LSG 770-154-10 - LM-5

LUNAR MODULE

STRUCTURES

HANDOUT

LM-5

FOR TRAINING PURPOSES ONLY; IN
SUPPORT OF LM-5 STRUCTURES COURSE

FOR

FLIGHT CONTROL DIVISION

AT

MSC, HOUSTON, TEXAS

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Henry Kalkowsky, Jr.
Chief, LM Training

MAY 1969

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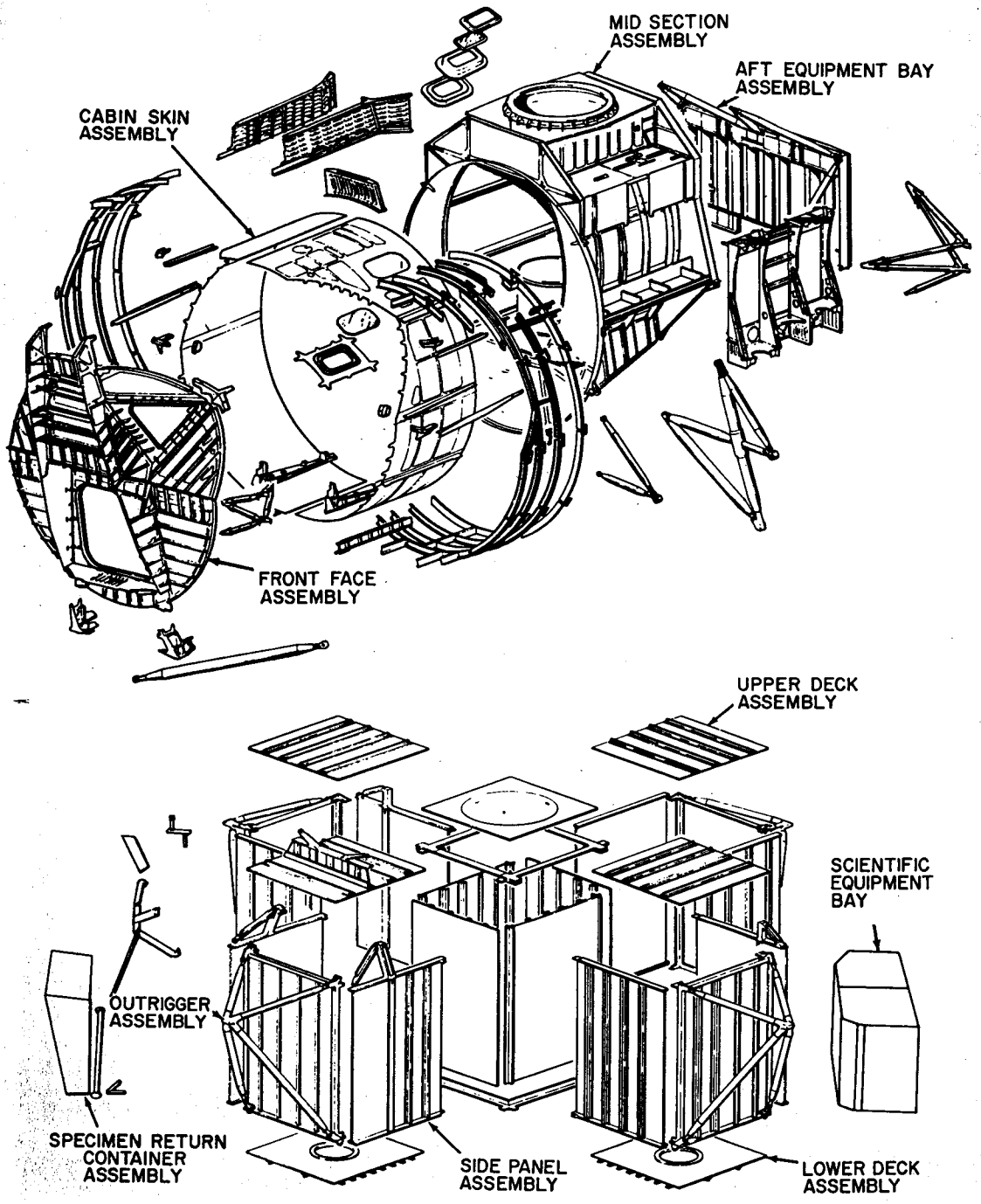
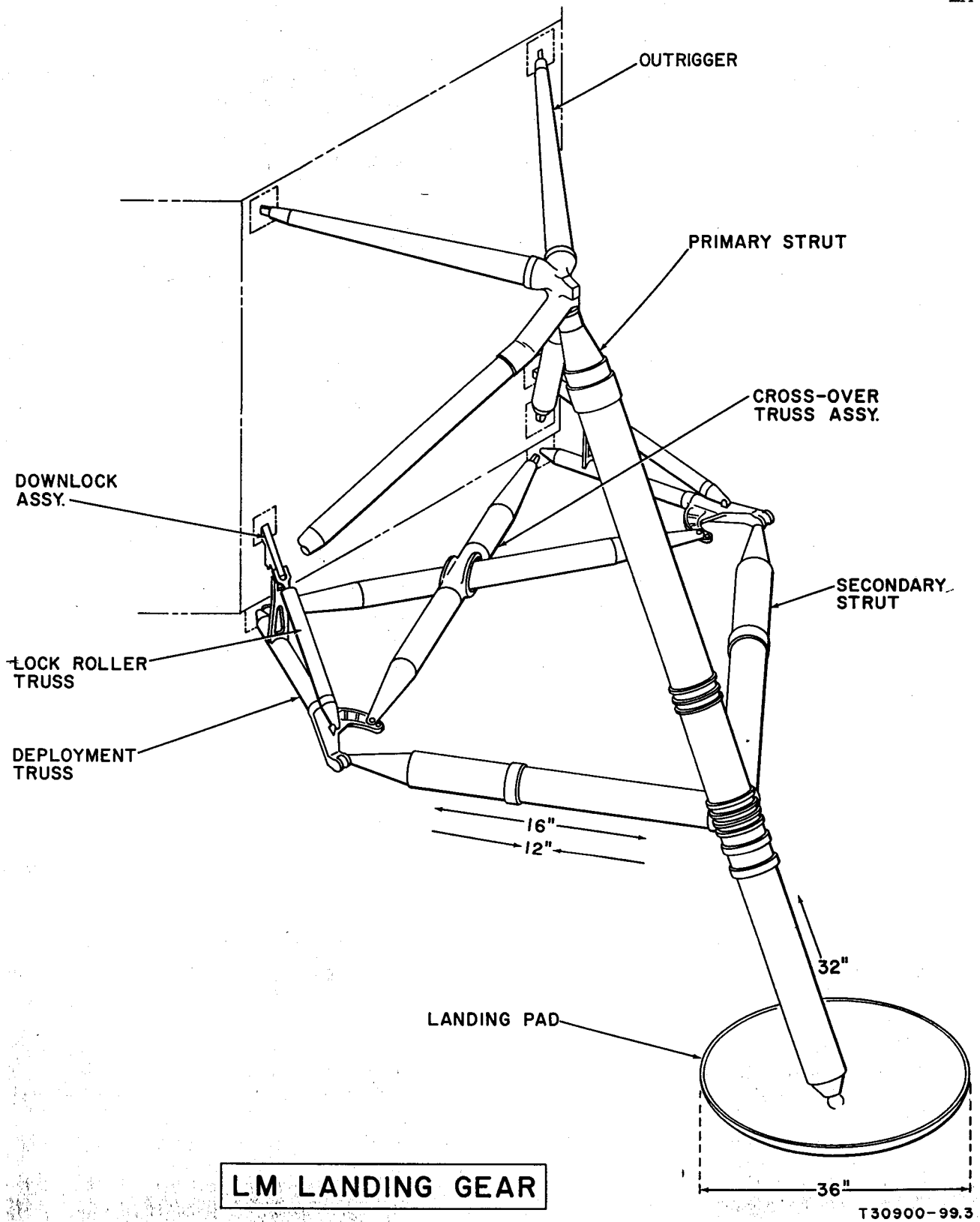
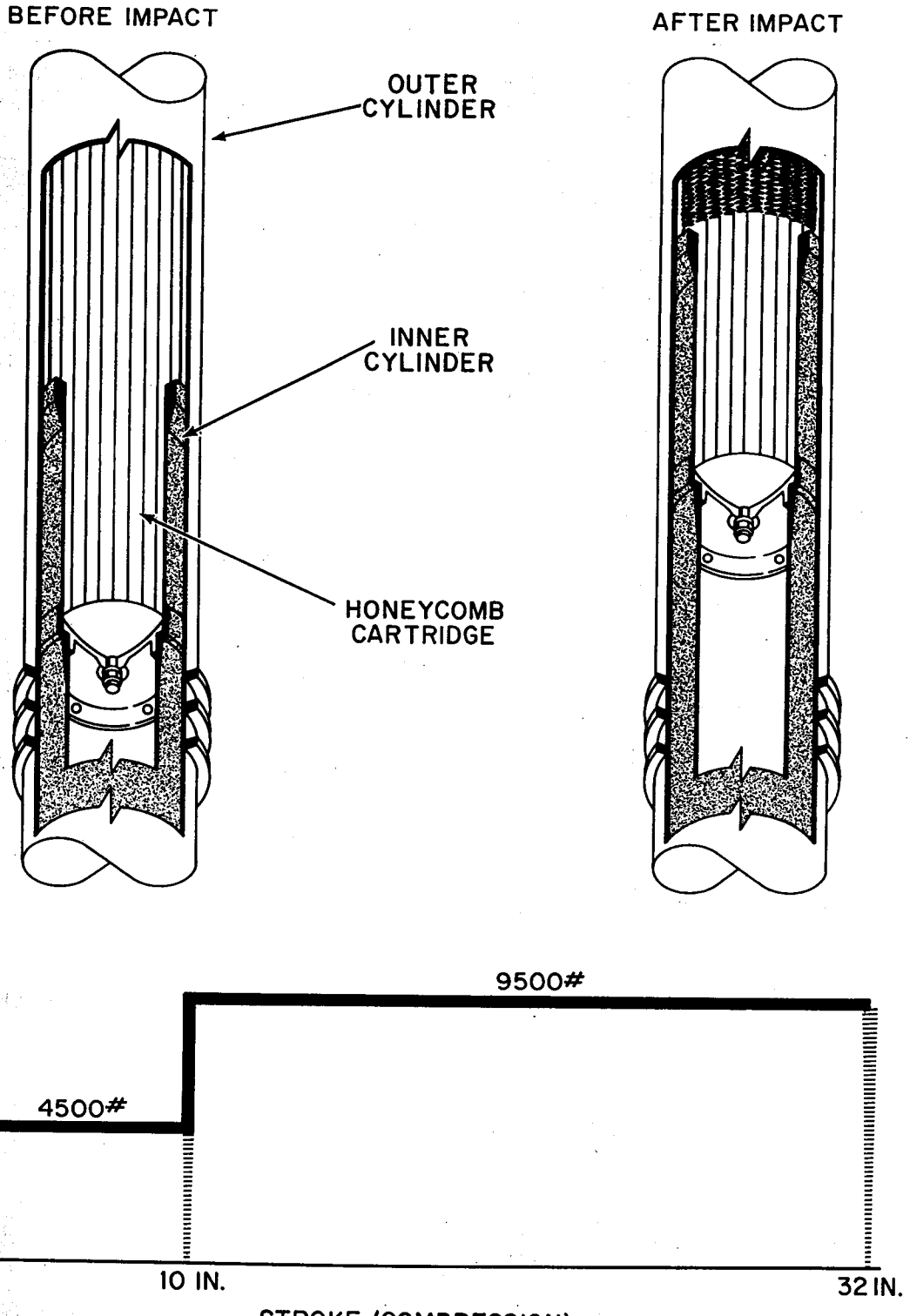


ASCENT AND DESCENT STAGE STRUCTURE

T30915-83.1

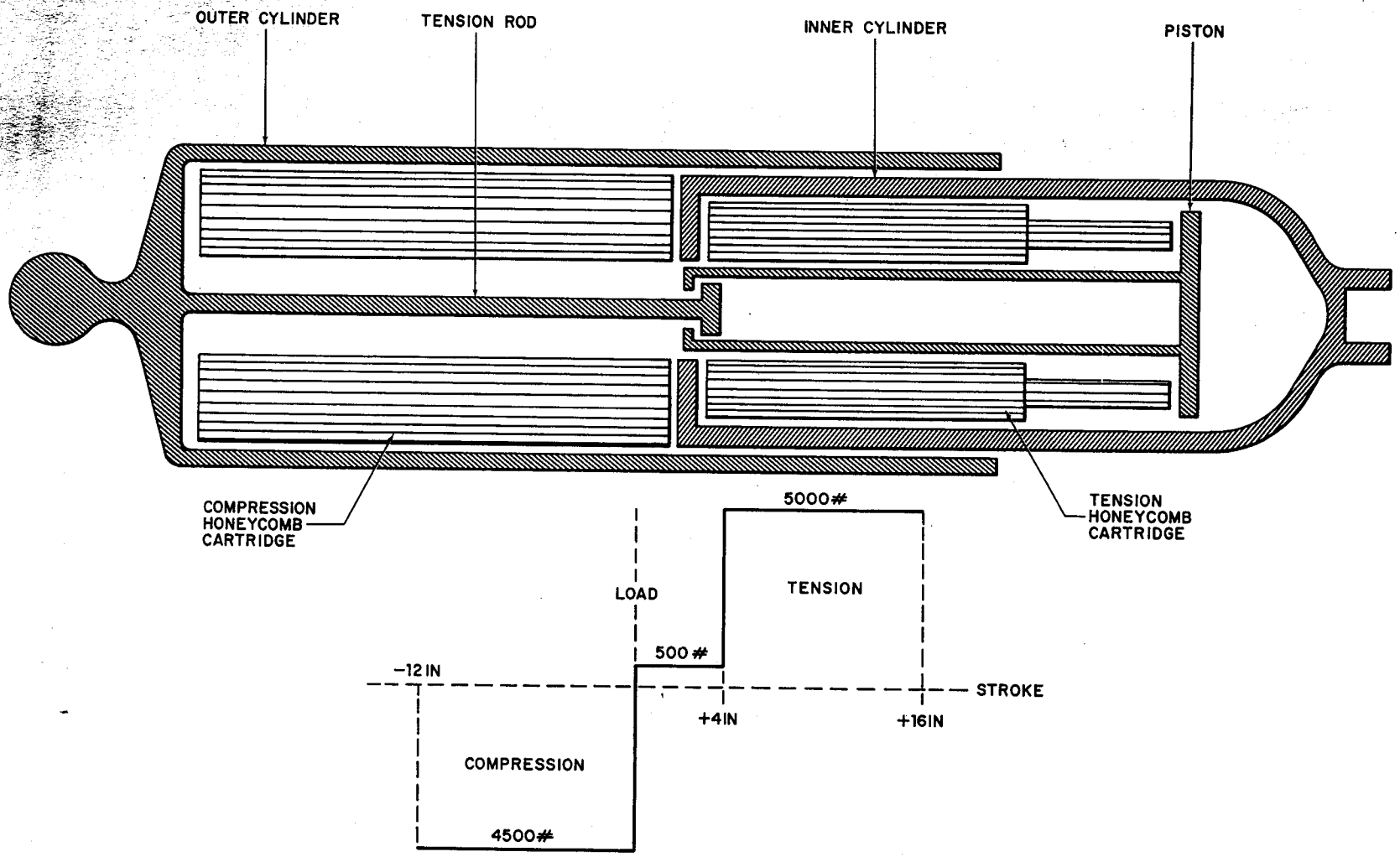


LM LANDING GEAR



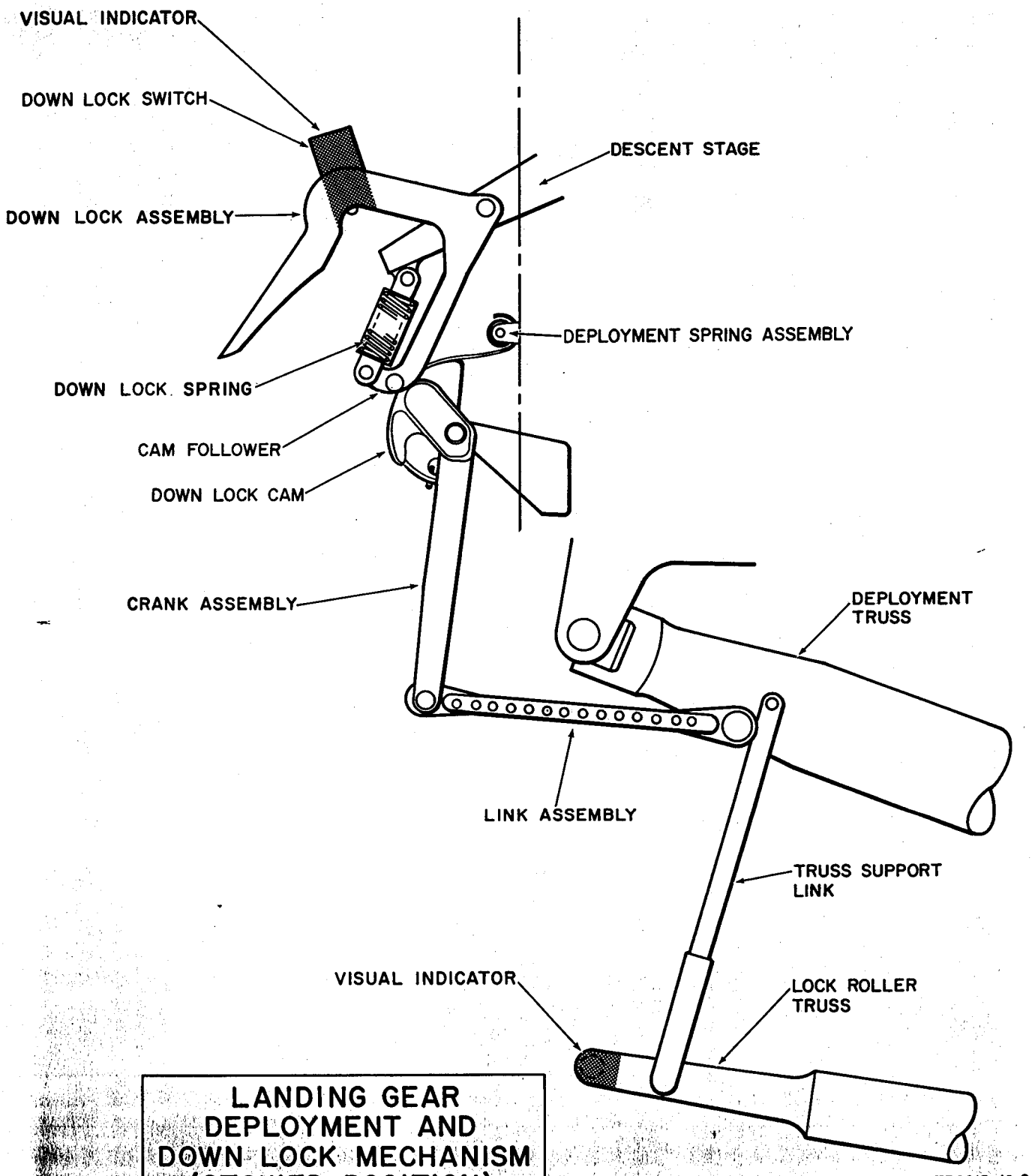
LANDING GEAR PRIMARY STRUT

T 30005-213

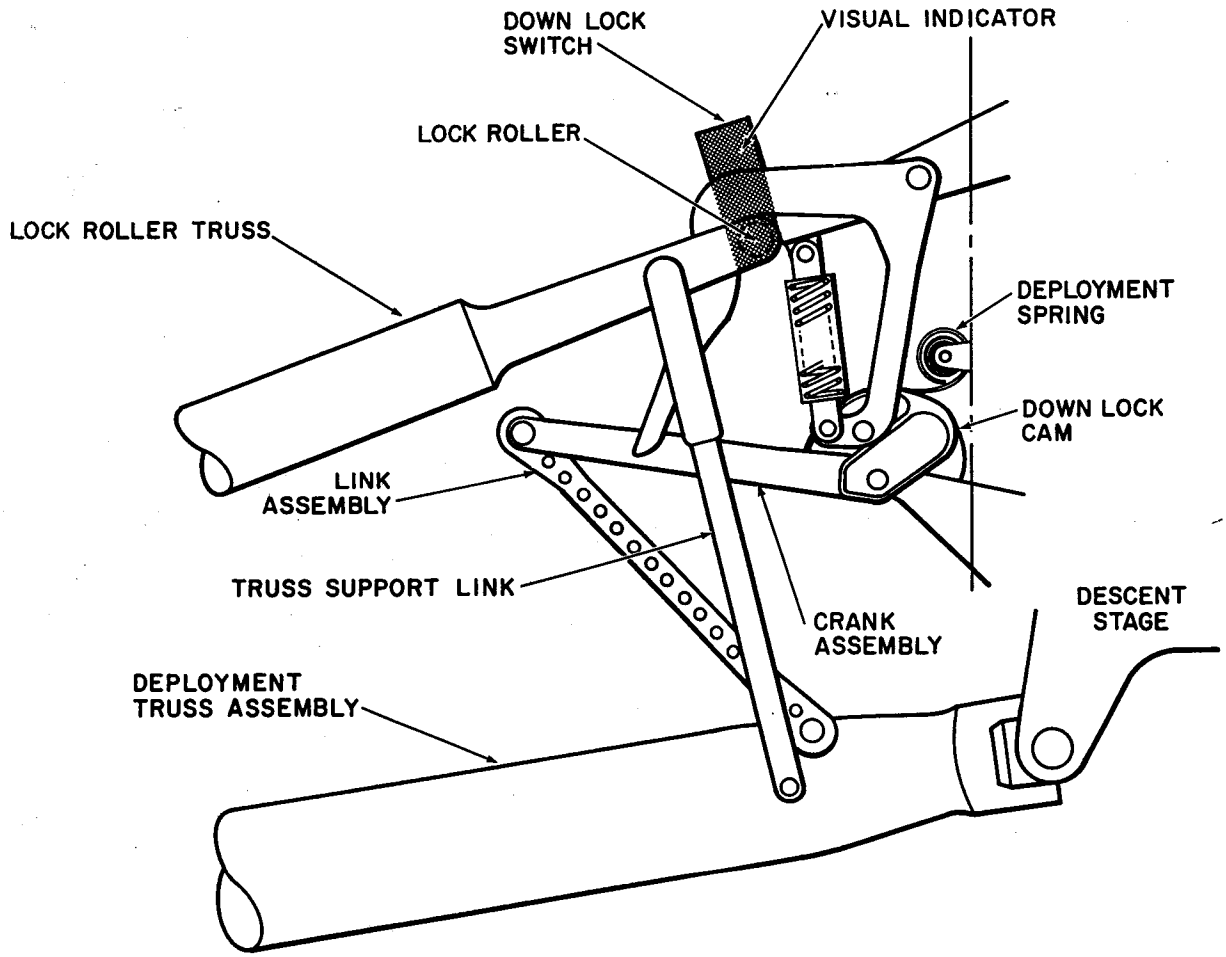


LANDING GEAR SECONDARY STRUT

T30005-214

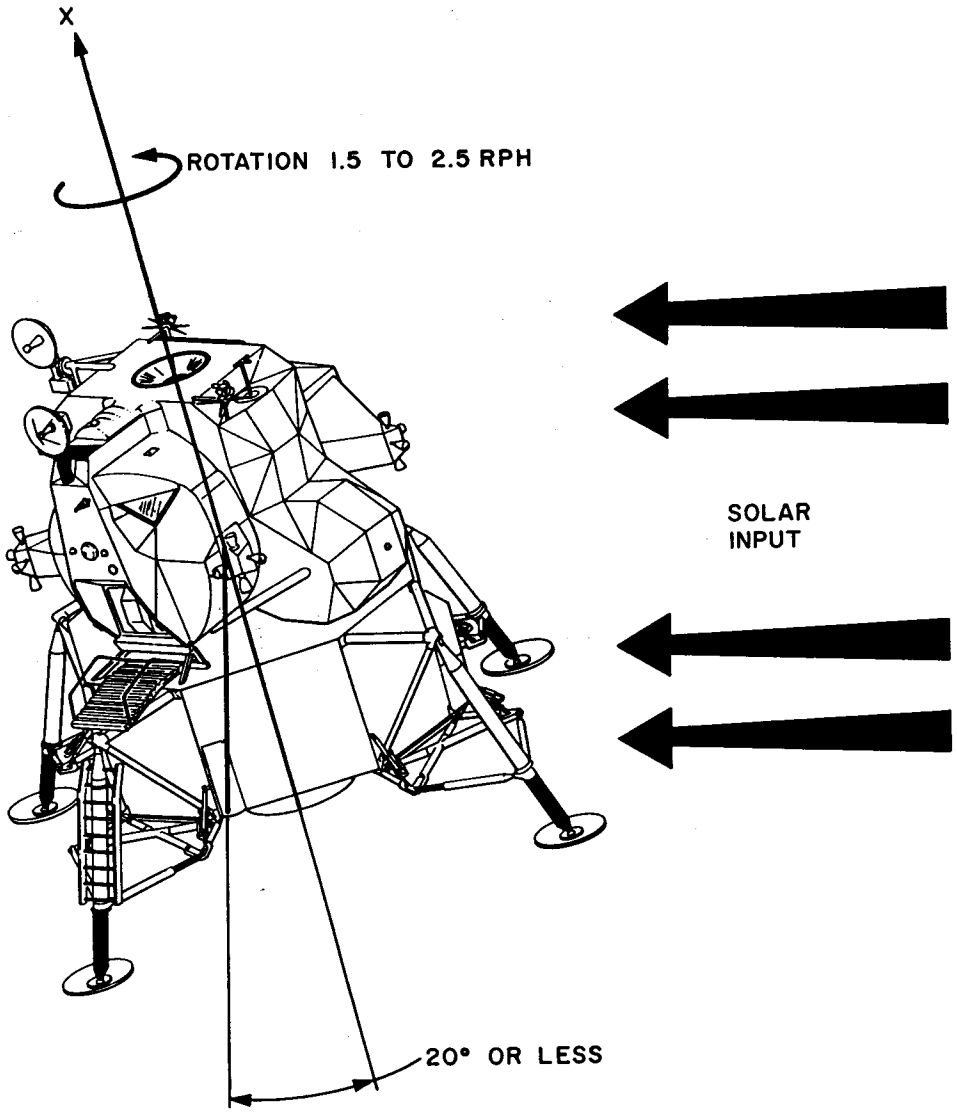


LANDING GEAR DEPLOYMENT AND DOWN LOCK MECHANISM (STOWED POSITION)



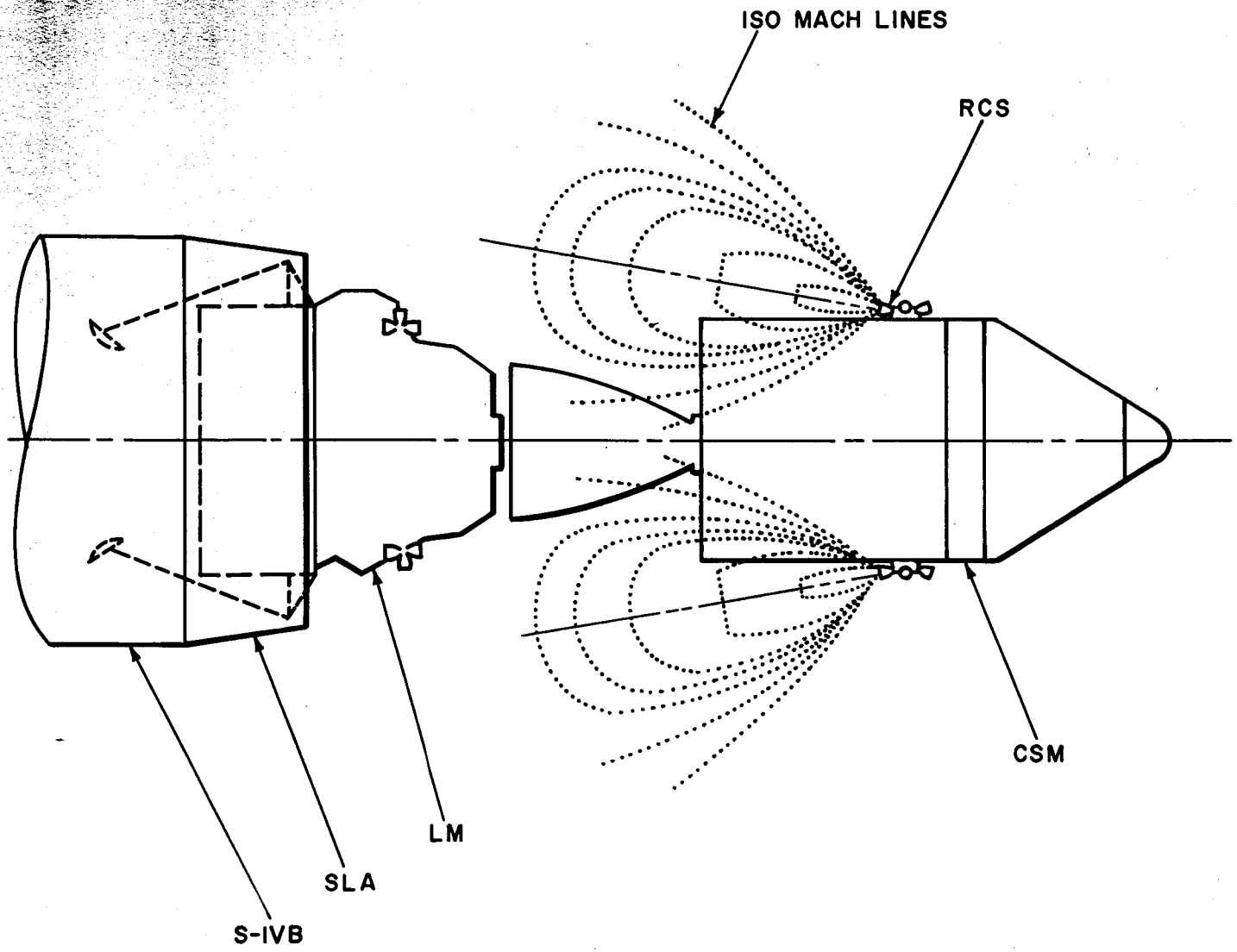
LANDING GEAR DEPLOYMENT AND DOWN LOCK MECHANISM (DOWN AND LOCKED POSITION)

T30915-19.2



TRANSLUNAR FLIGHT

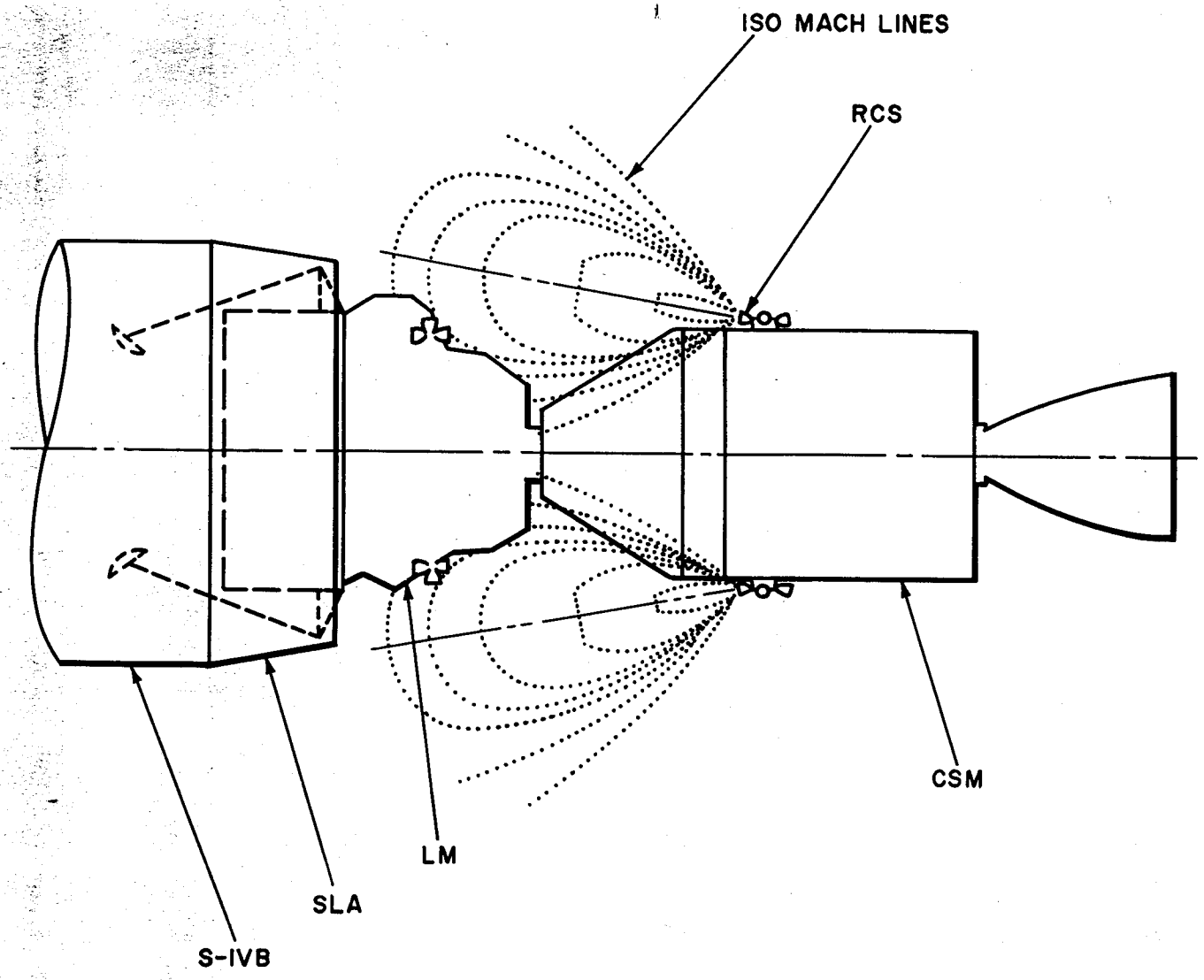
T30005-201.1



CSM SEPARATION FROM LM & S-IVB

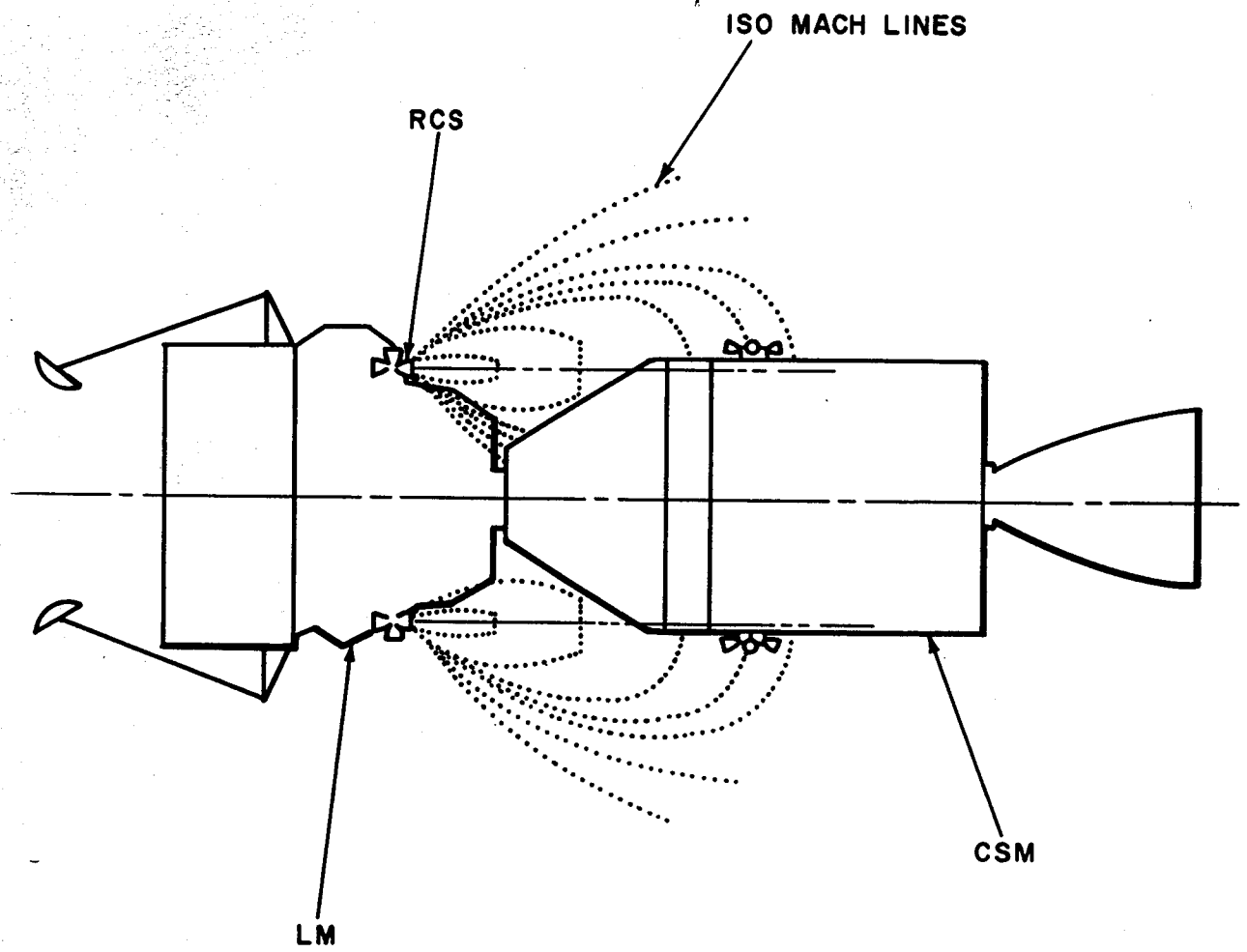
T30915-96.1

IM-5



POST TRANSPOSITION DOCKING

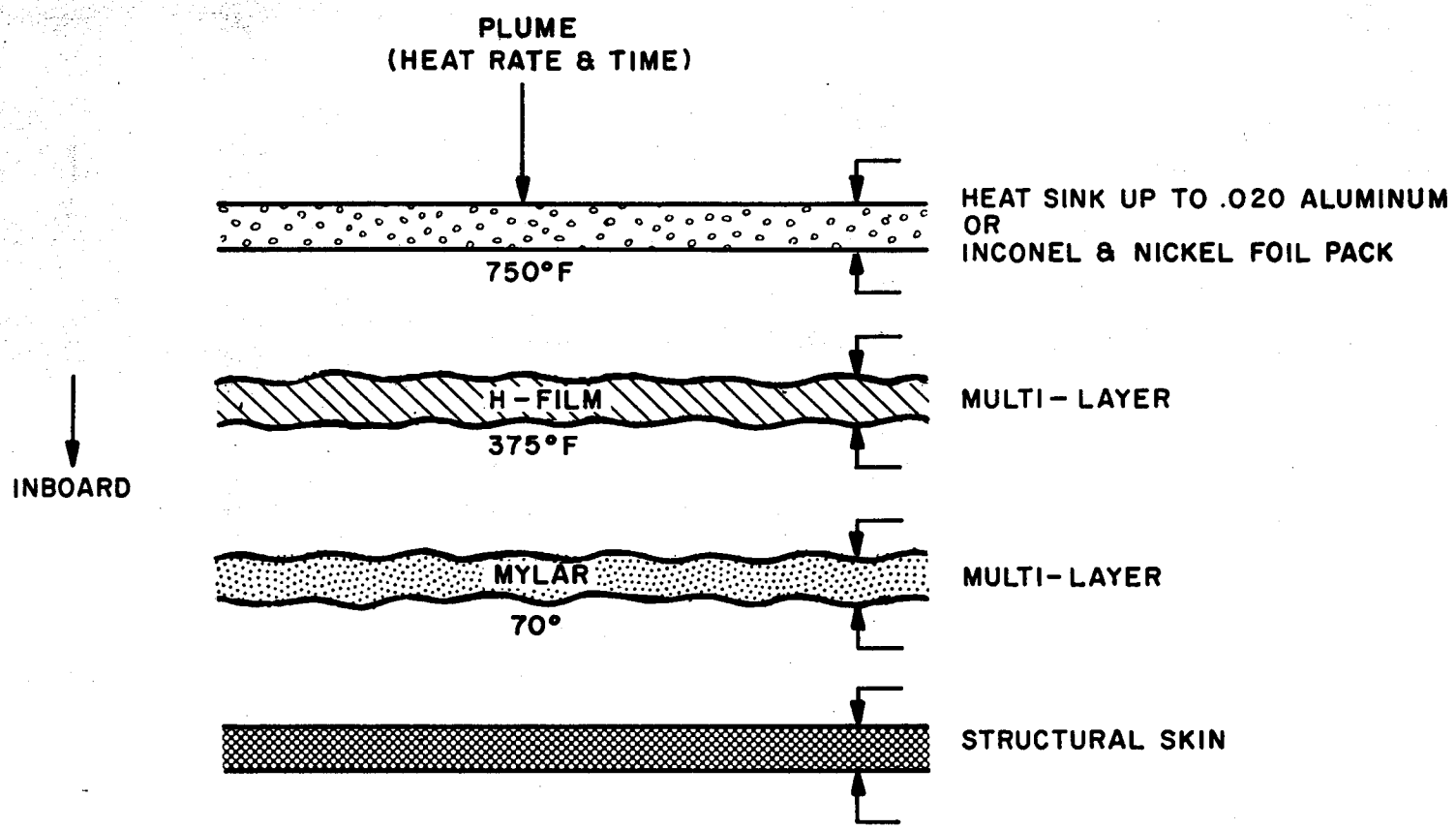
T30915-98.1



LM/CSM UNDOCKING

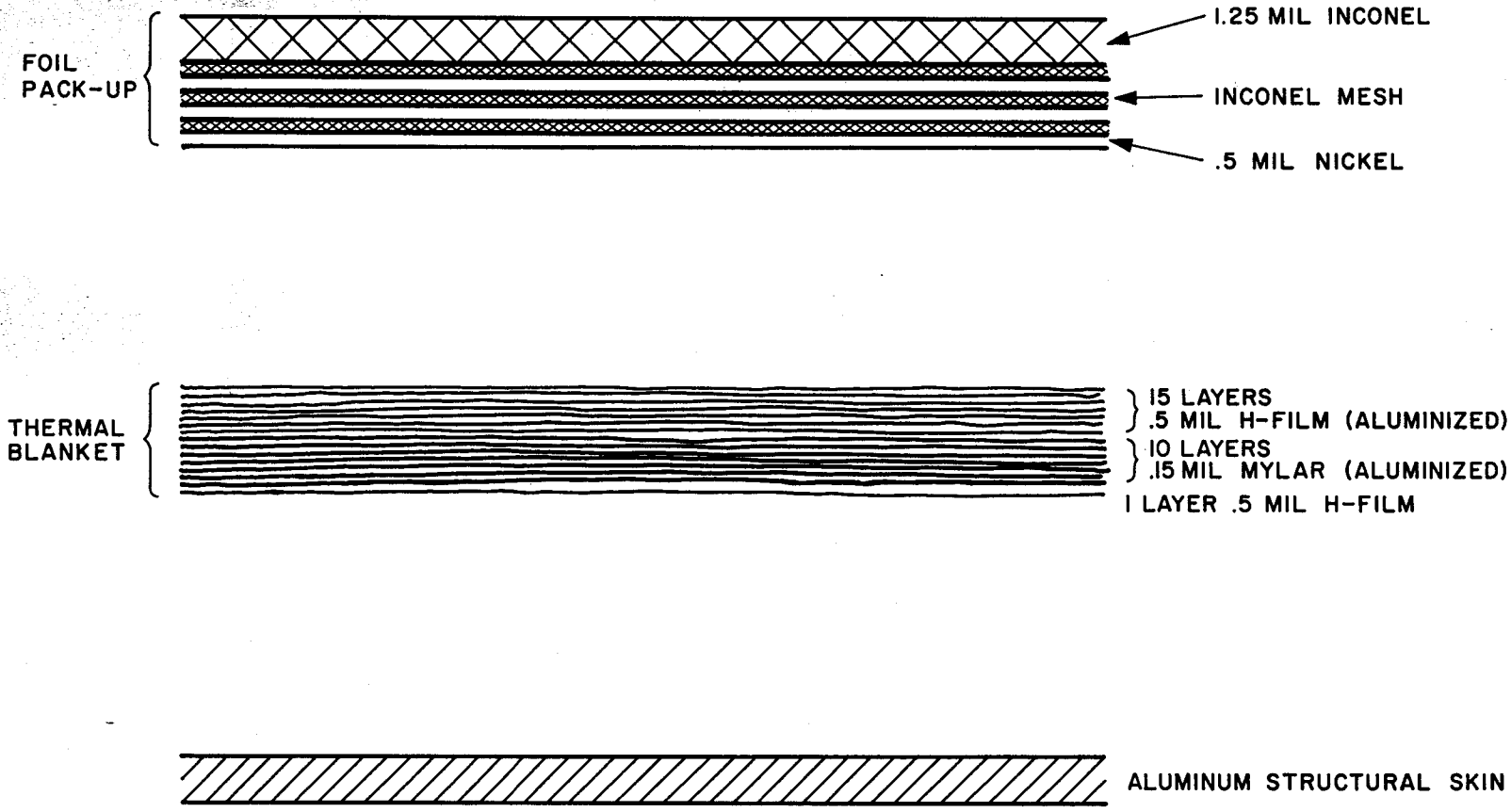
T30915-97.1

IM-5



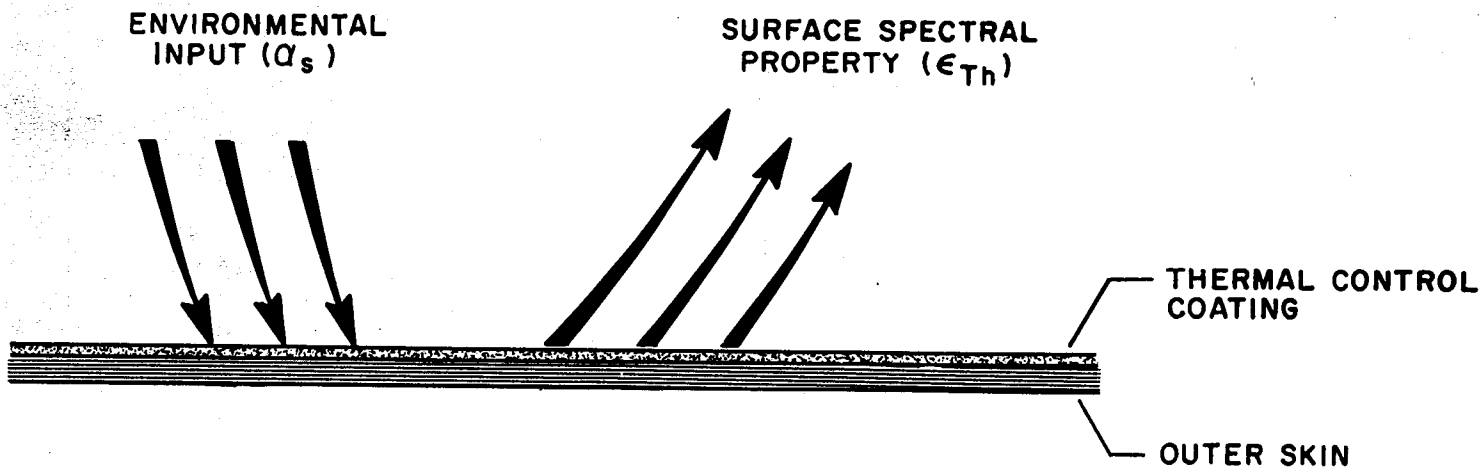
THERMAL CONTROL

T30005-198.2



TYPICAL THERMAL SHIELD AND BLANKET

T30005-211.1

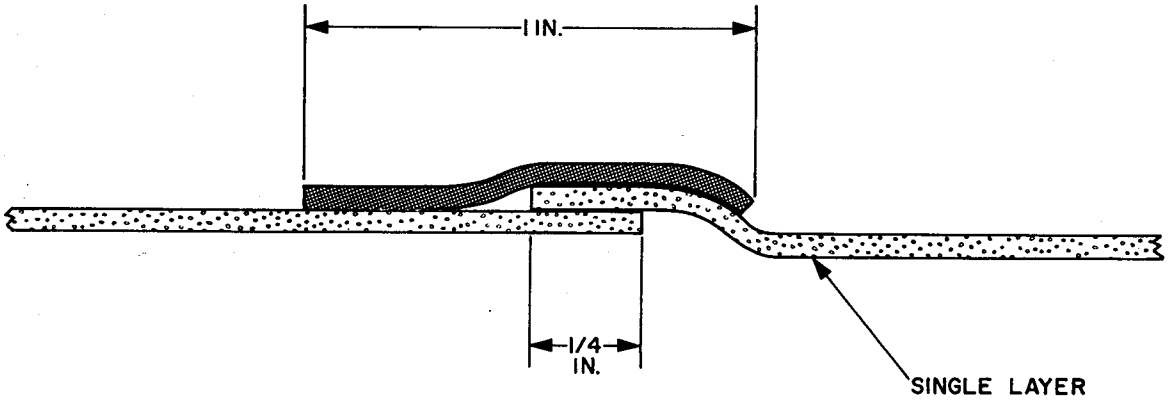


α_s = % OF THE TOTAL SOLAR ENERGY ABSORBED BY A SURFACE. (0 – 1.0)

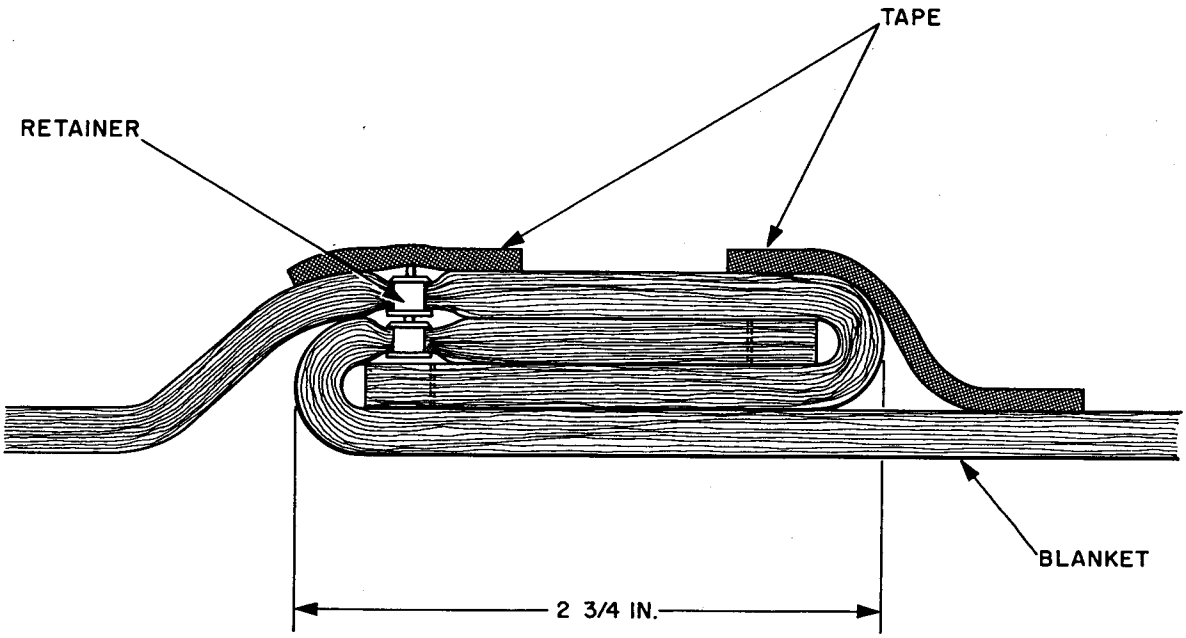
ϵ_{th} = ABILITY OF A SURFACE TO REJECT HEAT TO SPACE. (0 – 1.0)

THERMAL CONTROL COATING

T30005-204.1



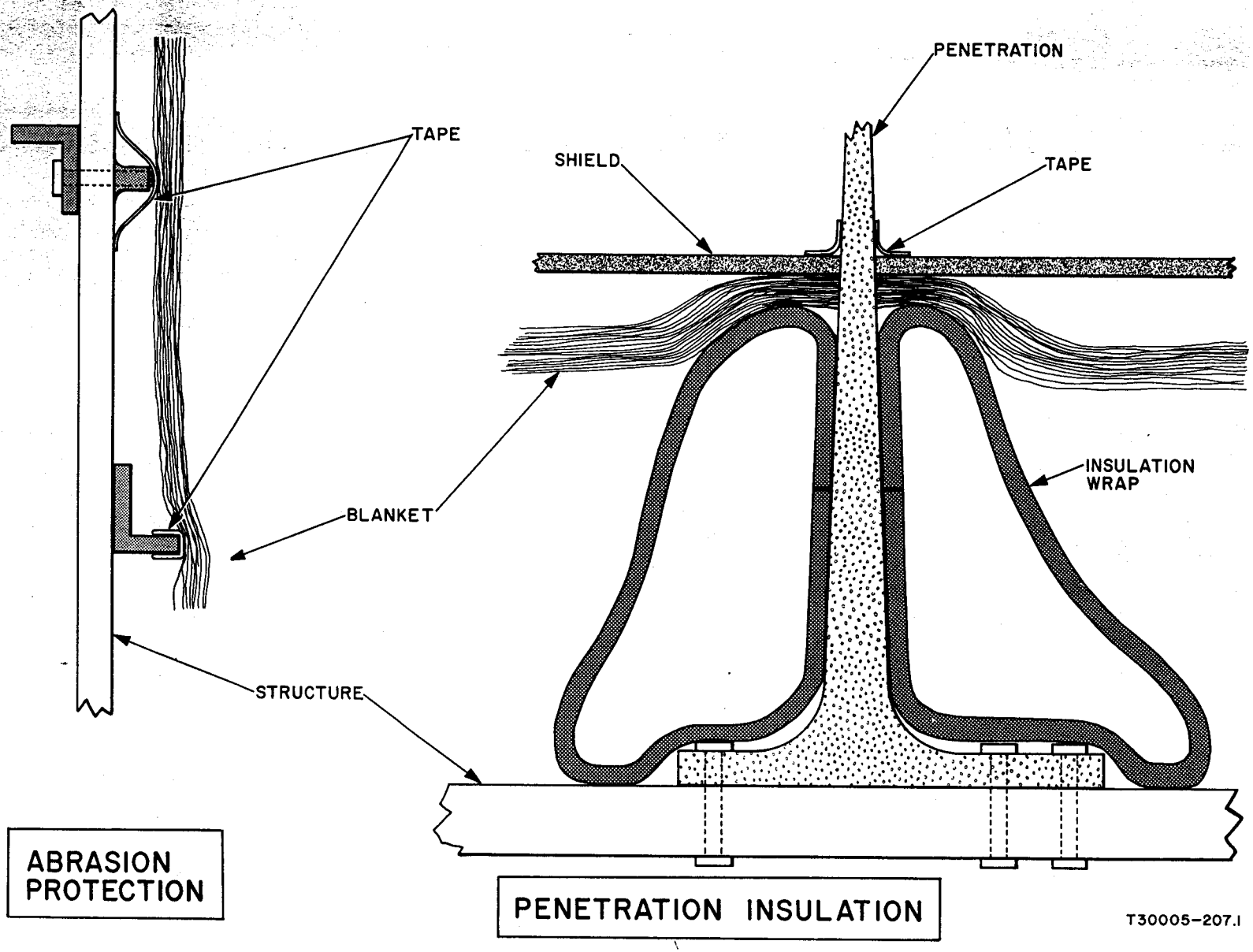
TAPED SEAM

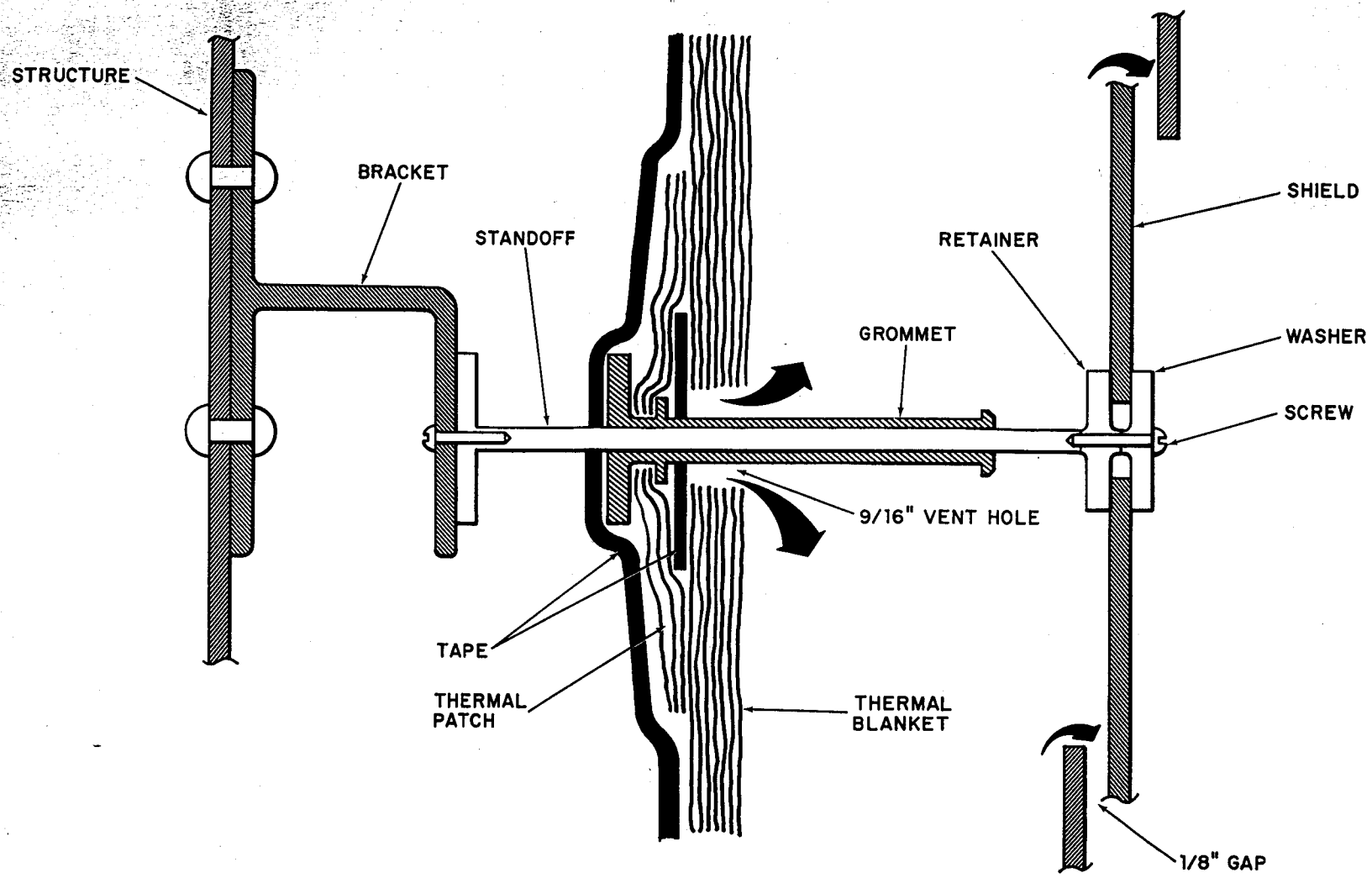


FOLDED SEAM

BLANKET JOINING

T30005-205.1

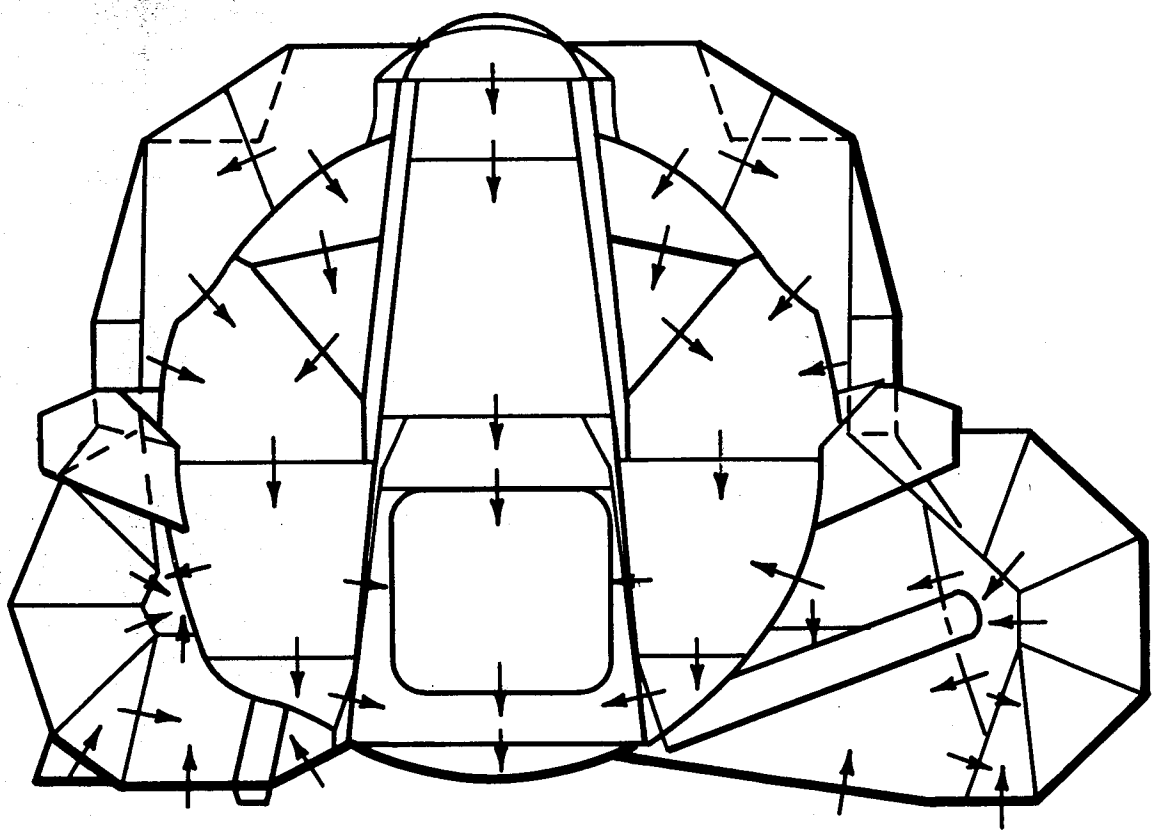




STANDOFF INSTALLATION AND BLANKET VENTING

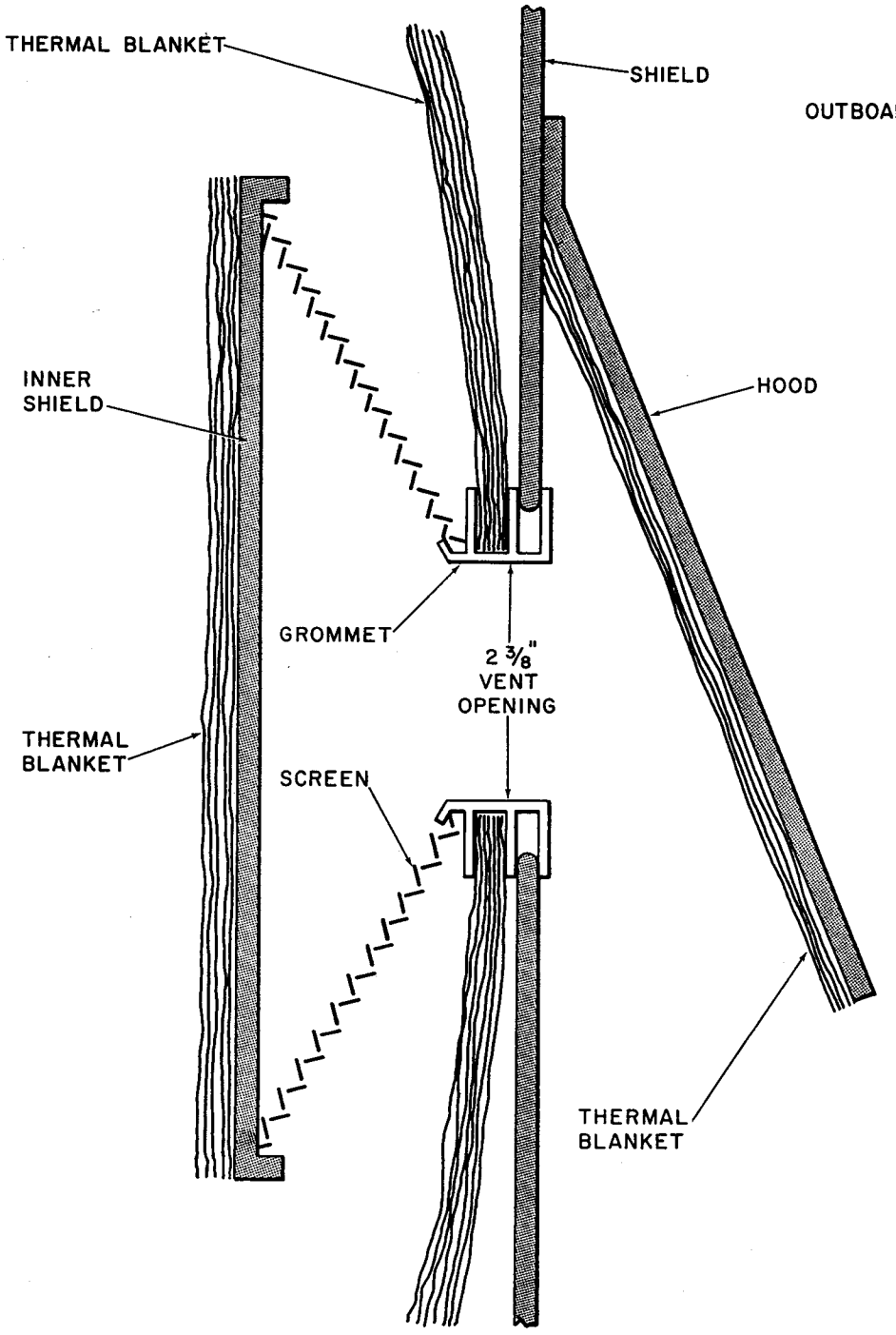
T30005-212

LM-5



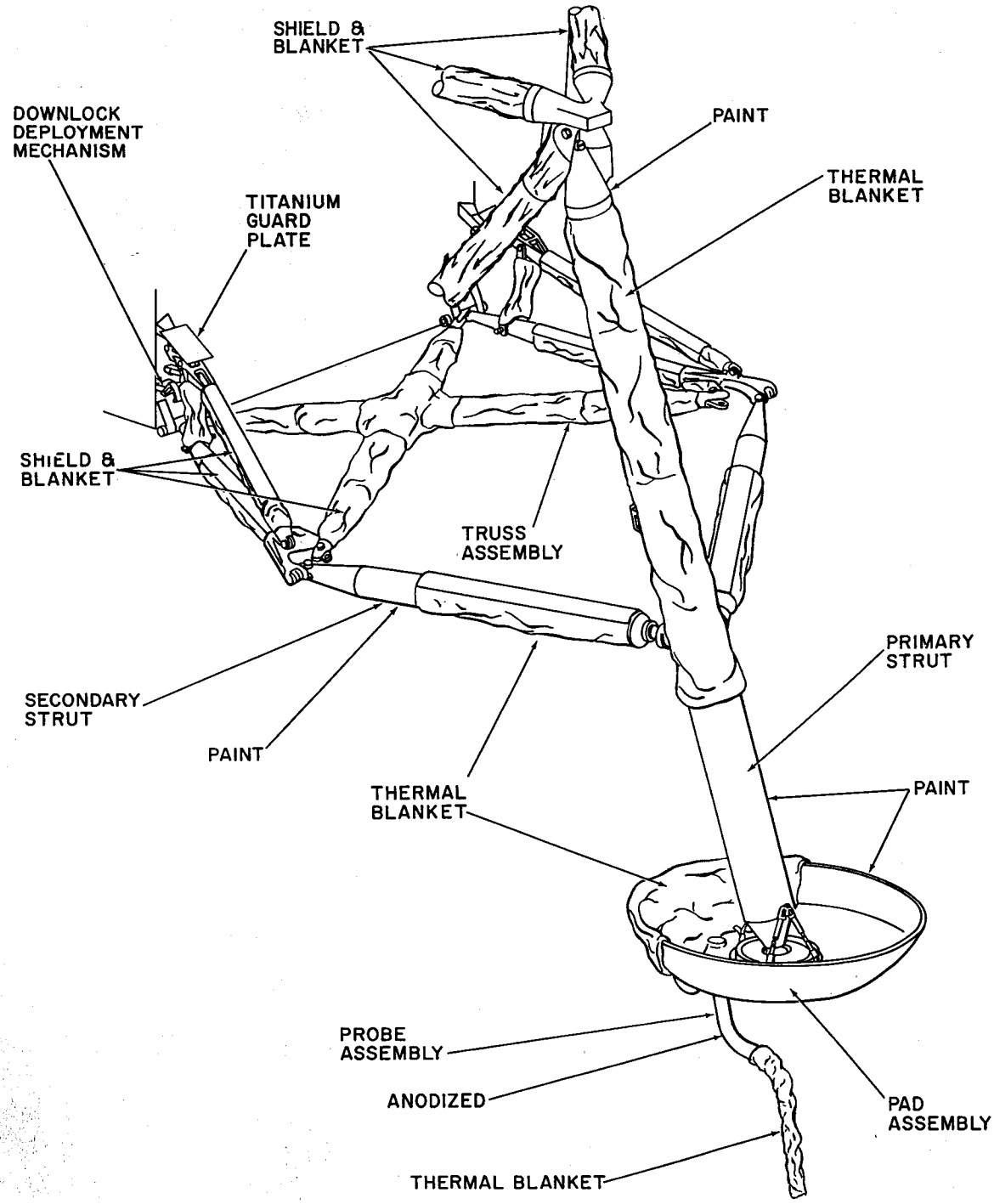
**PANEL SHINGLING
FRONT VIEW**

T30005 - 203.1



BAY VENT

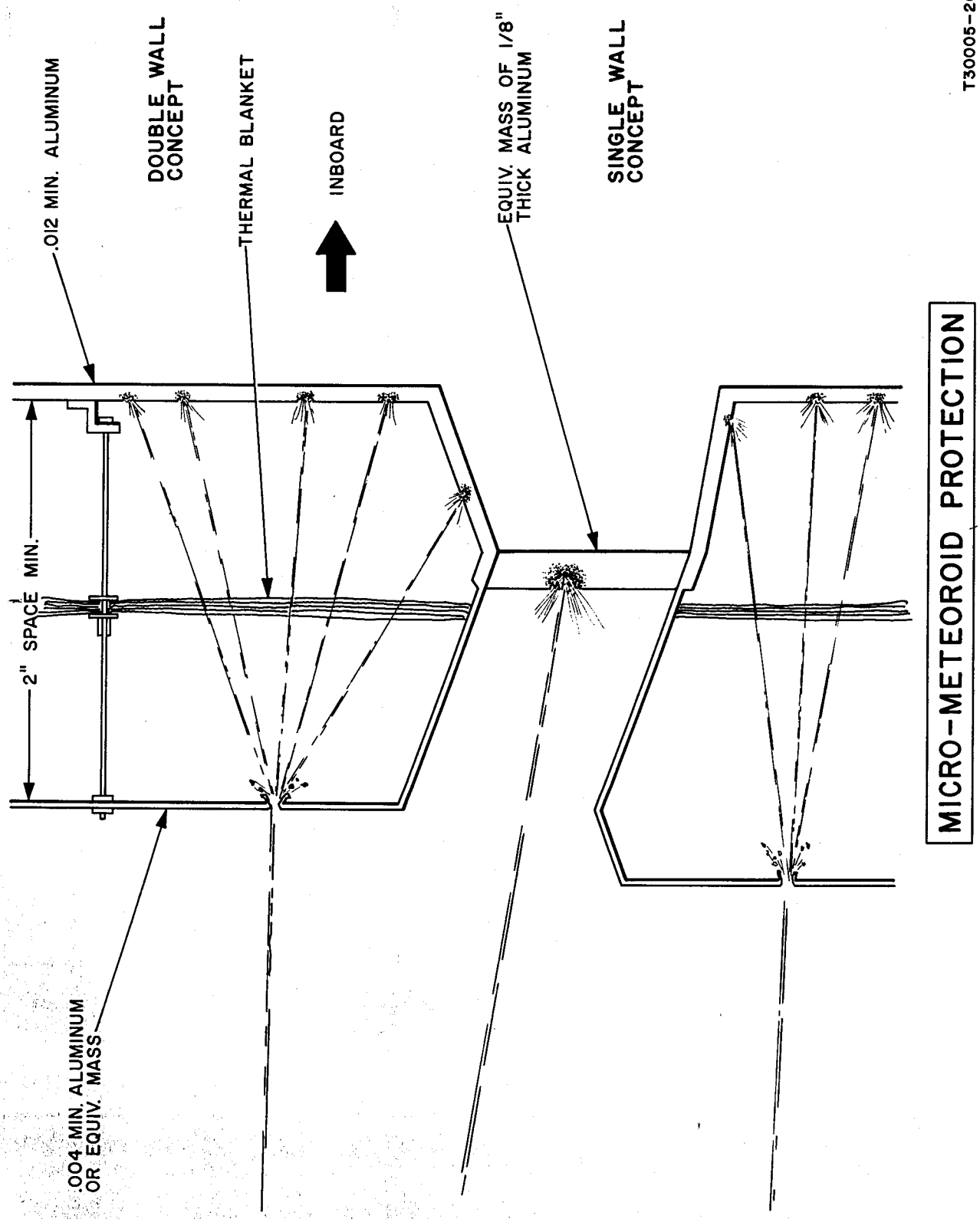
T30005-215.1



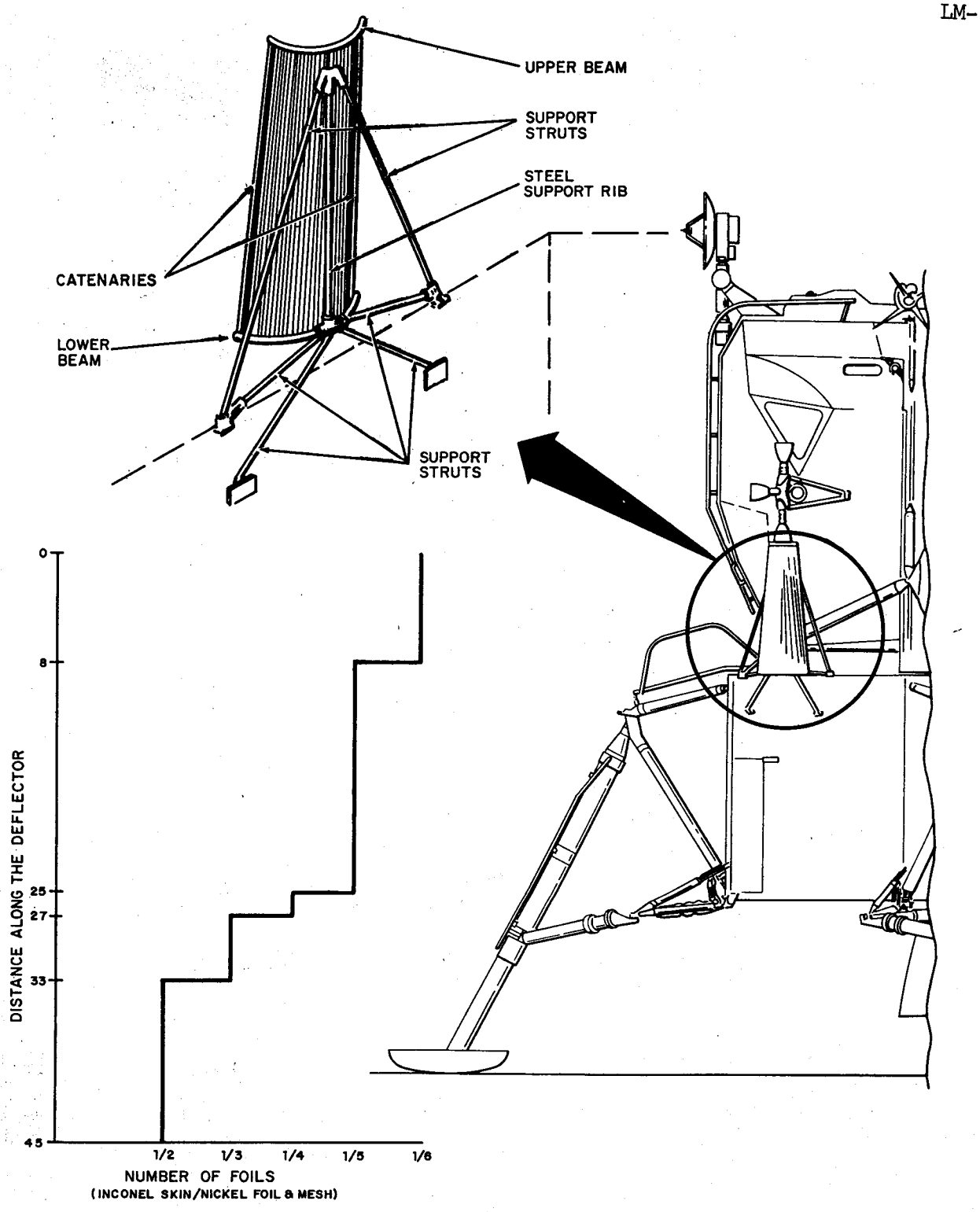
LANDING GEAR THERMAL PROTECTION

T30915-101.2

T30005-202.2

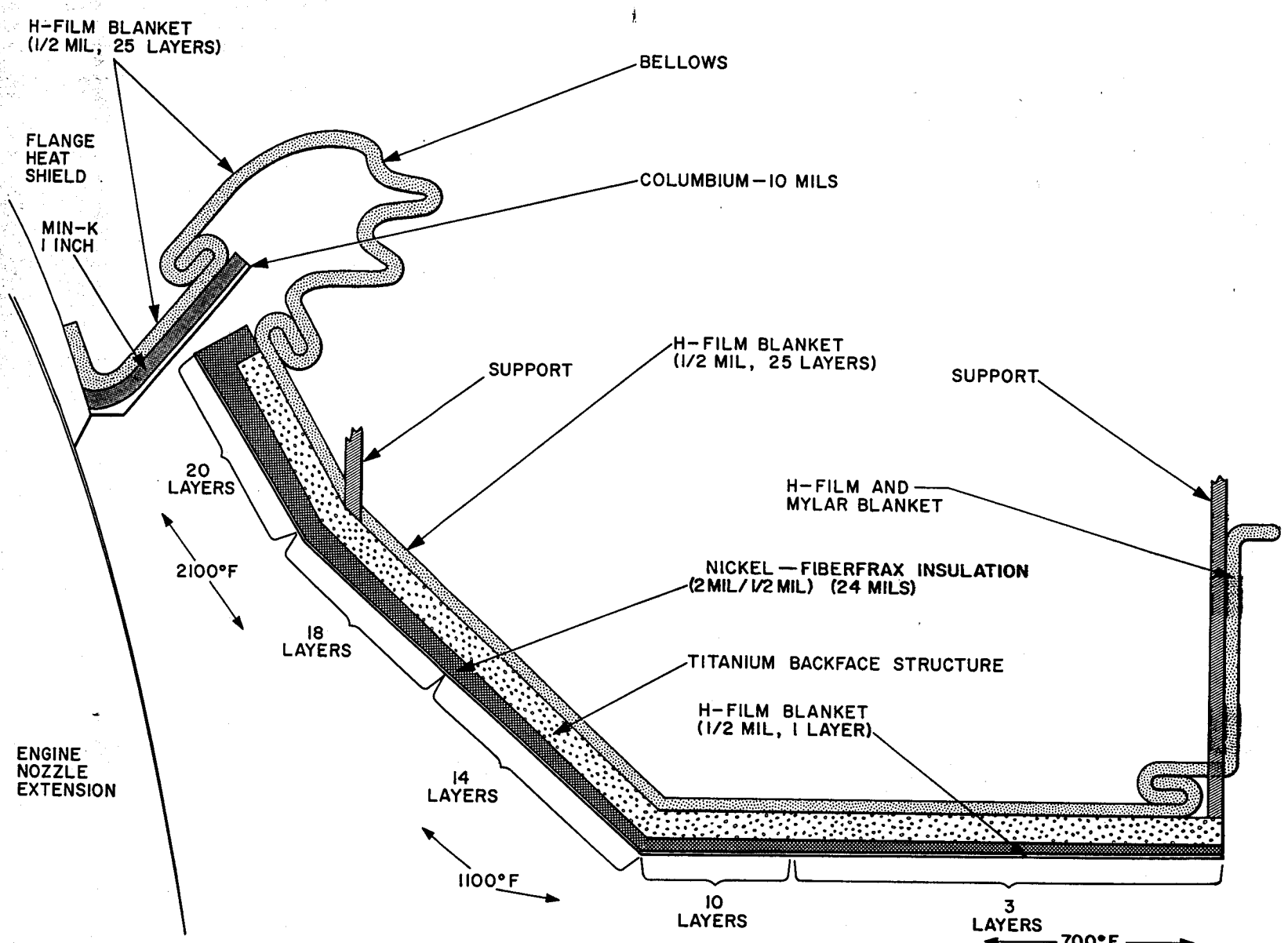


MICRO-METEOROID PROTECTION



RCS PLUME DEFLECTOR

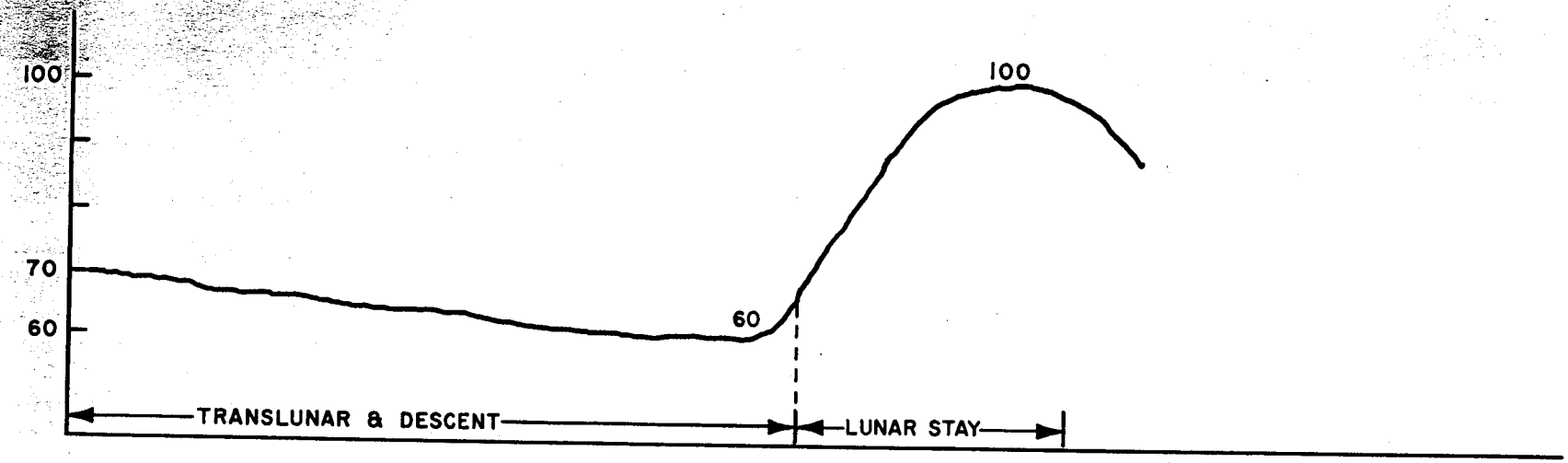
T30005-216



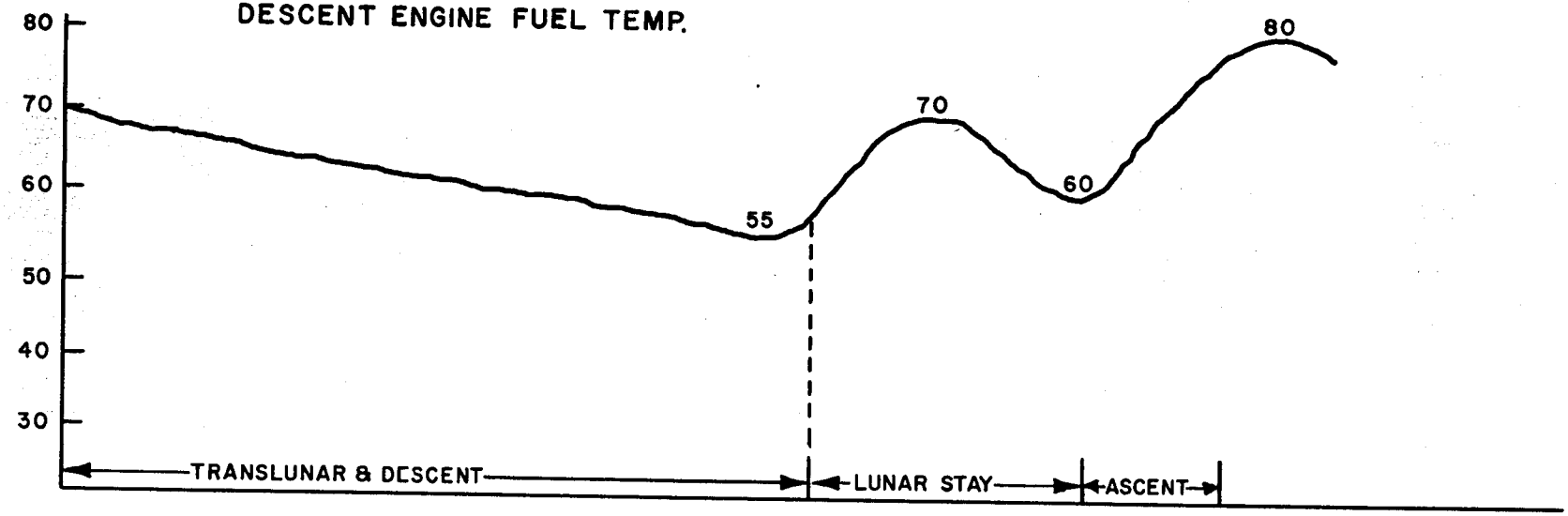
DESCENT STAGE BASE HEAT SHIELD

T30005-196.2

LM-5



DESCENT ENGINE FUEL TEMP.

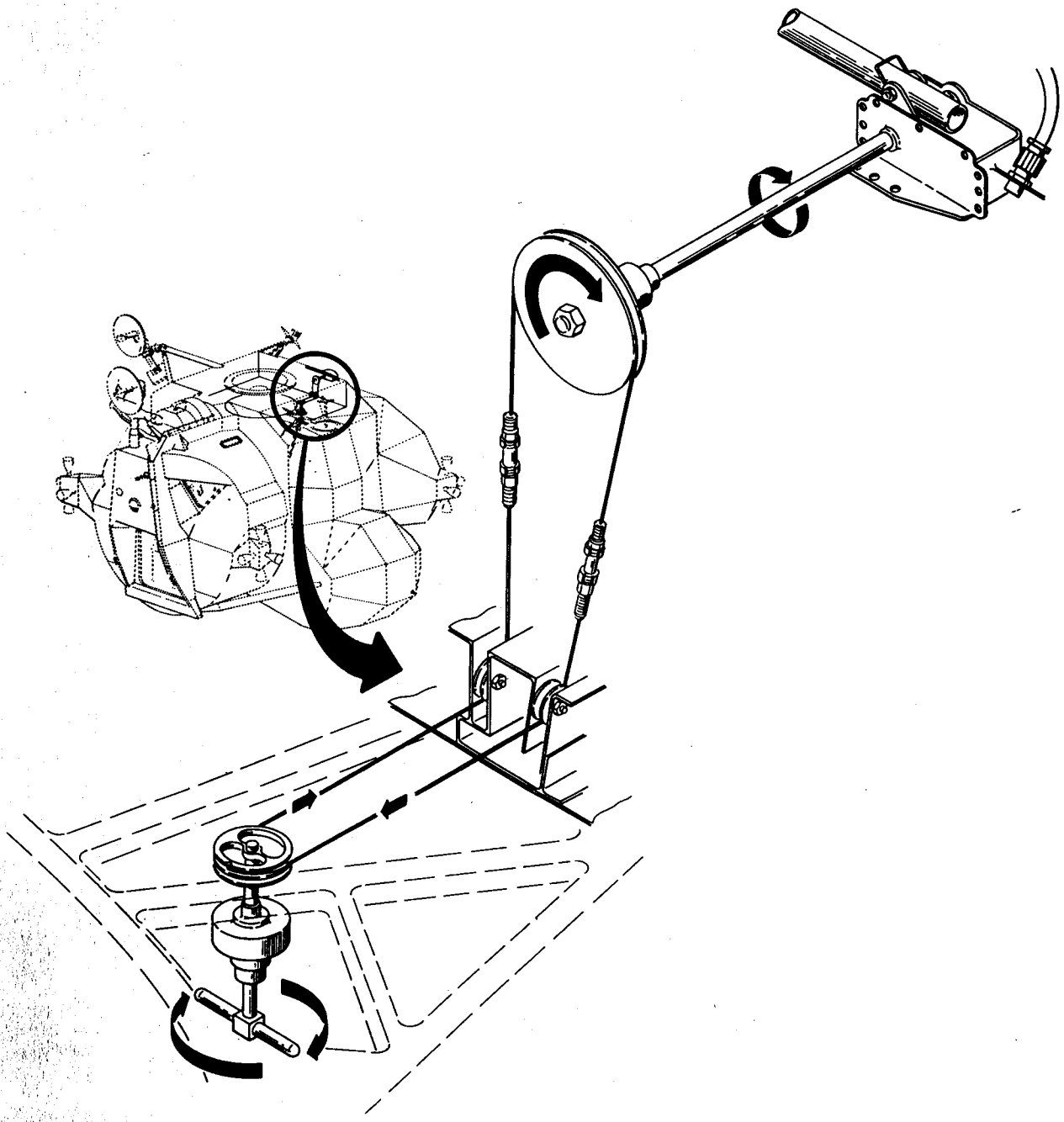


CABIN TEMP.

TEMPERATURE GRAPHS

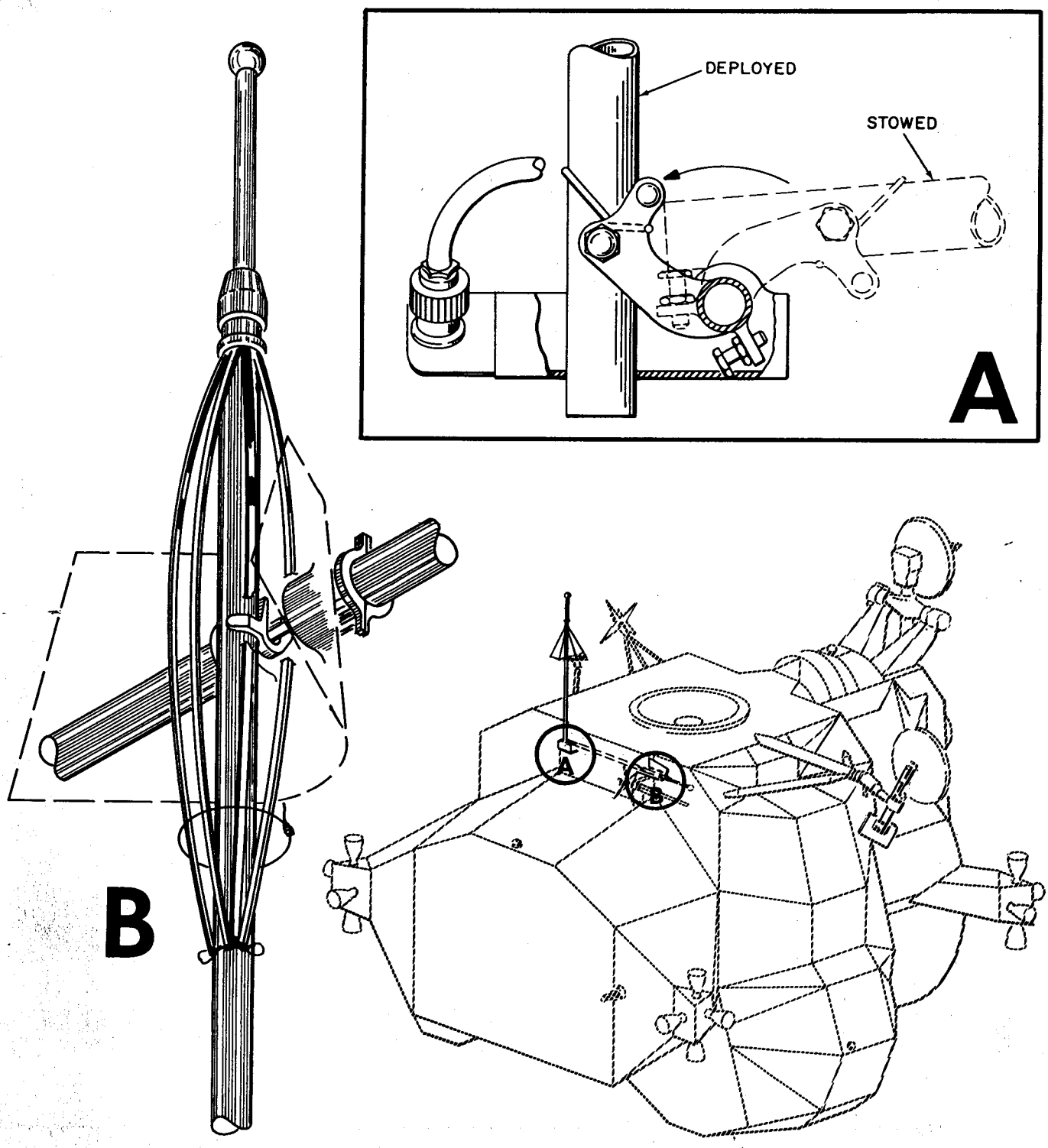
T30005-206.2

LM-5



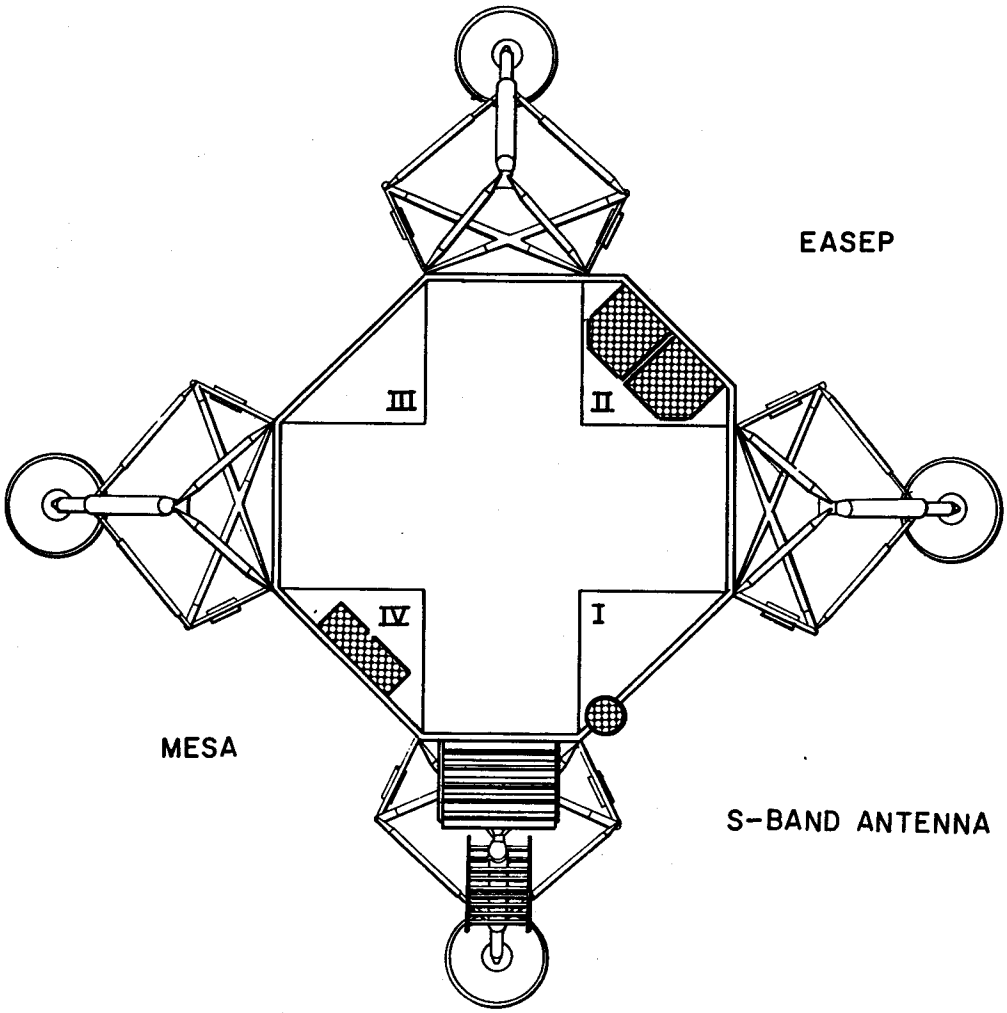
EVA ANTENNA ERECTION MECHANISM (1)

T30715-142



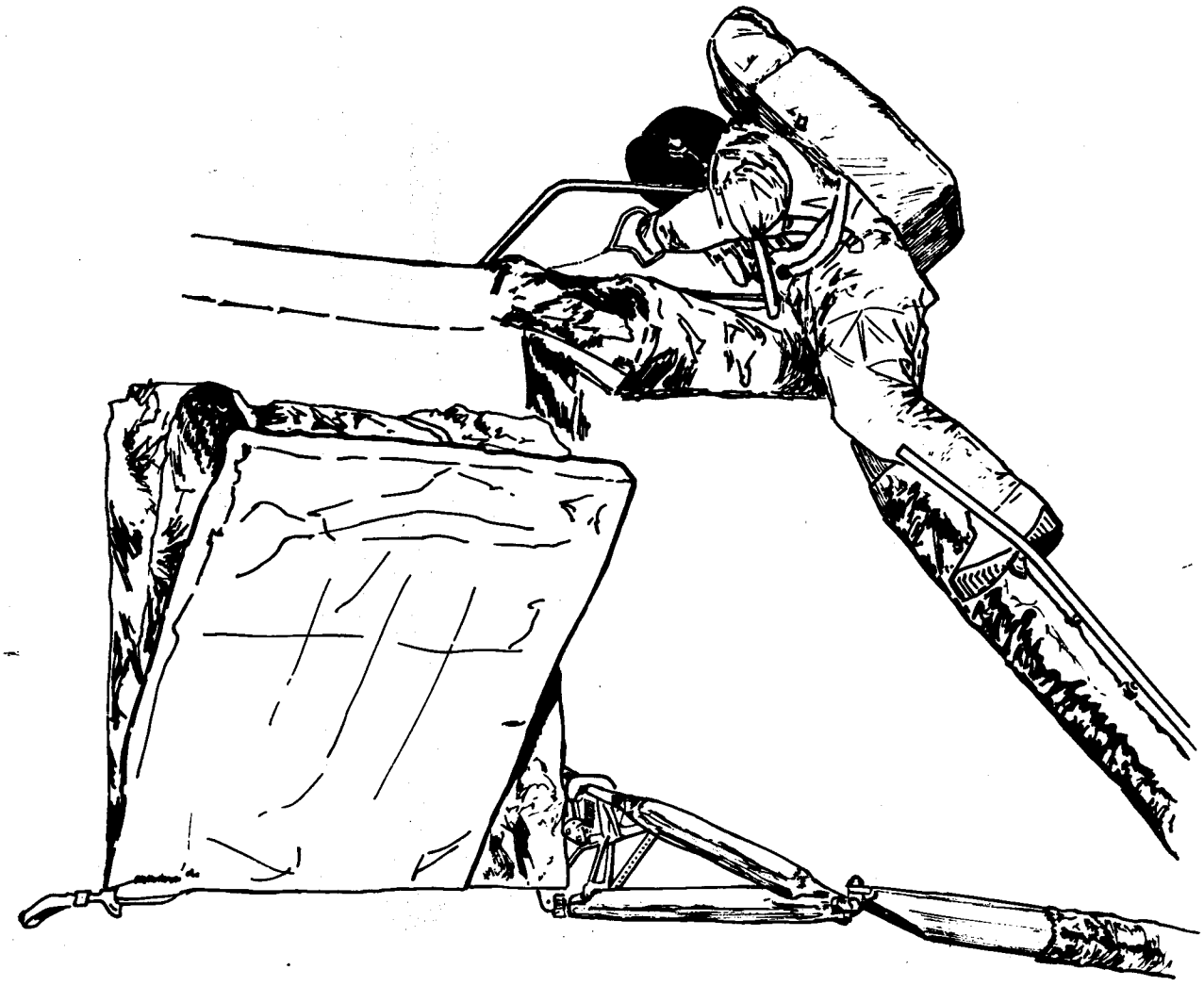
EVA ANTENNA ERECTION MECHANISM (2)

T30715-145



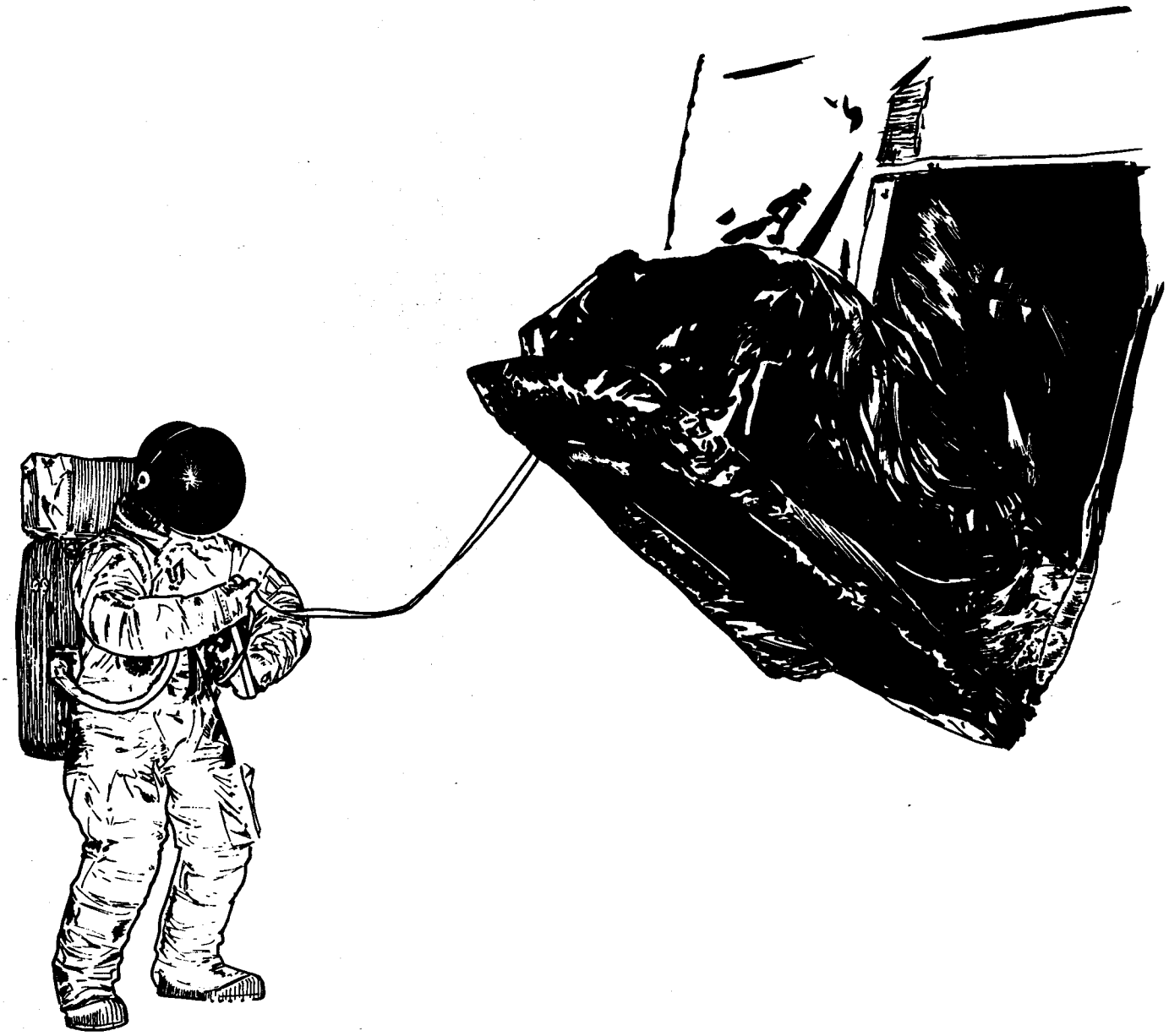
EQUIPMENT LOCATIONS - DESCENT STAGE

T30005-220



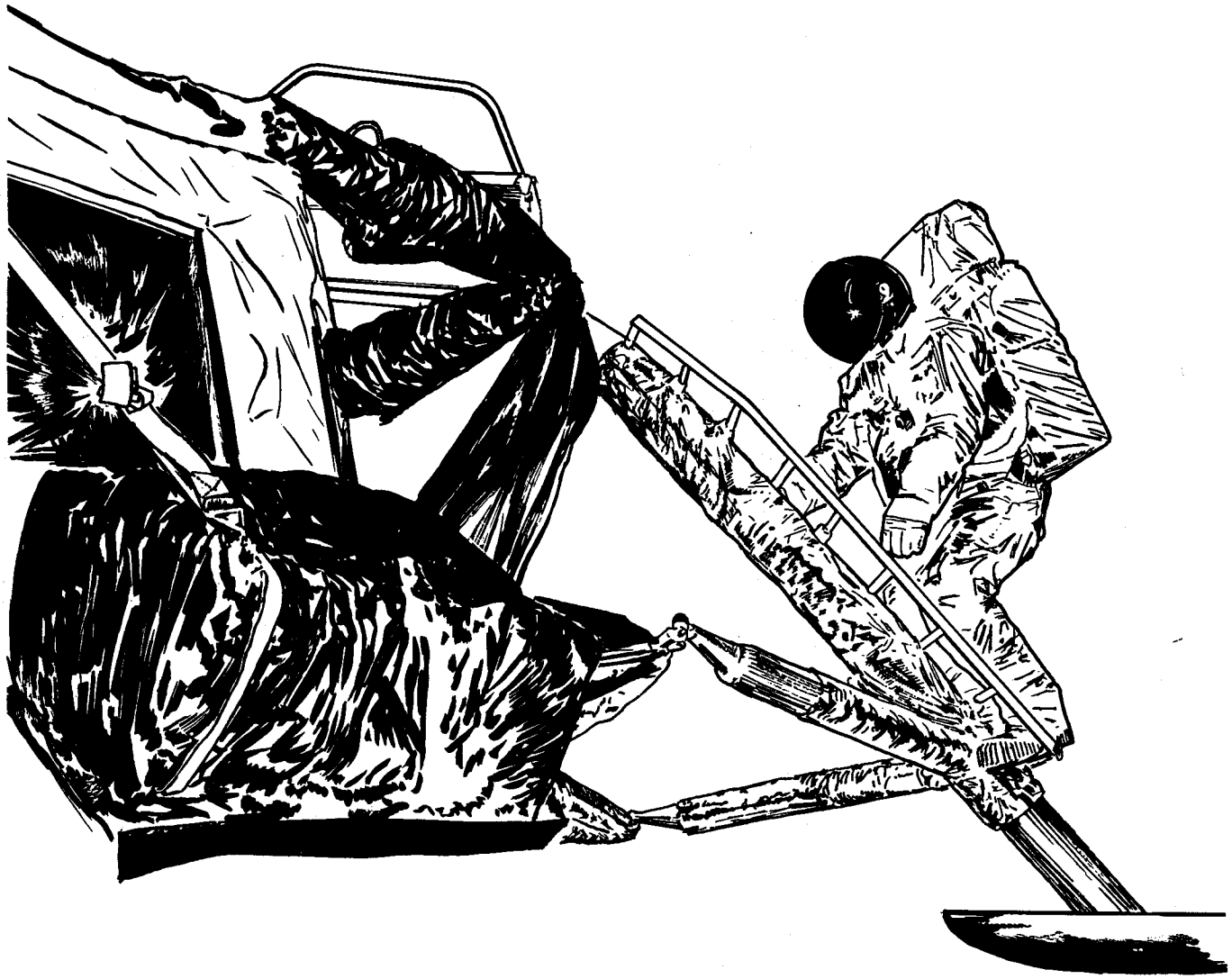
MESA DEPLOYMENT

T30005-222



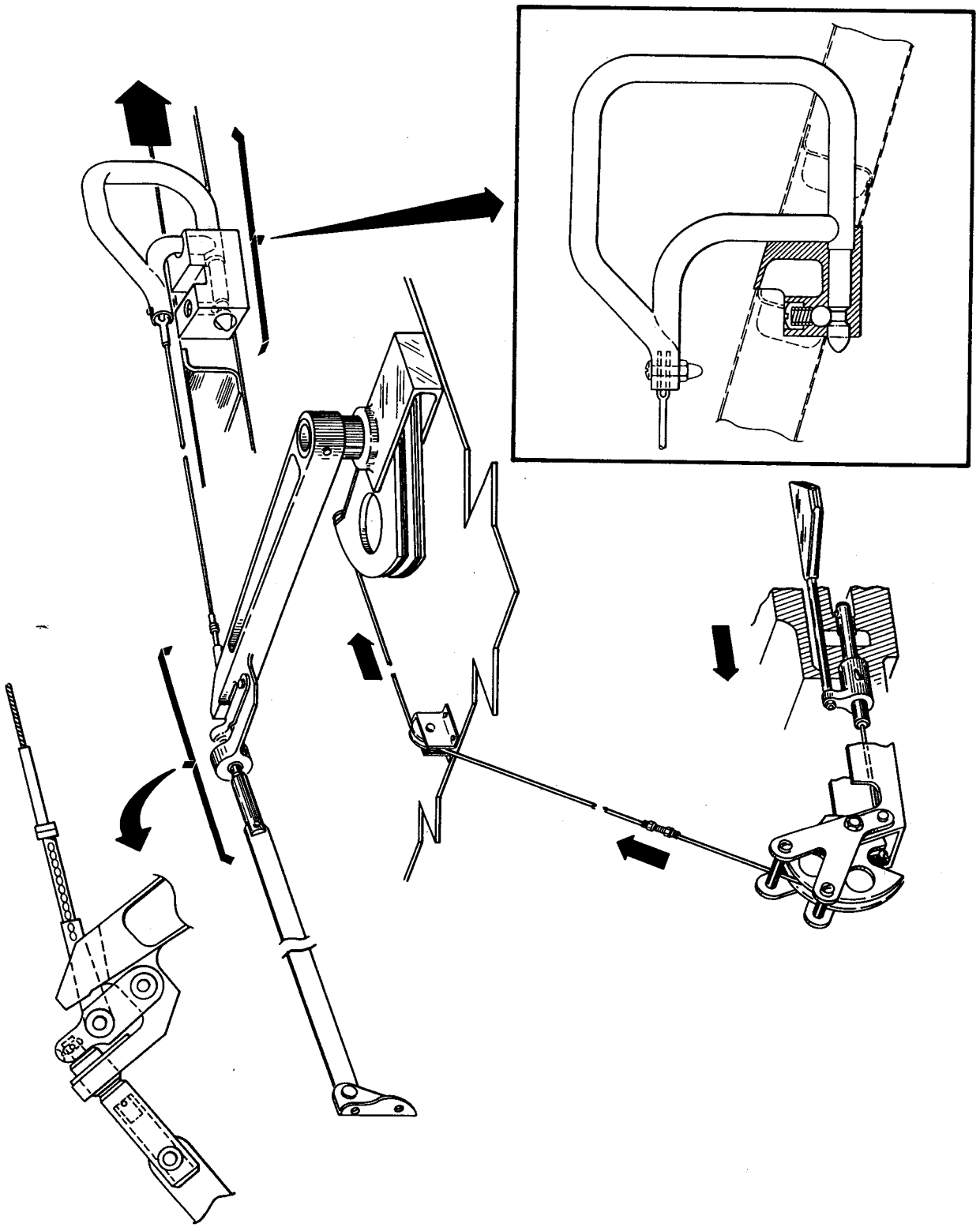
BACK-UP DEPLOYMENT

T30005-221



MESA DEPLOYED

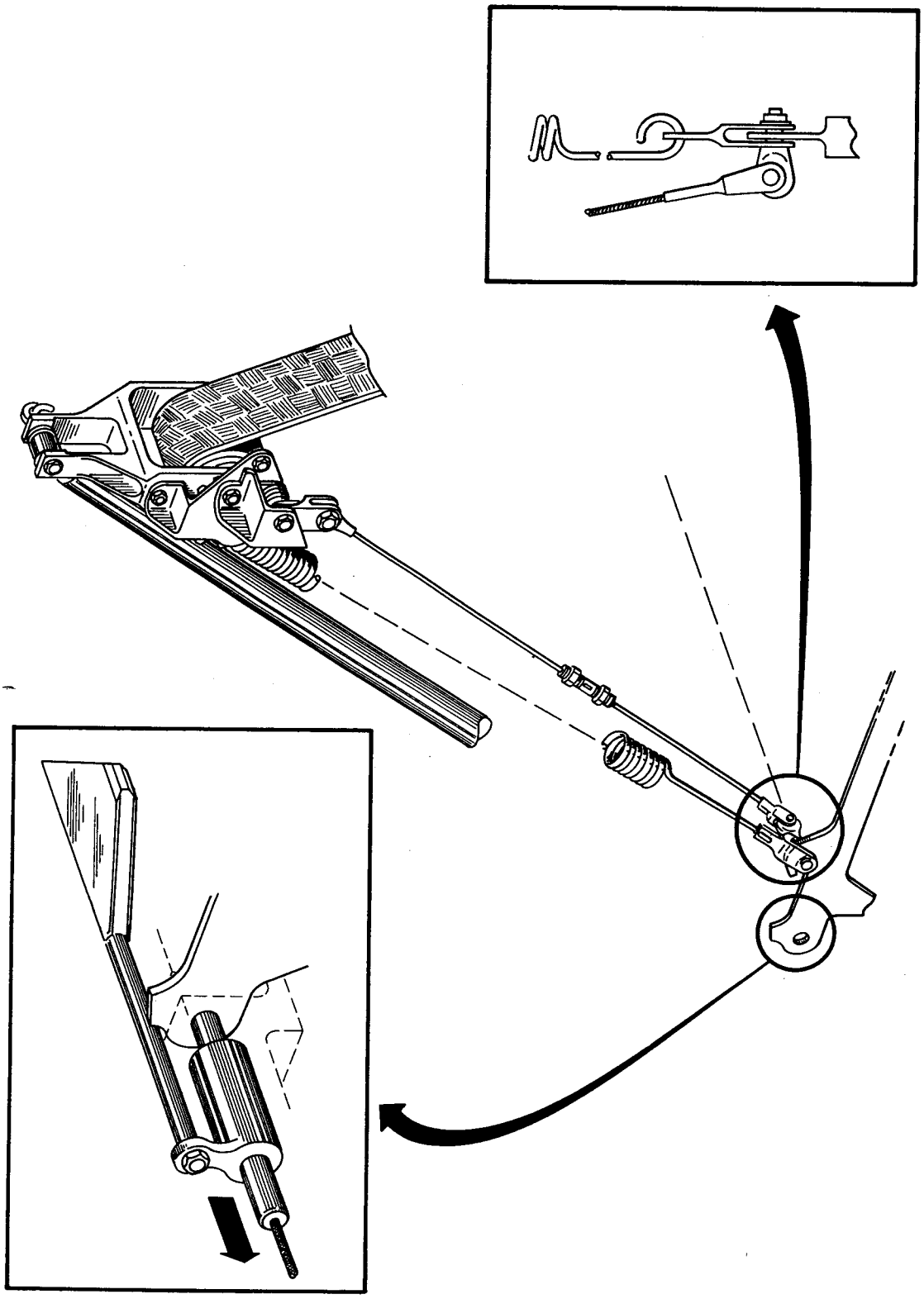
T30005-223.1



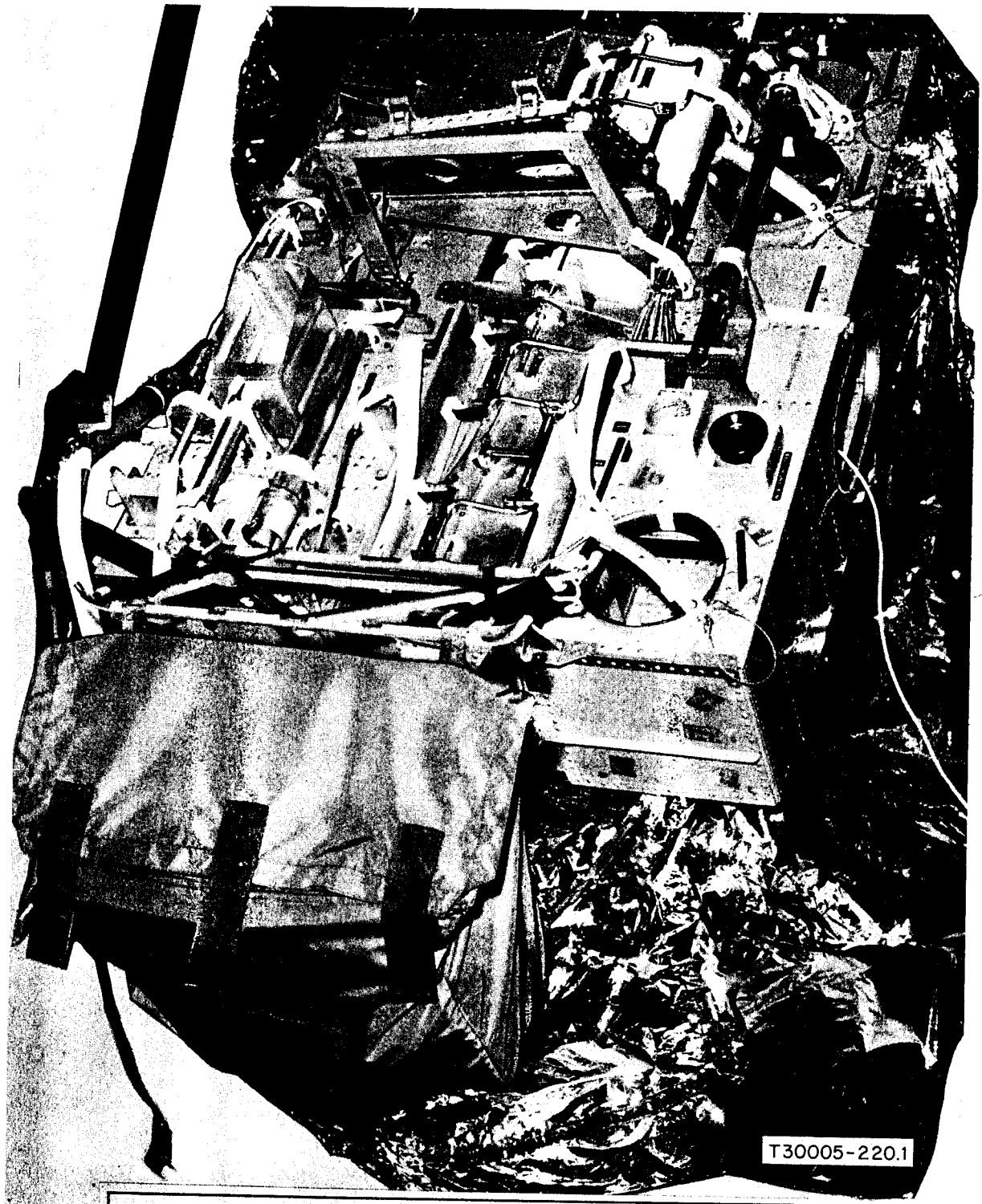
T30005-227

MESA DEPLOYMENT MECHANISM

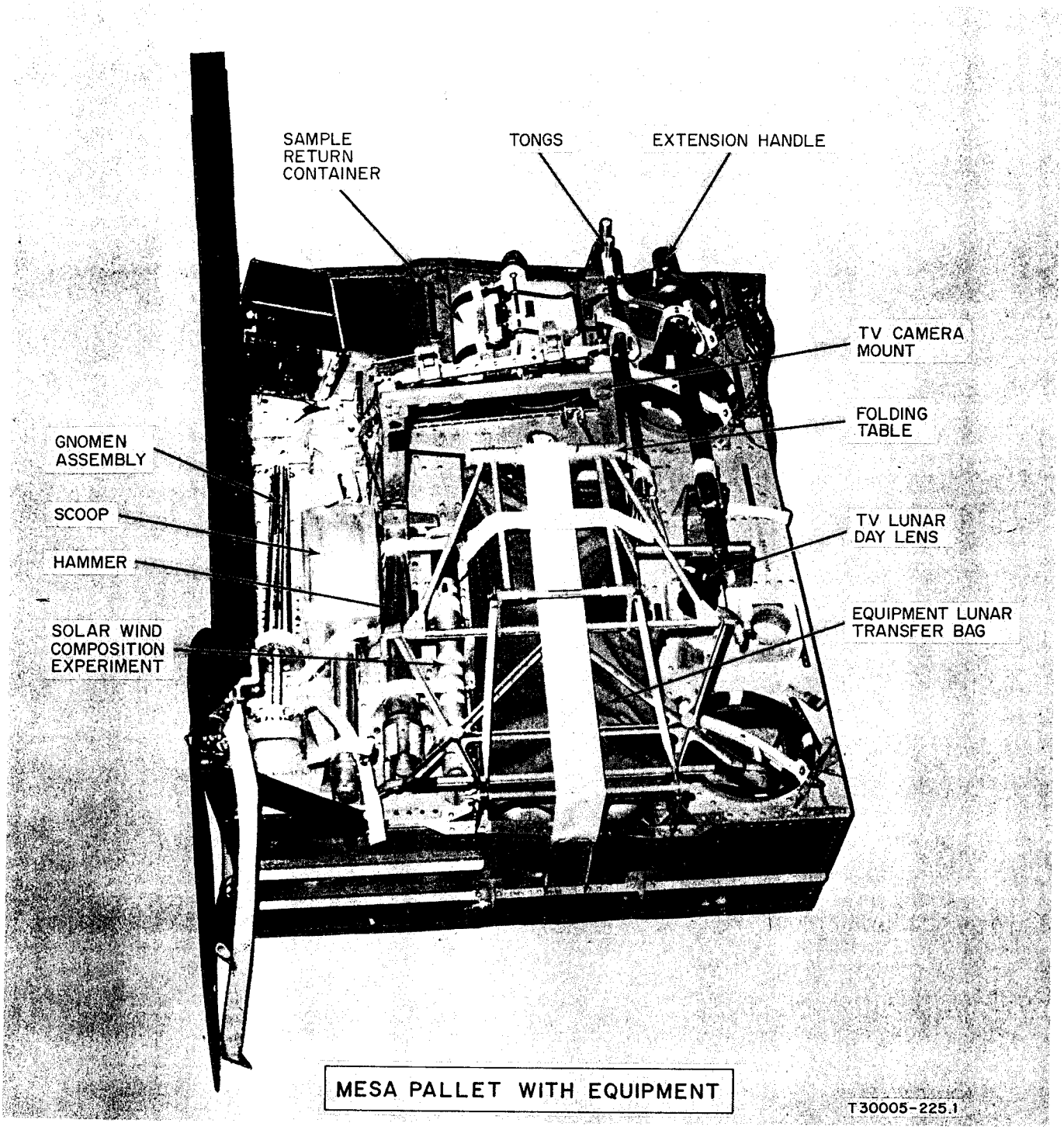
T30005-226



MESA DEPLOYMENT RATCHET/SPRING ASSEMBLY

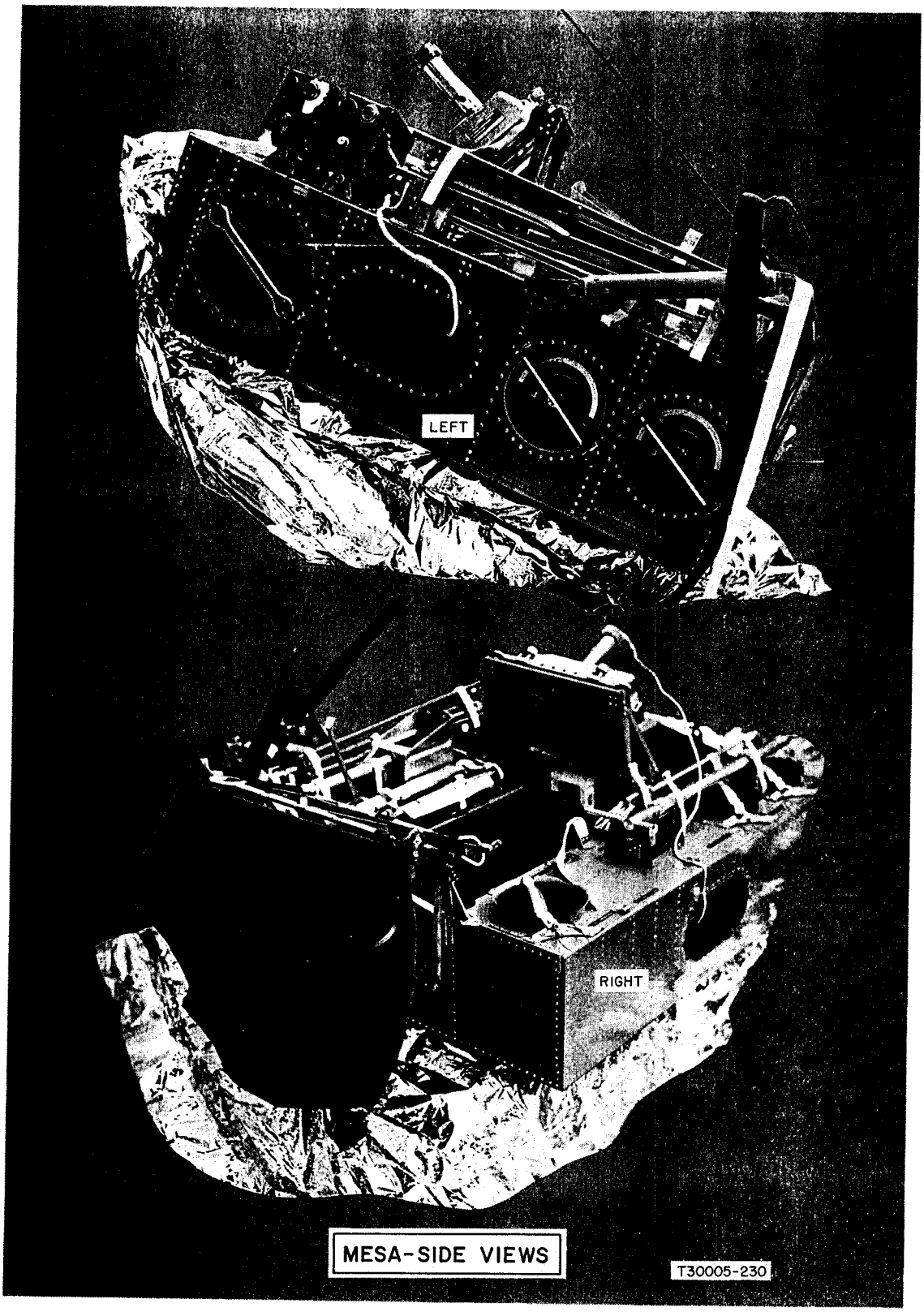


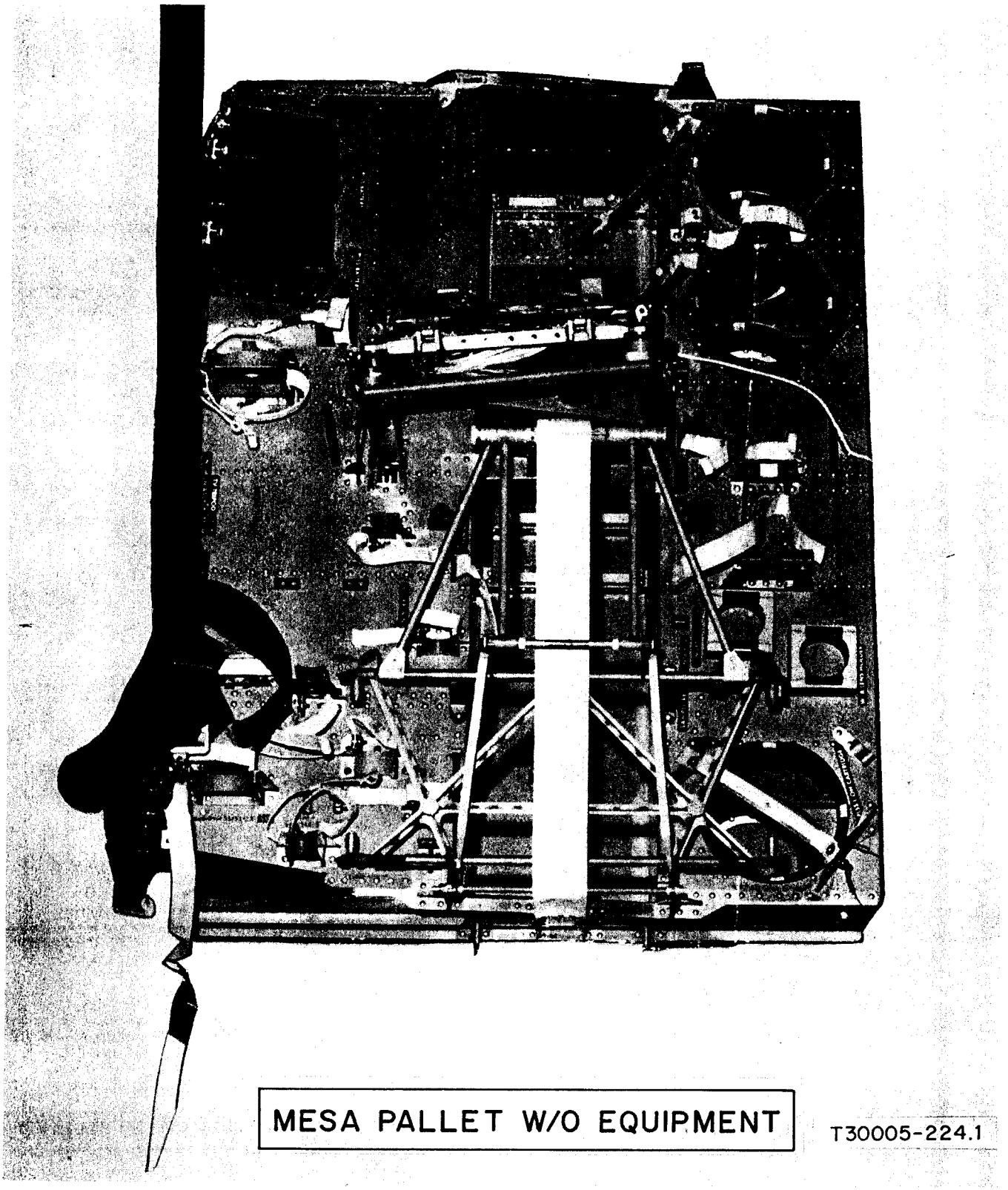
MODULARIZED EQUIPMENT STOWAGE ASSEMBLY
MESA PALLET


SAMPLE RETURN CONTAINER
TONGS
EXTENSION HANDLE
TV CAMERA MOUNT
FOLDING TABLE
GNOMEN ASSEMBLY
SCOOP
TV LUNAR DAY LENS
HAMMER
EQUIPMENT LUNAR TRANSFER BAG
SOLAR WIND COMPOSITION EXPERIMENT
MESA PALLET WITH EQUIPMENT
T30005-225.1

MESA STOWAGE LIST - LM-5

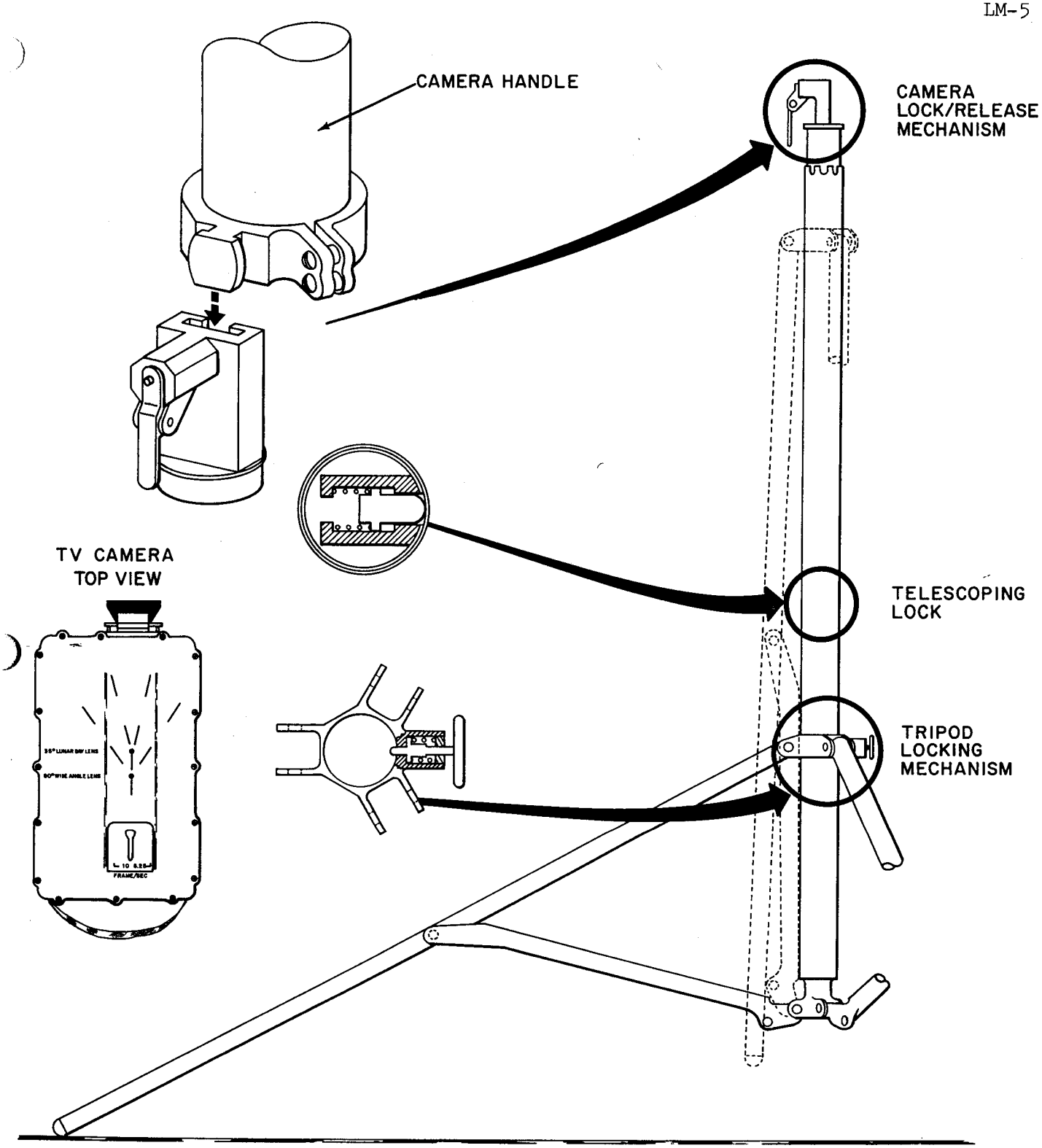
Item	Weight Lbs.	Qty	Earth Launch	Lunar Launch	LM/CSM Transfer
Lunar Television Subsystem					
Lunar Television Camera	7.2	1	*		
TV Wide Angle Lens	.4	1	*		
TV Lunar Day Lens	.4	1	*		
TV Cable Assembly (100 ft)	2.4	1	*		
TV Tripod Assembly	1.74	1	*		
Equipment Lunar Transfer Bag		1	*		
S-Band Antenna Cable	6.0	1	*		
Lunar Sample Scoop	.9	1	*		
Extension Handle	1.2	1	*		
Tongs	.3	1	*		
Gnomon Assembly	.5	1	*		
Hammer	1.8	1	*		
Solar Wind Composition Exp	1.0	1	*	*SRC #2	*SRC #2
Close Up Stereo Camera		1	*	*Film	*Film
Sample Return Container #1	15.6	1	*	*	*
Scale		1			
Solar Wind Composition Bag		1			
Sample Bags		5			
Packing Material					
Bulk Sample Container		1			
Sample Return Container #2	20.9	1	*	*	*
Solar Wind Composition Bag		1			
Core Tubes		2			
Documentation Sample Collection Bag		1			
Sample Bags		15			
Gas Analysis Container		1			
Lunar Environment Sample Container		1			
Packing Material					


LEFT
RIGHT
MESA-SIDE VIEWS
T30005-230



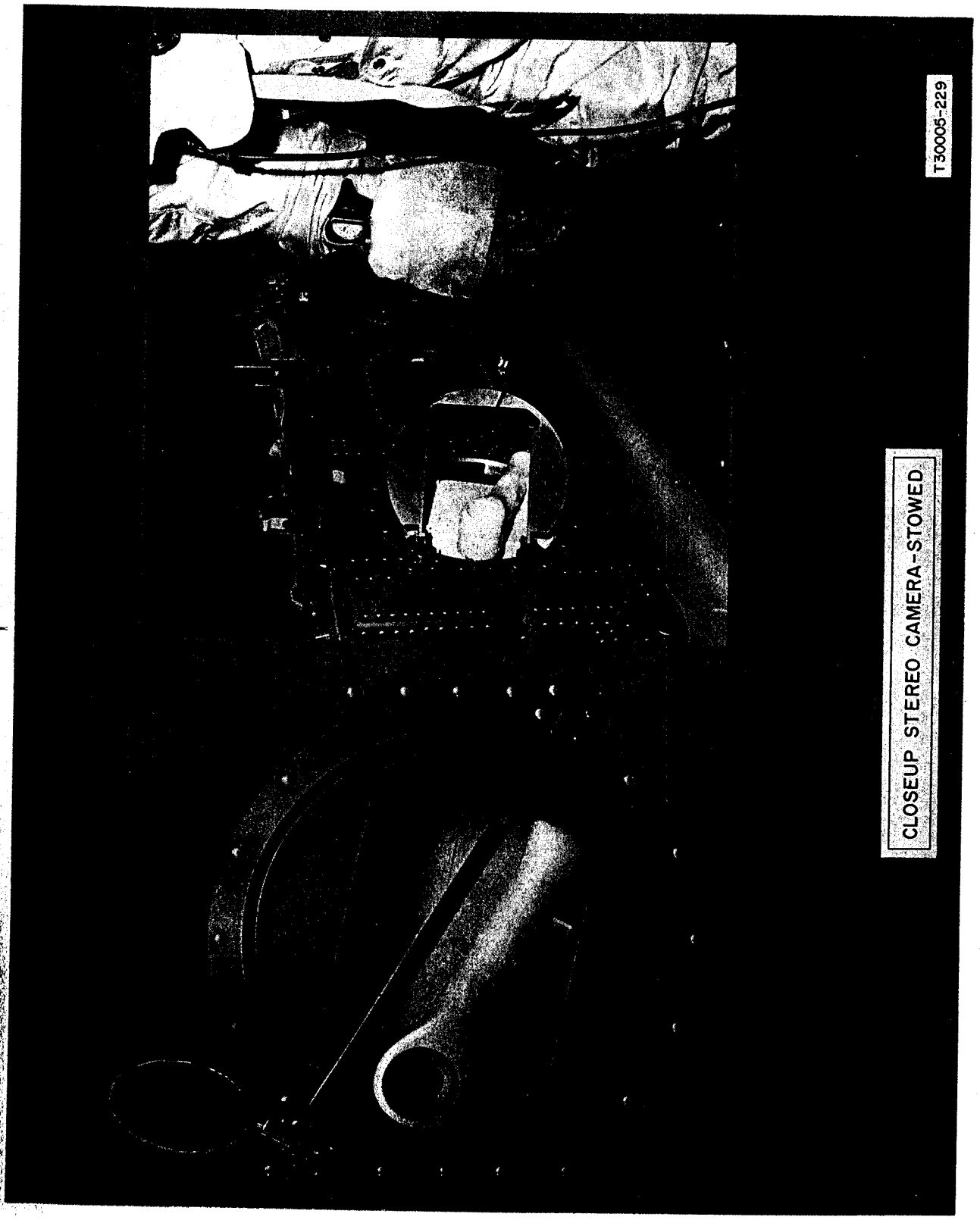
MESA PALLET W/O EQUIPMENT

T30005-224.1

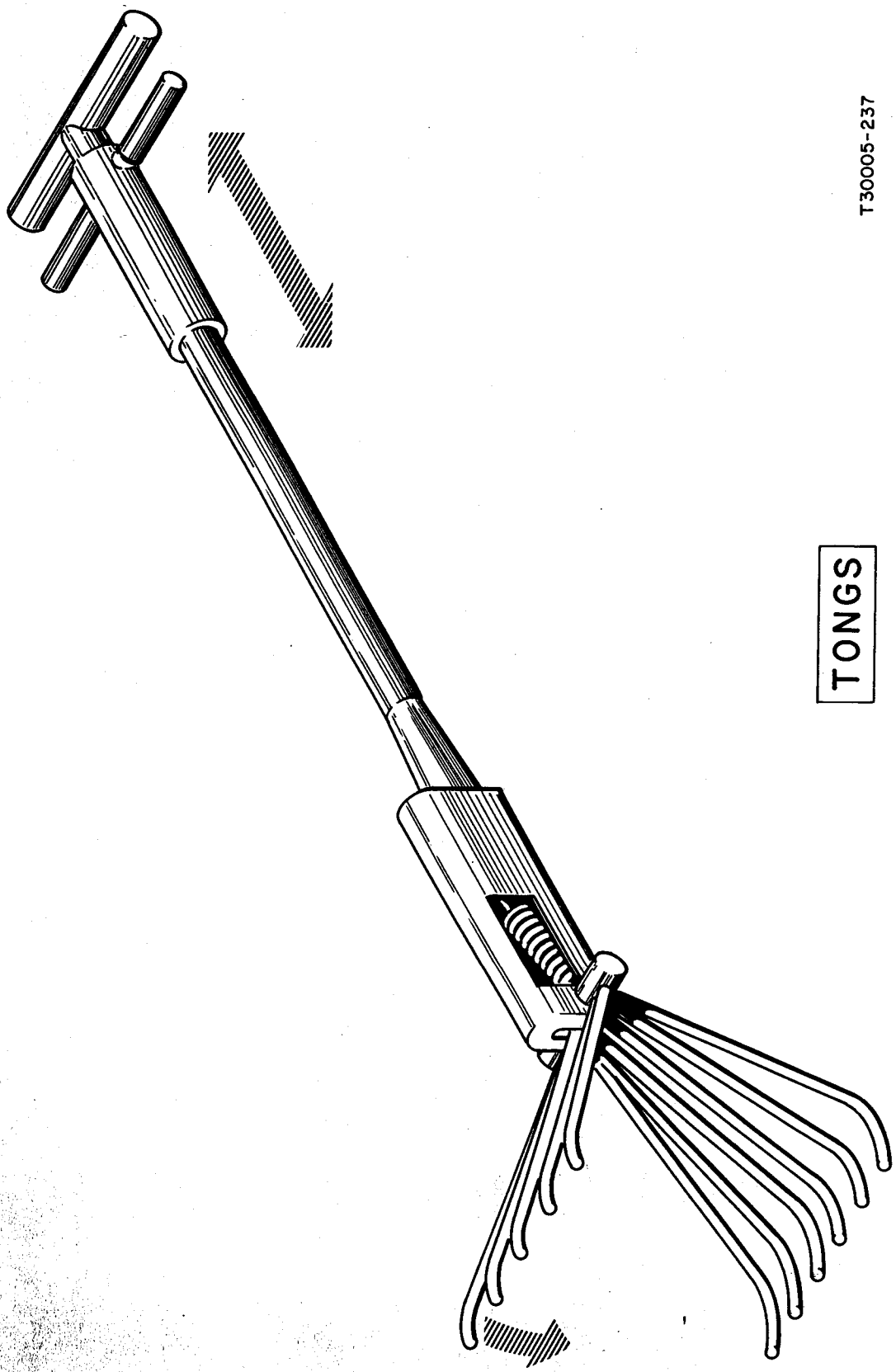


TV CAMERA AND TRIPOD

T30915-119.1

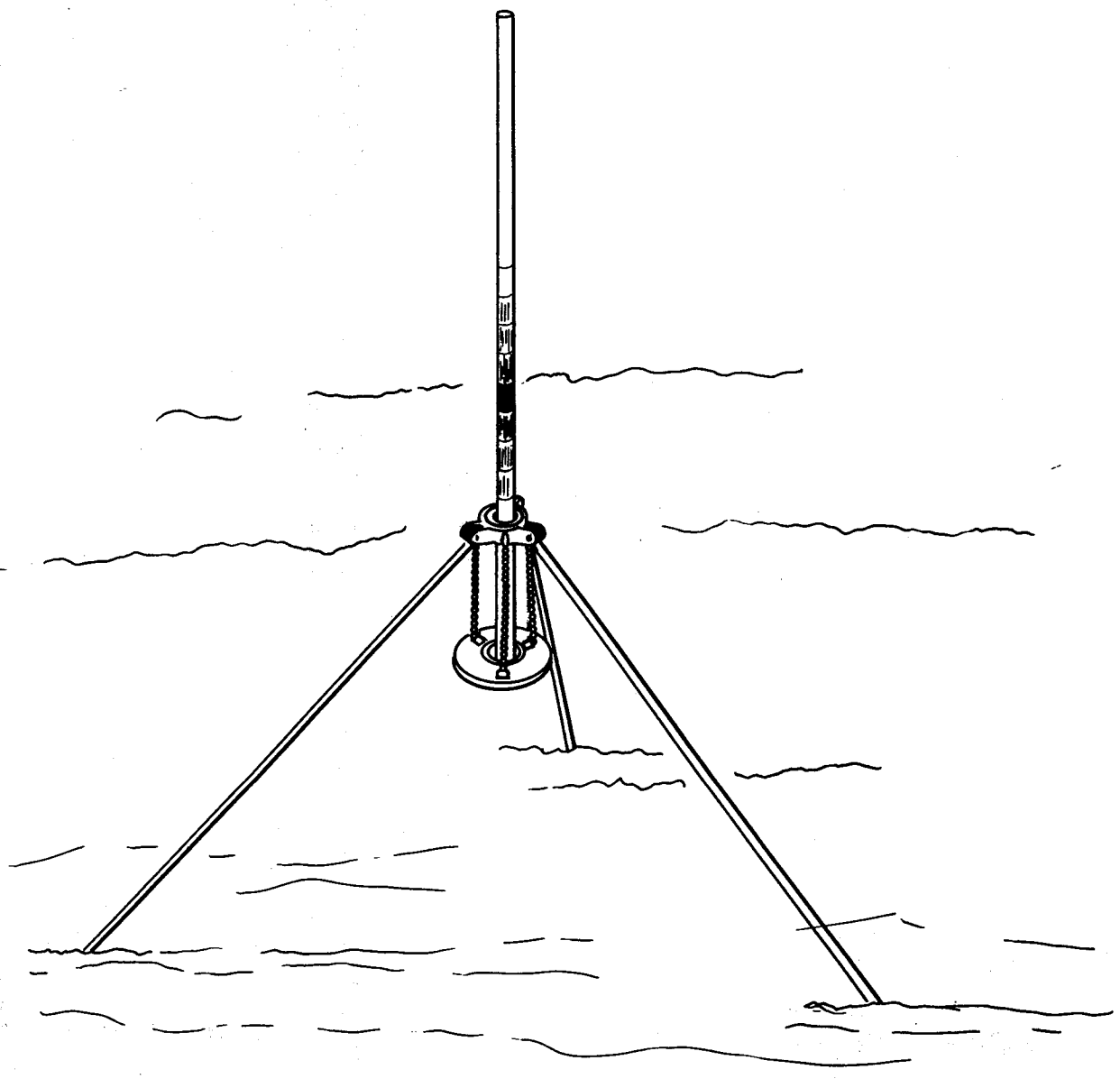

T30005-229
CLOSEUP STEREO CAMERA-STOWED


CLOSEUP STEREO CAMERA
T30005-228



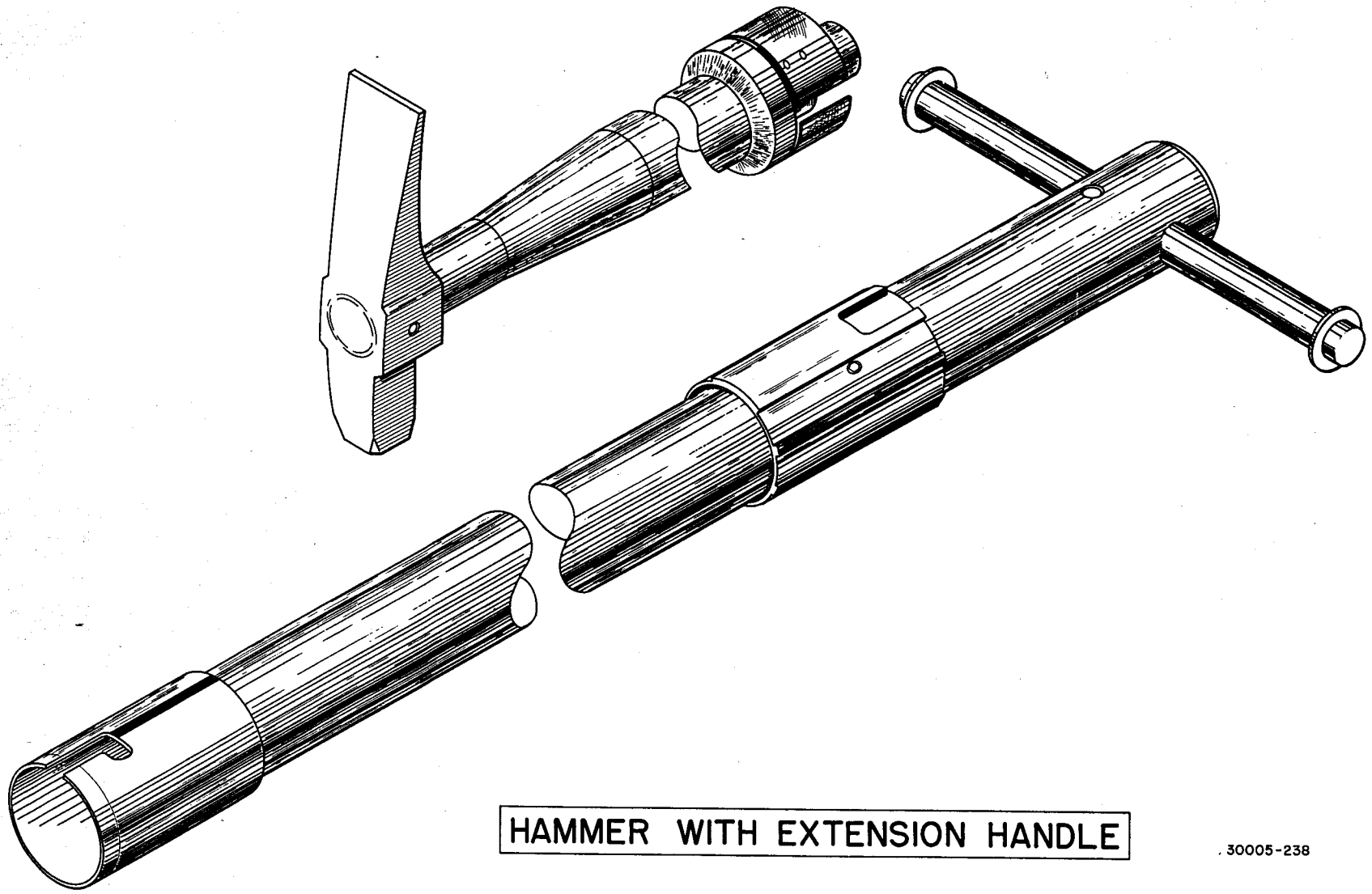
T30005-237

TONGS



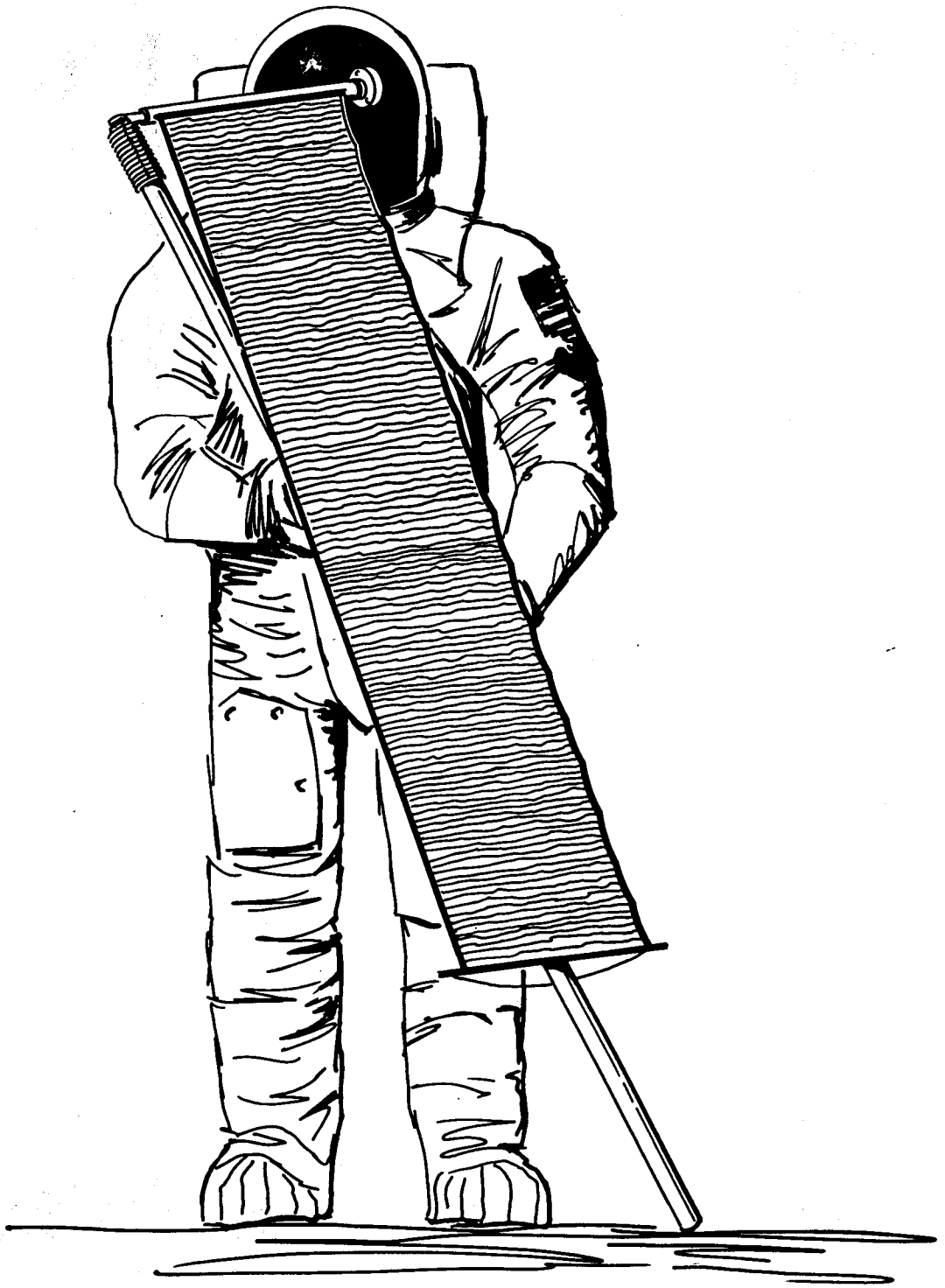
GNOMON

T30005-240



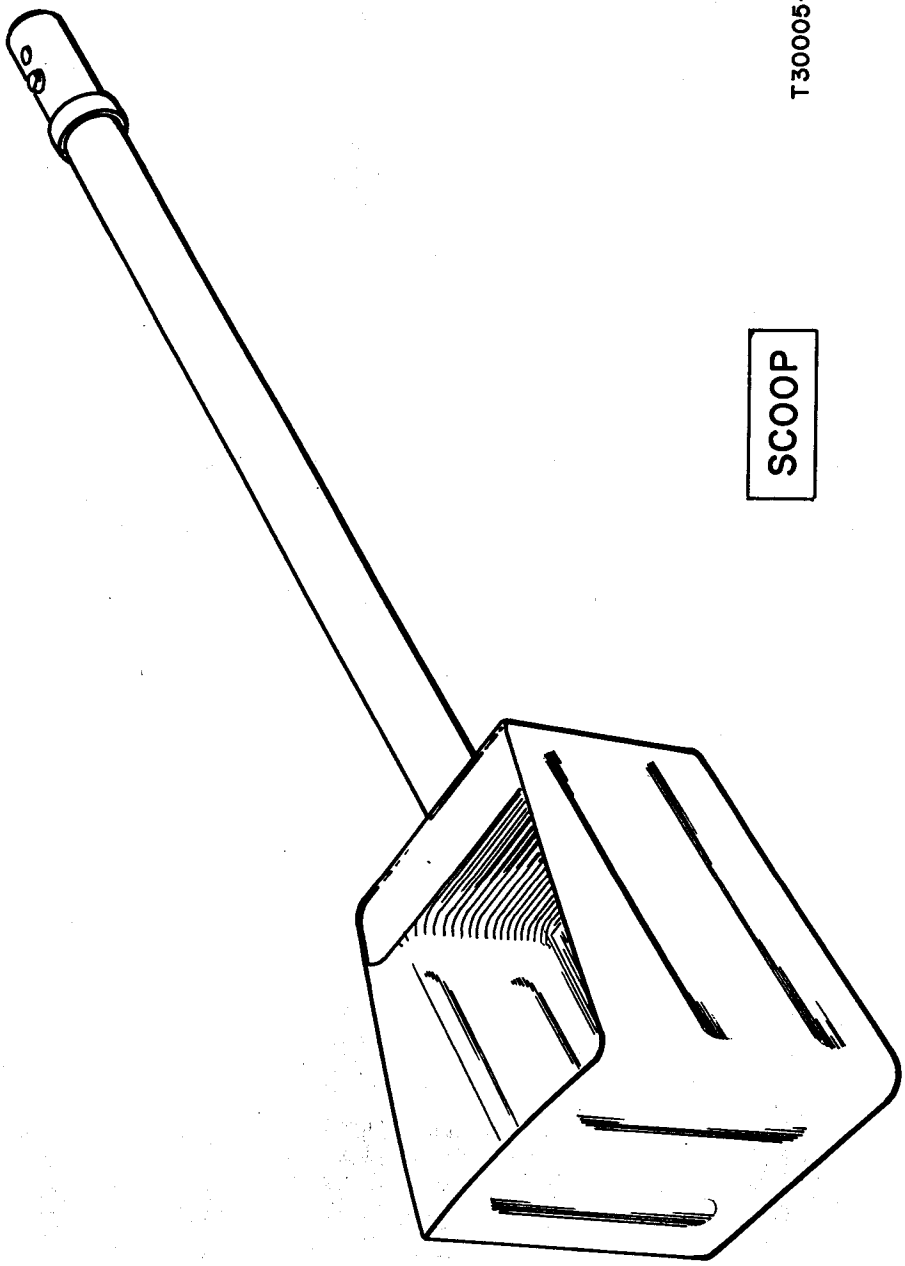
HAMMER WITH EXTENSION HANDLE

30005-238



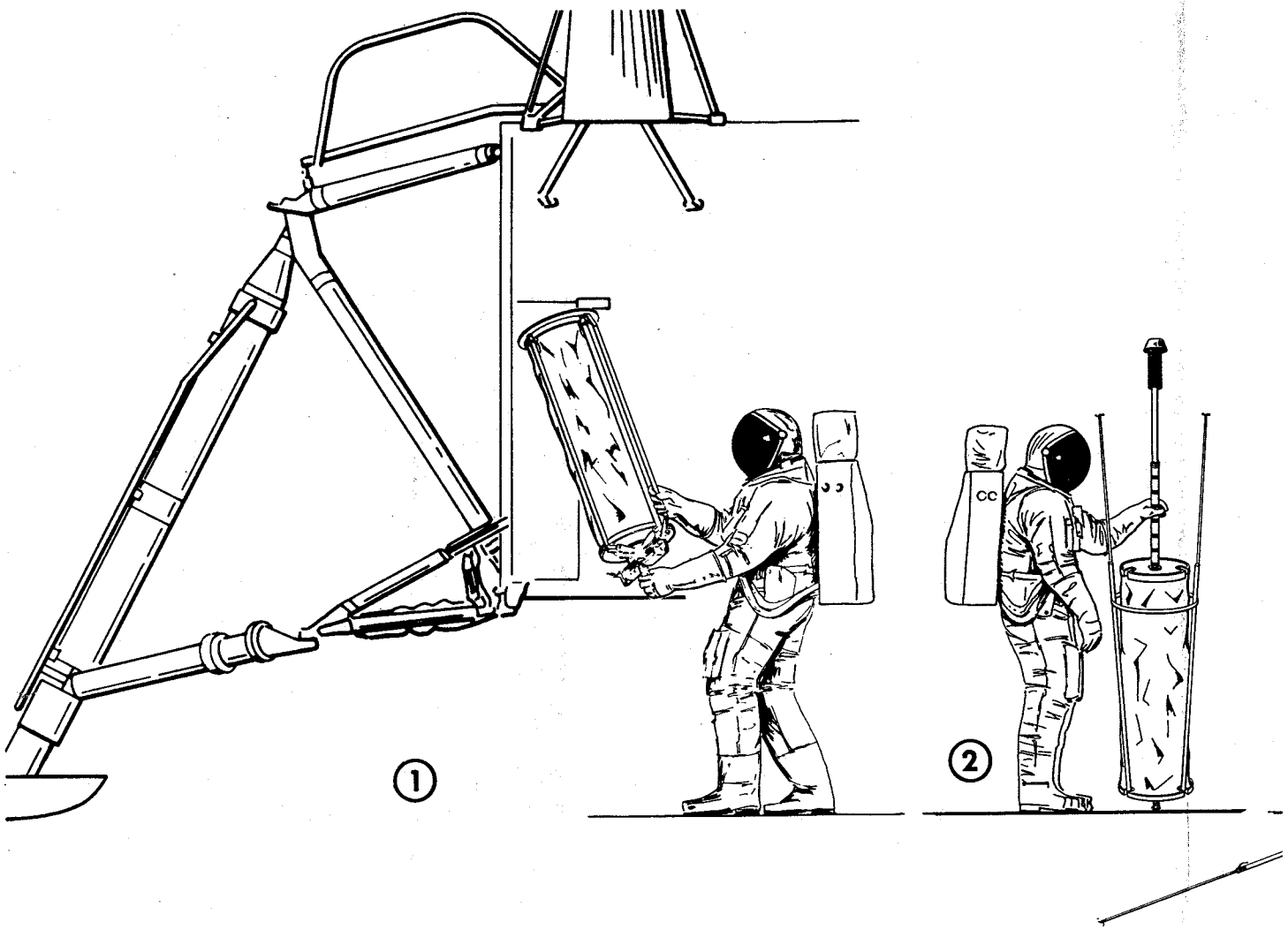
SOLAR WIND COMPOSITION EXPERIMENT

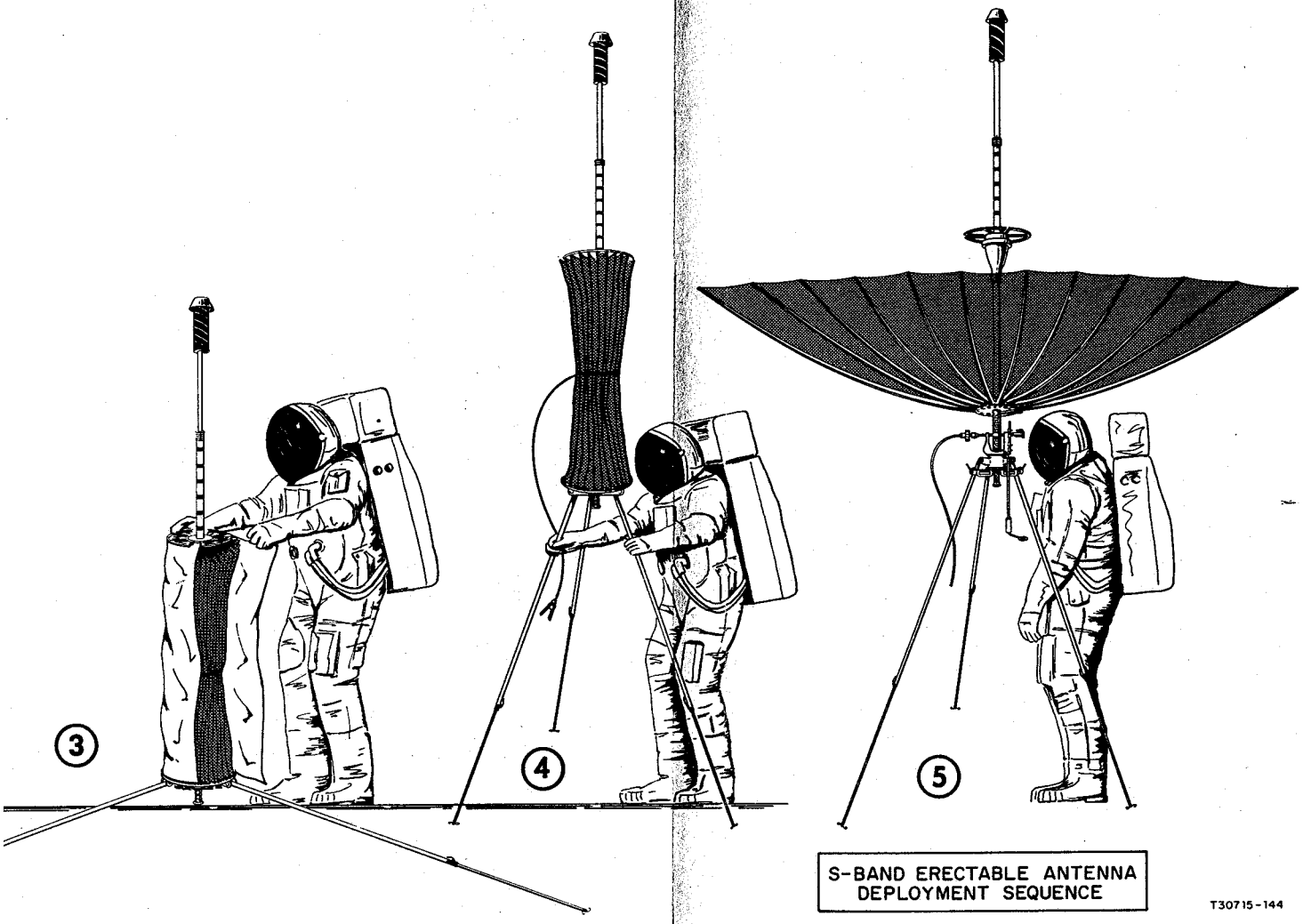
T30005-217



T30005-239

SCOOP

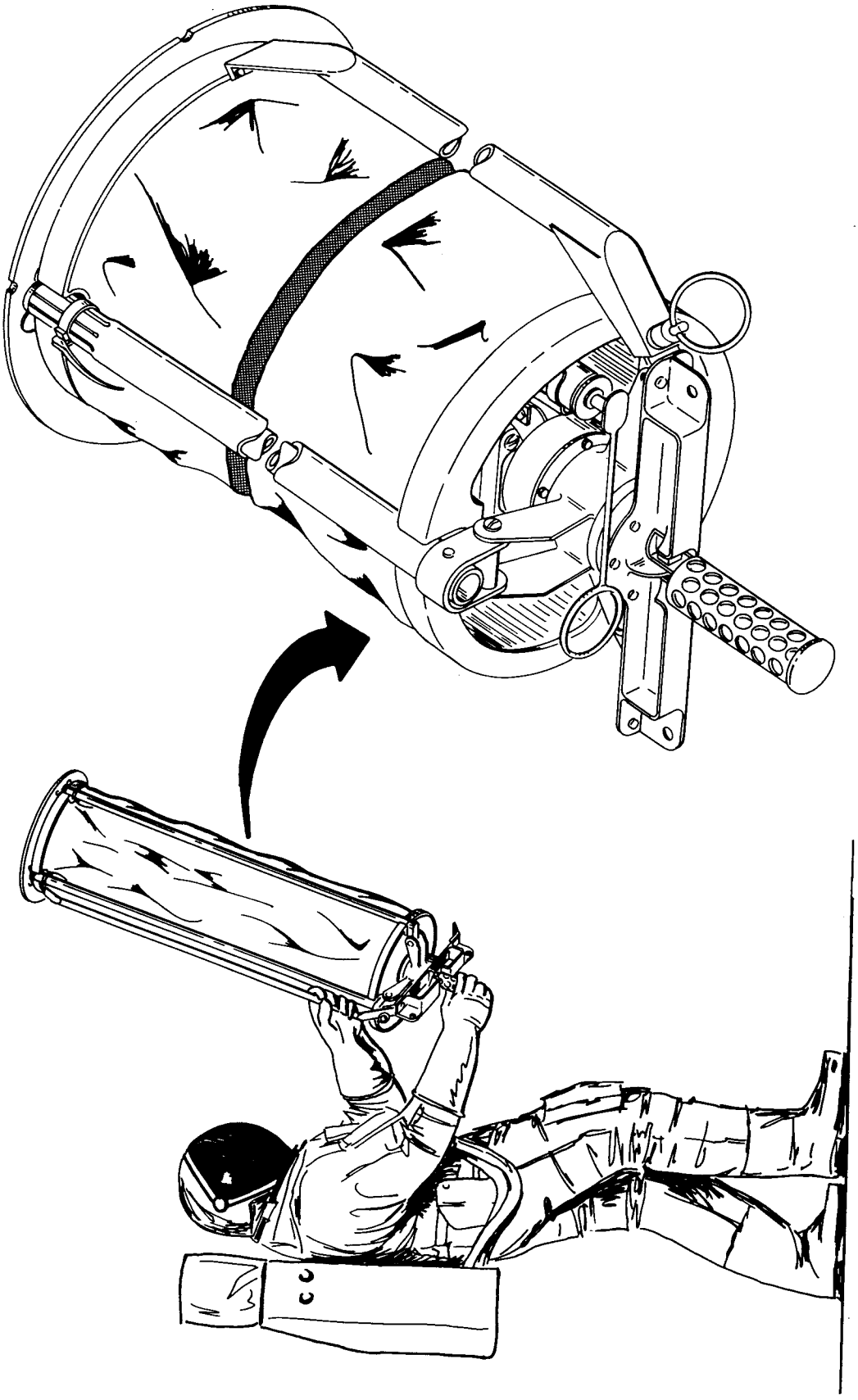

CC
1
2



S-BAND ERECTABLE ANTENNA DEPLOYMENT SEQUENCE

T30715-144

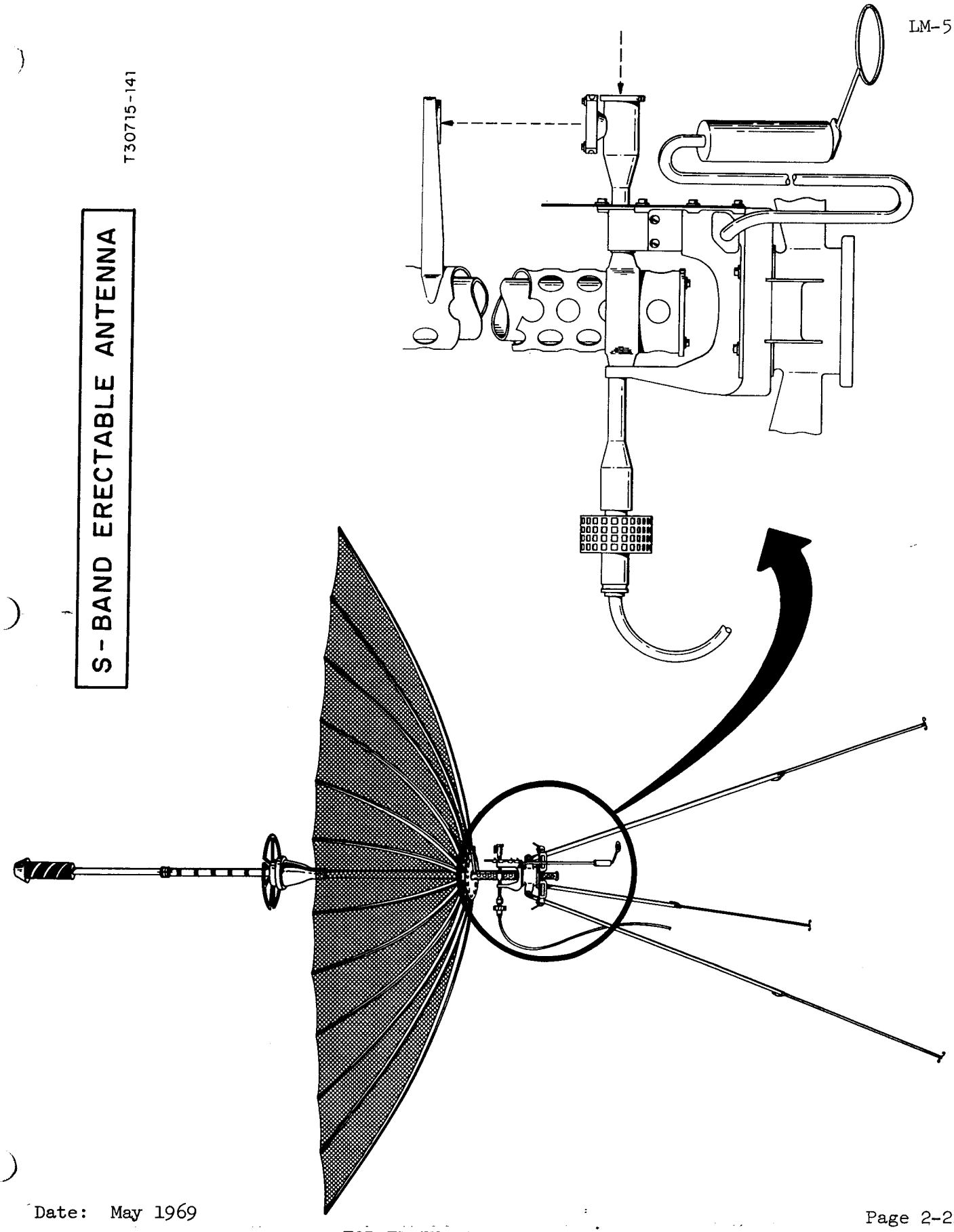
T30715-143

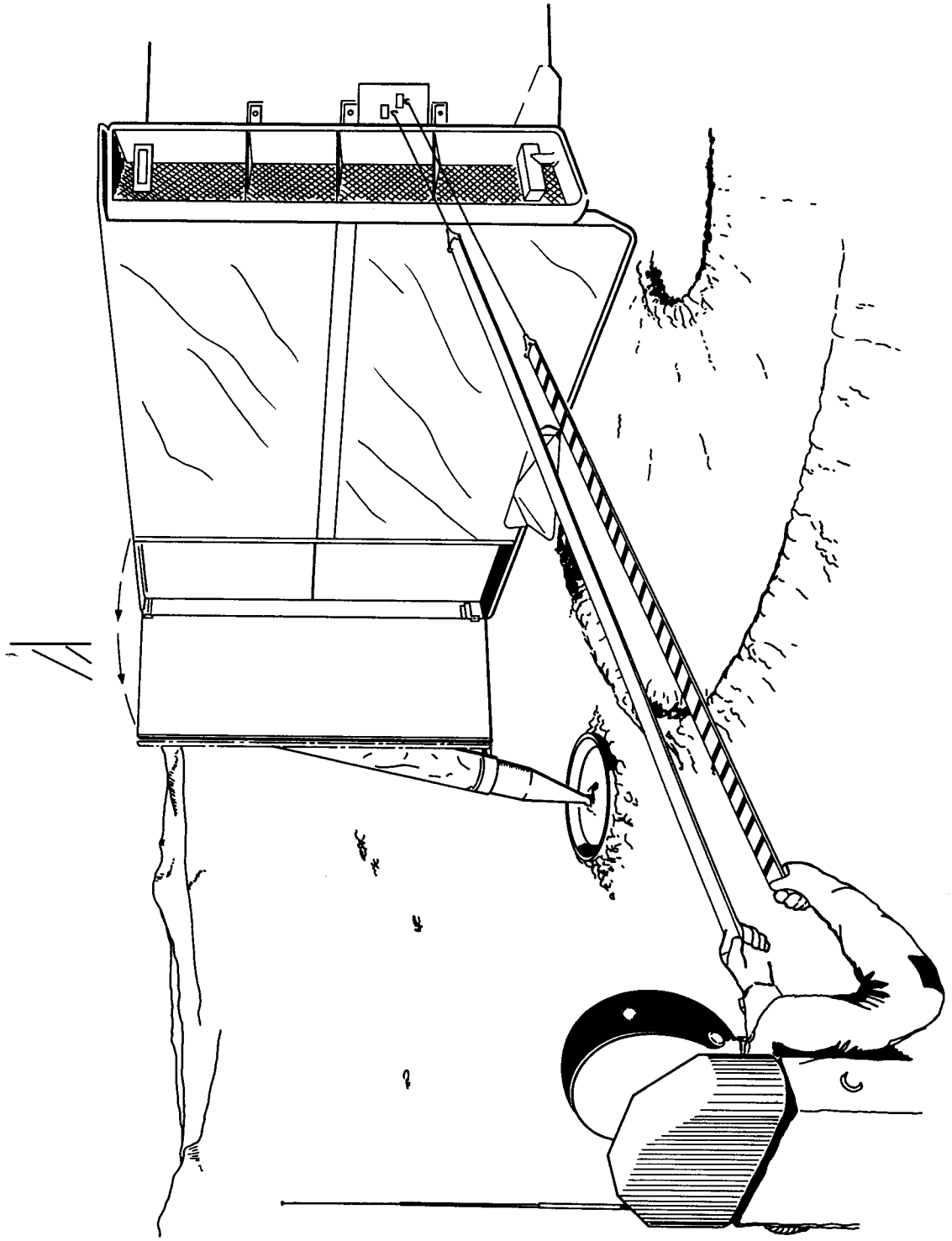


S-BAND ERECTABLE ANTENNA HANDLING

T30715-141

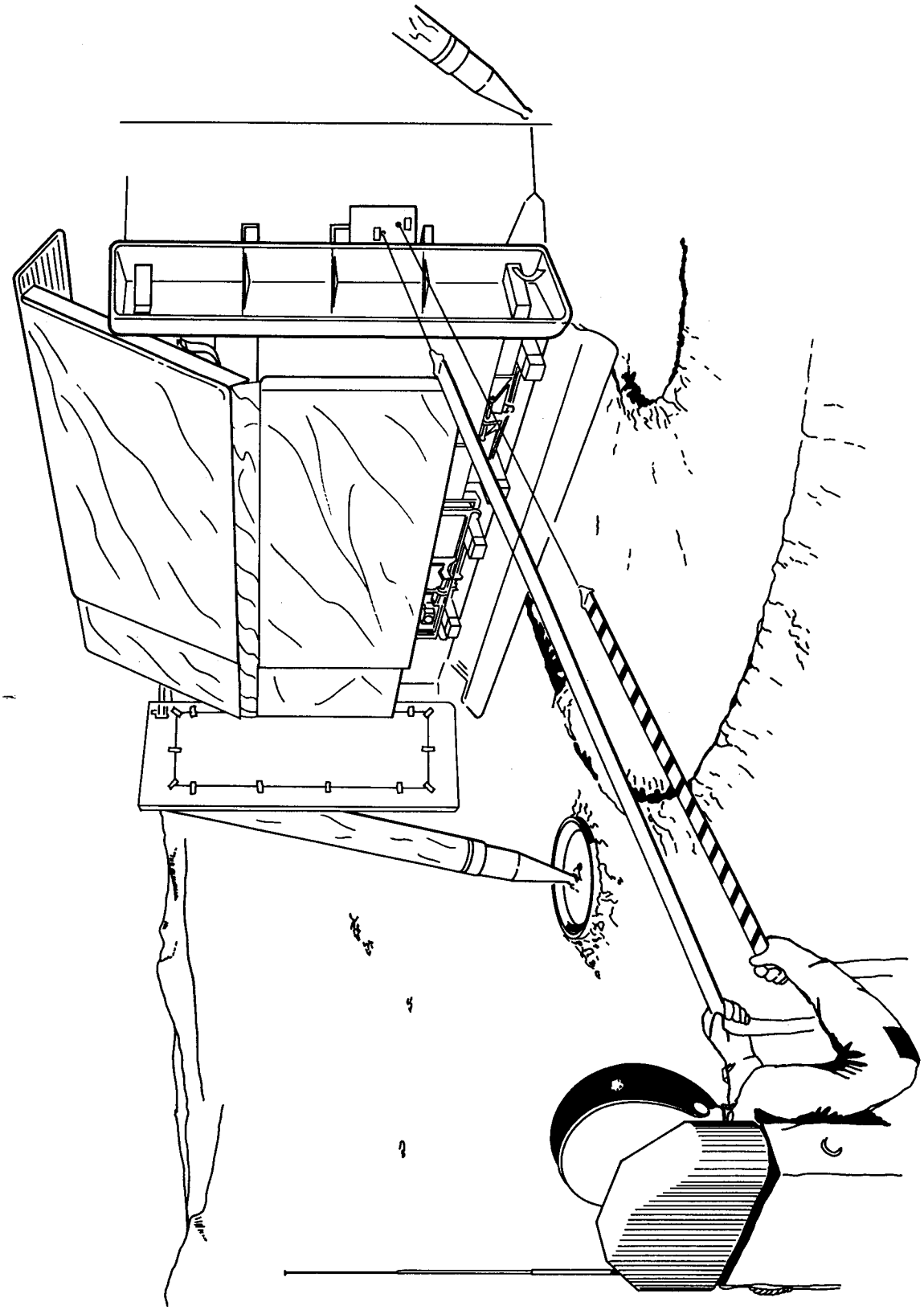
S-BAND ERECTABLE ANTENNA





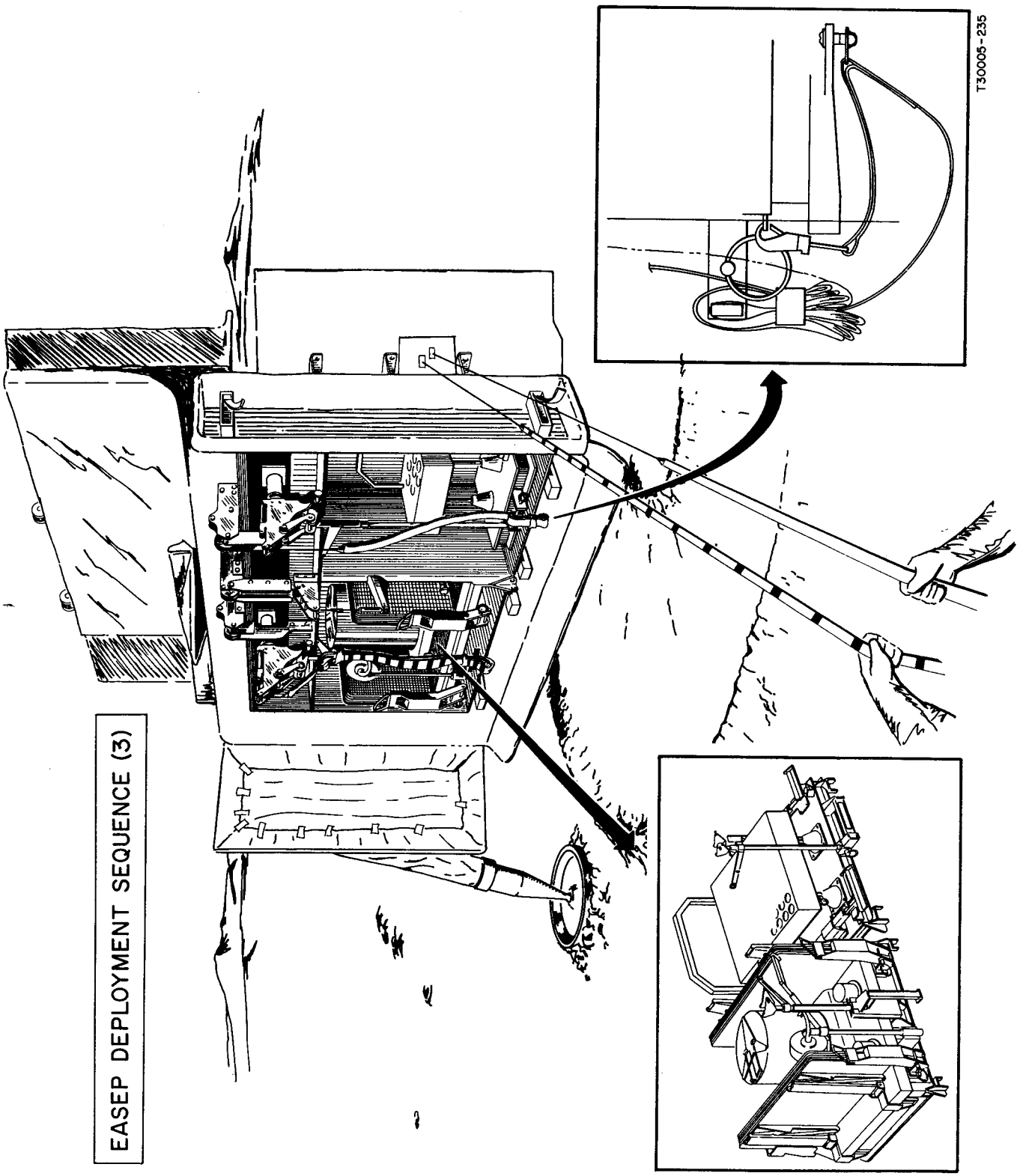
T30005-233

EASEP DEPLOYMENT SEQUENCE (1)



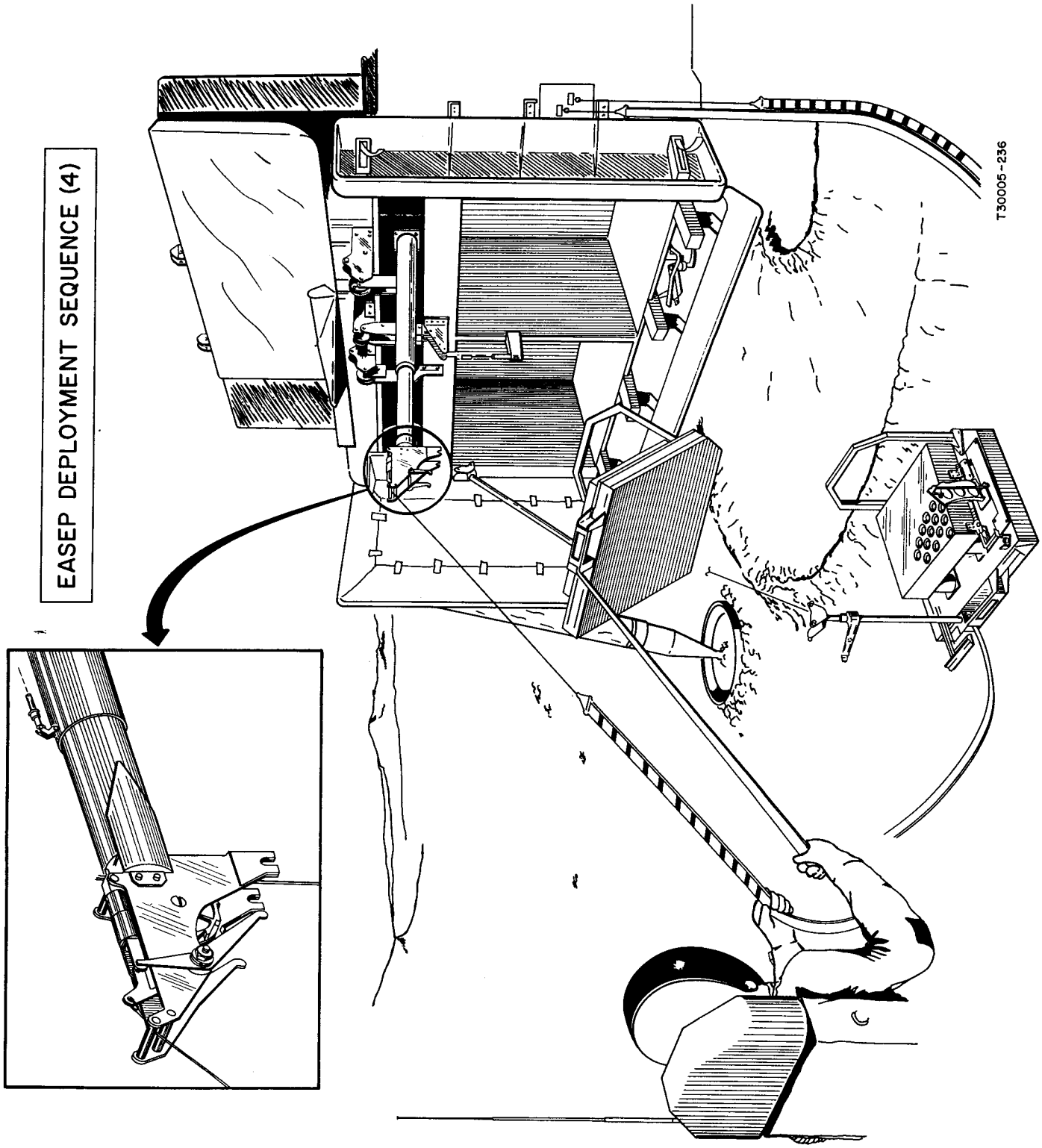
T30005-234

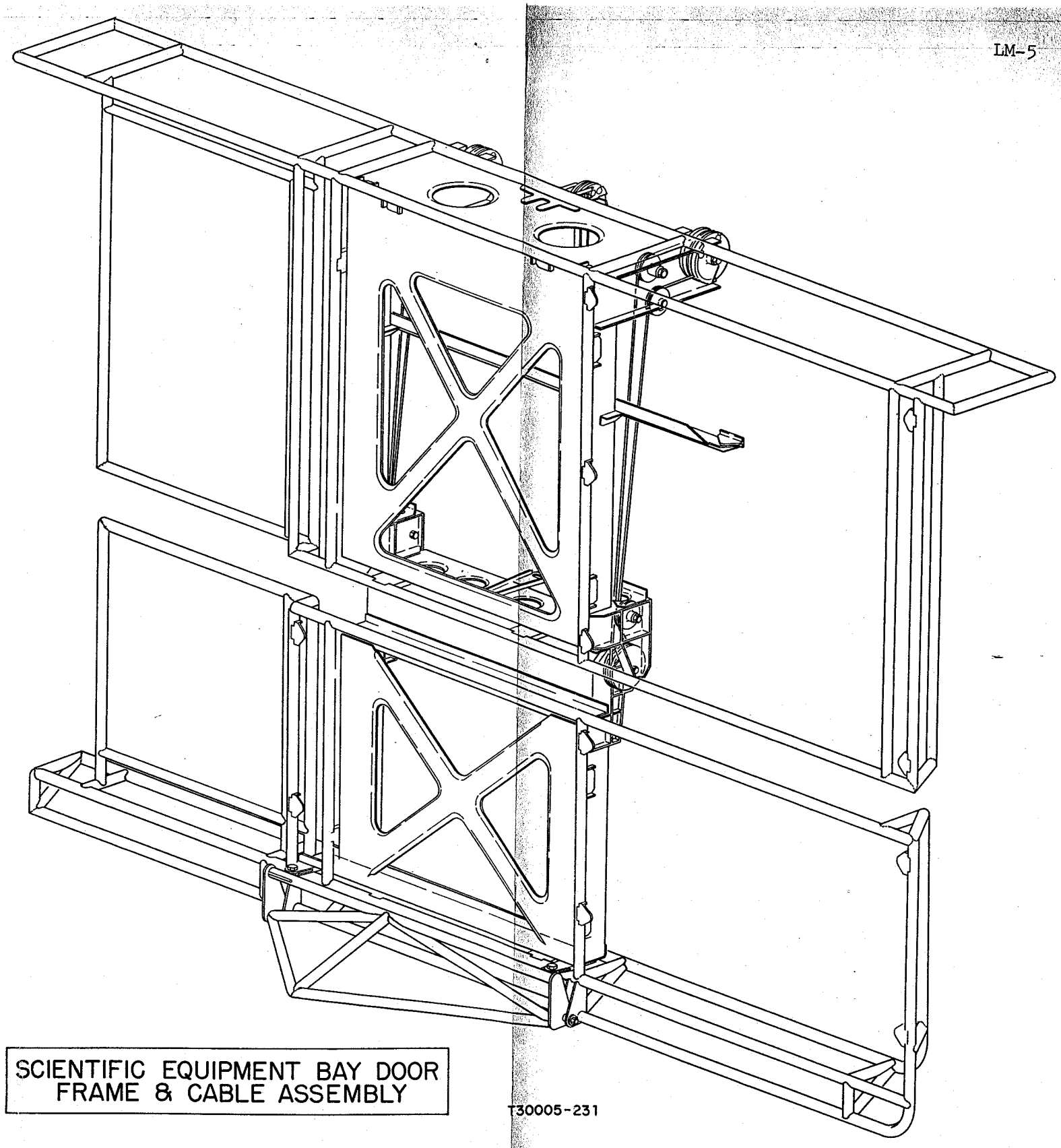
EASEP DEPLOYMENT SEQUENCE (2)



EASEP DEPLOYMENT SEQUENCE (3)

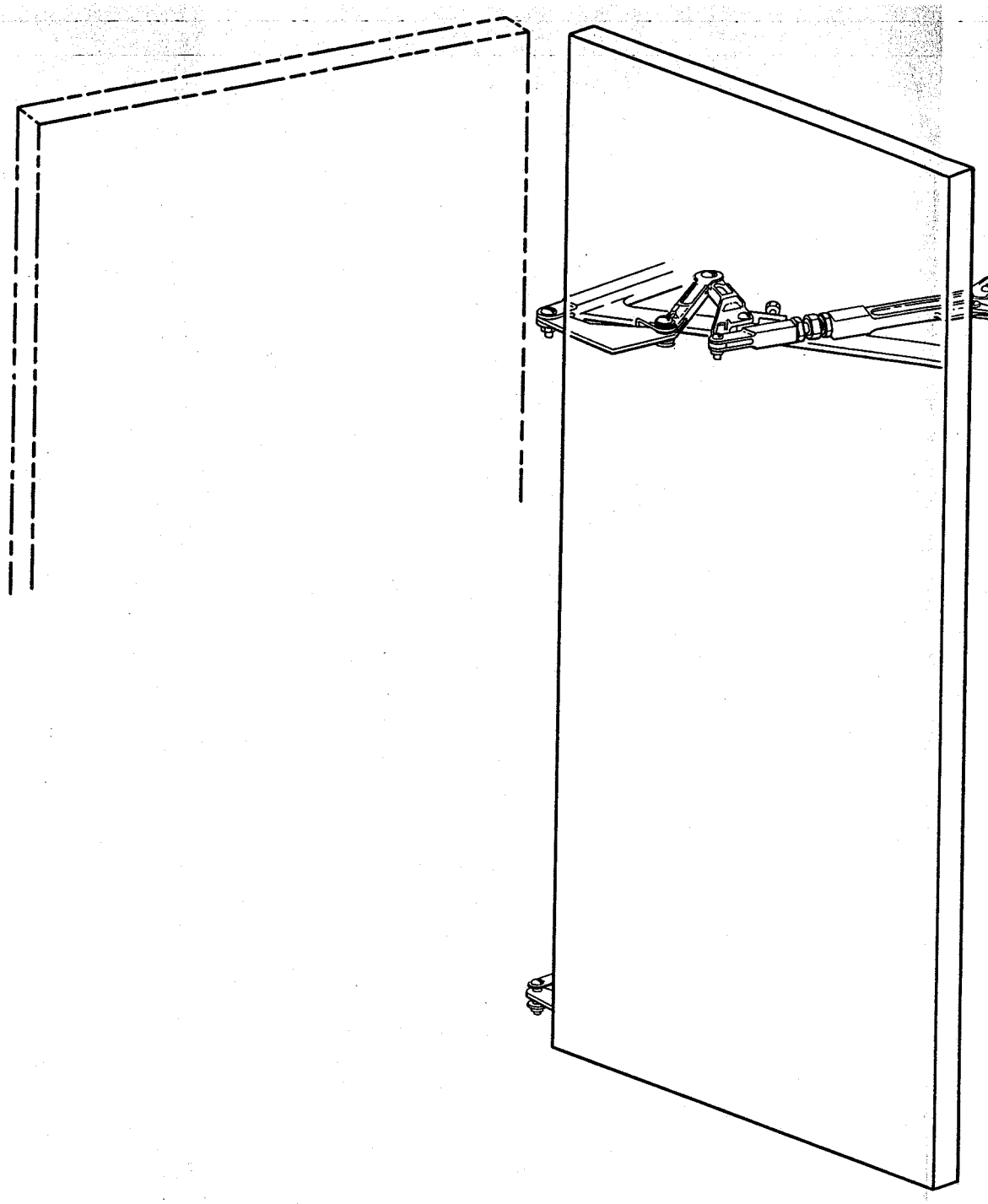
EASEP DEPLOYMENT SEQUENCE (4)

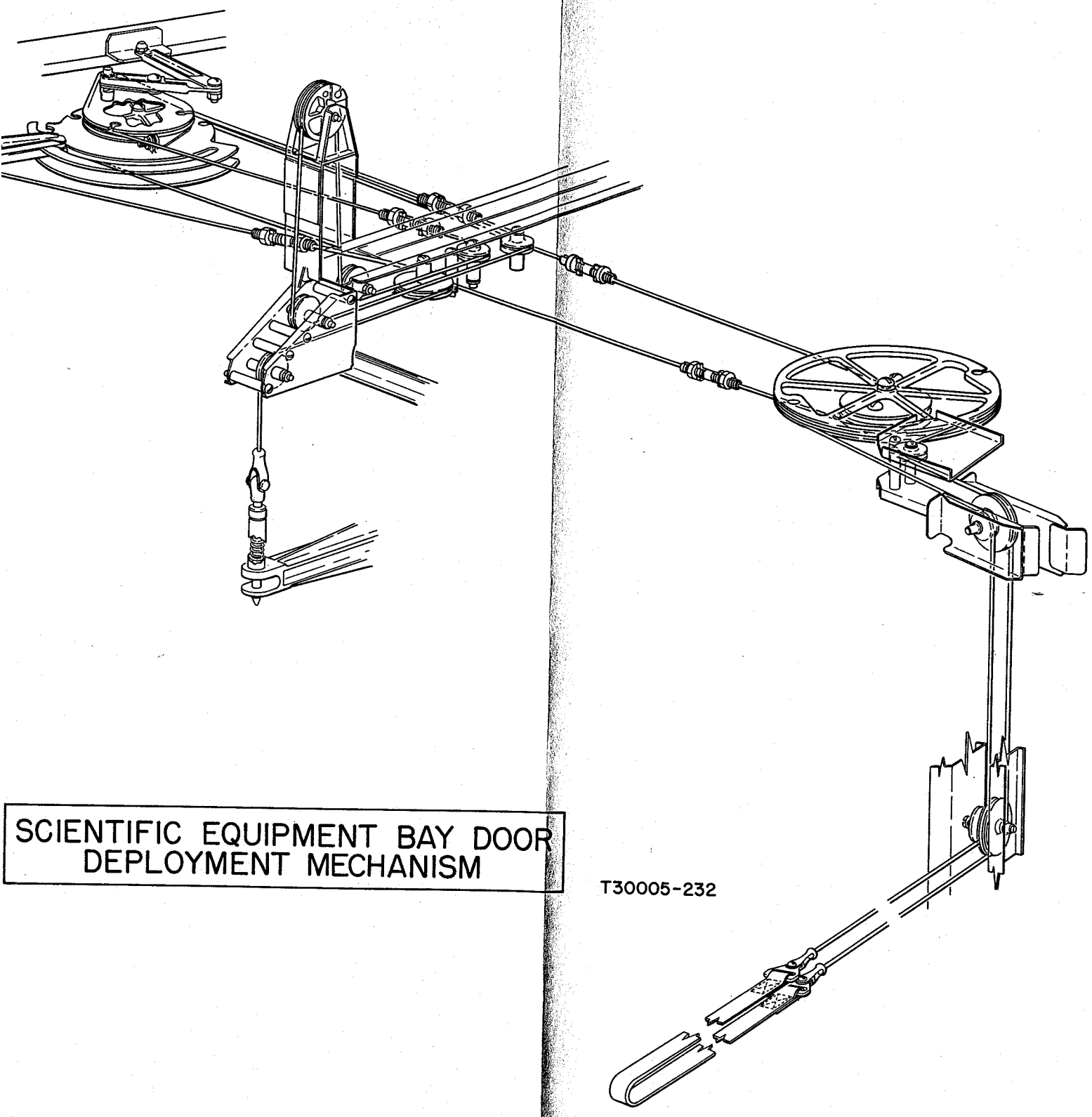




SCIENTIFIC EQUIPMENT BAY DOOR FRAME & CABLE ASSEMBLY

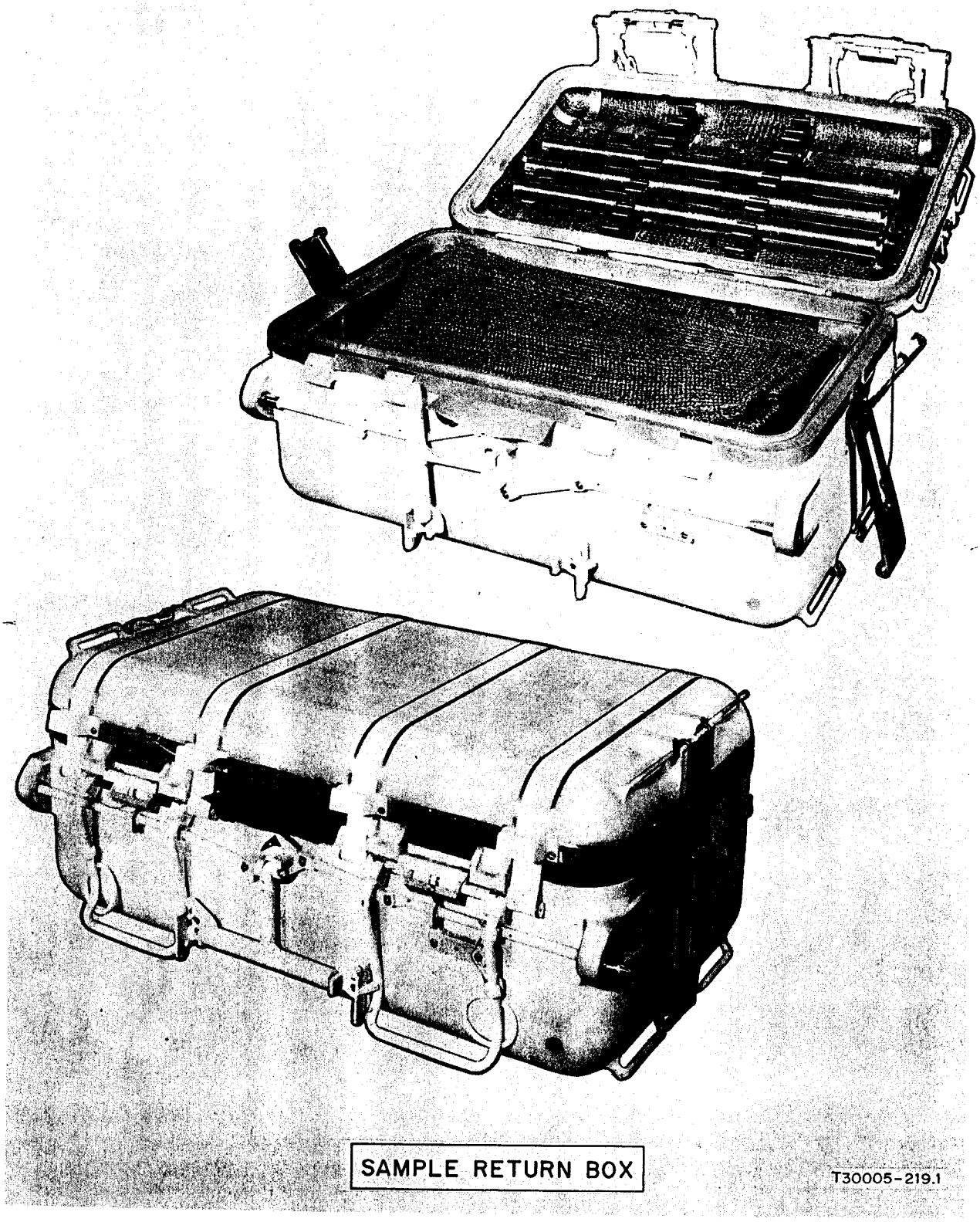
T30005-231





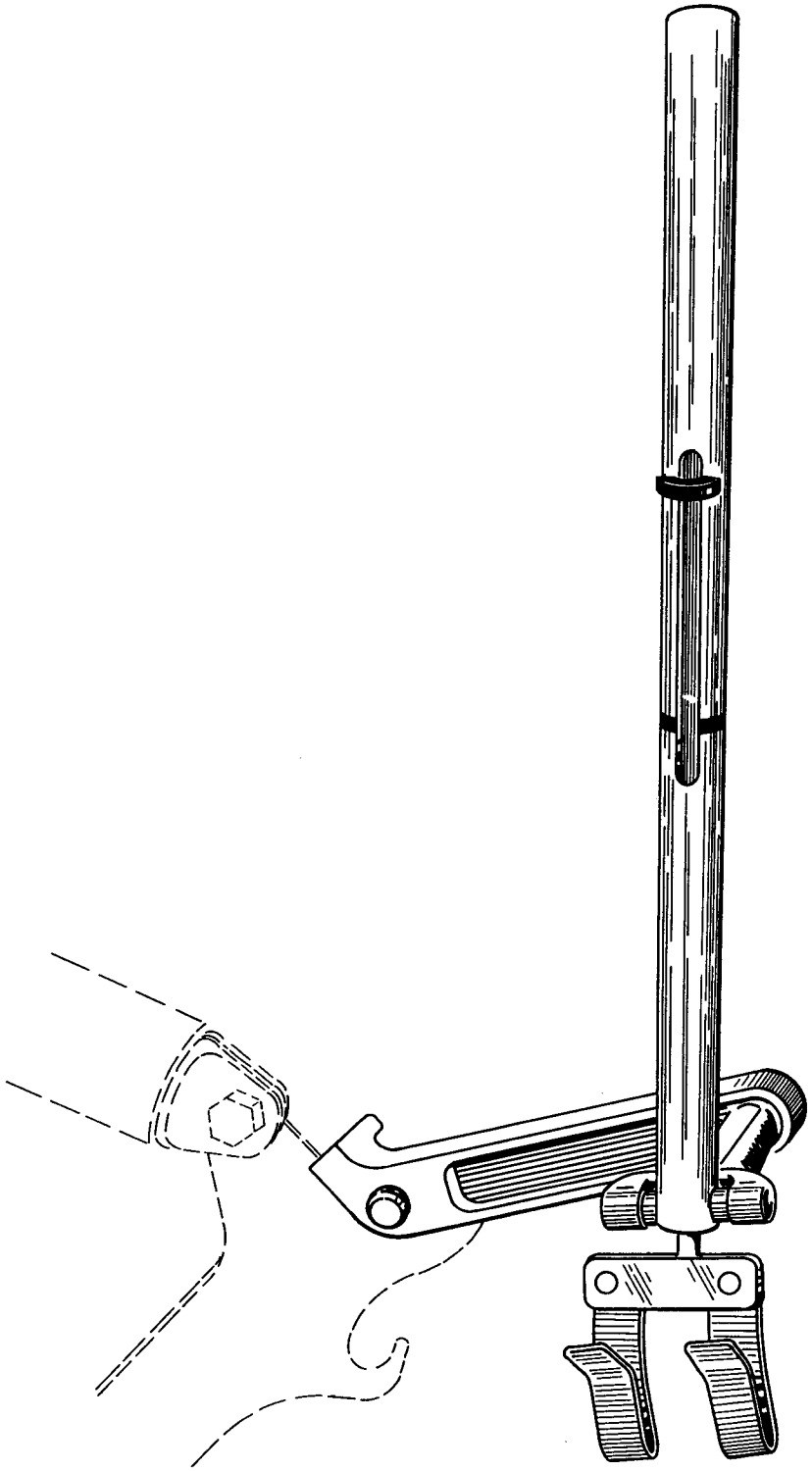
SCIENTIFIC EQUIPMENT BAY DOOR DEPLOYMENT MECHANISM

T30005-232



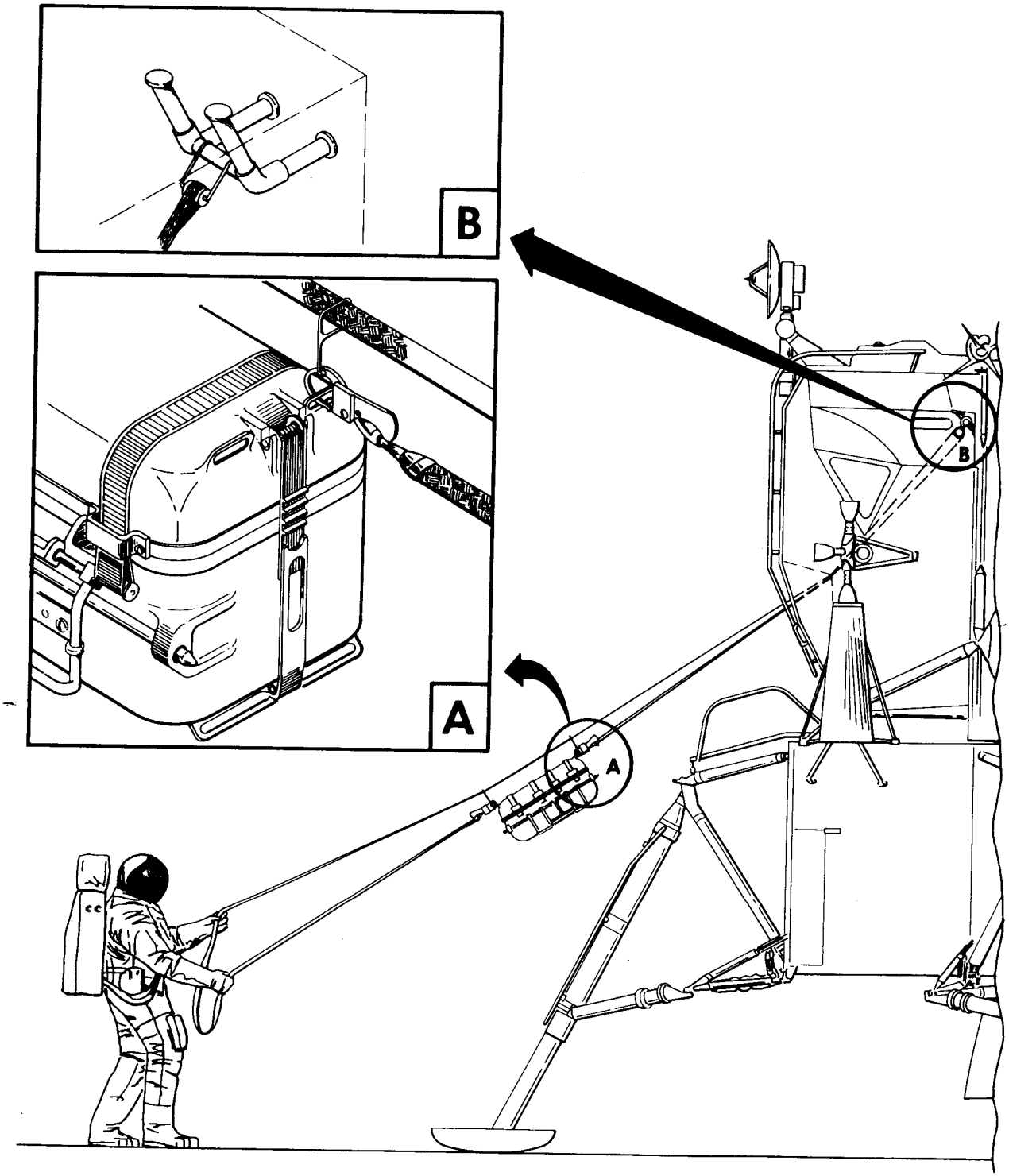
SAMPLE RETURN BOX

T30005-219.1



SCALE

T30005-241



LUNAR EQUIPMENT CONVEYOR

T30005-218