LEAVING EARTH™

STATIONS

RULEBOOK
VERSION 2

JOSEPH FATULA   THE LUMENARIS GROUP, INC.™

COMPONENTS

4 joint venture agency cards
40 joint venture share cards
5 national agency cards
15 advancement cards
167 component cards
29 spacecraft tokens
29 spacecraft cards
60 outcome cards
51 location cards
2 calendar cards
57 mission cards
52 feature cards
45 money cards
32 point tokens
1 rulebook

INTRODUCTION

*Nothing is so dangerous to the progress of the human mind
than to assume that our views of science are ultimate,
that there are no mysteries in nature, that our triumphs are complete
and that there are no new worlds to conquer.*

— HUMPHRY DAVY, 1810

OUR SOLAR SYSTEM is a majestic place, full of planets and moons to explore. The *Stations* expansion delves deeper into exploration of the inner Solar System, both manned and unmanned.

Space agencies can work together with joint ventures, rovers can explore new features on planets, and the Space Shuttle makes heavy lifting more affordable. *Stations* comes with a new mission deck, introducing many new objectives to the game.

SETUP

To set one's foot on the soil of an asteroid, to lift with one's hand a stone on the Moon's surface, to establish orbital bases in space, to create inhabited rings around the Earth, Moon, and Sun ... can anything be more fantastic?
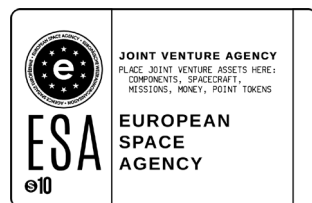
— KONSTANTIN TSIOLKOVSKY

SPACE AGENCIES

As in the base game, each player chooses a national space agency, taking its agency card, spacecraft cards, and spacecraft tokens. The national agency cards have an updated payload chart that includes the four rocket types from the base game, the reusable rockets from this expansion, and the Proton rocket from the *Outer Planets* expansion.

Each joint venture has an agency card, spacecraft cards, share cards, and spacecraft tokens. These will be used later; see *Joint Ventures* on page 21.

> **KEY POINTS**
> - both Life missions
> - one Occupation mission
> - random Easy/Medium/ Hard missions
> - second mission worth 10% extra in point tokens

JOINT VENTURE AGENCY
PLACE JOINT VENTURE ASSETS HERE:
COMPONENTS, SPACECRAFT,
MISSIONS, MONEY, POINT TOKENS

ESA ⊚10

EUROPEAN SPACE AGENCY

A joint venture space agency card.

MISSIONS

This expansion provides a new mission deck; the missions from the base game will not be needed.

There are two *Extraterrestrial Life* missions: *Survey* and *Sample*. Set *Extraterrestrial Life Sample* on the table, then put *Extraterrestrial Life Survey* on top of it. The *Survey* mission is always available at the start of the game. Once it is completed, the *Sample* mission is available.


EXTRATERRESTRIAL
LIFE
MISSION
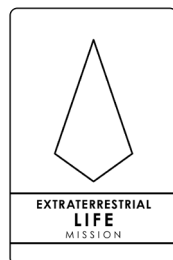
The type of a mission card is shown on its back.

There are several *Occupation* missions: draw one at random, place it on the table, then put the rest away. This mission will grant points each year (using point tokens) for having an astronaut in the specified location.

Set out point tokens, separated by denomination. Like mission cards, point tokens are worth victory points, but are awarded in other ways. (See *Missions* on page 7.)

The remaining missions are drawn randomly depending on the difficulty of game you wish to play:
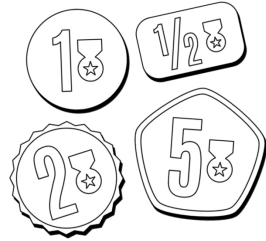
|	
EASY GAME	6 easy
NORMAL GAME	6 easy, 3 medium
HARD GAME	4 easy, 5 medium, 3 hard
VERY HARD GAME	1 easy, 6 medium, 6 hard

Point tokens.

If you draw a second copy of a mission, it starts with point tokens on it equal to its point value divided by ten, rounded *up* to the nearest half point. For example, if you draw a second *Man on the Moon* (worth 12 points) it starts with 1½ points in tokens on it (12 divided by 10 is 1.2, which rounds up to 1.5). To learn about what happens when you complete one of these missions, see *Duplicate Missions* on page 7.

LOCATIONS AND FEATURES

Set out locations as usual, but use the new *Stations* location cards rather than the ones from the base game.

This expansion has two new locations: Mars Cycler and Earth Cycler. These allow a spacecraft to move back and forth between the two planets
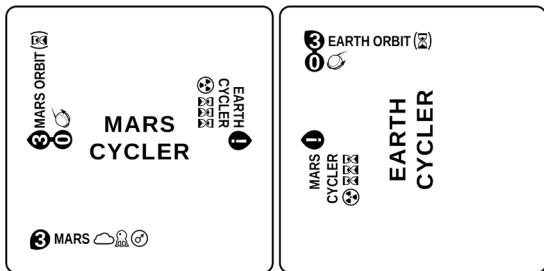
Mars-Earth Cycler location cards.

over and over again without needing any further propulsion, with automatic maneuvers leading from each cycler location to the other.

Most explorable locations have a corresponding deck of features to be explored later. Set these out near their locations. Exploring these features is explained later on. (See *Features* on page 13.)

<div style="float:right;text-align:center">

MARS

FEATURE

♂
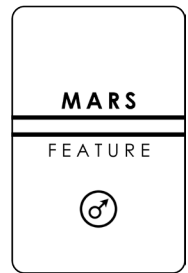
The back of a Mars feature card.

</div>

COMPONENTS

Set out component cards by type, including all component cards from the base game except for supplies. Supplies are not used with this expansion. (See *Components* on page 17.)

ADVANCEMENTS

Set out advancements by type, including advancements from the base game. There are three new advancements in this expansion: *Rover*, *Synthesis*, and *Space Shuttle*. Each of these has a prerequisite that you must have before you can research it or receive it in trade. *Rover* requires *Surveying*, *Synthesis* requires *Life Support*, and *Space Shuttle* requires both *Re-Entry* and *Atlas*.

Note that *Rover* and *Synthesis* each require five outcome cards, rather than the usual three. *Rover* also costs only $3, rather than the usual $10.

Rovers are a cheap and lightweight option for exploring features. (See *Features* on page 13.)

Space Shuttle allows reusable rockets, saving significant costs in the long run. (See *Reusable Rockets* on page 18.)

Synthesis grants access to fuel generators for producing fuel remotely (page 19), hydroponics modules for producing food (page 19), and habitats for living in space (page 17).

OUTCOMES

When using the base game with multiple expansions, you could run out of outcome cards. For this reason, *Stations* comes with more outcome cards. Use the outcome cards from the base game first, then if you need more, use the ones from *Stations*. Do not mix them together on a single advancement.*

OTHER

Set out time tokens and the eight-sided die. Use the new calendar cards, extending the game to 1986. Each national agency starts the game with $30.

COMBINING EXPANSIONS

Stations is an expansion, so it requires the base game to play. It may also be used with *Mercury*†, *Outer Planets*, or both.

Stations + Mercury

Cards for *Mercury* are included by default, but if you would prefer not to use them, simply remove any cards with the Mercury expansion symbol on them.

Stations + Outer Planets

If you are using *Stations* and *Outer Planets* together there are a few rules to be aware of, mostly related to scientists.

You must use a scientist when performing an experiment in a science module; an experiment cannot be completed by any other astronaut.

A scientist can still complete a sample return mission, but only by examining the sample *in a science module*. He cannot examine the sample anywhere else.

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* Because of manufacturing variation from one printing to the next, one deck of outcome cards is likely to be slightly different in appearance from another. To avoid having cards that are very similar yet still distinguishable, the outcomes from *Stations* have a different design on the back.

† *Mercury* was originally published as a separate mini-expansion but is now included in the base game. See the base game rulebook for details.

When drawing missions during setup, draw *Outer Planets* missions (explorable/non-explorable) as specified by the *Outer Planets* rules, and draw *Stations* missions (easy/medium/hard) according to the *Stations* rules.

If you discover an *Outer Planets* location that claims to grant free supplies it grants free food instead.

MISSIONS

We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win.

— JOHN F. KENNEDY, 1962

KEY POINTS

- limits on duplicate missions
- experiments & science modules
- manned occupation missions
- payouts for completing missions
- losing astronauts costs more

DUPLICATE MISSIONS

There may be two copies of a mission available, one with point tokens on it and the other without. When you meet the requirements to complete a mission you may take either card, along with any point tokens on it.

An agency may not claim a mission if it has already completed its duplicate. For example, if NASA has already completed the first *Man on the Moon* mission they may not claim it a second time, even if they put another astronaut on the moon and bring him home.
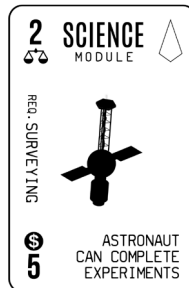
Joint venture agencies may never claim a mission if *anyone* has completed its duplicate. In other words, joint ventures must be first to accomplish something or else they receive no credit.

EXPERIMENT MISSIONS

An EXPERIMENT MISSION can be completed by performing a scientific experiment in a specified location. This requires a science module and an experiment payload. The experiment payload has two sides. It starts with the *ready* side up when purchased on Earth.

A science module.

An experiment ready to be performed.

When you have an astronaut and a ready experiment on board a spacecraft with a science module in the correct location, you may flip the experiment over to its *finished* side.* Carry the finished experiment back to Earth and return it to the component card stacks to complete the experiment mission. The experiment must have been performed in the correct location to complete the mission — an experiment done on the Moon is of no use when attempting to complete the *Mars Experiment* mission.
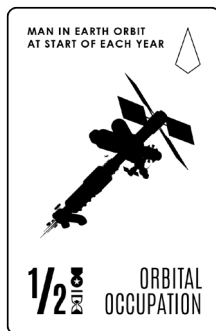
OCCUPATION MISSIONS

Each playthrough will have one OCCUPATION MISSION available. This represents long-term manned occupation of space. Instead of being completed, an occupation mission awards points at the start of the year to anyone with an astronaut in that location. These points are shown with tokens.

For example, the *Orbital Occupation* mission awards half a point to each agency with an astronaut in Earth Orbit at the start of the year.

Half-point token.

Orbital Occupation.

MAN-AND-BACK MISSIONS

Many missions, such as *Man on the Moon*, require you to bring an astronaut to a location and then return him back to Earth. To complete such a mission, the same agency must own the astronaut at both ends of the journey. For example, if NASA has an astronaut on the Moon, NASA will need to own that astronaut on Earth later in order to complete *Man on the Moon*.†

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* If you are using the *Outer Planets* expansion, the astronaut that performs the experiment must be a scientist.

† Technically, NASA does not need to be the agency that carries the astronaut to the Moon and back; they simply need to own the astronaut when he is on the Moon, then later own the astronaut when he is on Earth.

PAYOUTS

Space agencies come in two different kinds: NATIONAL agencies (like NASA or ISAS) and JOINT VENTURES. Payouts depend on which type of agency completes a mission. When a mission is completed by a *national* agency, all other *national* agencies collect $10. When a mission is completed by a joint venture, no one collects any money.

For example, in a game with NASA and OKB-1 (national agencies) and IRI (a joint venture), when NASA completes a mission, OKB-1 receives $10. Likewise, when OKB-1 completes a mission, NASA receives $10. But when IRI completes a mission, no one receives any money.

Because occupation missions are never truly completed, they never cause anyone to be paid.

ASTRONAUT DEATH

In this expansion, agencies will need to be more careful with the lives of their astronauts. The first astronaut lost by an agency counts for −2 points, the second lost counts for −4, the third −6, the fourth −8, and so on.

For example, losing a total of three astronauts is worth −12 points (−2 for the first + −4 for the second + −6 for the third).*

SOLITAIRE RULES

If you are playing a solitaire game, the goal is the same as in the base game. At the end of the game, your score must be greater than the sum of all uncompleted missions on the table. *Extraterrestrial Life Sample* is not considered to be on the table until *Extraterrestrial Life Survey* is completed. Joint ventures have no purpose in a solitaire game.

Occupation missions do not count as uncompleted missions, as they can never be completed. If you draw a second copy of a mission during setup, discard it and draw again.

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* If you have lost n astronauts, this adds up to $-n \times (n + 1)$ points. Please do not lose so many astronauts that you need this formula.

LOCATIONS

Mars has been flown by, orbited, smacked into, radar-examined, and rocketed onto, as well as bounced upon, rolled over, shoveled, drilled into, baked, and even blasted. Still to come: Mars being stepped on.
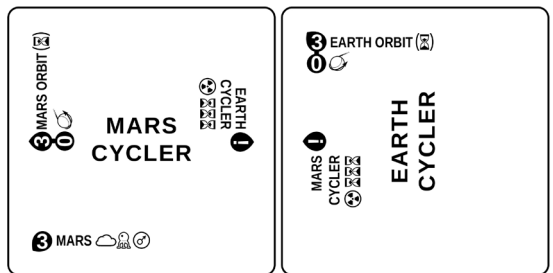
MARS-EARTH CYCLER

> **KEY POINTS**
> - four types of radiation
> - new local conditions

Any spacecraft flying past a planet will find its trajectory altered as it is pulled by that planet's gravity. Given a certain initial speed, direction, and timing, a spacecraft flying past one planet will be sent careening towards another planet. In 1985, Buzz Aldrin theorized that, under the right conditions, a spacecraft could use Mars to slingshot itself towards Earth, then Earth to slingshot itself towards Mars, and so on, visiting both planets periodically, without requiring any additional propulsion other than the gravity of the planets themselves. Such a cycler trajectory was proven to exist by a team of orbital scientists at NASA's Jet Propulsion Labratory later that year.

In this expansion, Aldrin's Mars-Earth cycler is represented by two new locations: Mars Cycler at one end and Earth Cycler at the other. Reaching either of these locations from Mars Orbit or Earth Orbit requires propulsion, but once a spacecraft is in the cycler, automatic maneuvers will shuttle it back and forth for the duration of the game.

Mars-Earth Cycler location cards.

OUTER PLANETS MANEUVERS

Maneuvers leading to Outer Planets Transfer or Jupiter Fly-By are not available unless you are using the *Outer Planets* expansion. A few maneuvers are listed with a symbol ⌔ representing the aerobraking hazard. These maneuvers are also only available if you are using *Outer Planets*.

3 EARTH ORBIT (⌛)
0 ⌔

*Two maneuvers
to Earth Orbit.*

For example, the Earth Cycler location shows two options for traveling to Earth Orbit: a maneuver with a difficulty of three (and optional time), and a maneuver only usable with *Outer Planets* that has a difficulty of zero and aerobreaking.

Maneuvers leading to Outer or Jupiter Fly-By are not available without those location cards.

RADIATION

In this expansion, radiation is a common hazard. There are four possible ways radiation can affect a spacecraft:

	YEARS DON'T MATTER	BASED ON YEARS OF MANEUVER
AFFECTS ASTRONAUTS	**2** ROLL DIE PER ASTRONAUT: 1–2: SICK	**2⌛** ROLL PER ASTRONAUT: 2×⌛ OR LESS: SICK
AFFECTS PROBES & CAPSULES	**2** ROLL DIE PER PROBE/CAPSULE: 1–2: DAMAGED	**2⌛** ROLL PER PROBE/CAPSULE: 2×⌛ OR LESS: DAMAGED

When your spacecraft faces a radiation hazard, check the symbol to see which type of radiation hazard it is. If the radiation symbol has a time symbol ⌛ on it (as in the right column above) the danger is multiplied by the number of years of the maneuver. If the radiation symbol has no time symbol on it (as in the left column) the danger is the same no matter how long the maneuver takes.

Radiation hazards can affect different components. If the radiation symbol has an astronaut ♟ on it (as in the top row above) it affects astronauts. If the radiation symbol has a lightning bolt ⚡ on it (as in the bottom row) it affects probes and capsules.

When radiation strikes your spacecraft, roll for each astronaut/probe/capsule affected before taking any other actions. (This means that a doctor can only heal incapacitated astronauts after all astronauts have rolled for radiation.)

<p align="center">*   *   *</p>

In the base game all radiation affects astronauts based on the years of the maneuver. In previous printings, this was shown with the symbol [2☢]. Despite its simpler appearance, [2☢] is exactly equivalent to [2☢]. In future printings of the base game, the more precise symbol [2☢] will be used instead.

Radiation Shielding

The *Aldrin* capsule reduces the written level of radiation by one for itself and for its occupants. For example, if an Aldrin capsule faces a [2☢], the hazard is treated as if it were a [1☢].

Habitats are fully shielded against radiation. Neither they nor their occupants suffer any effects at all from radiation, no matter the level.

LOCAL CONDITIONS

In addition to radiation, this expansion adds a few other new types of local conditions. Two of them are described here, while the rest are only found on feature cards:

CO₂ Carbon dioxide is present, allowing fuel generators to operate. (See *Fuel Generators* on page 19.)

1-2 Roll a die for your spacecraft. If the roll is in the listed range, one component of your choice is damaged. (As always, if there are no components on board capable of receiving damage, the spacecraft is destroyed.)

FEATURES

*At present the only vegetation existing on Mars is to be found
in the low river valleys and in the ancient ocean beds.*

— DONALD MENZEL, 1943

I
N THE BASE game, when you explore a loca-
tion (such as Mars or the Moon), you learn
everything there is to know about that location.
Stations adds local FEATURES, additional things
to discover beyond the conditions written on
the location card.

Some locations may turn out to be more
interesting than others. When a location card

is revealed, it may say something like "explore until one feature present". A
much more interesting location might say "explore until *three* features present"
while an uninteresting one might not allow any features at all to be explored.

EXPLORING A FEATURE

Whenever you successfully maneuver a working probe/capsule to a location
that is *already revealed* and has room for an additional feature, you may choose
to explore a fea-
ture. If you travel
to a location that
has not yet been
revealed, you
may not explore
a feature during
that maneuver.

For example,
if Mars has
already been
revealed, and it

LUNAR ORBIT ❷

MOON ☽

EXPLORE **1** FEATURE
UNTIL PRESENT
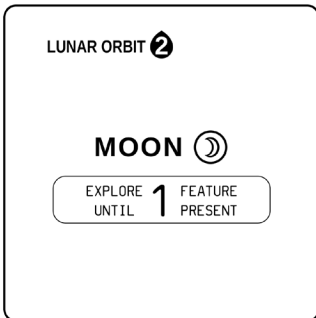
*A version of the Moon that can
only have one feature present.*

❸ MARS ORBIT

MARS ♂

CO_2 CO_2 ATMOSPHERE

EXPLORE **3** FEATURES
UNTIL PRESENT
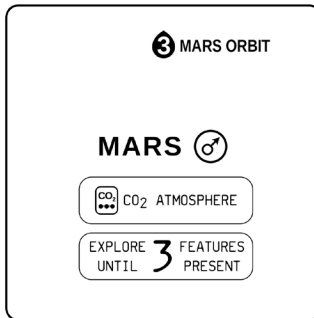
*An interesting version
of Mars that can have
three features present.*

says "explore until two features present", and it has fewer than two feature cards already present, when you land on Mars you may choose to explore a Martian feature.

When you explore a feature, draw one feature card from that location's deck and place it at the location card, face up. If the feature card describes dangerous local conditions (such as "spacecraft destroyed") those conditions apply immediately. If there are no feature cards left in the deck for a location, nothing more may be explored there.

When you explore with the help of a pilot aboard *any* spacecraft in the same location, you may draw two feature cards instead of one.* Choose one to explore, placing it face up as usual, then put the other one back at the bottom of the deck, face down.

TYPES OF FEATURES

There are three types of feature cards: conditions, points, and components.

Many features describe LOCAL CONDITIONS, such as the presence of valuable minerals or oceans of dust. If you reveal a feature card that describes local conditions, leave it at the location card for the rest of the game.

> POINTS **B**
> LIQUID WATER

The top of a feature card shows which type it is.

Some features, such as interesting geological formations, are simply worth POINTS for whoever discovers them. If you reveal a feature card that is just worth points, take it for yourself; it counts towards your score just like a completed mission. Collecting a feature card for points does not count as completing a mission, therefore no agencies receive a payout.

Some features are COMPONENTS that you can pick up from the surface. Like samples, they have a mass, and they can be collected using a working probe, working capsule, or healthy astronaut. As they do not have a damaged side, feature components cannot receive damage.

*   *   *

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* Any agency's pilot (even one working for a joint venture) may provide this benefit, if that agency agrees. This benefit is not cumulative — using one pilot to aid exploration has the same effect as using more than one pilot.

The number of features listed on the location card is the total number of feature cards that may be revealed on that location at any given time. Once a feature card is picked up (for points or as a component) it no longer counts toward the total number of features present.

For example, consider a Mars location that allows two features to be present. You explore the first feature on Mars and it describes local conditions (valuable minerals), so the feature card remains with the location. You explore another feature and it is an interesting discovery worth some points, so you take the feature card for yourself. Now there is only one feature card still present on Mars. You explore again and discover a component, an interesting rock that is worth points if brought back to Earth. You pick this component up, and now there is still only one feature card present on Mars. You explore again and discover another local condition card, perhaps interesting caves. Now there are two feature cards present, so you cannot explore Mars any further.

ROVERS

A ROVER is a type of probe that allows you to explore without performing any maneuvers. Without a rover, a spacecraft on the surface of a body cannot explore any further unless it takes off and lands again.

If you have a spacecraft consisting of *just a rover* at a location with room for an additional feature, you may choose to explore. If there are any other components on board, the rover cannot be used to explore.

The *Rover* advancement is unusual, as it costs only $3, starts with five outcomes, and its outcomes are drawn two at a time. Whenever you attempt to explore with a rover, draw two outcomes together from your *Rover* advancement. If either one is a major failure, the rover is damaged. If both are a success, you may explore a feature just as if you had

ROVER
ADVANCEMENT

REQ. SURVEYING

START WITH
5
OUTCOMES

NONE LEFT:
AUTOMATIC
SUCCESS

$3

Draw 2 random outcomes when:
ROVER ATTEMPTS TO EXPLORE

2x SUCCESS	EXPLORE FEATURE, ROVER DONE FOR YEAR
OTHER	NOTHING HAPPENS, ROVER DONE FOR YEAR
MAJOR + ANY	ROVER DAMAGED

Rover advancement.

maneuvered to the location.* (Any pilot in the same location may assist as usual.) Any other combination of outcomes fails to explore a feature, but it also does no damage to the rover.

Normally a rover may only be used to attempt exploration once per year. If, however, either card is a major failure, the rover may be used again in the same year once it is repaired.

Note that a rover is a type of probe, allowing it to collect samples, survey (with the *Surveying* advancement), or do any other sort of task a probe can complete.

LIST OF FEATURES

If you explore a feature and have any questions about it, find the letter code on the feature card. At the end of this book is a list of features, sorted by their letter code, describing the effects of each one. If you do not wish to learn the contents of the feature decks in advance, do not consult this list until it is necessary.

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*   Whenever you need to draw an outcome from an advancement but there is none to draw, it counts as a success. Therefore, if your *Rover* advancement only has one outcome left on it, the second draw is always considered a success.

COMPONENTS

The shuttle is a very complicated vehicle;
it's the most complicated flying machine ever built.
And in the astronaut business, we have a saying:
"There's no problem so bad that you can't make it worse."

— CHRIS HADFIELD, 2014

HABITATS

Habitats are spacecraft components meant for long-term living in space. Radiation has no effect on habitats or on the astronauts within them.

> **KEY POINTS**
> - habitat abilities
> - building ground habitats
> - doctors use medical supplies
> - reusable rockets & fuel tanks
> - hydroponics
> - fuel generators

Any mission requiring you to bring a man back to Earth may be completed by bringing him to a habitat instead.*

There are two different habitat components: space habitats and ground habitats. Space habitats are usable as habitats at any time and in any location. Ground habitats must be constructed before use.

A ground habitat starts with its "habitat parts" side face up. At this time, it is not yet a habitat, merely a collection of parts needed to construct a habitat. At the start of a year, if you have habitat parts on the surface of any body (such as a planet or moon) along with a healthy mechanic, you may choose to flip the card to its "ground habitat" side. Once constructed, a ground habitat cannot be moved. Because ground habitats / habitat parts do not have a damaged side, they cannot receive damage.

Space habitats and constructed ground habitats count as capsules, allowing them to do anything a capsule can do: surveying a planet, collecting a sample, completing a mission requiring a capsule, etc.

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* Habitats do not replace Earth in any other way. Bringing a sample to a habitat does not complete a sample return mission, just as bringing a completed experiment to a habitat does not complete an experiment mission.

SUPPLIES & MEDICAL MODULES

The supplies of the base game are replaced with three new component types: food, medical supplies, and spare parts.

Food

At the end of each year, astronauts in space require food. One unit of food can be consumed to feed up to five astronauts. Food can be purchased on Earth and it can be made by hydroponics modules. (See *Hydroponics* on page 19.)

Medical Supplies

In the base game, doctors can heal all other astronauts aboard for free. In *Stations*, doctors must spend one unit of medical supplies to heal all other astronauts aboard.

If there is a medical module on board, doctors can heal all other astronauts for free just like in the base game; no medical supplies are needed.

Note that the incapacitated side of each astronaut card has no skill symbol. In other words, an incapacitated doctor is, temporarily, not a doctor.

Spare Parts

Mechanics can spend one unit of spare parts to repair all non-astronaut components on board for free, the same way supplies are used by mechanics in the base game.

REUSABLE ROCKETS

Most rockets are single use, consumed in a single maneuver. Stations adds two new reusable rockets: the powerful Space Shuttle and the tiny Daedalus rocket, along with large and small fuel tanks. Both of these rockets require the *Space Shuttle* advancement.

When a reusable rocket is fired successfully it consumes one fuel tank of the appropriate size: large fuel tanks for the Space Shuttle and small fuel tanks for the Daedalus rocket. (A reusable rocket cannot consume more than one fuel

tank for a single maneuver.) On a minor failure the rocket is damaged but the fuel tank is not consumed. On a major failure the rocket explodes, destroying the entire spacecraft.

In addition to providing thrust, the Space Shuttle is also a capsule with a heat shield capable of atmospheric entry.

HYDROPONICS

Hydroponics modules allow food to be produced anywhere (even on Earth). At the start of the year, each hydroponics module with a healthy astronaut present may attempt to produce one unit of food. Draw one outcome card from the *Synthesis* advancement for each hydroponics module. On a success, one unit of food is made. On a minor failure, nothing happens. On a major failure, the hydroponics module is damaged. (One astronaut can operate any number of hydroponics modules.)

FUEL GENERATORS

CO_2 available in the atmosphere.

Several different chemical reactions are known that can produce rocket propellants using carbon dioxide naturally occurring in the atmosphere.*

When a fuel generator is in a location with CO_2 at the start of the year, it may attempt to generate fuel, drawing an outcome from *Synthesis*. On a success, a small fuel tank is generated on board. On a minor failure, nothing happens. On a major failure, the fuel generator is damaged.

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* The Sabatier reaction is one that has long been considered for this purpose, as it consumes carbon dioxide and hydrogen to produce methane and water.

ASTRONAUTS

In *Stations* astronauts have slightly different abilities. Astronaut cards included in this expansion have different text that reflects these abilities, but all astronauts of the same type have the same abilities. For example, Neil Armstrong (a pilot from the base game) has the same abilities as Sigmund Jähn (a pilot from *Stations*).

SIGMUND
JÄHN

$ 5 EXPLORE TWO CARDS
LANDING +1
RENDEZVOUS +1

*A pilot from
Stations.*

As in the base game, pilots improve draws from *Landing* and *Rendezvous* by one step, but they also allow you to draw a second card when exploring (see *Features* on page 13).

Mechanics may spend one spare part to repair all damaged components on board. They also improve draws from *Life Support* by one step.

Doctors may spend one medical supply to heal all other astronauts on board. If there is a medical module on board, they may heal for free without spending any medical supplies.

SCIENCE MODULES & EXPERIMENTS

Science modules are mainly used to complete experiment missions (see *Experiment Missions* on page 7) but they are also used with certain features.

As you will discover, some feature cards (type J) are components that can be studied to convert them into points. This can be done by bringing them to Earth or by bringing them to a science module with an astronaut on board. (If you are using *Outer Planets*, this astronaut must be a scientist.)

ROVERS

(See *Rovers* on page 15.)

JOINT VENTURES

*It doesn't matter what country or what political
system you are from. Space brings you together.*

A JOINT VENTURE is a space agency formed by
other agencies working together. Unlike a
national space agency (such as NASA), a joint ven-
ture is not owned directly by a player. Each joint
venture has ten shares available, each one represent-
ing ownership of one tenth of the agency.

KEY POINTS
- limits on trade
- forming and using
  a joint venture
- trading shares
- dividing up points
  at end of game

Like other space agencies, a joint venture can
own money, components, and spacecraft, and it can earn points. Unlike other
agencies, a joint venture does not have advancements of its own and it does
not take its own turns, instead relying on its shareholders to perform actions
on its behalf.

TRADE

At any moment, agencies can be divided into two categories: TRADING and
NON-TRADING. At the beginning of the game, all agencies are *non-trading*.
This means that they cannot engage in normal trade with anyone.

All joint ventures are *trading* agencies from the moment they are created.
This means they can trade with any other *trading* agency, but they cannot
trade with any *non-trading* agency.

If an agency owns a share of any joint venture, it is also a *trading* agency,
allowing it to trade with all other *trading* agencies. For example, if NASA owns
one share of IRI, and CNES owns one share of ESA, all four of these agencies may
trade with each other — IRI and ESA because they are joint ventures, and NASA
and CNES because they each own a share of any joint venture.

There is exactly one type of trade that may involve a *non-trading* agency: a *non-trading* agency may give money to a *trading* agency in exchange for a joint venture share. That is the only type of inter-agency trade that *non-trading* agencies may participate in.

*   *   *

Along with other assets, point tokens may also be traded between *trading* agencies. Make change as needed. Completed mission cards and lost astronauts may not be traded.

FORMING A JOINT VENTURE

On your turn, you may spend $10 to form a joint venture. Set out the agency card for the joint venture. This is where you will put anything owned by the joint venture: money, components, completed missions, and point tokens. Set out the joint venture's spacecraft cards and tokens as well.

When the venture is first formed, you and at least one other agency must divide up all ten of the joint venture's shares between you in whatever fashion you agree upon. It is likely that you will request that other agencies contribute a portion of the $10 cost of forming the joint venture, but this is not required.

Any number of joint ventures may be formed during the game; the number of cards included in the box is not intended as a limitation.

TAKING ACTIONS

Joint ventures do not take a turn of their own. On your turn, if you own a share in a joint venture, you may use its assets as if they were your own, provided that the other shareholders approve your actions. If *any* shareholder vetoes an action you take with the joint venture's assets, you cannot take that action.* If the bank happens to own any shares, they will not veto your actions.

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* For example, if you attempt to give your own agency all the money held by the joint venture, the other shareholders might reasonably refuse to allow that action. If there are no other agency shareholders, though, you may use the joint venture's assets however you please.

Whenever you need to draw an outcome because of your use of joint venture assets, draw from your own advancement just as if you were using your own agency's assets.*

TRADING SHARES

Agencies may give shares to other agencies (generally for a price). However, joint ventures cannot own shares of joint ventures.†

If a joint venture has already earned points, its shares have value on the market. When you sell a share to the bank, you receive $1 for each point earned by the joint venture so far. (This amount is rounded down to the nearest $1, so if a joint venture has earned, say, 5½ points, each share can be sold to the bank for $5.) Shares sold to the bank can be purchased from the bank in the same way. The purchase price of a share is based on the current number of points held by the joint venture, which may have changed since the share was sold to the bank.

These rules apply even if a joint venture has a negative score. For example, if a joint venture has a score of –10, the bank would buy shares for $–10 each (meaning that you would have to pay the bank $10 to induce them to take one of your shares). If a joint venture has a score of exactly zero, the bank will not buy any of its shares.

DISSOLVING A JOINT VENTURE

If you ever own all ten shares in a joint venture, you must dissolve the venture and take all of its assets for your own agency. If the bank ever owns all ten shares, the joint venture is dissolved and its assets go to the bank.

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* Just as in the base game, if you fire a rocket that you do not have an advancement for, you immediately gain a copy of that advancement from the bank with a full complement of outcomes on it.

† This rule is to avoid a loop where a joint venture directly or indirectly owns shares in itself, making it more difficult to distribute points at the end of the game.

END OF GAME

At the end of the game, points earned by joint ventures are divided among their shareholders. As a joint venture has ten shares, the owner of each share receives one tenth of the joint venture's points at the end of the game. The bank cannot win the game, so any points received by the bank are lost. Tenths of a point are not rounded off.

EACH YEAR

Everything is becoming science fiction. From the
margins of an almost invisible literature has sprung
the intact reality of the twentieth century.

— J. G. BALLARD, 1930

Each year's events are mostly the same as those in the base game. Key differences include: production at the start of the year (hydroponics, fuel generators, and constructing ground habitats), mental health checks for astronauts, and end-of-year hazards.

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KEY POINTS

- production at start of year
- $30 funding per year
- mental health
- end-of-year hazards

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Note that in *Stations*, each *national* agency has their funding reset to $30 each year, rather than $25. Joint venture agencies do not receive any annual funding, nor do they lose any unspent funds.

- Production: hydroponics make food, generators make fuel, mechanics assemble ground habitats.
- Reset national agencies' money to $30.
- Check start-of-year missions.
- Players take turns, lowest score (not counting astronaut deaths) first.
- Free repairs on Earth.
- Astronauts need health, life support, and food (1 food feeds up to 5).
- Astronauts check for mental health. Single astronaut or more than half of seats full, roll per astronaut. Roll of 1: incapacitated.
- Remove a time token.
- End-of-year hazards.

START-OF-YEAR PRODUCTION

At the start of each year, certain types of production can happen. Hydroponics modules with a healthy astronaut present can produce food. (See *Hydroponics* on page 19.)

Fuel generators in a carbon dioxide environment can produce small fuel tanks. (See *Fuel Generators* on page 19.)

Mechanics on the surface of a body can convert habitat parts into a ground habitat. (See *Habitats* on page 17.)

MENTAL HEALTH

In the base game, you could safely send a single astronaut in a Vostok capsule all the way to Mars and back. In *Stations*, the mental health of your astronauts is important.

At the end of each year, after checking to see if astronauts survive, you check to see if they become incapacitated due to isolation or cramped conditions. If a spacecraft only has one astronaut aboard, or if more than half of all seats on board are occupied, roll the die for each astronaut on board. On a roll of one, the astronaut is incapacitated.

For example, if you have two astronauts in an Apollo capsule at the end of the year, you roll the die for each astronaut, as more than half of all seats are occupied.

END-OF-YEAR HAZARDS

In the base game, hazards only affect your spacecraft when performing a maneuver. In this expansion, certain locations have hazards that affect your spacecraft at the end of the year. End-of-year hazards are shown with a time symbol: ⧖.

*   *   *
   *   *
      *

LIST OF FEATURES

A Local conditions. When you discover this, roll a die. On a roll at or below the listed number, damage one chosen component on the spacecraft that discovered this. Other spacecraft are unaffected.

B Points. When you discover this, take the card. It is worth the number of points listed on it.

C Local conditions. This feature represents exploration that discovers nothing interesting.

D Local conditions. Any samples from this location (even ones that were collected before this feature was discovered) can be turned in on Earth at the start of the year for the amount of money listed. (This does not reduce the value of a sample that has its own listed value.)

E Component. A mechanic on board the same spacecraft as this object may convert it into: one spare part, two spare parts, or a probe. Upon doing so, give this card to another player's agency of your choice; they keep it with their completed missions as it is worth points to them. This card cannot be given to a joint venture, and you cannot give it to your own agency. If this component is not converted, it is not worth anything. It does not count as a local sample.

F Local conditions. Food may be collected freely at this location using a working probe, working capsule, or a healthy astronaut.

G Local conditions. Life is present at this location. All samples from this location contain life, even if they were collected before this feature was revealed.

H Local conditions. All spacecraft present at this location now or in the future acquire a particular condition, shown by placing an upside-down point token on the spacecraft card. The first time a spacecraft with this condition maneuvers to Earth, the agency owning it receives the points listed on this card. If a spacecraft with this condition separates in two, both resulting spacecraft have the condition.

I Component. On Earth, you may place this component with your completed missions, where it is worth the listed number of points. When you do so, receive one advancement of your choice (even if you do not have its prerequisites) with no outcomes on it. If you already have all advancements, remove all outcomes from one of yours. If you already have all advancements with no outcomes on them, congratulations!

J Component. If you bring this component to Earth or to a science module with an astronaut, you may place this component with your completed missions, where it is worth the listed number of points. (If you are using *Outer Planets*, the astronaut must be a scientist.)

K Local conditions. The space-craft that discovers this feature is destroyed. Other spacecraft are unaffected.

L Component. On Earth, you may turn this single component in at the start of the year for the amount of money listed on it.

M Local conditions. At this location, any mechanic may consume two spare parts to manufacture a new assembled ground habitat. This may be done any number of times.

*   *   *
*   *
*

SETUP Do not use *Supplies*. *Life Survey* goes on top of *Sample*, draw one random *Occupation*, draw random missions as below. Duplicate mission: add pts/10 rounded up to nearest ½.

EASY **6** EASY

NORMAL **6** EASY, **3** MED

HARD **4** EASY, **5** MED, **3** HARD

VERY HARD **1** EASY, **6** MED, **6** HARD

SUMMARY OF NEW RULES

MISSIONS Cannot complete both copies of mission. Astronaut flips *Experiment* at science lab. *Occupation* grants points for man at start of year. Joint venture (JV) completes mission: no payouts. JV cannot complete second of any mission. Lost astronauts: –2, –4, –6, etc.

FEATURES Conditions, points, components. On maneuver to explored location w/room for another feature, you may explore. Pilot at location lets you draw two, pick one, put other under deck.

HABITATS Return man to Earth or habitat. Mechanic builds ground habitat at start of year.

SUPPLIES/MEDICAL End of year, one food feeds five. Doctor spends medical supply to heal all. At medical module, doctor heals for free. Mechanic spends spare part to fix all non-astronaut components.

HYDROPONICS Start of year, hydroponics w/astronaut makes one food on success from *Synthesis*.

FUEL GENERATOR Start of year, generator in CO_2 environment creates small fuel tank on success from *Synthesis*.

TRADE Cannot trade unless you have any JV share or are a JV, but can buy share for cash. Point tokens can be traded.

JOINT VENTURE Spend $10 to form JV, must split shares w/other agency. On your turn, if you own share, you may use assets of JV, any shareholder may veto. Draw outcomes from your own advancements. JV may not own JV shares. May sell JV share to bank for $1 per point earned by JV, round down; buy from bank for same price. May not sell to bank for $0. Must dissolve JV and take assets if you own all shares.

EACH YEAR Production: hydroponics, fuel generators, ground habitats. Reset money to $30. Start-of-year missions. Take turns. Earth repairs. Astronauts need health, life support, food. Mental health (Single astronaut or more than half of seats full, roll per astronaut, 1: incapacitated). Remove time token. End-of-year hazards.