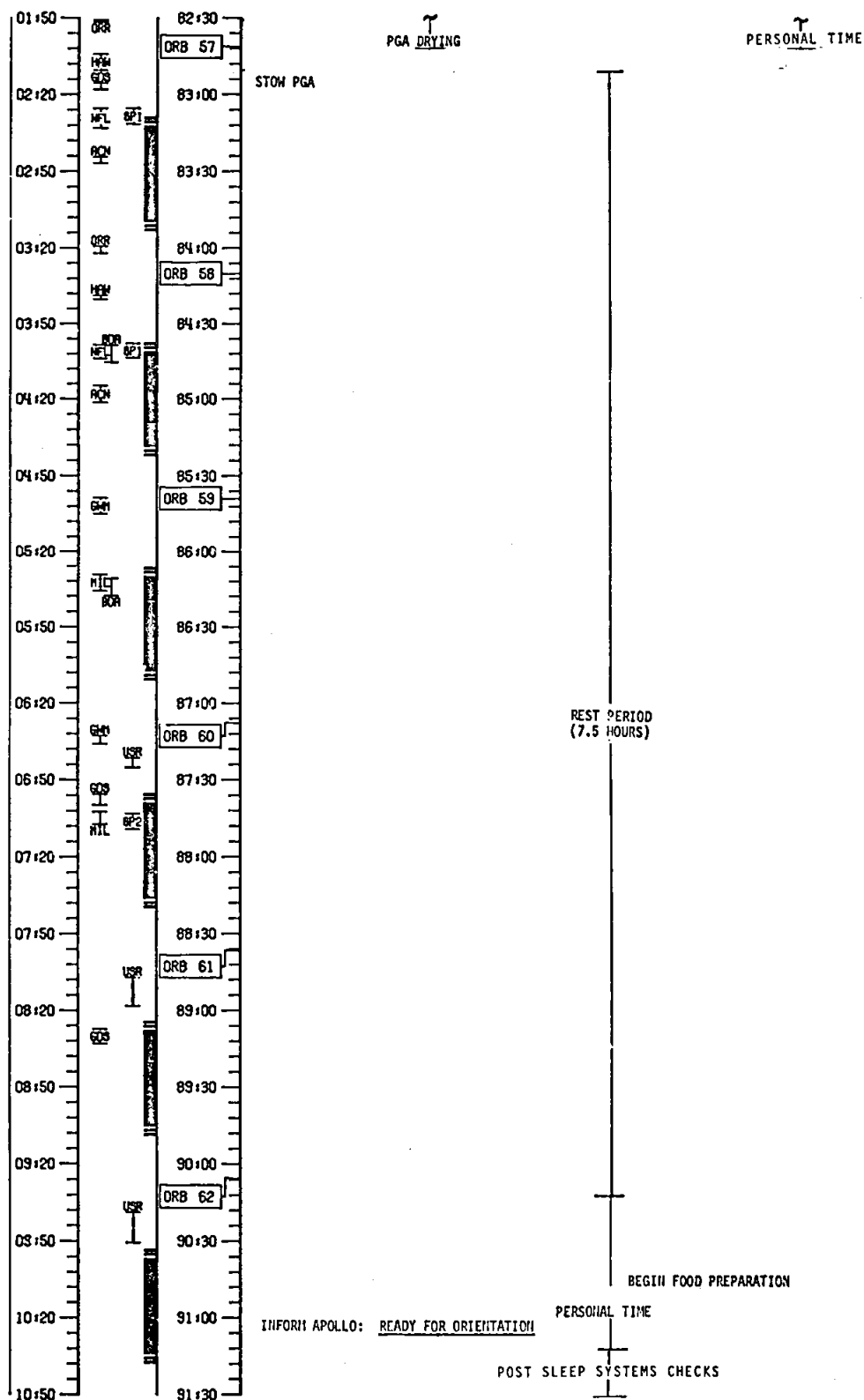
MCC

MT

GET

SC

FE

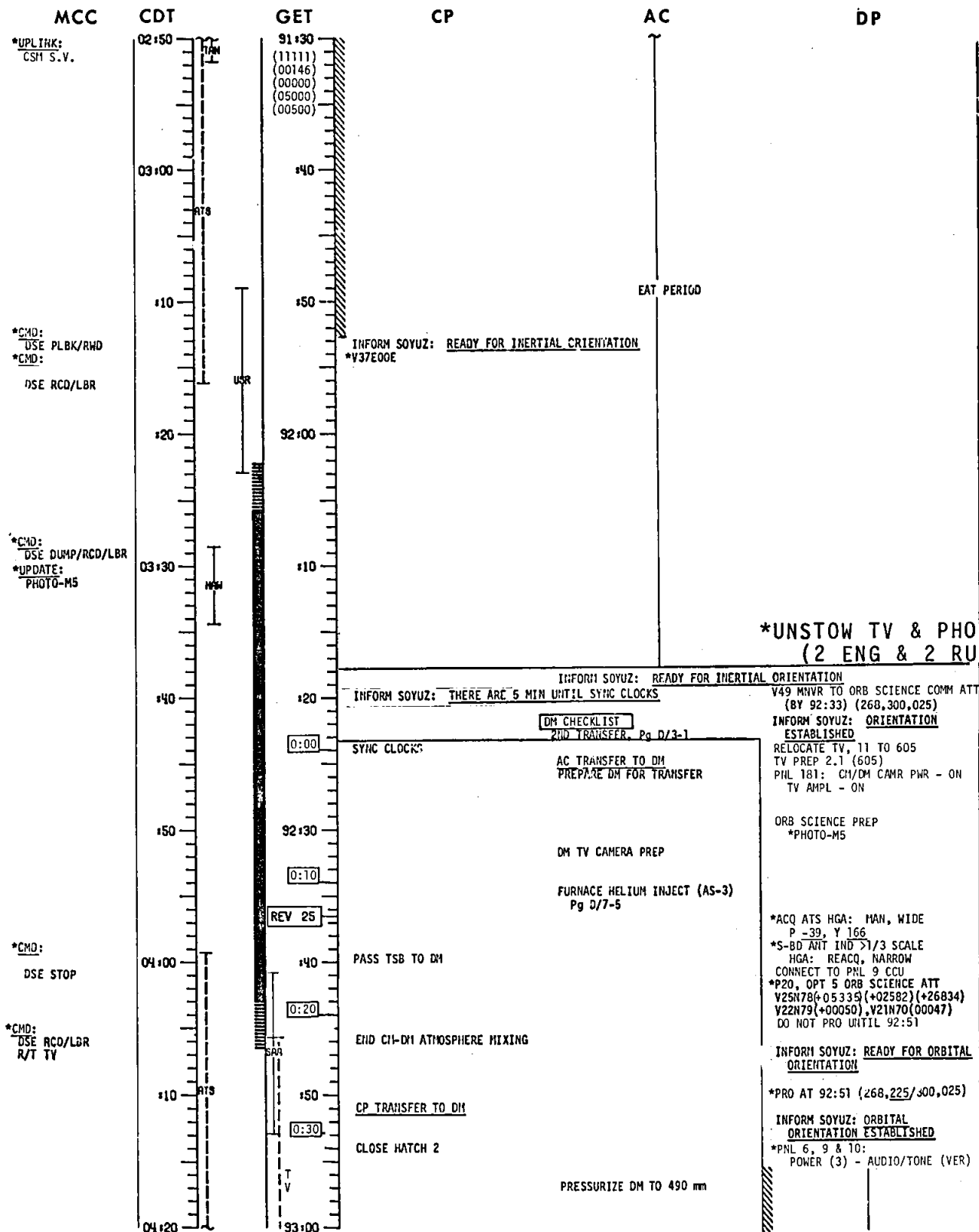


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-17

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

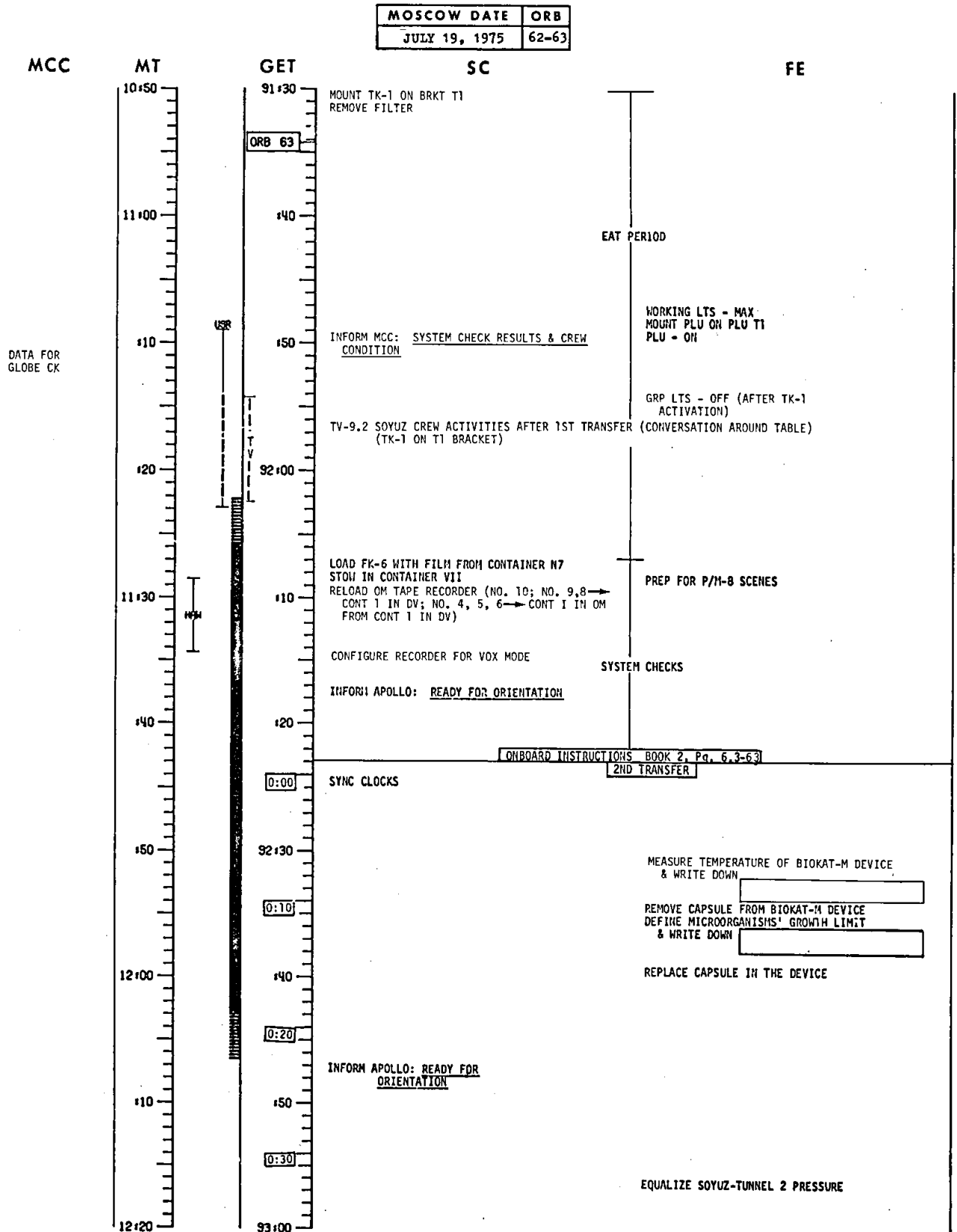
HOUSTON DATE	REV
JULY 19, 1975	24-25



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 1975	4.2-18

3RD LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

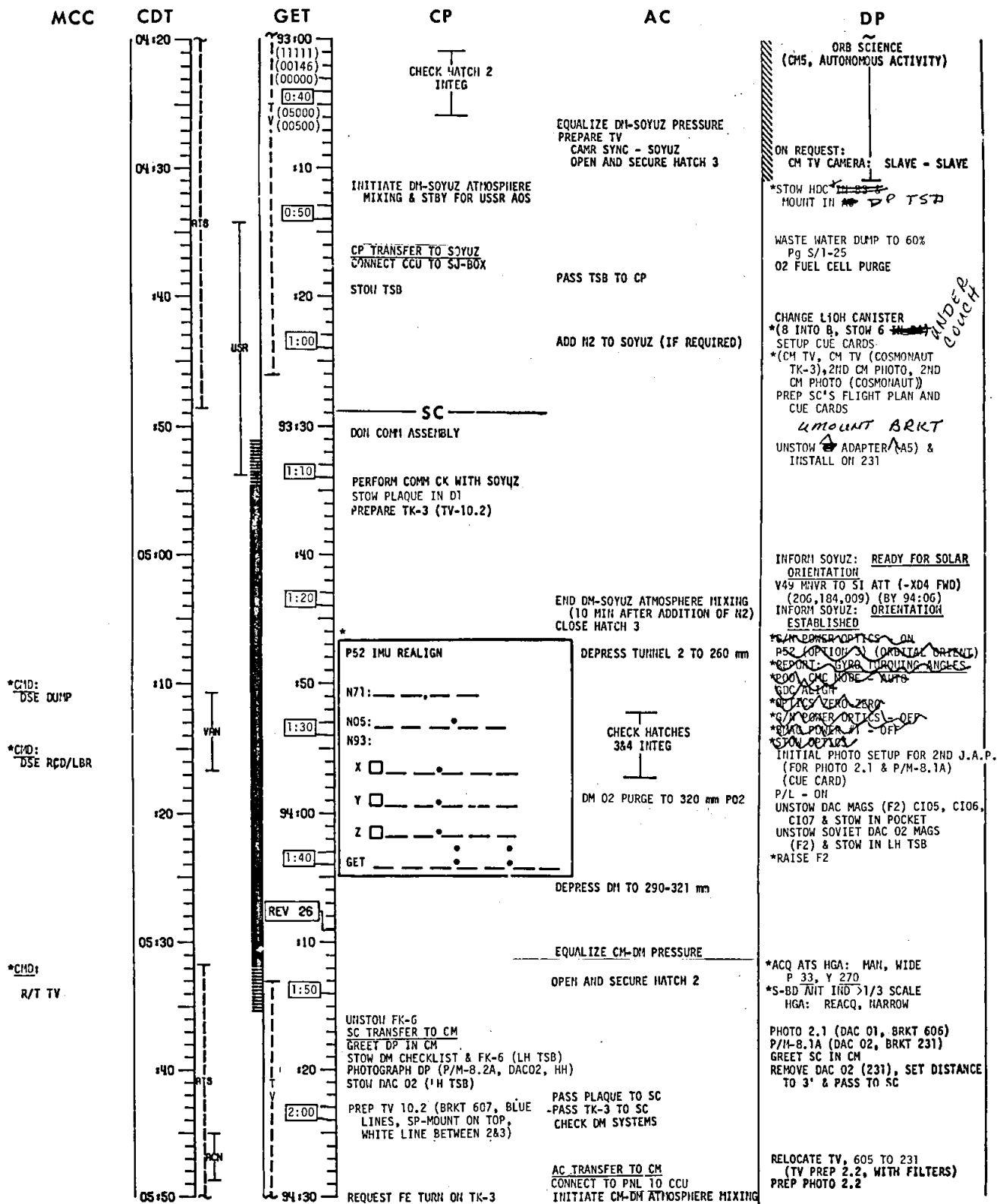


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-19

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	25-26



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JULY 19, 1975	4.2-20

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	63-64

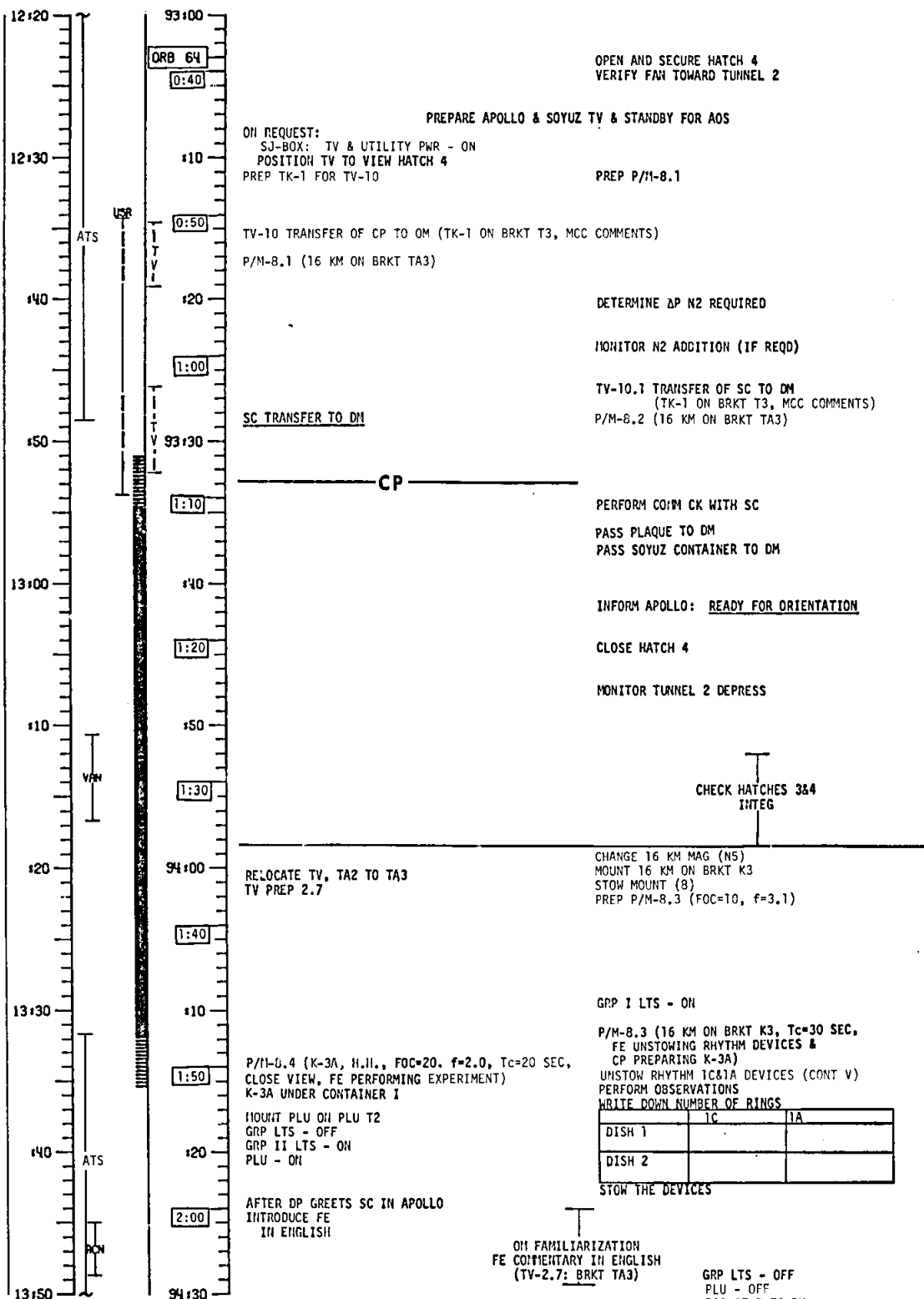
MCC

MT

GET

SC

FE

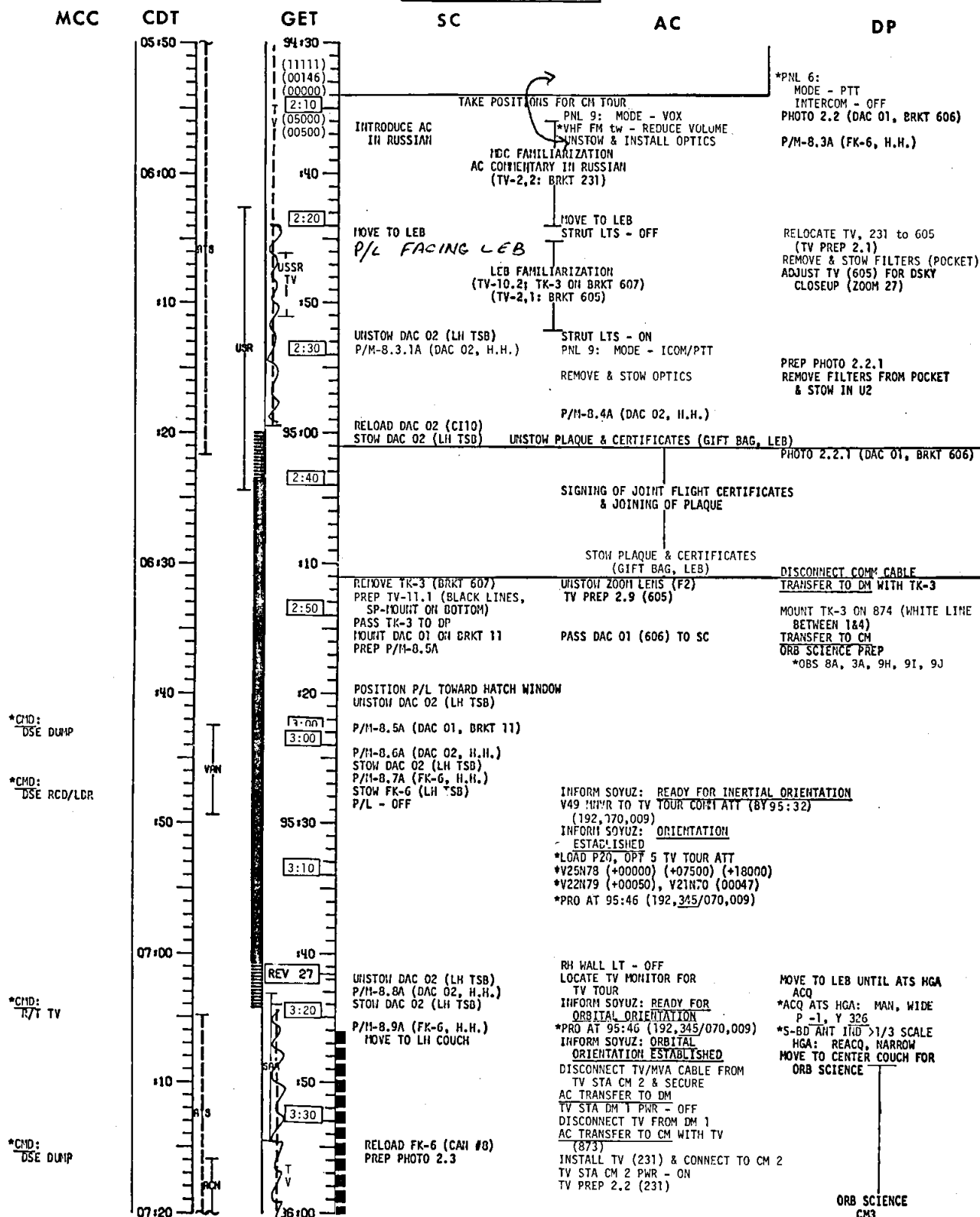


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-21

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

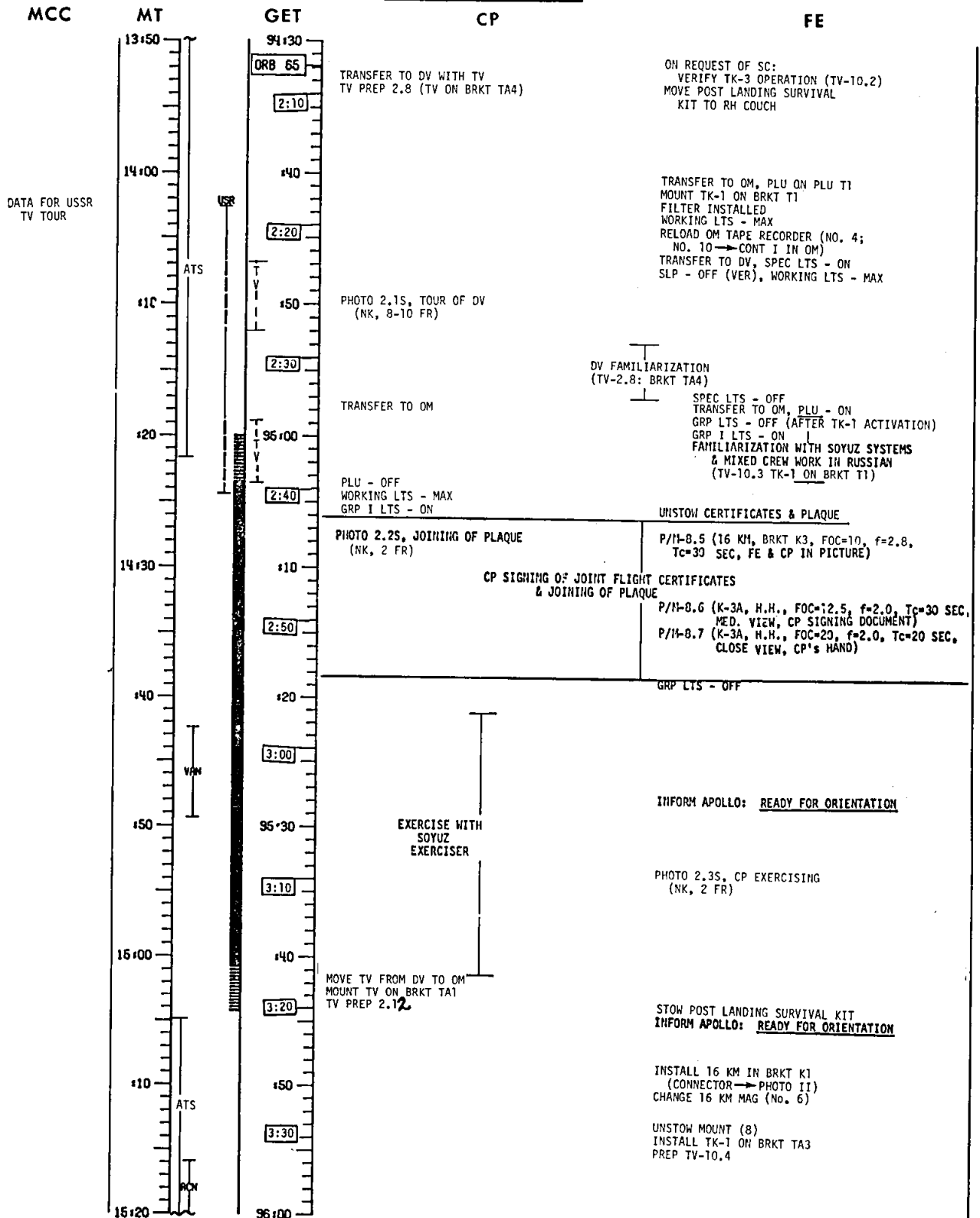
HOUSTON DATE	REV
JULY 19, 1975	26-27



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-22

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	64-65

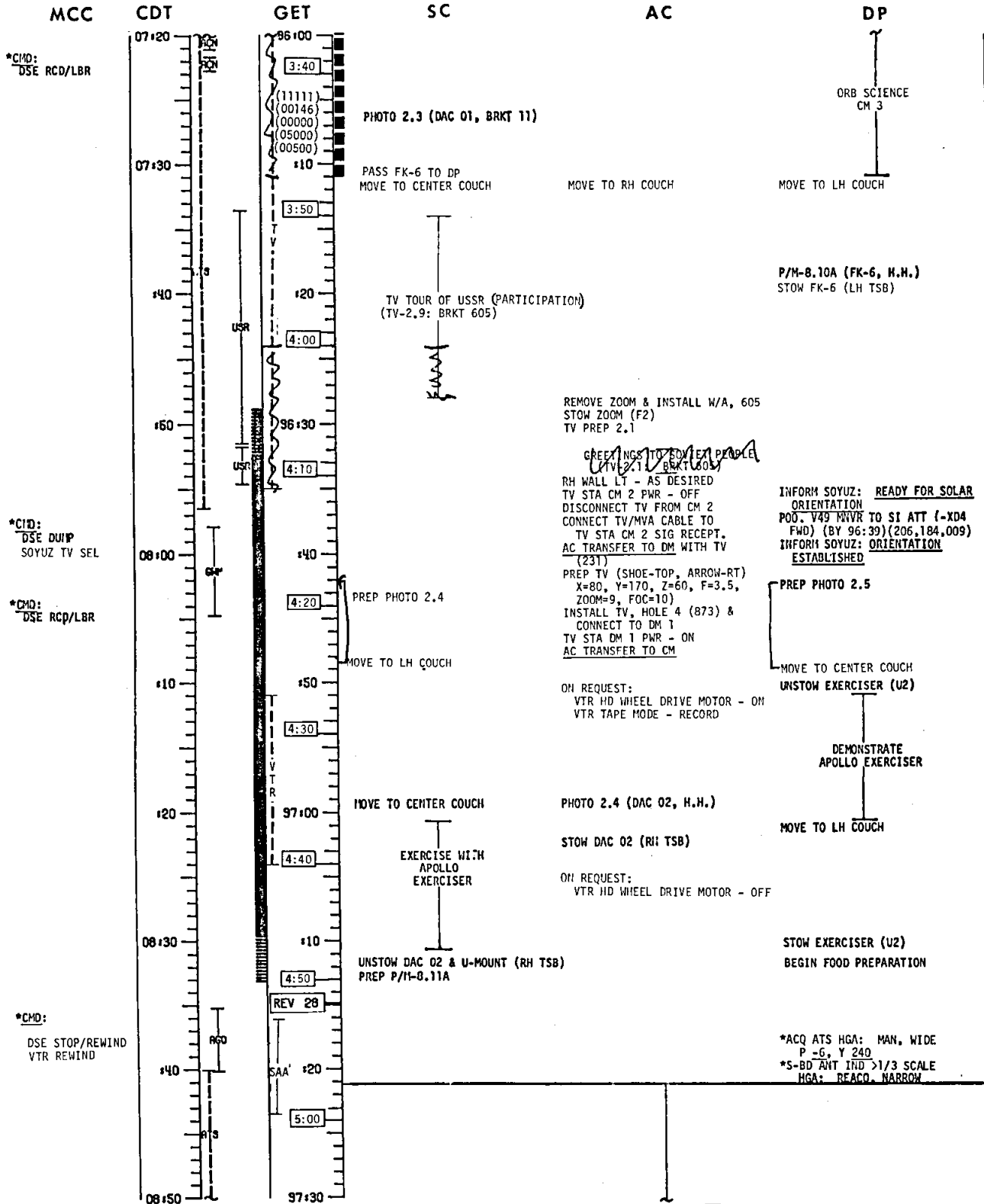


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 3	JUNE 14, 1975	4.2-23

3RD LAUNCH OPPORTUNITY 7-3-75

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	27-28



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	7-3-75	4.2-24

3RD LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	65-66

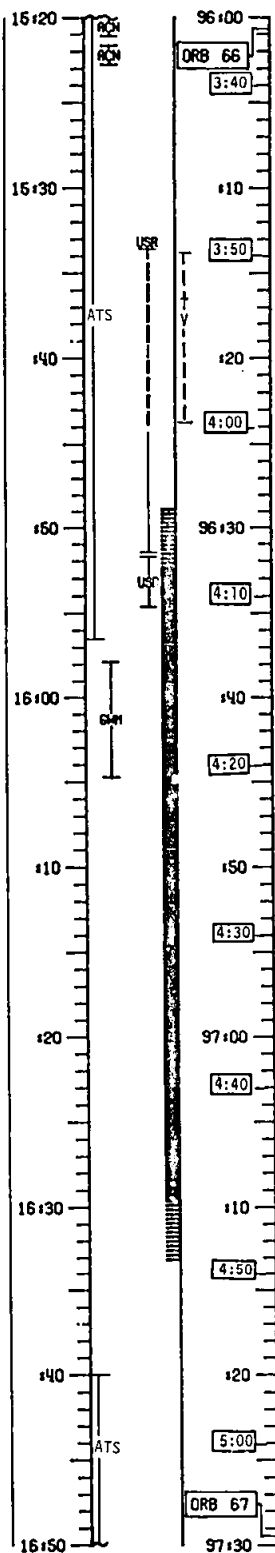
MCC

MT

GET

CP

FE



UNSTOW SCIENCE DEMOS (TSB)
SCIENCE DEMO PRACTICE

INTRODUCE FE IN ENGLISH

PHOTO 2.4S, FE DURING
EARTH OBS (NK, 2 FR)

SCIENCE
DEMONSTRATIONS
REQUEST AC TURN ON VTR

REQUEST AC TURN OFF VTR
PHOTO 2.5S, FE PREPARING FOOD
(NK, 2 FR)

WORKING LTS - MAX
MOUNT PLU ON PLU T1
PLU - ON
REMOVE FILTER
GRP LTS - OFF (AFTER TK-1 ACTIVATION)

COMMENTARY ON USSR
FROM OH IN ENGLISH
(TV 10.4: TK-1, BRKT TA3)

GRP LTS - ON

COMMENTARY ON USSR
FROM OH IN ENGLISH
(TV 10.4: BRKT TA3)

GRP I LTS - ON
INFORM APOLLO: READY FOR ORIENTATION
P/M-8.8 (16 KM, BRKT K1, FOC=10, f=3.1,
Tc=2 MIN, FE & CP PERFORMING
SCIENCE DEMO'S)

P/M-0.9 (K-3A, H.H., FOC=12.5, f=2.0, Tc=25 SEC,
MED VIEW, CP PERFORMING
SCIENCE DEMO'S)

P/M-0.10 (K-3A, H.H., FOC=20, f=2.0, Tc=20 SEC,
CLOSE VIEW, HANDS OF CP WHILE
PERFORMING DEMO'S)

P/M-0.11 (K-3A, H.H., FOC=12.5, f=2.0, Tc=25 SEC,
MED VIEW, CP PERFORMING
SCIENCE DEMO'S)

STOW K-3A UNDER CONTAINER I
PLU - OFF
GRP LTS - OFF
WORKING LTS - AS DESIRED
BEGIN FOOD PREPARATION

CHANGE 16KM MAG (N7)
MOUNT 16KM ON BRKT K2
PREP P/M-9
(ONBOARD INSTRUCTIONS, BOOK 3,
Pg. 6.2-69)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUN 17 1975	4.2-25

3RD LAUNCH OPPORTUNITY 7-3-75

HOUSTON DATE	REV
JULY 19, 1975	28-29

DP

*CND:
R/T TV

CLOSE HATCH 2

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-26

3RD LAUNCH OPPORTUNITY 7-3-75

STOW FK-6 (LH-TSB)

STW DAC 02 ON CRT 606

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	67-68

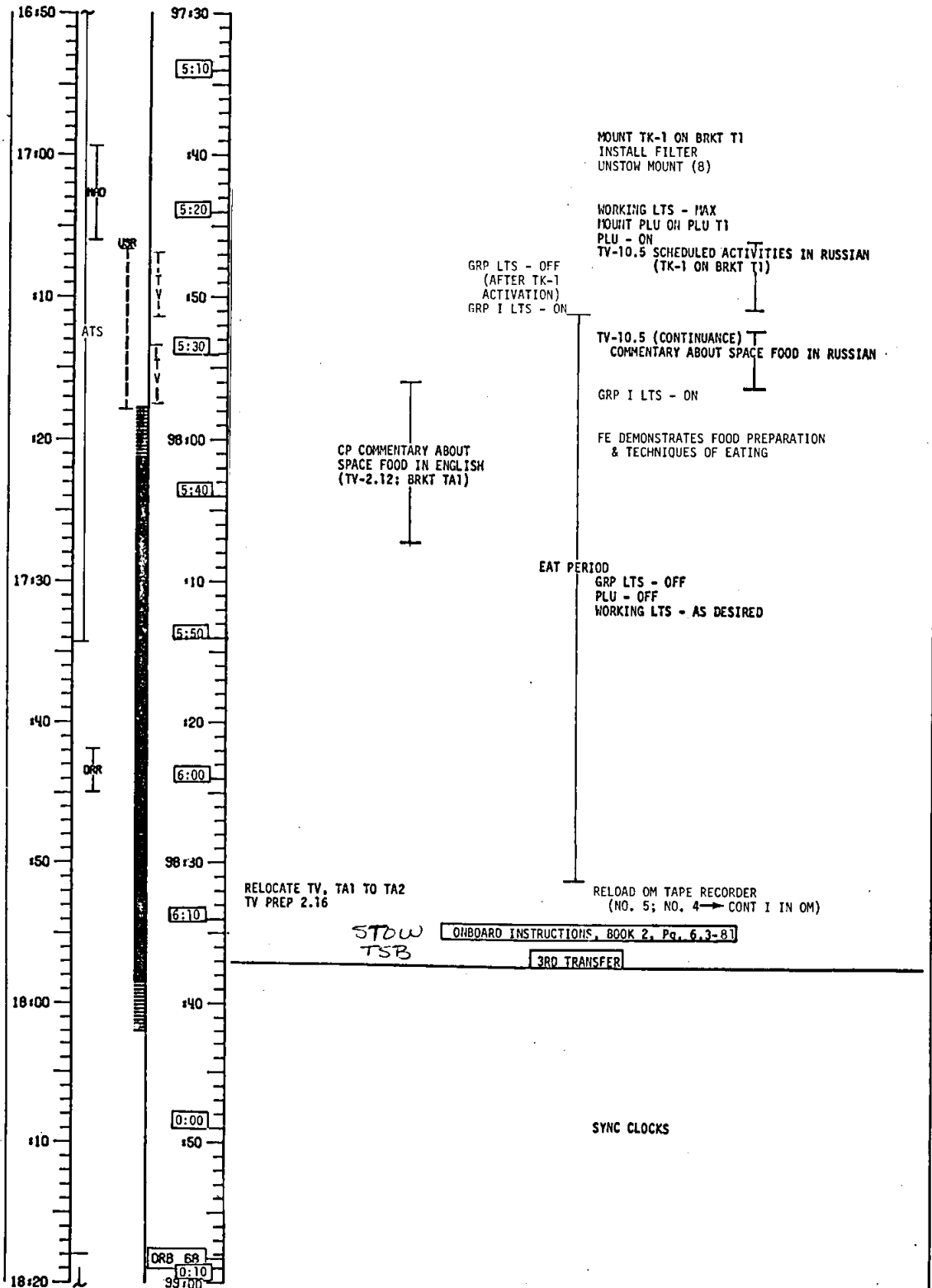
MCC

MT

GET

CP

FE

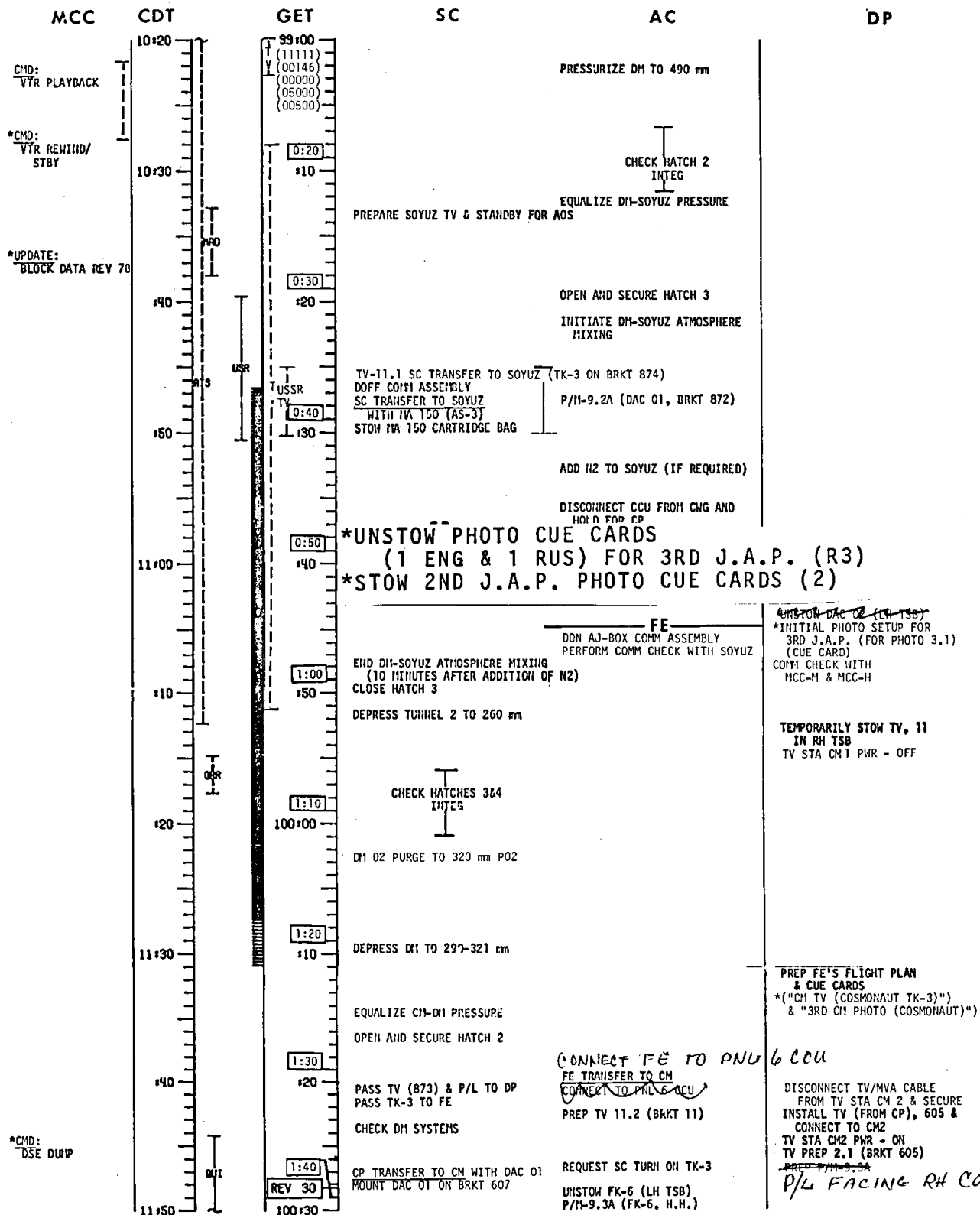


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-27

3RD LAUNCH OPPORTUNITY 7-3-75

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	29-30



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	68-69

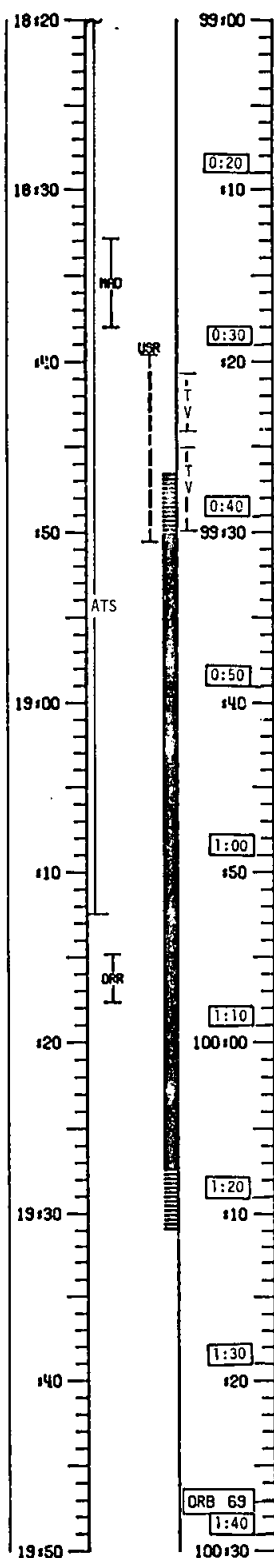
MCC

MT

GET

CP

FE



EQUALIZE SOYUZ-TUNNEL 2 PRESSURE

OPEN AND SECURE HATCH 4
VERIFY FAN TOWARD TUNNEL 2

PREPARE SOYUZ TV & STANDBY FOR AOS
PREP TV-11 (TK-1 ON BRKT T3)
& P/M-9.1 (16 KM, BRKT K2)
PREP P/M-9.2 (K-3A)

OPENING OF HATCH 3
(TV-11: TK-1 ON BRKT T3)

DETERMINE AP N2 REQUIRED

MONITOR N2 ADDITION (IF REQUIRED)

CP TRANSFER TO DM

SC

DON SJ-BOX COMM ASSEMBLY

COMM CHECK WITH MCC-M & MCC-H (SC & AC)
PERFORM COMM CK WITH FE

STOW SEEDS & MEDALLION HALF IN POCKET
FE TRANSFER TO DM

AC

CLOSE HATCH 4

MONITOR TUNNEL 2 DEPRESS

P/M-9.1 (16 KM ON BRKT K2)
CHECK HATCHES 3&4
INTEG

P/M-9.2 (K-3A, H.H.)
P/M-9.3 (K-3A, H.H.)

TRANSFER TO DV

ON REQUEST OF FE:
VERIFY TK-3 OPERATION (TV-11.2)

RELOCATE TV, TA 2 TO TA 1
TV PREP 2.12

TRANSFER TO OM
MOUNT 16 KM ON BRKT K1
(FOC=10, f=3.1)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-29

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	30

MCC

CDT

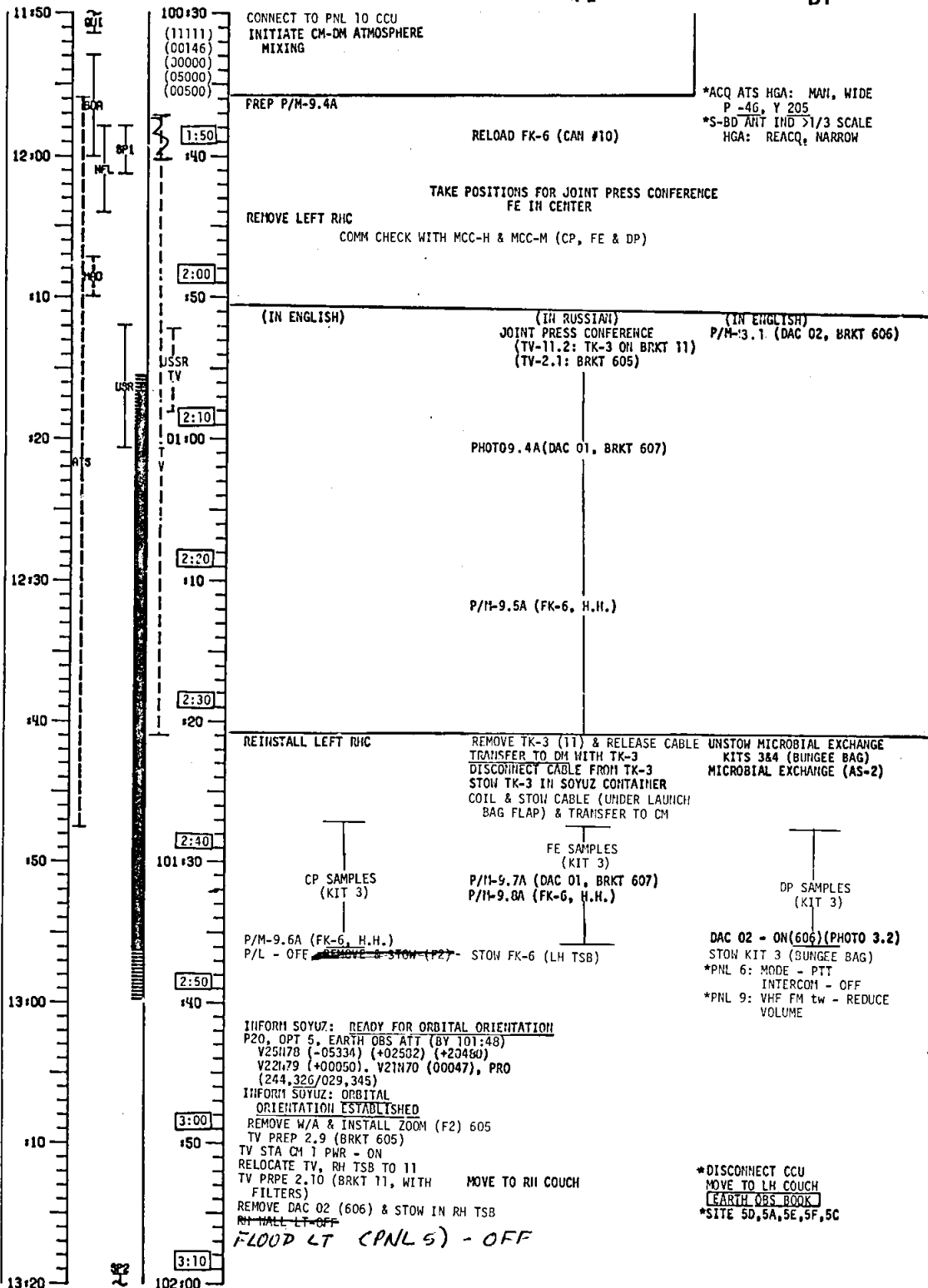
GET

CP

FE

DP

*CMD:
DSE RCD/LBR
R/T TV



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-30

3RD LAUNCH OPPORTUNITY

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	69-70

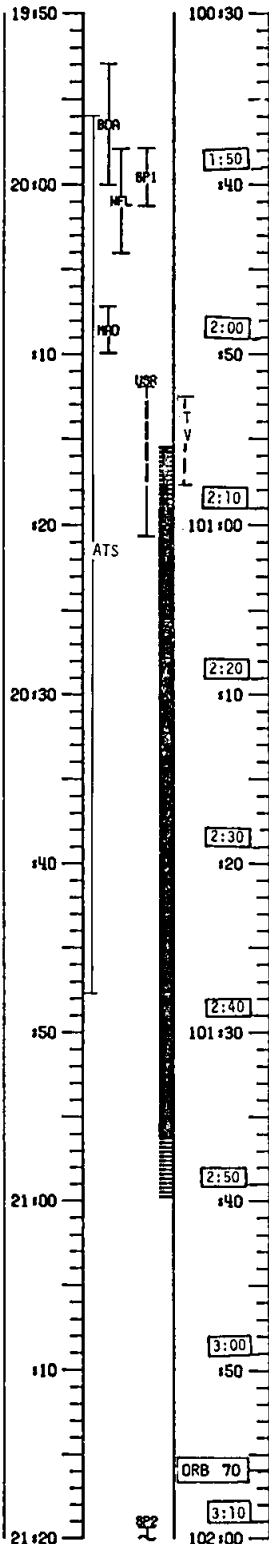
MCC

MT

GET

SC

AC



WORKING LTS - MAX
MOUNT PLU ON PLU T1
GRP I LTS - ON
PLU - ON

COMM CHECK WITH MCC-H & MCC-M (SC & AC)

INTRODUCTORY STATEMENTS BY SPACECRAFT COMMANDERS
(IN RUSSIAN) (IN ENGLISH)

JOINT PRESS
CONFERENCE

P/11-9.4 (16 KM, BRKT K1, Tc=1 MIN, SC & AC SPEAKING TO MCC)
P/11-9.5 (K-3A, H.H., FOC=20, f=2.0, Tc=20 SEC, CLOSE VIEW, AC'S FACE)

PASS K-3A TO AC

PHOTO 3.2S, PRESS CONF (NK, 2 FR)

SPEC LTS - OFF

PLU - OFF

DOFF SJ-BOX COMM ASSEMBLY

DON SOYUZ COMM ASSEMBLY

P/M-9.6 (K-3A, H.H., Tc=20 SEC, CLOSE VIEW, SC'S FACE)
PHOTO 3.1S, PRESS CONF (NK, 2 FR)

MOUNT TK-1 ON BRKT T1
INSTALL FILTER

INFORM APOLLO: READY FOR ORIENTATION
ONBOARD INSTRUCTIONS, BOOK 3, PG. 6,5-7
MICROBIAL EXCHANGE (A4-2)

SOYUZ SAMPLING
(KIT 2)

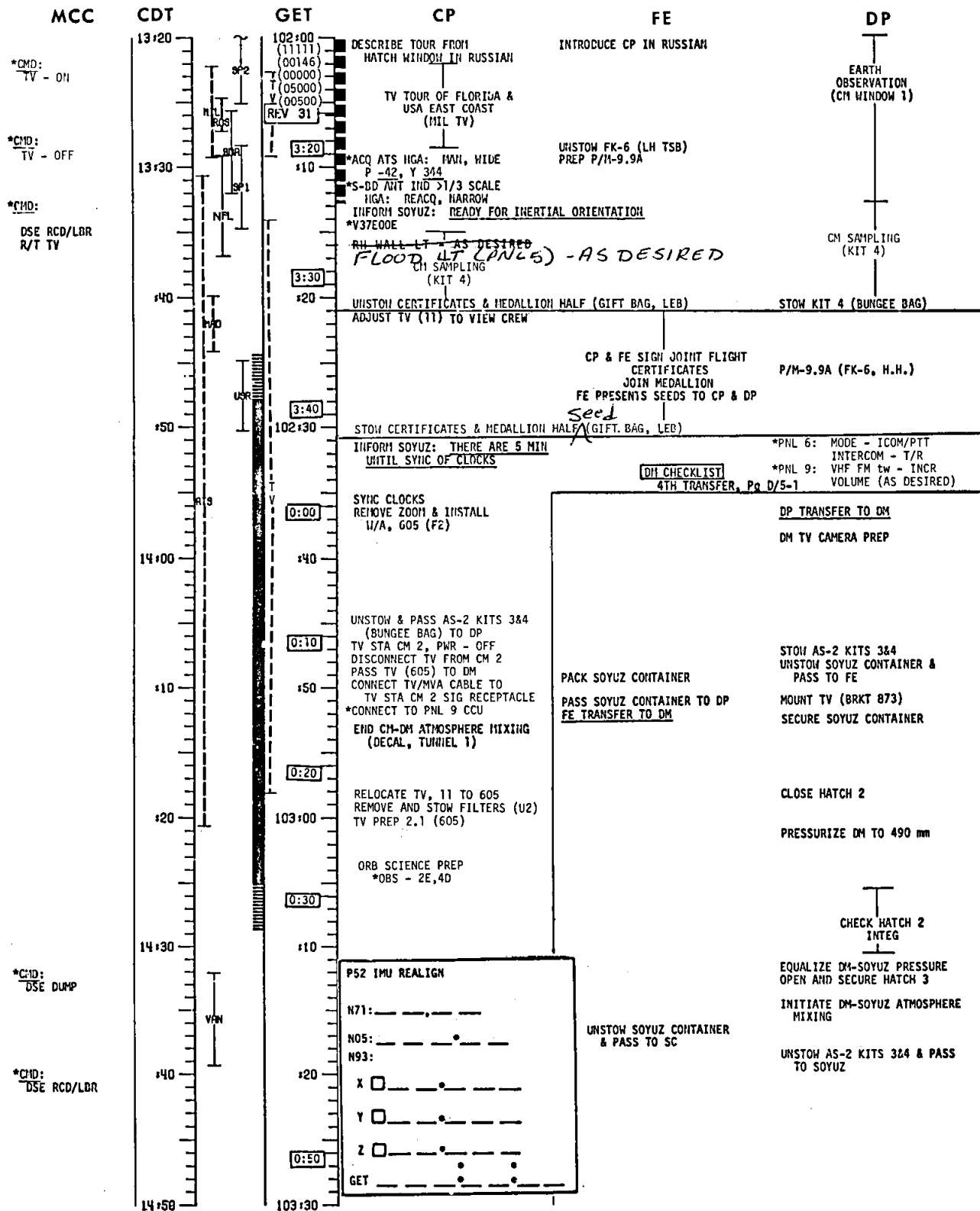
PHOTO 3.3S, SOYUZ SAMPLING
(NK, 2 FR)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-31

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	30-31



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 3	JUNE 14, 1975	4.2-32

3RD LAUNCH OPPORTUNITY

7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	70-71

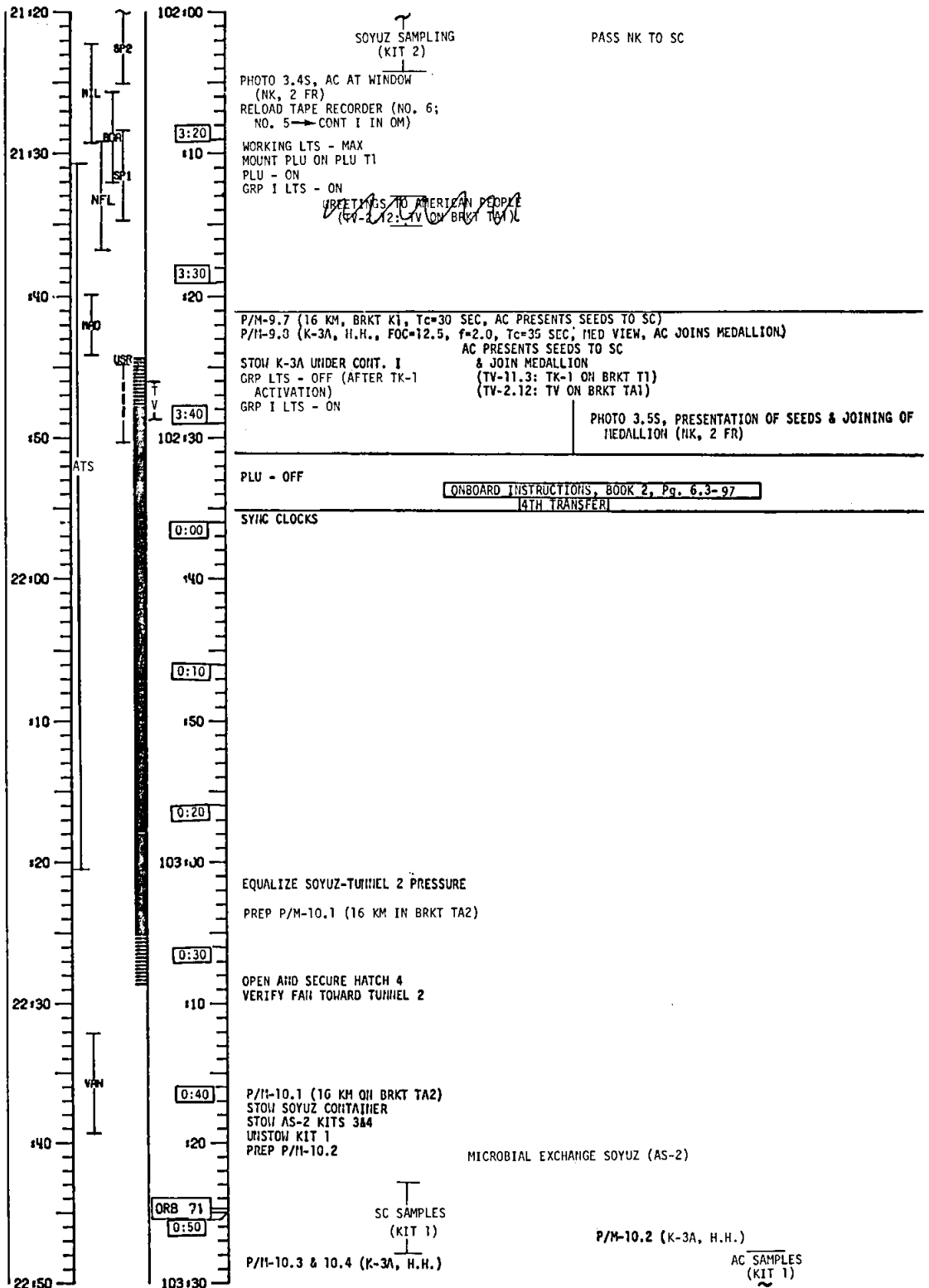
MCC

MT

GET

SC

AC

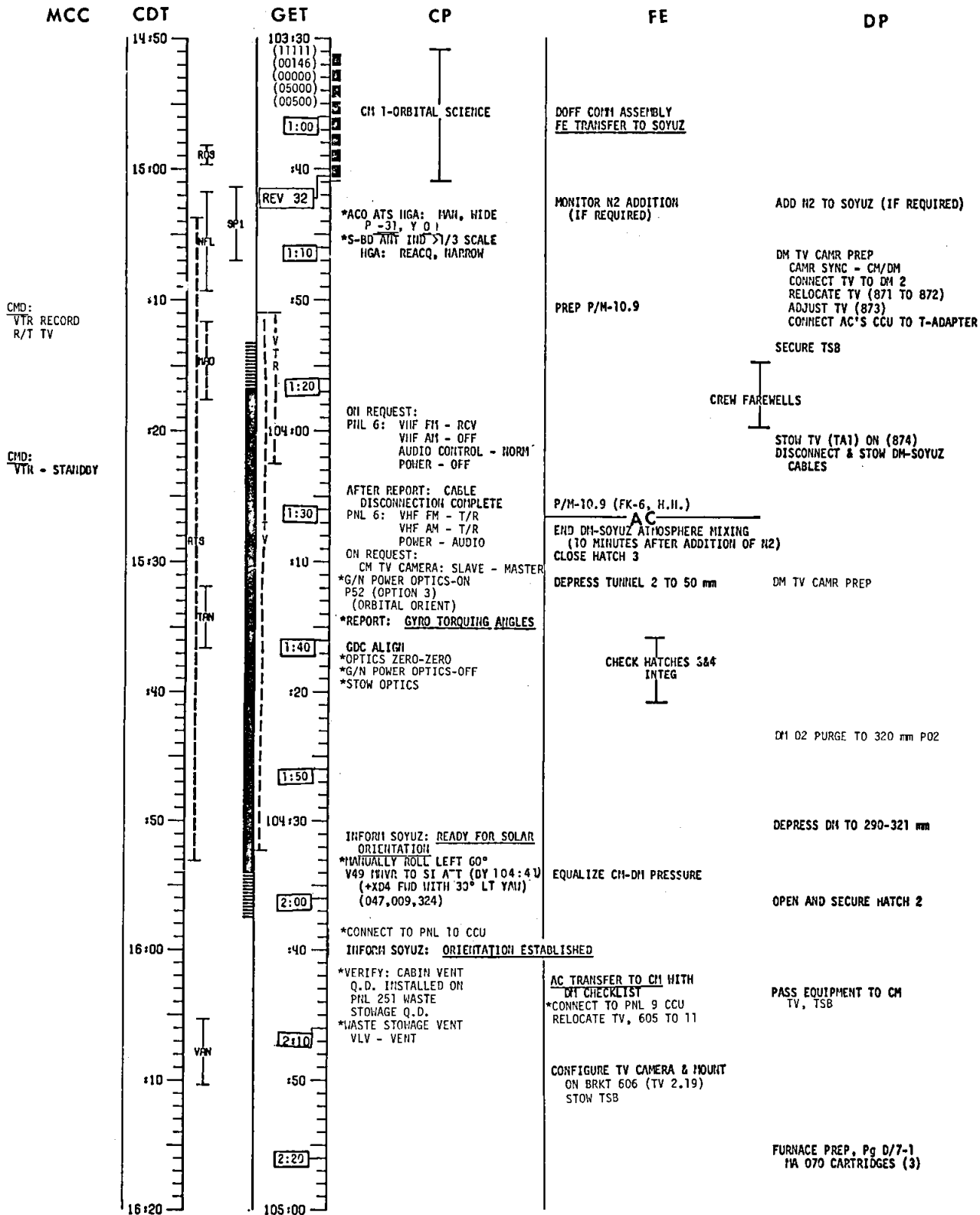


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-33

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	31-32



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-34

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	71-72

MCC

MT

GET

SC

AC

22:50
23:00
23:10
23:20
23:30
23:40
00:00
00:10
00:20

103:30
1:00
1:40
1:50
1:20
104:00
1:30
1:40
1:50
104:30
2:00
2:40
2:50
ORB 72
105:00

STOW AS-2 KIT 1
PREP P/H-10.5 & 10.6
P/H-10.5 (1G KM ON BRKT TA2)

DETERMINE ΔP H2 REQUIRED

P/H-10.6 & 10.7 (K-3A, H.H.)
PREP P/H-10.8

P/H-10.8 (1G KM ON BRKT TA2)
P/H-10.10 (K-3A, H.H.)
P/H-10.11 (K-3A, H.H.)
P/H-10.12 (FK-6, H.H.)

P/H-10.13 (K-3A, H.H.)
P/H-10.14 (K-3A, H.H.)

BEGIN FOOD PREPARATION

INFORM APOLLO: READY FOR ORIENTATION

RELEASE CONTAINER 1
TRANSFER POT. CONDENSATE COLLECTOR
TO OM
INITIATE ENTRY EQUIPMENT STOWAGE

OM TAPE RCOR - OFF
RELOAD OM TAPE RECORDER (NO. 3
FROM CONT 1 IN DV; NO. 4, 5, 6,
10 → CONT 1 IN DV)

AC SAMPLES
(KIT 1)

DISCONNECT TV CABLE FROM SJ-BOX &
PASS TO DP

PASS EQUIPMENT TO DM
USA COMM EQUIPMENT
TSB CONTAINING:
NK, 35 MM LENS, CASSETTE & FLASH
SCIENCE DEMONSTRATIONS
"2ND & 3RD SOYUZ PHOTO" CUE CARD
"SOYUZ TV" CUE CARD
CREW FAREWELLS
(TV-2,12)

PASS TV, MONITOR & U-MOUNT (TA1)
TO DP

AC TRANSFER TO DM

FE

INSTALL AS-4 SUN SHADE
CLOSE HATCH 4

MONITOR TUNNEL 2 DEPRESS

CHECK HATCHES 3&4
INTEG

TAKE CAPSULE FROM BIOKAT-G DEVICE CHAMBER
TURN VALVE B HEAD CW TILL STOP
REPLACE CAPSULE INTO THE DEVICE CHAMBER
WRITE DOWN TIME OF EXPERIMENT

BIOKAT-G POWER SUPPLY - OFF

ONBOARD INSTRUCTIONS, BOOK 3, Pg 6.5-3

AS-1

MEASURE TEMPERATURE OF BIOKAT-M DEVICE
& WRITE DOWN

UNSTOW CAPSULE FROM BIOKAT-M
DEFINE MICROORGANISMS' GROWTH LIMIT
WRITE DOWN RESULTS:

STOW CAPSULE IN THE DEVICE

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-35

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	72-73

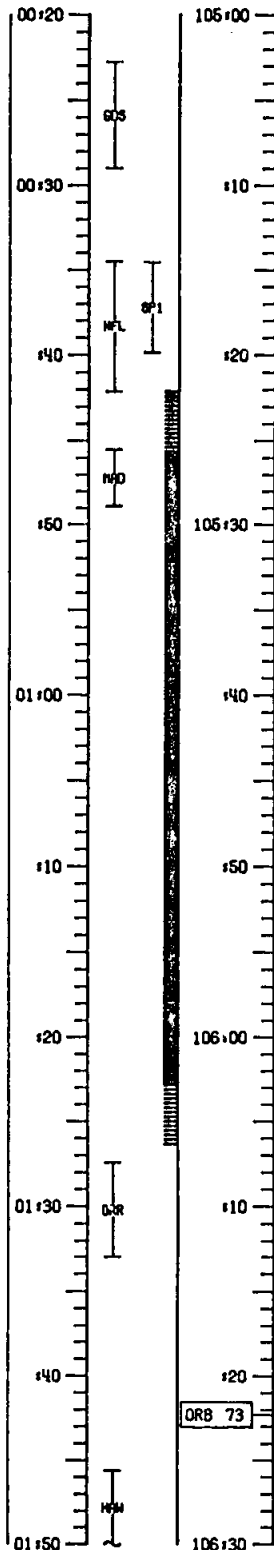
MCC

MT

GET

SC

FE



INFORM MCC: HATCH 4 CLOSED
& PRESSURE TIGHT

EAT PERIOD

PERSONAL TIME

PRESLEEP SYSTEMS CHECKS

INFORM MCC: SYSTEM CHECK RESULTS &
CREW CONDITIONS

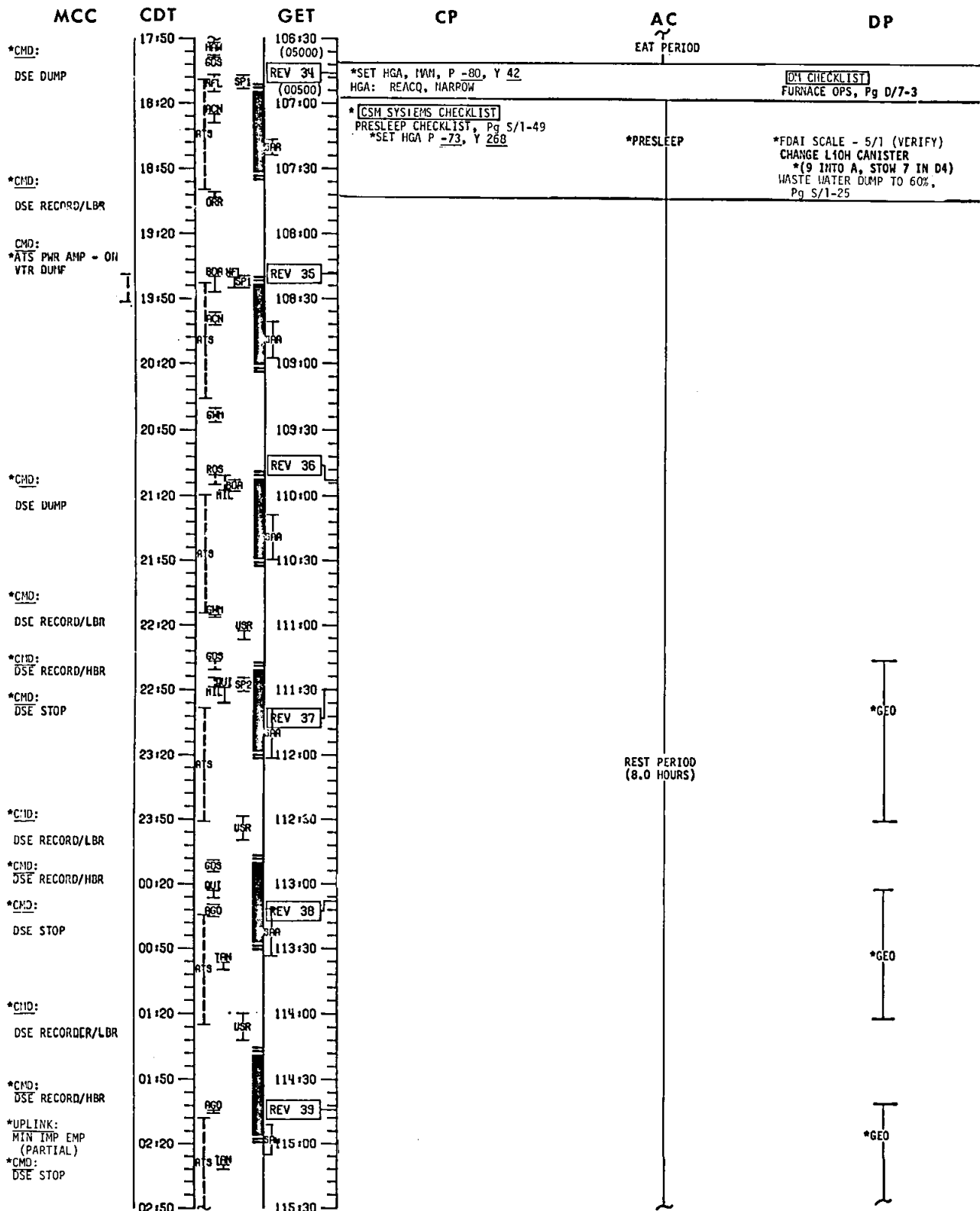
REST PERIOD
(6.0 HOURS)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-37

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	34-39



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-38

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	73-79

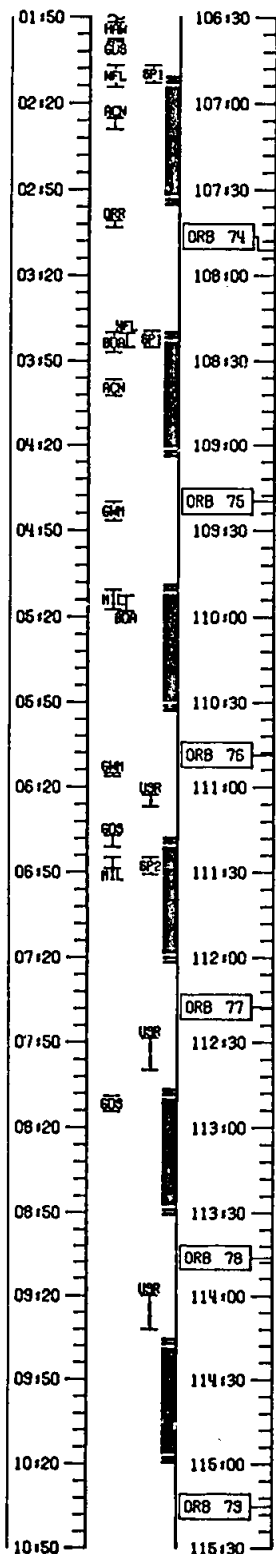
MCC

MT

GET

SC

FE



REST PERIOD
(6.0 HOURS)

POST SLEEP SYSTEMS CHECK

BEGIN FOOD PREPARATION

PERSONAL TIME

BIOKAT-M
BIOKAT-E

AS-1
ONBOARD DOCUMENTATION

EAT PERIOD

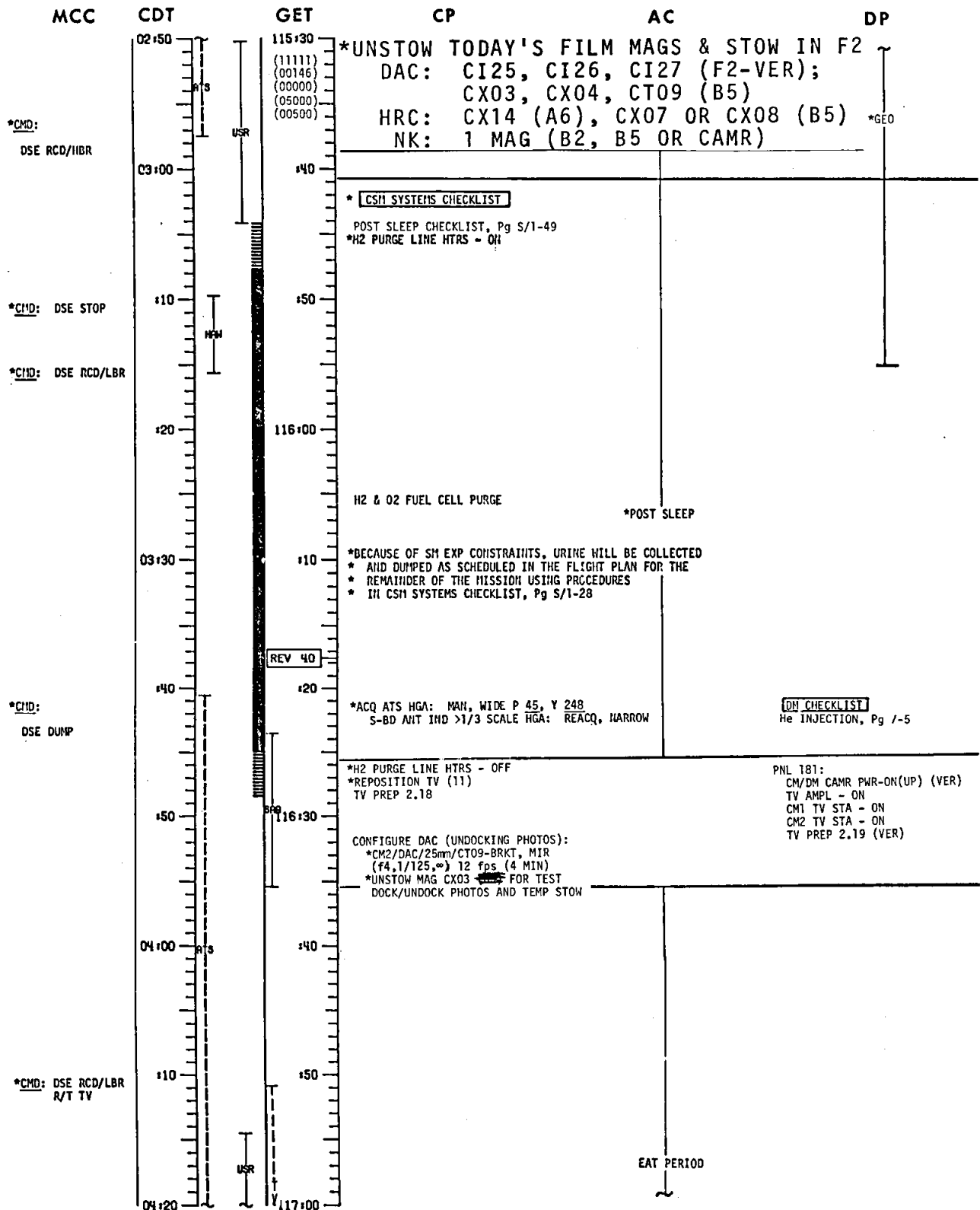
ENTRY & NON ENTRY
EQUIPMENT STOWAGE

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-39

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	39-40



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-40

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	79-80

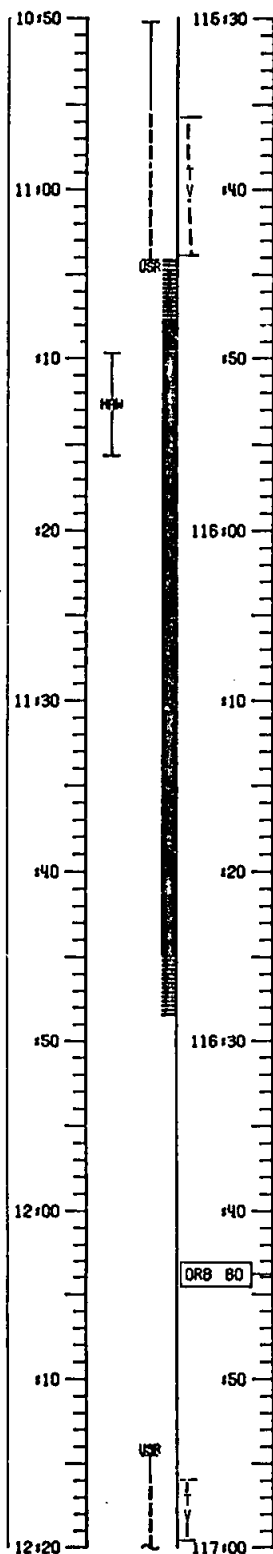
MCC

MT

GET

SC

FE



INFORM MCC: SYSTEMS CHECK RESULTS
& CREW CONDITION

STOW CONT. 3

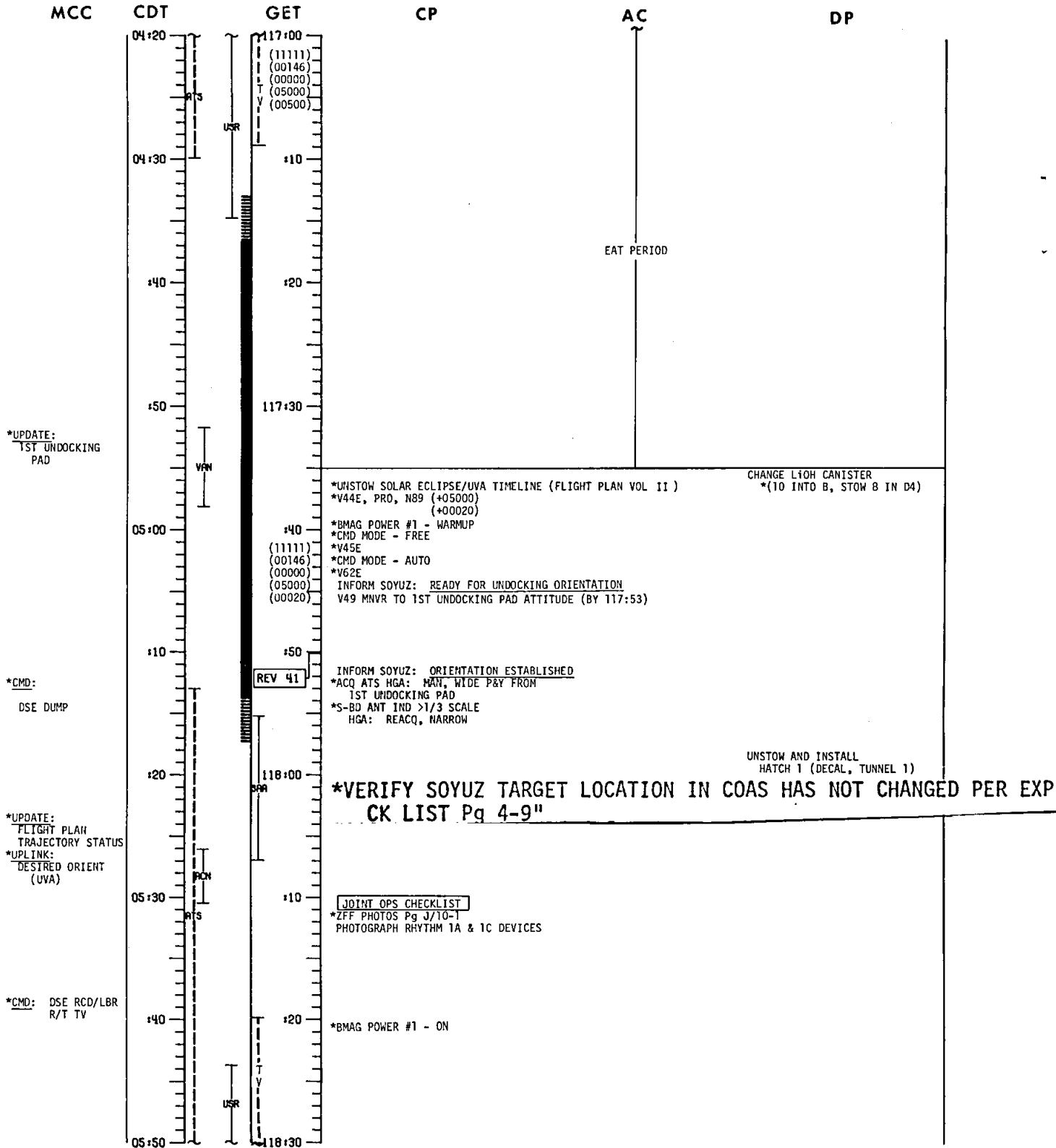
ENTRY & NON ENTRY
EQUIPMENT STOWAGE

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-41

3RD LAUNCH OPPORTUNITY

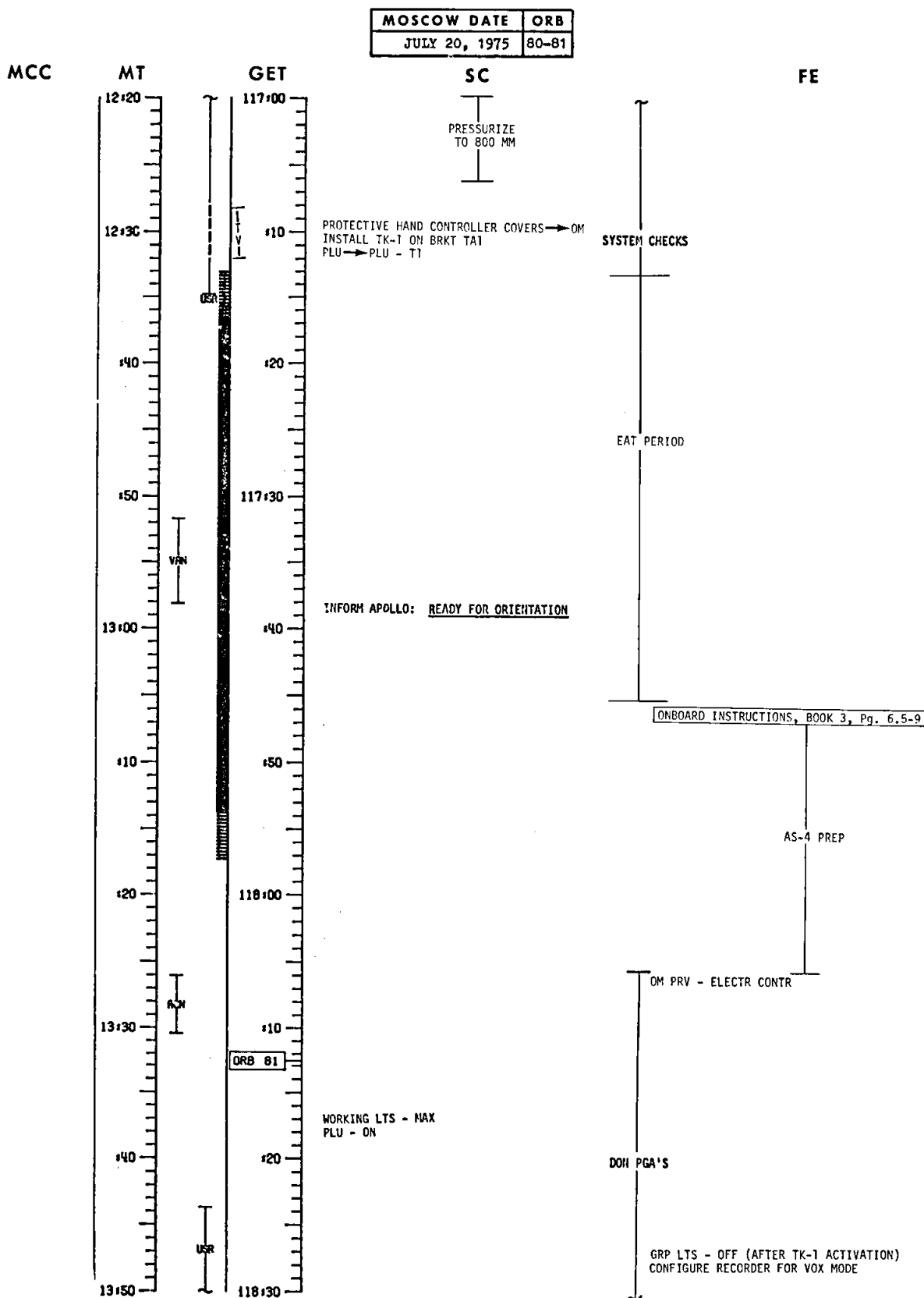
APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	40-41



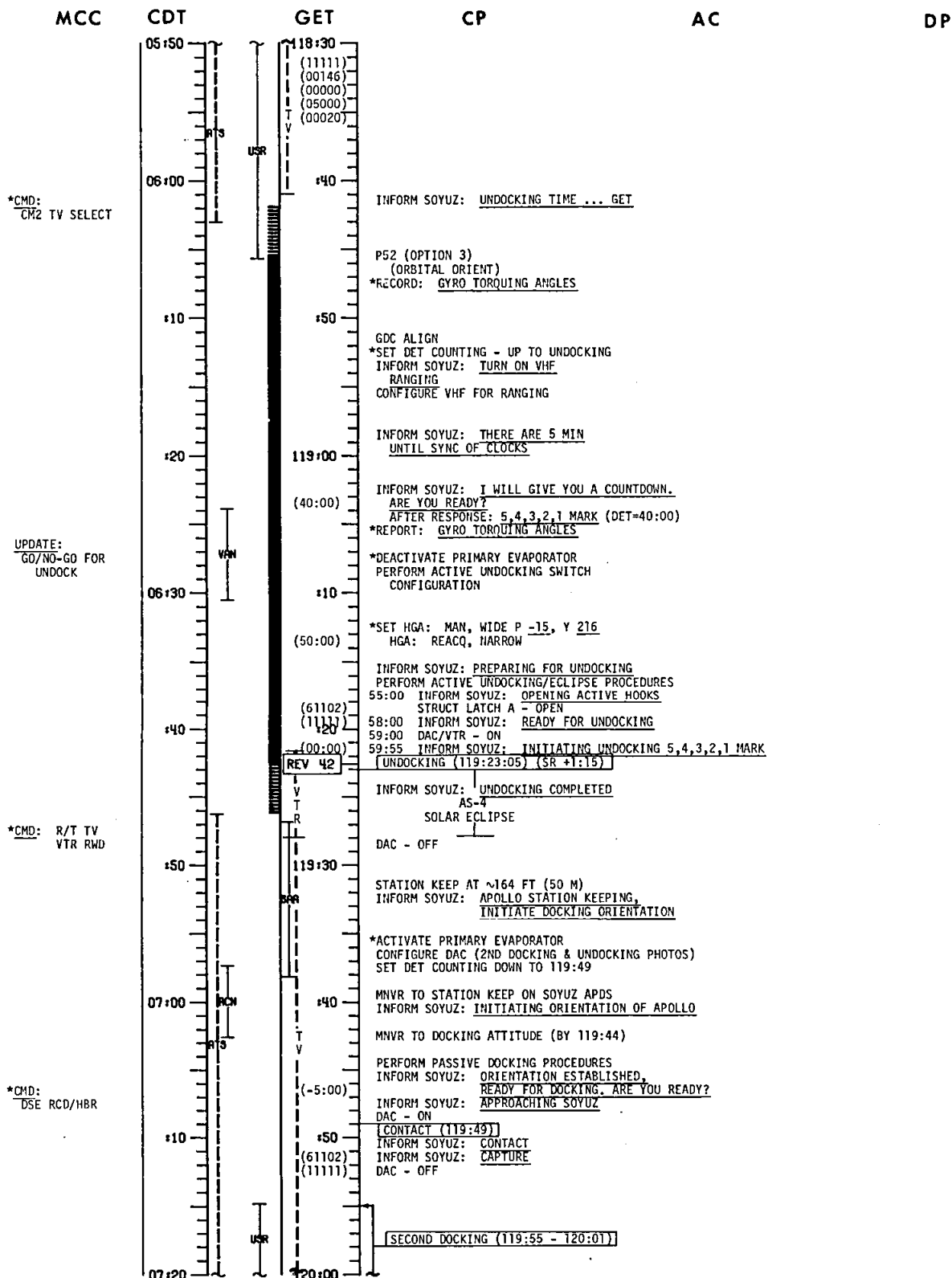
MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-42

SOYUZ DETAILED CREW ACTIVITIES PLAN



APOLLO DETAILED CREW ACTIVITIES PLAN

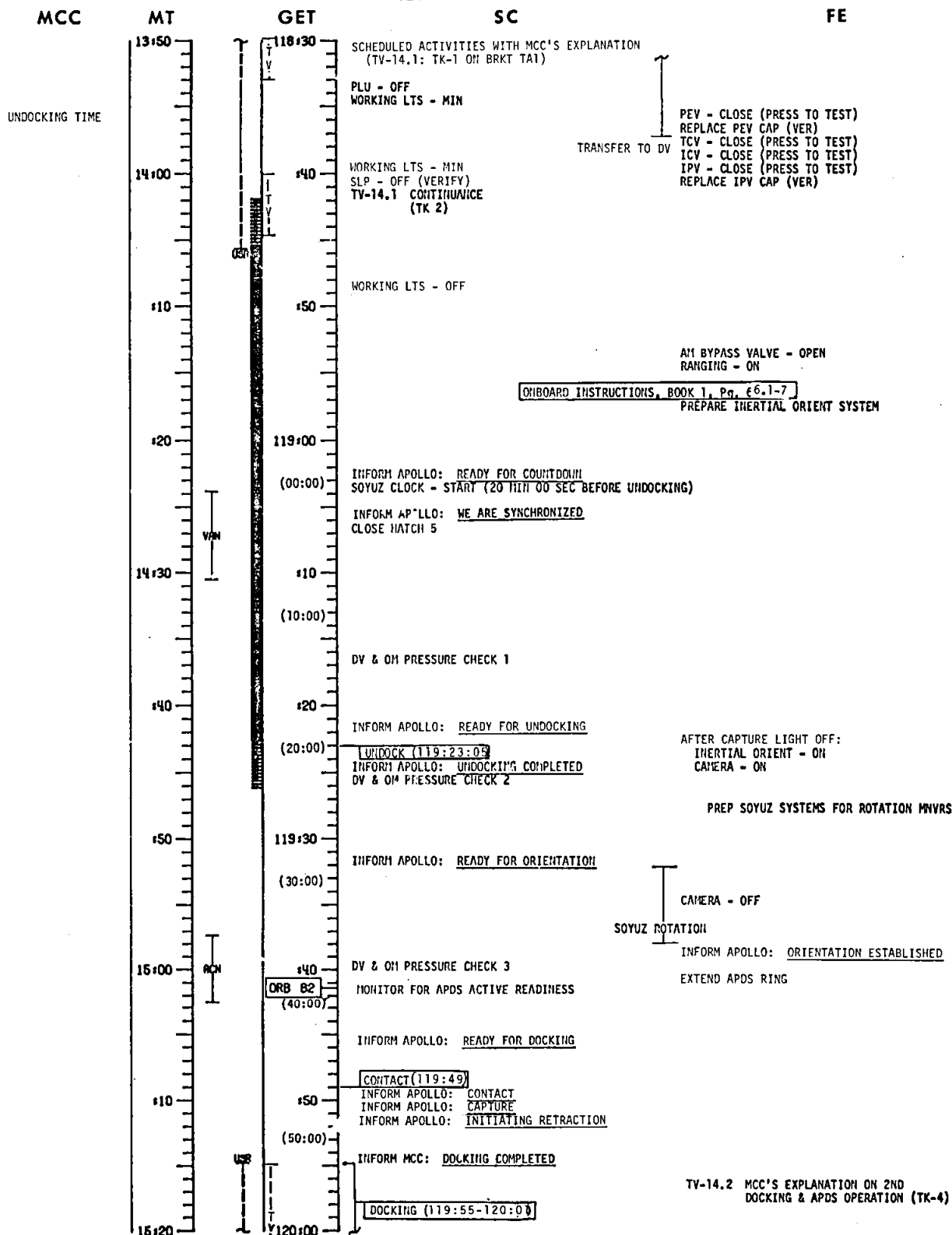
HOUSTON DATE	REV
JULY 20, 1975	41-42



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-44

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	81-82

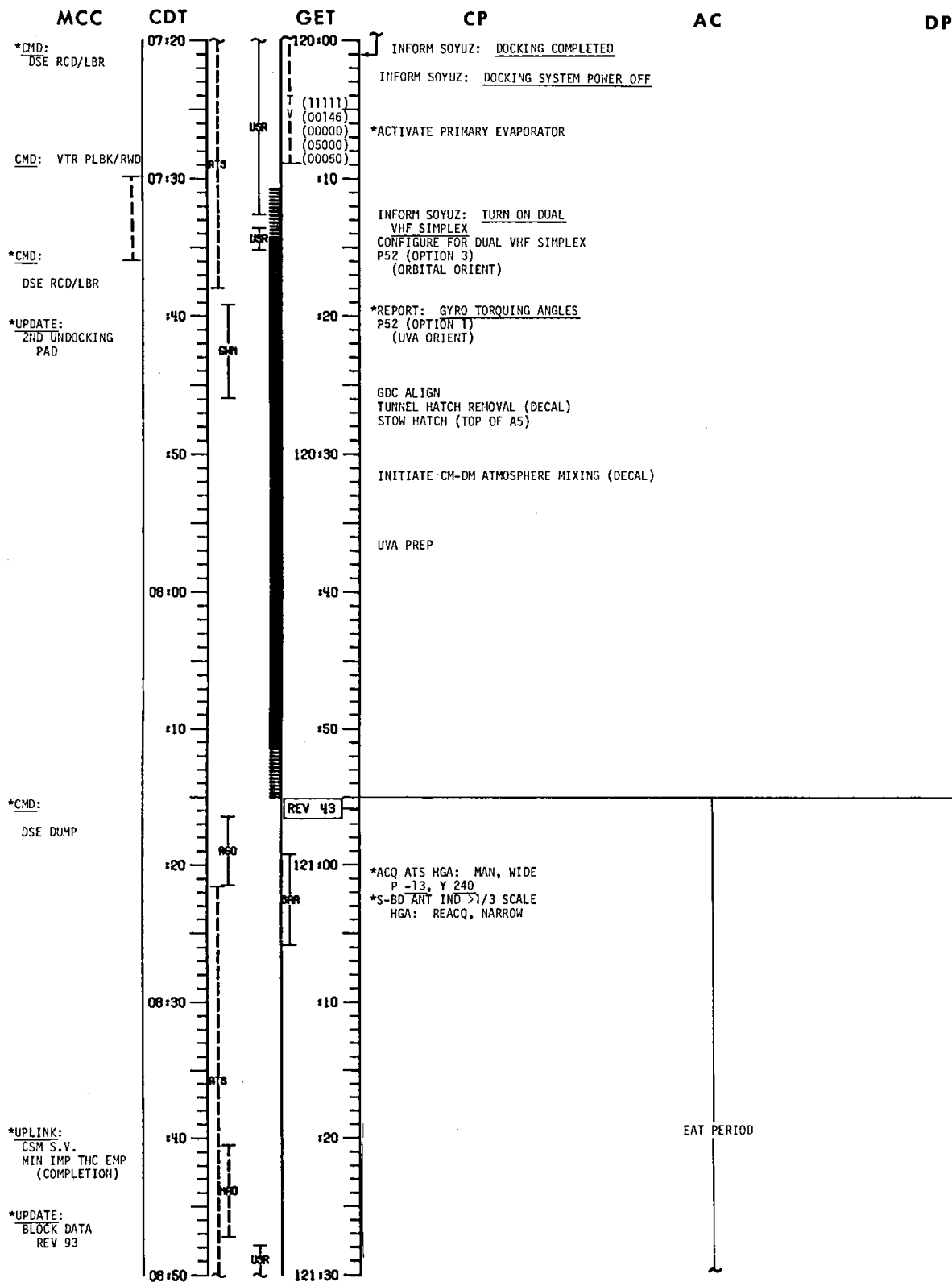


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-45

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	42-43



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	82-83

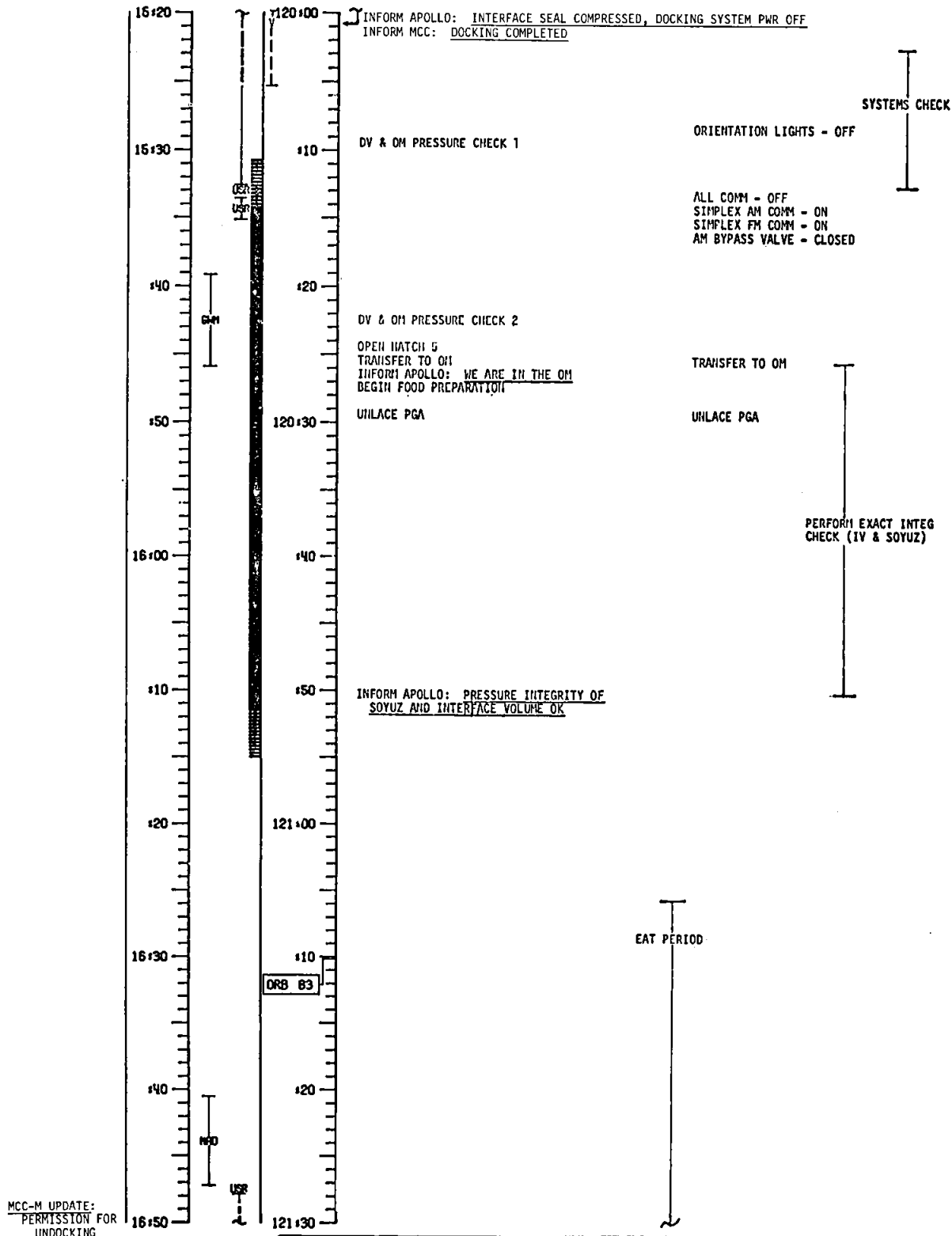
MCC

MT

GET

SC

FE

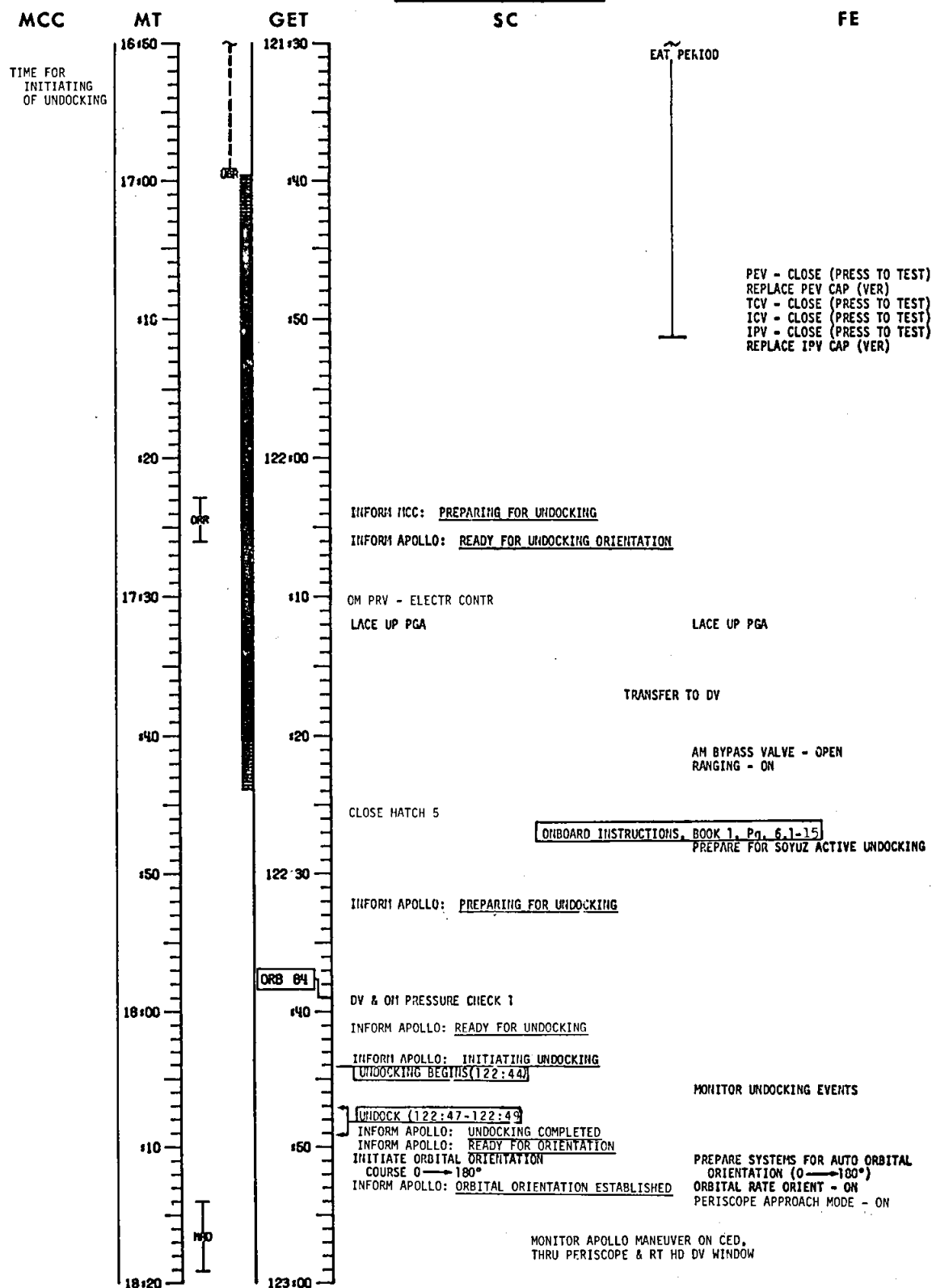


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-47

3RD LAUNCH OPPORTUNITY

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	83-84



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-49

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	44-45

MCC

CDT

GET

CP

AC

DP

*NOTE: ATS LOS
MAY OCCUR AT
123:06 AND WILL
BE AVAILABLE
AGAIN AT ~123:12

*CMD:
DSE RCD/HBR

*CMD:
DSE RCD/LBR

*CMD: DSE DUMP

*CMD: DSE STOP

*CMD: DSE PLBK/
REWIND

*CMD:
DSE RCD/LBR
R/T TV

00:00 APOLLO MINVRS TO RIGHT OF SOYUZ (OUT-OF-PLANE)

INFORM SOYUZ: TURN ON BEACONS & ORIENTATION LIGHTS
EXT LTS RUN/EVA - RUN/EVA, EXT LTS RNDZ - RNDZ
AFTER SOYUZ REPORTS OPENING RETROREFLECTOR COVERS:
OBSERVE OPENING OF SIDE COVER (WITH ~~SPOTTING SLOPE~~)

*IF ATS LOCK LOST:
SET HGA: MAN, WIDE P 15, Y 214
HGA: REACQ, NARROW
FOR ACQ AT ~123:12

18:00 INITIATE SOYUZ FLY-BY AT 150 M
INFORM SOYUZ: TURN OFF BEACONS & ORIENTATION LIGHTS
EXT LTS RNDZ - OFF

UVA DATA TAKE
(150 M SIDE REFLECTOR)

28:00 STOP SOYUZ FLY-BY AND BEGIN TRANSFER
TO ORBITAL PLANE
INFORM SOYUZ: DATA TAKE COMPLETED,
TURN ON BEACONS & ORIENTATION LIGHTS
EXT LTS RNDZ - RNDZ

IF REQUIRED:
INFORM SOYUZ: READY TO TURN ON SPOTLIGHT
WAIT FOR RESPONSE
EXT LTS RNDZ - SPOT

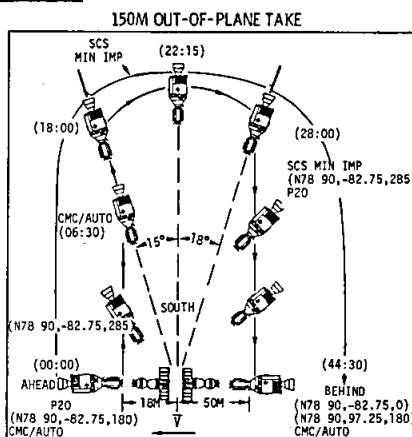
*ACTIVATE PRIMARY EVAPORATOR

44:30 INITIATE STATION KEEPING AT 164 FT (50 M)
BEHIND SOYUZ

INFORM SOYUZ: TURN OFF BEACONS & ORIENTATION
LIGHTS AND TURN ON DUAL VHF SIMPLEX
EXT LTS RNDZ - OFF
CONFIGURE FOR DUAL VHF SIMPLEX
ROLL TO HEADS DWN ATTITUDE
SET DET COUNTING UP TO 124:31:00

CONFIGURE DAC (SOYUZ PHOTOS)

*DEACTIVATE PRIMARY EVAPORATOR



*ACQ ATS HGA: MAN, WIDE
P 9, Y 317

*S-80 ANT IND >1/3 SCALE
HGA: REACQ, NARROW

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JULY 14, 1975	4.2-50

3RD LAUNCH OPPORTUNITY

7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	84-85

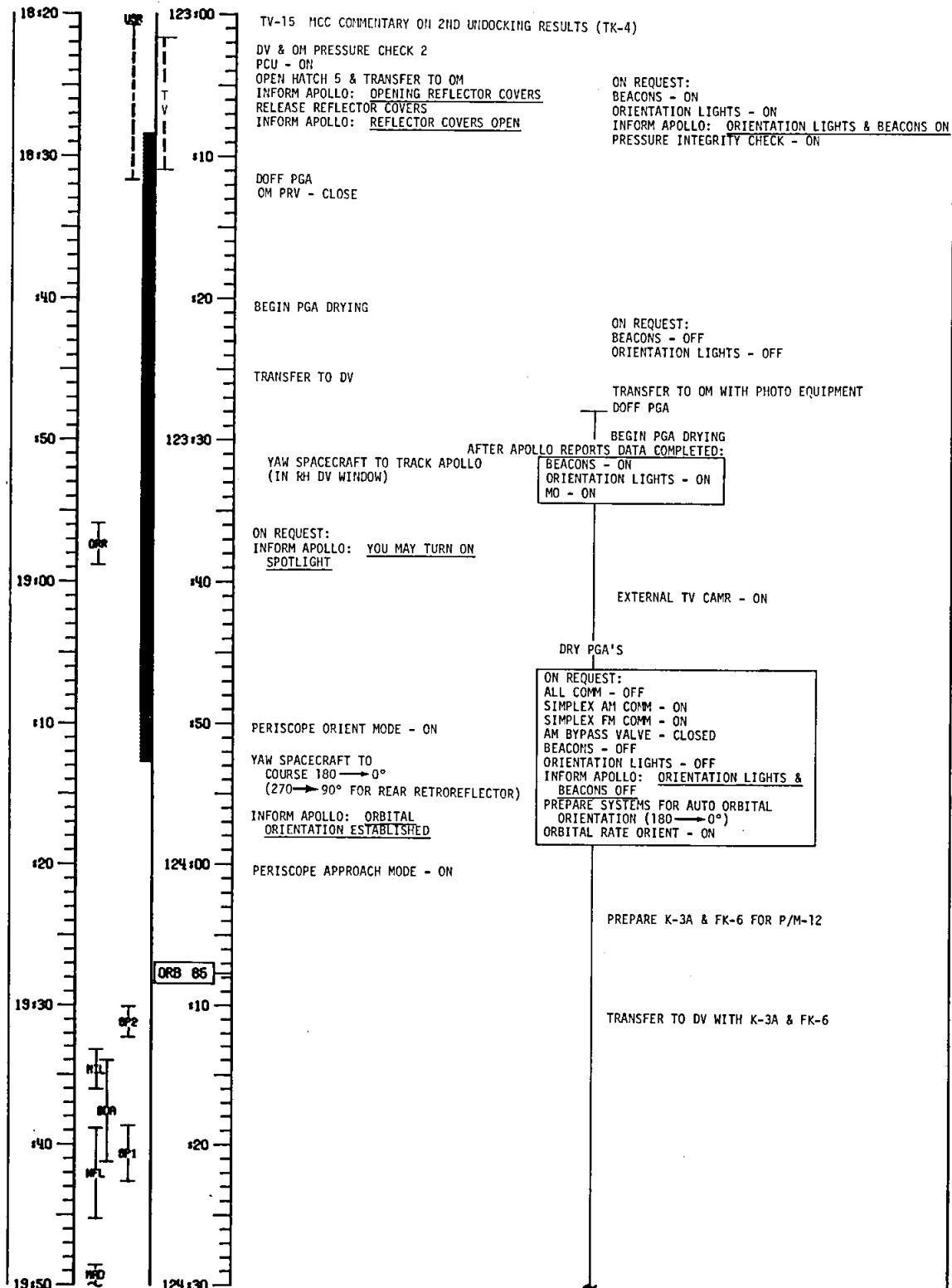
MCC

MT

GET

SC

FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-51

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	45-46

MCC

CDT

GET

CP

AC

DP

*CMD:
R/T PCM

*CMD:
DSE RCD/HBR

*CMD: DSE STOP

*CMD:
DSE RCD/LBR

*CMD:
DSE DUMP

*CMD:

DSE RCD/LBR
R/T TV

00:00 APOLLO MNVR TO RIGHT OF SOYUZ (OUT-OF-PLANE)

EXT LTS RNDZ - RNDZ
INFORM SOYUZ: BEACON - ON

INFORM SOYUZ: TURN ON VHF RANGING
CONFIGURE FOR VHF RANGING

INFORM SOYUZ: RANGING LOCKUP ESTABLISHED

18:00 INITIATE SOYUZ FLY-BY AT 500 M
INFORM SOYUZ: TURN OFF BEACONS & ORIENTATION LIGHTS
EXT LTS RNOZ - OFF

UVA DATA TAKE
(500 M SIDE REFLECTOR)

P20
N78 90.97

28:00 STOP SOYUZ FLY-BY AND BEGIN TRANSFER TO ORBITAL PLANE
INFORM SOYUZ: DATA TAKE COMPLETED,
TURN ON BEACONS & ORIENTATION LIGHTS
EXT LTS RNDZ - RNDZ

IF REQUIRED:
INFORM SOYUZ: READY TO TURN ON SPOTLIGHT
WAIT FOR RESPONSE
EXT LTS RNDZ - SPOT
*ACTIVATE PRIMARY EVAPORATOR

44:30 INITIATE STATION KEEPING AT 164 FT (50 M) IN
FRONT OF SOYUZ
INFORM SOYUZ: TURN OFF BEACONS &
ORIENTATION LIGHTS, TURN ON DUAL VHF SIMPLEX
EXT LTS RNDZ - OFF
CONFIGURE FOR DUAL VHF SIMPLEX
DAC - ON (8 MIN)

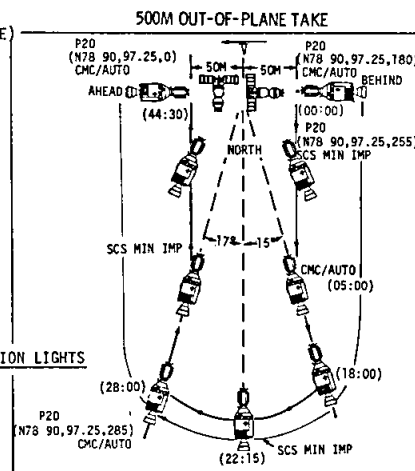
SOYUZ
PHOTOS

1 SET DET COUNTING UP TO 125:57:00

52:00 TRANSLATE DWN FOR SOYUZ PHOTOS
INFORM SOYUZ: INITIATING PITCH ROTATION
PITCH UP 2°/SEC FOR 360°

INFORM SOYUZ: PITCH ROTATION COMPLETED

00:00 APOLLO SEP (125:57)



REV 46

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-52

*ACQ ATS HGA: MAN, WIDE
P -35, Y 144
*S-BD ANT IND >1/3 SCALE
HGA: REACO, NARROW

3RD LAUNCH OPPORTUNITY

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	85-86

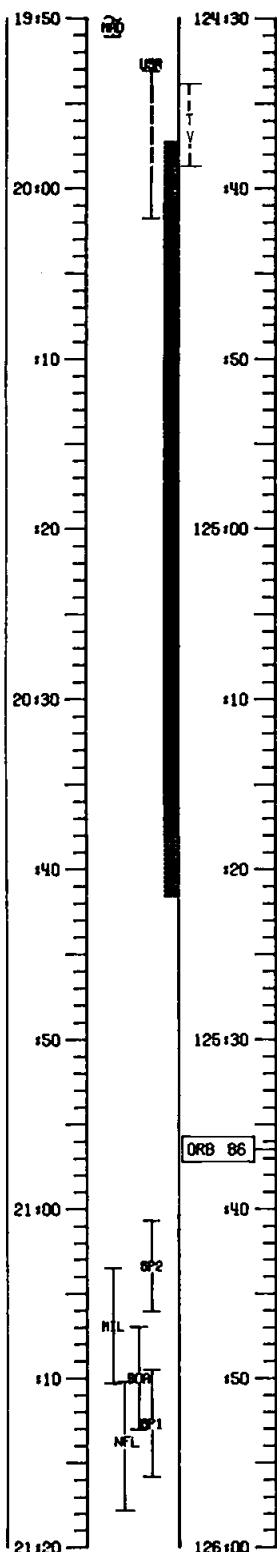
MCC

MT

GET

SC

FE



TV-18 MCC REPORT ON PROGRAM ACCOMPLISHING (TK-2)

SELECT MAX DENSITY FILTER
EXTERNAL TV CAMR - OFF
BEACONS - ON
ORIENTATION LIGHTS - ON
INFORM APOLLO: ORIENTATION LIGHTS & BEACONS ON

AM BYPASS VALVE - OPEN
VHF AM HEADSET MICR - OFF
RANGING - ON
AFTER APOLLO REPORTS RANGING LOCKUP ESTABLISHED
VHF AM HEADSET MICR - ON

ON REQUEST:
BEACONS - OFF
ORIENTATION LIGHTS - OFF

DRY PGA'S

AFTER APOLLO REPORTS DATA TAKE COMPLETED:
YAW SPACECRAFT TO TRACK APOLLO
(IN RH DV WINDOW)
(YAW RIGHT IF REAR RETROREFLECTOR IS USED)

ON REQUEST:
INFORM APOLLO: YOU MAY TURN ON SPOTLIGHT

BEACONS - ON
ORIENTATION LIGHTS - ON
MO - ON

ON REQUEST:
ALL COMM - OFF
SIMPLEX AM COMM - ON
SIMPLEX FM COMM - ON
AM BYPASS VALVE - CLOSED
BEACONS - OFF
ORIENTATION LIGHTS - OFF
INFORM APOLLO: ORIENTATION LIGHTS & BEACONS OFF
ORBITAL ORIENTATION MODE - OFF
MO - ON

MAINTAIN ORIENTATION TO POINT DV RT HD WINDOW TOWARD APOLLO
(YAW, ROLL & PITCH IF REQUIRED)

PREPARE TO PHOTOGRAPH APOLLO

INFORM APOLLO: READY TO PHOTOGRAPH APOLLO

P/M-12 PHOTOGRAPH APOLLO

PERISCOPE ORIENT MODE - ON
ESTABLISH ORBITAL ORIENTATION
(COURSE 90 → 270)
INFORM APOLLO: ORBITAL ORIENTATION ESTABLISHED

PREPARE SYSTEMS FOR AUTO ORBITAL ORIENTATION
ORBITAL RATE ORIENT - ON

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-53

3RD LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	46-47

MCC

CDT

GET

CP

AC

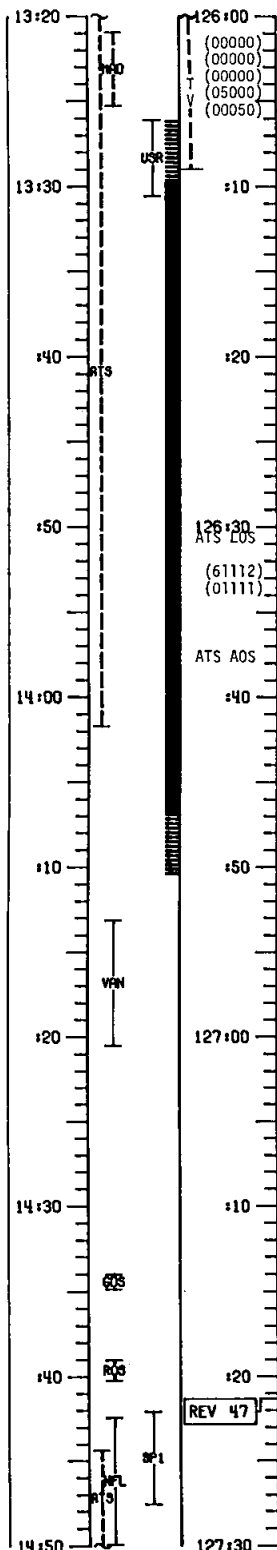
DP

*CMD:
R/T PCM

*CMD: DSE RCD/HBR

*NOTE: NO COMM
THRU ATS FROM
126:30 TO 126:37

*CMD:
DSE DUMP



*DEACTIVATE PRIMARY EVAPORATOR

INFORM SOYUZ: TURN ON VHF RANGING
CONFIGURE FOR VHF RANGING
INFORM SOYUZ: RANGING LOCKUP ESTABLISHED

21:00 START DATA TAKE
INFORM SOYUZ: TURN OFF BEACONS & ORIENTATION LIGHTS

UVA DATA TAKE
(1000 W TOP REFLECTOR)

~30:00 INFORM SOYUZ: AS-5 COMPLETED

VHF RANGING - OFF

EXT LTS RUN/EVA - OFF

*V48 (61112) (01111), V46E

~33:00 V49 MNVR FOR UV IN-PLANE SCAN (BY 126:33)

~37:00 *V49 MNVR TO OUT-OF-PLANE DATA ATT (BY 126:37)

~41:00 *ACQ ATS HGA: MAN, WIDE P -6, Y 262

*S-BD ANT IND >1/3 SCALE, HGA: REACQ, NARROW

*PREP FOR URINE DUMP, Pg S/1-28

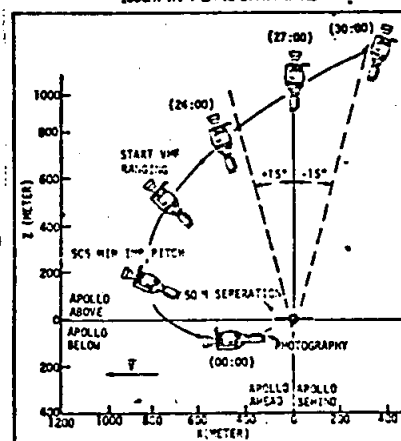
*ACTIVATE PRIMARY EVAPORATOR, Pg S/1-18

*BMAG POWER #1 - OFF

*MARK HRC MAG "SOYUZ PHOTOS - PAO QUICK RELEASE"
& STOW IN TV MONITOR CABLE BAG IN U2

WASTE WATER DUMP TO 60%, Pg S/1-25
*URINE DUMP, Pg S/1-28

1000M IN-PLANE DATA TAKE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-54

3RD LAUNCH OPPORTUNITY

*ACQ ATS HGA: MAN, WIDE
P -66, Y 110
*S-BD ANT IND >1/3 SCALE
HGA: REACQ, NARROW

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	86-87

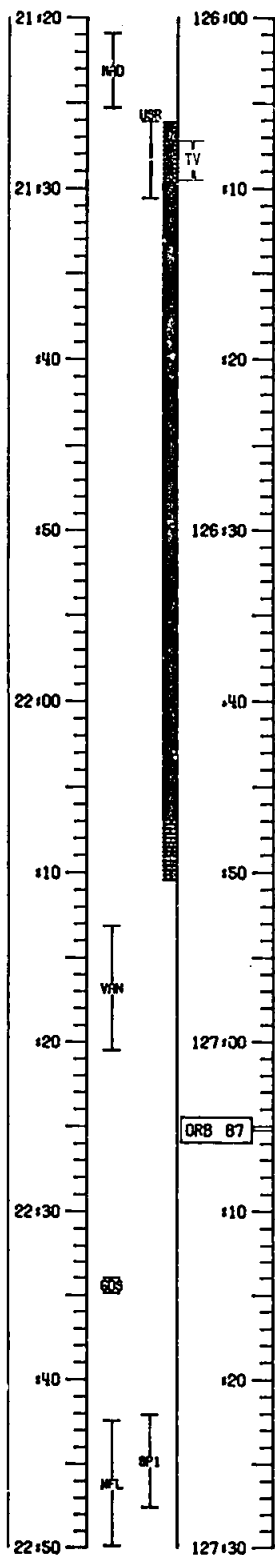
MCC

MT

GET

SC

FE



BEACONS - ON
ORIENTATION LTS - ON
INFORM APOLLO: ORIENTATION LIGHTS &
BEACONS ON

CHANNEL SEP - ON DRY
TV-18.1 REPORT ON PROGRAM ACCOMPLISHING (TK-2)
(FE PERFORMS)

AM BYPASS VALVE - OPEN
VHF AM HEADSET MICR - OFF
RANGING - ON
AFTER APOLLO REPORTS RANGING
LOCKUP ESTABLISHED
VHF AM HEADSET MICR - ON
BEACONS - OFF
ORIENTATION LTS - OFF

DRY PGA'S

TRANSFER TO OM WITH FK-6 & K-3A
MONITOR APOLLO SEPARATION

OM TAPE RCDR - OFF
REMOVE KS - CAMERA FROM HATCH 4
& STOW (CONT VI)

AFTER APOLLO REPORTS AS-5 COMPLETED
ALL COMM - OFF
SIMPLEX FM COMM - ON
AM BYPASS VALVE - CLOSED
ORIENTATION MODE - OFF

PREPARE FOR STAR
IDENTIFICATION

MO - ON
ESTABLISH ORBITAL ORIENTATION
(COURSE 180→0)

PREPARE SYSTEMS FOR AUTO ORIENTATION
ORBITAL RATE ORIENT - 0"

STAR IDENTIFICATION DURING
DAYLIGHT PORTION OF ORBIT
(AUTONOMOUS DOCUMENTATION)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-55

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	47-48

MCC

CDT

GET

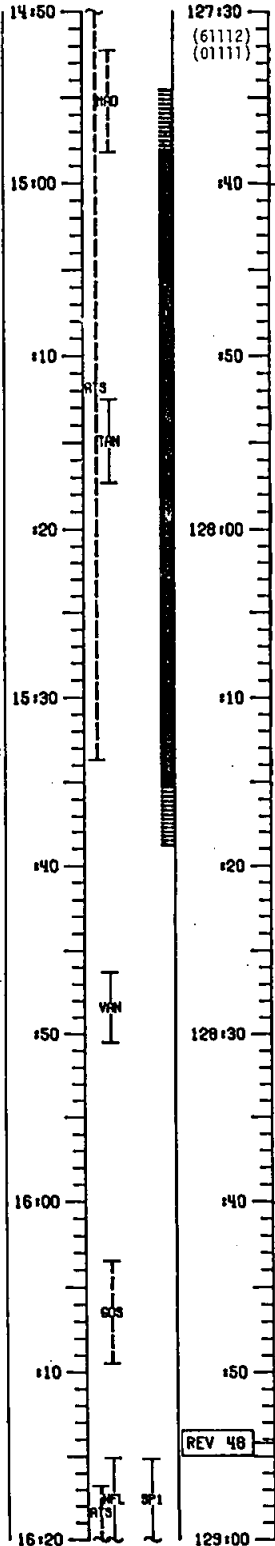
CP

AC

DP

*CMD:
ATS PWR AMP - OFF
DSE RCD/LBR

*CMD:
ATS PWR AMP-ON
DSE STOP



*DEACTIVATE PRIMARY EVAPORATOR, Pg S/I-18

EAT PERIOD

* UV ABSORPTION POWER - ON

*ACQ ATS HGA: MAN, WIDE
P 8, Y 279
*S-BD ANT IND > 1/3 SCALE
HGA: REACQ, NARROW

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-56

3RD LAUNCH OPPORTUNITY

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	87-88

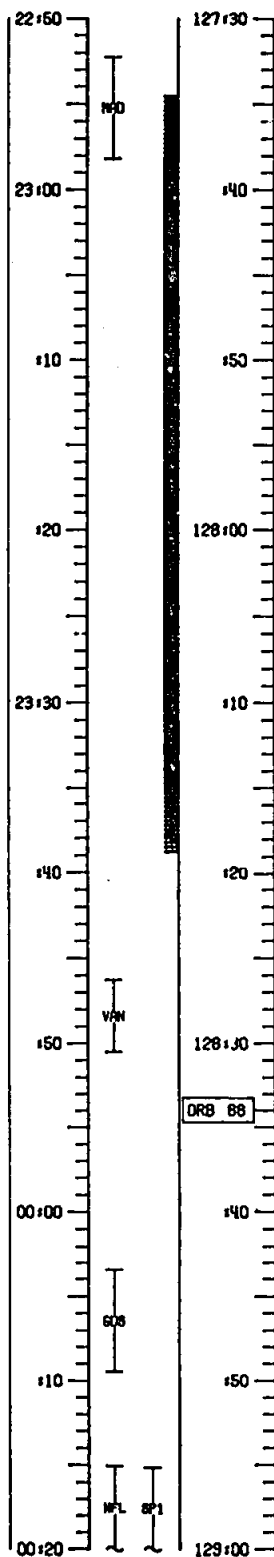
MCC

MT

GET

SC

FE



AUTONOMOUS ACTIVITIES

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-57

3RD LAUNCH OPPORTUNITY

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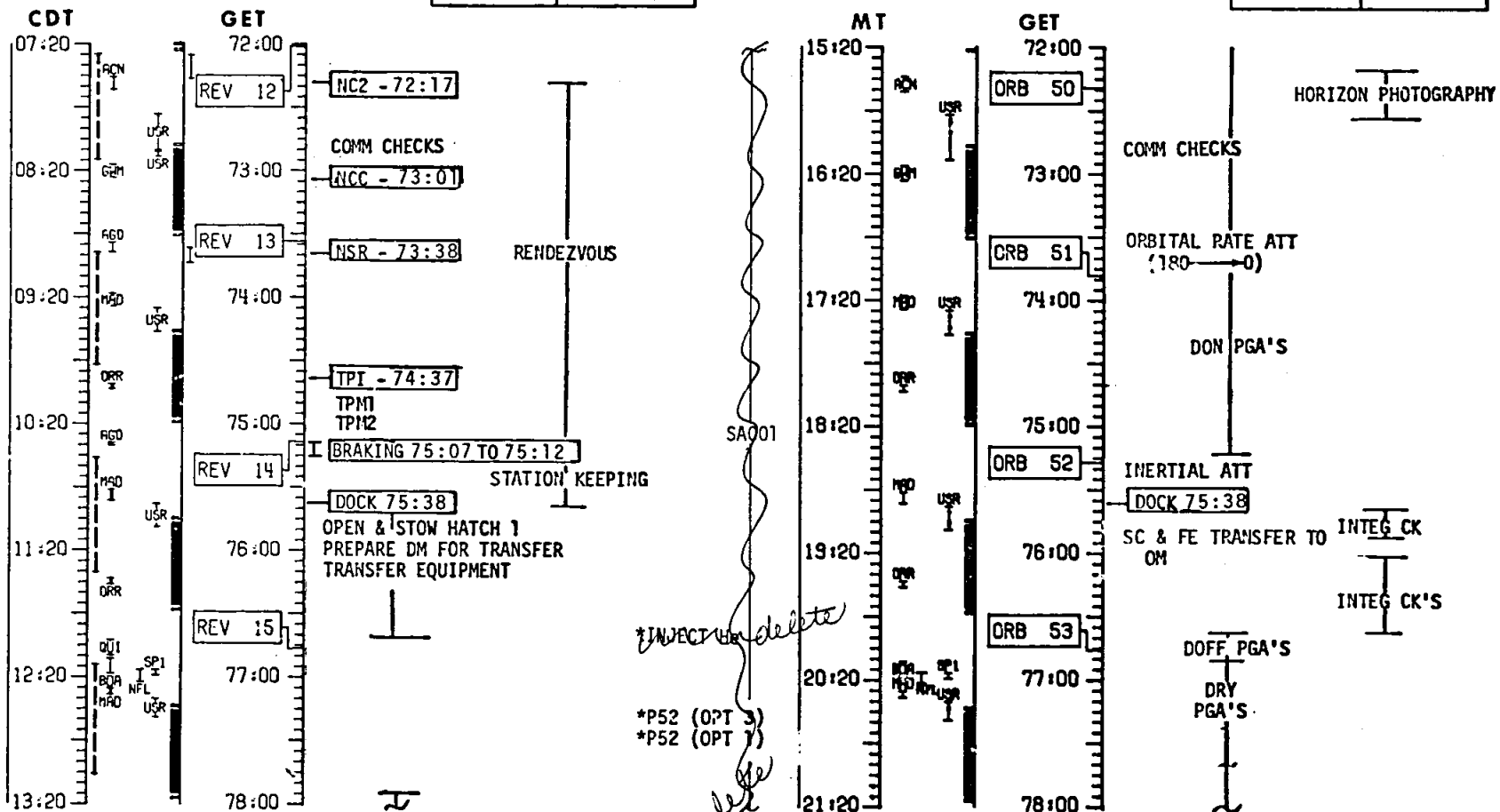
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/18/75	11-15

SOYUZ

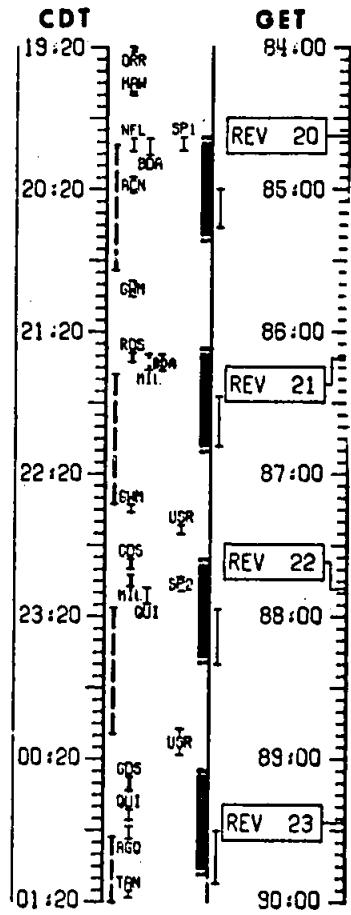
DATE	ORB
7/18/75	49-53



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	DATE 18 JUL 75	5-1

SUMMARY CREW ACTIVITIES PLAN APOLLO

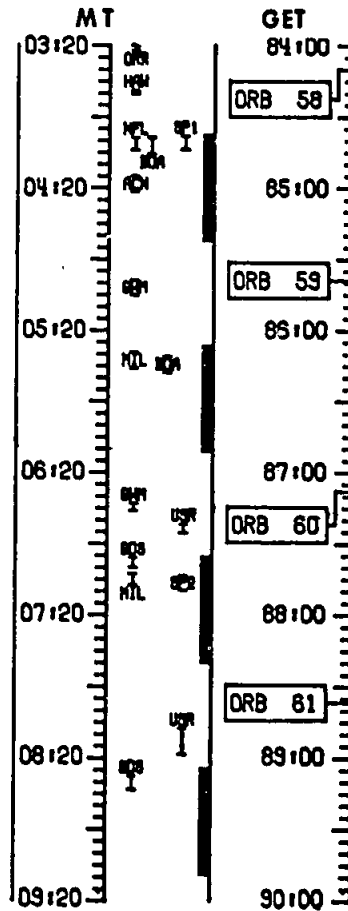
DATE	REV
7/18/75	19-23



REST
(8 HR)

SOYUZ

DATE	ORB
7/19/75	57-61

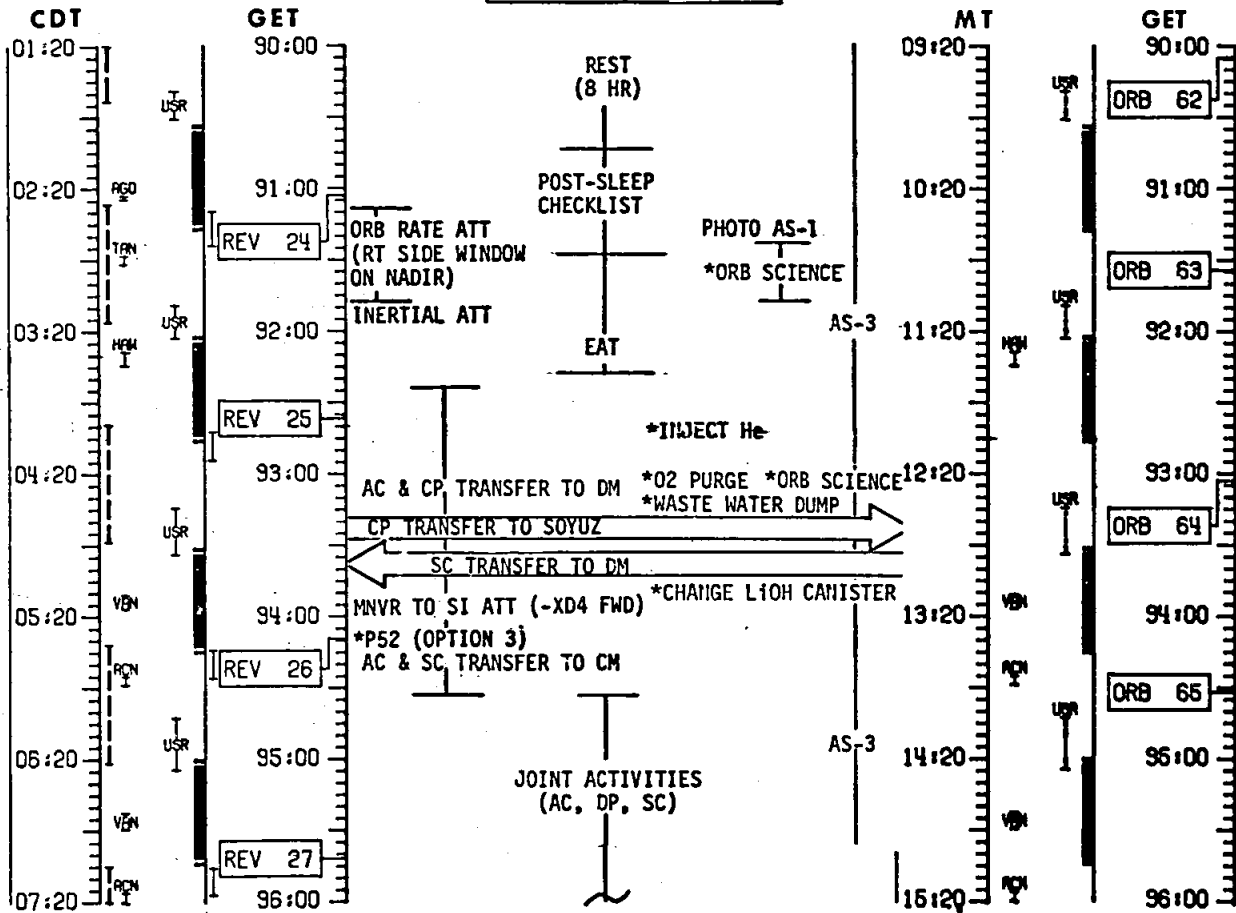


REST
(7.5 HR)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5- 3

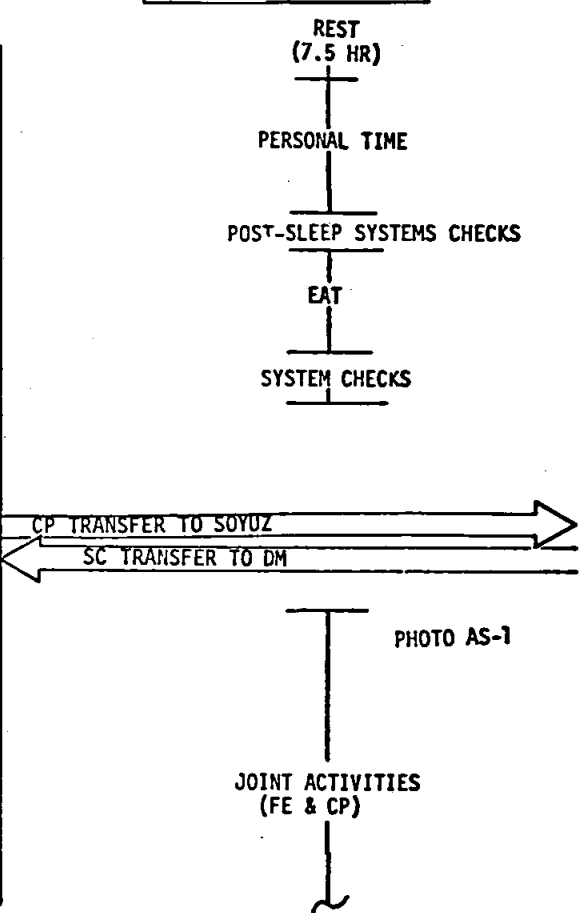
SUMMARY CREW ACTIVITIES PLAN APOLLO

DATE	REV
7/19/75	23-27



SOYUZ

DATE	ORB
7/19/75	61-65

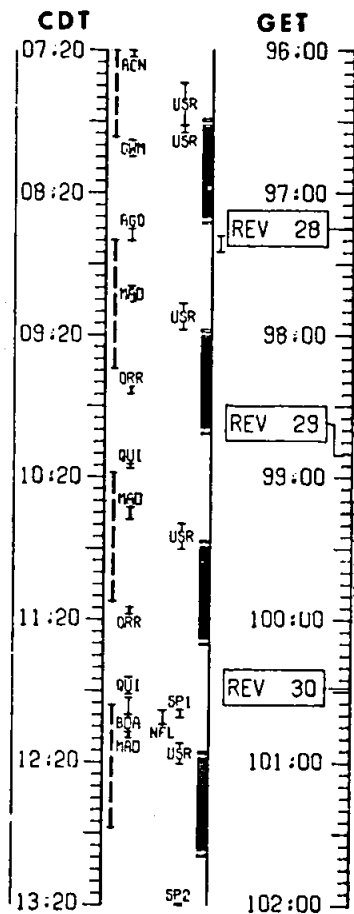


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5- 4

3RD LAUNCH OPPORTUNITY

SUMMARY CREW ACTIVITIES PLAN APOLLO

DATE	REV
7/19/75	27-30



JOINT ACTIVITIES
(AC, DP, SC)

EAT

AC & SC TRANSFER TO DM

SC & AC TRANSFER TO SOYUZ

CP & FE TRANSFER TO DM

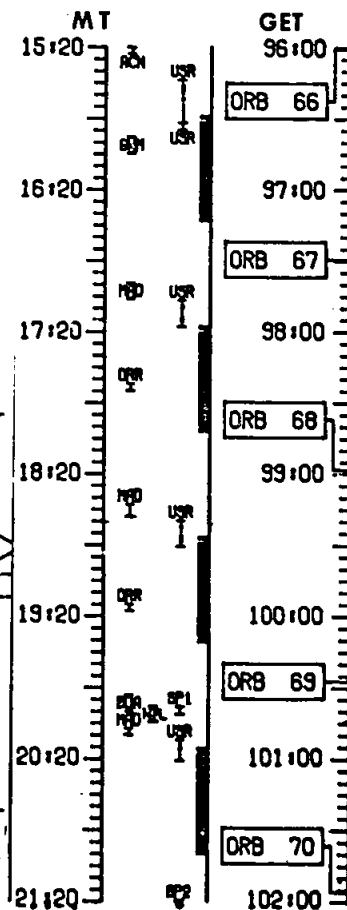
FE & CP TRANSFER TO CM

JOINT ACTIVITIES
(CP, DP, FE)

AS-3

AS-2

AS-2



SOYUZ

DATE	ORB
7/19/75	65-70

JOINT ACTIVITIES
(FE & CP)

EAT

SC & AC TRANSFER TO SOYUZ

CP & FE TRANSFER TO DM

JOINT ACTIVITIES
(SC & AC)

AS-2

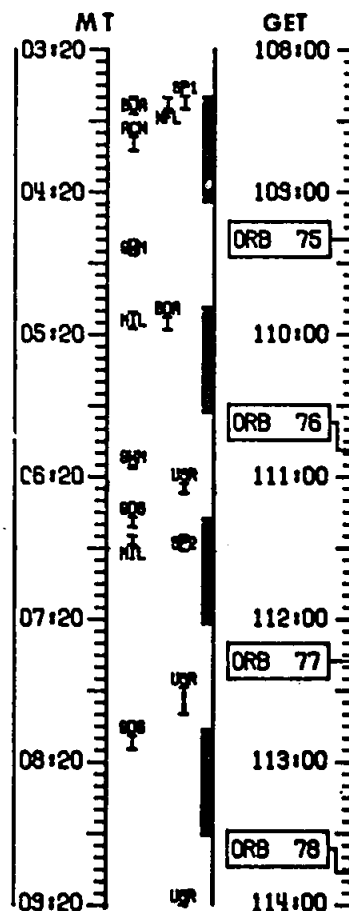
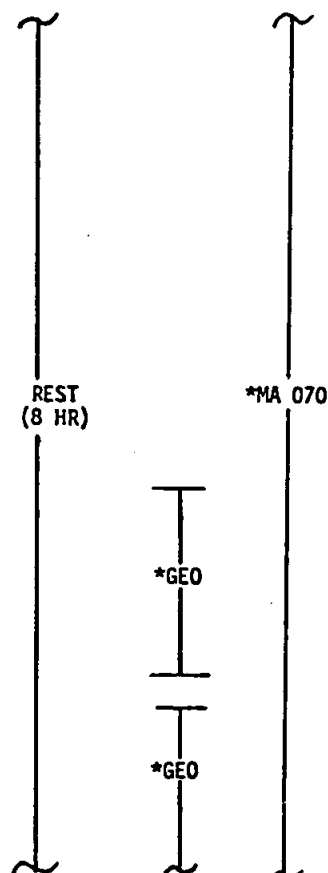
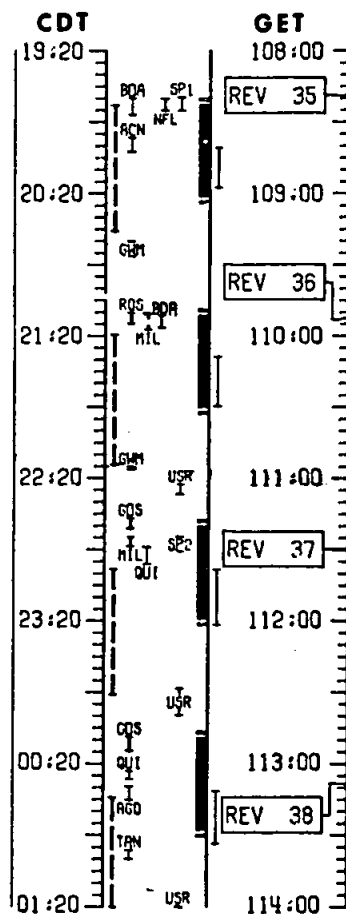
MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5- 5

3RD LAUNCH OPPORTUNITY

SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/19/75	34-38



BIOKAT-M
BIOKAT-E

SOYUZ

DATE	ORB
7/20/75	74-78

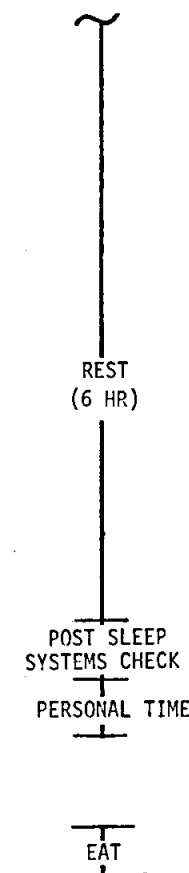


PHOTO AS-1

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-7

3RD LAUNCH OPPORTUNITY

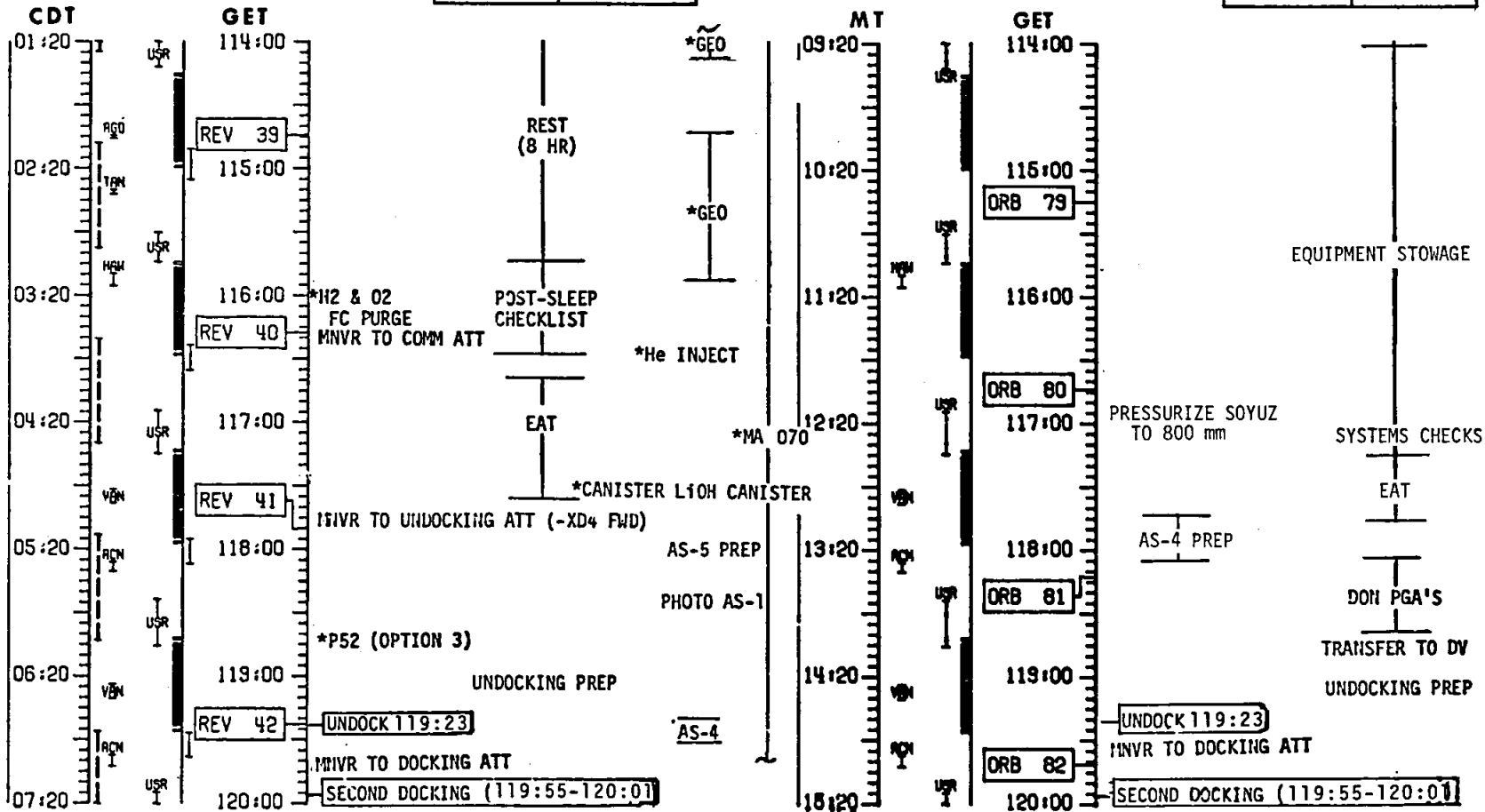
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/20/75	38-42

SOYUZ

DATE	ORB
7/20/75	78-82



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5- 8

3RD LAUNCH OPPORTUNITY

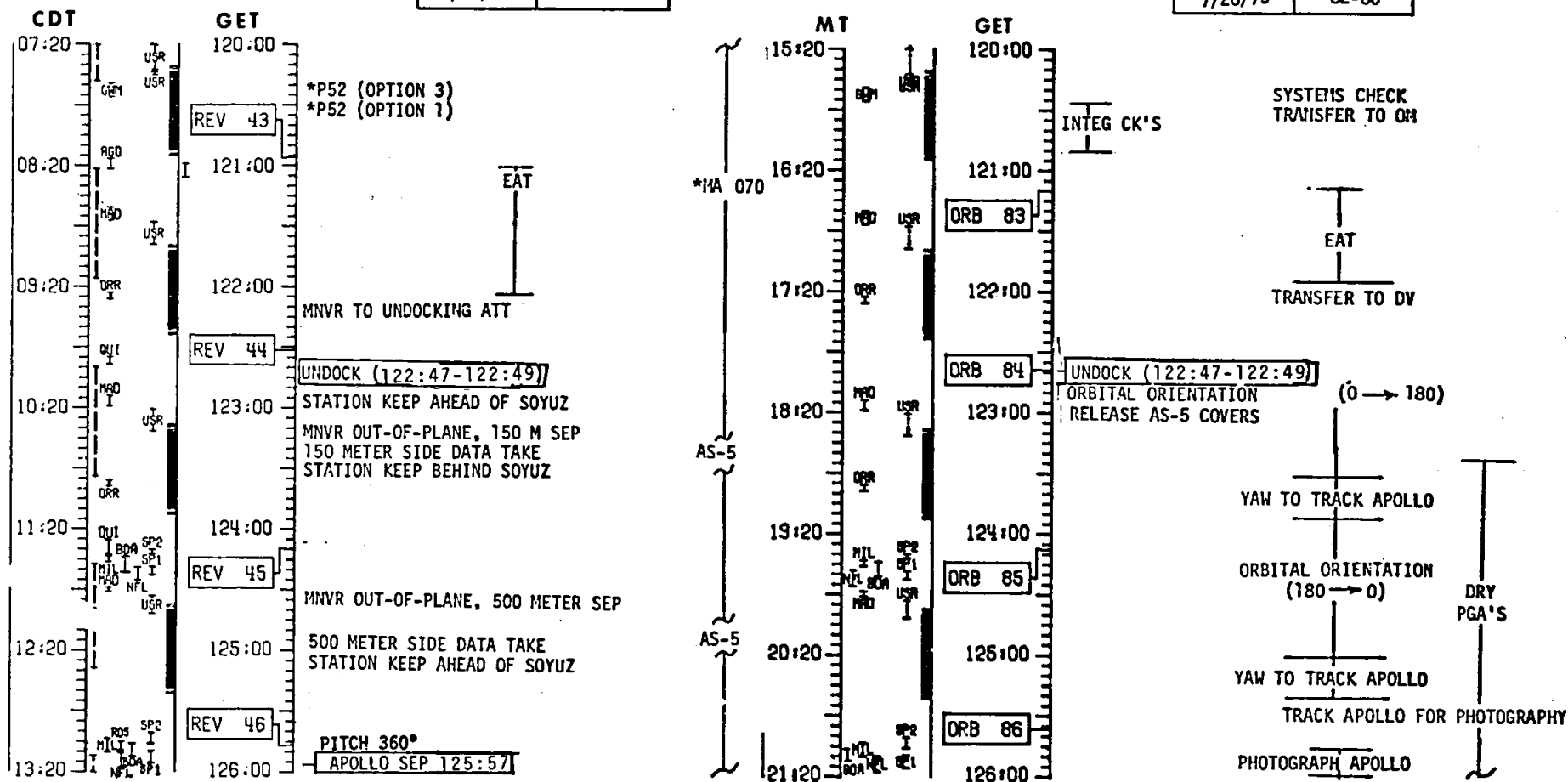
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/20/75	42-46

SOYUZ

DATE	ORB
7/20/75	82-86



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5- 9

3RD LAUNCH OPPORTUNITY

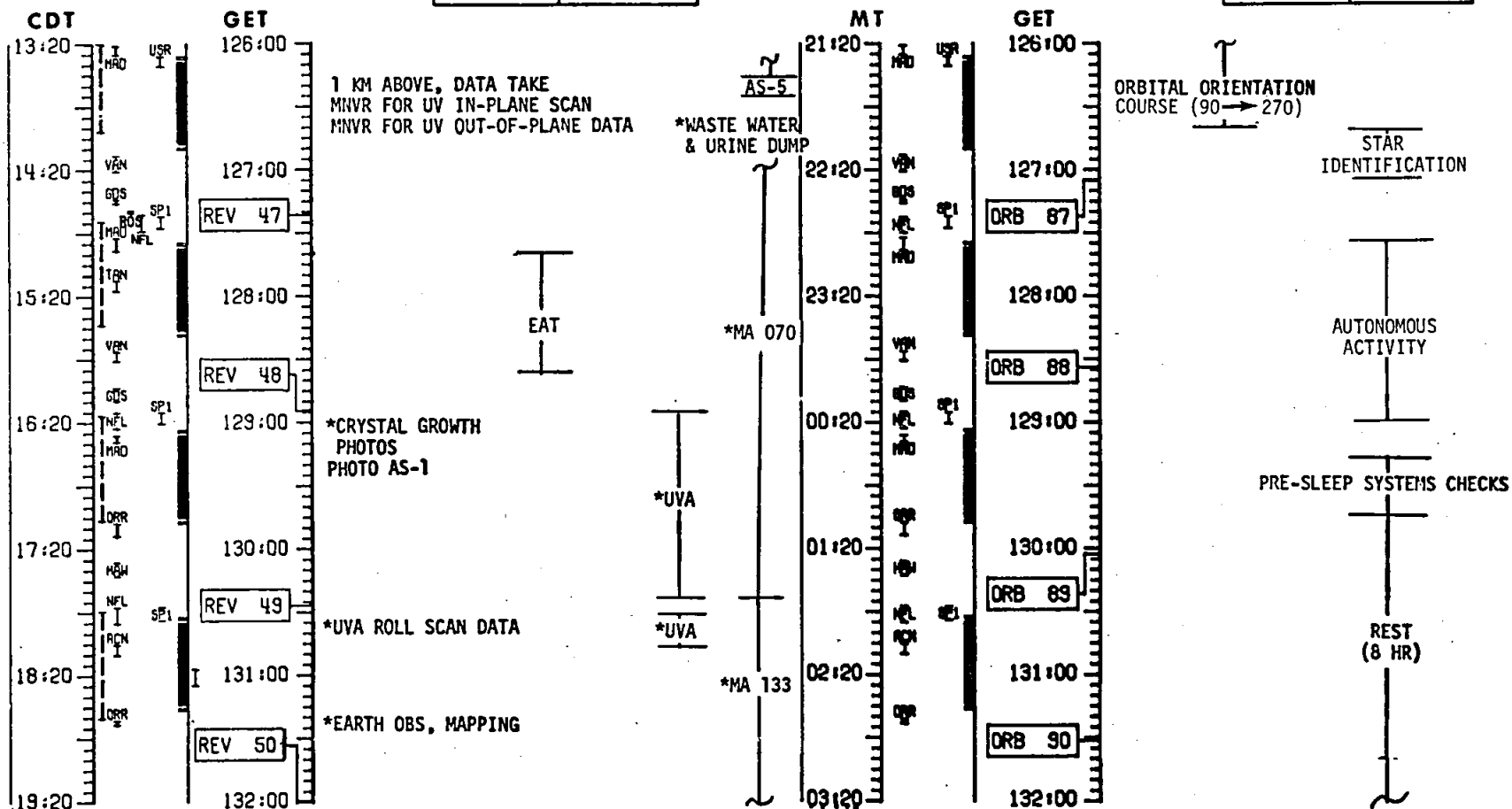
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/20/75	46-50

SOYUZ

DATE	ORB
7/20/75	86-90



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-10

3RD LAUNCH OPPORTUNITY

SECTION 6 CHANGE PROCEDURES
FOR THE THIRD LAUNCH OPPORTUNITY

- 1.0 Delete page 6.10 (the course of action for this case will be determined by the MCC's).
- 2.0 Make the following corrections to contingencies 6.1 through 6.9, and 6.11 through 6.13.
 - Subtract 17 min from the CDT and MT scales in the timelines
 - Add 23 hr 43 min to the Apollo and Soyuz GET scales in the timelines, and to all GET's referenced in the text and timelines
 - Subtract 15 from the Apollo Rev numbers
 - Add 16 to the Soyuz Orbit numbers
- 2.1 Pg 6.7
 - In B-5 and C-1, change "3rd" to "4th".
 - In C-4, change "1st" to "3rd".
- 2.2 Pg 6.7-4
In Apollo and Soyuz columns, in the note at 74:30, change "1ST" to "3RD", and at the bottom of the page change "3RD" to "4TH".
- 2.3 Pg 6.8
In B-1 change "third" to "fourth".
- 2.4 Pg 6.14
 - In B-1 change "97:38" to "121:19", and "99:09" to "122:50".
 - In B-2, change "69th" to "85th".
- 2.5 Pg 6.14-1
 - In the Apollo and Soyuz columns, in the note at 97:00, change "97:38" to "121:19", and "99:09" to "122:50".
 - Correct the remaining GET's and CDT, MT, Apollo Rev numbers, and Soyuz Orbit numbers per Instruction 2.0.

A-3.0 Fourth Launch Opportunity

JOINT MISSION PHASE
(FOURTH OPPORTUNITY)

4.2-1

4th Launch Opportunity

MCC

CDT

GET

CP

AC

DP

05:50
06:00
06:30
07:00
07:20

94:30
(61011)
(01111)

95:00
(11002)
(01111)

95:30
REV 12

96:00

CONFIGURE VTR/DAC
(RNDZ & DOCK)
~~*VTRP RCON MAN SLOSEA~~
~~*CM2/DAC/25 C/KOE-BRK7 MIA~~
~~(18N/120W) 12EPS (A WFN)~~
~~*ATTACH DMB ON~~
*REPOSITION TV (11)
TV PREP 2.18 & 2.19
L10H CANISTER CHANGE
*(6 INTO B, STOW 2 IN A4)

*BMAG POWER #1 - WARMUP
*P32
UNIT OPS CHECKLIST
*ZFF PHOTOS (AS-1, Pg J/10-1)

*V48 (11002) LOAD (CM/DM WT)
(01111)
P52 (OPTION 3)
*RECORD: GYRO TORQUING ANGLES
*POO, CMC MODE - AUTO
GDC ALIGN
*OPTICS ZERO-ZERO

O2 FUEL CELL PURGE
WASTE WATER DUMP TO 60%, Pg S/1-25

*REPORT: GYRO TORQUING ANGLES

V49 MNVR TO NC2 ATT (95:43)

*BMAG POWER #1 - ON
*P32: BYPASS AUTO MNVR

*P32 - NC2 TARGETING - FINAL COMPUTATION
*GO TO SPS BURN RNDZ CUE CARD (BANK A)
*P40 - SPS THRUSTING

DM CLOSEOUT
DP TRANSFER TO DM
*cb CAUT/WARN DMB - OPEN (PNL 815)

TERMINATE CM-DM ATMOSPHERE
MIXING
UNSTOW & INSTALL HATCH 1
(TURNEL 1 DECAL)
*HATCH 1 PRESSURE EQUALIZATION
VALVE - CLOSE (CW)/LOCK(VERIFY)

*BIOSTACK - OFF (MA 107) (R1)
*RECORD GET & INDICATOR STATUS

P52 IMU REALIGN

N71: _____
N05: _____
N93: _____
X ☐ _____
Y ☐ _____
Z ☐ _____
GET _____

*ACQ ATS HGA: MAN, WIDE
P -33, Y 142
*S-BD ANT IND >1/3 SCALE
HGA: REACQ, NARROW

* BT: 4.9 SEC
ΔVT: 104 FPS (31.7 MPS)
ORBIT: 124 x 99 NM (229 x 183 KM)

INAL PAD
REL PAD
REL PAD
ORB RATE
Y ESTABLISHED

ECORD/LBR

STOP

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	64-65

MCC

MT

GET

SC

FE

13:50
14:00
14:10
14:20
14:30
14:40
14:50
15:00
15:10
15:20

94:30
94:40
94:50
95:00
95:10
95:20
95:30
95:40
95:50
96:00

INITIATE ORBITAL RATE ORIENTATION
YAW SPACECRAFT TO
COURSE 180 → 0°

MO - ON
PREPARE SYSTEMS FOR AUTO ORBITAL
ORIENTATION (180 → 0°)
ORBITAL RATE ORIENT - ON

ATTENTION:
DURING TV-TRANSMISSION MAKE
PERIODICAL (EVERY MINUTE)
BREAKS FOR 10 SEC TO ENABLE
APOLLO TO CALL SOYUZ

INFORM MCC: ORBITAL RATE ORIENT ESTABLISHED

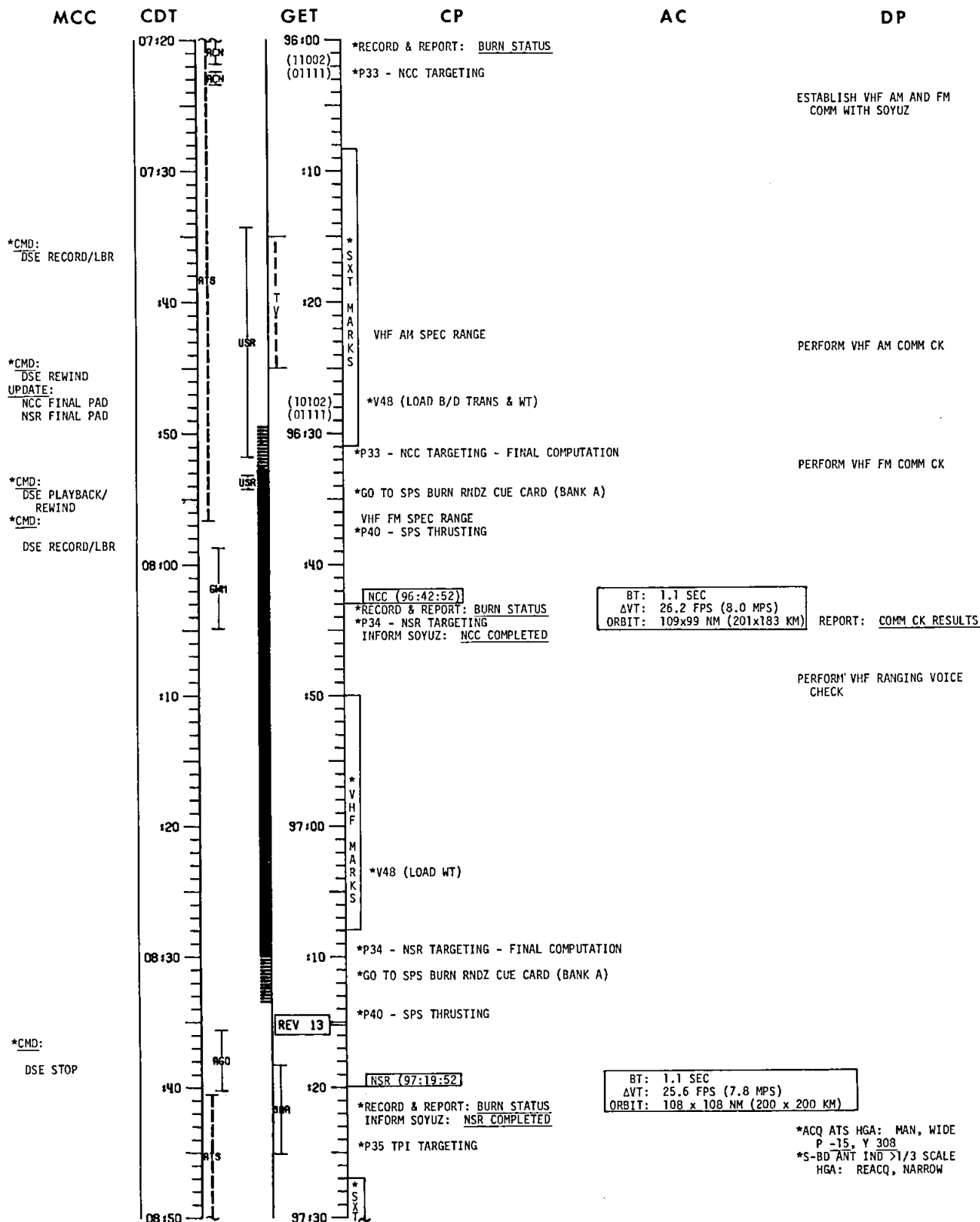
CONFIGURE OM TAPE RECORDER
FOR VOX MODE

MONITOR ORBITAL ORIENTATION
(YAW DEVIATION LESS THAN 5°)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4,2-3

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	12-13



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-4

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	65-67

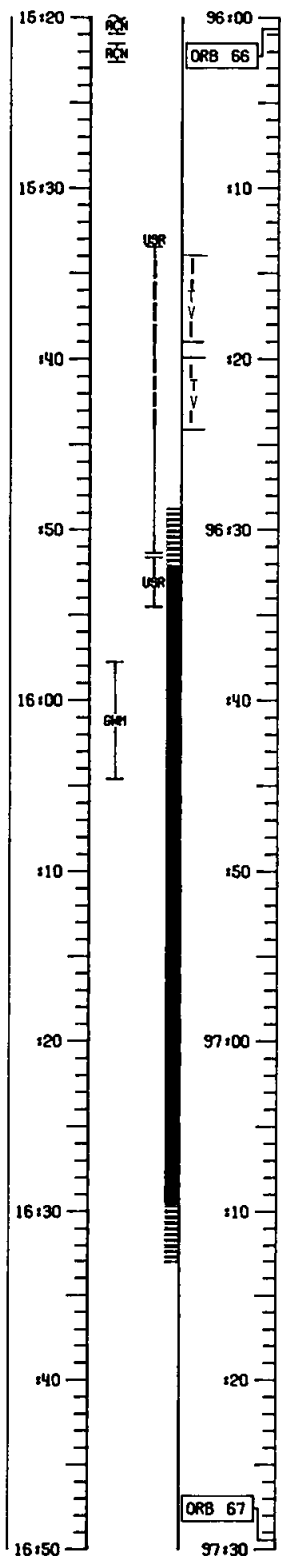
MCC

MT

GET

SC

FE



ONBOARD INSTRUCTIONS, BOOK 3, Pg. 6.2-77
SOYUZ/APOLLO VHF COMM ESTABLISHMENT & CHECK

INFORM MCC: COMM WITH APOLLO
ESTABLISHED (NOT ESTABLISHED)
TV-5 SCHEDULED ACTIVITIES WITH
MCC'S EXPLANATION (TK-2)

VHF AM SPEC RANGE
PERFORM VHF AM COMM CK

BEACON - ON

PERFORM VHF FM COMM CK

VHF FM SPEC RANGE

PERFORM VHF RANGING VOICE CHECK

TRANSFER TO OM
REMOVE CAMERA FROM HATCH 4 BRKT
PREPARE K-3A FOR P/M-6
(ONBOARD INSTRUCTIONS, BOOK 3,
Pg. 6.2-55)

BEACON - OFF

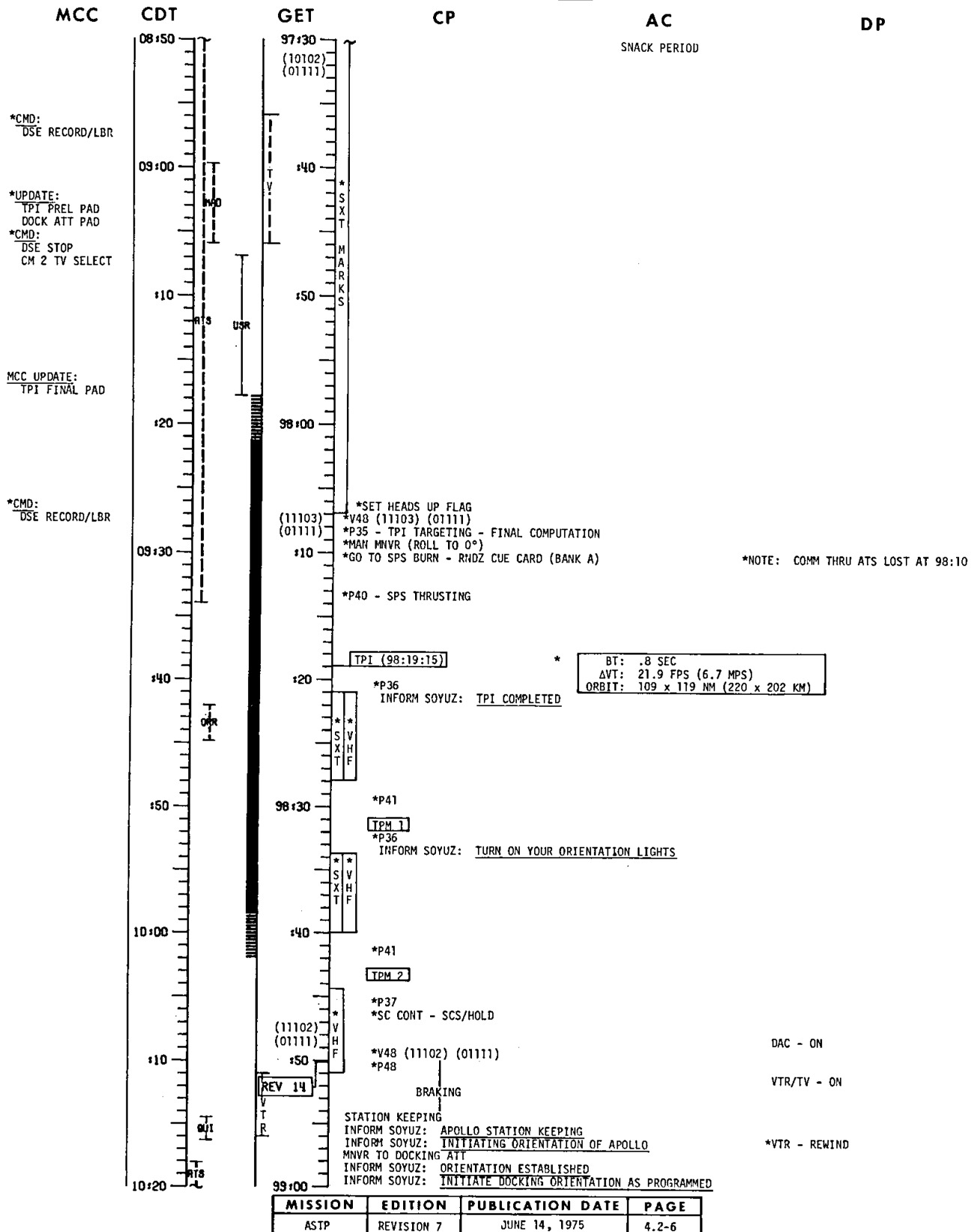
TRANSFER TO DV

MONITOR ORBITAL ORIENTATION
(YAW DEVIATION LESS THAN 5°)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-5

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	13-14



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	67-68

MCC

MT

GET

SC

FE

16:50
17:00
17:10
17:30
17:40
18:00
18:10
18:20

97:30
140
150
98:00
110
120
98:30
140
150
99:00

AGE

UPDATE:
TIME TO INITIATE
INERTIAL ORIENT.

PERMISSION
FOR DOCKING

DOCKING TIME

CHANNEL SEPARATION - ON

TV-5,1 SCHEDULED ACTIVITIES WITH MCC COMMENTS (TK-2)

DON PGA

BEACON - ON
INFORM APOLLO: OUR BEACONS ON

TRANSFER TO OM

OM PRV - ELECTRIC CONTROL

DON PGA

RELOAD OM TAPE RECORDER (NO. 8; NO. 7 → CONT 1 IN DV)
TRANSFER TO DV

ORIENTATION LIGHTS - ON
INFORM APOLLO: ORIENTATION LIGHTS ON

BEACON - OFF

PREPARE APDS FOR OPERATION
APDS POWER - ON
VERIFY: PASSIVE APDS READINESS
HATCH 4 - CLOSED

PREPARE INERTIAL ORIENTATION SYSTEM
FOR OPERATION

CONFIGURE FOR PROGRAMMED ROTATION

MONITOR DV & OM PRESSURE

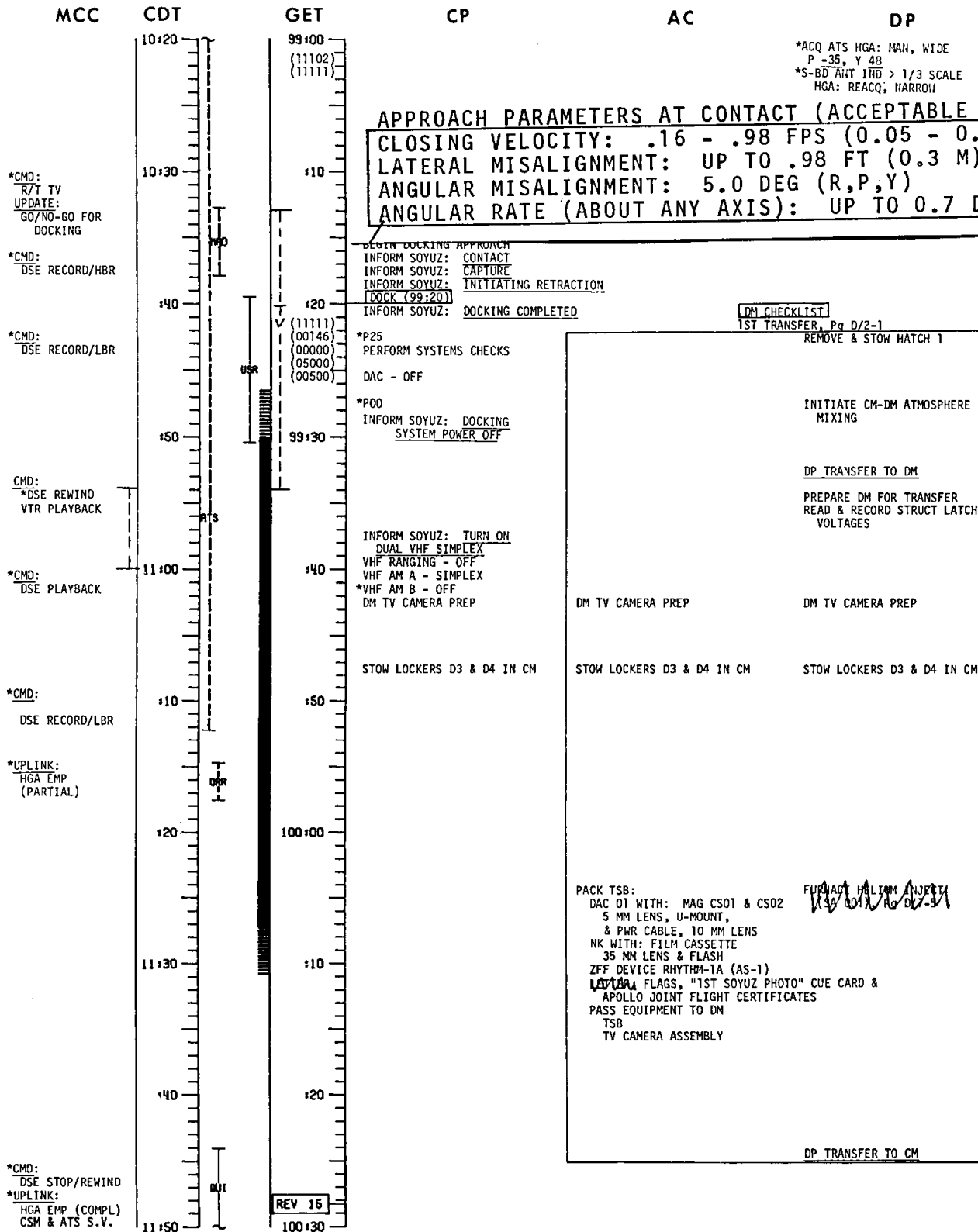
MONITOR ORBITAL ORIENTATION
(YAW DEVIATION LESS THAN 5°)

ORB 68

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-7

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	14-15

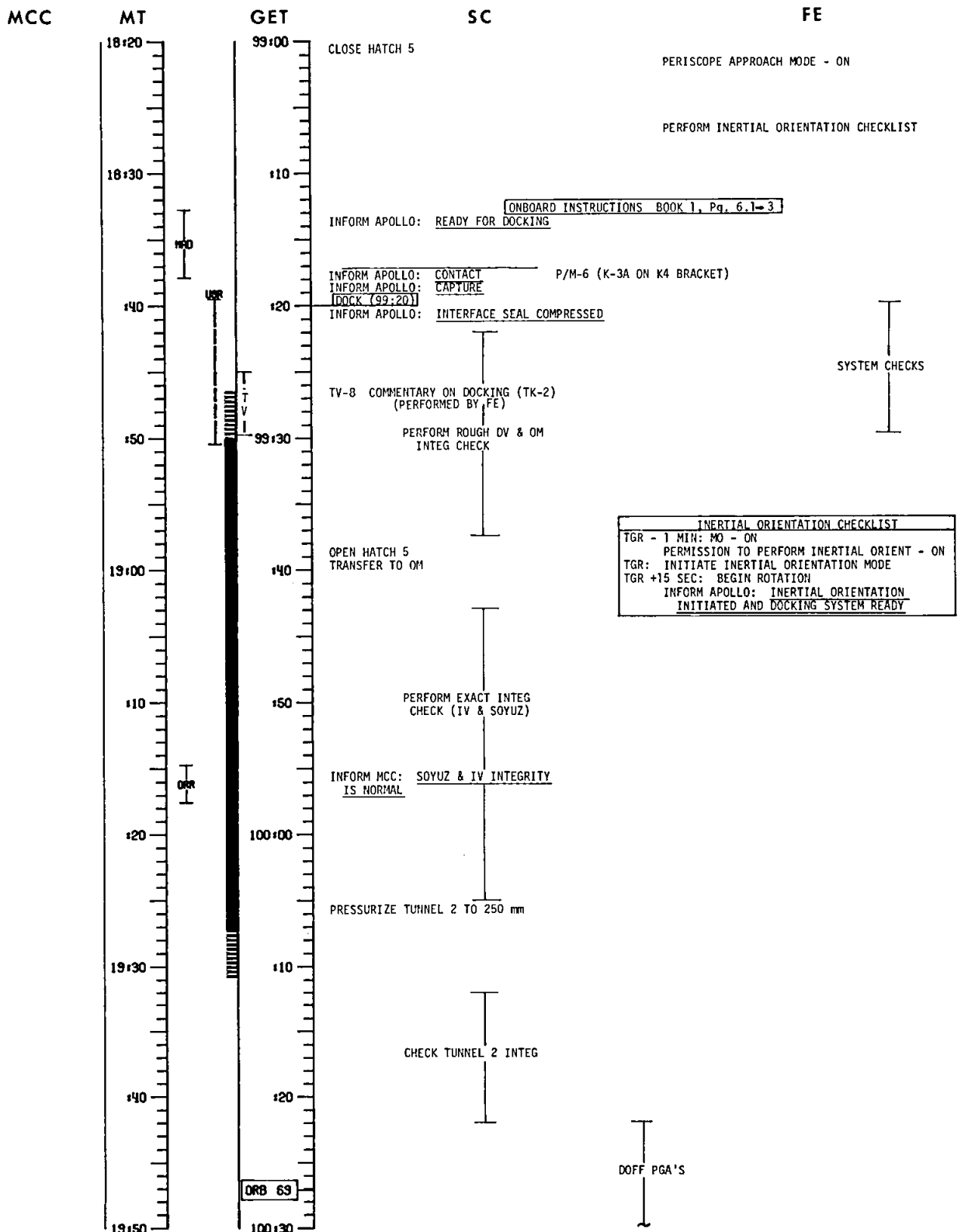


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	SEP 14, 1973	4.2-8

4TH LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

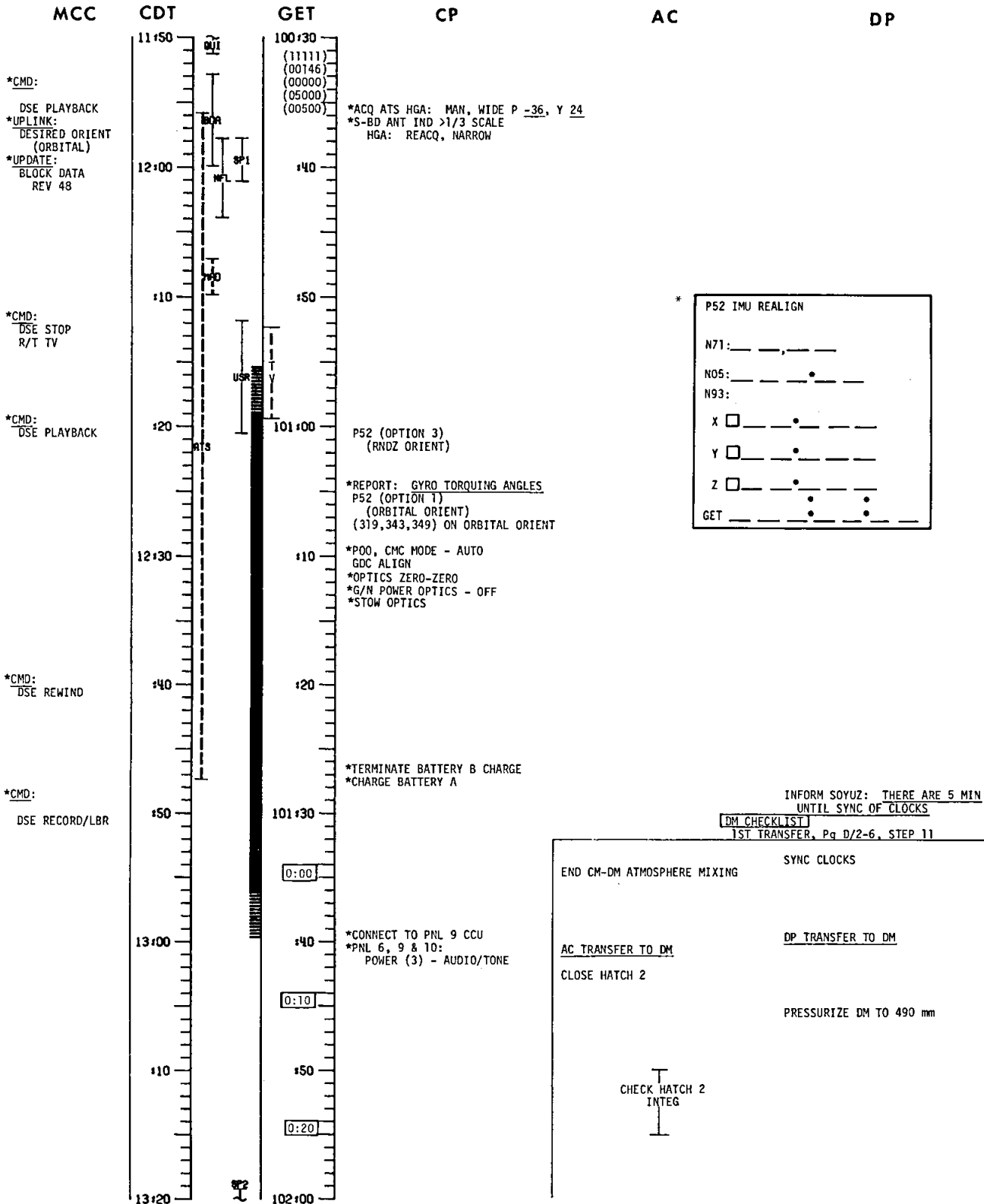
MOSCOW DATE	ORB
JULY 19, 1975	67-68



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-9

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	15



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	69-70

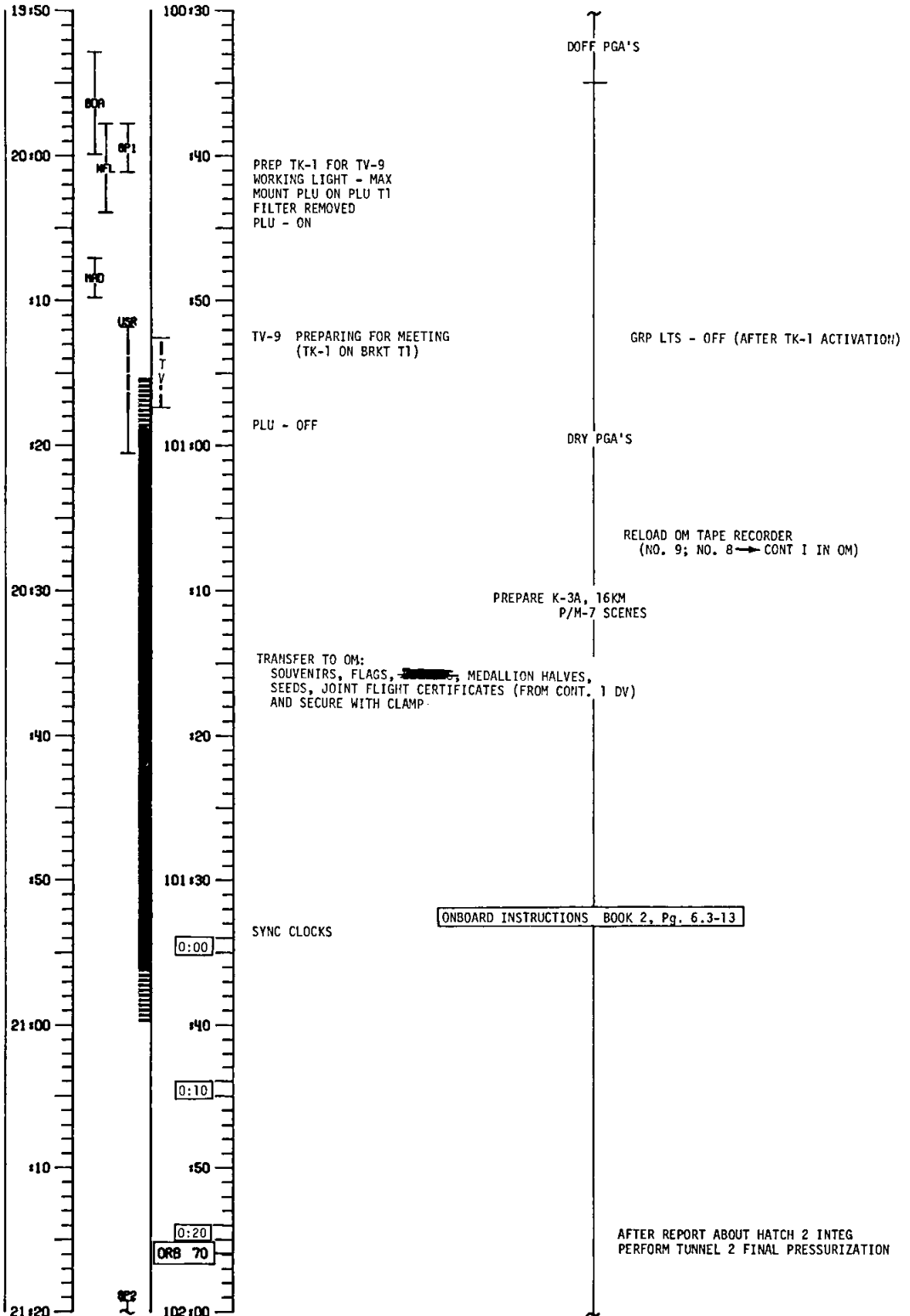
MCC

MT

GET

SC

FE

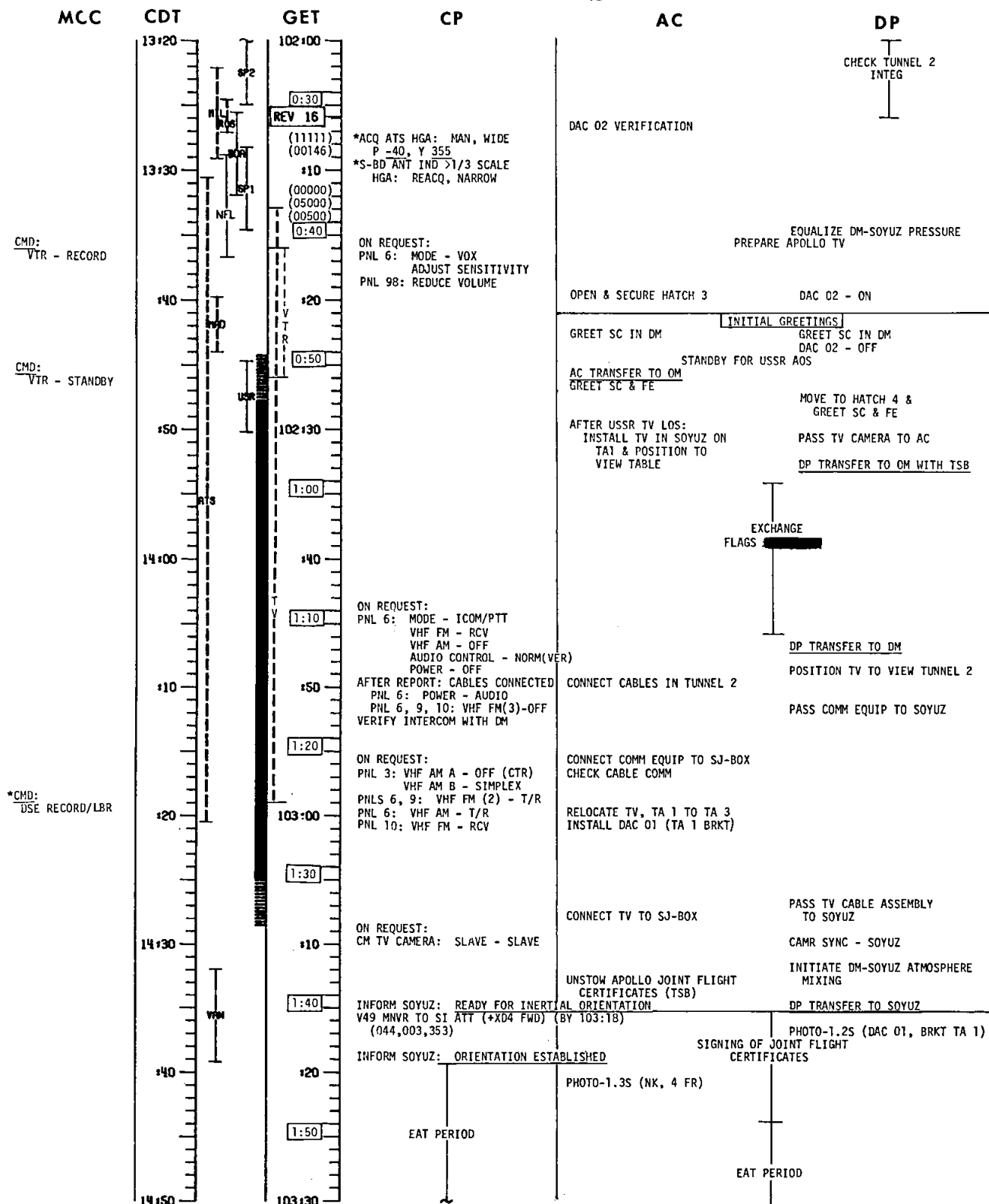


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-11

4TH LAUNCH OPPORTUNITY 7-3-75

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	15-16



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	70-71

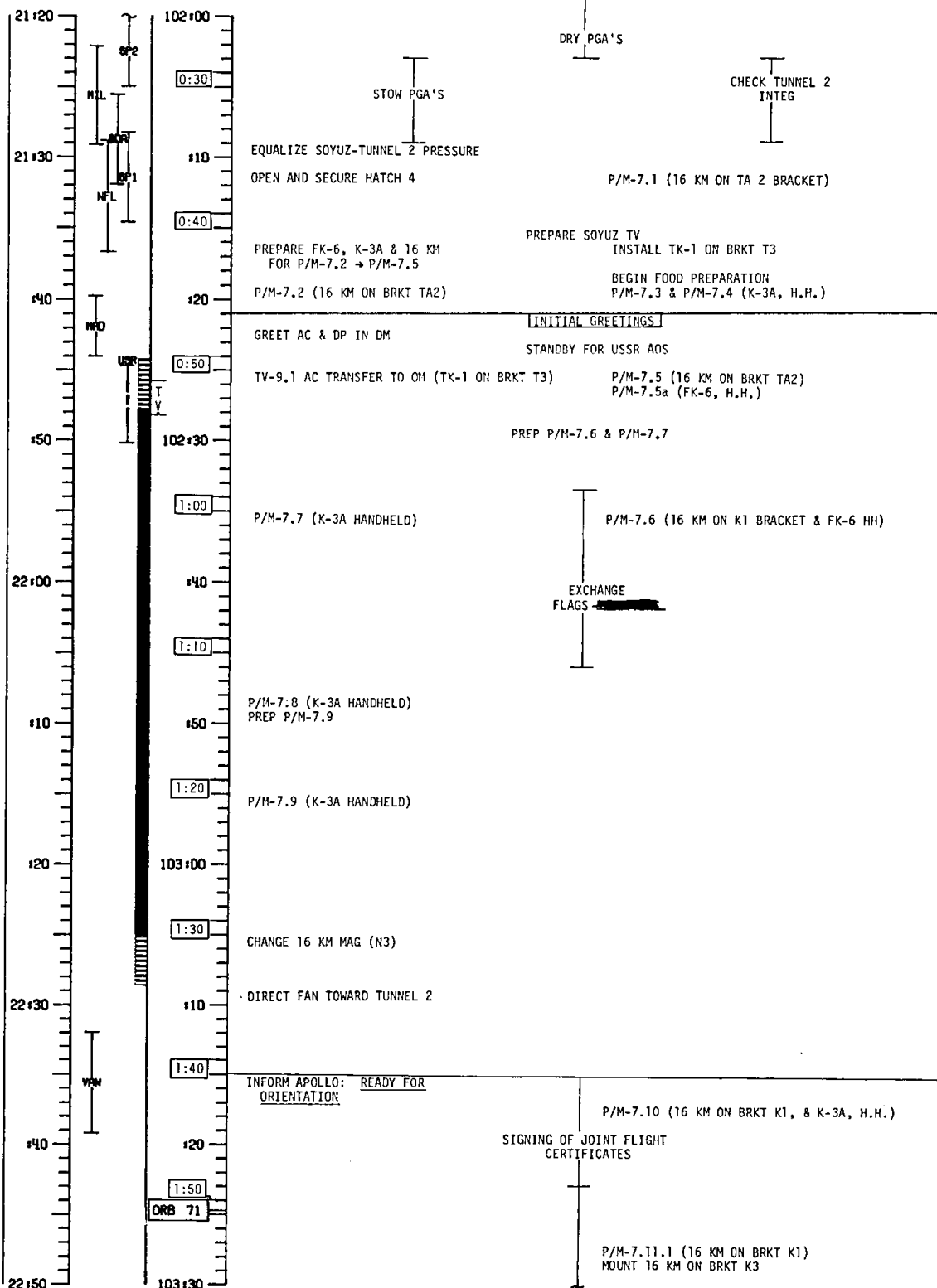
MCC

MT

GET

SC

FE

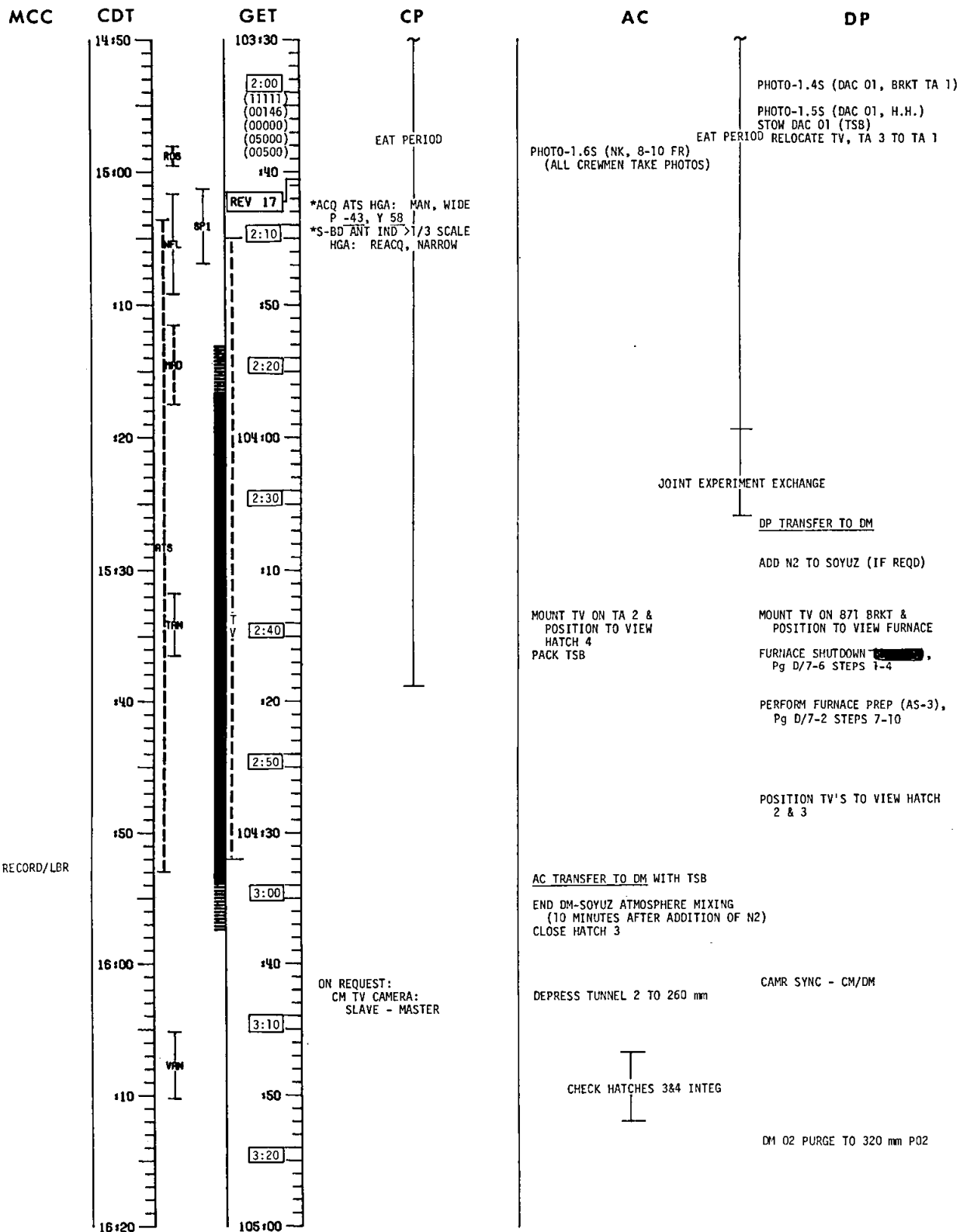


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	07-13-75	4.2-13

4TH LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	16-17



*CMD:

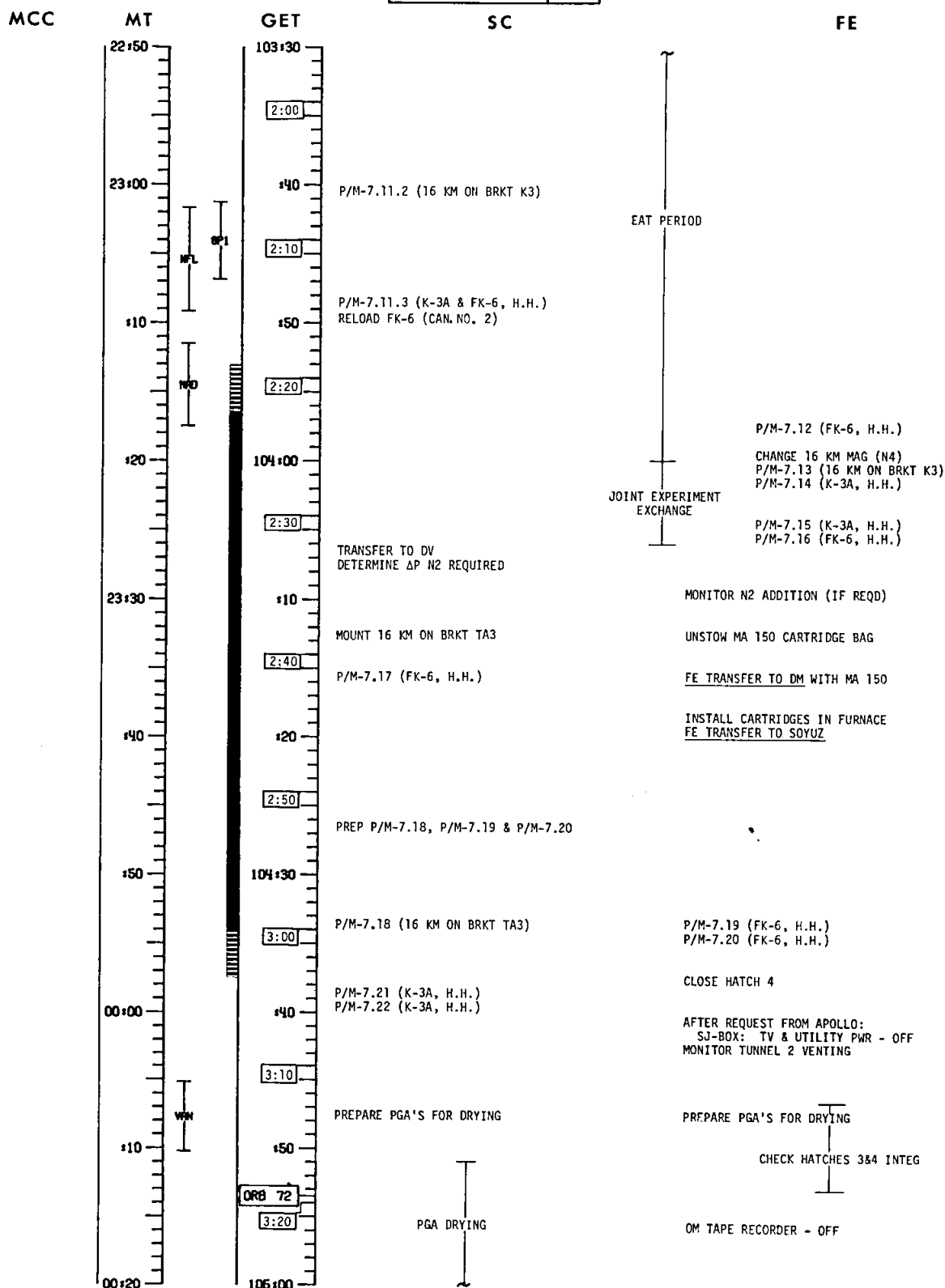
DSE RECORD/LBR

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 3	JUL 14 1975	4.2-14

4TH LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 19, 1975	71-72

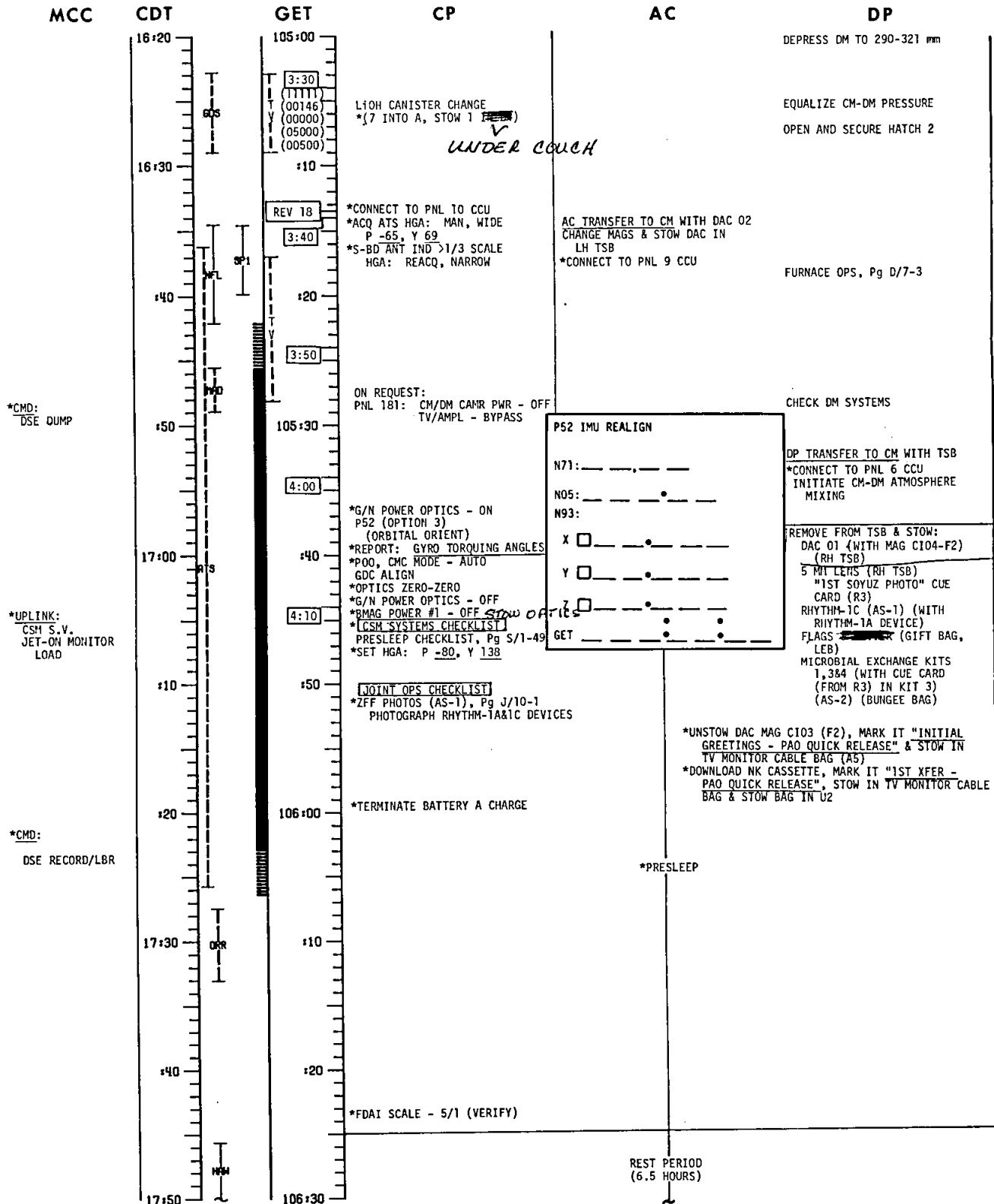


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-15

4TH LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	17-18



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-16

4TH LAUNCH OPPORTUNITY

7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MCC

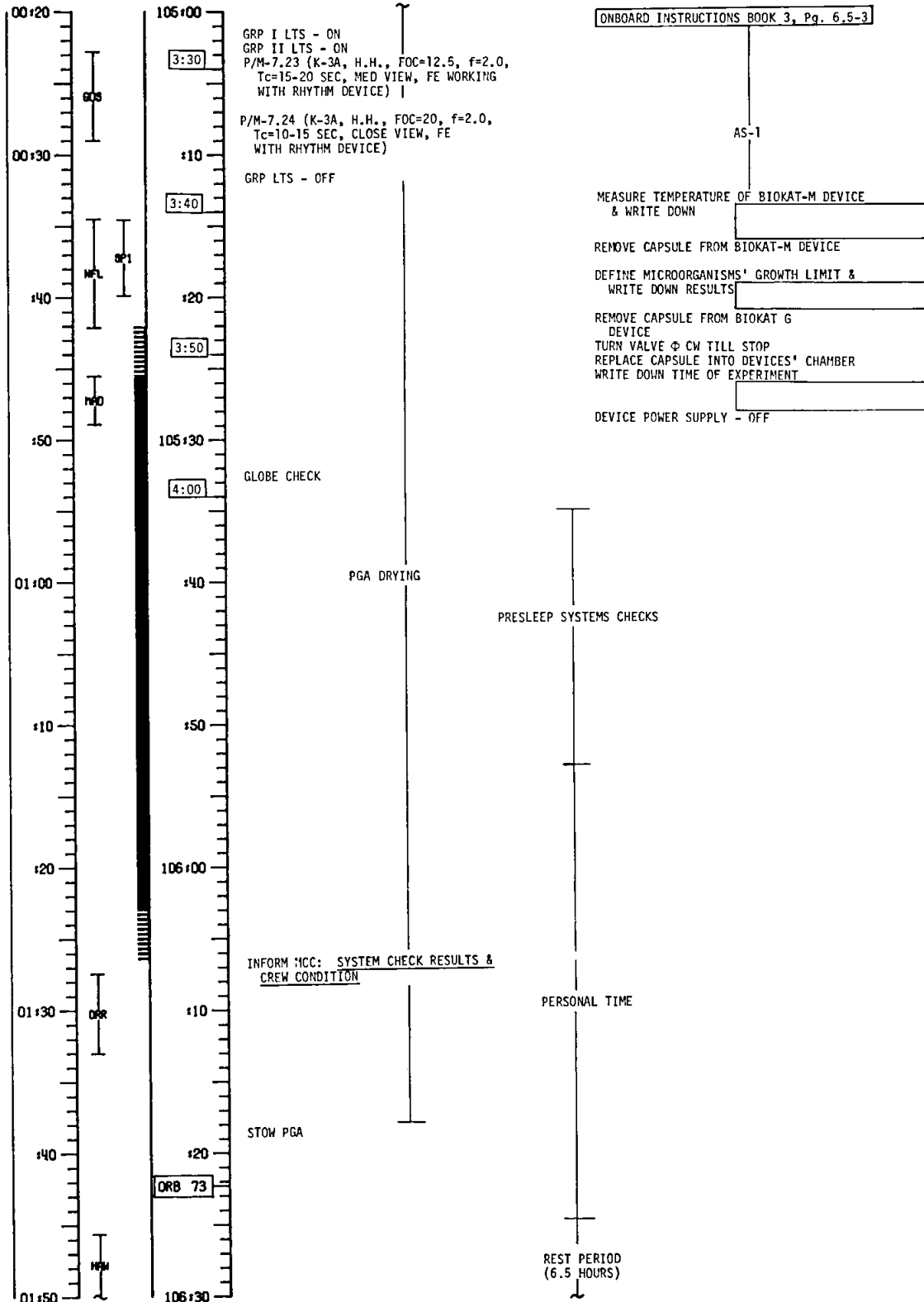
MT

GET

SC

FE

MOSCOW DATE	ORB
JULY 20, 1975	72-73



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-17

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 19, 1975	18-23

MCC

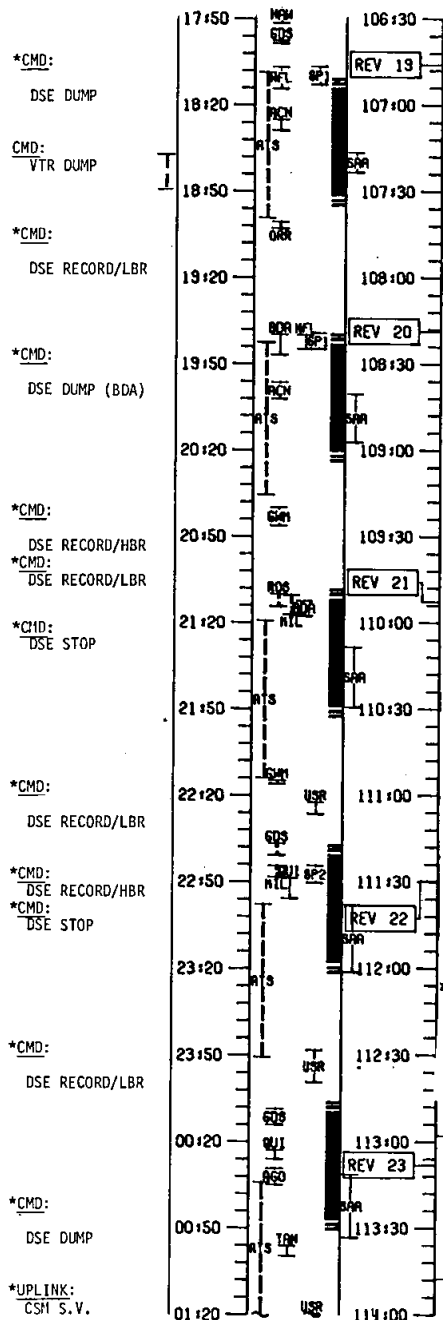
CDT

GET

CP

AC

DP



REST PERIOD
(6.5 HOURS)

*GEO

*GEO

*UNSTOW TODAY'S FILM MAGS & STOW IN F2
 DAC: CI06, CI09, CI25, CI26, CI27 (F2-VER); CI04 (ON DAC 01)
 HRC: CX10 (A6)
 NK: 1 MAG (B2 OR B5), 1 MAG (CAMR)

*CSM SYSTEMS CHECKLIST
 POST SLEEP CHECKLIST, Pg 5/1-49

*TERMINATE JET ON MONITOR & ENABLE HGA EMP
 V37E00E, V25H26 (10001) (01412) (56105)
 *SET HGA P 8, Y 231

PACK TSB:
 *NK, 35 MM LENS, & FLASH (TSB) (VERIFY FULL CASSETTE)
 1-PLAQUE HALF (GIFT BAG, LEB)
 "2ND/3RD SOYUZ PHOTO" &
 "SOYUZ TV" CUE CARDS (DATA CARD KIT-R3)

EAT PERIOD

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 3	JULY 19, 1975	4.2-17A

4TH LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	73-78

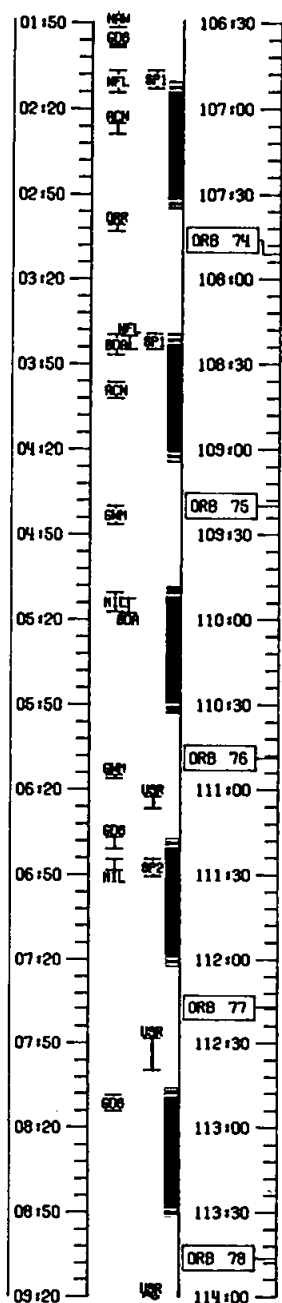
MCC

MT

GET

SC

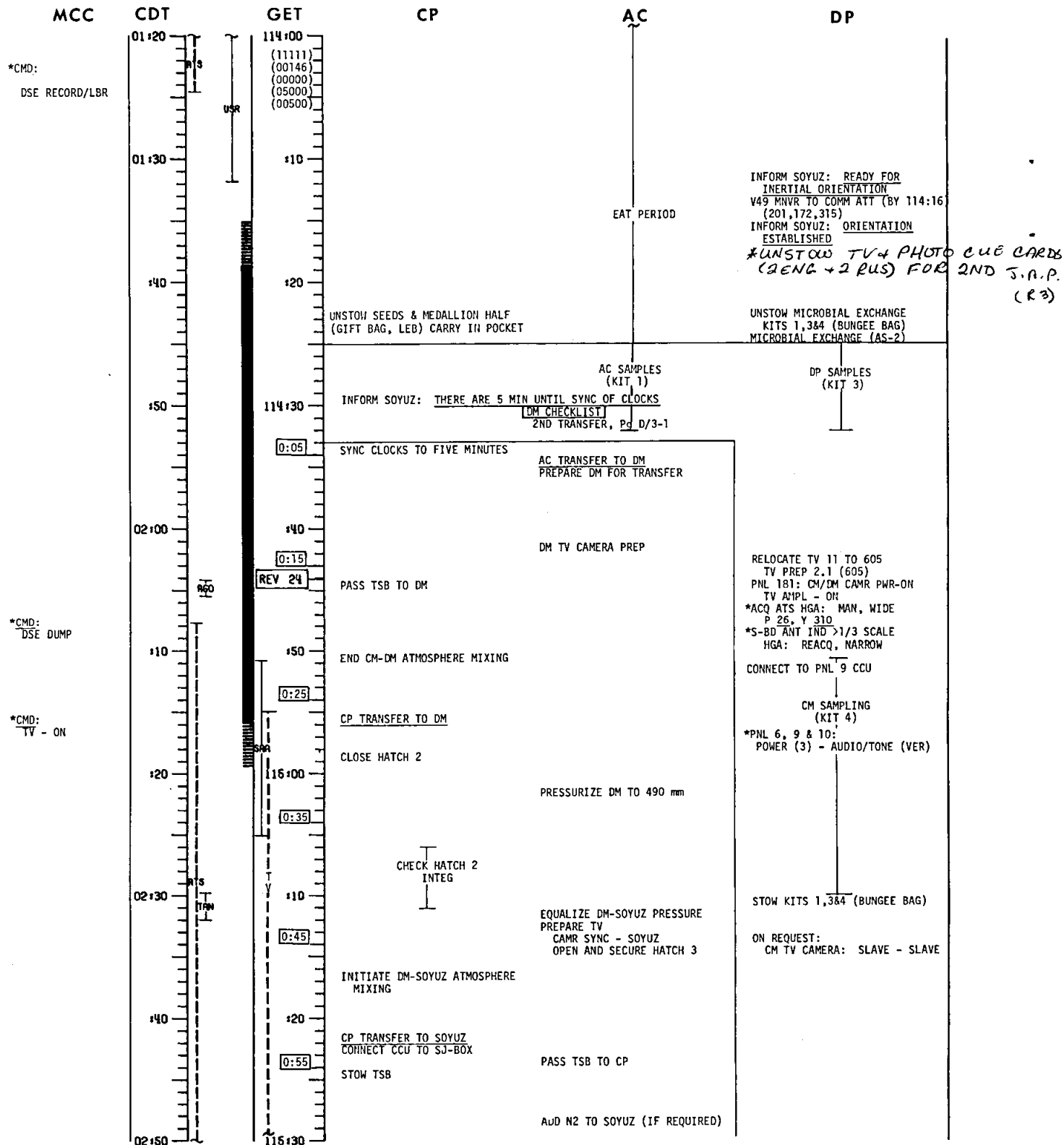
FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-17B

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	23-24

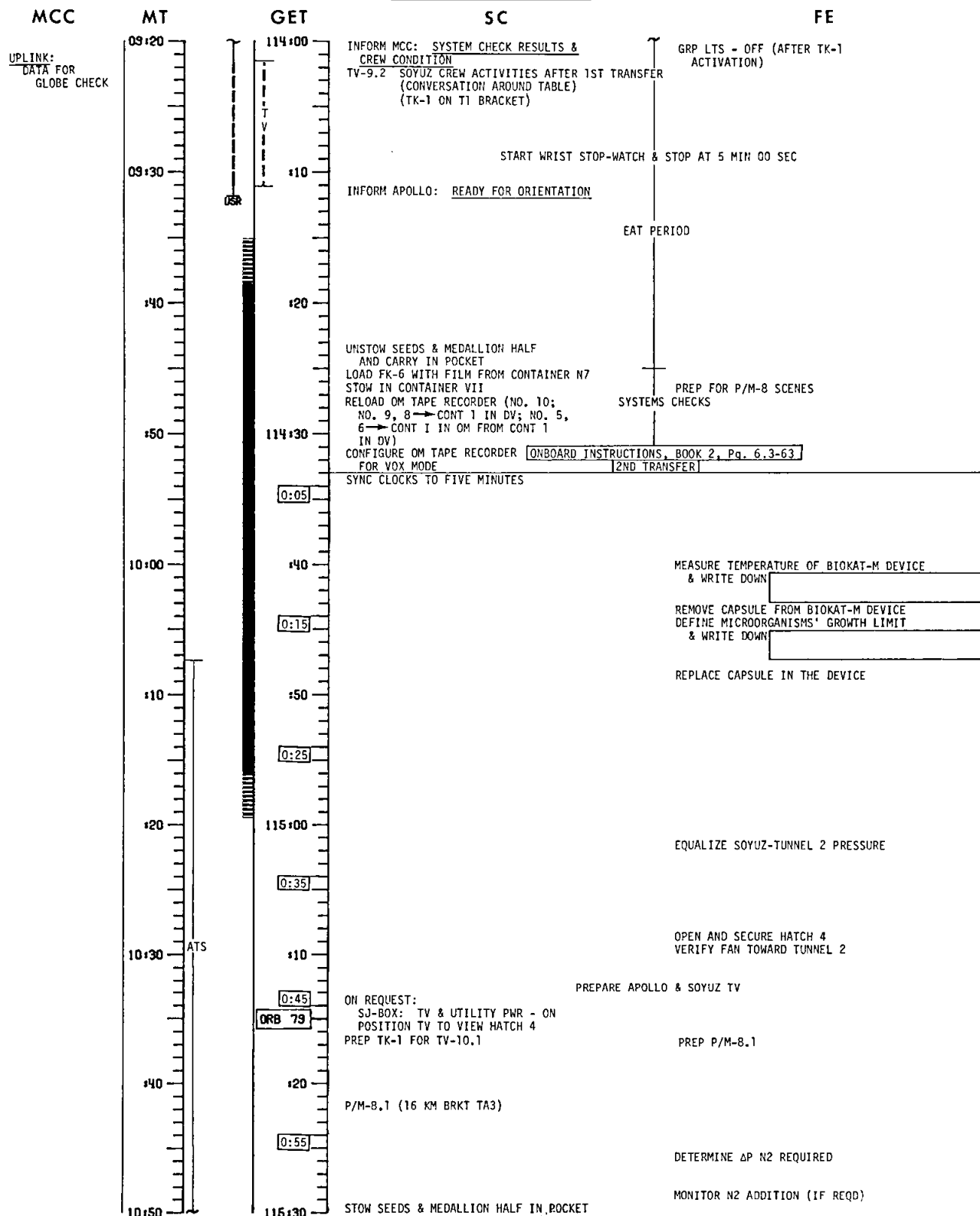


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	UNCLASSIFIED	4.2-18

4TH LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

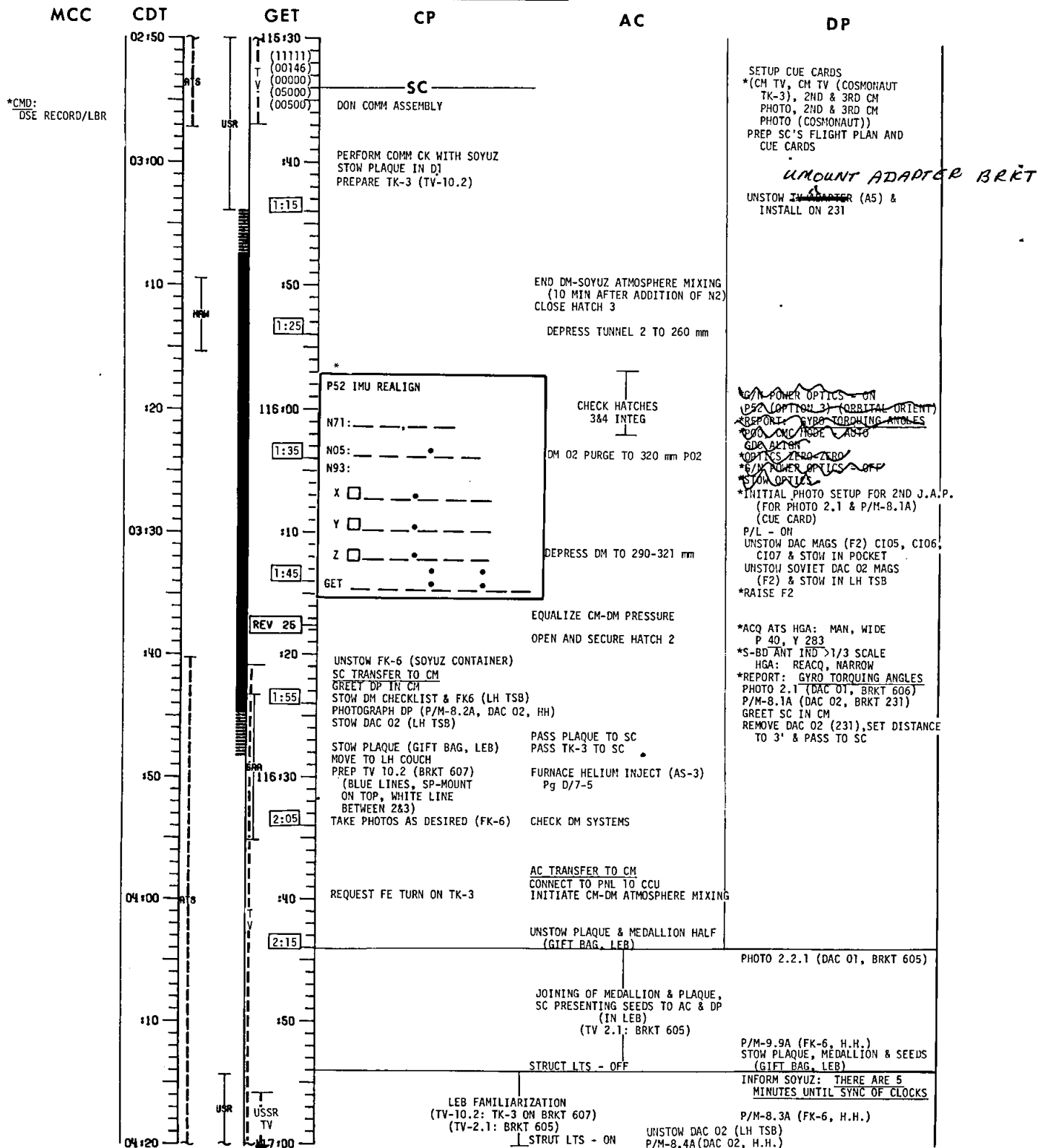
MOSCOW DATE	ORB
JULY 20, 1975	78-79



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-19

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	24-25



SOYUZ DETAILED CREW ACTIVITIES PLAN

MCC

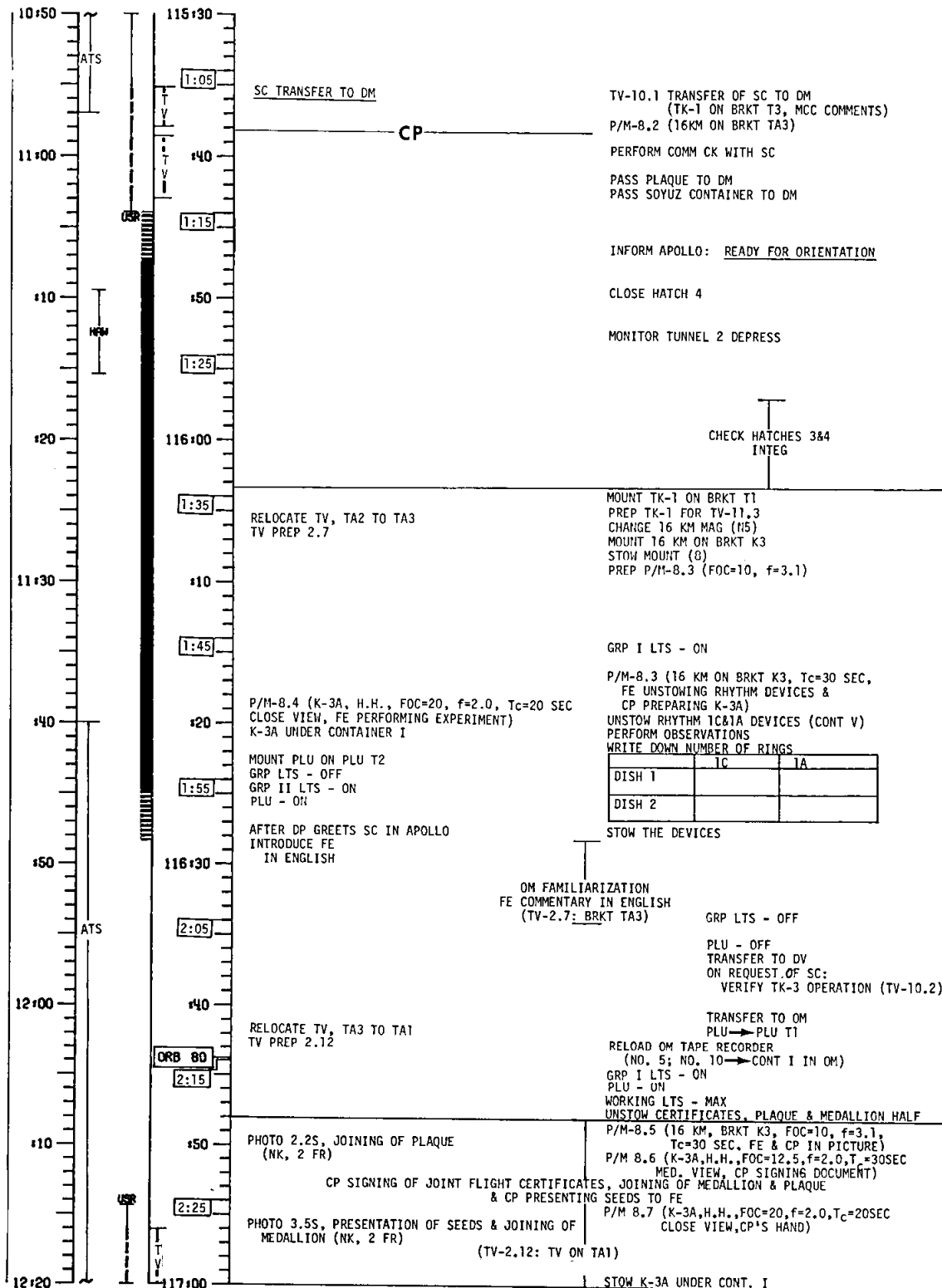
MT

GET

SC

FE

MOSCOW DATE	ORB
JULY 20, 1975	79-80

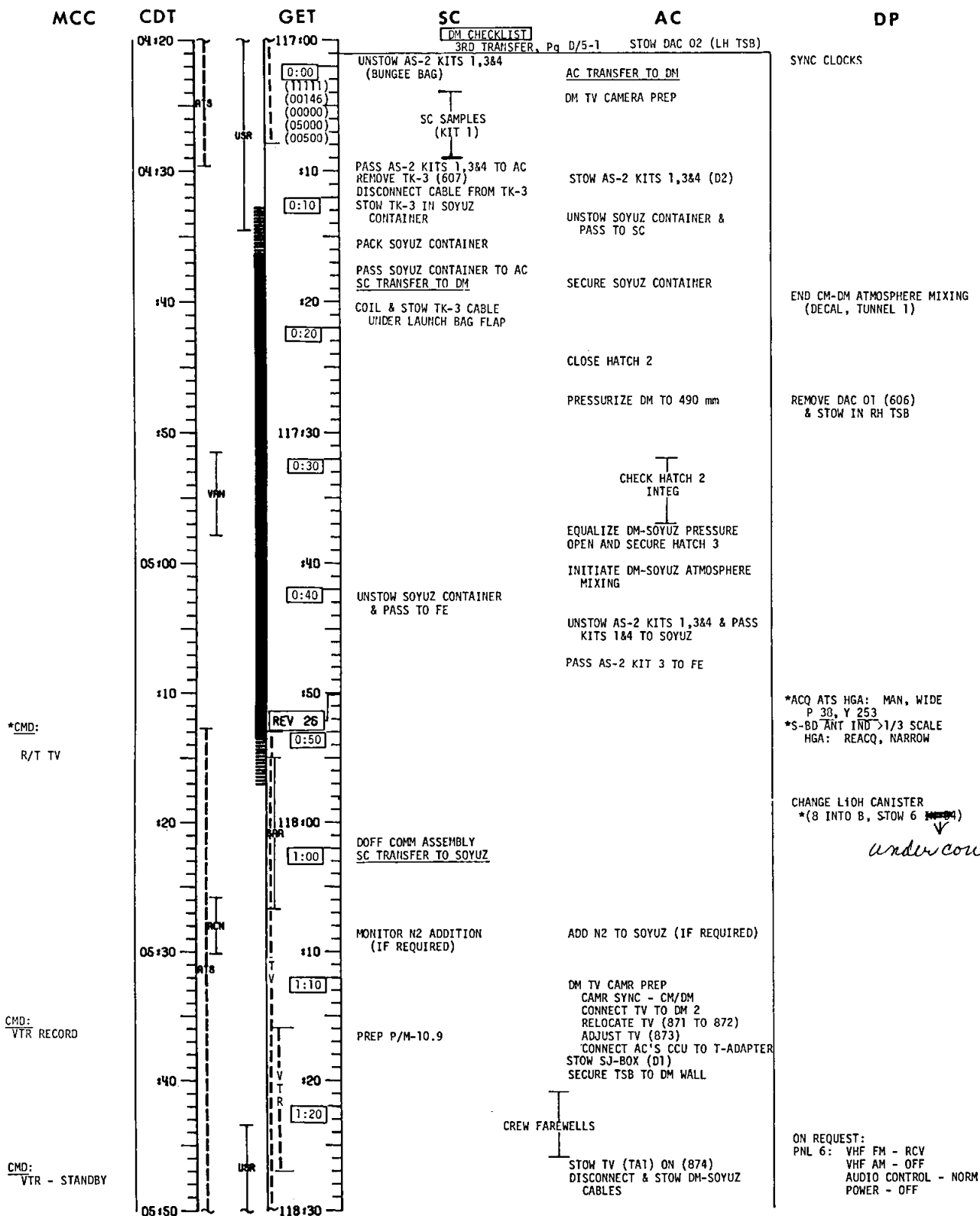


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-21

4TH LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	25-26



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 3	JUNE 14, 1975	4.2-22

4TH LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	80-81

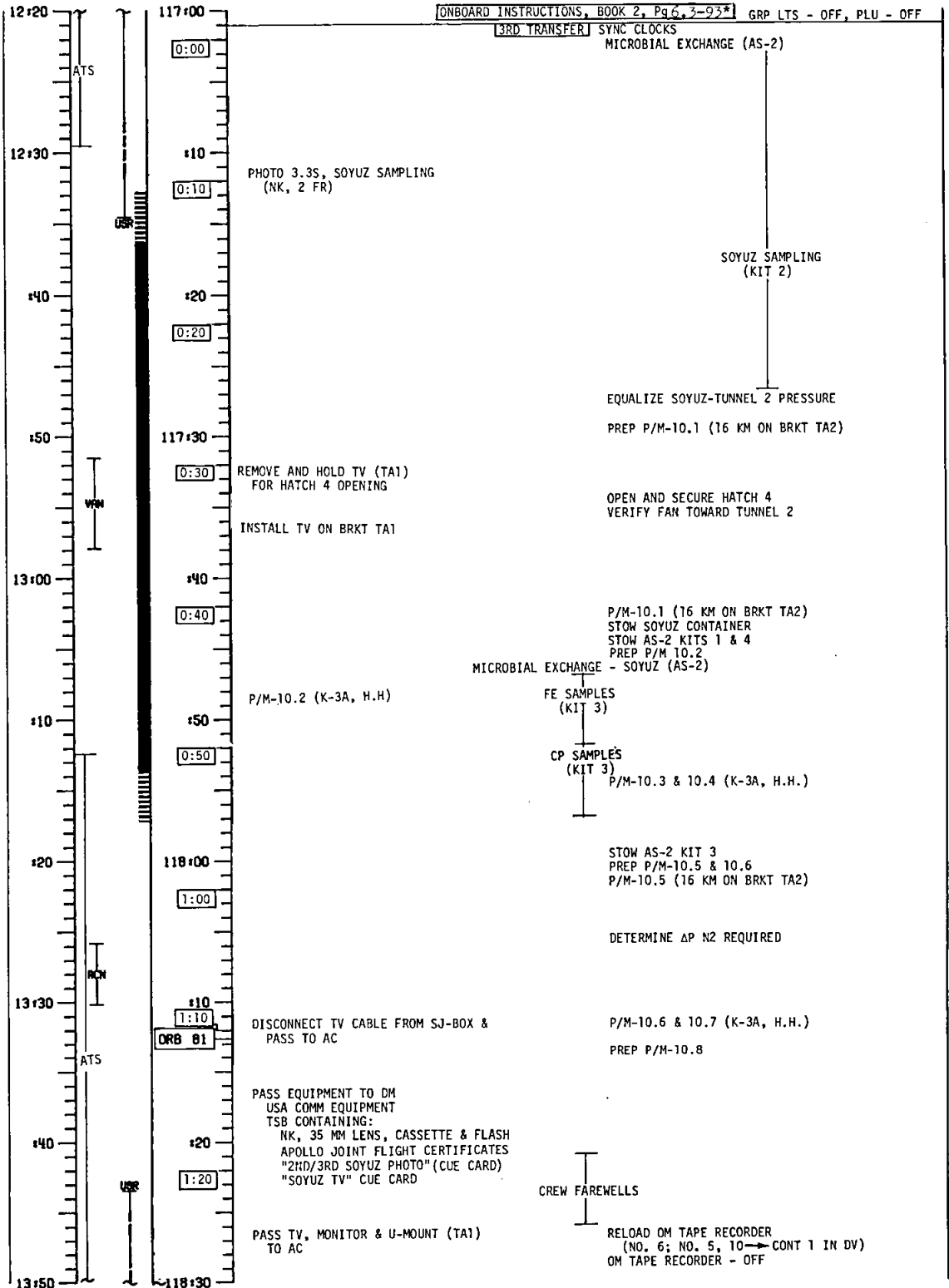
MCC

MT

GET

CP

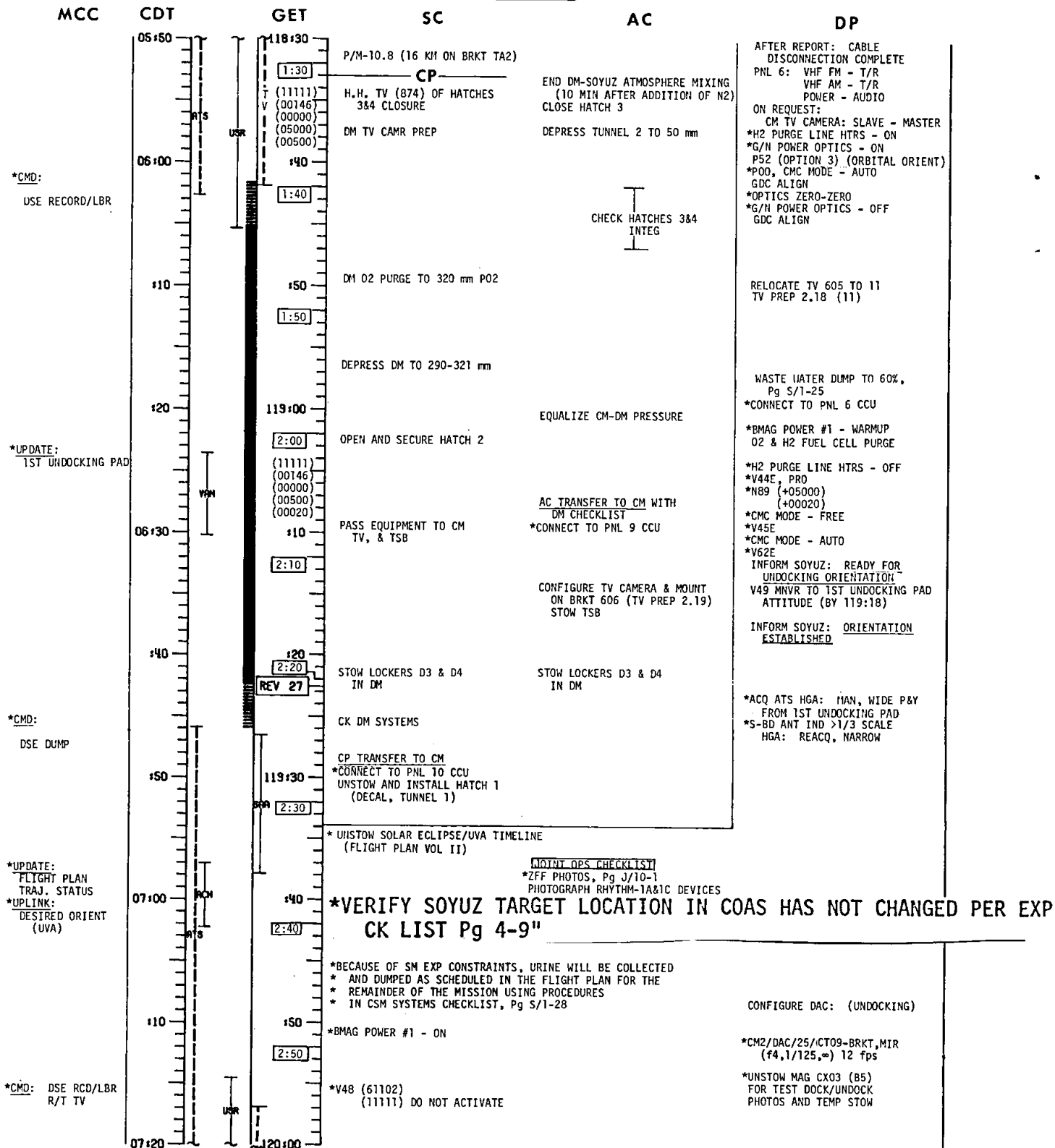
FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-23

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	26-27



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 9	JUNE 14, 1975	4.2-24

4TH LAUNCH OPPORTUNITY 7-8-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	81-82

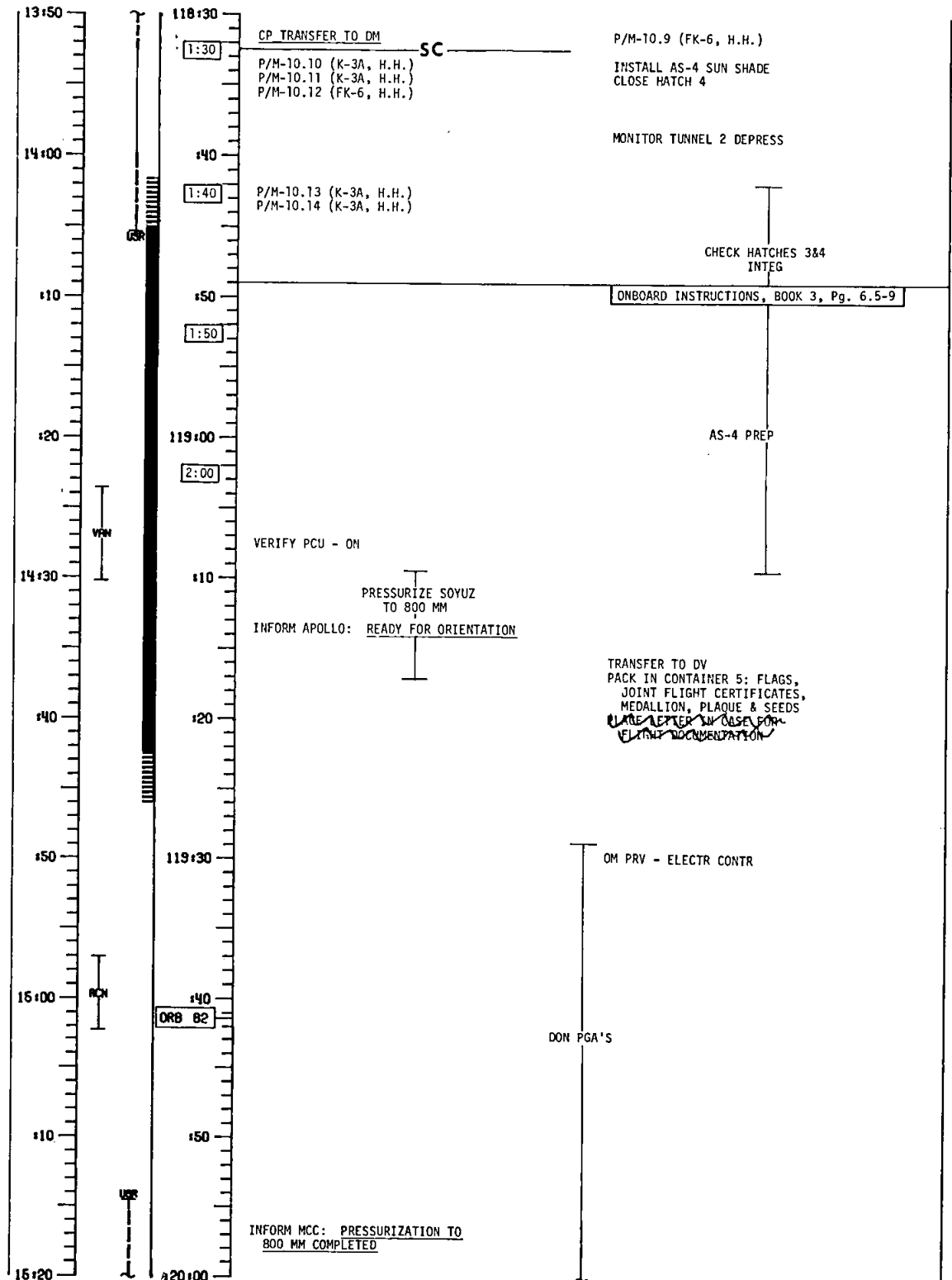
MCC

MT

GET

CP

FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-25

4TH LAUNCH OPPORTUNITY 7-3-75

MCC	CDT	GET	CP	AC	DP
-----	-----	-----	----	----	----



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	82-83

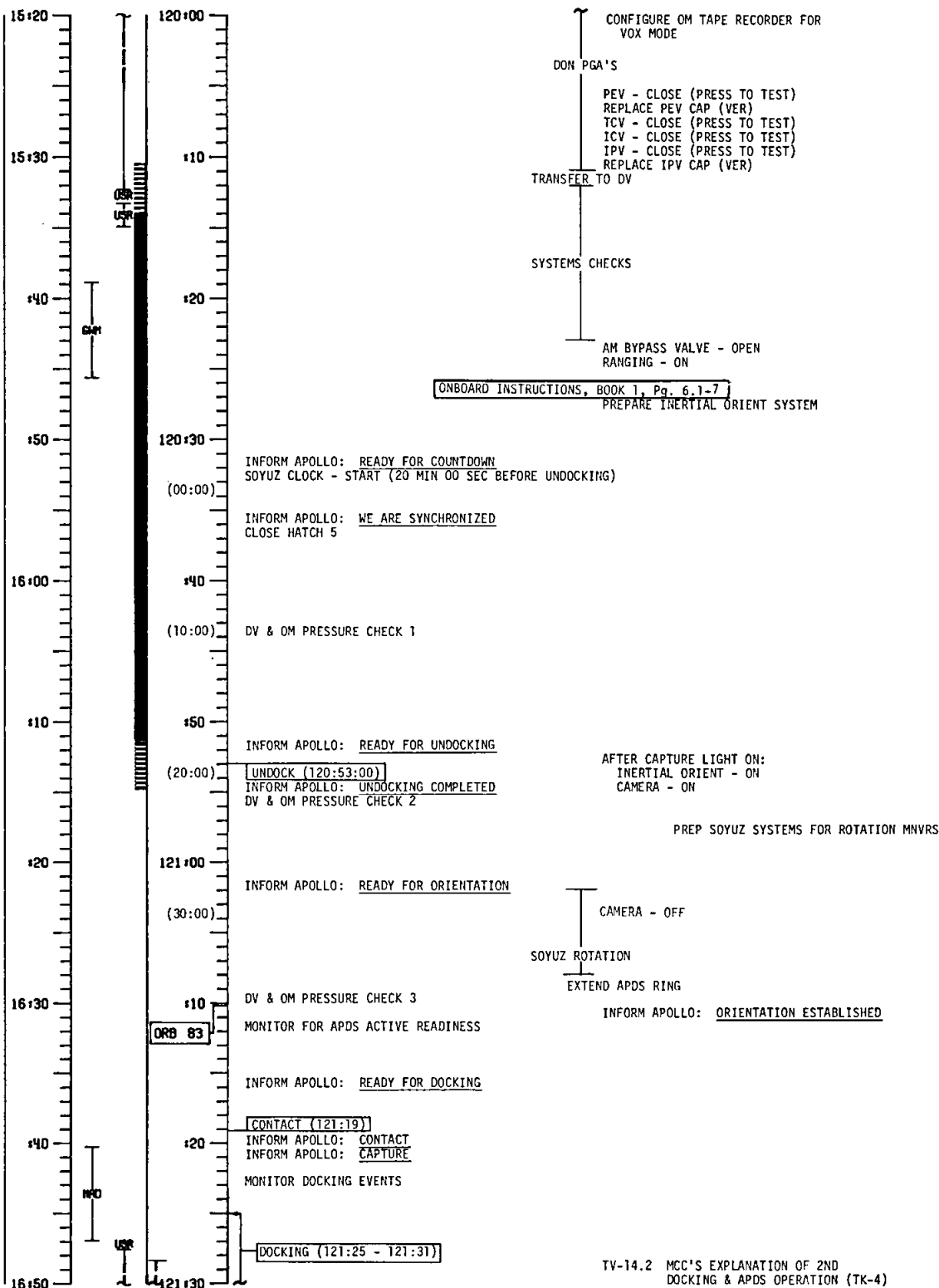
MCC

MT

GET

SC

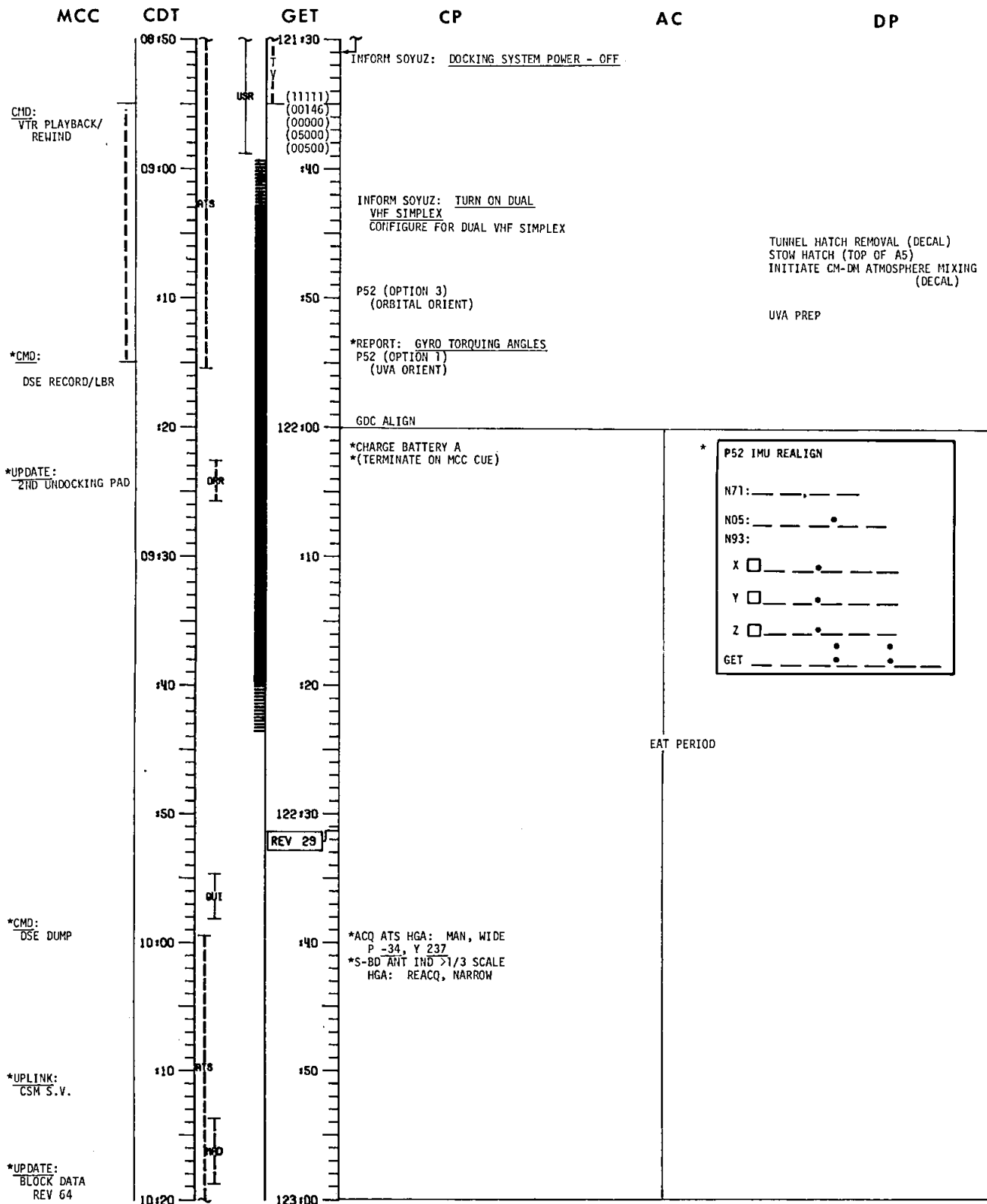
FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-27

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	28-29



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-28

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	83-84

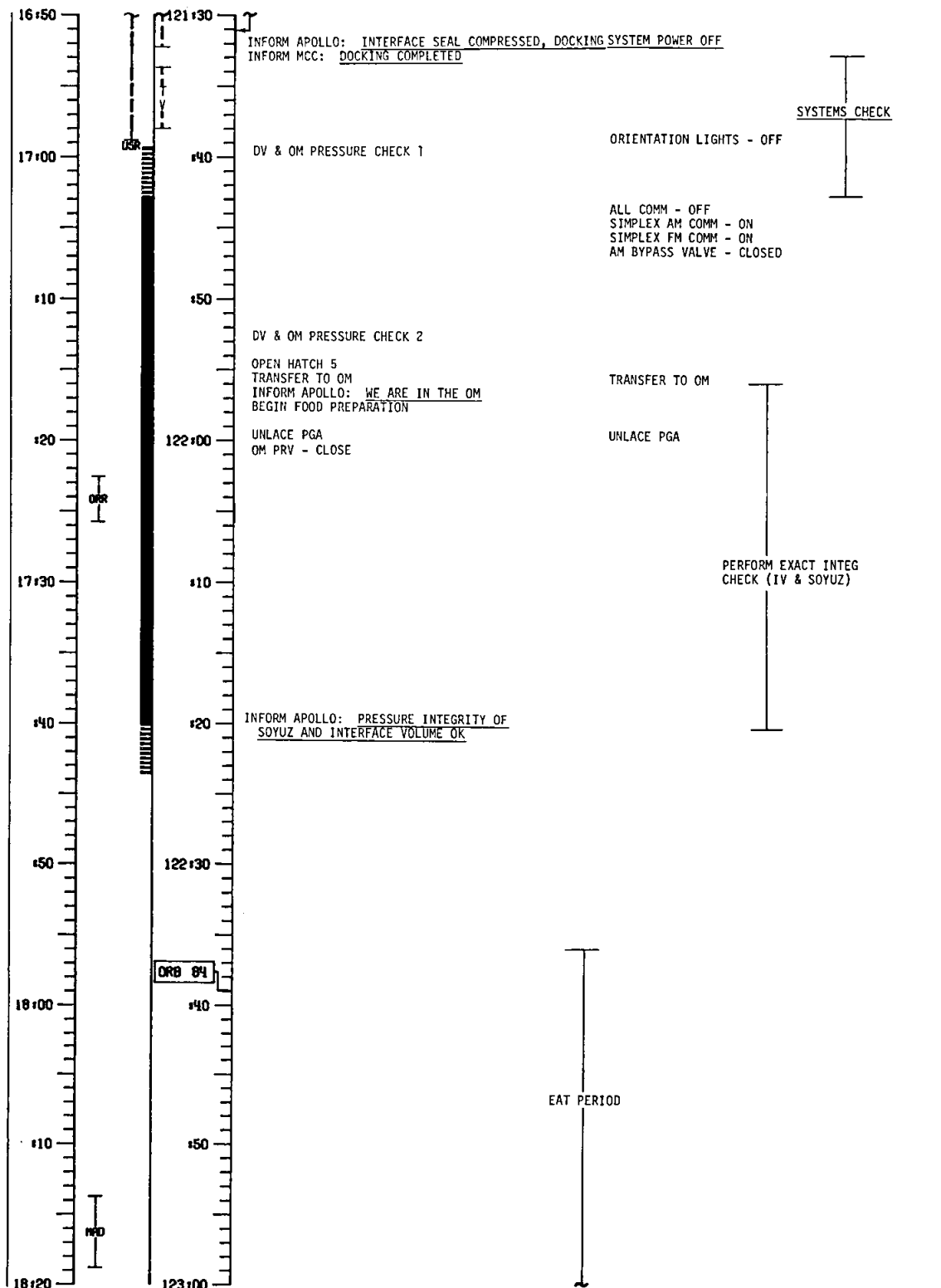
MCC

MT

GET

SC

FE



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-29

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	29-30

MCC

CDT

GET

CP

AC

DP

*CMD:

DSE RECORD/LBR

UPDATE:

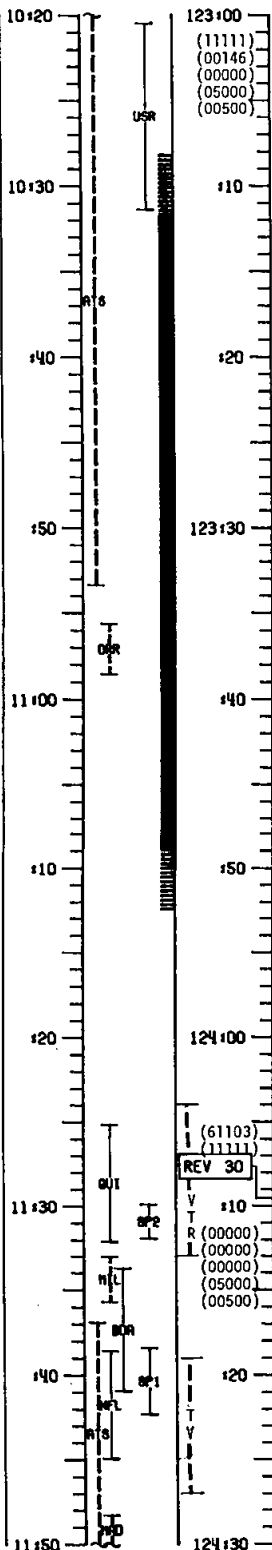
GO/NO-GO FOR
UNDOCK

*CMD:

DSE RECORD/HBR

*CMD:

DSE DUMP/REWIND



INFORM SOYUZ: READY FOR UNDOCKING ORIENTATION
V49 MNVR TO 2ND UNDOCKING ATTITUDE (BY 123:35)

INFORM SOYUZ: ORIENTATION ESTABLISHED

INFORM SOYUZ: TURN ON VHF RANGING
CONFIGURE VHF FOR RANGING

INFORM SOYUZ: RANGING LOCKUP ESTABLISHED
SET DET COUNTING UP TO UNDOCKING (124:10)

PERFORM PASSIVE UNDOCKING SWITCH CONFIGURATION

*ALIGN GDC TO IMU

PERFORM PASSIVE UNDOCKING CHECKLIST
INFORM SOYUZ: READY FOR UNDOCKING
DAC - ON
UNDOCKING BEGINS (124:07)

SECOND UNDOCKING (124:10-124:12)
INFORM SOYUZ: UNDOCKING COMPLETED

DAC - OFF
INFORM SOYUZ: STATION KEEPING
04:00 INFORM SOYUZ: OPEN REFLECTOR COVERS AS PROGRAMMED
*GDC ALIGN
SET DET COUNTING UP TO 124:21:00

STATION KEEPING
(18 M)

*DEACTIVATE PRIMARY EVAPORATOR

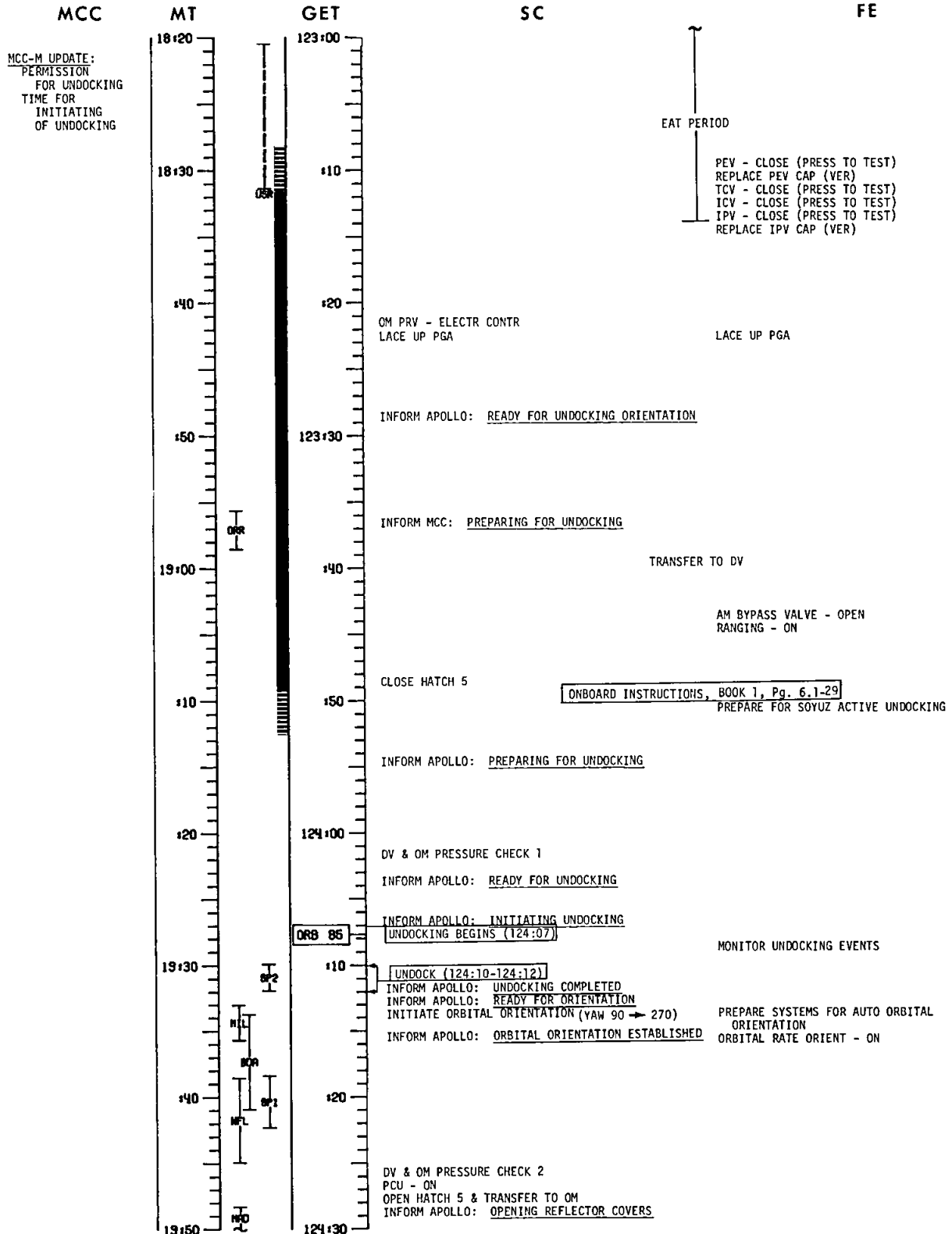
00:00 APOLLO SEP (124:21)

*ACQ ATS HGA: MAN, WIDE
P -19, Y 220
*S-BD ANT IND >1/3 SCALE
HGA: REACQ, NARROW

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-30

SOYUZ DETAILED CREW ACTIVITIES PLAN

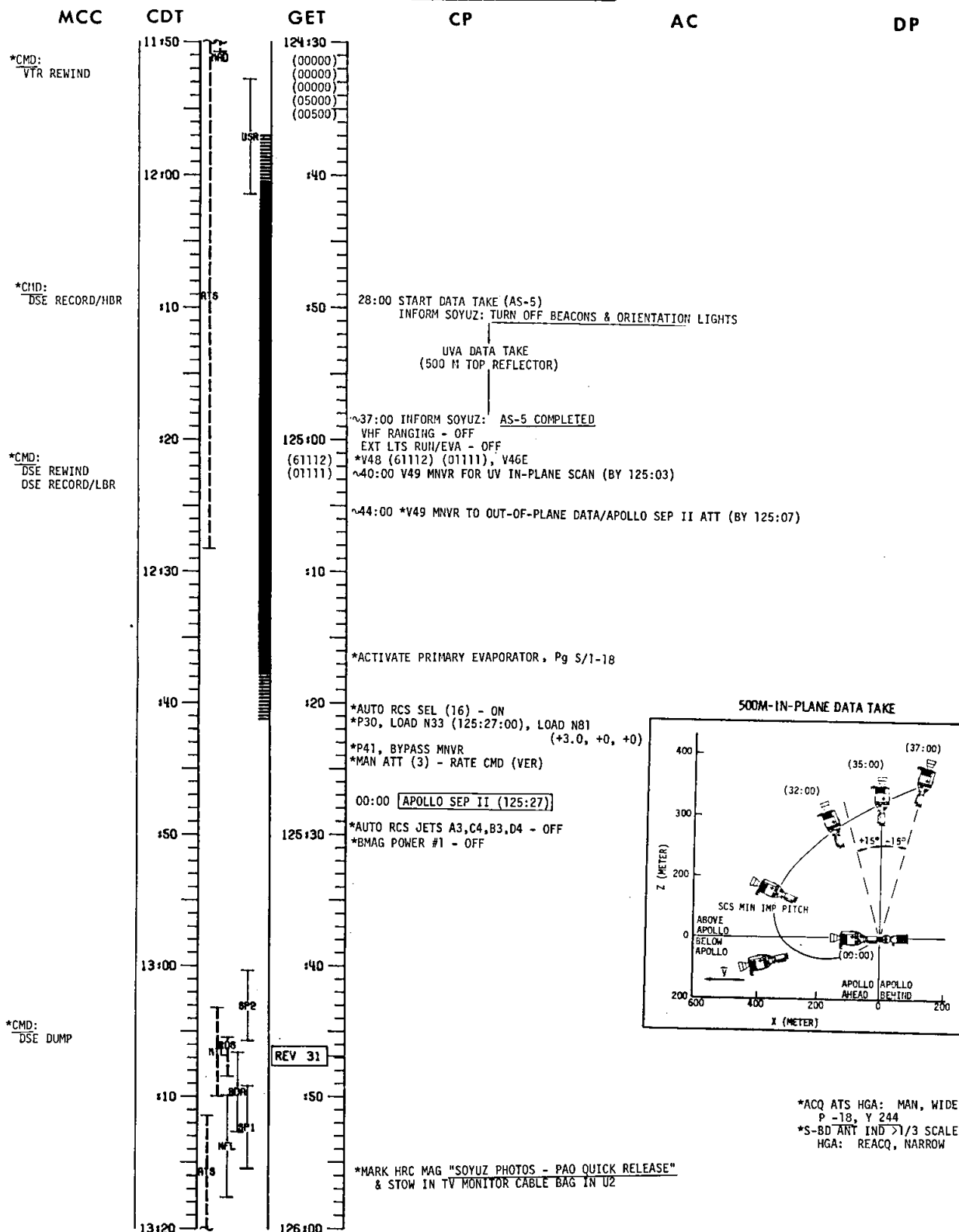
MOSCOW DATE	ORB
JULY 20, 1975	84-85



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-31

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	30-31



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	85-86

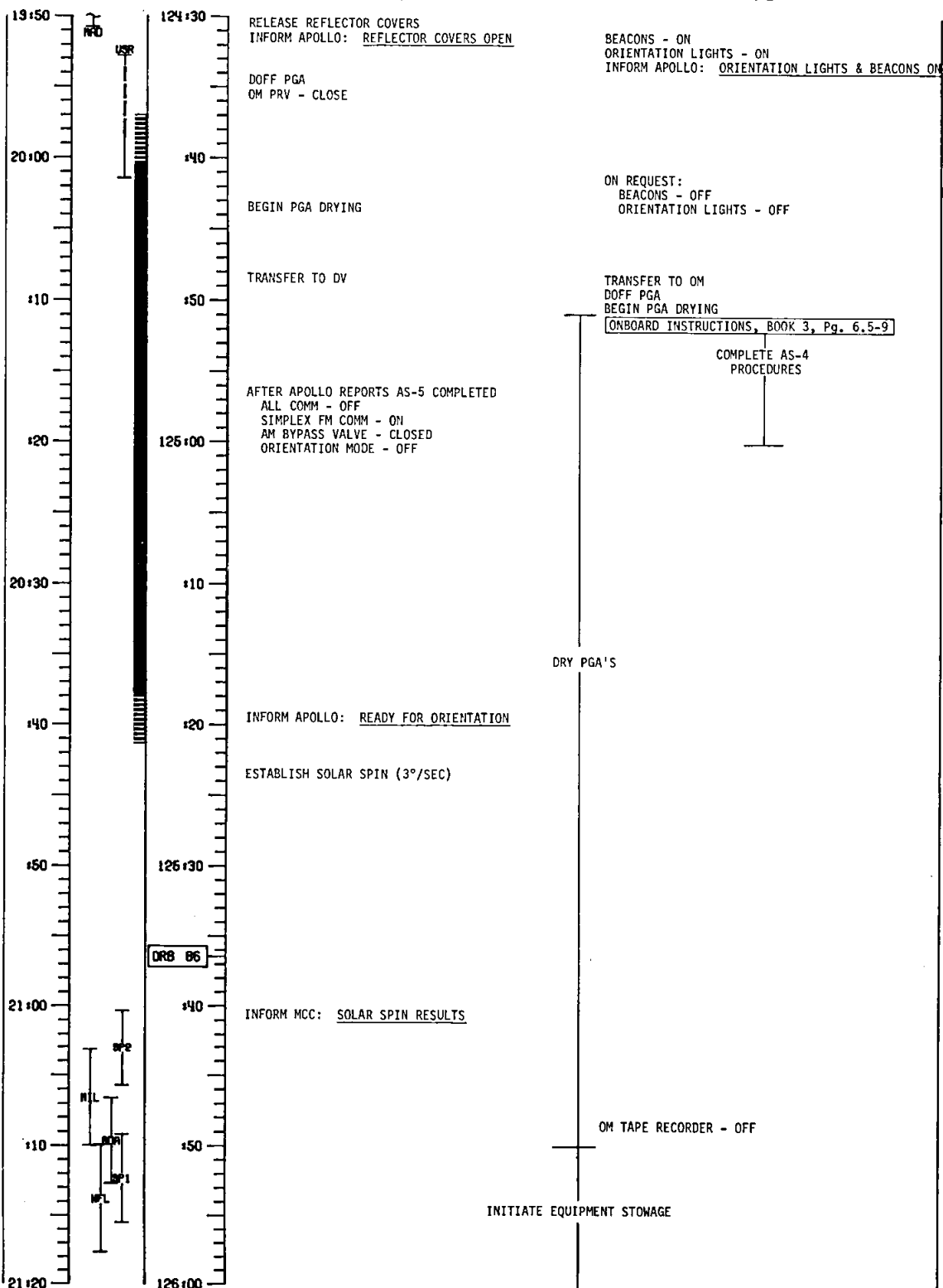
MCC

MT

GET

SC

FE



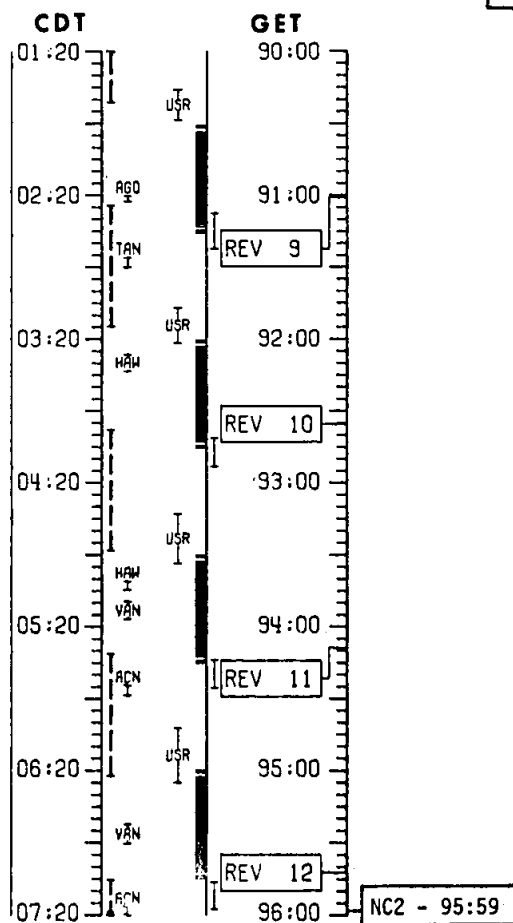
MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-33

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SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/19/75	8-12



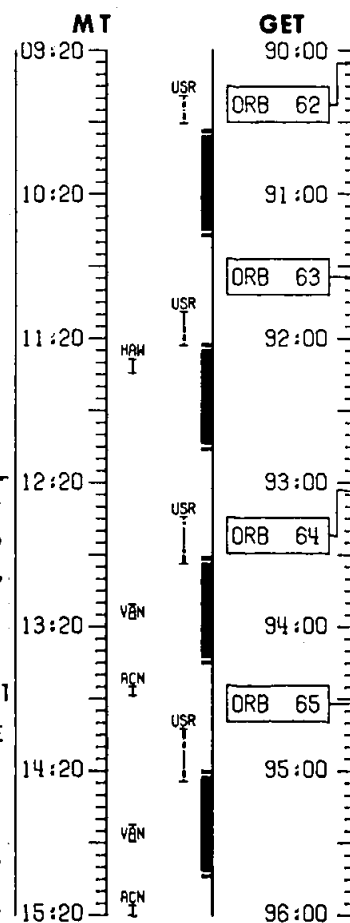
REST PERIOD
(6.0 HOURS)

POST-SLEEP
CHECKLIST

EAT PERIOD

*L10H CANISTER CHANGE
* PHOTO AS-1
*O2 FC PURGE
*WASTE WATER DUMP

SA001



SOYUZ

DATE	ORB
7/19/75	61-65

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	5-1

4TH LAUNCH OPPORTUNITY 7-3-75

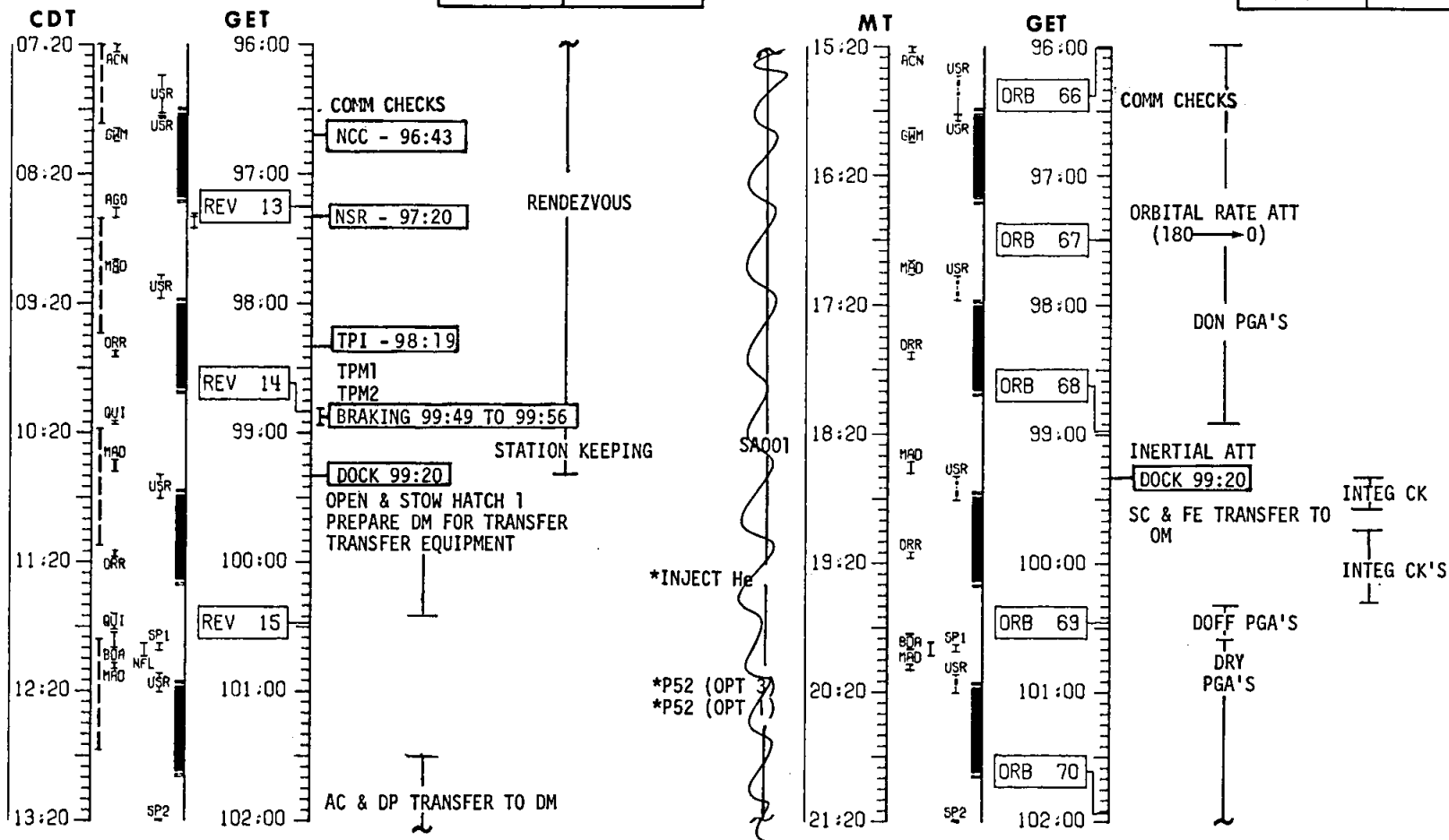
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/19/75	12-15

SOYUZ

DATE	ORB
7/19/75	65-70



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	5-2

4TH LAUNCH OPPORTUNITY 7-3-75

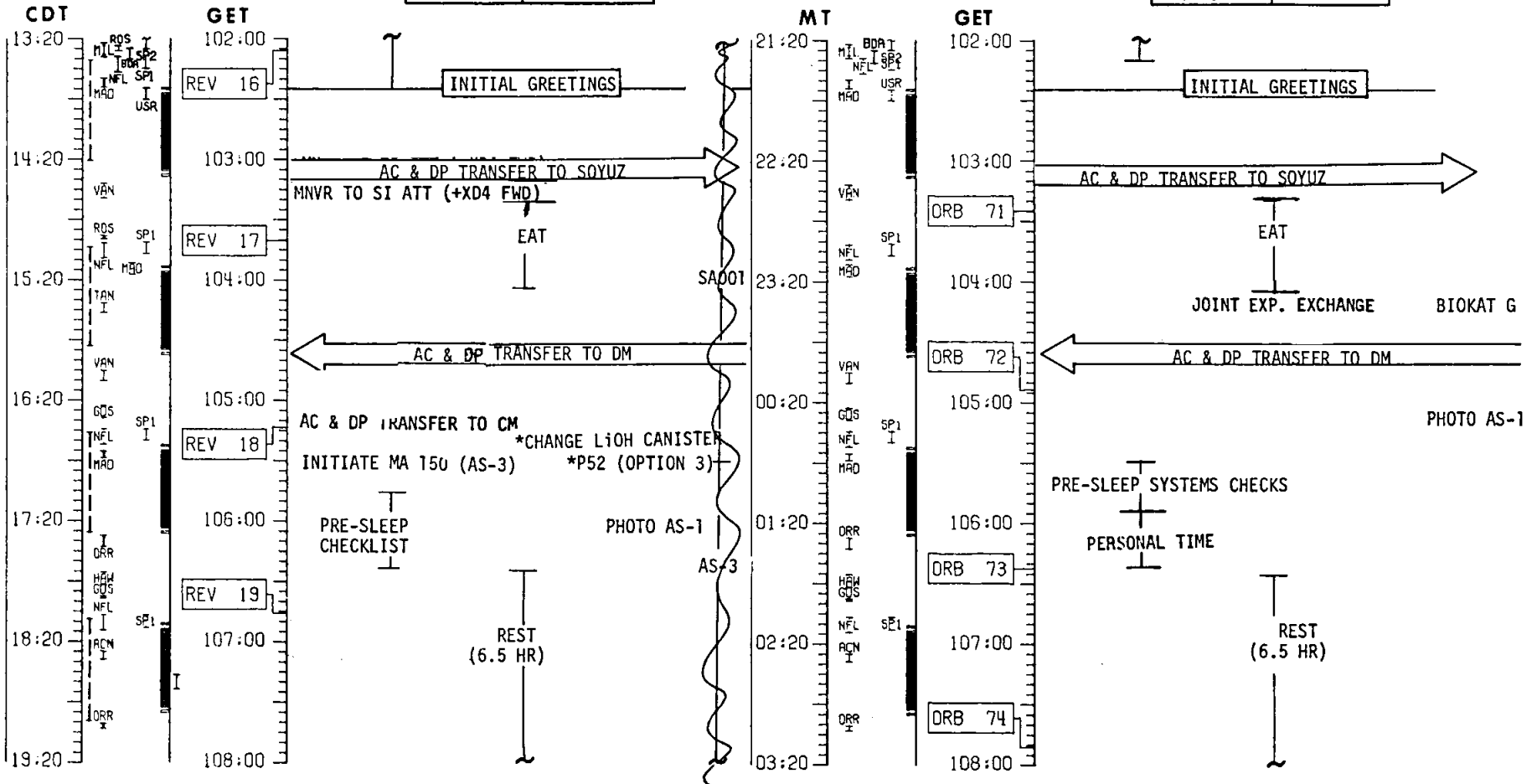
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/19/75	15-19

SOYUZ

DATE	ORB
7/19/75	70-74



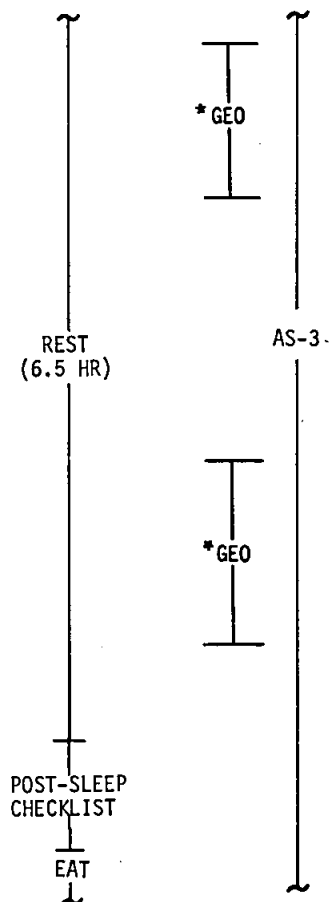
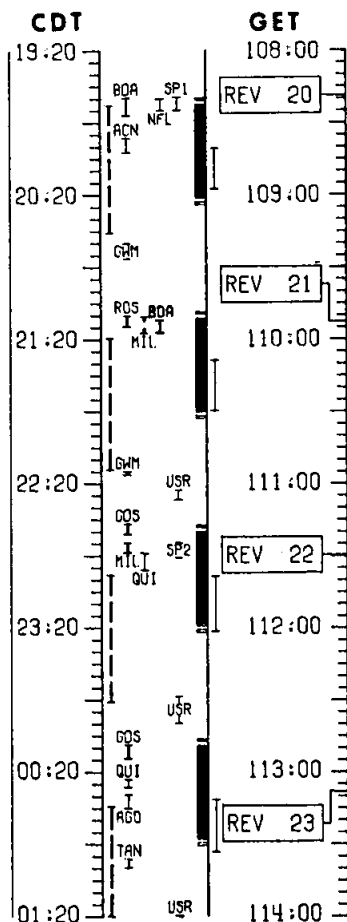
MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	5-3

4TH LAUNCH OPPORTUNITY 7-3-75

SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/19/75	19-23

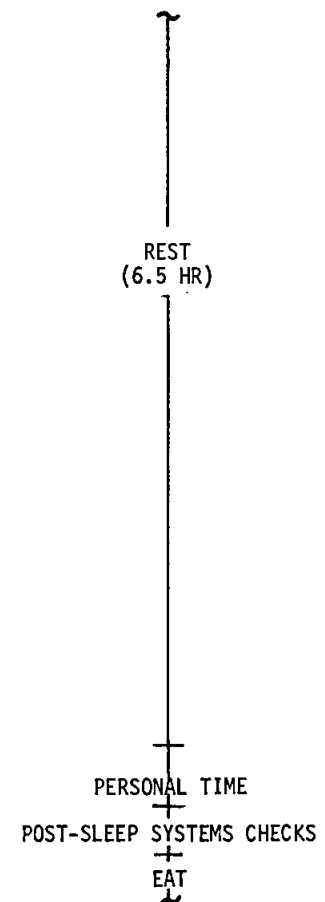


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-4

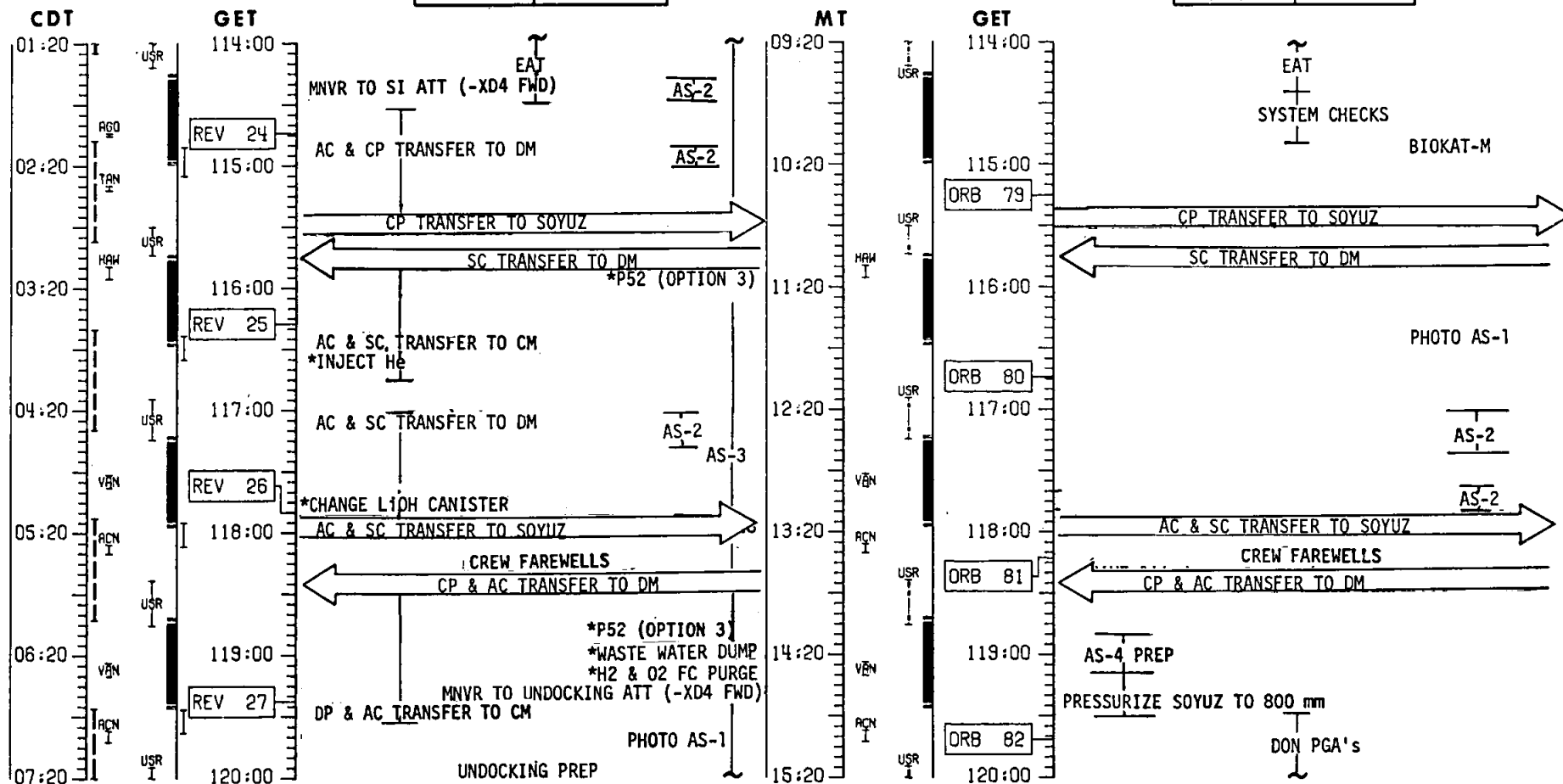
4TH LAUNCH OPPORTUNITY

SOYUZ

DATE	ORB
7/19/75	74-78



SOYUZ	
DATE	ORB
7/20/75	78-82



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-5

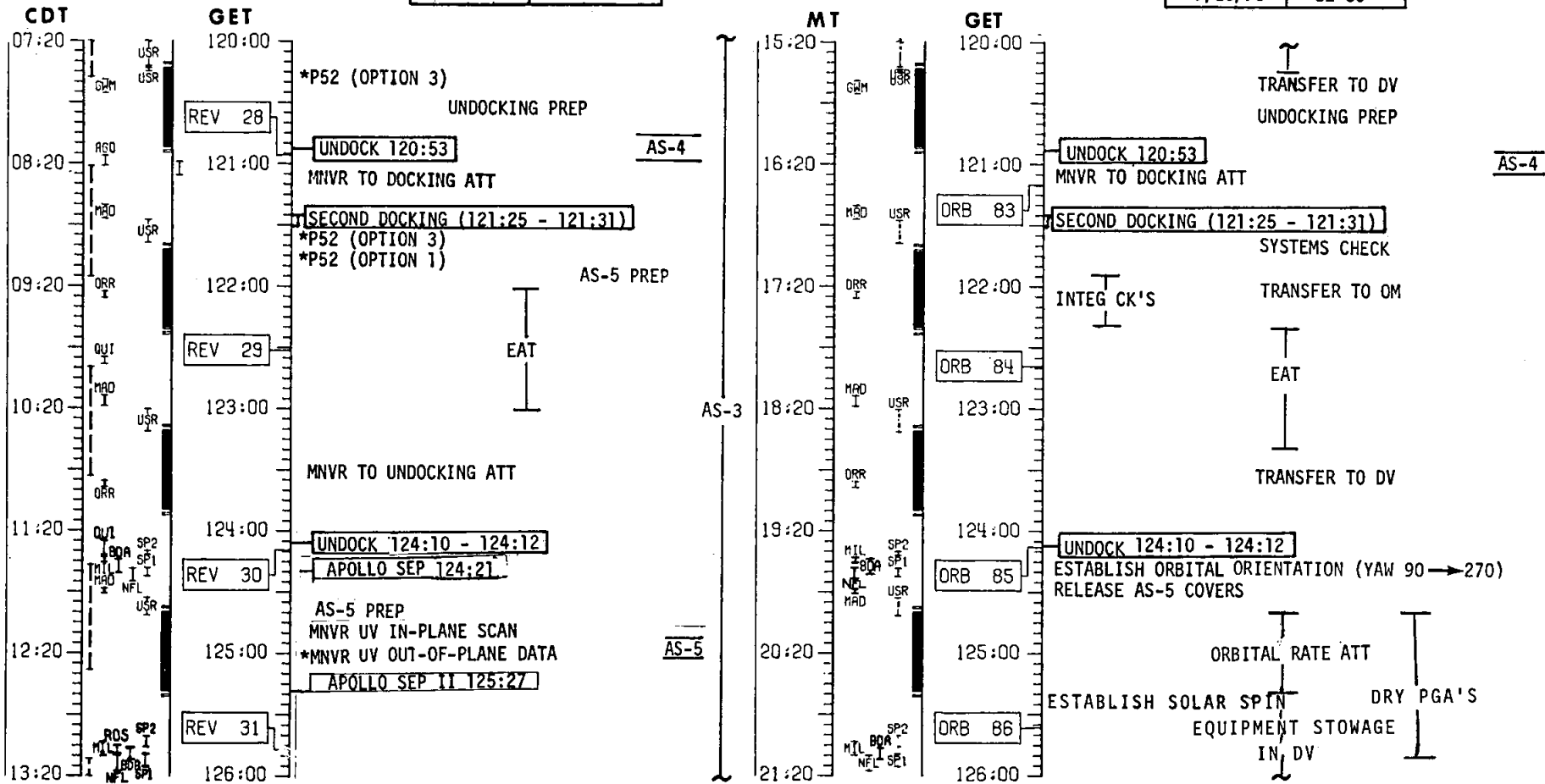
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/20/75	27-31

SOYUZ

DATE	ORB
7/20/75	82-86



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-6

4TH LAUNCH OPPORTUNITY

1.0 Delete the following pages:

1.1 6.4-1, 6.4-2, 6.4-3, 6.6-3, 6.6-4, 6.10, 6.12-1, 6.12-2, 6.14-1.

2.0 Make the following corrections:

2.1 Pg 6.1

- In B-3 change "53:12" to 100:32" and "99:00" to "124:13".

2.2 For contingencies 6.3 through 6.7:

- Subtract 35 min from the CDT and MT scales in the timelines
- Add 47 hr 25 min to the Apollo and Soyuz GET scales in the timelines, and to all GET's referenced in the text and timelines.
- Subtract 15 from the Apollo Rev numbers.
- Add 32 to the Soyuz Orbit numbers.

Note:

These changes should not be made on the following pages:
6.6 (Para B), 6.7 (Para C), 6.7-4 (two statements beginning
"IF DOCKING NOT POSSIBLE ..." and "AT 77:52 GO TO ...").

2.3 Pg 6.4

- Delete B-2, B-3 and B-4.
- Add under B:

- "2. All docked activities between docking and test docking occur as in the nominal plan, but are delayed one revolution.
3. Time between test docking and second undocking is reduced one revolution, causing the eat period to occur during other activities. Final separation occurs at the nominal time.
4. Return to nominal timeline at 123:30.
5. In the detailed and summary timelines, 1 hr 30 min should be added to GET, CDT and MT and the Apollo revolution numbers and Soyuz orbit numbers should be increased by one for the period between docking and 121:31 GET. (These corrections to the detailed and summary timelines should be made only after this contingency occurs.)"

2.4 Pg 6.5

- In B-2, delete "(Soyuz PGA ... one hour)"
- Delete B-4.
- Add under B:

- "4. Activities on the second day are delayed one revolution.
5. Time between test docking and second undocking is reduced one revolution, causing the eat period to occur during other activities. Final separation occurs at the nominal time.
6. Return to nominal timeline at 123:30.
7. In the detailed and summary timelines, 1 hr 30 min should be added to GET, CDT and MT and the Apollo revolution numbers and Soyuz orbit numbers should be increased by one for the period between crew wakeup and 121:31 GET. (These corrections to the detailed and summary timelines should be made only after this contingency occurs.)"

2.5 Pg 6.5-3

In Apollo and Soyuz columns; delete "RETURN TO NOMINAL PLAN AT 67:00".

2.6 Pg 6.6 and 6.6A

- In the last sentence in B-3 delete "and are ended . . . nominal plan" and add "Apollo wakeup is delayed 30 min and Soyuz wakeup is at the nominal time. Apollo postsleep and eat period are reduced to 30 min each".
- In B-4 change the first two sentences to read "Transfer to Soyuz is begun at the nominal time with a clock sync at 114:34 GET. Transfer will be performed using steps 12-44 of the 1st transfer for the 4th opportunity, but with the CP in place of the DP".
- In B-4, change 1) to read "In step 38 the eat period and photography will be deleted."
- In B-4 2) change "26 min" to "35 min".
- In B-5, delete the entire statement and replace with:
 "Transfer of SC to Apollo (step 18 of the 2nd transfer for the 4th opportunity) and all subsequent activities will be delayed one revolution to allow time for the additional steps performed in item 4. Step 18 will occur at 2+26 transfer clock time. In steps 18-34 add 1 hr 24 min to each transfer clock time referenced to provide transfer clock continuity.
- Add under B:
 "6. Clock sync for the third transfer will be at 118:30 GET.
 7. Time between test docking and second undocking is reduced one revolution, causing the eat period to occur during other activities. Final separation occurs at the nominal time."

2.7 Pg 6.7

- Change B-5 to read "After docking, perform steps 1-9 (Tunnel 2 pressure integrity checks and photo preparation) of the 1st transfer for the 5th opportunity. At 122:25 continue the 1st transfer, 5th opportunity, with step 9 (Transfer clock synchronization)."
- In C-1, change "from 72:40 until 75:38" to "from 120:05 until 121:33", and "3rd" to "5th".
- Change C-2 through C-6 to read:
 "2. If docking is not possible Soyuz will maneuver for orbital orientation (course 0 → 180) and Apollo will maneuver so that it leads Soyuz in Orbit (with -X FWD, heads up). The sequence and time of these maneuvers will be determined by the real-time situation, and the maneuvers must be completed by 122:49 GET.
 3. At 122:50 GET the crews will perform the activities as in the 3rd launch opportunity timeline.

2.8 Pg 6.7-4

- In Apollo and Soyuz columns after docking change statement to read "GO TO 1ST TRANSFER, 5TH OPPORTUNITY, STEPS 1-9 (TUNNEL 2 INTEG CKS & PHOTO PREP)"
- In Apollo and Soyuz columns, change "IF DOCKING ... TIMELINE" to "IF DOCKING NOT POSSIBLE PERFORM ACTIVITIES WHICH BEGIN AT 122:50 GET IN THE 3RD LAUNCH OPPORTUNITY TIMELINE."
- In Apollo and Soyuz columns at 122:25, add "AT 122:25 GO TO 5TH OPPORTUNITY TIMELINE (STEP 9 OF THE FIRST TRANSFER - CLOCK SYNC)"
- At the bottom of Apollo and Soyuz columns, delete, "AT 77:52 ... TRANSFER)."

2.9 Pg 6.8

In B-1, change "third" to "fifth".

2.10 Pg 6.9

- In B-2 change "8 hours" to "6 to 8 hours"
- Delete B-3, B-4, C-2, C-3.
- Add under B:
 - "3. The spacecraft will remain docked until the nominal undocking time, 120:53 GET.
 4. Subsequent activities will be as in the nominal timeline for the 4th launch opportunity."

2.11 Pg 6.11

- In B-3, change "98:15" to "125:26".
- In C-2, change "All data takes" to "The 500m data take".

2.12 Pg 6.12

- In B-4, change "Soyuz 71st Orbit" to "Soyuz 86th Orbit."
- In B-5, change "104:30 GET" to "126:30 GET."
- In C-2, change "All data takes" to "The 500m data take."

2.13 Pg 6.13

- In B-4, change "Soyuz 71st orbit" to "Soyuz 86th orbit."
- In B-5, change "104:30 GET" to "126:30 GET."
- In C-4, change "All data takes" to "The 500m data take."

2.14 Pg 6.14

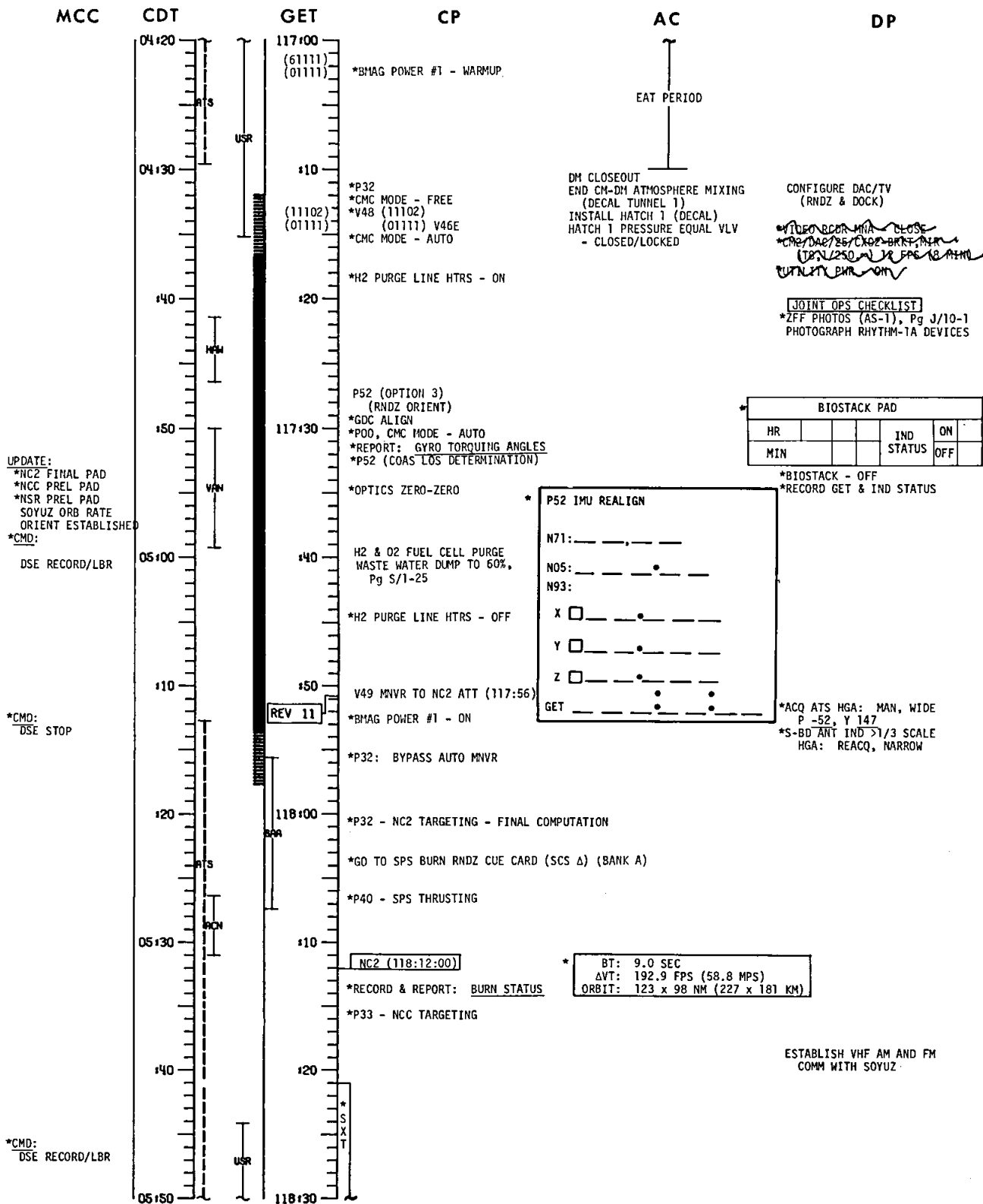
- In B-1, change "97:38 GET" to "122:43 GET", and "99:09 GET" to "124:13 GET".
- In B-2, change "Soyuz 69th orbit" to "Soyuz 84th orbit."

A-4.0 FIFTH LAUNCH OPPORTUNITY

JOINT MISSION PHASE
(FIFTH LAUNCH OPPORTUNITY)

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	10-11



SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	80-81

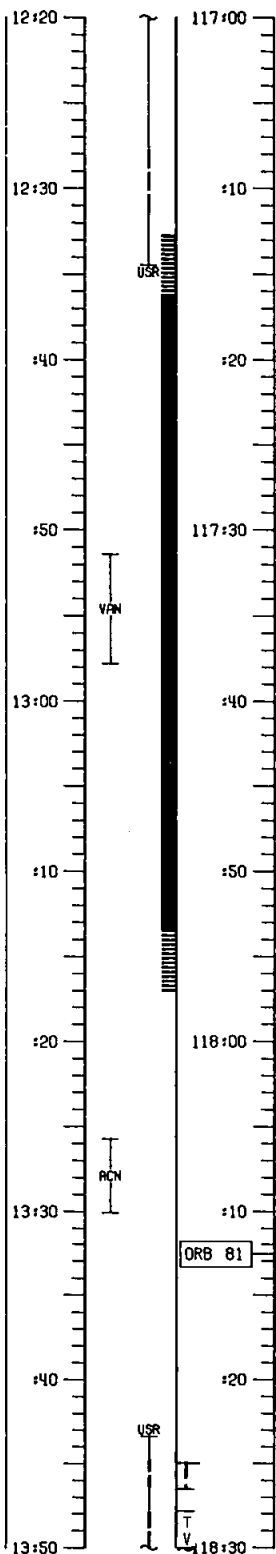
MCC

MT

GET

SC

FE



ATTENTION: DURING TV-TRANSMISSION
MAKE PERIODICAL (EVERY MINUTE)
BREAKS FOR 10 SEC TO ENABLE
APOLLO TO CALL SOYUZ

ENTRY EQUIPMENT STOWAGE

TV-3.5
(AUTONOMOUS DOCUMENTATION)

CONFIGURE OM TAPE RECORDER
FOR VOX MODE

START WRIST STOP-WATCH & STOP
AT 10 MIN 00 SEC

ORBITAL ORIENTATION (COURSE 180 → 0)

ORB 81

ONBOARD INSTRUCTIONS, BOOK 3, Pg. 6.2-77
SOYUZ/APOLLO VHF COMM ESTABLISHMENT & CHECK

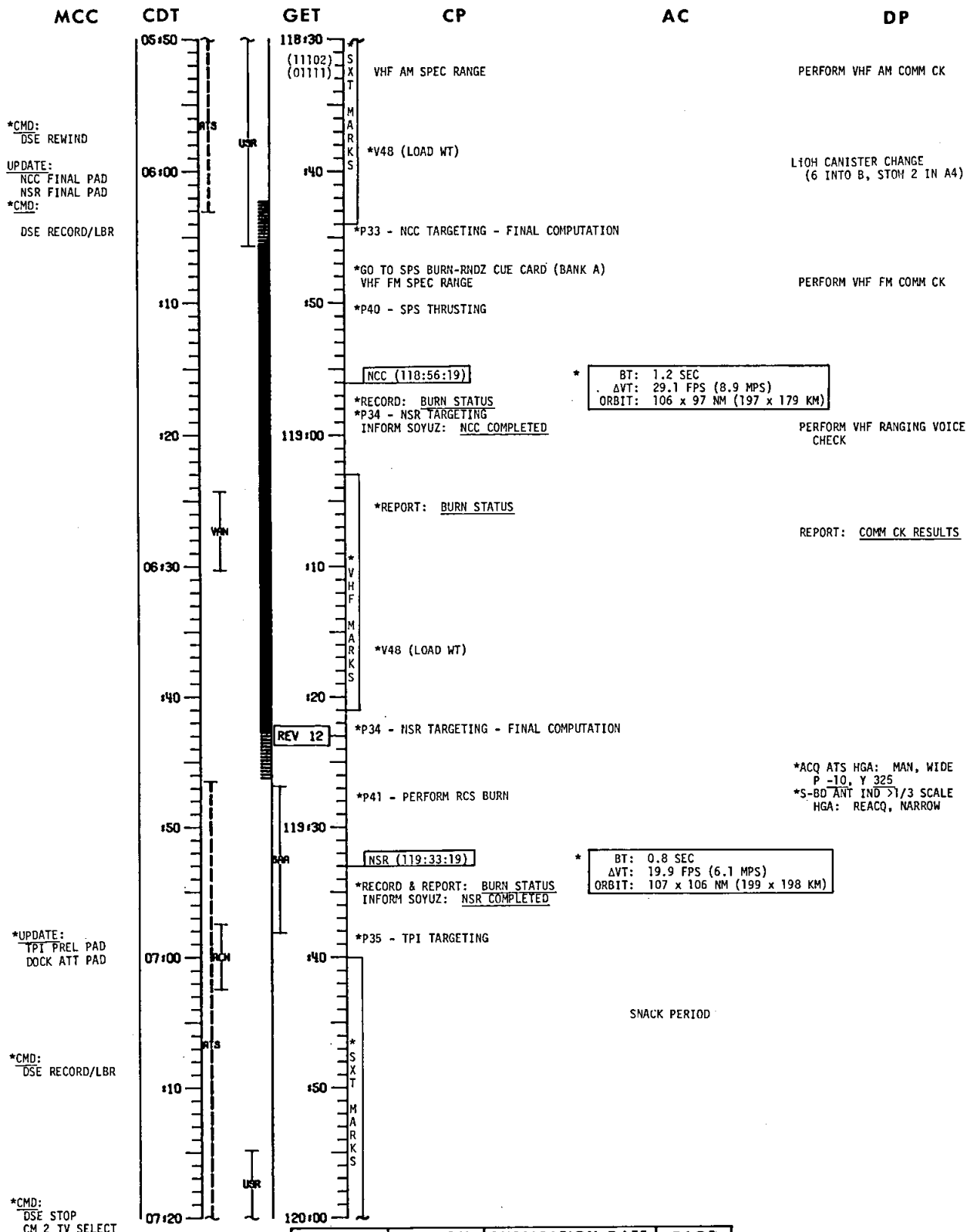
INFORM MCC: COMM WITH APOLLO
ESTABLISHED (NOT ESTABLISHED)
TV-5 SCHEDULED ACTIVITIES WITH
MCC'S EXPLANATIONS (TK-2)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-3

5TH LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	11-12



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-4

5TH LAUNCH OPPORTUNITY

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	81-82

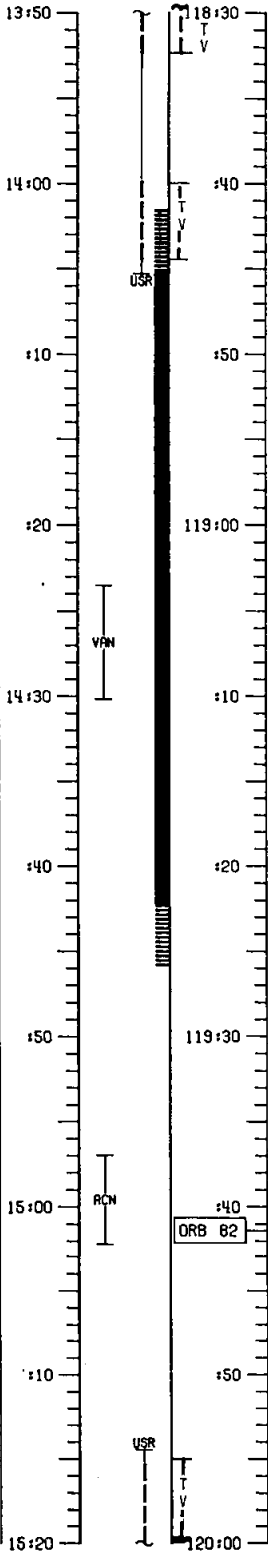
MCC

MT

GET

SC

FE



VHF AM SPEC RANGE
PERFORM VHF AM COMM CK

TV-5 CONTINUANCE

VHF FM SPEC RANGE
PERFORM VHF FM COMM CK

PERFORM VHF RANGING VOICE CHECK

BEACON - ON

EAT PERIOD

BEACON - OFF

TRANSFER TO OM WITH POT. CONDENSATE COLLECTOR
PREP TV-9.1
(ONBOARD INSTRUCTIONS, BOOK 2,
Pg. 6.3-19)

TRANSFER TO OM
PREPARE K-3A FOR P/M-6
(ONBOARD INSTRUCTIONS, BOOK 3, Pg. 6.2-55)
PREPARE FK-6 FOR P/M-7.5
(ONBOARD INSTRUCTIONS, BOOK 2,
Pg. 6.3-21)

PREPARE 16 KM FOR P/M-7.1
(ONBOARD INSTRUCTIONS, BOOK 2,
1ST TRANSFER, STEP 9, Pg. 6.3-11)

TRANSFER TO DV

TRANSFER TO DV

MONITOR ORBITAL ORIENTATION
(YAW DEVIATION LESS THAN 5°)
CHANNEL SEPARATION - ON

TV-5.1 SCHEDULED ACTIVITIES WITH MCC COMMENTS (TK-2)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-5

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	12-13

MCC

CDT

GET

CP

AC

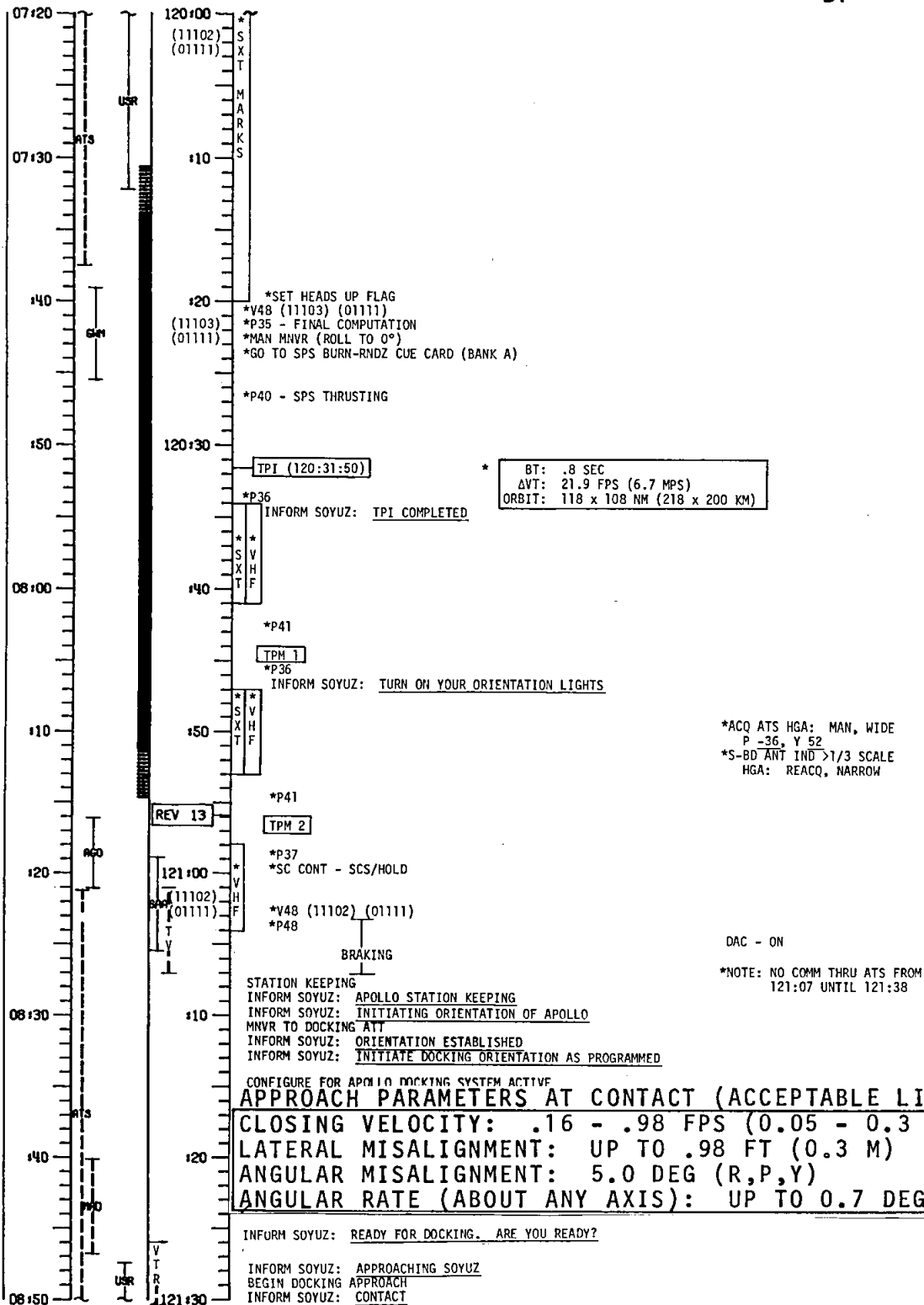
DP

UPDATE:
TPI FINAL PAD

*CMD:
DSE RECORD/LBR

*CMD:
R/T TV

CMD
*DSE RECORD/HBR
VTR - RECORD
UPDATE:
GO/NO-GO FOR
DOCKING



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-6

5TH LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	82-83

MCC

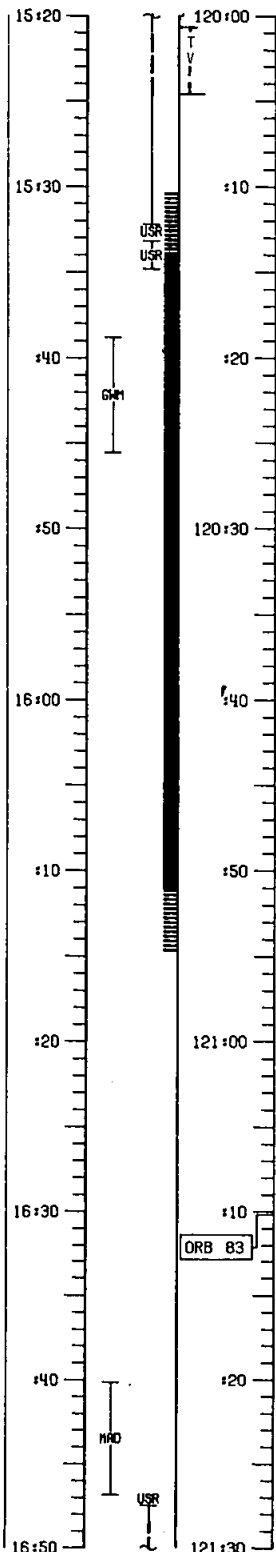
MT

GET

SC

FE

UPDATE:
 TIME TO INITIATE
 INERTIAL ORIENTATION
 PERMISSION FOR DOCKING
 DOCKING TIME



TV 5.1 CONTINUANCE

DON PGA

RELOAD OM TAPE RECORDER (NO. 8; NO. 7 → CONT 1 IN DV)
 TRANSFER TO DV

BEACON - ON
 INFORM APOLLO: OUR BEACONS ON

TRANSFER TO OM

OM PRV - ELECTRIC CONTROL

DON PGA

TRANSFER TO DV
 PREPARE INERTIAL ORIENTATION SYSTEM
 FOR OPERATION

ORIENTATION LIGHTS - ON
 INFORM APOLLO: ORIENTATION LIGHTS ON

BEACON - OFF

PREPARE APDS FOR OPERATION
 APDS POWER - ON
 VERIFY: PASSIVE APDS READINESS
 HATCH 4 - CLOSED

EXTERIOR TV CAMERA - ON

MONITOR DV & OM PRESSURE

MONITOR ORBITAL ORIENTATION
 (YAW DEVIATION LESS THAN 5°)

CLOSE HATCH 5

PERISCOPE APPROACH MODE - ON

PERFORM INERTIAL ORIENTATION CHECKLIST

ONBOARD INSTRUCTIONS BOOK 1, Pg. 6.1-3
 INFORM APOLLO: READY FOR DOCKING
 INFORM MCC: ROTATION COMPLETED
INERT ORIENTATION ESTABLISHED

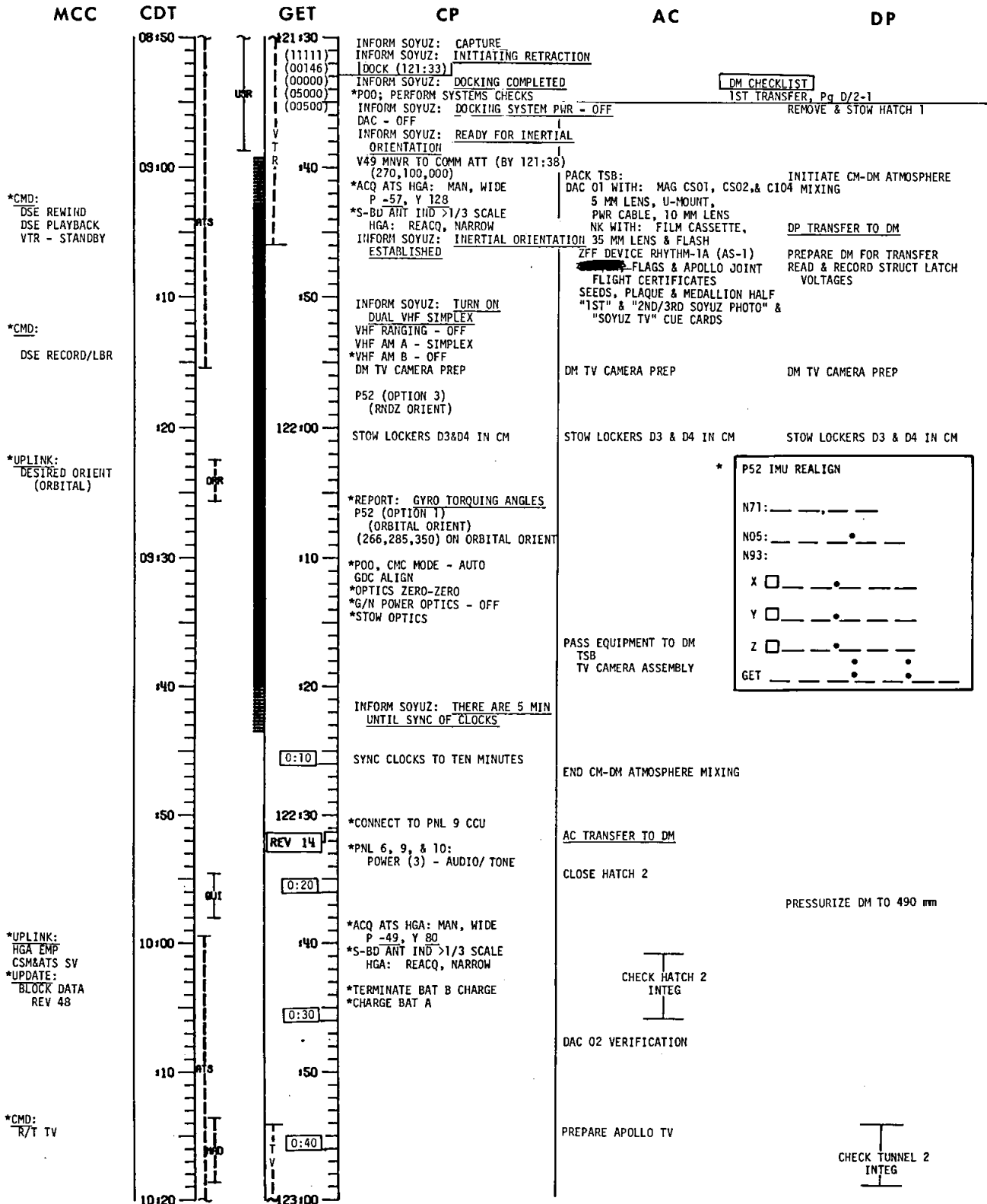
P/M-6 (K-3A ON K4 BRACKET)

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-7

5TH LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

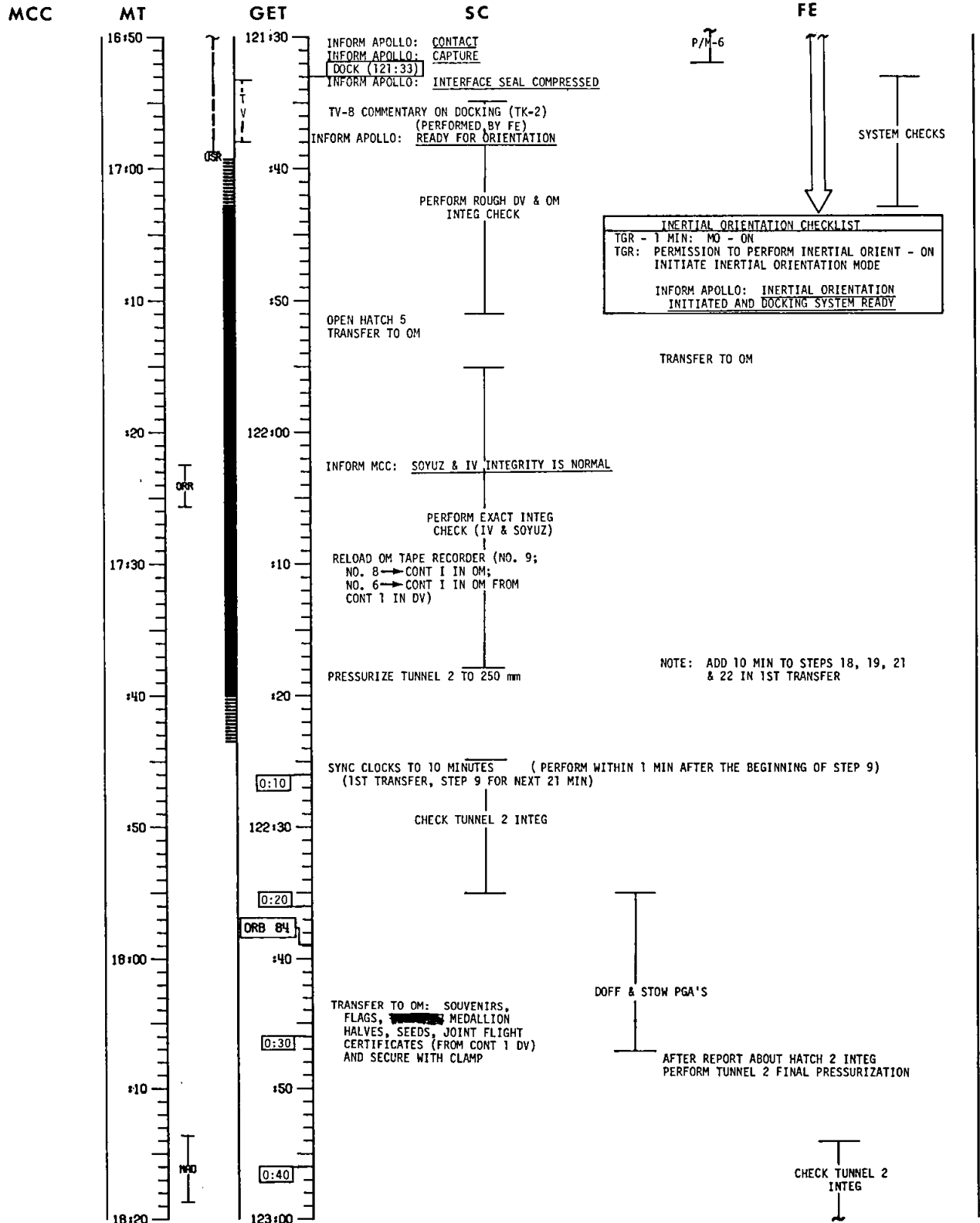
HOUSTON DATE	REV
JULY 20, 1975	13-14



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-8

5TH LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

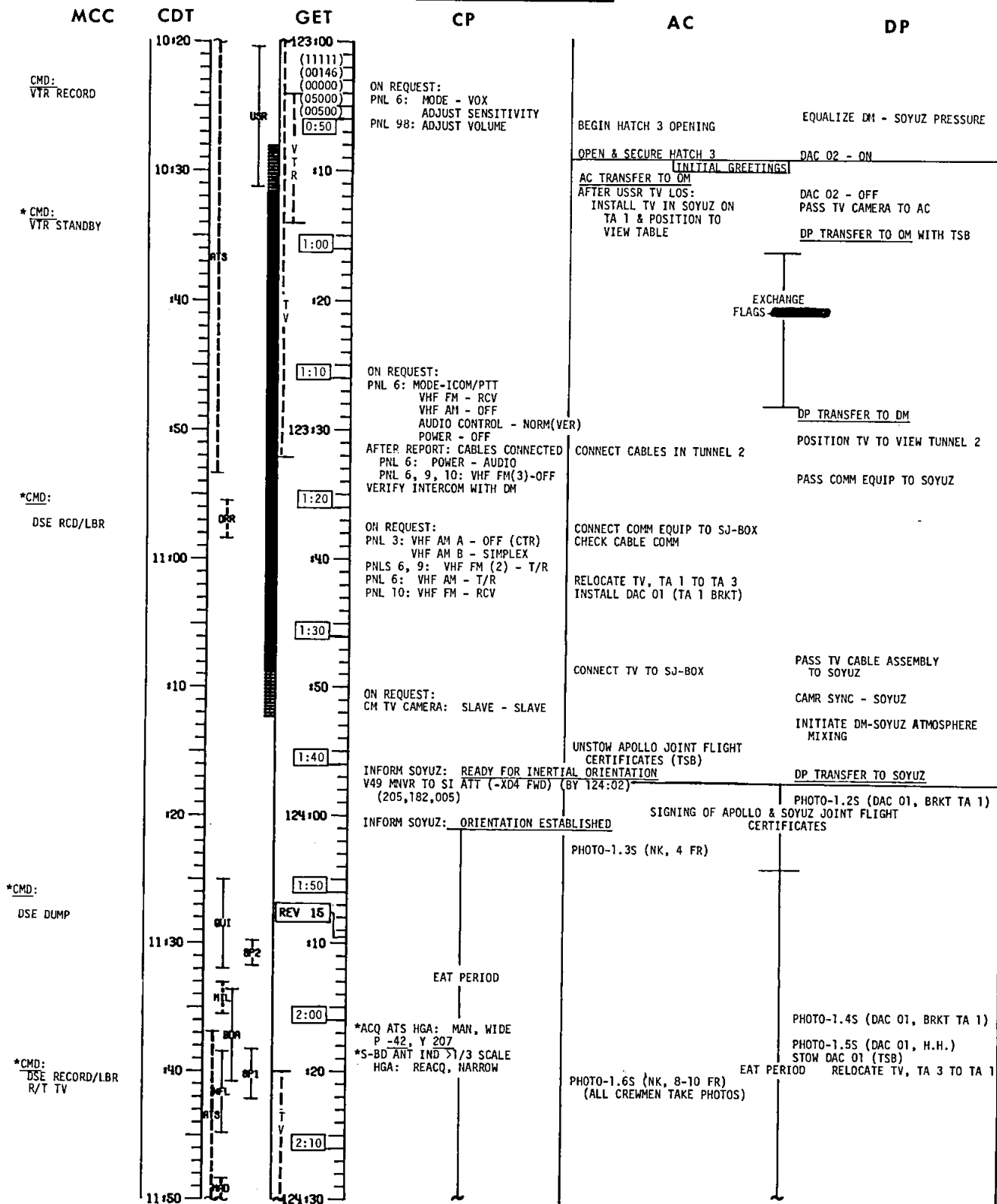


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 14, 1975	4.2-9

5TH LAUNCH OPPORTUNITY 7-3-75

APOLLO DETAILED CREW ACTIVITIES PLAN

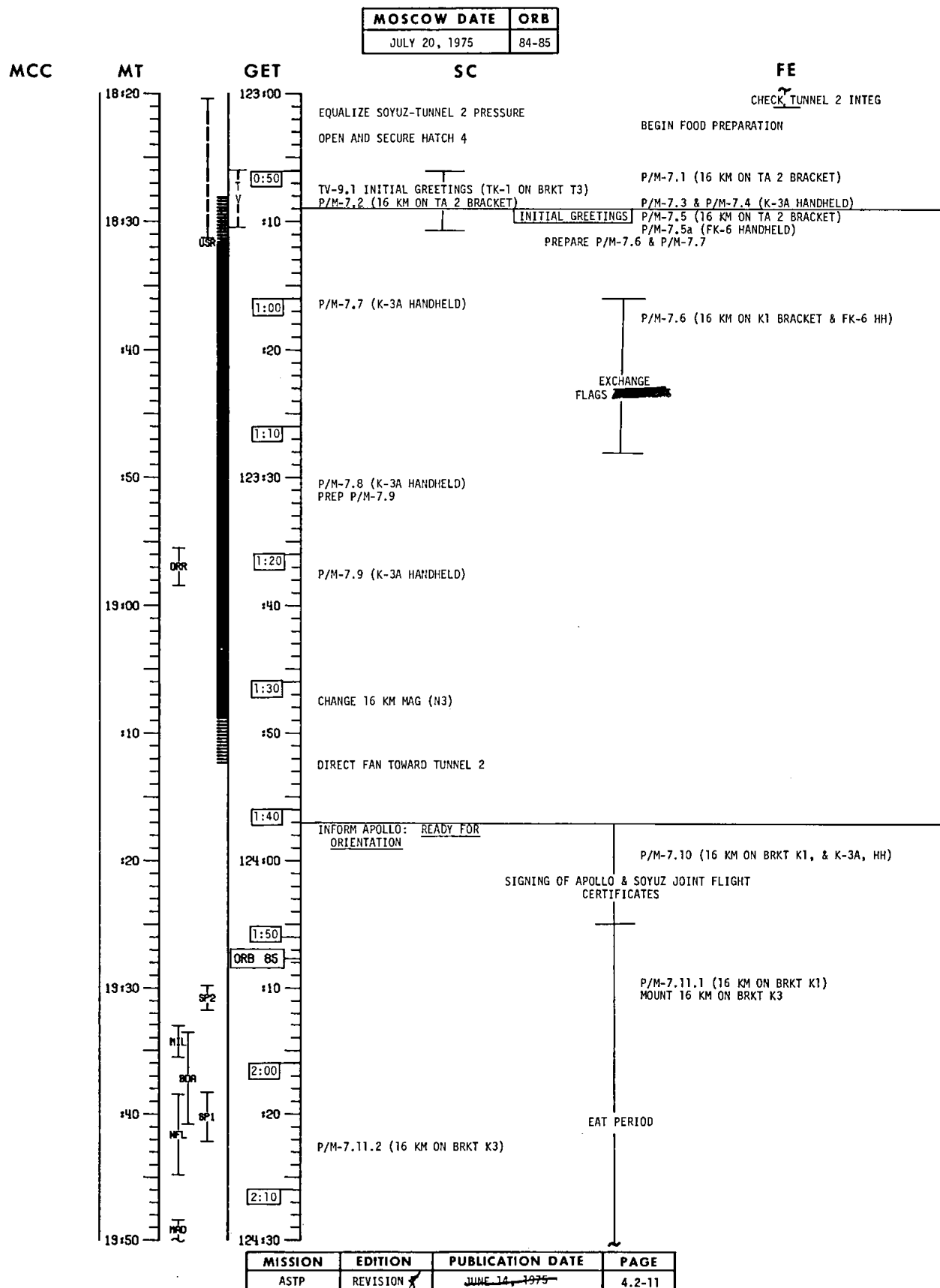
HOUSTON DATE	REV
JULY 20, 1975	14-15



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	JUNE 1975	4.2-10

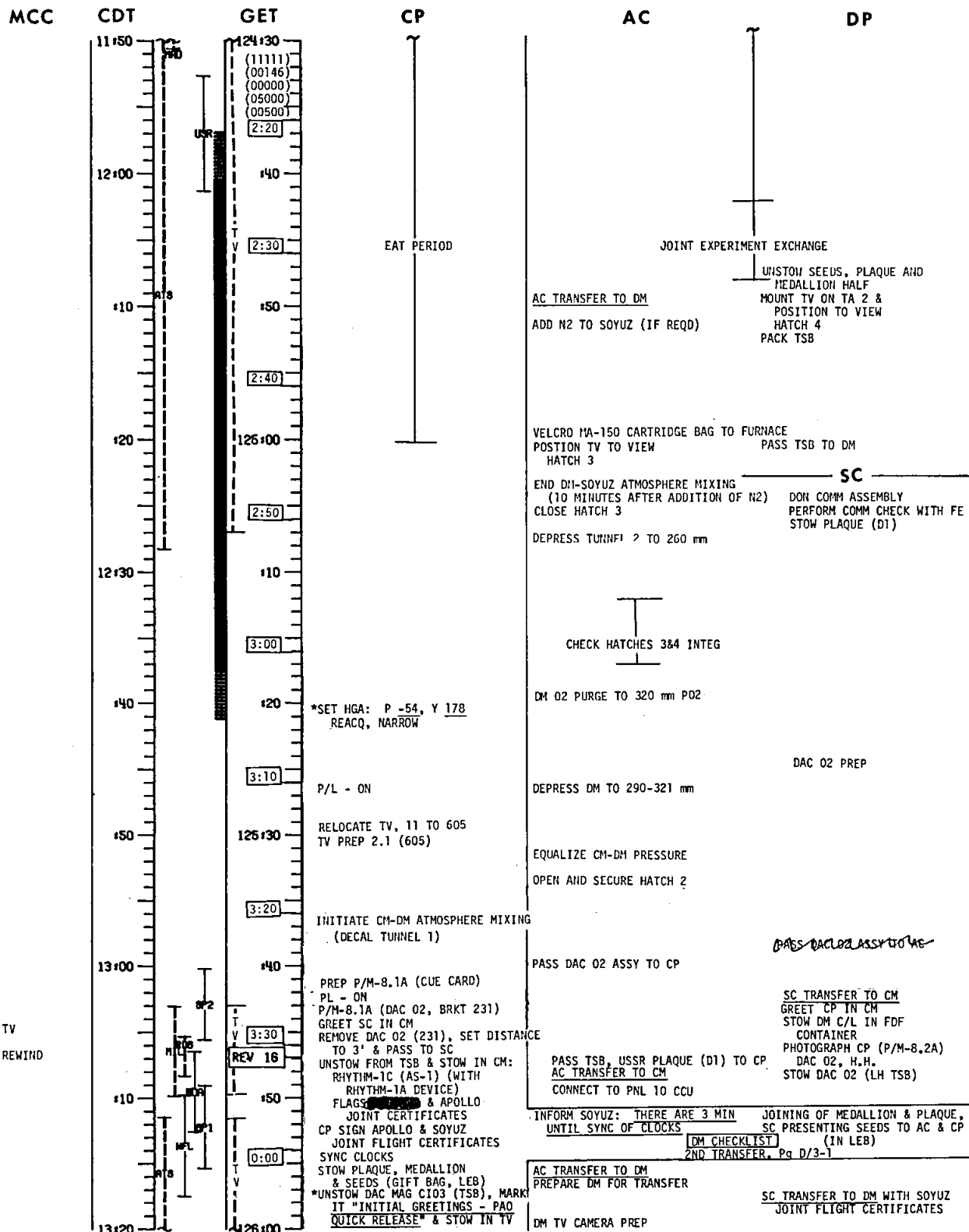
5TH LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN



APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	15-16



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 8	20 July 1975	4.2-12

5TH LAUNCH OPPORTUNITY 7-3-75

SOYUZ DETAILED CREW ACTIVITIES PLAN

MCC

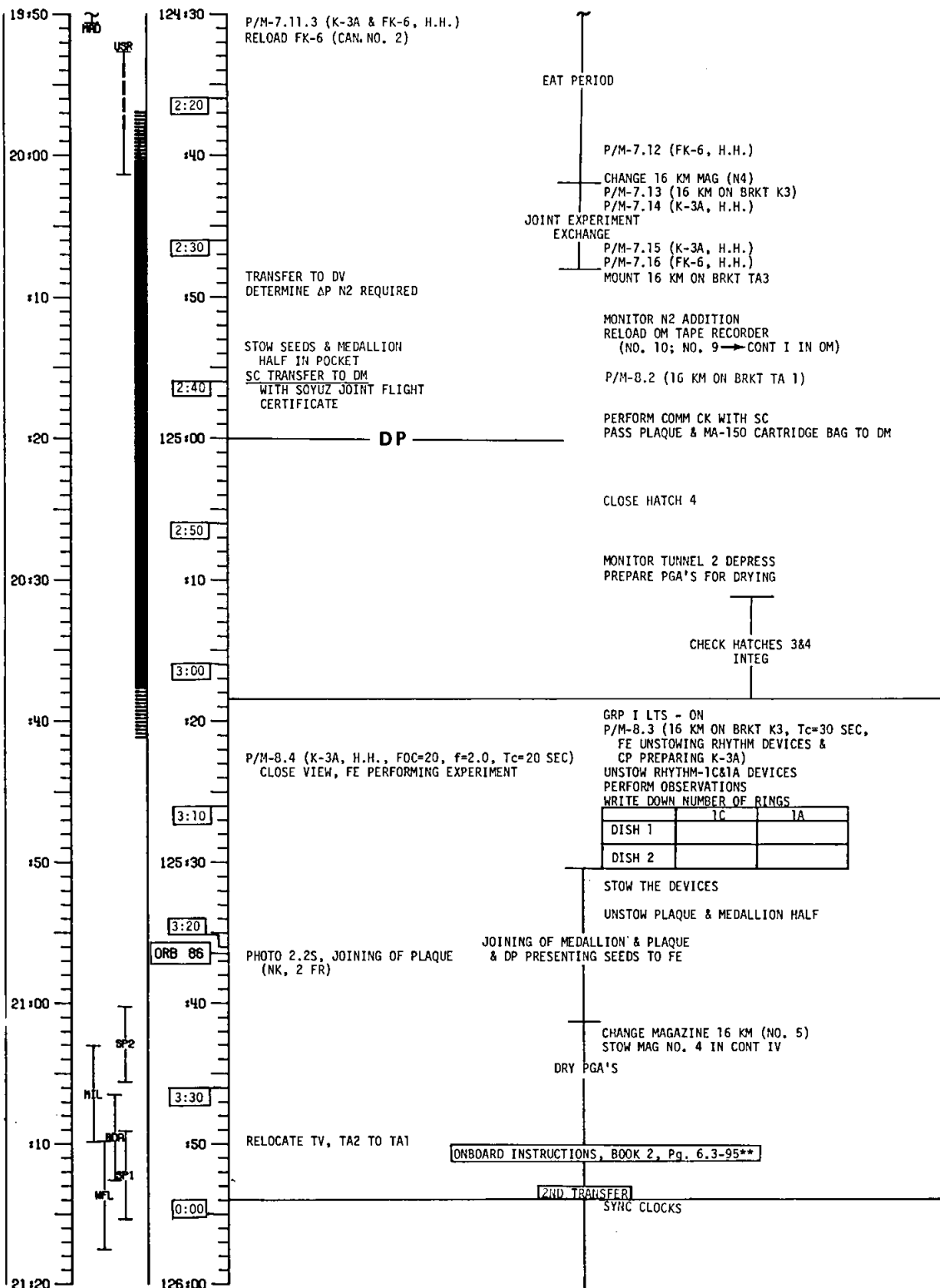
MT

GET

SC

FE

MOSCOW DATE	ORB
JULY 20, 1975	85-86

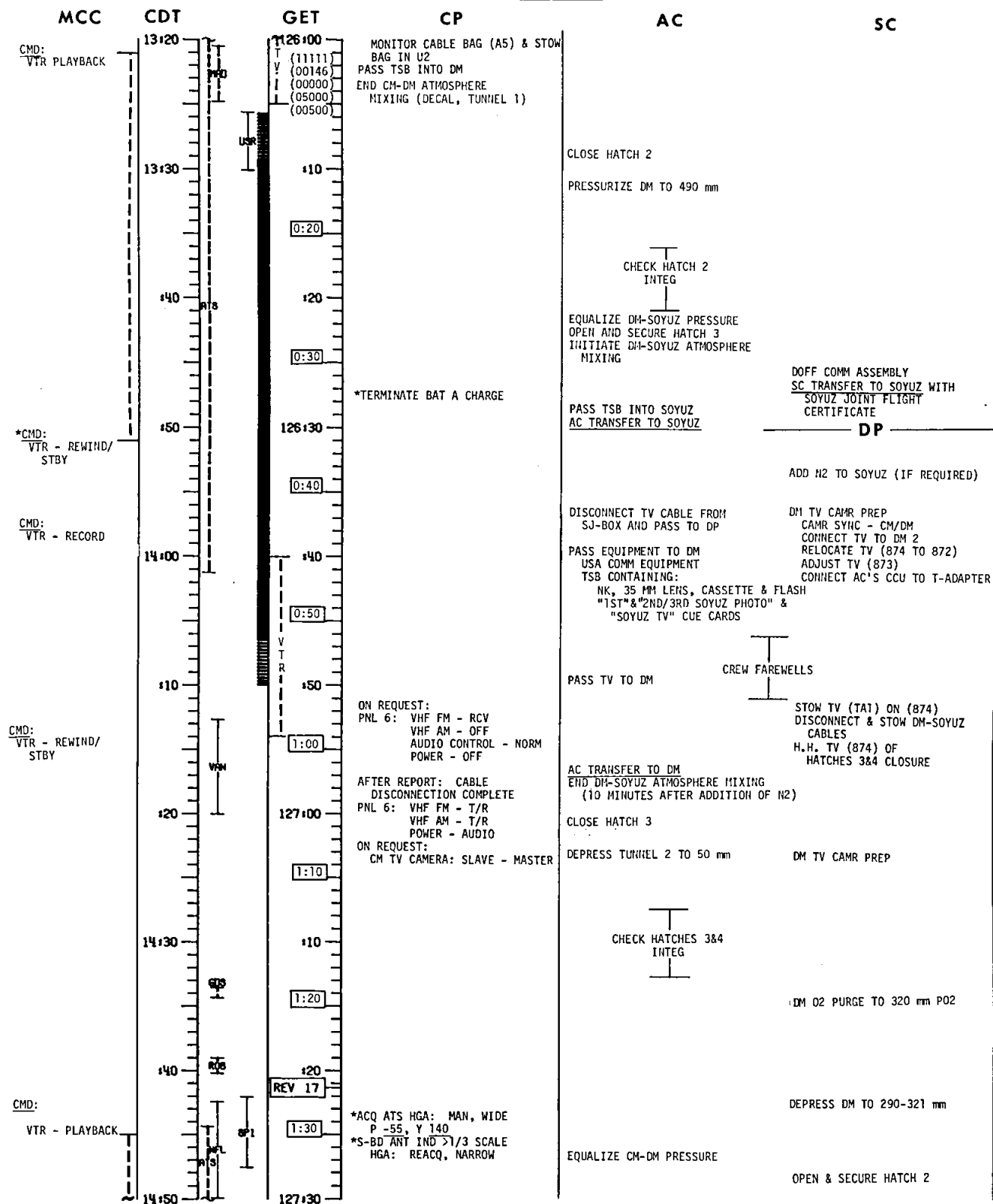


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-13

5TH LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

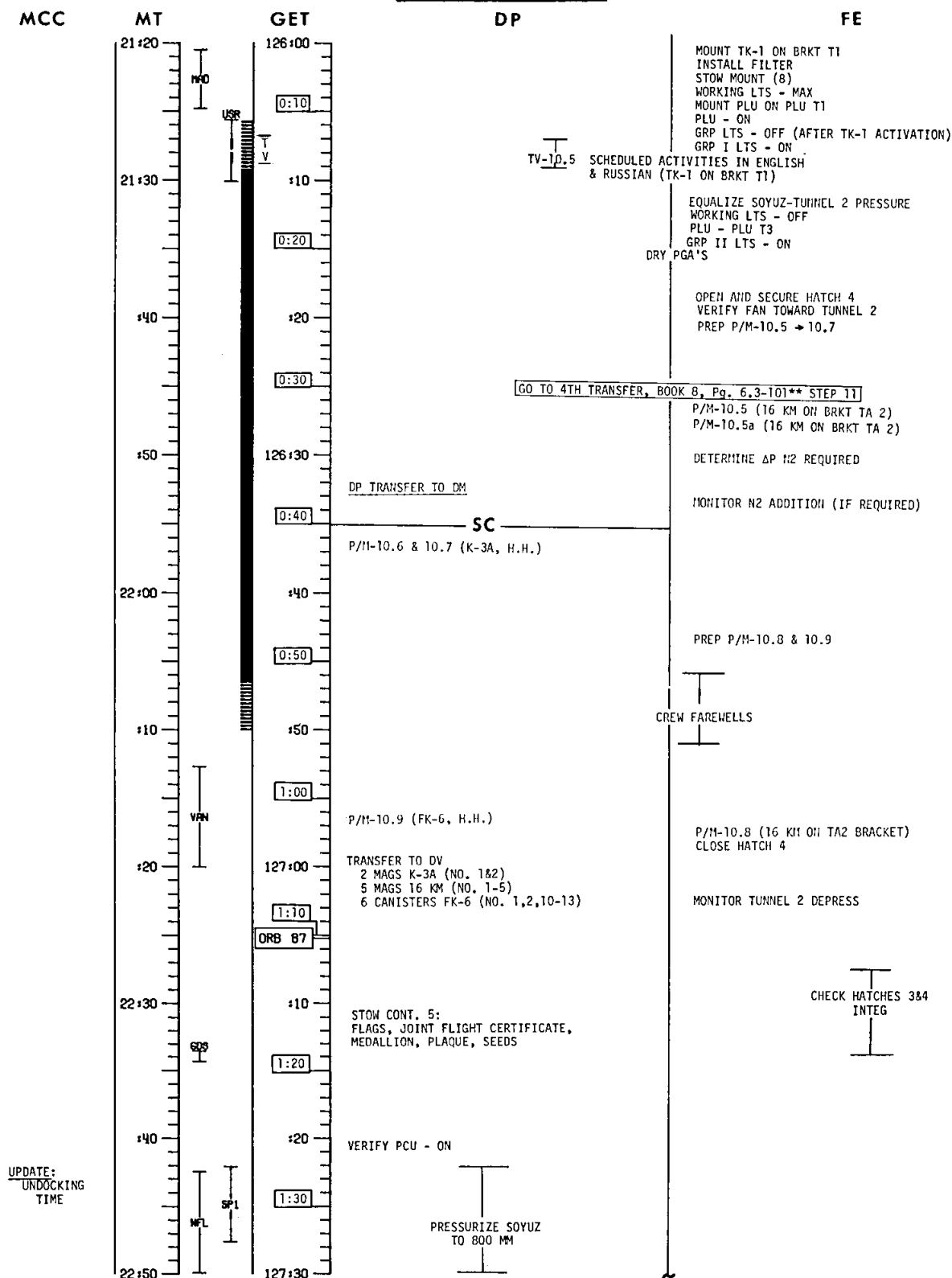
HOUSTON DATE	REV
JULY 20, 1975	16-17



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-14

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 20, 1975	86-87

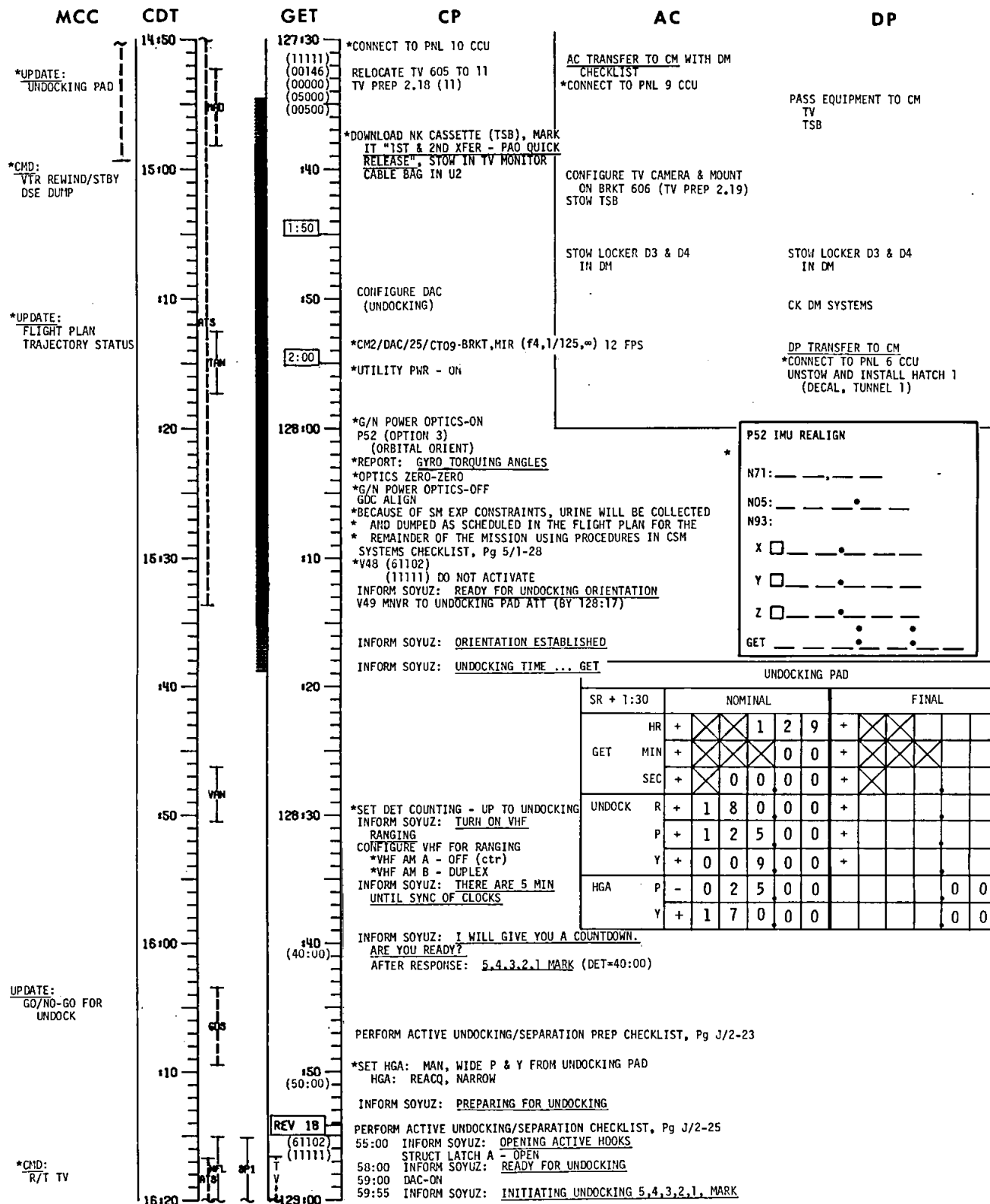


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-15

5TH LAUNCH OPPORTUNITY

APOLLO DETAILED CREW ACTIVITIES PLAN

HOUSTON DATE	REV
JULY 20, 1975	17-18

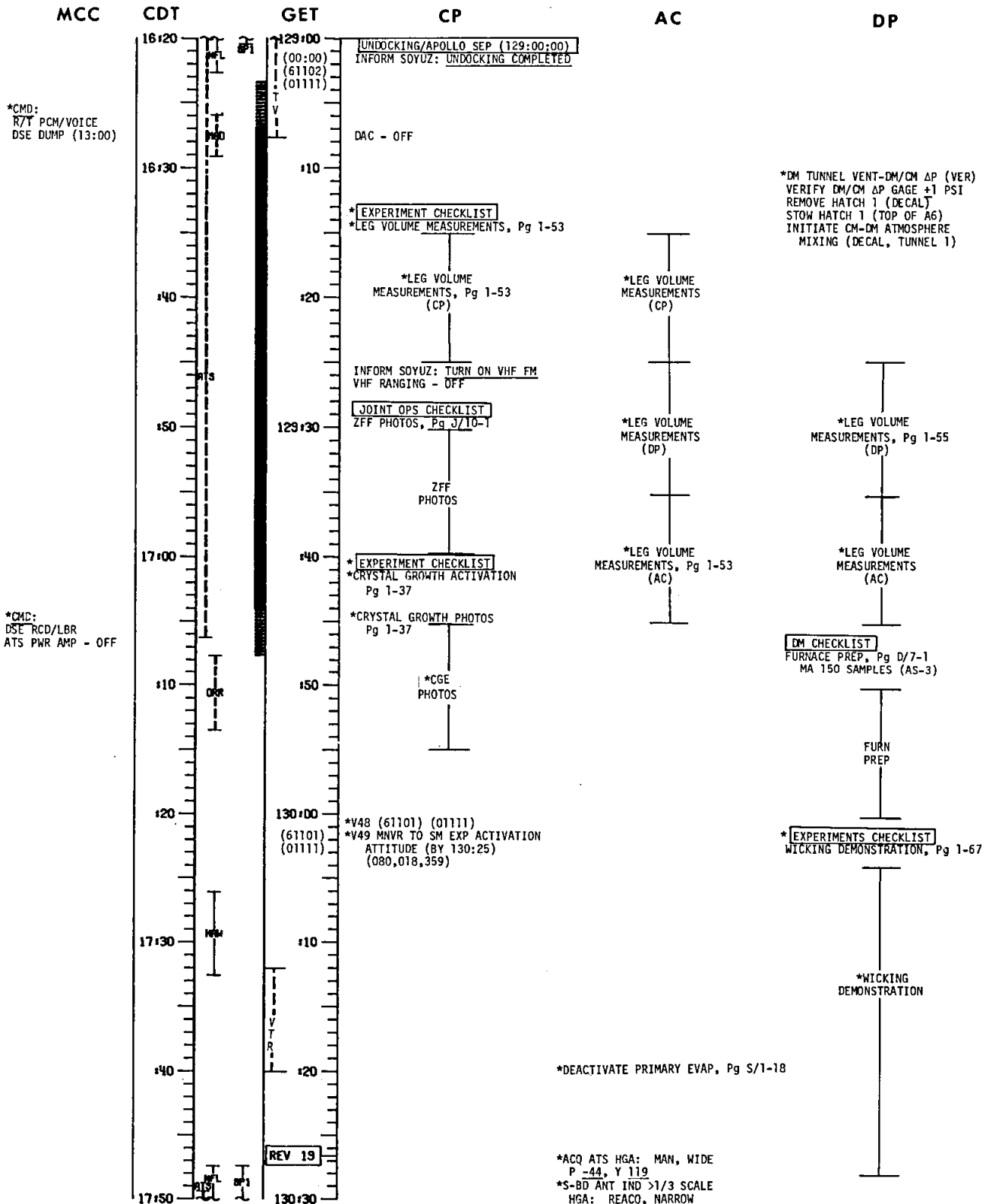


MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-16

APOLLO DETAILED CREW ACTIVITIES PLAN

1 129:00 - 130:30 - 4.2-18 - 5

HOUSTON DATE	REV
JULY 20, 1975	18-19



MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-18

5TH LAUNCH OPPORTUNITY

SOYUZ DETAILED CREW ACTIVITIES PLAN

MOSCOW DATE	ORB
JULY 21, 1975	88-89

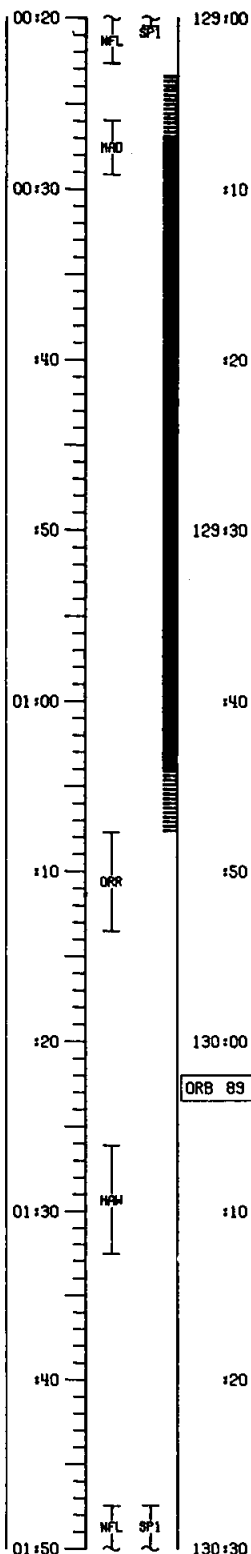
MCC

MT

GET

SC

FE



UNDOCK/APOLLO SEP (129:00)
 INFORM APOLLO: UNDOCKING COMPLETED
 DV & OM PRESSURE CHECK 2

PERFORM STABILIZATION AFTER
 UNDOCKING

BEACON - ON
 ORIENTATION LTS - ON

DV & OM PRESSURE CHECK 3

OPEN HATCH 5
 TRANSFER TO OM

OM TAPE RECORDER - OFF

ALL COMM - OFF
 SIMPLEX FM COMM - ON
 AM BYPASS VALVE - CLOSED
 TRANSFER TO OM
 OM PRV - CLOSE

BEACON - OFF
 ORIENTATION LIGHTS - OFF

DOFF AND DRY PGA'S &
 INITIATE EQUIPMENT STOWAGE

ESTABLISH SOLAR SPIN (3°/SEC)

ORB 89

MISSION	EDITION	PUBLICATION DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	4.2-19

5TH LAUNCH OPPORTUNITY

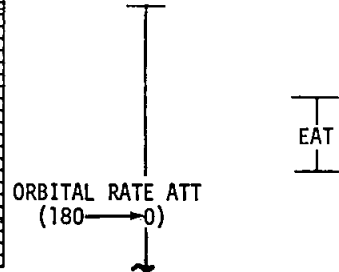
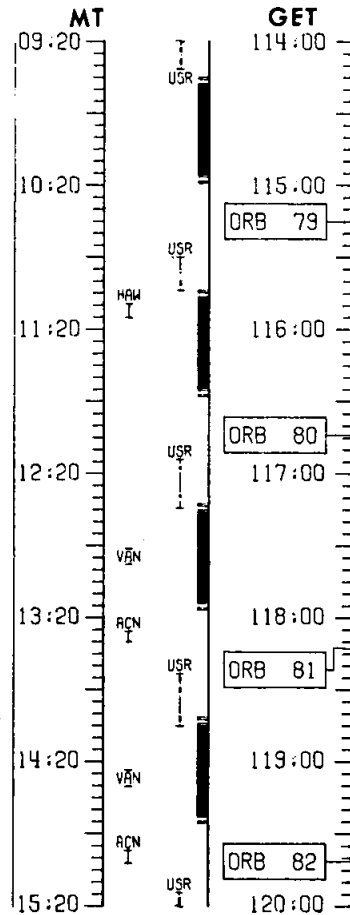
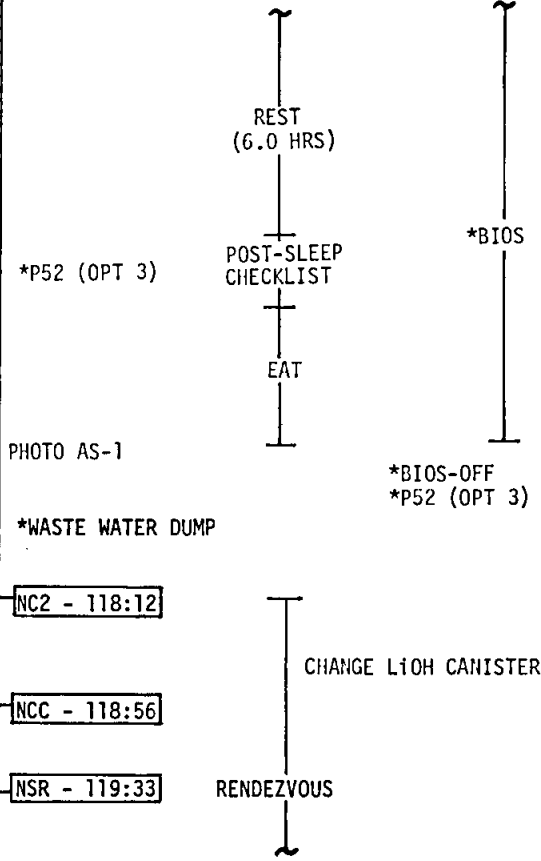
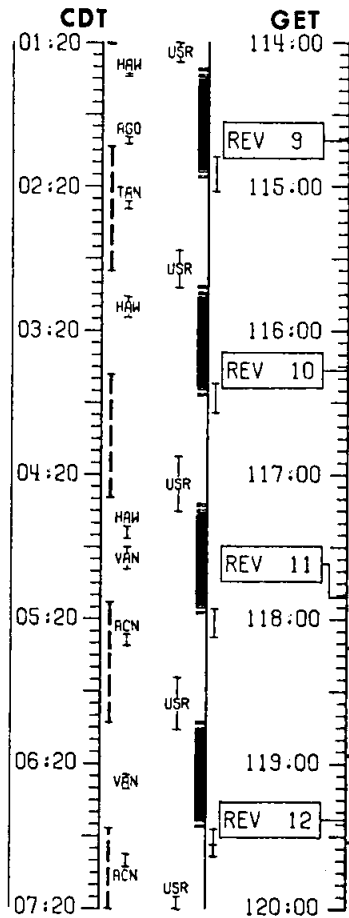
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SUMMARY CREW ACTIVITIES PLAN APOLLO

DATE	REV
7/20/75	8-12

SOYUZ

DATE	ORB
7/20/75	78-82



MISSION	EDITION	DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-1

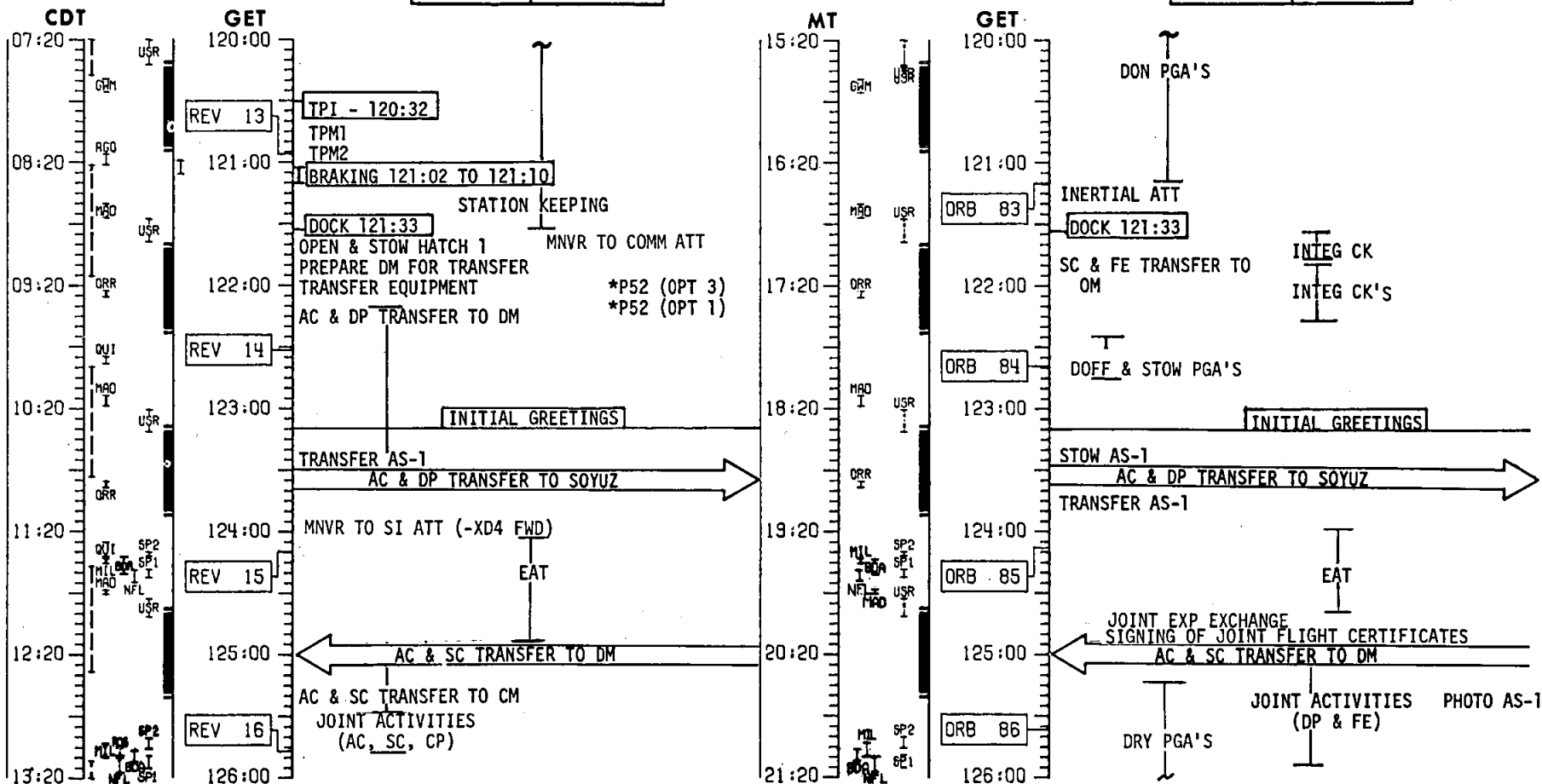
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/20/75	12-16

SOYUZ

DATE	ORB
7/20/75	82-86



MISSION	EDITION	DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5-2

5TH LAUNCH OPPORTUNITY

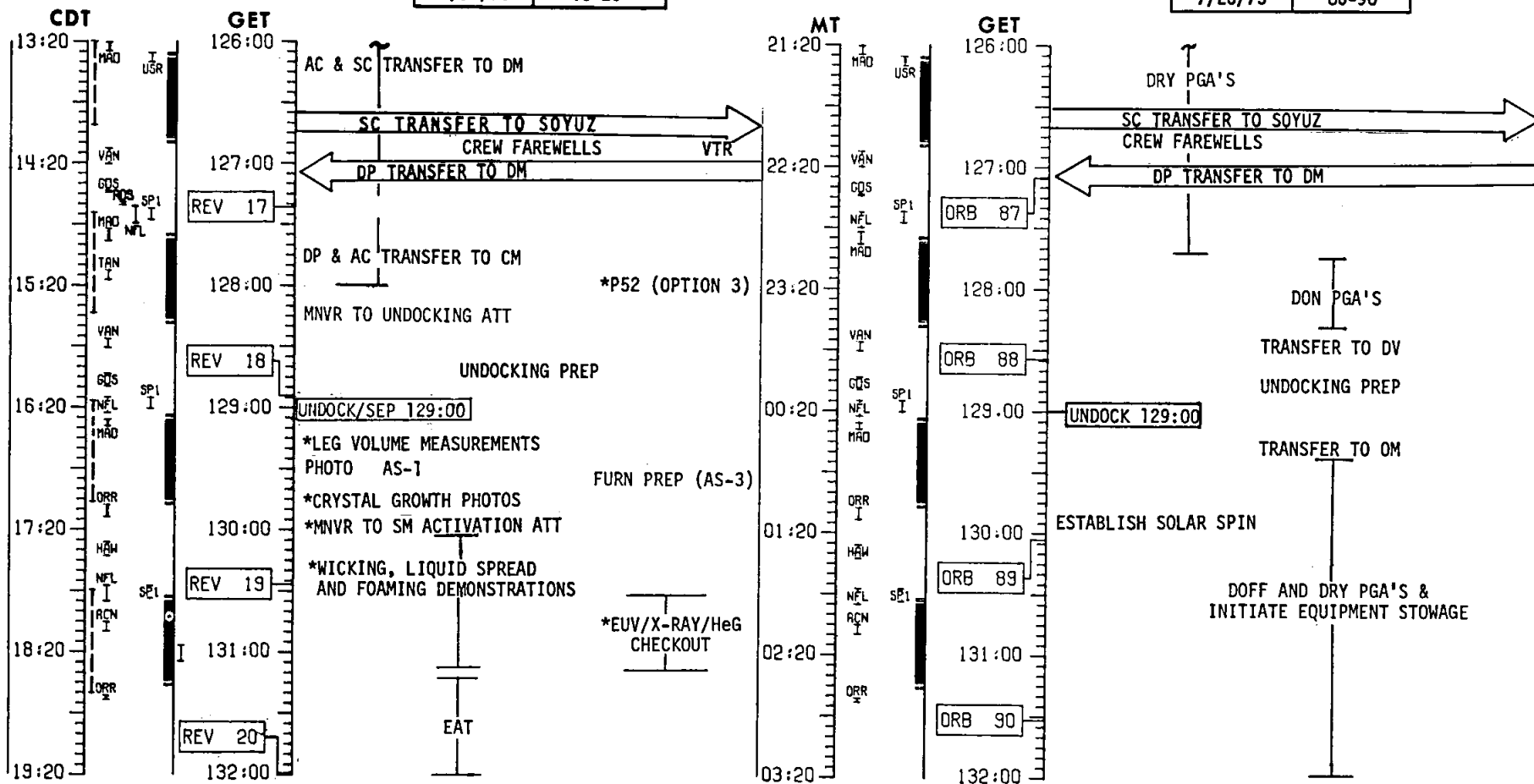
SUMMARY CREW ACTIVITIES PLAN

APOLLO

DATE	REV
7/20/75	16-20

SOYUZ

DATE	ORB
7/20/75	86-90



MISSION	EDITION	DATE	PAGE
ASTP	REVISION 7	JUNE 14, 1975	5.3

SECTION 6 CHANGE PROCEDURES
FOR THE FIFTH LAUNCH OPPORTUNITY

ASTP 40301.7

1.0 Delete the following pages or sections of pages

- 1.1 On 6.0-1, delete situations referring to contingencies 6.7, 6.8, and 6.10.
- 1.2 On 6.0-2, delete the reference to contingency 6.7, and delete the situations referring to contingencies 6.12, 6.13, and 6.14.
- 1.3 6.4-1, 6.4-2, 6.4-3, 6.5-1, 6.5-2, 6.5-3, 6.6-1, 6.6-2, 6.6-3, 6.6-4, 6.7, 6.7-1, 6.7-2, 6.7-3, 6.7-4, 6.8, 6.10, 6.12, 6.12-1, 6.12-2, 6.13, 6.14, 6.14-1.

2.0 Make the following corrections

2.1 Pg 6.1

- IN B-2 DELETE "IF UVA CANNOT BE PERFORMED"
- DELETE B-3

2.2 Pg 6.3

- In B-3 (Apollo) and (B-2) Soyuz, delete "or delayed until after crew Crew rest period."
- Delete C-2.

2.3 Pg 6.4

- Delete B-2, B-3 and B-4.
- Add under B:
 - "2. Soyuz roll angle = 49° for docking.
 - 3. Transfer of AC and DP to Soyuz will be delayed one revolution.
 - 4. Transfer of SC to Apollo will not be performed.
 - 5. AC and DP will return to Apollo at the nominal time.
 - 6. Return to nominal timeline for the 5th opportunity at 126:30 GET."
- In C-2 change "53:35" to "123:13".

2.4 Pg 6.5

- Delete B-2, B-3, B-4, C-1 and C-3.
- Add under B:
 - "2. Soyuz roll angle = 45° for docking.
 - 3. Systems and integrity checks are performed, but no transfers are performed.
 - 4. Return to nominal timeline at 127:15 GET on Soyuz and 127:45 GET on Apollo."
- In C-2 change "55:05" to "124:43".

2.5 Pg 6.6

- Delete B-2, B-3, B-4, B-5, C-1, C-2.
- Add under B:
 - "2. Soyuz roll angle = 45° for docking.
 - 3. The systems and integrity checks are performed, but no transfer is performed.
 - 4. Return to nominal timeline at 127:15 GET on Soyuz and 127:45 GET on Apollo."

2.6 Pg 6.9

- In B-2, delete "and the crews rest for 8 hours".
- Delete B-3, B-4, C-1, C-2, C-3.
- Add under B:
 - "3. Return to nominal timeline at 127:15 GET on Soyuz and 127:45 GET on Apollo".

2.7 Pg 6.11

- Change title to read "UNDOCKING DELAYED"
- Delete all items under B and C.
- Add under B:
"Crews will prepare for undocking after consultation between
each other and with MCC'S".