

1. Manual Safing

- a. How is it accomplished? The maintenance team penetrating the ICBM silo inserts a safing key into the SCS switch on the Distribution box (Figure A), turns the key (#6 Figure B), and pulls out the lock pin assembly (#7 Figure B). Once the lock pin assembly is pulled, the site is considered "Manually Safed." Manual safing is accomplished each time a maintenance team penetrates a silo.
- b. Does manual safing inhibit launch? Yes (for both Minuteman and Peacekeeper)- Launch can not occur when the lock pin assembly (#7 Figure B) is removed from the SCS control switch on the Distribution Box.
- c. Can you still monitor the health status of the missile? Yes - Manual safing does not preclude the missile crew in the launch control center from monitoring the status (health) of the missile. All commands (for Minuteman) can still be initiated. Missile Tests can not be accomplished on Peacekeeper when the sortie is manually safed.
- d. How long to install/reverse? Due to distance, security practices, and maintenance team availability, it requires approximately 1 day to manually safe 50 launch facilities. A Wing of 200 missiles would take at least 4 days (assuming reasonable weather). Reversal of the process will take a similar amount of time.
- e. Does manual safing apply to Minuteman/Peacekeeper or Both? Yes -- Manual safing applies to both systems.
- f. Is the procedure different/same for each? The procedure is identical for both systems.

2. Ordinance Pinning

a. What does this really do? Ordinance Pinning is accomplished (Minuteman Only) when maintenance teams install a work cage inside the missile liner and work directly on the missile. Pinning is accomplished as a safety procedure to prevent static electricity or a short circuit from igniting any one of the stages. Pinning is only accomplished when teams work on the missile itself (See Figure C). Points 1-10 on the diagram indicate the locations where ordinance safing pins are installed.

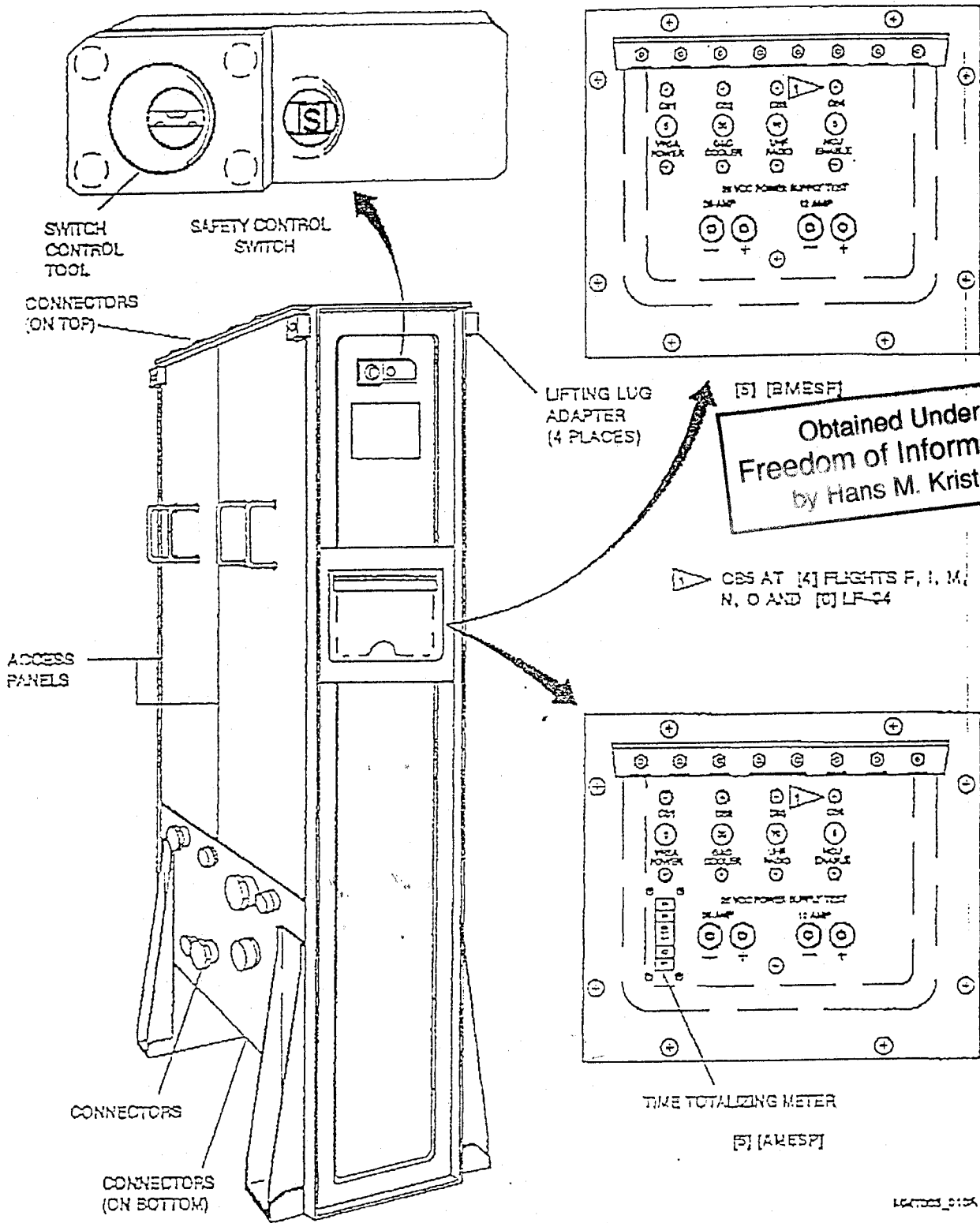
There is no Peacekeeper operation that is equivalent to installation of Minuteman ordinance safing pins. The size of the missile precludes work on stages inside the silo -- missile stage igniters are not accessible. The manual safing procedure for Peacekeeper (question 1a above) however, opens the missile ordinance power circuits and has a similar effect.

- b. Does it inhibit launch? Yes - pinning inhibits launch (Minuteman only).
- c. Can you still monitor the health of the missile? Yes -- launch crews can still monitor the status of the missile with ordinance safing pins installed.

d. How long to install/reverse? Installing ordinance safing pins adds a significant amount of time to the entire process. Every maintenance team on base is capable of penetrating and "manually safing" a missile silo (approximately 300 mnx personnel per base). Only a handful of teams are trained to install workcages and accomplish ordinance pinning (approximately 25 per mnx personnel per base). There are a limited supply of serviceable workcages per base as well. These factors contribute to a 4 day/per 50 missile time line to accomplish ordinance pinning. Assuming reasonable weather, a 200 missile Wing could have all missiles "pinned" in approximately 16 days.

e. Does this apply to Minuteman/Peacekeeper or Both? This process only applies to Minuteman for the reasons discussed in 2a.

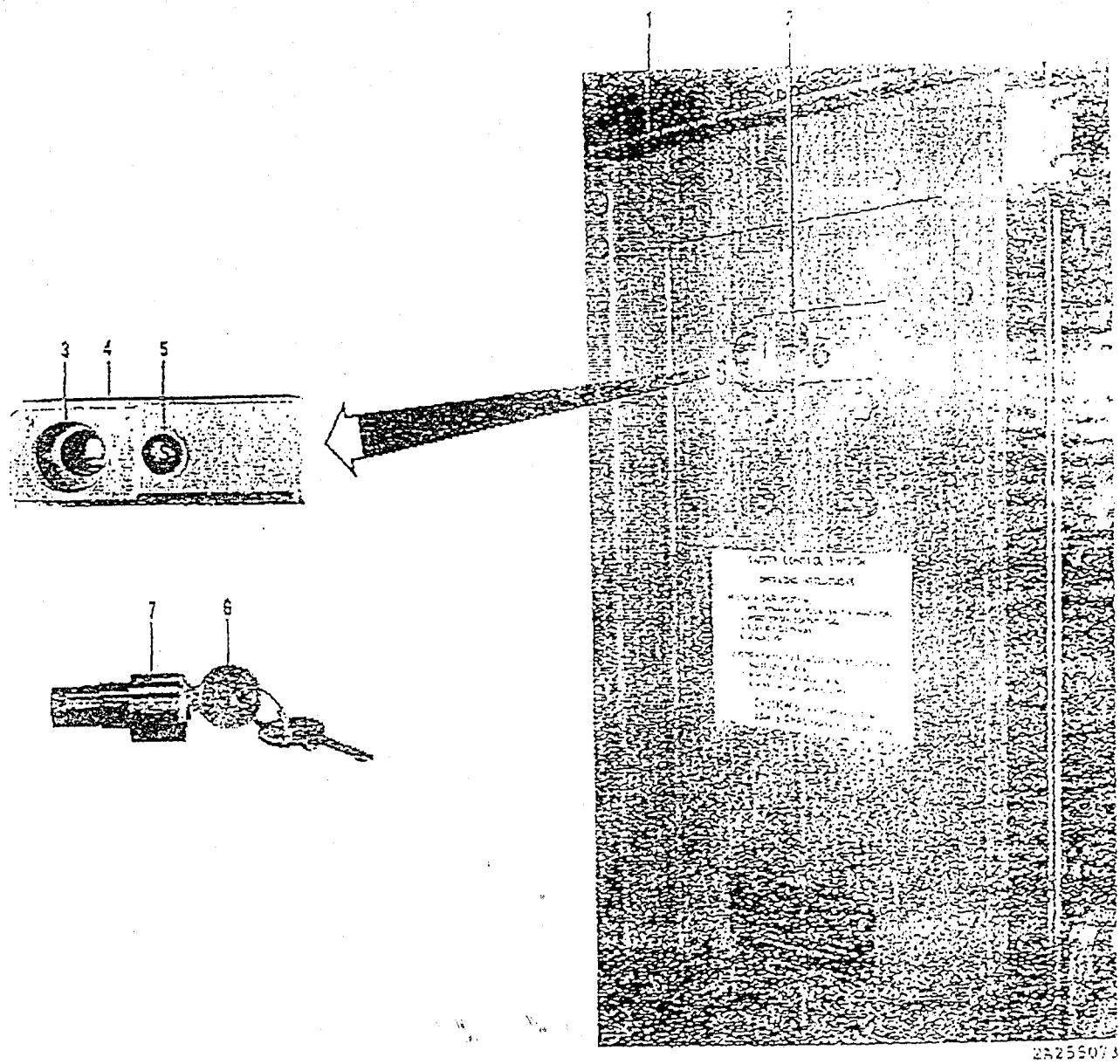
f. Is the procedure different/same for each? Minuteman only.



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Figure 2-5. Distribution Box

FIGURE A



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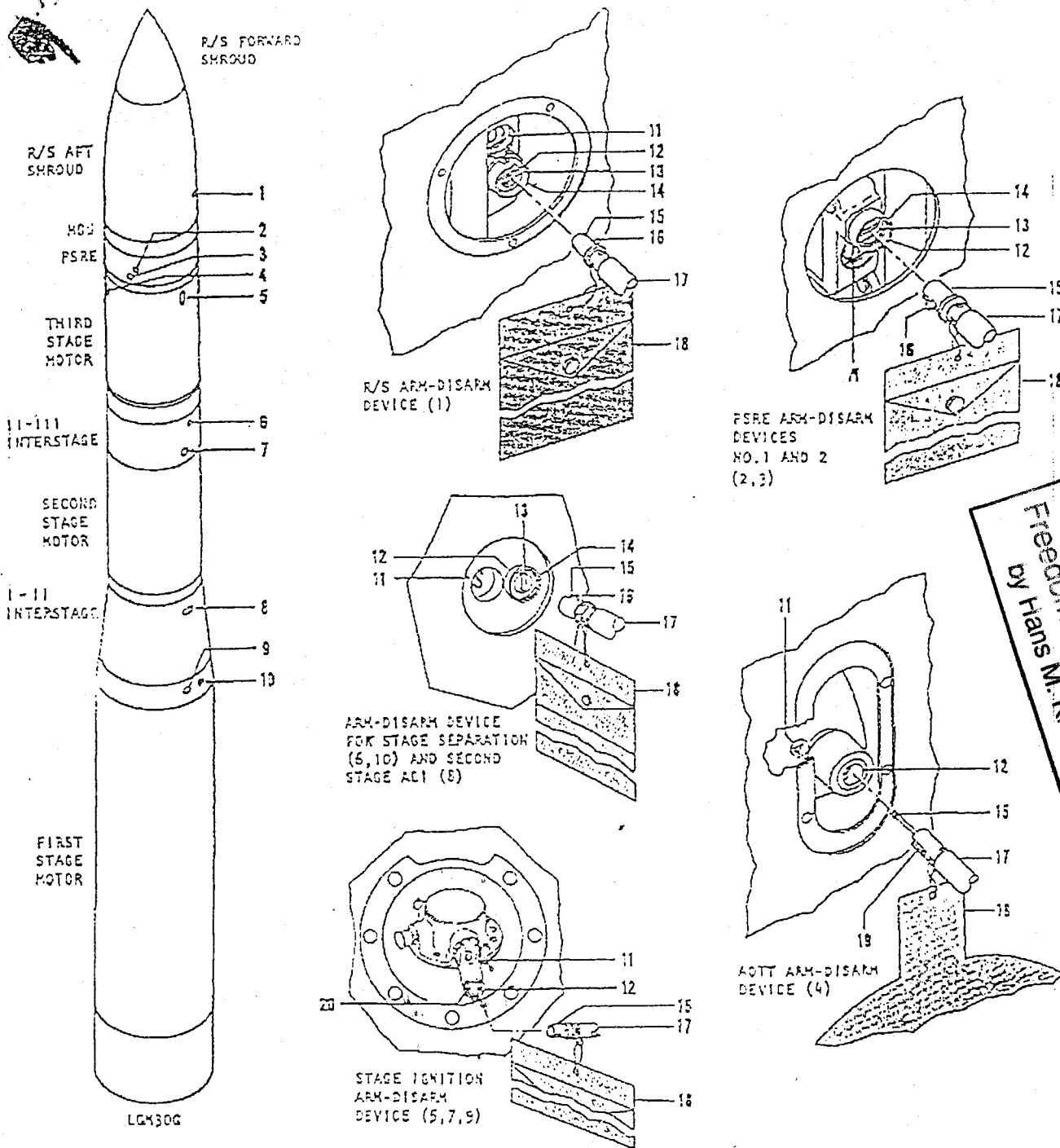
- 1 LAUNCHER DISTRIBUTION BOX
- 2 SAFETY CONTROL SWITCH
- 3 RECEPTACLE
- 4 SAFETY CONTROL SWITCH HOUSING
- 5 SAFE-ARM INDICATOR
- 6 KEY
- 7 LOCK PIN ASSEMBLY

Figure 3-14. Launcher Distribution Box

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FIGURE B



- 1 RE-ENTRY SYSTEM SAFING AND INDICATOR ACCESS
- 2 ACCESS-POST BOOST SEPARATION SAFING PIN NO. 1
- 3 ACCESS-POST BOOST SEPARATION SAFING PIN NO. 2
- 4 AOTT SAFE-ARM ACCESS PORT
- 5 THIRD STAGE IGNITION SAFING AND INDICATOR ACCESS
- 6 SECOND AND THIRD STAGE SEPARATION SAFING AND INDICATOR ACCESS
- 7 SECOND STAGE IGNITION SAFING AND INDICATOR ACCESS
- 8 SECOND STAGE ACI (ATTITUDE CONTROL INJECTION) SAFING AND INDICATOR ACCESS
- 9 FIRST STAGE IGNITION SAFING AND INDICATOR ACCESS
- 10 FIRST AND SECOND STAGE SEPARATION SAFING AND INDICATOR ACCESS

- 11 SAFE-ARM INDICATOR
- 12 SAFING SHAFT
- 13 TANG
- 14 SLEEVE
- 15 SAFING PIN
- 16 POST
- 17 SAFING PIN WRENCH
- 18 SAFING PIN STREAMER
- 19 SLOT
- 20 GUIDE PINS

Figure 3A-3. Safing Pin Installation

FIGURE C

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