

The Project Gutenberg EBook of Space Tug, by Murray Leinster

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30 MINUTES TO LIVE!

Joe Kenmore heard the airlock close with a sickening wheeze and then a clank. In desperation he turned toward Haney. "My God, we've been locked out!"

Through the transparent domes of their space helmets, Joe could see a look of horror and disbelief pass across Haney's face. But it was true! Joe and his crew were locked out of the Space Platform.

Four thousand miles below circled the Earth. Under Joe's feet rested the solid steel hull of his home in outer space. But without tools there was no hope of getting back inside. Joe looked at his oxygen

meter. It registered thirty minutes to live.

\_Space Tug\_ by Murray Leinster is an independent sequel to the author's popular \_Space Platform\_, which is also available in a POCKET BOOK edition. Both books were published originally by Shasta Publishers.

\_Of other books by Murray Leinster, the following are science-fiction: \_

[A]SPACE PLATFORM

SIDEMISE IN TIME

MURDER MADNESS

THE LAST SPACE SHIP

THE LAWS OF CHANCE

(\_anthology\_)

GREAT STORIES OF SCIENCE FICTION

(\_editor\_)

[A] Published in a POCKET BOOK edition.

\_Murray Leinster\_

SPACE TUG

\_Pocket Books, Inc.\_

\_New York, N. Y.\_

This Pocket Book includes every word contained in the original, higher-priced edition. It is printed from brand-new plates made from completely reset, clear, easy-to-read type.

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SPACE TUG

Shasta edition published November, 1953

POCKET BOOK edition published January, 1955  
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\_To Joan Patricia Jenkins\_

1

To the world at large, of course, it was just another day. A different

sort entirely at different places on the great, round, rolling Earth, but nothing out of the ordinary. It was Tuesday on one side of the Date Line and Monday on the other. It was so-and-so's wedding anniversary and so-and-so's birthday and another so-and-so would get out of jail today. It was warm, it was cool, it was fair, it was cloudy. One looked forward to the future with confidence, with hope, with uneasiness or with terror according to one's temperament and one's geographical location and past history. To most of the human race this was nothing whatever but just another day.

But to Joe Kenmore it was a most particular day indeed. Here, it was the gray hour just before sunrise and already there were hints of reddish colorings in the sky. It was chilly, and somehow the world seemed still and breathless. To Joe, the feeling of tensy marked this morning off from all the other mornings of his experience.

He got up and began to dress, in Major Holt's quarters back of that giant steel half-globe called the Shed, near the town of Bootstrap. He felt queer because he felt so much as usual. By all the rules, he should have experienced a splendid, noble resolution and a fiery exaltation, and perhaps even an admirable sensation of humility and unworthiness to accomplish what was expected of him today. And, deep enough inside, he felt suitable emotion. But it happened that he couldn't take time to feel things adequately today.

He was much more aware that he wanted some coffee rather badly, and that he hoped everything would go all right. He looked out of the windows at empty, dreary desert under the dawn sky. Today was the day he'd be leaving on a rather important journey. He hoped that Haney and the Chief and Mike weren't nervous. He also hoped that nobody had gotten at the fuel for the pushpots, and that the slide-rule crew that had calculated everything hadn't made any mistakes. He was also bothered about the steering-rocket fuel, and he was uncomfortable about the business of releasing the spaceship from the launching cage. There was, too, cause for worry in the take-off rockets--if the tube linings had shrunk there would be some rather gruesome consequences--and there could always be last-minute orders from Washington to delay or even cancel everything.

In short, his mind was full of strictly practical details. He didn't have time to feel noble aspirations or sensations of high destiny. He had a very tricky and exacting job ahead of him.

The sky was growing lighter outside. Stars faded in a paling blue and the desert showed faint colorings. He tied his necktie. A deep-toned keening set up off to the southward, over the sere and dreary landscape.

It was a faraway noise, something like the lament of a mountain-sized calf bleating for its mother. Joe took a deep breath. He looked, but saw nothing. The noise, though, told him that there'd been no cancellation of orders so far. He mentally uncrossed one pair of fingers. He couldn't possibly cross fingers against all foreseeable disasters. There weren't enough fingers--or toes either. But it was good that so far the schedule held.

He went downstairs. Major Holt was pacing up and down the living room of his quarters. Electric lights burned, but already the windows were brightening. Joe straightened up and tried to look casual. Strictly speaking, Major Holt was a family friend who happened also to be security officer here, in charge of protecting what went on in the giant construction Shed. He'd had a sufficiently difficult time of it in the past, and the difficulties might keep on in the future. He was also the ranking officer here and consequently the immediate boss of Joe's enterprise. Today's affair was still highly precarious. The whole thing was controversial and uncertain and might spoil the career of somebody with stars on his collar if it should fail. So nobody in the high brass wanted the responsibility. If everything went well, somebody suitable would take the credit and the bows. Meanwhile Major Holt was boss by default.

He looked sharply at Joe. "Morning."

"Good morning, sir," said Joe. Major Holt's daughter Sally had a sort of understanding with Joe, but the major hadn't the knack of cordiality, and nobody felt too much at ease with him. Besides, Joe was wearing a uniform for the first time this morning. There were only eight such uniforms in the world, so far. It was black whipcord, with an Eisenhower jacket, narrow silver braid on the collar and cuffs, and a silver rocket for a badge where a plane pilot wears his wings. It was strictly practical. Against accidental catchings in machinery, the trousers were narrow and tucked into ten-inch soft leather boots, and the wide leather belt had flat loops for the attachment of special equipment. Its width was a brace against the strains of acceleration. Sally had had much to do with its design.

But it hadn't yet been decided by the Pentagon whether the Space Exploration Project would be taken over by the Army or the Navy or the Air Corps, so Joe wore no insignia of rank. Technically he was still a civilian.

The deep-toned noise to the south had become a howl, sweeping closer and trailed by other howlings.

"The pushpots are on the way over, as you can hear," said the major detachedly, in the curious light of daybreak and electric bulbs together. "Your crew is up and about. So far there seems to be no hitch. You're feeling all right for the attempt today?"

"If you want the truth, sir, I'd feel better with about ten years' practical experience behind me. But my gang and myself--we've had all the training we can get without an actual take-off. We're the best-trained crew to try it. I think we'll manage."

"I see," said the major. "You'll do your best."

"We may have to do better than that," admitted Joe wryly.

"True enough. You may." The major paused. "You're well aware that there are--ah--people who do not altogether like the idea of the United States possessing an artificial satellite of Earth."

"I ought to know it," admitted Joe.

The Earth's second, man-constructed moon--out in space for just six weeks now--didn't seem nowadays like the bitterly contested achievement it actually was. From Earth it was merely a tiny speck of light in the sky, identifiable for what it was only because it moved so swiftly and serenely from the sunset toward the east, or from night's darkness into the dawn-light. But it had been fought bitterly before it was launched. It was first proposed to the United Nations, but even discussion in the Council was vetoed. So the United States had built it alone. Yet the nations which objected to it as an international project liked it even less as a national one, and they'd done what they could to wreck it.

The building of the great steel hull now out there in emptiness had been fought more bitterly, by more ruthless and more highly trained saboteurs, than any other enterprise in history. There'd been two attempts to blast it with atomic bombs. But it was high aloft, rolling grandly around the Earth, so close to its primary that its period was little more than four hours; and it rose in the west and set in the east six times a day.

Today Joe would try to get a supply ship up to it, a very small rocket-driven cargo ship named Pelican One. The crew of the Platform needed food and air and water--and especially the means of self-defense. Today's take-off would be the first attempt at a rocket-lift to space.

"The enemies of the Platform haven't given up," said the major formidably. "And they used spectroscopes on the Platform's rocket fumes.

Apparently they've been able to duplicate our fuel."

Joe nodded.

Major Holt went on: "For more than a month Military Intelligence has been aware that rockets were under construction behind the Iron Curtain. They will be guided missiles, and they will carry atom bomb heads. One or more may be finished any day. When they're finished, you can bet that they'll be used against the Platform. And you will carry up the first arms for the Platform. Your ship carries half a dozen long-range interceptor rockets to handle any attack from Earth. It's vitally important for them to be delivered."

"They'll attack the Platform?" demanded Joe angrily. "That's war!"

"Not if they deny guilt," said the major ironically, "and if we have nothing to gain by war. The Platform is intended to defend the peace of the world. If it is destroyed, we won't defend the peace of the world by going to war over it. But while the Platform can defend itself, it is not likely that anyone will dare to make war. So you have a very worthwhile mission. I suggest that you have breakfast and report to the Shed. I'm on my way there now."

Joe said, "Yes, sir."

The major started for the door. Then he stopped. He hesitated, and said abruptly, "If my security measures have failed, Joe, you'll be killed. If there has been sabotage or carelessness, it will be my fault."

"I'm sure, sir, that everything anybody could do--"

"Everything anybody can do to destroy you has been done," said the major grimly. "Not only sabotage, Joe, but blunders and mistakes and stupidities. That always happens. But--I've done my best. I suspect I'm asking your forgiveness if my best hasn't been good enough."

Then, before Joe could reply, the major went hurriedly away.

Joe frowned for a moment. It occurred to him that it must be pretty tough to be responsible for the things that other men's lives depend on--when you can't share their danger. But just then the smell of coffee reached his nostrils. He trailed the scent. There was a coffeepot steaming on the table in the dining-room. There was a note on a plate.

\_Good luck. I'll see you in the Shed.

Sally\_

Joe was relieved. Sally Holt had been somewhere around underfoot all his life. She was a swell girl, but he was grateful that he didn't have to talk to her just now.

He poured coffee and looked at his watch. He went to the window. The faraway howling was much nearer, and dawn had definitely arrived. Small cloudlets in a pale blue sky were tinted pinkish by the rising sun. Patches of yucca and mesquite and sage out beyond the officers' quarters area stretched away to a far-off horizon. They were now visibly different in color from the red-yellow earth between them, and cast long, streaky shadows. The cause of the howling was still invisible.

But Joe cared nothing for that. He stared skyward, searching. And he saw what he looked for.

There was a small bright sliver of sunlight high aloft. It moved slowly toward the east. It showed the unmistakable glint of sunshine upon polished steel. It was the artificial satellite--a huge steel hull--which had been built in the gigantic Shed from whose shadow Joe looked upward. It was the size of an ocean liner, and six weeks since some hundreds of pushpots, all straining at once, had gotten it out of the Shed and panted toward the sky with it. They'd gotten it twelve miles high and speeding eastward at the ultimate speed they could manage. They'd fired jato rockets, all at once, and so pushed its speed up to the preposterous. Then they'd dropped away and the giant steel thing had fired its own rockets--which made mile-long flames--and swept on out to emptiness. Before its rockets were consumed it was in an orbit 4,000 miles above the Earth's surface, and it hurtled through space at something over 12,000 miles an hour. It circled the Earth in exactly four hours, fourteen minutes, and twenty-two seconds. And it would continue its circling forever, needing no fuel and never descending. It was a second moon for the planet Earth.

But it could be destroyed.

Joe watched hungrily as it went on to meet the sun. Smoothly, unhurriedly, serenely, the remote and twinkling speck floated on out of sight. And then Joe went back to the table and ate his breakfast quickly. He wolfed it. He had an appointment to meet that minute speck some 4,000 miles out in space. His appointment was for a very few hours hence.

He'd been training for just this morning's effort since before the Platform's launching. There was a great box swinging in twenty-foot

gimbal rings over in the Shed. There were motors and projectors and over two thousand vacuum tubes, relays and electronic units. It was a space flight simulator--a descendant of the Link trainer which once taught plane pilots how to fly. But this offered the problems and the sensations of rocketship control, and for many hours every day Joe and the three members of his crew had labored in it. The simulator duplicated every sight and sound and feeling--all but heavy acceleration--to be experienced in the take-off of a rocketship to space. The similitude of flight was utterly convincing. Sometimes it was appallingly so when emergencies and catastrophes and calamities were staged in horrifying detail for them to learn to respond to. In six weeks they'd learned how to handle a spaceship so far as anybody could learn on solid ground--if the simulator was correctly built. Nobody could be sure about that. But it was the best training that could be devised.

In minutes Joe had finished the coffee and was out of Major Holt's quarters and headed for the Shed's nearest entrance. The Shed was a gigantic metal structure rising out of sheer flat desert. There were hills to the westward, but only arid plain to the east and south and north. There was but one town in hundreds of miles and that was Bootstrap, built to house the workmen who'd built the Platform and the still invisible, ferociously howling pushpots and now the small supply ships, the first of which was to make its first trip today.

The Shed seemed very near because of its monstrous size. When he was actually at the base of its wall, it seemed to fill half the firmament and more than half the horizon. He went in, and felt self-conscious when the guard's eyes fell on his uniform. There was a tiny vestibule. Then he was in the Shed itself, and it was enormous.

There were acres of wood-block flooring. There was a vast, steel-girdered arching roof which was fifty stories high in the center. All this size had been needed when the Space Platform was being built. Men on the far side were merely specks, and the rows of windows to admit light usually did no more than make a gray twilight inside. But there was light enough today. To the east the Shed's wall was split from top to bottom. A colossal triangular gore had been loosened and thrust out and rolled aside, and a doorway a hundred and fifty feet wide let in the sunshine. Through it, Joe could see the fiery red ball which was the sun just leaving the horizon.

But there was something more urgent for him to look at. Pelican One had been moved into its launching cage. Only Joe, perhaps, would really have recognized it. Actually it was a streamlined hull of steel, eighty feet long by twenty in diameter. There were stubby metal fins--useless in

space, and even on take-off, but essential for the planned method of landing on its return. There were thick quartz ports in the bow-section. But its form was completely concealed now by the attached, exterior take-off rockets. It had been shifted into the huge cradle of steel beams from which it was to be launched. Men swarmed about it and over it, in and out of the launching cage, checking and rechecking every possible thing that could make for the success of its flight to space.

The other three crew-members were ready--Haney and Chief Bender and Mike Scandia. They were especially entitled to be the crew of this first supply ship. When the Platform was being built, its pilot-gyros had been built by a precision tool firm owned by Joe's father. He'd gone by plane with the infinitely precise apparatus to Bootstrap, to deliver and install it in the Platform. And the plane was sabotaged, and the gyros were ruined. They'd consumed four months in the building, and four months more for balancing with absolute no-tolerance accuracy. The Platform couldn't wait so long for duplicates. So Joe had improvised a method of repair. And with Haney to devise special machine-tool setups and the Chief to use fanatically fine workmanship, and Mike and Joe aiding according to their gifts, they'd rebuilt the apparatus in an impossibly short time. The original notion was Joe's, but he couldn't have done the job without the others.

And there had been other, incidental triumphs by the team of four. They were not the only ones who worked feverishly for the glory of having helped to build the Earth's first artificial moon, but they had accomplished more than most. Joe had even been appointed to be an alternate member of the Platform's crew. But the man he was to have substituted for recovered from an illness, and Joe was left behind at the Platform's launching. But all of them had rated some reward, and it was to serve in the small ships that would supply the man-made satellite.

Now they were ready to begin. The Chief grinned exuberantly as Joe ducked through the bars of the launching cage and approached the ship. He was a Mohawk Indian--one of that tribe which for two generations had supplied steel workers to every bridge and dam and skyscraper job on the continent. He was brown and bulky and explosive. Haney looked tense and strained. He was tall and lean and spare, and a good man in any sort of trouble. Mike blazed excitement. Mike was forty-one inches high and he was full-grown. He had worked on the Platform, bucking rivets and making welds and inspections in places too small for a normal-sized man to reach. He frantically resented any concessions to his size and he was as good a man as any. He simply was the small, economy size.

"Hiya, Joe," boomed the Chief. "All set? Had breakfast?"

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