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PHOTOGRAPHIC INTERPRETATION REPORT



SCROOGE MISSILE,
MOSCOW PARADE,
7 NOVEMBER 1965

NPIC/R-85/66
MARCH 1966

DECLASS REVIEW by NIMA/DOD

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GROUP 1 EXCLUDED FROM
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SCROOGE MISSILE, MOSCOW PARADE, 7 NOVEMBER 1965


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Attache photography acquired in Moscow on 7 November 1965 shows a weapon not previously seen by Western observers (Figures 1-4). The missile, designated SCROOGE, is reported by the Soviets to be a mobile, solid-fuel ICBM. It is contained in a cylindrical canister covered at both ends and mounted on a tracked chassis.

The only time that the canister was not covered by canvas was during its transit of Red Square; hence, the number of usable photographs of it is limited. The only available photography of the left side of the canister and certain portions of the transporter superstructure (uncovered) is a number of views which appeared in the newspaper Red Star. Therefore, complete details and accurate scale drawings of portions of the canister and superstructure cannot be provided.

The mensural data contained in this report were obtained from photographic solutions utilizing graphical techniques, metrical traps, and

scale-ratio techniques. Because of the geometrical problems involved in mensural analysis of oblique ground photography, some degree of error is inherent. The reader is cautioned that while in some instances dimensions are carried to the one-hundredth part of a foot, the degree of accuracy is not that reliable. A general guide for determining the degree of confidence that can be placed in these dimensions is as follows:

<u>Dimensions Given</u>	<u>Degree of Accuracy</u>
60 feet to 20 feet	
20 feet to 5 feet	
5 feet to 0 feet	

The reader is further cautioned that the line drawing on which the mensural data appear is not intended to be used for detailed engineering analysis.

The overall length of the canister, including both end coverings, is (Figure 5). The canister is long between coverings and in diameter. The conical fairing on the forward end is long and has a maximum

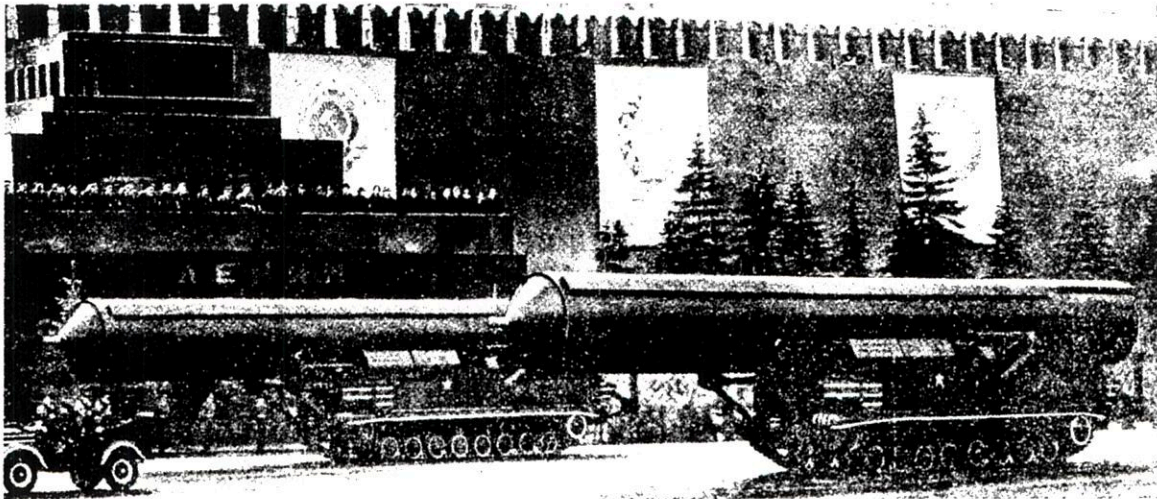


FIGURE 1. SCROOGE MISSILES ON PARADE.

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diameter slightly smaller than the diameter of the canister. The fairing appears to be riveted or bolted to the canister. The linear object on the surface of the cone is in line with a cable tunnel which runs along the upper right side of the canister. The beveled covering over the aft end of the canister is [] in diameter and does not appear to be easily removable. The []-diameter extension on the covering shows no rivets or bolts, which may indicate that it can be easily removed. The appendage on the upper left side of the aft covering joins a cable tunnel which runs nearly the full length of the left side of the canister. Other items on the outer surface of the canister, from front to rear, are as follows:

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A belt- or band-type apparatus located [] feet from the forward end of the canister and fastened on both sides of the canister with bolted clamps.

A circular, raised, probable access hatch [] in diameter. The method of cover removal cannot be determined.

A housing for 20 cable terminals which overlaps the cable tunnel running along the upper right side of the canister. The 20 external cables leading from the housing are held flush with the canister by straps. The cables disappear under the erecting mechanism. At least 7 cables connected to an equipment box on the right side of the superstructure and at least 4 cables under the canvas on the left side can be identified. It is not known whether these 11 cables are part of the 20 mentioned above.

Two cleats, one on either side of the canister, located below and just aft of the cable terminal housing. Their configuration indicates that they probably function as lifting points.

Two brackets, one on either side of the canister, located just below the cleats. The brackets function in conjunction with hand-wheels, during transit of the canister, to lock the canister to the bracing which extends forward of the cab.

The erecting mechanism, located along the aft portion of the canister. It consists of a tubular assembly connected with a hydraulic piston on either side, and a pivoting mechanism near the extreme aft end of the transporter superstructure.

The canister is constructed of sheet-metal sections which are less than [] wide and approximately half the circumference of the canister. Alternate sections overlap adjoining sections, and the sections are riveted together. A longitudinal seam, probably a weld, runs from the extreme aft end of the cylinder to the belt-like apparatus located near the forward end and probably joins together the riveted half-circumference sections. The canister probably can be separated at the "belt" if the clamps on either side are unbolted. There are at least 2 bands which appear to be welded around the circumference of the cylinder to provide added strength.

When the canister is erected to the vertical position as shown in the photograph from Red Star (Figure 6) the aft end covering would be flush or nearly flush with the ground. The hydraulic piston would have to telescope to approximately 4 times its length when the canister is erected. The piston housing is [] long and [] in diameter. It should be noted that the piston on the SCAMP missile erecting mechanism does telescope to approximately 4 times its length. The SCAMP piston housing is [] long and [] in diameter. 1/ If the SCROOGE piston did not telescope, the canister could be elevated to a maximum of only 30 degrees above the horizontal. A movie, Rocket and Artillery Forces Day of 19 November 1965, shows a close-up view (Figure 7) of a portion of the erecting mechanism, including a short portion of one hydraulic piston where its upper end connects with the tubular assembly.

The chassis of the tracked mover is very similar to that of the SCAMP. Its superstructure, however, which has vertical sides and a high silhouette, is unique. The configuration of the left side of the superstructure is nearly the same as the right; there are 4 minor variations. The

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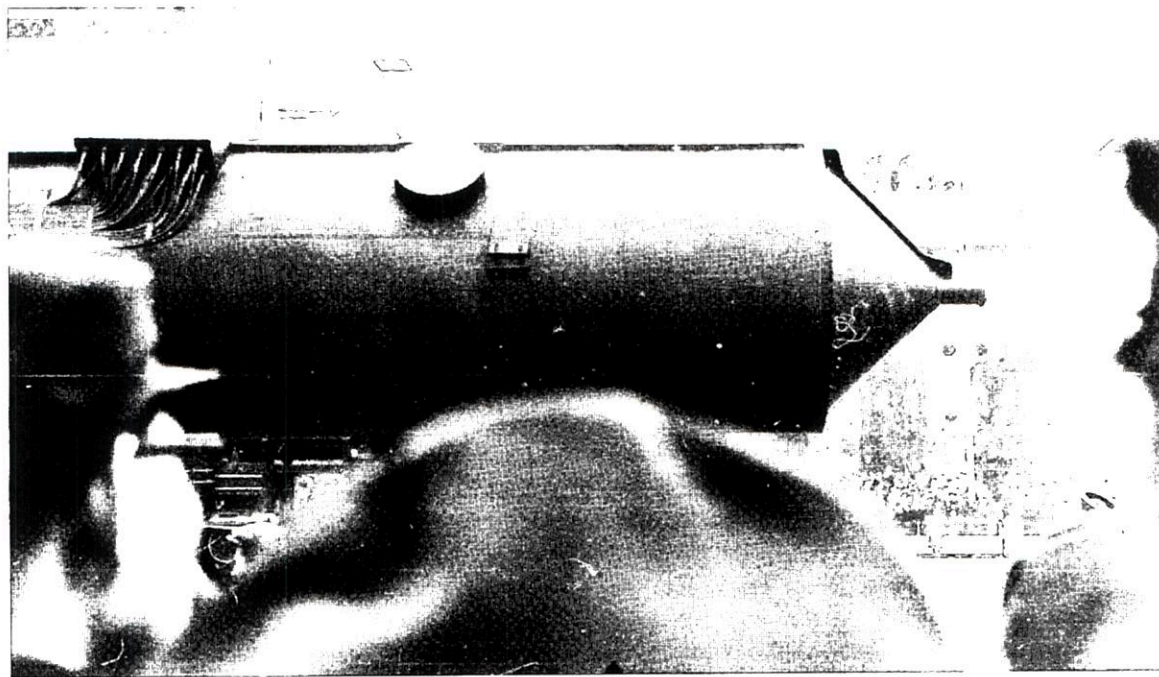
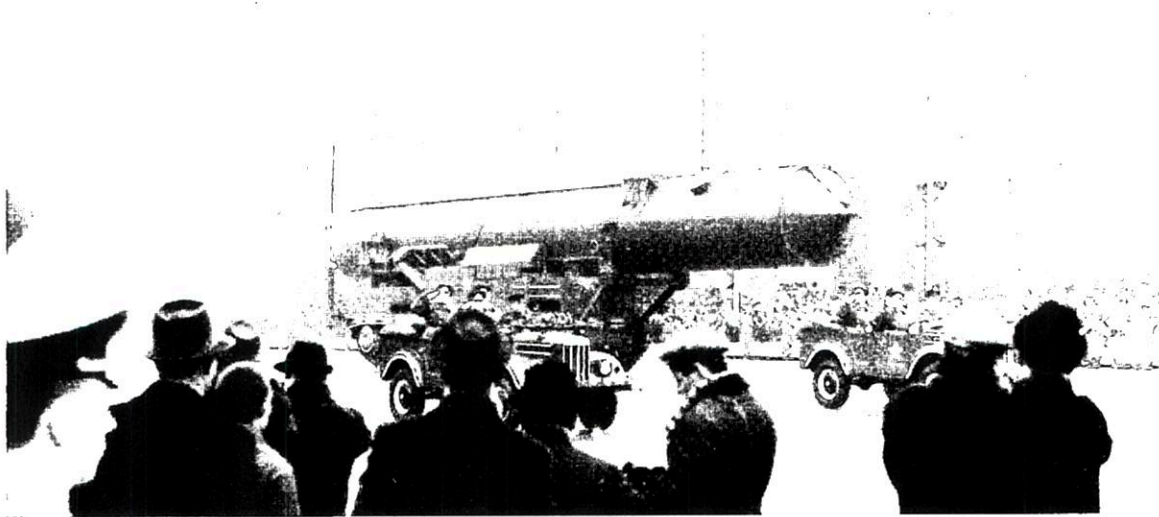


FIGURE 2. PERSPECTIVE VIEW AND FORWARD END OF CANISTER.

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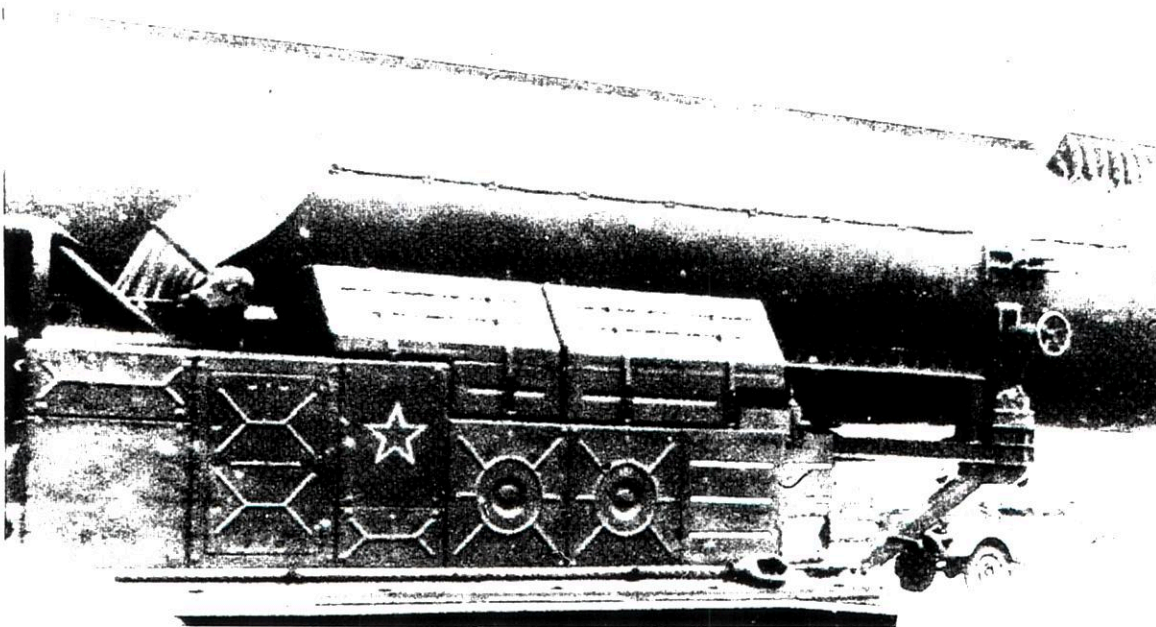
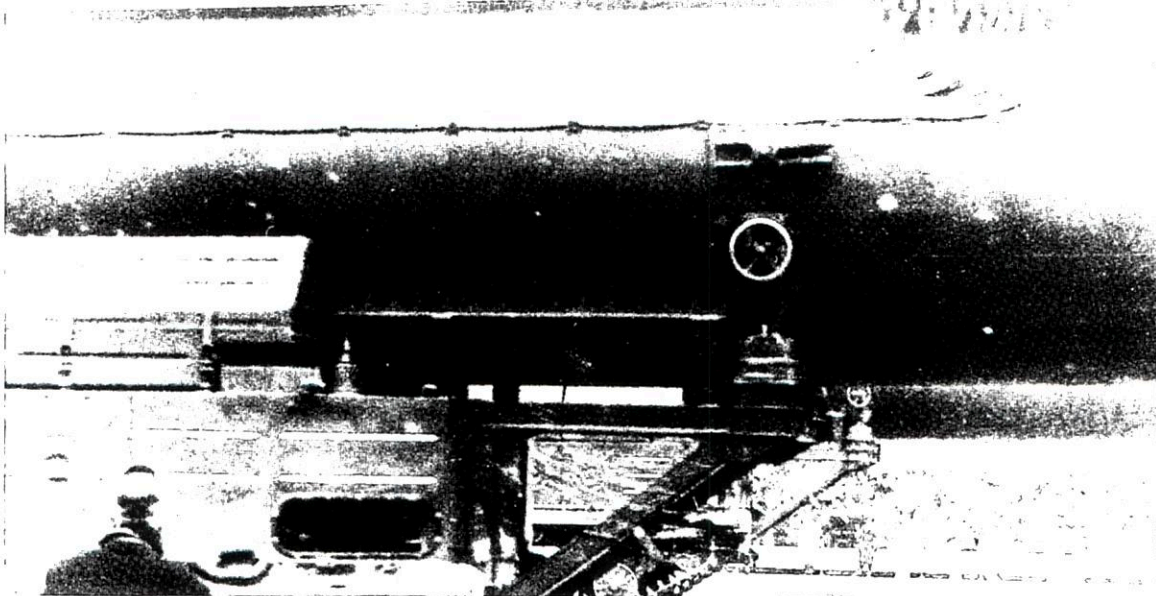


FIGURE 3. MIDSECTION OF CANISTER.

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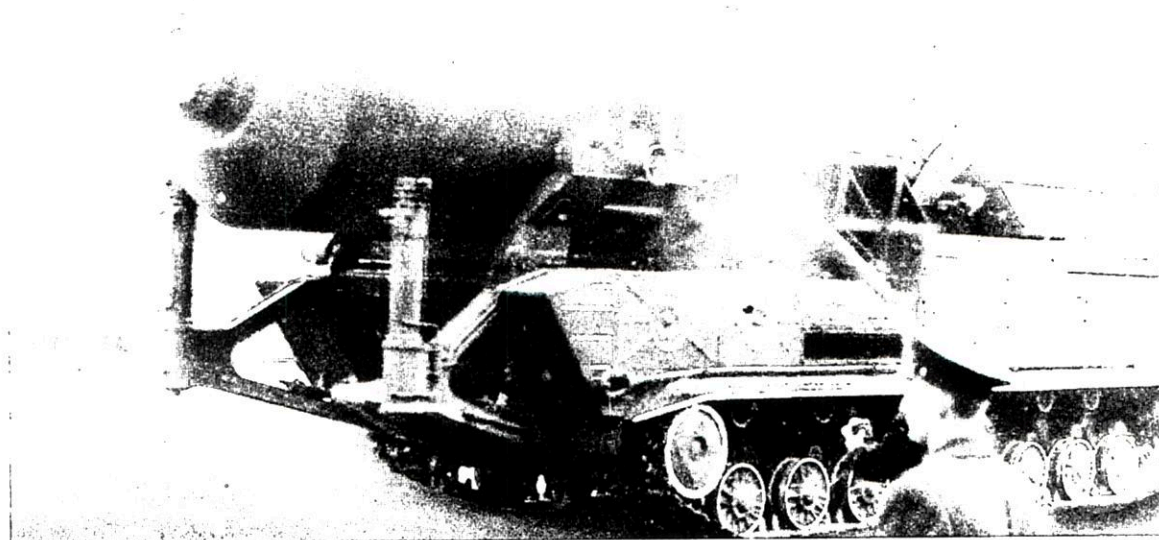
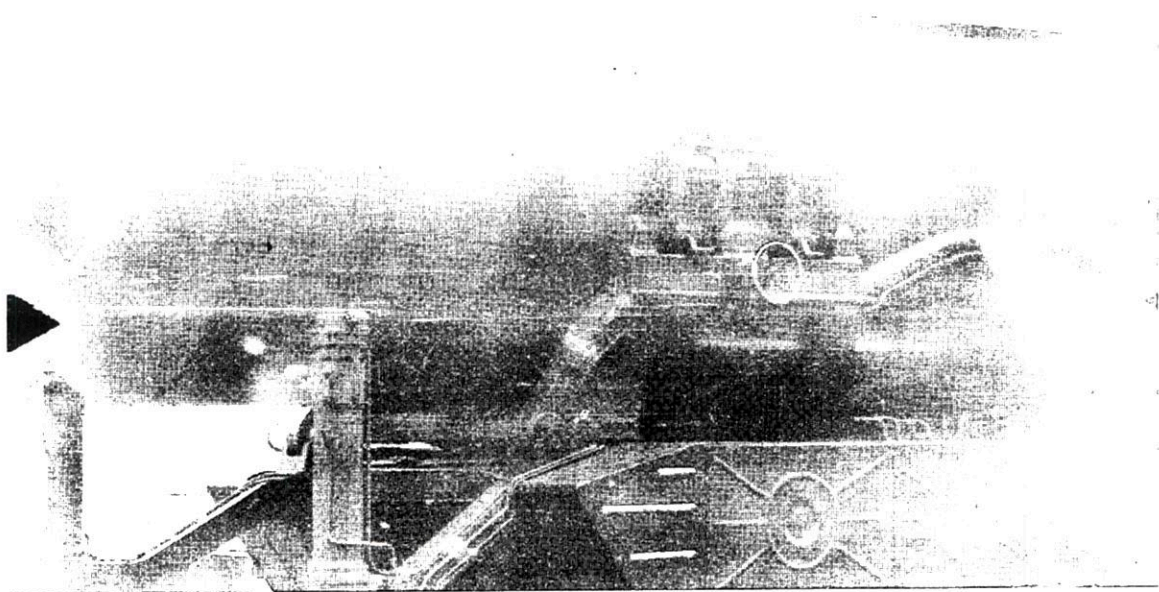
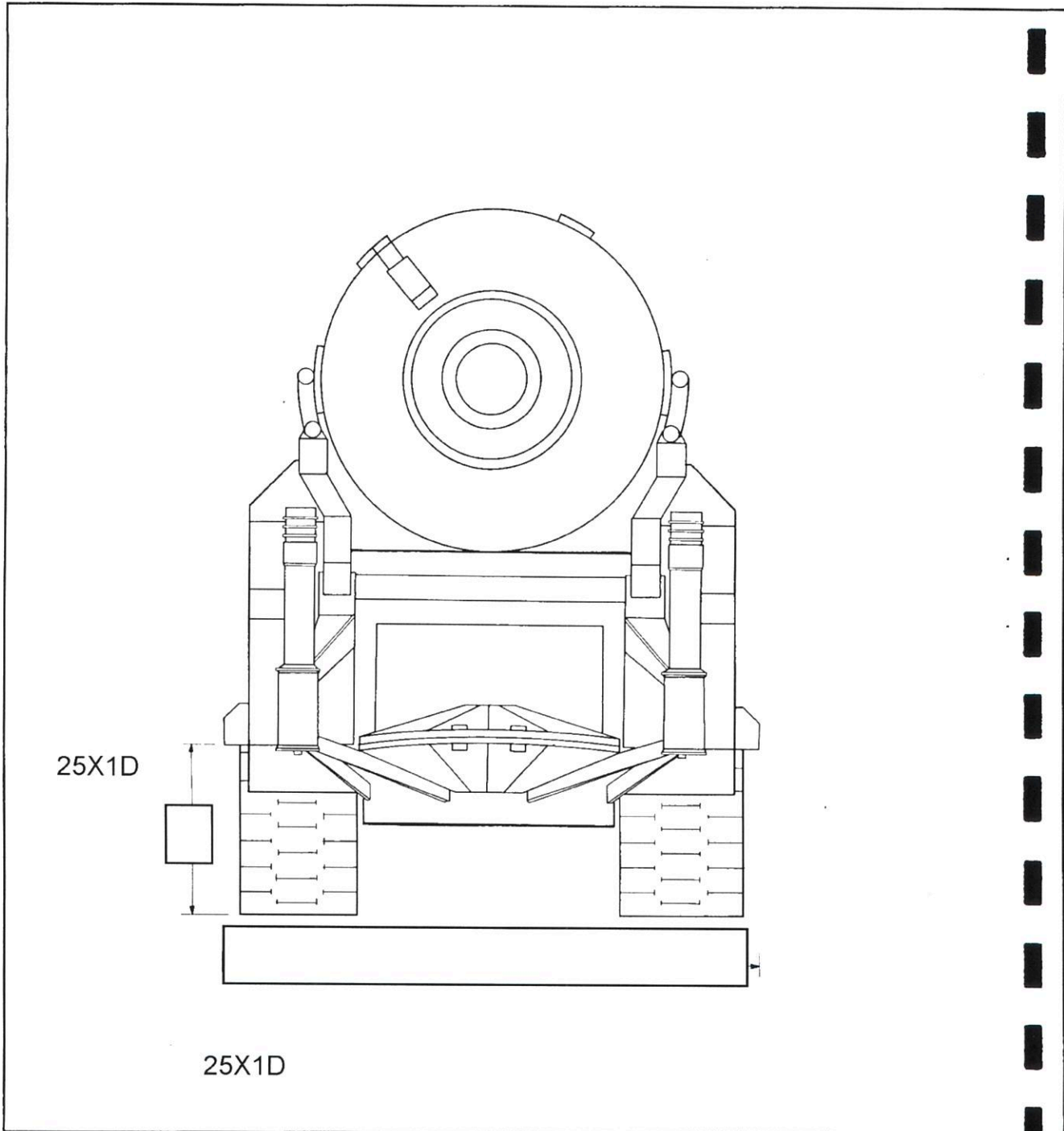


FIGURE 4. AFT END OF CANISTER.

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FIGURE 6. SCROOGE IN VERTICAL POSITION.

mover carries 2 conical jack pads in the rear base to base, have handles, and are locked in the travel position to the bracing which supports the hydraulic jacks at the extreme aft end of the mover. A tow cable is located along both sides of the vehicle, and 2 tow rings can be identified in the chassis.



FIGURE 7. CLOSE-UP OF SCROOGE SHOWING ERECTING MECHANISM.

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REFERENCES

PHOTOGRAPHY 25X1A

[redacted] 7 Nov 65, selected photos (CONFIDENTIAL)
Krasnaya Zvezda (Red Star), Moscow, 26 Nov 65 (UNCLASSIFIED)
[redacted]

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DOCUMENT

1. NPIC. R-292/65, *SAVAGE, SCRAG, and SCAMP Missiles, Moscow Parade, 9 May 1965*, Sep 65 (SECRET)

REQUIREMENT

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NPIC PROJECT

11350/66 (partial answer)

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