

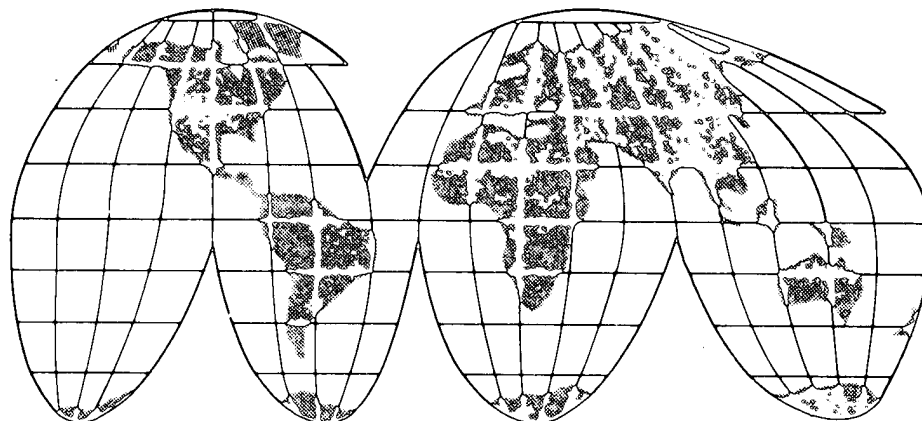
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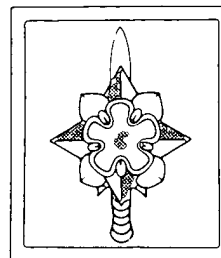
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US ARMY  
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BIWEEKLY  
SCIENTIFIC &  
TECHNICAL  
INTELLIGENCE  
SUMMARY



**SOVIET 122-mm(?) SELF-PROPELLED  
HOWITZER (ABN) M1981 (U)**

*120 mm  
gun/ howitzer  
259*

A US ARMY MATERIEL DEVELOPMENT  
AND READINESS COMMAND  
INTELLIGENCE DOCUMENT

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FOREWORD

We of the US Army Materiel Development and Readiness Command are dedicated to the goal of providing our combat forces with the best weaponry and equipment available in any arsenal--a difficult task in view of the rapid pace of technological innovation.

In support of this goal, personnel of the Foreign Science and Technology Center diligently seek information concerning the foreign threat to our forces as well as foreign innovation that could improve our research, development, and acquisition process. The Biweekly Scientific and Technical Intelligence Summary provides you with the Center's analysis of the most recent technological innovations of foreign origin.

I urge all levels of the DARCOM community to use this document to the maximum extent in all phases of the materiel development and acquisition cycle, and to give it the widest dissemination within the bounds of security. I invite other commands and agencies to freely use this publication to foster improvements in our collective combat readiness.

I am convinced that the judicious application of scientific and technical intelligence can result in significant resource savings by more sharply focusing our efforts. The savings of both dollars and time are overshadowed by our ultimate mission--the potential for saving the lives of our soldiers on the battlefield.

DONALD R. KEITH  
General, USA  
Commanding

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Soviet 122-mm(?) Self-Propelled Howitzer (ABN) M1981 (U)

Mr. M. Whitaker/CA Div/804-296-5171, X465, or AUTOVON 274-7465 and  
SFC P. Zimmerman/SR Div/804-296-5171, X537, or AUTOVON 274-7537

(S-NOFORN-WNINTEL-RELUKCAAS) The new Soviet BMD variant, the BMD M1981, is now confirmed to be a self-propelled (SP) howitzer designated 122-mm(?) SP Howitzer (ABN) M1981. The introduction of this SP artillery system heralds a probable change in the artillery regiment of the airborne division.

(S-NOFORN-WNINTEL-RELUKCAAS) In early December 1981, 18 of these new SP systems were observed in Afghanistan at the Kabul International Airfield, parked in the artillery regimental area of the 103d Guards Airborne Division (fig 1). This same system has been observed several times since, parked in the same general areas and circled by a screen to block ground-level observation. At times, several of the weapons were missing, but they would later return to this same parking area.

(S-NOFORN-WNINTEL-RELUKCAAS) The weapons are parked in a gun-park type (administrative) configuration--three six-gun batteries. In addition, artillery command reconnaissance vehicle (ACRV)-type systems were parked with batteries and the battalion in the normal configuration for SP battalions (two ACRV with each battery, plus two for battalion headquarters). The ACRV seen with this unit use the modified BMD M1979 chassis (six road wheels) and have been designated ACRV (ABN) M1981.

(S-NOFORN-WNINTEL-RELUKCAAS) The weapon system itself is a closed-mount system (turreted), mounted on the modified BMD M1979 chassis estimated to be 6.0 meters long and 2.8 meters wide. The turret is circular with a diameter of 2.0 meters (fig 2). The combat weight of this system is estimated to be 10 to 12 tonnes. The cannon measures 2.5 meters from the manlet (forward edge of turret) to the end of the tube or muzzle brake. The photographs are not adequate for any meaningful mensuration of tube diameter, nor can it be determined if a bore evacuator or muzzle brake is provided. While a muzzle brake is very likely, a bore evacuator per se is not necessary because the system could use a positive air system to remove the gases from the tube during firing and keep them from getting into the fighting compartment.

(S-NOFORN-WNINTEL-RELUKCAAS) While the caliber of the weapon cannot yet be confirmed, it is assessed to be between 100 and 122 mm (most likely 122 mm). It is highly unlikely that the Soviets would introduce a different caliber in a new weapon (mainly because they would want to retain proven manufacturing techniques and interchangeability with other systems already fielded in large number).

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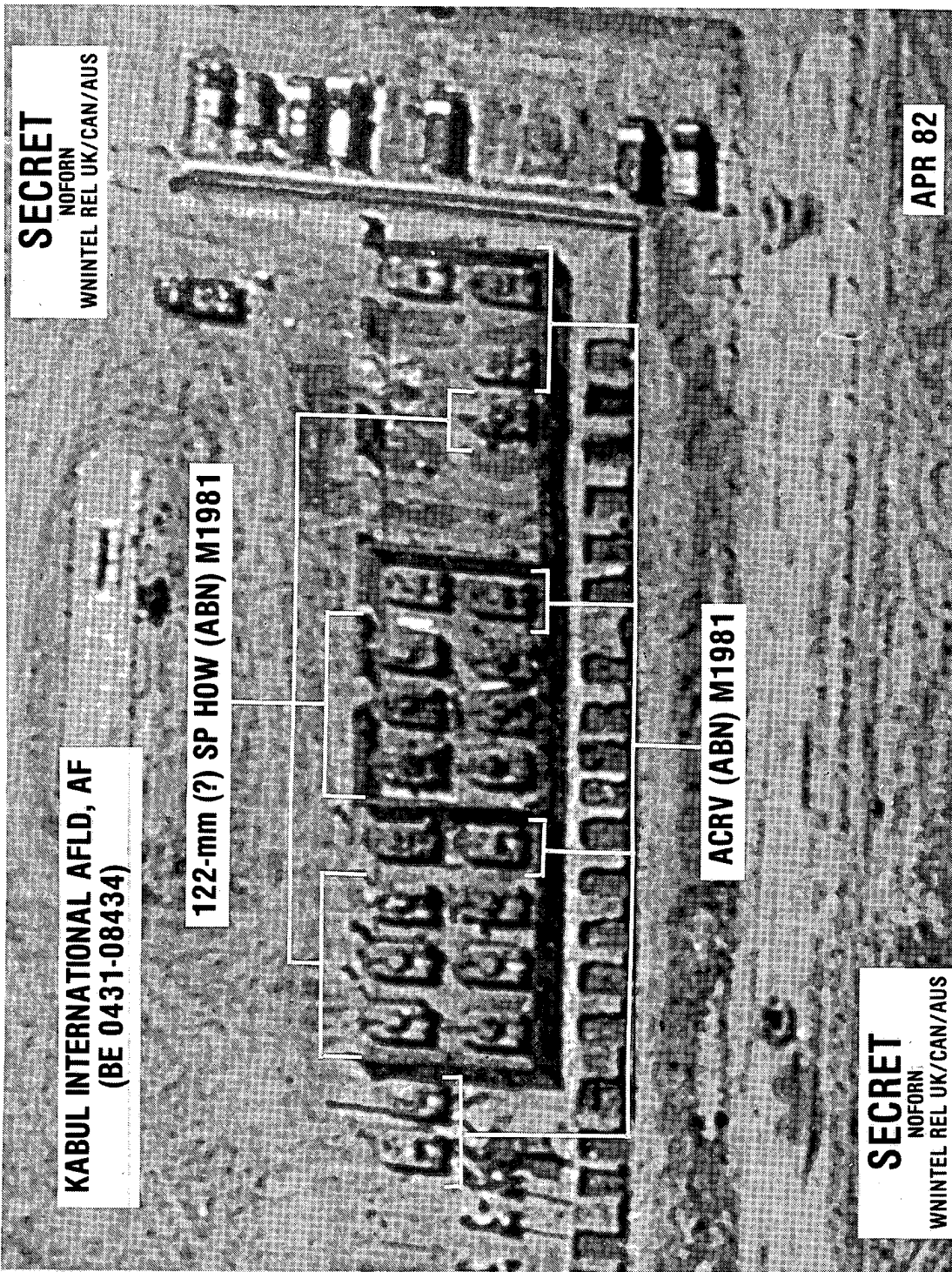
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Figure 1. (U) 122-mm(?) SP Howitzer (ABN) M1981

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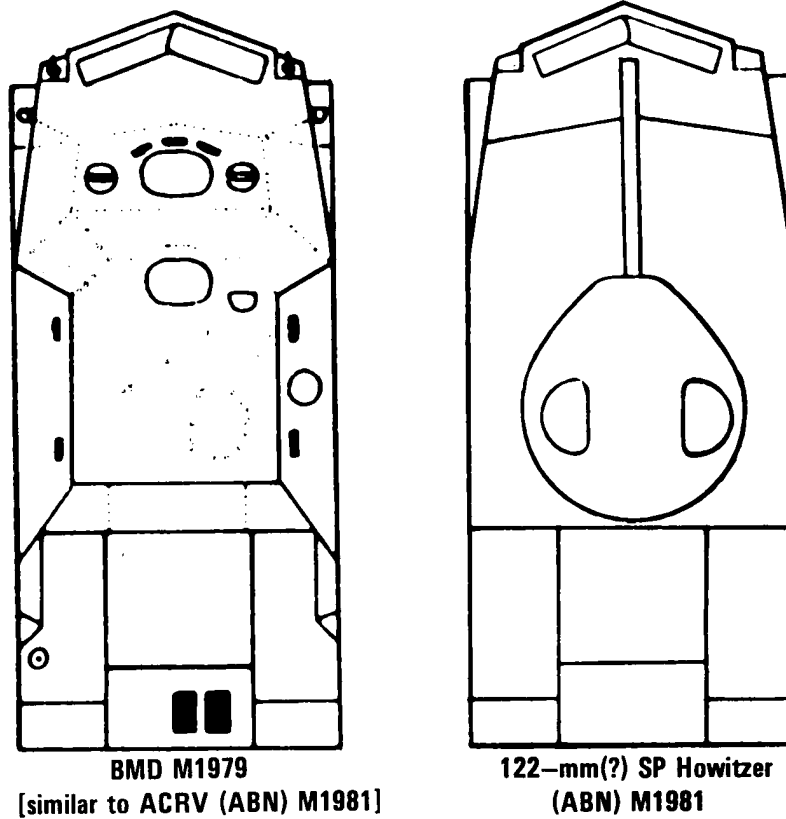
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Line drawing courtesy of NPIC

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Figure 2. (U) Line Drawings: BMD M1979  
and 122-mm(?) SP Howitzer (ABN) M1981

(S-NOFORN-WNINTEL-RELUKCAAS) The cannon length of the new system was compared to cannon lengths of other 100-mm and 122-mm systems in an attempt to establish the new gun's primary role (indirect fire, direct fire, antitank motor, or cannon). As indicated on the following page, the cannon length of the new system most closely coincides with that of the 122-mm 2S1 SP Howitzer and the 122-mm D-30 Howitzer.

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<u>System</u>	<u>Cannon length</u>
SP artillery at Kabul .....	3.7 meters (overall length)
122-mm SP Howitzer 2S1 .....	4.8 meters
122-mm Howitzer D-30 .....	4.8 meters
122-mm Howitzer D-30 .....	2.8 meters
120-mm Mortar M-1943 .....	1.7 meters
100-mm Antitank Gun MT-12 .....	6.9 meters

(S-NOFORN-WNINTEL-RELUKCAAS) The association of the ACRV (ABN) M1981 with the airborne division at Kabul is significant in attempting to establish its role and caliber. Only artillery cannon contingents are known to have ACRV-type vehicles with their units, the only exception being, the 240-mm SP Mortar M1975. The M1975 is a special-category weapon found only in heavy artillery brigades.

(S-NOFORN-WNINTEL-RELUKCAAS) Several changes have been observed with the artillery organization at Kabul since the 122-mm(?) SP Howitzer (ABN) M1981 was first observed in December 1981. The SD-44 85-mm Antitank Gun has not been observed since May 1982. Recently, the D-30 battalion was moved and has not been observed at Kabul since September 1982. While the SD-44 redeployment appears to be a permanent organizational change, it is still too early to assess the meaning of the removal of the D-30's--are they engaged in an operation, or have they been replaced by the 122-mm(?) SP Howitzer (ABN) M1981?

(S-NOFORN-WNINTEL-RELUKCAAS) A second battalion of 18 122-mm(?) SP Howitzer (ABN) M1981 was observed at Kabul on 11 November 1982 and several times since (fig 3). To date, the ACRV (ABN) M1981 has not been observed with this second battalion. This could indicate an upgrading of the airborne artillery regiment from one battalion of D-30's and a six-launcher airborne multiple rocket launcher (MRL) battery to a regiment of at least two SP battalions. While no change has been observed in the organization of the MRL battery, any upgrading of the regiment would likely include the addition of an MRL battalion. The airborne artillery regimental area was enlarged during May 1982, providing additional evidence that the regiment was to increase in size. Although other artillery units have undergone and are undergoing changes in both organization and equipment, this is the first upgrading of artillery in the airborne division. The airborne artillery regiment might be reorganized along the lines currently seen with the motorized rifle division and tank division. While there have been several other sightings of the 122-mm(?) SP Howitzer (ABN) M1981 with airborne units and an air assault unit, the sightings at Kabul provide the best information as to the system, its role, and any reorganization.

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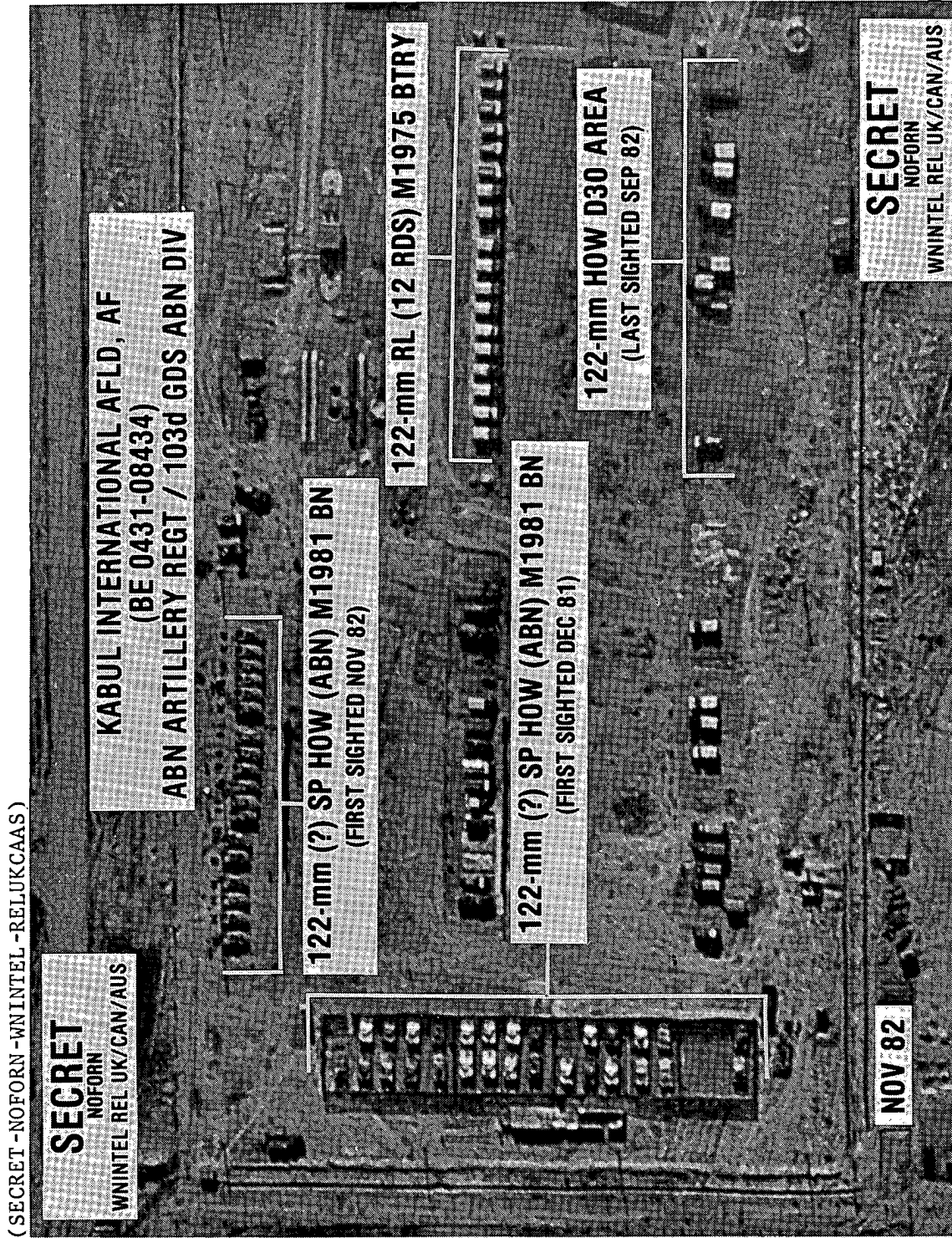


Figure 3. (S-NOFORN -WNINTEL -RELUKCAAS) 2d Bn, 122-mm(?) SP Howitzer (ABN) M1981, with 103d Guards Airborne Division

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(S-NOFORN-WNINTEL-RELUKCAAS) The 122-mm(?) SP Howitzer (ABN) M1981 is produced at Plant 172 in Perm, which is historically a cannon and MRL production facility (fig 4). The 240-mm SP Mortar M1975, for example, is produced at Sverdlovsk.

(S-NOFORN-WNINTEL-RELUKCAAS) In conclusion, an SP cannon artillery system has definitely been deployed to Soviet airborne artillery units. The 122-mm(?) SP Howitzer (ABN) M1981 is ideally suited for the airborne organization and mission and is consistent with Soviet trends seen in other artillery organizations. A weight of 10 to 12 tonnes would permit air landing or airdropping. SP systems would provide excellent ground mobility and some protection, primarily against chemical-biological-radiological (CBR) weapons. The BMD chassis would ease the maintenance and logistical problems, because it is the same chassis currently used throughout the airborne division.

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Figure 4. (S-NOFORN-WNINTEL-RELUKCAAS) 122-mm(?) SP Howitzer (ABN) M1981 at Perm Arms Plant Shipping Yard

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(S-NOFORN-WNINTEL-RELUKCAAS) Estimated characteristics and capabilities of the airborne BMD artillery system are presented below:

General description ..... Soviet full-tracked armored, closed-mount (turreted) amphibious 100- to 122-mm field artillery (howitzer) system.

## Dimensions:

Length (including tube w/muzzle  
brake) ..... 6.0 meters  
Width ..... 2.8 meters  
Height ..... Unknown  
Ground clearance ..... 100-mm to 450-mm (variable)  
Cannon assembly length (w/muzzle  
brake) ..... 3.7 meters (2.5 meters outside plus  
1.2 meters inside)  
Vehicle length ..... 6.0 meters  
Turret diameter ..... 2.0 meters  
System weight ..... 10 to 12 tonnes  
Maximum range ..... 12 000 meters  
Traverse limits ..... 360°  
Elevation limits ..... 70°  
Maximum rate of fire ..... 5 rd/15 seconds  
Engine ..... 176 kW, V-6 diesel

## Speed:

On-road ..... 60 km  
Off-road ..... 35 km  
Suspension ..... Hydropneumatic spring, variable height  
Cruising range ..... 300 km  
Water-crossing capability ..... Amphibious  
Emplacement time ..... 0.25 to 0.75 min  
Displacement time ..... 0.25 to 0.75 min  
Normal crew ..... 4 (including driver)  
CBR protection ..... Yes, collective-type system  
Onboard communications ..... Radio transceiver and intercom

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