

**NOT FOR FLIGHT**

JSC-09150

**ASTP**

**FINAL**

**TV OPERATIONS  
BOOK**

**PREPARED BY**

**PROCEDURES BRANCH**

**CREW TRAINING & PROCEDURES DIVISION**



*National Aeronautics and Space Administration*

**LYNDON B. JOHNSON SPACE CENTER**

*Houston, Texas*

**MAY 9, 1975**

# NOT FOR FLIGHT

ASTP

TV OPS BOOK

MAY 9, 1975

PREPARED BY: \_\_\_\_\_

*E.S. Daley*  
E.S. DALEY  
BOOK MANAGER

APPROVED BY: \_\_\_\_\_

*D.R. Brooks*  
D.R. BROOKS  
SYSTEMS PROCEDURES SECTION  
CREW TRAINING & PROCEDURES DIVISION

APPROVED BY: \_\_\_\_\_

*John Wegener*  
J.A. WEGENER, CHIEF  
SYSTEMS PROCEDURES SECTION  
CREW TRAINING & PROCEDURES DIVISION

*PS*  
It is requested that any organization having comments, questions, or suggestions concerning this document contact E.S. Daley, Crew Training & Procedures Division, telephone 483-2541.

Distribution of this document is controlled by T.A. Guillory, telephone 483-4271, CG 54, Crew Training & Procedures Division.

## TV OPERATIONS BOOK

**LIST OF EFFECTIVE PAGES**

FINAL 5/9/75

PAGE	DATE	PAGE	DATE	PAGE	DATE
i	5/9/75	9-2	5/9/75	13-7	5/9/75
ii	5/9/75	10-1	5/9/75	13-8	5/9/75
iii	5/9/75	10-2	5/9/75	13-9	5/9/75
iv	5/9/75	10-3	5/9/75	13-10	5/9/75
1-1	5/9/75	10-4	5/9/75	13-11	5/9/75
1-2	5/9/75	10-5	5/9/75	13-12	5/9/75
2-1	5/9/75	10-6	5/9/75	13-13	5/9/75
2-2	5/9/75	10-7	5/9/75	13-14	5/9/75
3-1	5/9/75	10-8	5/9/75	13-15	5/9/75
3-2	5/9/75	10-9	5/9/75	13-16	5/9/75
4-1	5/9/75	10-10	5/9/75		
4-2	5/9/75	10-11	5/9/75		
4-3	5/9/75	10-12	5/9/75		
4-4	5/9/75	10-13	5/9/75		
5-1	5/9/75	10-14	5/9/75		
5-2	5/9/75	10-15	5/9/75		
6-1	5/9/75	10-16	5/9/75		
6-2	5/9/75	10-17	5/9/75		
6-3	5/9/75	10-18	5/9/75		
6-4	5/9/75	11-1	5/9/75		
6-5	5/9/75	11-2	5/9/75		
6-6	5/9/75	11-3	5/9/75		
6-7	5/9/75	11-4	5/9/75		
6-8	5/9/75	11-5	5/9/75		
7-1	5/9/75	11-6	5/9/75		
7-2	5/9/75	12-1	5/9/75		
7-3	5/9/75	12-2	5/9/75		
7-4	5/9/75	13-1	5/9/75		
7-5	5/9/75	13-2	5/9/75		
7-6	5/9/75	13-3	5/9/75		
8-1	5/9/75	13-4	2/2/75		
8-2	5/9/75	13-5	2/2/75		
9-1	5/9/75	13-6	2/2/75		

THIS PAGE INTENTIONALLY BLANK

CONTENTS

SECTION	PAGE
PRELAUNCH SETUP.....	1-1
LAUNCH.....	2-1
TRANSPPOSITION,DOCKING,& EXTRACTION.....	3-1
DM CHECKOUT.....	4-1
RENDEZVOUS,STATION KEEPING,& DOCKING.....	5-1
FIRST CREW TRANSFER.....	6-1
SECOND,THIRD,AND FOURTH CREW TRANSFERS.....	7-1
UNDOCKING,DOCKING TESTS,SEPARATION, DM JETTISON....	8-1
SEQUENCE OF JOINT ACTIVITIES.....	9-1
JOINT ACTIVITIES.....	10-1
TV OPERATING PROCEDURES.....	11-1
OPERATIONAL CHARACTERISTICS.....	12-1
TV CAMERA FIELDS OF VIEW AND ACTIVITY/AREA, TV CAMERA MANAGEMENT, CUE CARDS.....	13-1
FIGURE 1. CM TV LOCATIONS.....	13-5
FIGURE 2. DM TV LOCATIONS.....	13-6
FIGURE 3. OM TV LOCATIONS.....	13-7

SPECIAL INSTRUCTIONS AND COMMENTS

1. This document provides a central source of TV Operations data and is intended for reference use only. It is not scheduled for inclusion into the ASTP FDF since all TV system procedures are provided elsewhere in appropriate flight checklists. The FINAL copy of the TV OPS Book won't necessarily be updated prior to Launch.
2. ''Made for TV'' operations will be minimized. In general, normal crew activity will be televised from several fixed TV locations. Selection of the appropriate camera, after being initially setup by the crew, will normally be accomplished by MCC-H commands.
3. One TV camera (but only one) must be selected MASTER. Other operating cameras must be selected SLAVE. If the Soyuz camera is operating, it must be selected MASTER.
4. VTR management will normally be accomplished by MCC-H commands.
5. VTR record time is limited to 30 minutes. Record-to-playback ratio is 1:1.
6. Should the VTR approach its temperature limits due to continuous usage, MCC-H will instruct the crewmen to connect ECS hoses to the VTR for supplemental cooling.
7. When the VTR is recording, all intercom voice will be recorded.
8. The TV AMPL (pnl 181) switch must be ON only when two or more TV cameras are in operation.

PRELAUNCH SETUP

(performed by pad technician)

Obtain and assemble TV camera, W/A lens, monitor, cables (2), and launch bracket

On pnl 181:

CM1 TV STA POWER - OFF

Connect TV cable to CM1 TV STA receptacles and CM2 TV STA SIGNAL receptacle

Set camera - AVG, MASTER, LINEAR

Set lens (F,ZOOM,FOC) - 3.5, 9, 10

Mount camera in launch position

TV monitor - ON

On pnl 181:

TV STA SEL CM - UP TLM

TV STA SEL CM1 - UP TLM

CM/DM CAMR POWER - on (up)

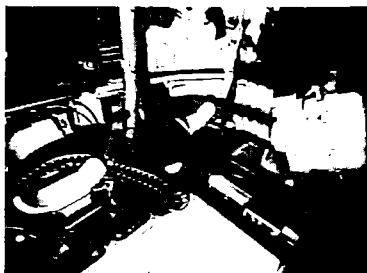
CM1 TV STA POWER - ON

TV MONITOR POWER - OFF

TV AMPL - BYPASS

CM2 TV STA POWER - OFF

Check monitor, adjust lens if required



CM CAMR 1 (LAUNCH BRACKET)

When TV setup complete:

TV monitor - OFF

On pnl 181:

CM1 TV STA POWER - OFF

Remove monitor and monitor cable. Stow in A5.

**1-2**

**DATE 5/9/75**

**THIS PAGE INTENTIONALLY BLANK**



**LAUNCH**

Prior to hatch closure:

On pnl 181:

CM/DM CAMR POWER - on(up)(verify)

CM1 TV STA POWER - ON

Install polarized filters on lights and camera

Request that MCC-H evaluate launch camera picture

Adjust lens if required



CM CAMR 1 (Launch Bracket)

-----LAUNCH-----

2-2

DATE 5/9/75

THIS PAGE INTENTIONALLY BLANK

**ID&E**

Unstow and assemble second TV camera, Zoom lens, monitor, cables (2), and U-mount (A5).

Attach U-mount to left side of camera with lens arrow pointing to rear

Position U-mount X,Y,Z - 325, 90, 155

Set lens (F, ZOOM, FOC) - 22, 25, 15

Set camera - AVG, SLAVE, LINEAR (Note: Select PEAK if white content of scene falls below approx 10%).

Mount TV camera in location 606 (pin in hole 1)

On pnl 181:

CM2 TV STA POWER - OFF (verify)

Disconnect the TV video cable from CM2 TV STA SIGNAL receptacles and leave loose

Connect TV cable (from 606 TV) to CM2 TV STA receptacles

TV STA SEL CM - CM

TV STA SEL CM1 - CM1

CM/DM CAMR POWER - on (up)(verify)

TV AMPL - ON

CM1 TV STA POWER - ON

CM2 TV STA POWER - ON

TV monitor - ON

Verify polarized filters on couch lights and launch bracket camera

Check monitors, adjust camera pointing and lens if required



CM CAMR 1 (Launch Brkt)

Picture of  
DM after  
Transposition

CM CAMR 2 (606)

**Note:** Manual camera selection and VTR management is required for this activity. Detailed ON/OFF switching is included in the LAUNCH CHECKLIST.

**Note:** Camera cue light illuminates when camera is selected.  
Cue light blinks when camera overheats. If VTR is recording, all intercom voice will be recorded.

-----TD&E-----

**When TV complete:**

On pnl 400:

HEAD WHEEL DRIVE MOTOR - OFF (lts - off)

On pnl 181:

CM 1 TV STA POWER - OFF

CM 2 TV STA POWER - OFF

TV AMPL - BYPASS

Remove polarized filters from lights & camera and stow (TSB)

**DM\_CHECKOUT**

Remove launch TV camera and bracket. Stow bracket (UVA cable bag)  
Obtain U-mount, monitor, and monitor cable (A5)  
Attach U-mount to TV camera (U-mount to left side of camera with  
lens arrow pointing to rear)  
Set camera - AVG, MASTER, LINEAR  
Set lens (F, ZOOM, FOC) - 3.5, 9, 10  
Position U-mount X, Y, Z - 260, 10, 5  
Remount TV camera in CM tunnel location (pin in hole 4)  
Monitor - ON  
On pnl 181:  
TV STA SEL CM - UP TLM (verify)  
TV STA SEL CM 1 - UP TLM (verify)  
CM/DM CAMR POWER - on (up)  
CM 1 TV STA POWER - ON  
Check monitor, adjust camera pointing and lens if required



CM CAMR 1 (11)

-----Observation of Hatch 1 & 2 Opening-----

DM\_CHECKOUT (CONTINUED)

Obtain from D3 and assemble:

TV camera, W/A lens, monitor, cables (2), U-mount (U-mount attaches to top of camera with lens arrow pointing to right)

Set camera - AVG,SLAVE,LINEAR

Set lens (F,ZOOM,FOC) - 3.5, 9, 10

Position U-mount X,Y,Z - 80, 170, 60

Mount camera at location 871 (pin in hole 2)

On pnl 808:

DM 1 TV STA POWER - OFF (verify)

DM 2 TV STA POWER - OFF (verify)

Connect TV cable to DM 2 TV STA receptacles

TV monitor - ON

Obtain from D3 and assemble:

Second TV camera, W/A lens, monitor, cables (2), U-mount (U-mount attaches to top of camera with lens arrow pointing to right)

Set camera - AVG,SLAVE,LINEAR

Set lens (F,ZOOM,FOC) - 3.5, 9, 10

Position U-mount X,Y,Z - 80, 170, 60

Mount camera at location 873 (pin in hole 4)

On pnl 808:

Connect TV cable to DM 1 TV STA receptacles

TV monitor - ON

On pnl 181:

CM/DM CAMR POWER - on (up)(verify)

TV AMPL - ON

On pnl 808:

TV STA SEL DM - UP TLM (verify)

TV STA SEL DM 1 - UP TLM (verify)

CAMR SYNC - CM/DM (verify)

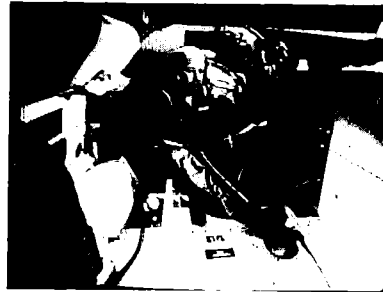
DM 1 TV STA POWER - ON

DM 2 TV STA POWER - ON

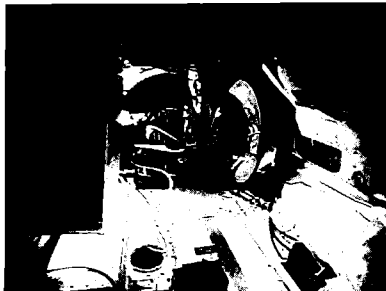
Check monitors, adjust camera pointing and lens if required



CM CAMR 1 (11)



DM CAMR 1 (873)



DM CAMR 2 (871)

-----DM CHECKOUT-----

When TV complete:

On pnl 808:

DM 1 TV STA POWER - OFF

DM 2 TV STA POWER - OFF

On pnl 181:

CM 1 TV STA POWER - OFF

TV AMPL - BYPASS

4-4

DATE 5/9/75

THIS PAGE INTENTIONALLY BLANK



RENDEZVOUS, STATION KEEPING, & DOCKING

Remove TV camera and U-mount from location 11

Position U-mount X,Y,Z - 105, 190, 65

Remount camera in location 11 (pin in hole 4)

Install polarized filters on couch lights and camera

On TV camera at location 606:

Verify camera - PEAK,SLAVE,LINEAR

Note: Select AVG if white content of scene rises above approx 10%.

Verify lens (F,ZOOM,FOC) - 22, 100, infinity (Adjust ZOOM as range requires)

On pnl 181:

CM/DM CAMR POWER - on (up)(verify)

TV AMPL - ON

CM 1 TV STA POWER - ON

CM 2 TV STA POWER - ON

On pnl 808:

DM 1 TV STA POWER - ON

DM 2 TV STA POWER - ON

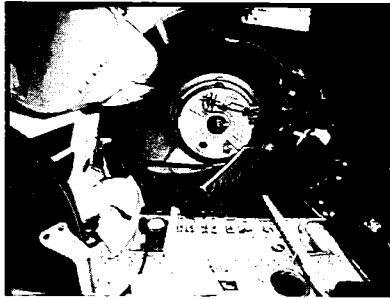
Check monitors, adjust camera pointing and lens if required



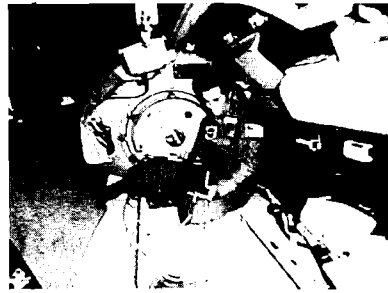
CM CAMR 1 (11)



CM CAMR 2 (606)



DM CAMR 1 (873)



DM CAMR 2 (871)

During DM CLOSEOUT prior to Hatch 2 closure:

On pnt 808:

DM 1 TV STA POWER - OFF  
DM 2 TV STA POWER - OFF

-----RENDEZVOUS, STA KEEPING, & DOCKING-----

When TV complete:

On pnt 181:

CM 1 TV STA POWER - OFF  
CM 2 TV STA POWER - OFF  
TV AMPL - BYPASS

Remove filters from lights and camera

FIRST CREW TRANSFER

On pnl 181:

CM 2 TV STA POWER - OFF (verify)

On TV camera at location 606:

Remove and stow zoom lens (A5)

Obtain and install W/A lens (A5)

Disconnect TV cable from CM 2 TV STA & wind around TV camera

Verify TV camera mounted in location 871 and connected to DM 2 TV STA receptacles

Verify TV camera mounted in location 873 and connected to DM 1 TV STA receptacles

Install polarized filters on lights and camera at location 11

Note: These filters are to be removed from lights during periods when camera at 11 is not selected for video transmission

On pnl 181:

CM/DM CAMR POWER - on (up)(verify)

TV AMPL - ON

CM 1 TV STA POWER - ON

On pnl 808:

CAMR SYNC - CM/DM (verify)

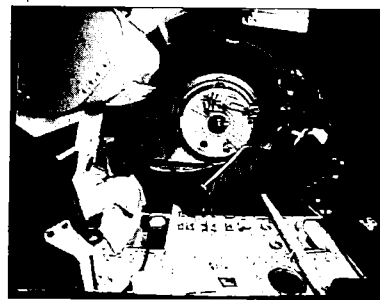
DM 1 TV STA POWER - ON

DM 2 TV STA POWER - ON

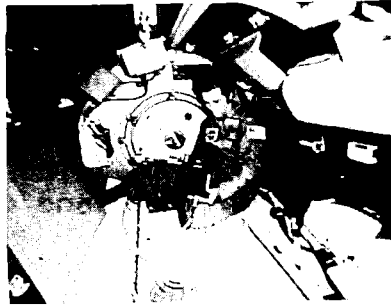
Check monitors, adjust camera pointing and lens if required



CM CAMR 1 (11)



DM CAMR 1 (873)



DM CAMR 2 (871)

Remove the TV camera assembly (camera, monitor, cables, U-mount) from the RH rendezvous window and pass into the DM. Stow temporarily in 872 location.

Note: TV monitor may be connected to pnl 181 TV MONITOR receptacle to observe video from the DM/Soyuz to assist in field of view adjustments.

-----BEGIN FIRST CREW TRANSFER-----

Prior to Initial Greeting:

Remove TV camera and U-mount from location 871

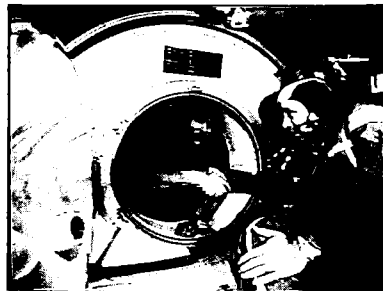
Relocate U-mount to left side of camera with lens arrow pointing to rear

Set lens (F,ZOOM,FOC) - 3.5, 9, 10

Position U-MOUNT X,Y,Z - 260, 15, 0

Mount camera at location 874 (pin in hole 1)

Check monitor, adjust camera pointing and lens if required



## DM CAMR 2 (874)

Note: Stay to right of Hatch 3 and do not block camera view.

-----INITIAL GREETINGS-----

On camera at 874, ZOOM - 27 to view OM interior  
Transfer TV assembly from location 873 into the OM (drag thru  
cable) for mounting at TA 1  
Relocate U-mount to left side of camera with lens arrow pointing  
to rear  
Reposition U-mount X,Y,Z - 340, 0, 65  
Mount camera at location TA 1 (pin in hole 2)  
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10  
Check monitor, adjust camera pointing and lens if required



## DM CAMR 1 (TA 1)

-----FORMAL GREETINGS, GIFT EXCHANGE-----

On TV camera at location 874:  
Set lens (F,ZOOM,FOC) - 3.5, 27, 10  
Position U-mount X,Y,Z - 260, 20, 355  
Check monitor, adjust camera pointing and lens if required



DM CAMR 2 (874)

-----CABLE CONNECTION TO SOYUZ-----

Note: Connection must be made from OM side of tunnel 2

Obtain SJ-Box TV cable adapter (D1)

On pnl 808:

DM 1 TV STA POWER - OFF

Disconnect TV cable connectors from DM 1 TV STA receptacles  
and connect to TV cable adapter

Pass TV cable into Soyuz

Set camera - AVG, MASTER, LINEAR

SJ-Box:

TV & utility POWER - OFF (verify)

Connect TV cable to SJ-Box

TV monitor - ON

On pnl 815:

cb SOYUZ POWER DM B - close

On pnl 808:

CAMR SYNC - SOYUZ

Advise CP to select SLAVE on CM camera

Note: OM camera must be selected MASTER and all other operating  
cameras must be SLAVE.

SJ-Box:

TV & utility POWER - ON

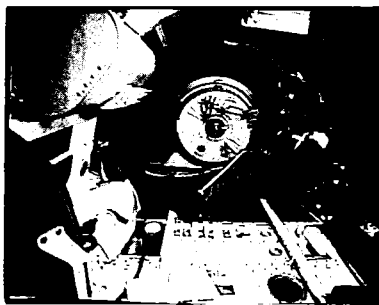
Check monitor, adjust camera pointing and lens if required



OM CAMR (TA 1)

-----MEAL-----

Remove TV camera and U-mount stowed at location 872  
Relocate U-mount to top of camera with lens arrow pointing to right  
Set lens (F,ZOOM,FOC)- 3.5, 9, 10  
Position U-mount X,Y,Z - 80, 170, 60  
Mount TV camera at location 873 (pin in hole 4)  
Route TV cable to panel 808  
On pnl 808:  
DM 1 TV STA POWER - OFF (verify)  
Connect TV cable to DM 1 TV receptacles  
DM 1 TV STA POWER - ON  
Check monitor, adjust camera pointing and lens if required



DM CAMR 1 (873)

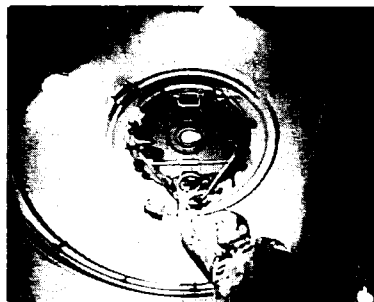
Remove TV camera and U-mount from location 874  
Relocate U-mount to top of camera with lens arrow pointing to right  
Set lens (F,ZOOM,FOC) - 3.5, 9, 10  
Position U-mount X,Y,Z - 82, 180, 84  
Mount TV camera at location 871 (pin in hole 2)  
Check monitor, adjust camera pointing and lens if required



DM CAMR 2 (871)

## -----FURNACE OPERATIONS-----

Remove TV camera and U-mount from location TA 1  
Relocate U-mount to top of camera with lens arrow pointing to right  
Set lens (F,ZOOM,FOC) - 3.5, 9, 10  
Position U-mount X,Y,Z - 290, 170, 0  
Mount TV camera at location TA 2 (pin in hole 1)  
Check monitor, adjust camera pointing and lens if required



OM CAMR (TA 2)



Following hatch 4 closure near completion of First Transfer:

SJ-Box:

TV & utility POWER - OFF

On pnl 808:

CAMR SYNC - CM/DM

On TV camera at location 11:

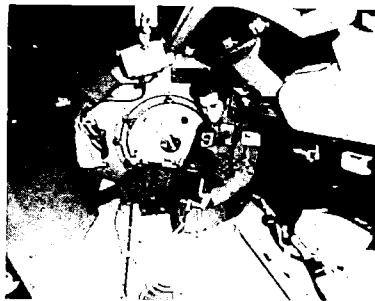
MASTER/SLAVE - MASTER

On TV camera at location 871:

Position U-mount X,Y,Z - 80, 170, 60

Verify lens (F,ZOOM,FOC) - 3.5, 9, 10

Check monitor, adjust camera pointing and lens if required



DM CAMR 2 (871)

When TV complete:

On pnl 181:

CM/DM CAMR POWER - OFF

TV AMPL - BYPASS

6-8

DATE 5/9/75

THIS PAGE INTENTIONALLY BLANK

SECOND, THIRD, & FOURTH CREW TRANSFERS

## -----SECOND TRANSFER-----

Remove TV camera and U-mount from location 11  
Position U-mount X,Y,Z - 10, 175, 105  
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10  
Verify camera - AVG, MASTER, LINEAR  
Mount TV camera in location 605 (pin in hole 4)  
On pnl 181:

CM/DM CAMR POWER - on (up)

TV AMPL - ON

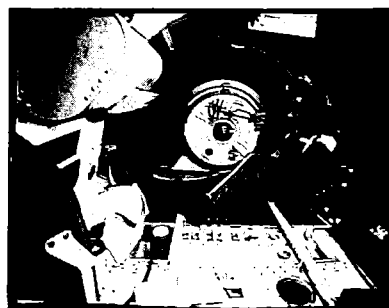
Verify TV camera mounted at location 871 viewing Hatch 2 area

Verify TV camera mounted at location 873 viewing Hatch 3 area

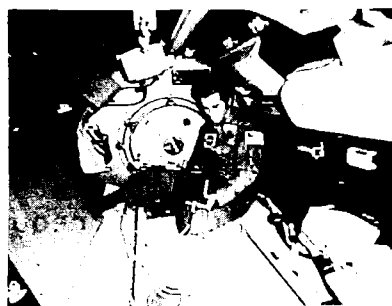
Check monitors, adjust camera pointing and lens if required



CM CAMR 1 (605)



DM CAMR 1 (873)

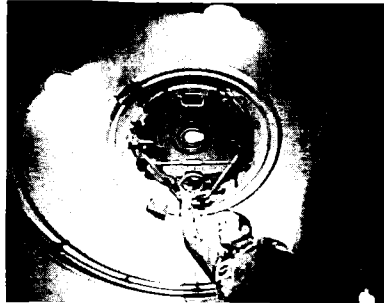


DM CAMR 2 (871)

At Hatch 3 opening:

On SJ-Box:

TV & utility POWER - ON



OM CAMR (TA2)

On TV camera at location 605:

MASTER/SLAVE - SLAVE

On pnl 808:

CAMR SYNC - SOYUZ

TV of: SOYUZ TOUR (Page 10-9)  
CM TOUR (Page 10-7)  
USSR TOUR (Page 10-11)  
FOOD PREP (Page 10-1)

-----THIRD TRANSFER-----

Verify camera at location 871 viewing Hatch 2 area

Verify camera at location 873 viewing Hatch 3 area

Remove TV camera and U-mount from location 11

Position U-mount X,Y,Z - 80, 175, 95

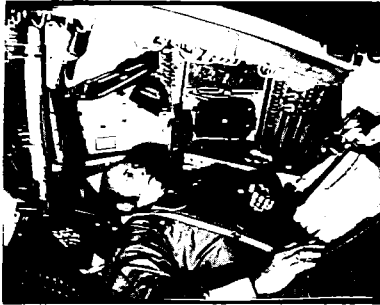
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10

Verify camera - AVG, SLAVE, LINEAR

Remount TV camera at location 11 (pin in hole 4)

Install polarized filters on couch lights and camera

Check monitor, adjust camera pointing and lens if required



CM CAMR 1

Remove TV filters and stow (U2)

TV of: PRESS CONFERENCE (Page 10-5)  
FLORIDA TOUR (Page 10-15)  
CERTIFICATE SIGN (Page 10-17)

-----FOURTH TRANSFER-----

Verify camera at location 871 viewing Hatch 2 area

Remove TV camera and U-mount from location 605

On pnl 181:

CM 2 TV STA POWER - OFF

Disconnect cable at CM 2 TV STA receptacles

Remove zoom lens and stow (A5). Obtain W/A lens (A5) and install

Pass TV camera assembly into DM

Reposition U-mount to top of camera with lens arrow pointing  
to right

Position U-mount X,Y,Z - 80, 170, 60

Set lens (F,ZOOM,FOC) - 3.5, 9, 10

Verify camera - AVG, SLAVE, LINEAR

Mount TV camera at location 873 (pin in hole 4)

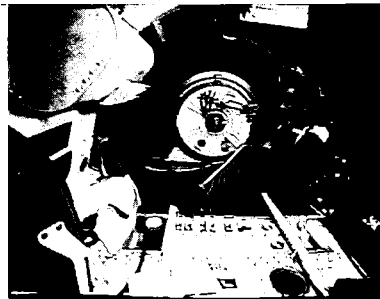
On pnl 808:

DM 1 TV STA POWER - OFF (verify)

Connect cable to DM 1 TV STA receptacles

DM 1 TV STA POWER - ON

Check monitor, adjust camera pointing and lens if required



DM CAMR 1 (873)

Remove TV camera and U-mount from location 11  
Remove and stow polarized filters (U2)  
Position U-mount X,Y,Z - 10, 175, 105  
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10  
Verify camera - AVG, SLAVE, LINEAR  
Mount TV camera at location 605 (pin in hole 4)  
Check monitor, adjust camera pointing and lens if required



CM CAMR 1 (605)

TV of: CREW FAREWELLS (Page 10-13)

DATE 5/9/75

## After Hatch 2 opening:

Transfer TV camera assembly at location 872 into CM

On pnl 181:

CM 2 TV STA POWER - OFF (verify)

Connect TV cable to CM 2 TV STA receptacles

Position U-mount to left side of camera with lens arrow pointing to rear

Position U-mount X,Y,Z - 325, 90, 155

Set lens (F,ZOOM,FOC) - 22, 25, 15

Verify camera - AVG, SLAVE, LINEAR

Mount TV camera in location 606 (pin in hole 1)

## When TV complete:

On pnl 181:

CM/DM CAMR POWER - OFF

TV AMPL - BYPASS

**7-6**

**DATE 5/9/75**

**THIS PAGE INTENTIONALLY BLANK**



UNDOCKING, DOCKING TESTS, SEPARATION, DM JETTISON

Remove TV camera and U-mount from location 605

Position U-mount X,Y,Z - 105, 190, 65

Verify lens (F,ZOOM,FOC) - 3.5, 9, 10

Verify camera - AVG, MASTER, LINEAR

Mount camera at location 11 (pin in hole 4)

Install polarized filters on couch lights and camera

Verify TV camera at location 606 viewing OTW

Verify U-mount X,Y,Z - 325, 90, 155

Verify lens (F,ZOOM,FOC) - 22, 25, 15 (Readjust ZOOM as range requires)

On pnl 181:

CM/DM CAMR POWER - on (up)

TV AMPL - ON

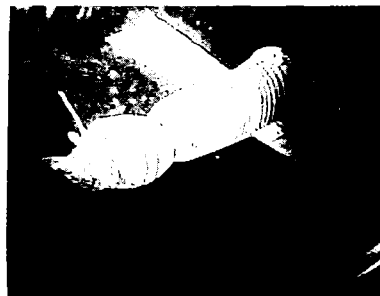
CM 1 TV STA POWER - ON (verify)

CM 2 TV STA POWER - ON

Check monitors, adjust camera pointing and lens if required



CM CAMR 1 (11)



CM CAMR 2 (606)

Note: Select PEAK on RH rendezvous window TV camera if white content of the scene drops below approx 10%.

-----UNDOCKING, DOCKING TESTS, SEPARATION, DM JETT-----

When TV complete:

On pnl 181:

CM/DM CAMR POWER - OFF

TV AMPL - BYPASS

Remove filters from lights and camera

Note: CM CAMR 1 picture of the crewmen is not required during DM JETTISON.

8-2

DATE 5/9/75

THIS PAGE INTENTIONALLY BLANK

SEQUENCE OF JOINT ACTIVITIES (SECTION 10)

	<u>PAGE</u>
1. APOLLO FAMILIARIZATION (CM TOUR).....	10-7
2. SOYUZ TOUR.....	10-9
3. RUSSIA TOUR.....	10-11
4. FOOD PREP - APOLLO & SOYUZ.....	10-1
5. PRESS CONFERENCE - APOLLO & SOYUZ CREW.....	10-5
6. FLORIDA TOUR.....	10-15
7. CERTIFICATE SIGNING, SEED PRESENTATION, AND DIE EXCHANGE.....	10-17
8. CREW FAREWELLS.....	10-13

9-2

DATE 5/9/75

THIS PAGE INTENTIONALLY BLANK

JOINT\_ACTIVITIES\_FOOD\_PREP

Remove TV camera from CM Hatch window and stow bungee  
Remove zoom lens and stow (TSB). Obtain W/A lens (TSB) and install  
on camera.  
Remove U-mount from location 605  
Position U-mount on left side of camera with lens arrow pointing  
to rear  
Position U-mount X,Y,Z - 10, 175, 105  
Set lens (F,ZOOM,FOC) - 3.5, 9, 10  
Verify camera - AVG, SLAVE, LINEAR  
Mount TV camera in RH RNDZ window location 605 (pin in hole 4)  
On pnl 181:  
CM/DM CAMR POWER - ON  
TV AMPL - ON  
CM1 TV STA PWR - ON  
Check monitor, adjust camera pointing and lens if required



CM CAMR 1 (605)

## -----APOLLO FOOD PREP-----

On the OM camera at TA1, verify U-mount X,Y,Z - 340, 0, 65  
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10  
Adjust OM lighting:  
Group II - OFF, Group I - ON, Portable Light - ON (T1), Working lights- MAX  
SJ-Box:  
TV & utility POWER - ON  
Check monitor, adjust camera pointing and lens if required

FOOD\_PREP\_(contd)

OM CAMR (TA1)

## -----SOYUZ FOOD PREP-----

At completion of TV, Portable Light - OFF and prep TV cameras for viewing transfer procedures:

Remove TV camera and U-mount from location 605

Position U-mount X,Y,Z - 260, 10, 5

Verify lens (F,ZOOM,FOC) - 3.5, 9, 10

Verify camera - AVG, SLAVE, LINEAR

Mount TV camera in tunnel location 11 (pin in hole 4)

Check monitor, adjust camera pointing and lens if required



CM CAMR 1 (11)

Remove OM camera and U-mount from TA1

Reposition U-mount to top of camera with lens arrow pointing to right

Position U-mount X,Y,Z - 290, 170, 0

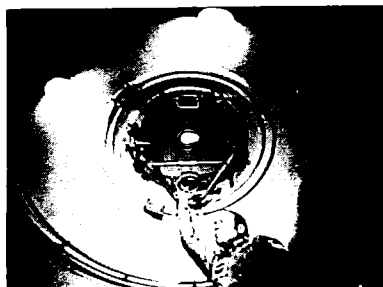
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10

Verify camera - AVG, MASTER, LINEAR

Mount TV camera at location TA2 (pin in hole 1)

FOOD\_PREP\_(contd)

Check monitor, adjust camera pointing and lens if required



OM CAMR (TA2)

Prior to Hatch 4 open, configure OM lighting:  
Group I - OFF, Group II - ON, Portable Light - ON/T3,  
Working lights - OFF

10-4

DATE 5/9/75

THIS PAGE INTENTIONALLY BLANK



10-5

DATE 5/9/75

PRESS CONFERENCE - APOLLO & SOYUZ CREW

Remove TV camera from the CM tunnel location 11 and stow (TSB)  
Obtain TV camera from location 873 and position U-mount on left side  
of camera with lens arrow pointing to rear  
Position U-mount X,Y,Z - 10, 175, 105  
Set lens (F,ZOOM,FOC) - 3.5, 9, 10  
Set camera - AVG, SLAVE, LINEAR  
Mount TV camera in the RH rendezvous window location 605 (pin in  
hole 4)  
On pnl 181:  
CM1 TV STA POWER - OFF  
CM2 TV STA POWER - OFF  
Connect TV cable to CM2 TV STA receptacles  
CM/DM CAMR POWER - on (up)  
TV AMPL - ON  
CM2 TV STA POWER - ON  
Obtain OM TV camera and position U-mount on left side of camera with  
lens arrow pointing rear  
Position U-mount X,Y,Z - 340, 0, 65  
Set lens (F,ZOOM,FOC) - 3.5, 9, 10  
Set camera - AVG, MASTER, LINEAR  
Mount TV camera at location TA1 (pin in hole 2)  
SJ-Box:  
TV & utility POWER - ON  
Check monitors, adjust camera pointing and lens if required



CM CAMR 2 (605)



OM CAMR (TA 1)

-----PRESS CONFERENCE-----

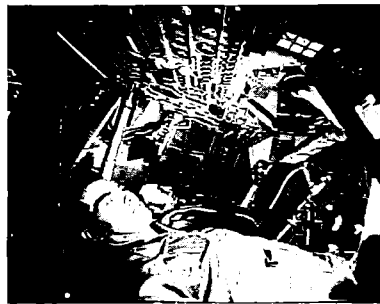
10-6

DATE 5/9/75

THIS PAGE INTENTIONALLY BLANK

APOLLO FAMILIARIZATION - CM TOUR

Remove TV camera and U-mount from location 605  
Position U-mount X,Y,Z - 305, 90, 45  
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10  
Verify camera - AVG, SLAVE, LINEAR  
Mount TV camera in RH girth shelf location 231 (pin in hole 1)  
Install polarized filters on camera and lights  
On pnl 181:  
CM 1 TV STA POWER - ON  
TV AMPL - ON  
Check monitor, adjust camera pointing and lens if required



CM CAMR 1 (231)

## -----CM TOUR-MDC-----

Remove polarized filters from camera and lights  
Remove TV camera and U-mount from location 231  
Position U-mount X,Y,Z - 10, 175, 105  
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10  
Mount TV camera in RH rendezvous window location 605 (pin in hole 4)  
Check monitor, adjust camera pointing and lens if required



CM CAMR 1 (605)

## -----CM TOUR-LEB-----

10-8

DATE 5/9/75

Reposition TV camera at 605

Position U-mount X,Y,Z - 340, 180, 100

Set lens (F,ZOOM,FOC) - 3.5, 27, 10

Check monitor, adjust camera pointing and lens if required



CM CAMR 2 (605)

-----DSKY OPERATIONS-----

SOYUZ TOUR

Remove OM TV camera and U-mount from location TA2  
Reposition U-mount to right side of the camera with lens arrow pointing rear  
Position U-mount X,Y,Z - 0, 0, 105  
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10  
Verify camera - AVG, MASTER, LINEAR  
Mount TV camera in location TA3 (pin in hole 4)  
Adjust lighting: Group I - OFF, Group II - ON,  
Portable Light - ON/T2, Working lights - MAX  
SJ-Box:  
TV & utility POWER - ON  
Check monitor, adjust camera pointing and lens if required



OM CAMR (TA3)

## -----OM PANEL DESCRIPTION-----

Remove OM TV camera and U-mount from location TA3  
Reposition U-mount to left side of the camera with lens arrow pointing to rear  
Hand hold camera and transfer into the DV  
Position U-mount X,Y,Z - 30,70,20  
Mount TV camera in location TA4 (pin in hole 1)  
Adjust lighting: Special lights - ON, Special light 9 - OFF,  
Working lights - MAX, install RH window shade



OM CAMR (TA4)

10-10

DATE 5/9/75

SOYUZ TOUR (contd)

Remove OM TV camera and U-mount from location TA4  
Hand hold camera and transfer into the OM  
Position U-mount X,Y,Z - 325, 0, 75  
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10  
Mount TV camera in location TA1 (pin in hole 2)  
Remove RH window shade  
Proceed with Prep for USSR Tour:

RUSSIA TOUR

Remove TV camera and U-mount from RH RNDZ window location 605  
Remove W/A lens and stow (TSB). Obtain zoom lens (TSB) and  
install on camera. Apply tape around front edge of lens to  
protect CM hatch window from scratches.

Set lens (F,ZOOM,FOC) - 22, 100, infinity

Verify camera - AVG, SLAVE, LINEAR

Obtain long bungee and secure TV camera to hatch window

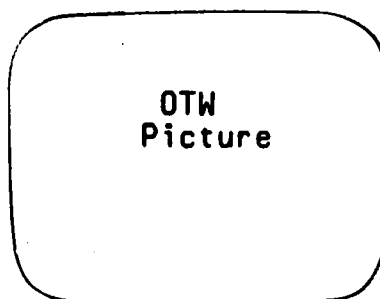
On pnl 181:

TV AMPL - ON (verify)

CM 1 TV STA POWER - ON

CM 2 TV STA POWER - OFF (verify)

Check monitor, adjust camera lens if required



CM CAMR 1 (CM HATCH WNDW)

Adjust OM lighting:

Group II - OFF, Group I - ON, Portable Light - ON/T1,

Working lights - MAX

SJ-Box:

TV & utility POWER - ON

Check monitor, adjust camera pointing and lens if required



OM CAMR (TA1)

-----RUSSIA TOUR-----

10-12

DATE 5/9/75

When TV Tour complete:

Portable Light - OFF

On pnl 181:

CM/DM CAMR POWER - OFF

TV AMPL - BYPASS

SJ-Box:

TV & utility POWER - OFF



10-13

DATE 5/9/75

**CREW\_FAREWELLS**

On SJ-Box:

TV & utility POWER - OFF

Disconnect TV cable connectors from SJ-Box receptacles

Disconnect TV cable adapter and stow (D1)

On pnl 808:

DM2 TV STA POWER - OFF

CAMR SYNC - CM/DM

Disconnect TV cable connectors from DM2 TV STA receptacles and  
wind around TV camera at 871

Connect TV cable connectors from TA1 camera to DM2 TV STA receptacles

DM2 TV STA POWER - ON

Adjust TA1 U-mount X,Y,Z - 340, 0, 65

Check monitor, adjust camera pointing and lens if required



OM CAMR (DM2)

Relocate TV camera from 871 to 872 for temporary stowage

Adjust TV camera at location 873, ZOOM - 27

-----CREW FAREWELLS-----

Remove OM TV camera, monitor and U-mount from TA1 and pass to DM  
crewman.

Stow temporarily at location 874

Hand-hold TV for final handshakes and Hatch 3 closure

-----HATCH 3 CLOSURE-----

10-14

DATE 5/9/75

Adjust TV camera at location 873, ZOOM - 9  
On hand-held camera, reposition U-mount to top of camera with lens  
arrow pointing to right  
Position U-mount X,Y,Z - 80, 170, 60  
Set camera - AVG, SLAVE, LINEAR  
Advise CP to select MASTER on camera at location 605  
Verify lens (F,ZOOM,FOC) - 3.5, 9, 10  
Mount TV camera in 871 (pin in hole 2)  
Check monitor, adjust camera pointing and lens if required



DM CAMR 2 (871)

Hatch 2 Opening:

Proceed with TV camera setup on page 7-5.

10-15

DATE 5/9/75

# FLORIDA TOUR

Remove TV camera and U-mount from RH rendezvous window location 605  
Remove W/A lens and stow (TSB). Obtain Zoom lens (TSB) and install  
on TV camera

Position U-mount X,Y,Z - 20, 90, 225

Set lens (F,ZOOM,FOC) - 22, 100, infinity

Verify camera - AVG, SLAVE, LINEAR

Remount TV camera at location 605 (pin in hole 1)

Unstow TV camera from TSB

Position U-mount X,Y,Z - 290, 40, 200

Verify lens (F,ZOOM,FOC) - 3.5, 9, 10

Verify camera - AVG, SLAVE, LINEAR

Mount TV camera in location 11 (pin in hole 3)

Install polarized filters on camera at 11 and couch lights

On pnl 181:

CM 1 TV STA POWER - ON

CM 2 TV STA POWER - ON

TV AMPL - ON

Check monitors, adjust camera pointing and lens if required



CM CAMR 1 (11)



CM CAMR 2 (605)

-----FLORIDA TOUR-----

Proceed with Certificate Signing, Seed Presentation, & Die Exchange.

10-16

DATE 5/9/75

THIS PAGE INTENTIONALLY BLANK

10-17

DATE 5/9/75

CERTIFICATE SIGNING, SEED PRESENTATION, & DIE EXCHANGE

Reposition TV camera at location 11, conduct Certificate Signing, Seed Presentation, and Die Exchange.



CM CAMR 1 (11)

When TV complete:

Remove filters from lights and camera

10-18

DATE 5/9/75

THIS PAGE INTENTIONALLY BLANK

TV\_OPERATING\_PROCEDURESTV\_BASIC

(This BASIC configuration provides the capability to transmit any one of the operating TV camera signals over the STDN and/or the ATS-6 links. Individual camera and link selection and VTR management are accomplished via MCC-H commands).

CAMR      AVG - AVG  
          GAM 1/2 - LINEAR  
          SLAVE - SLAVE  
          Note: One TV camera must be selected MASTER. If the  
              OM camera is operating, it must be MASTER.

MON      POWER - ON

3      S BD XPNDR - PRIM  
         S BD PA - PRIM  
         S BD PA - LOW  
         S BD MODE - VOICE  
         S BD AUX TAPE - CTR  
         S BD AUX TV - CTR  
         UP TLM - DATA

181      CM/DM CAMR POWER - on (up)  
         TV AMPL - ON  
         TV STA SEL CM - UP TLM  
         TV STA SEL CM 1 - UP TLM  
         CM 1 TV POWER - ON  
         CM 2 TV POWER - ON  
         TV MON POWER - OFF

230      PWR AMPL - 1  
         XPNDR - PRIM  
         HGA POWER - on(up)  
         HGA SERVO - PRIM  
         HGA BEAM - NARROW  
         HGA TRACK - REACQ  
         PITCH POSITION - as required  
         YAW POSITION - as required  
         UP TLM - UP TLM (ctr)  
         RELAY MODE TV - UP TLM (ctr)  
         RELAY MODE TV REALTIME - UP TLM (ctr)  
         PWR AMPL CONT - UP TLM  
         HGA SCAN - NORMAL

400      TELEMETRY POWER - ON  
         INTERLEAVER POWER - ON  
         VTR POWER - ON  
         HEAD WHEEL DRIVE MOTOR - (ctr)  
         TAPE MODE - (ctr)  
         TAPE DRIVE - (ctr)  
         TAPE HEAD CLEAN - NORMAL  
         LAMP TEST - STATUS

808      DM 1 TV STA POWER - ON  
         DM 2 TV STA POWER - ON  
         CAMR SYNC - SOYUZ  
         TV STA SEL DM - UP TLM  
         TV STA SEL DM 1 - UP TLM

225      cb ATSF SYSTEM (2) - close

STDN Realtime TV - - - Manual Select

Select TV BASIC, except:

3      S BD AUX TV - TV

181      TV STA SEL CM - as required  
         TV STA SEL CM 1 - as required

230      RELAY MODE TV REALTIME - PLAYBACK

808      CAMR SYNC - as required (SOYUZ if OM camera is  
                 operating)  
         TV STA SEL DM - as required  
         TV STA SEL DM 1 - as required

ATS-6 Realtime TV - - - Manual Select

Select TV BASIC, except:

181      TV STA SEL CM - as required  
         TV STA SEL CM 1 - as required

230      RELAY MODE TV - TV  
         RELAY MODE TV REALTIME - REALTIME  
         PWR AMPL CONT - MAN

808      CAMR SYNC - as required (SOYUZ if OM camera is  
                 operating)  
         TV STA SEL DM - as required  
         TV STA SEL DM 1 - as required



STDN Playback TV - - - Manual Select

Select TV BASIC, except:  
 3 S BD AUX TV - TV  
 230 RELAY MODE TV REALTIME - REALTIME  
 RELAY MODE TV - TV  
 400 HEAD WHEEL DRIVE MOTOR - ON (MOTOR ON lt - on)  
 TAPE MODE - PLAYBACK (PLAYBACK lt - on)

Note: Tape will stop automatically when end-of-tape is reached - - MOTOR ON and PLAYBACK lts will go off.

ATS-6 Playback TV - - - Manual Select

Select TV BASIC, except:  
 230 RELAY MODE TV - TV  
 RELAY MODE TV REALTIME - PLAYBACK  
 HEAD WHEEL DRIVE MOTOR - ON (MOTOR ON lt - on)  
 TAPE MODE - PLAYBACK (PLAYBACK lt - on)  
 PWR AMPL CONT - MAN

Note: Tape will stop automatically when end-of-tape is reached - - MOTOR ON and PLAY lts will go off.

Record TV - - - Manual Select

Select TV BASIC, except:  
 CAMR SLAVE - as required (One camera must be selected MASTER, all other operating cameras must be SLAVE. If the OM camera is operating, it must be MASTER)  
 181 TV STA SEL CM - as required  
 TV STA SEL CM 1 - as required  
 400 HEAD WHEEL DRIVE MOTOR - ON (MOTOR ON lt - on)  
 TAPE MODE - RECORD (RECORD lt - on)

Note: If lights go off during recording, VTR is at end-of-tape.

808 CAMR SYNC - as required (SOYUZ if OM camera is operating)  
 TV STA SEL DM - as required  
 TV STA SEL D: 1 - as required

VTR\_Standby\_--\_Manual\_Select

400 HEAD WHEEL DRIVE MOTOR - OFF (RECORD, MOTOR ON lts - off)

VTR\_Rewind\_--\_Manual\_Select

HEAD WHEEL DRIVE MOTOR - ON (MOTOR ON lt - on)  
TAPE DRIVE - REWIND

Note: Tape will stop automatically and MOTOR lt will go off when beginning-of-tape is reached. Full tape rewind requires 7-1/2 minutes.

VTR\_Fast\_Forward\_--\_Manual\_Select

HEAD WHEEL DRIVE MOTOR - ON (MOTOR ON lt - on)  
TAPE DRIVE - FAST FORWARD

Note: Tape will stop and MOTOR ON lt will go off when end-of-tape is reached. Full tape fast forward requires 7-1/2 minutes.

VTR\_Lamp\_Test\_--\_Manual\_Select

LAMP - TEST and hold (PLAYBACK, MOTOR ON, RECORD, CLEAN HEADS lts - on)  
LAMP - release (lts (4) - off)

VTR\_Tape\_Head\_Cleaning\_--\_Manual\_Select

At MCC-H direction:  
TAPE HEAD - CLEAN (CLEAN HEADS lt - on)

Note: MCC-H will control VTR and will direct further action.

VTR\_Activation\_--\_Manual\_Select

TELEMETRY POWER - ON  
INTERLEAVER POWER - ON  
VTR POWER - ON

VTR\_Deactivation - - Manual\_Select

- 400 HEAD WHEEL DRIVE MOTOR - OFF (RECORD, MOTOR ON lts - off)  
VTR POWER - OFF  
INTERLEAVER POWER - OFF  
TELEMETRY POWER - OFF

VTR\_Cooling\_Activation

- 301 SUIT FLOW vlv - FULL FLOW (verify)  
Connect supply hose (blue) to center hose fitting on top of VTR

Note: If additional VTR cooling required (per MCC-H direction), connect center (pnl 302) suit hose (blue) to hose fitting on side of VTR.

VTR\_Cooling\_Deactivation

Disconnect supply hose (blue) from VTR

VTR\_BYPASS

Verify VTR and TV cameras (4) - OFF  
Obtain tool W and tool 3 (U3, tool kit)  
Obtain 3 inches of gray tape  
Remove the three accessible high torque screws from the VTR connector cover plate  
Stow loose screws by sticking to tape  
Rotate the cover plate CCW about the remaining screw to expose the cable access hole  
Remove the coax connector from J6 and connect to the left connector of the bypass adapter (upper edge of access hole)

To transmit TV to ATS-6:

Remove the coax connector from J14 and connect to the unused end of the bypass adapter

To transmit TV to STDN:

Remove the coax connector from J7 and connect to the unused end of the bypass adapter

Rotate the access cover plate CW and replace the three high torque screws

VTR Monitor Viewing (Panel 181) --- Manual Select

181 Connect monitor cable to TV MONITOR receptacle  
TV MONITOR POWER - on (up)

To view CM camera:

TV STA SEL CM - CM

TV STA SEL CM 1 - CM 1 or CM 2 as desired

To view DM camera:

TV STA SEL CM - REMOTE

808 TV STA SEL DM - DM

TV STA SEL DM 1 - DM 1 or DM 2 as desired

To view OM camera:

181 TV STA SEL CM - REMOTE

808 TV STA SEL DM - SOYUZ

When viewing complete:

TV STA SEL DM - UP TLM

TV STA SEL DM 1 - UP TLM

181 TV STA SEL CM - UP TLM

TV STA SEL CM 1 - UP TLM

TV MONITOR POWER - OFF

Note: TV monitor may be used to view both realtime and  
playback video.

## OPERATIONAL CHARACTERISTICS

### TV Camera

ALC Switch - - AVERAGE is generally the preferred position. The PEAK position was designed to provide detail on small, very bright objects (at the expense of the rest of the scene).

GAMMA Switch - - LINEAR is the preferred position. The GAMMA 1/2 position compresses bright areas and expands the shadowed areas so as to give better overall detail when viewing extremely high contrast scenes like those encountered on the lunar surface. Use of the GAMMA 1/2 position provides poor color when viewing typical interior scenes.

SYNC Switch - - In order to minimize sync interruption while switching cameras, all cameras are synchronized to a common time base. The SLAVE position of the SYNC switch allows the camera to lock to an incoming sync signal. The MASTER position of the SYNC switch allows the camera to output a sync signal to lock all other operating cameras. One camera must be selected MASTER. If the OM camera is operating, design limitations dictate that it shall be MASTER.

CUE Light - - This green light illuminates when the camera video has been selected for downlinking or recording. The light will flash if the camera overheats regardless of whether or not it has been selected for video.

### Zoom Lens (exterior)

FOCUS - - Utilize the TV monitor to determine the correct focus. Depth of focus decreases when zooming in or opening the F-STOP.

ZOOM - - Since the depth of focus decreases when zooming in, a properly focused wide shot may go out of focus when zooming in. The best practice is to zoom in on the subject, set the focus, and then zoom back.

F-STOP - - Because of the wide range of the camera automatic light control, F-STOP settings are not critical. Optimum settings are f/4 for IVA activities, and f/22 for out-the-window shots. Too high an F-STOP setting is characterized by loss of contrast and noise in the picture. Too low a setting results in decreased depth of focus.

Wide Angle Lens (interior)

F-STOP - - Because of the wide range of the camera automatic light control, F-STOP settings are not critical. Optimum settings are f/3.5 for IVA activities, and f/22 for out-the-window shots. Too high an F-STOP setting is characterized by loss of contrast and noise in the picture. Too low a setting results in decreased depth of focus.

Wide Angle Lens Settings

FOCUS	ZOOM	F/STOP	
1 ft	9 mm	3.5	
3 ft	15 mm	5.6	
10 ft	20 mm	8	
20 ft	27 mm	- (11)	These two settings are not marked on the lens.
infinity		16	
		- (22)	
		35	

TV Monitor

VRT Control - - Same as vertical hold on home TV set.

Note: The adjustment range is so wide that a stable, but double image may be displayed. If so, readjust for vertical lock at a different knob position.

HOR Control - - Same as horizontal hold on home TV set.

Note: It is possible to have the picture stable, but off center, resulting in erroneous camera aiming. Adjust the control to the center of its lockup range.

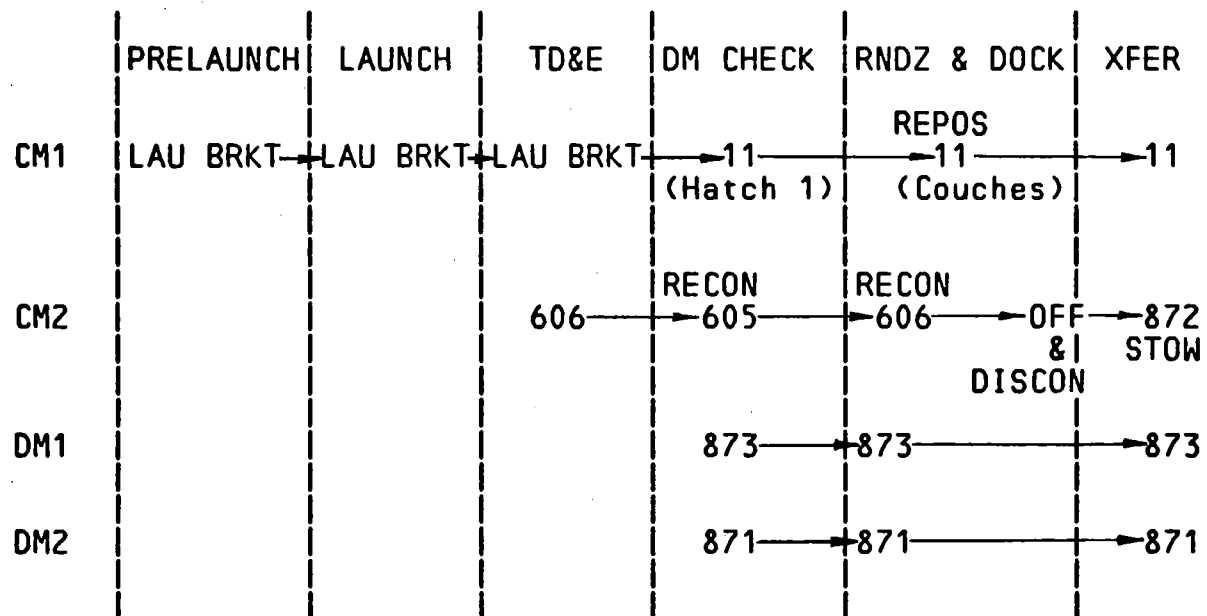
BRT & CONT Controls - - Same as brightness and contrast controls on home TV set.

Note: It is possible to make a poor picture look acceptable with these controls. Don't depend entirely on the monitor picture - - check the camera and lens settings.

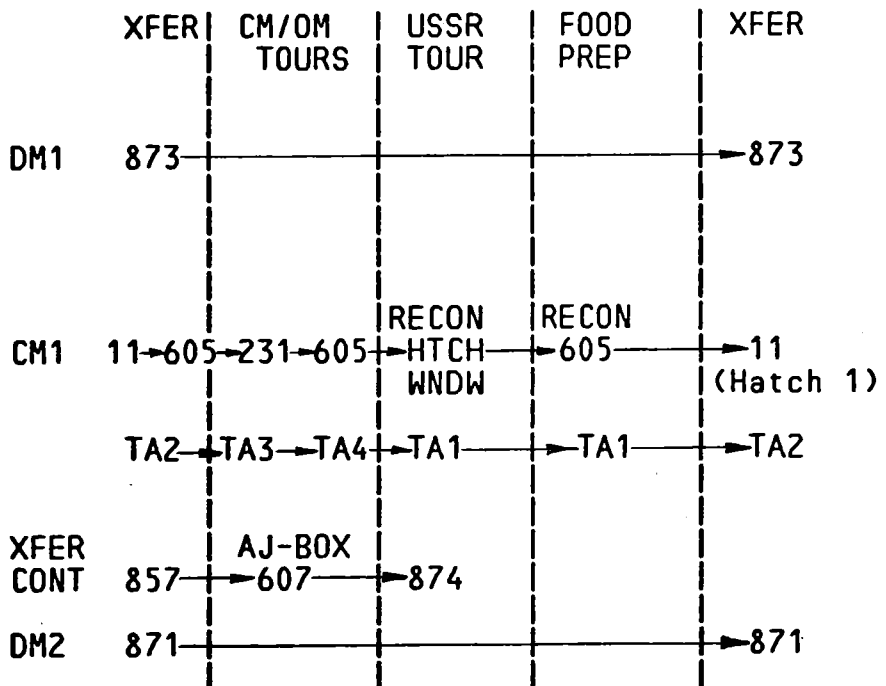
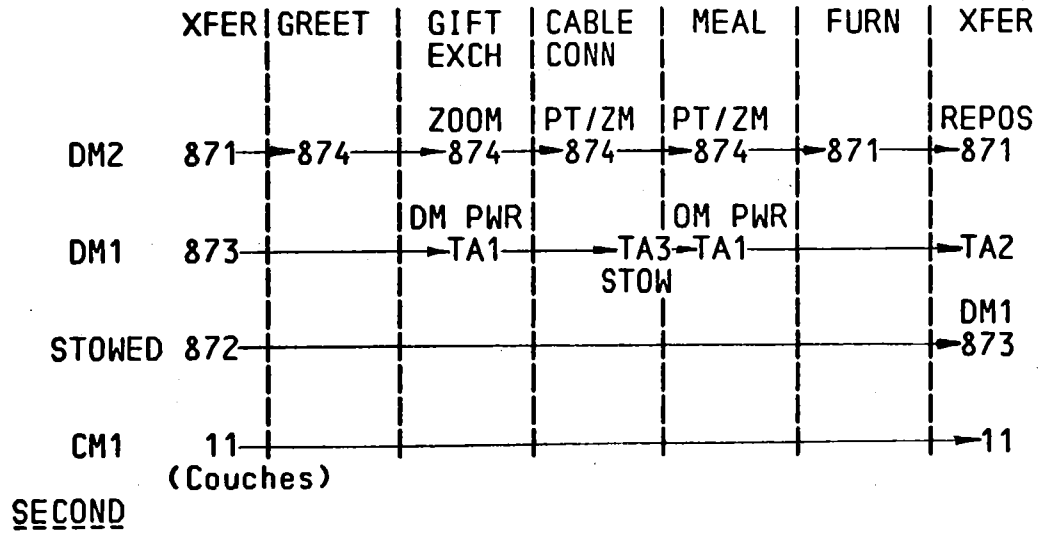
Adjusting the monitor controls has no effect on the quality of video being transmitted to the ground.

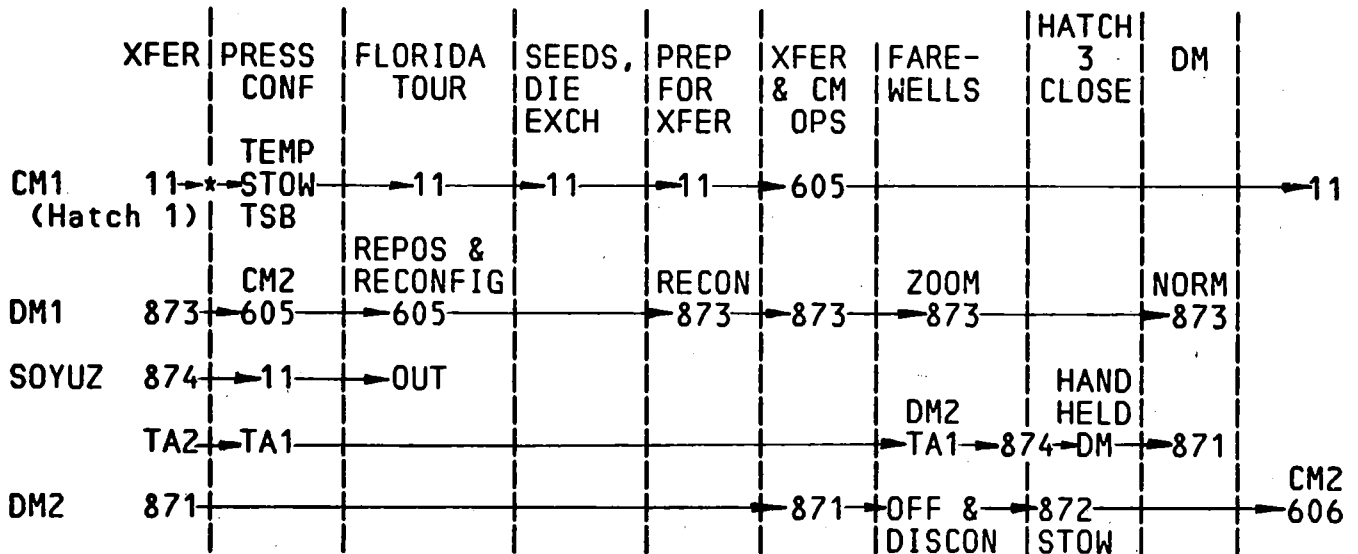
LOC	FOV	SCENE	PAO FOV
LAUNCH BRACKET	CM LEFT/CTR COUCH	1	9
TUNN MT 11	CM LEFT/CTR COUCH	1A	9
RH WNDW 605	CREW QTRS LEB PRESS CONF	2	10
TUNN MT 11	HATCH 1 AREA	3	8
871	HATCH 2 AREA	4	6
873	HATCH 3 AREA	5	7
874	HATCH 3 GREETINGS	6	-
TA 2	HATCH 4 AREA	7	2
TA 1	OM SOFA	8	1
TA 1	HATCH 5 AREA	9	3
RH WNDW 605	OTW	10	OTW
TA 4	DV COUCHES	11	4
TA 4	HATCH 5 AREA	12	5
RH GIRTH SHE 231	PNL 8 AT PICT CENTER	13	MDC
TUNN MT 11	CM SIDE HATCH AREA	-	-

TV CAMERA FIELDS OF VIEW AND ACTIVITY/AREA

TV CAMERA MANAGEMENT - PRELAUNCH TO FIRST TRANSFER



TV CAMERA MANAGEMENT DURING JOINT ACTIVITY PERIODSFIRST

TV CAMERA MANAGEMENT DURING JOINT ACTIVITY PERIODS (CONTINUED)THIRDFOURTH TRANSFER

\*Repos 11 to view DP in CM

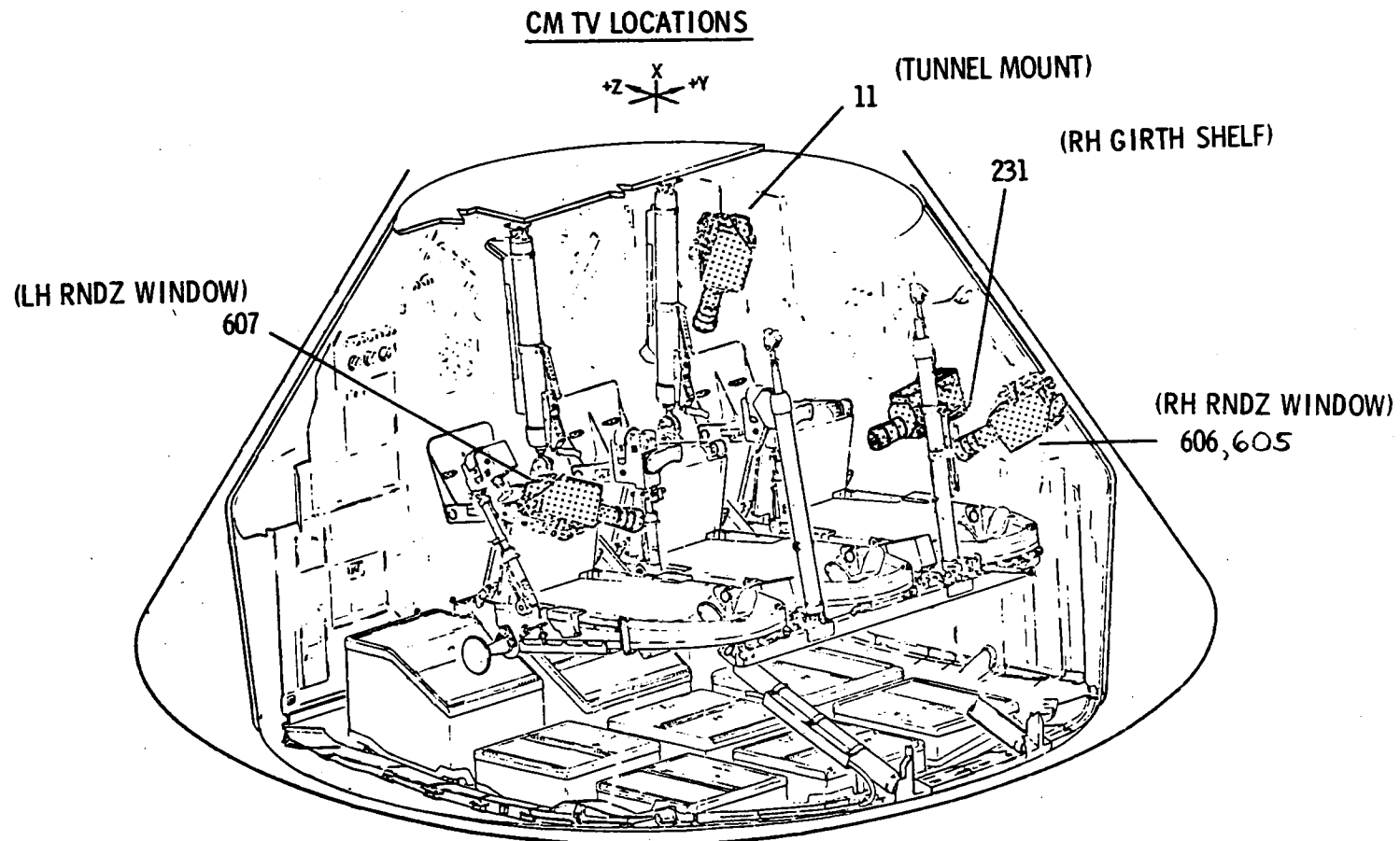


Figure 1

# DM TV LOCATIONS

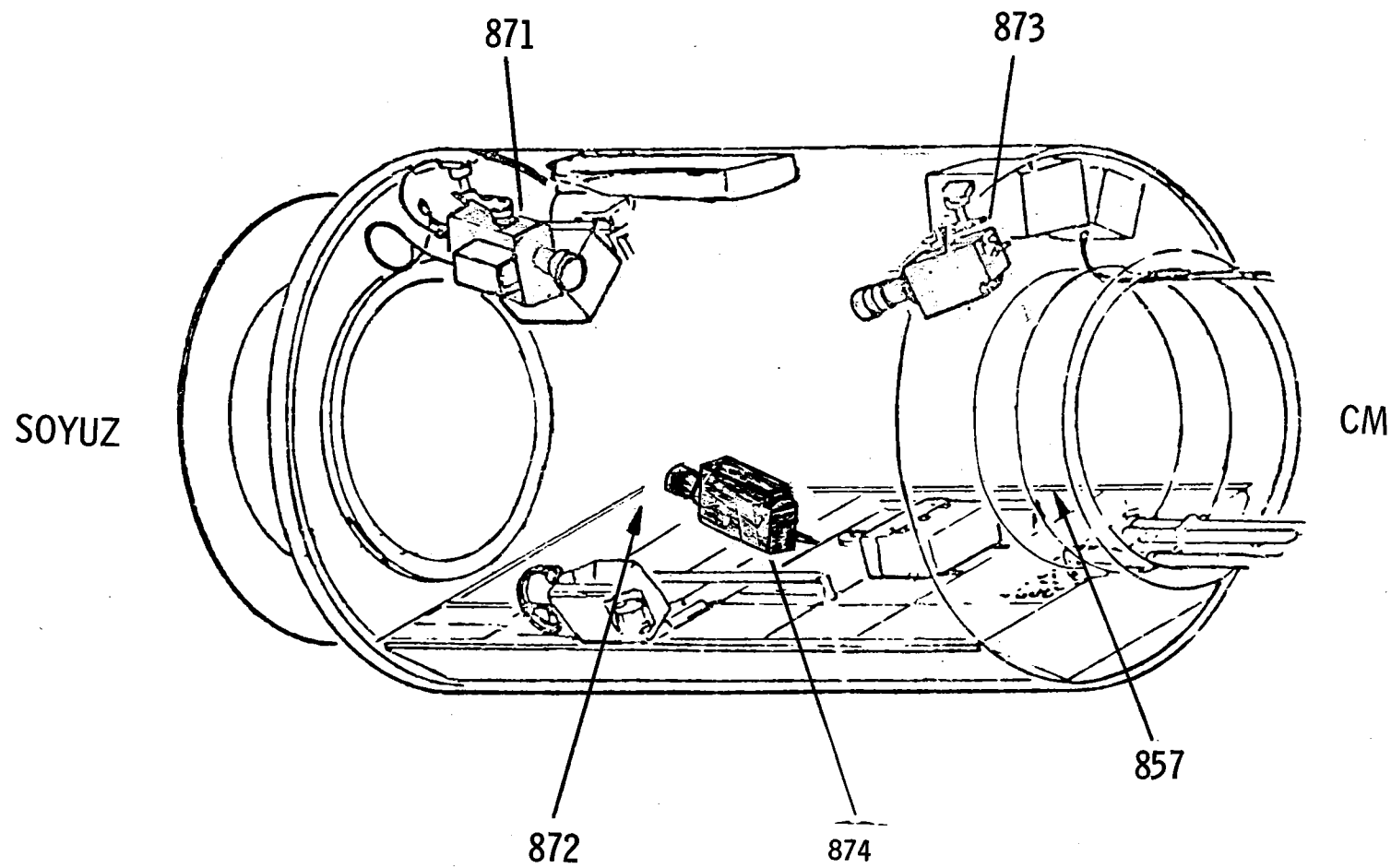


Figure 2

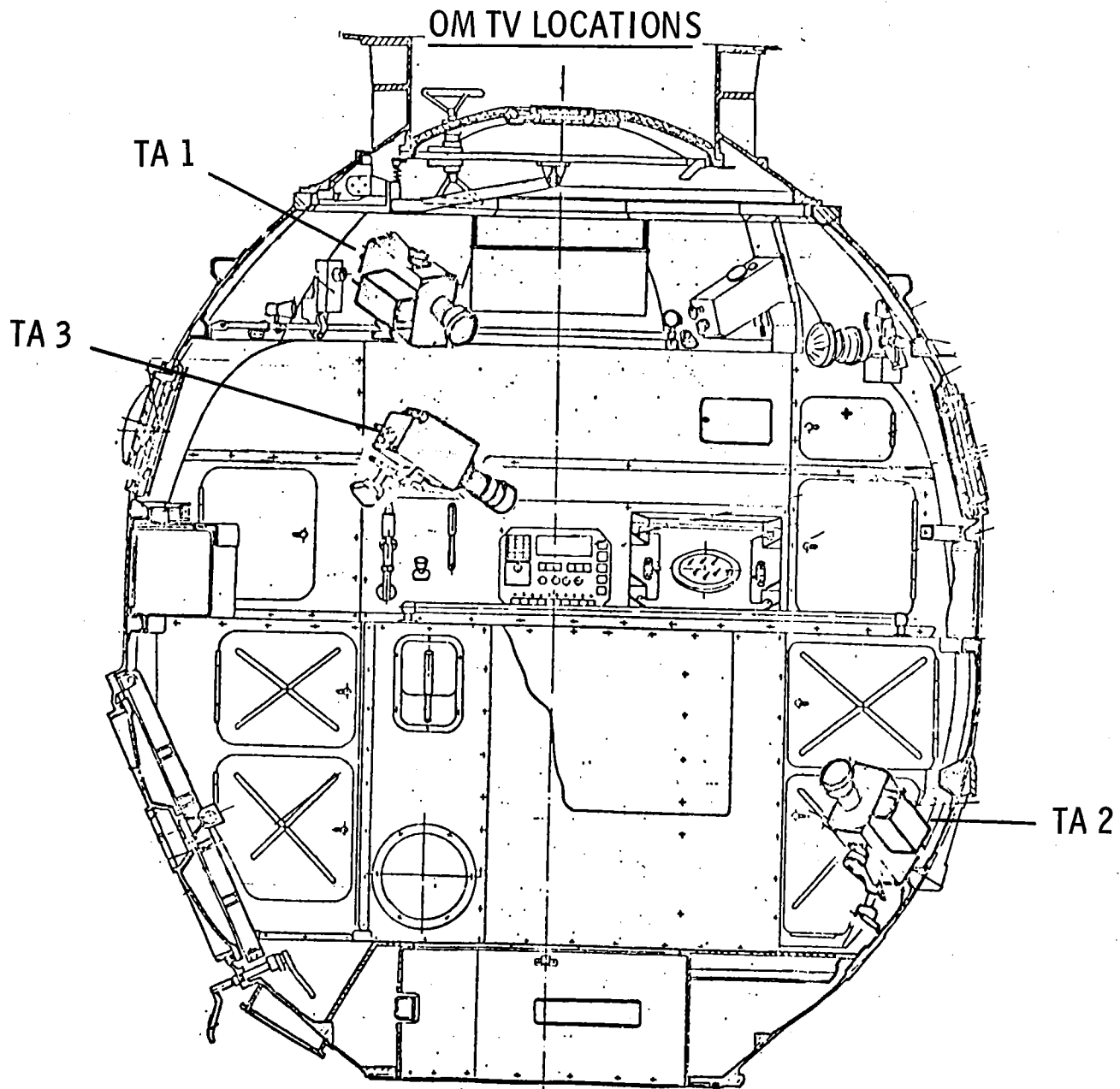


Figure 3

LOC	FOV	X	Y	Z	HOLE	U-MT ON CAMR:	ARROW PTS TO:	F	ZOOM	FOC
LAUNCH BRACKET	CM LEFT/CTR COUCHES	-	-	-	-	-	-	3.5	9	10
TUNNEL MT (11)	CM LEFT/CTR COUCHES	105	190	65	4	LEFT	REAR	3.5	9	10
RH WNDW (605)	LEB (PRESS CONF, TOUR, FOOD PREP)	10	175	105	4	LEFT	REAR	3.5	9	10
11	HATCH 1 AREA	260	10	5	4	LEFT	REAR	3.5	9	10
871	HATCH 2 AREA	80	170	60	2	TOP	RIGHT	3.5	9	10
873	HATCH 3 AREA	80	170	60	4	TOP	RIGHT	3.5	9	10
874	HATCH 3 GREETINGS	260	15	0	1	LEFT	REAR	3.5	9	10
TA2	HATCH 4 AREA	290	170	0	1	TOP	RIGHT	3.5	9	10
TA1	OM SOFA	340	0	65	2	LEFT	REAR	3.5	9	10
TA1	HATCH 5 AREA	20	180	35	4	LEFT	REAR	3.5	9	10
TA4	DV COUCHES	30	70	20	1	LEFT	REAR	3.5	9	10
TA4	HATCH 5 AREA	30	70	20	1	LEFT	REAR	3.5	9	10
RH WNDW (605)	OTW - GROUND TOURS	20	90	225	1	LEFT	REAR	22	100	inf
GIRTH SHF 231	MAIN PANEL	305	90	45	1	LEFT	REAR	3.5	9	10
RH WNDW (605)	LEB (SCI DEMOS)	0	180	85	4	LEFT	REAR	3.5	15	10
TUNNEL MT (11)	CM SIDE HATCH AREA	290	40	200	3	LEFT	REAR	3.5	9	10
871	FURNACE AREA	82	180	84	2	TOP	RIGHT	3.5	9	10
RH WNDW (606)	TD&E	325	90	155	1	LEFT	REAR	22	25	15
	DOCKING							22	100	inf

LOC	FOV	X	Y	Z	HOLE	U-MT ON CAMR:	ARROW PTS TO:	F	ZOOM	FOC
TA1	OM WINDOW	325	0	75	2	LEFT	REAR	3.5	9	10
TA3	OM TOUR - PANEL	0	0	105	4	RIGHT	REAR	3.5	9	10
TA1	HATCH 5 - CLOSEUP	30	180	20	4	LEFT	REAR	3.5	27	10
TA3	HATCH 5 AREA	0	0	320	4	RIGHT	FRONT	3.5	9	10
TA3	HATCH 5 - CLOSEUP	0	0	340	4	RIGHT	FRONT	3.5	27	10
605	DSKY - S/L LENS	340	180	100	4	LEFT	REAR	4	30	6
605	DSKY closeup	340	180	100	4	LEFT	REAR	4	80	6
605	DSKY - W/A LENS	340	180	100	4	LEFT	REAR	3.5	27	10
607	DSKY closeup	0	175	75	2	RIGHT	REAR	4	90	7
607	DSKY - S/L LENS	0	175	75	2	RIGHT	REAR	4	50	7
607	SCI DEMO-W/A LENS	0	175	80	2	RIGHT	REAR	3.5	15	10
605	SCI DEMO-S/L LENS	5	170	75	4	LEFT	REAR	4	35	4
11	CDR COUCH & CRMN	80	175	95	4	LEFT	REAR	3.5	9	10
874	MAX ZOOM INTO OM	260	15	0	1	LEFT	REAR	3.5	27	10
874	CABLE CONN TO OM	260	20	355	1	LEFT	REAR	3.5	27	10
857	SCI DEMO IN DM	0	44	10	2	RIGHT	FRONT	3.5	27	1
11	CERT SIGN,DIE EXC	280	40	170	3	LEFT	REAR	3.5	9	10
11	LEB - USSR VIEW	30	165	115	2	RIGHT	REAR	3.5	15	3
607	LEB - USSR VIEW	0	0	250	4	RIGHT	FRONT	3.5	15	10

CM\_TV\_CUE\_CARDLEB PRESS CONF,  
TOUR, FOOD DEMOTV  
2.1

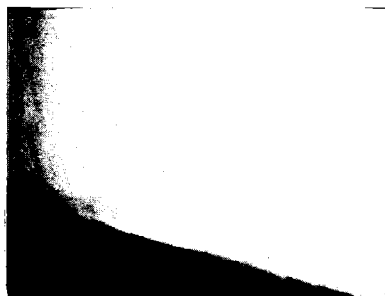
SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 10,175,105  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,SLAVE,LINEAR  
 LOC - 605 (HOLE 4)  
 LIGHTS - MAX & PL (STRUT LTS  
 OFF FOR TOUR)  
 FILTERS REMOVED (U2)

## MAIN PANEL

TV  
2.2

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 305,90,45  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,SLAVE,LINEAR  
 LOC - 231 (HOLE 1)  
 LIGHTS - MAX - TV FILTERS  
 INSTALLED (U2)

## OTW GROUND TOURS

TV  
2.9

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 20,90,225  
 F,ZOOM,FOC - 22,100,inf (ZOOM LENS)  
 CAMR - AVG,SLAVE,LINEAR  
 LOC - 605 (HOLE 1)  
 LIGHTS - MAX EXCEPT RH INTERIOR  
 LTS OFF



CM\_TV\_CUE\_CARD (Contd)CM SIDE HATCH  
AREATV  
2.10

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 290,40,200  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,SLAVE,LINEAR  
 LOC - 11 (HOLE 3)  
 LIGHTS - MAX & PL- TV FILTERS  
 INSTALLED (U2)

## HATCH 1 AREA

TV  
2.14

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 260,10,5  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,SLAVE,LINEAR  
 (MASTER IF OM CAMR OFF)  
 LOC - 11 (HOLE 4)  
 LIGHTS - MAX

## CDR COUCH

TV  
2.15

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 80,175,95  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,SLAVE,LINEAR  
 LOC - 11 (HOLE 4)  
 LIGHTS - MAX - TV FILTERS  
 INSTALLED (U2)

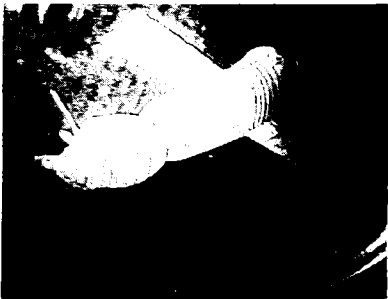
CM TV CUE CARD (Contd)

## AC &amp; CP COUCHES

TV  
2.18

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 105,190,65  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,MASTER,LINEAR  
 LOC - 11 (HOLE 4)  
 LIGHTS - MAX - TV FILTERS  
 INSTALLED (U2)

## OTW OF SOYUZ, DM

TV  
2.19

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 325,90,155  
 F,ZOOM,FOC - 22,25,15  
 CAMR - AVG,SLAVE,LINEAR  
 LOC - 606 (HOLE 1)  
 LIGHTS - RH WALL LIGHT - OFF  
 REMARKS - READJUST ZOOM AS RANGE  
 REQUIRES  
 SELECT PEAK IF WHITE  
 CONTENT OF SCENE DROPS  
 BELOW APPROX 10%

SOYUZ\_TV\_CUE\_CARD

## OM PANEL &amp; TOUR

TV  
2.7

SHOE - RIGHT  
 ARROW - REAR  
 X,Y,Z - 0,0,105  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,MASTER,LINEAR  
 LOC - TA3 (HOLE 4)  
 LIGHTS - GRP I-OFF,GRP II-ON,  
 PLU - ON/T2  
 WORKING LTS - MAX

## DV INTERIOR &amp; TOUR

TV  
2.8

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 30,70,20  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,MASTER,LINEAR  
 LOC - TA4 (HOLE 1)  
 LIGHTS - SPECIAL LTS-ON,  
 SPECIAL LT 9-OFF,  
 WORKING LTS - MAX  
 INSTALL RH WINDOW SHADE

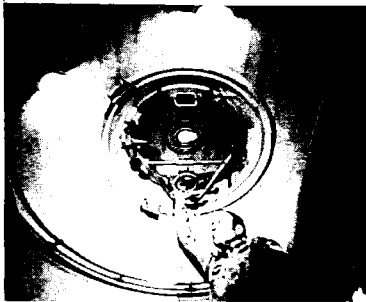
## OM SOFA

TV  
2.12

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 340,0,65  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,MASTER,LINEAR  
 LOC - TA1 (HOLE 2)  
 LIGHTS - GRP II-OFF,GRP I-ON,  
 PLU - ON/T1  
 WORKING LTS - MAX

SOYUZ\_TV\_CUE\_CARD\_(Contd)

## HATCH 4 AREA

TV  
2.16

SHOE - TOP  
 ARROW - RIGHT  
 X,Y,Z - 290,170,0  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,MASTER,LINEAR  
 LOC - TA2 (HOLE 1)  
 LIGHTS - GRP I-OFF, GRP II-ON,  
 PLU - ON/T3  
 WORKING LIGHTS - OFF

## OM WINDOW AREA

TV  
2.17

SHOE - LEFT  
 ARROW - REAR  
 X,Y,Z - 325,0,75  
 F,ZOOM,FOC - 3.5,9,10  
 CAMR - AVG,MASTER,LINEAR  
 LOC - TA1 (HOLE 2)  
 LIGHTS - GRP II-OFF, GRP I-ON,  
 PLU - ON/T1  
 WORKING LTS - MAX

CUE CARD - USSR TV CM SECOND & THIRD JOINT ACTIVITY PERIODS

## USSR TV-10.2 FAMILIARIZATION WITH APOLLO SPACECRAFT SYSTEMS


## SET UP AND TV TRANSMISSION PROCEDURES:

Connect power cable to TK-3 (Verify)  
Verify TK-3 mount attached to the upper dovetail  
Verify TK-3 mount BLUE marks are aligned  
Install TK-3 in bracket 607. White mark between nos. 2 and 3  
Request FE:  
TK-3 - ON  
Monitor image on CED screen  
TK-3 - OFF

Prior to TV transmission, verify:

All lights - ON (except the 2 strut lights)

Portable light is installed on the speaker box and directed towards the lower equipment bay.

OPR PROC	VIEWS	SUBJ PROC
<p>(71:05) TK-3 activation via CRL Monitor: TK-3 cue light on. AC, SC in CM in the lower equipment bay.</p>		<p>AC comments on the CM systems (in Russian).</p>

CUE CARD - USSR TV CM SECOND & THIRD JOINT ACTIVITY PERIODS (CONTD)

## USSR TV-11.2 JOINT PRESS CONFERENCE

## SET UP PROCEDURES:

Remove TK-3 from bracket 874

Verify: Power cable connected to TK-3

TK-3 mount attached to the TK-3 removable adapter

Align TK-3 mount to RED marks

Install TK-3 in bracket 11. White mark between nos. 1 and 4

Request SC:

TK-3 - ON


Monitor image on CED screen

TK-3 - OFF

Prior to TV transmission, verify:

All Lights - ON

Portable light is installed on the speaker box and directed towards the lower equipment bay.

OPR PROC	VIEWS	SUBJ PROC
<p>(77:11) TK-3 activation via CRL Monitor: TK-3 cue light on. DP, FE in CM in the lower equipment bay.</p>		<p>Joint press conference (in Russian and English)</p>