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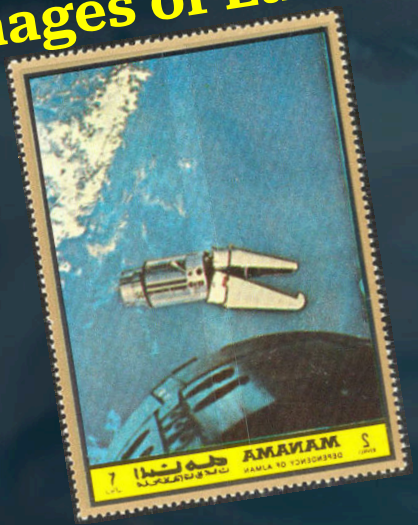

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Space Mail from Chinese Shenzhou 9 Manned Spacecraft and Tiangong 1 Target Spaceship

by Lin Da An

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The Shenzhou 9 spacecraft was the fourth manned spacecraft in China's space program. Tiangong 1 and Shenzhou 9 manned rendezvous and docking became a new milestone in China's space flight history.

Shenzhou 9 was launched by the LM-2F/Y9 modified rocket from Jiuquan Satellite Launch Centre on 16 June 2012 at 6:37 PM. At about 11:00 on 18 June 2012, the Shenzhou 9 spacecraft turned into an autonomously controlled flight, and for the first time carried out automatic rendezvous and docking with Tiangong 1.

"The spacecraft autonomously retreats to a distance of about 400 meters from the target spaceship"

At 9:18 AM on 28 June 2012, The Shenzhou 9 spacecraft successfully separated from the Tiangong 1 target spaceship, and on 29 June 2012, at 10: 03 am the re-entry capsule touched down at the main landing site at the A-Mu-Gu-Lang Grassland, west of Sunite Right Banner in the Inner Mongolia Autonomous Region.

First Female Taikonaut

The crew of the Shenzhou 9 manned spacecraft consisted of three taikonauts, including the first female taikonaut; who spent more than 10 days in orbit and performed two rendezvous and docking with Tiangong 1.

In preparation for the arrival of Shenzhou 9, about 20 days before the launch of the target spaceship, Tiangong 1 began to lower its orbit, adjust its phase, and enter a near-circular docking orbit at an altitude of about 343 km.

The spacecraft completed its first automatic rendezvous and docking with the target spaceship according to the scheduled procedure, which was basically the same as the rendezvous and docking between Tiangong 1 and Shenzhou 8, tested the year before.


公　证　书

中华人民共和国北京市方圆公证处

(Fig: 1) Notary certificate from the Beijing Fang-Yuan Notary Public Office.

The three taikonauts carried out technical tests, scientific experiments, and exercise, and ate and rested in the orbital module of Tiangong 1.

The main process of hand-controlled rendezvous and docking by taikonaut is that the three taikonauts return to the Shenzhou 9 spacecraft and close the doors of each module. The spacecraft autonomously retreats to a distance of about 400 meters from the target spaceship, and then approaches the

target spaceship by autonomous control, docks at a distance of 140 meters, and turns to manual control.

Before the spacecraft was undocked, the three taikonauts returned to the spacecraft's re-entry capsule. The spacecraft separated from the target spaceship, and the taikonaut manually controlled the spacecraft to retreats to 140 meters. The spacecraft turned to autonomous control and continued to retreats to a safe distance 5 km away.

Re-entry Capsule

After that, the spacecraft returned to the landing site, and the ground personnel completed in time the search and rescue of the taikonauts and the recovery re-entry capsule. The target spaceship changed orbit to 370 km autonomous flight orbit and transferred to long-term in-orbit flight.

Below, I introduce some of the space mail from the Shenzhou 9 manned spacecraft and Tiangong 1 target spaceship. Each flown space item is accompanied by a notary certificate (*Fig.1* in the previous page) from the Beijing Fang-Yuan Notary Public Office. On each flown space item, there is a steel seal or red cachet of the Beijing Fang-Yuan Notary Public Office.

28 flown covers (*Fig.2*) were issued by CAST (China Academy of Space Technology). They are numbered from 001 to 028.

(Fig: 2) Cover flown by CAST (China Academy of Space Technology).

The front side of the cover was tied with the "flown-proof" postmark of "China Jiuquan Satellite Launch Centre, M.P.O., Lanzhou 27th Branch post office, 2012. 6 June 2012 8:00 PM, loaded in the cabin of spacecraft", and a launch day postmark: "China Jiuquan Satellite Launch Centre, M.P.O., Lanzhou 27th Branch post office, 16 June 2012 7:00 PM". The three Shenzhou 9 taikonauts on the Tiangong 1 target spaceship added the postmark "China Post, 26 June 2012 PM 8:00) Space Post

(Fig: 3) Taikonauts cancelling the covers on Tiangong-1.

Office 1". (*Fig. 3*). On the cover was a space mail label issued by the China Manned Space Engineering Office. Also sealed with the steel seal of "Beijing Fang-Yuan Public Notary Office".

Signed by the three taikonauts of the Shenzhou 9: Jing Haipeng, Liu Wang, and Liu Yang (the first female taikonaut).

On the reverse side, the cover (*Fig. 4*) was tied with the recovery postmark of the capsule opening cabin date: "Beijing 2012. 07. 01. 10 (1 July 2012 AM 10:00) Space City 1" and the Shenzhou 9 landing day postmark: "Si-Zi- Wang-Qi, Inner Mongolia 2012. 06. 29. 11 (29 June 2012 AM 11:00) Hongge'er".

(Fig: 4) The reverse side of the cover.

CAST also provided 45 FDCs (numbered from 001 to 045) franked with the Special Stamp "2012-1 Ren-Chen Year" issued by the China Philatelic Corporation to celebrate the year 2012 that marked the Year of Dragon (*Fig. 5*).

The front side of the cover was tied with the "flown-proof" postmark of "China Jiuquan Satellite Launch Centre, M.P.O., Lanzhou 27th Branch post office, 2012. 06. 06. 20. (6 June 2012 PM 8:00), loaded in the cabin of spacecraft", and a launch day postmark: "China Jiuquan Satellite Launch Centre, M.P.O., Lanzhou 27th Branch post office, 2012. 06. 16. 19. (16 June 2012 PM

(Fig: 5) Cover "Year of Dragon" flown by CAST.

7:00)," and the postmark added on the Tiangong 1 spaceship by the three Shenzhou 9 taikonauts: "China Post 2012. 06. 26. 20. (26 June 2012 PM 8:00) Space Post Office 1". Also sealed with the steel seal of "Beijing Fang-Yuan Public Notary Office". Signed by the three taikonauts of the Shenzhou 9: Jing Haipeng, Liu Wang, and Liu Yang.

On the reverse side (*Fig. 6*), the cover was tied with the recovery postmark of the capsule opening cabin date: "Beijing 2012. 07. 01. 10 (1 July 2012 AM 10:00) Space City 1" and the Shenzhou 9 landing day postmark: "Si-Zi-Wang-Qi, Inner Mongolia 2012.06.29.11 (29 June 2012 AM 11:00) Hongge'er".

(Fig: 6) The reverse side of the "Year of Dragon" flown cover.

All the items loaded in the cabin were inserted in Postal parcel bags (*Fig. 7*).

10 flown bags (numbered from 01 to 10) were prepared by CAST (China Academy of Space Technology). The front side of the bag was tied with the "flown-proof" postmark of "China Jiuquan Satellite Launch Centre, M.P.O., Lanzhou 27th Branch post office, 2012. 06. 06. 20. (6 June 2012 PM 8:00), loaded in the cabin of spacecraft", and a postmark used by the three Shenzhou 9 taikonauts on the Tiangong 1 target spaceship: "China Post 2012. 06. 26. 20. (26 June 2012 PM 8:00) Space Post Office 1".

Also sealed with the red cachet of "Beijing Fang-Yuan Public Notary Office".

(Fig: 7) Postal parcel bag flown on Shenzhou 9.

At the top of the bag is a rectangular blue cachet, where (on the top left) the China Space logo and four Chinese characters for "China space", and (on the top right) "the Shenzhou 9 spacecraft carries test materials". In the middle is "China Academy of Space Technology - Shenzhou Tianchen Technology Industry Co. Ltd". At the bottom are "Number 9-18" and "18 May 2012".

In the middle of the bag, there is a paper seal of "Beijing Fang Yuan Notary Office security". On this paper seal is a rectangular Beijing Fang-Yuan Public Notary Office "evidence preservation special seal". The seal is signed by notaries Xiong Ling and Pan Jing.

CMSE (China Manned Space Engineering Office) flew on Shenzhou 9 1002 covers (*Fig. 8*) (numbered from 0001 to 1002).

(Fig: 8) Cover flown by CMSE.

The front side of the cover was tied with the "flown-proof" postmark of "China Jiuquan Satellite Launch Centre, M.P.O., Lanzhou 27th Branch post office, 2012. 06.

06. 20. (6 June 2012 PM 8:00), loaded in the cabin of spacecraft", and with the postmark "China Post, 26 June 2012 8:00 PM, Space Post Office 1" applied onboard the Tiangong 1 by the three Shenzhou 9 taikonauts. On the cover was a space mail label issued by the CMSE.

The reverse side of the cover was cancelled with the JSLC M.P.O. launch day postmark, and with the landing day postmark at Si-Zi-Wang-Qi Hongge'er". A recovery postmark of the capsule opening cabin date was added at Beijing Space City. A red cachet of "Beijing Fang-Yuan Public Notary Office" was added.

Only 5 covers (numbered from 01 to 05) issued by CWSL (China Wenchang Space Launch Site) were loaded in the cabin of Shenzhou 9 manned spacecraft (*Fig. 9*).

(Fig: 9) Cover flown by CWSL.

The front side of the cover was tied with three postmarks: the "flown-proof" postmark of the China Jiuquan Satellite Launch Centre, M.P.O., Lanzhou 27th Branch, with a JSLC launch day postmark and with the China Space Post Office postmark applied onboard the Tiangong 1 by the three Shenzhou 9 taikonauts. The space mail label issued by CMSE was added. Also sealed with the steel seal of "Beijing Fang-Yuan Public Notary Office". Signed by the three taikonauts of the Shenzhou 9.

On the reverse side of the cover was tied with the recovery postmark of the capsule opening cabin date at the Beijing Space City, and with the Shenzhou 9 landing day postmark at Si-Zi-Wang-Qi, Inner Mongolia.

Heilongjiang Astrophilately Research Association flew 11 covers (numbered from 001 to 011) (*Fig. 10*).

The front side of the cover was tied with the "flown-proof" postmark of Lanzhou 27th Branch post office, and with the launch

(Fig: 10) Cover flown by Heilongjiang Astrophilately Research Association.

day postmark of Jiuquan Satellite Launch Centre; the postmark "China Post, 26 June 2012 8:00 PM, Space Post Office 1" was added onboard by the three taikonauts.

Also was added the space mail label issued by the China Manned Space Engineering Office. The cover was impressed with the steel seal of "Beijing Fang-Yuan Public Notary Office" and signed by the three taikonauts of the Shenzhou 9.

On the reverse side, the cover bears the recovery postmark of the capsule opening cabin date at Beijing Space City, and the Shenzhou 9 landing postmark at Si-Zi-Wang-Qi.

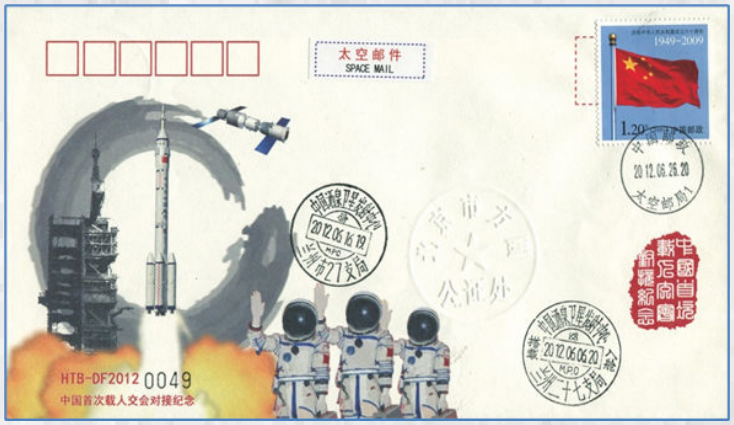
CAPA (China Aerospace Philatelic Association) was successful in flying 100 covers (numbered from 0001 to 0100) (*Fig. 11*).

(Fig: 11) Cover flown by CAPA.

The front side of the cover was tied with the "flown-proof" postmark of JSLC, Lanzhou 27th Branch, and the JSLC launch day postmark. The "China Post 2012. 06. 26. 20. (26 June 2012 PM 8:00) Space Post Office 1" was added by the three taikonauts onboard the Tiangong 1 spaceship. Also sealed with the steel seal of "Beijing Fang-Yuan Public Notary Office".

On the reverse side, the cover was tied with the recovery postmark of the capsule opening cabin date: at Beijing Space City and with the Shenzhou 9 landing day postmark at Si-Zi-Wang-Qi.

CSN (China Space News) loaded in the cabin 50 covers (numbered from 0001 to 0050) (*Fig. 12*). The front side of the cover was cancelled with the usual three postmarks: the "flown-proof" postmark at JSLC, the JSLC launch day postmark and the China Space Post Office cancel added in space by the three taikonauts.



(Fig: 12) Cover flown by CSN.

Also on this cover was applied the space mail label issued by the CMSE, impressed with the steel seal of "Beijing Fang-Yuan Public Notary Office".

The cover was cancelled on the reverse side, with the recovery postmark of the capsule opening cabin date: "Beijing 2012. 07. 01. 10 (1 July 2012 AM 10:00) Space City 1" and the Shenzhou 9 landing day postmark at Si-Zi-Wang-Qi, Inner Mongolia.

14 covers (numbered from 001 to 014) were flown on behalf of Beijing Haidian District Post Office Xi-Bei-Wang Branch (*Fig. 13*).

(Fig: 13) Cover flown by Beijing Haidian District. p.o. Xi-Bei-Wang Branch.

The front side of the cover was tied with the "flown-proof" postmark of "China Jiuquan Satellite Launch China Space Post Office cancel added in space by the taikonaut. On the cover is the space mail label issued by the China Manned Space Engineering Office. Also sealed with the steel seal of "Beijing Fang-Yuan Public Notary Office".

On the reverse side, the cover was tied with the recovery postmark of the capsule opening cabin date: at Beijing Space City and the Shenzhou 9 landing day postmark: "Si-Zi- ùWang-Qi, Inner Mongolia 2012.06.29.11 (29 June 2012 AM 11:00) Hongge'er".

(Fig: 14) German card flown by CAST.

In addition to these items, Shenzhou 9 also brought back to Earth some items that had been launched on September 29, 2011 directly inside the Tiangong 1 spaceship, including 50 covers issued by the Jiuquan Satellite Launch Center (and not yet appeared on the market), the 10 cards illustrated in the following figures from 14 to 20, and the 30 sets of stamp sheets shown in figures 21 and 22.

(Fig: 15) German card flown by CAST.

The China Academy of Space Technology carried into the Tiangong 1 also two German rocket cards (numbered 1/2 and 2/2) already flown in 1960 on a rocket commemorating the 25th anniversary of Gerhard Zucker rocket mail in the 1930s. On the front side of the cards was added the JSLC Lanzhou 27th Branch post office postmark dated 29 September 2011 (the

date of the launch of Tiangong 1) and the Shenzhou 9 recovery postmark with the date of the opening of the capsule cabin at Beijing Space City on July 1, 2012) (*Fig. 14*).

On the back of the cards were put two stamps commemorating the first

(Fig: 16-19) Progressive colour proofs of the Yemen stamp of the ancient Chinese Wan Hu Flying.

successful flight of China's Shenzhou spacecraft. The cards were cancelled with both the "flown-proof" postmark of China Jiuquan Satellite Launch Centre, M.P.O., Lanzhou 27th Branch post office, and the postmark applied onboard the Tiangong Station by the Taikonauts. Also sealed with the steel seal of "Beijing Fang-Yuan Public Notary Office".

(Fig: 20) Shenzhou 9 recovery postmark.

The China Academy of Space Technology also carried 2 sets of 8 cards (numbered from 01 to 08) into the Tiangong 1 target spaceship (*Fig. 16 to 19*).
At the bottom left corner of each set of 4 cards, there is a progressive colour proof of the stamp of the ancient Chinese Wan Hu Flying, issued by the Republic of Yemen in 1969.

The front side of the card was tied with the "flown-proof" postmark of JSLC Lanzhou 27th Branch post office, with a Lanzhou 27th postmark of the launch day of Tiangong 1 (29 Sep. 2011) and the postmark applied by the Shenzhou 9 taikonauts onboard the Tiangong 1 (26 June 2012). Also sealed with the steel seal of "Beijing Fang-Yuan Public Notary Office".

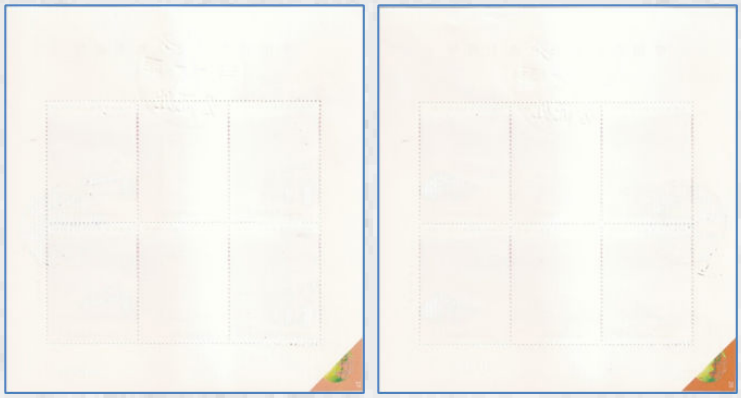
On the reverse side, each card was tied with the Shenzhou 9 recovery postmark of the capsule opening cabin date: "Beijing 2012. 07. 01. 10 (1 July 2012 AM 10:00) Space City 1" (*Fig. 20*).

The China Academy of Space Technology provided a total of 30 sets of stamp sheets (numbered from 01 to 30) of the stamps issued in 2011 by the China Post to commemorate the 90th anniversary of the founding of the Communist Party of China, and put them into Tiangong 1 spaceship (*Fig. 21, 22*).

The front side of the stamp sheet was cancelled with the "flown-proof" postmark of "China Jiuquan Satellite Launch Centre, M.P.O., Lanzhou 27th Branch post office, 2011. 07. 28. 20. (28 July 2011 PM 8:00), loaded in the cabin of spacecraft", and the postmark used by the three Shenzhou 9 taikonauts on the Tiangong 1 target spaceship. This postmark is: "China Post 2012. 06. 26. 20. (26 June 2012 PM 8:00) Space Post Office 1". Also sealed with the steel seal of "Beijing Fang-Yuan Public Notary Office".

On the lower right corner of the back of the sheet stamp, there is a numbered identification mark (from 01 to 30). The identification is divided into two parts. One part is pasted on the back of the sheet stamp, and the other part is kept in the notary office (*Fig. 23, 24*).

(Fig: 21-22) Stamps commemorating the 90th anniversary of the founding of the Communist Party of China.



(Fig: 23-24) The reverse side of the stamps.

Minotaur IV Launched from Kodiak

By Nik Steggall

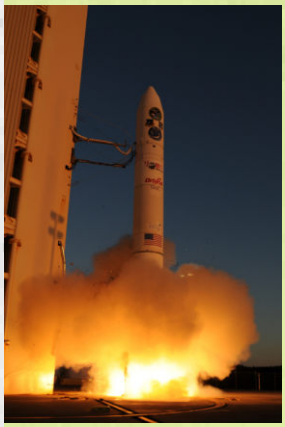
The Minotaur IV is also known as the Peacekeeper SLV and the OSP-2 PK. It is an expendable launch vehicle derived from the Peacekeeper ICBM. It is operated by Northrop Grumman Innovation Systems and made its maiden flight on 22 April 2010 when it carried the HTV-2a, (Hypersonic Test Vehicle). The Minotaur IV vehicle consists of four stages and is capable of delivering 1,735 kg of payload to low Earth orbit. It uses the first three stages of the Peacekeeper rocket, combined with a new upper stage.

An original cover by Pete Sarmiento commemorating the launch of Minotaur IV from Kodiak. The cover was cancelled on 19 November 2010 at the Kodiak post office.

The Minotaur IV has been launched twice from the Pacific Spaceport Complex in Alaska (PSCA) formerly known as the Kodiak Launch Complex, (KLC). It is a dual-use commercial and military spaceport for suborbital and orbital launch vehicles. It is owned and operated by the Alaska Aerospace Corporation and is located on Kodiak Island in the state of Alaska. Opened in 1998, the spaceport has two launch pads and a mission control centre. Launchpad 1 is designed for orbital launches, while Launchpad 2 is designed for suborbital flights.

The first Minotaur IV launch from Kodiak was STP-S26 with the following payloads: STPSAT-2, FASTRAC A & B, FalconSat-5, FASTSAT, O/OREOS, RAX and NanoSail-D2. The STP-S26 was intended to extend previous development efforts , that would implement standard capabilities to enable quick access to space for small experimental satellites and payloads.It included a Hydrazine Auxiliary Propulsion System, (HAPS), to provide a secondary orbit after the payloads have been placed in the primary orbit.

TacSat-4 mission patch.



The Minotaur IV launch with the STS-S26 payloads.

STP-S96 was launched at 01:25 UTC on 20 November 2019 from the Kodiak Launch Complex. The payloads were released into a 650 km orbit before the HAPS upper stage was demonstrated by deploying two ballast payloads into a 1,200 km orbit.
The second Minotaur IV carried the TacSAt-4 satellite into orbit on 27 September 2011. It was the first launch of the Minotaur IV+ rocket from Launch Pad 1 at the Kodiak Launch Complex at Narrow Cape the Other Cape2. TacSat-4 is the third in a series of experimental technology and communications satellites. It was placed in a highly elliptical orbit.

An original cover by Pete Sarmiento commemorating the Minotaur IV launch of the TacSat-4 satellite. The cover has been cancelled at the Kodiak Launch Complex, with a special mark, at Narrow Cape "The Other Cape", and dated 27 September 2011.

US military

(Right) The Minotaur IV patch for STP-S26 shows the launch from Kodiak Island.