
DEAD LANDS™
HELL ON EARTH™
The Junkman Cometh

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Dedicated to: Dave Wilson, the man who put the "Marvelous" in "Marv."

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Posse Territory


DIE
DIE
DIE
SPANKY
STICK
IT!
POOF
FLA
RAZ

Techno-Shamans

Librarian's Note: The following conversation was removed from the data core of an inoperative cyborg. It contains much new information concerning the history and nature of junker "magic." I heartily recommend we dispatch a librarian to find Lazlo Huber and perform a formal interview.

Librarian Sterling Holmquist

I told you to quit following me!

I don't care who told you to talk to me—if you don't get gone in five seconds I'm gonna be wearing your guts as garters.

And quit waving that piece of crap around. You're making me nervous.

No, that thing doesn't look remotely like anything Gibson would build. Even if he did, he sure as Hell wouldn't have sent some snotnose kid to trail after me like a whiny puppy. Now make like an egg and beat it.

What do you mean, I owe him?

This is about that poker game back in Junkyard? That son of a...

Let me see that damn gun. Yeah, that's Gibson's work all right. Okay, so what do you want?

You want to be a junker? Jehosaphat, son, you look more like that elf who wanted to be a dentist.

Simmer down already, I always honor my debts—even if they are to one of the most ill-begotten curs to walk this God-forsaken rock.

Okay kid, you got yourself a teacher—a damn good one in fact. I'll tell you what, let's find ourselves a dry place to hole up—I don't like the looks of those clouds—and I'll tell you what being a junker is all about. If you're still interested when I'm done, we'll figure out how to proceed then.

But be warned, this ain't no daycare and I'm not going to be pulling any punches. If you're the weak-kneed type, I suggest you take a hike now and save us both some time.

A Junker's Life

My name is Lazlo Huber and I'm a junker. Don't make any wisecracks son, I'm not in the mood.

Junkers—that's what most people call us. I guess it's as good a handle as any other. Personally, I prefer the term "techno-wizard"—it's got a little more cachet to it—but if this were a perfect world I wouldn't know what rat tasted like, either.

Anyway, most people call us junkers. Why? Because we pick through the bones of civilization's carcass and pull out a hunk of debris here, a piece of junk there, and a load of crap over yonder. We mix it all together and you know what we end up with? A piece of junk. But it's a piece of junk that works—which is more than can be said for ninety percent of the tech that didn't get vaporized with its owners.

I think most people call us junkers because it lets them feel superior—as if they don't go scrounging through the rubble every chance they get, too. I don't mind, because I know the truth. I've seen the awe and fear in their eyes when I turn a pile of scrap metal into a tractor they can plow their fields with or a weapon they can use to keep the monsters at bay. And once I do that, they're willing to feed me and give me a dry place to sleep—provided I don't stay too long.

Why? The fear. People always fear what they can't understand. And when folks can't understand something, they always make up stories to explain it.

I'm sure you've heard them. Junkers deal with evil spirits. Junkers work with ghost rock—the same stuff that was in the bombs that leveled all of our cities (as if they'd turn down a free gallon of spook juice!). Junkers live at the edge of insanity; they can snap at any time. They should never be trusted.

I'll be the first one to admit that there's a grain of truth in these statements, but that's all. Yeah, we deal with spirits, but most of 'em—yes, I said *most*—are no more evil than that rusted hulk over there. Manitous? Well, yeah, there was a time when we dealt with those dark-hearted bastards, but those days are over.

You see, a better term for junkers is techno-*shamans*. We deal with the spirits, give 'em what they want, and they give us what we want—and that's often one and the same.

Don't let those backwards Old Wayers fool you—technology ain't evil. They're just upset because the spirits that let us work our brand of magic aren't impressed by a bunch of grown men hopping around shaking rattles. The spirits we deal with like chrome and steel, the low rumble of a V-12, fiber-optic data links, and going faster and farther than ever before.

Of course, the power these spirits give us didn't come without a price—a mighty steep one. The destruction of civilization. If it hadn't been for the Last War, most of the things I can pull off without breaking a sweat wouldn't even be possible. I gotta admit, that eats at me sometimes, but I get over it. After all, it's not like I was the one who pushed the button—my powers have helped people survive who might not have otherwise.

Yeah, I know there were junkers around before the war. I was one of them. If you know everything, what do you need me for?

Save your damn apologies. Never apologize, it shows weakness.

As I had started to say, things were much tougher before the war. Our ability to create or replicate high-tech items was limited and we risked our lives every time we attempted the process. The rituals and processes we used then were pretty archaic and had been little improved since R. Percy Sitgreaves first developed them back in the late 1800s. Sitgreaves could be said to be the spiritual forefather of modern junkers, so I'll start your first lesson there.

Turn Back the Clock

As a card-carrying member of the Sons of Sitgreaves, I know a bit about the history of junkers. So sit back, relax, and I'll tell you a tale of ambition, discovery, and a sinister plot by those guys everyone loves to hate, the Reckoners.

R. Percy Sitgreaves

I don't know when R. Percy Sitgreaves was born, but I do know that he died in 1876—badly.

Like many men of his period who were both educated and had money, Percy was a man of many parts. He was well-traveled and he had a number of hobbies he dabbled in. Two of these were the occult and inventing. Like chocolate and peanut butter, these were two great tastes that taste great together.

Hucksters

A gaming man, Percy bought himself a copy of Hoyle's Book of Games while in Europe. His sharp mind quickly spotted the encoded messages Hoyle had sprinkled throughout the book and deciphered them. These messages described the secrets of contacting the spiritual world, a place the Indians call the Hunting Grounds, and forcing the manitous there to do your bidding.

Back in the 1800s, a person who knew these secrets was called a huckster. These chuckleheads actually contacted the Hunting Grounds and challenged manitous to contests of skill and chance. Most Western hucksters played a hand of poker with the beasts. If they won, the manitous would help them perform some sort of magic. If they lost—or the manitou decided to cheat—the spirits would often lobotomize the fools. No wonder there aren't any around today. Of course, I think they're growing manitous bigger these days. Must be something in their diet.

The Reckoning

Percy played around with this some, but not much came of it until 1863 rolled around. As you probably know, this is the year that our Indian brethren dropped the ball and released the manitous and the Reckoners from the portion of the Hunting Grounds they had been imprisoned in. Once that happened, there were a lot more spirits for hucksters to play pat-a-cake with, and casting spells in this way actually became "practical."

Mad Scientists

The release of all these evil spirits—and make no mistakes, manitous are evil, I've got the psychic scars to prove it—had another effect as well. Suddenly inventors and tinkerers all over the world began to turn out incredible creations that were years ahead of their time technologically speaking.

How'd they do it? They didn't make dark pacts with the spirits or sell their souls to Satan or anything as dramatic as that—well, actually, a few did, but they were screwballs to begin with. No, most of them just sat in front of their drawing tables and listened to what they thought were their creative muses. Only it wasn't some Greek babe draped in gauze that was speaking to them, it was a nasty, fanged, carrion-breath-smellin' manitou whispering sweet nothings in their ears.

These knuckleheads quickly became known as mad scientists, a term most of them hated with a passion. It described them perfectly, though, for two reasons. First, many of them caught a glimpse of the creatures watching over their shoulders and went completely loopy—not that that stopped most of them from continuing to churn out invention after invention.

The second reason was that many of their creations completely defied comprehension. I've seen some of the old blueprints and I can tell you they are utterly maddening—provided you can decipher the inventor's scrawl enough to have any idea what he was up to—even to people like myself who routinely deal with the supernatural. You look at them and say, "Okay, this does this, and that does that, but there's no way in Hell the two of them together do *that!*"

Why'd the manitous do it? I'll tell you—just not right now. I'd be willing to bet you've never listened to one of those storytellers that are running around the wastes these days. You can't rush these things.

Smith & Robards

So, where was I? Right. Anyway, some of these mad scientists got together and had the bright idea that if they worked together, they could bring their creations to the masses and make a fortune in the process. They set up a shop in Salt Lake City, started selling their inventions, and Smith & Robards was born.

Never heard of 'em? Well, I'm not too surprised. You look like you couldn't have been more than seven or eight when the bombs fell.

The human zoo that was Smith & Robards was the cat's meow for quite a while. They did a brisk business for decades, even owned their own railroad. The company finally went belly up in 1962.

Job Interview

Percy wandered into Salt Lake City in 1871, just as Smith & Robards was getting off the ground. He thought it might be fun to work with some other inventors for a while, so he applied for a job. To his surprise, he got one.

A mad scientist works feverishly on a new project. He is blissfully unaware of the source of his inspiration.

And then nearly lost it. You see, he had no inkling about what being a mad scientist was all about before he started working there. While all the other eggheads he worked with ran around shouting, "Eureka!" all day long, he sat and doodled, waiting for inspiration to strike.

Finally, Robards gave Percy a week to come up with an invention or he'd get the boot. To avoid this embarrassment, he turned to the Hunting Grounds and the manitous he used to cast his huckster spells for assistance. To his surprise, the manitous were ready and eager to help. The very next day he presented Robards with his first mad science invention. It was a taser gun of some sort, I believe.

Something's Rotten in Denmark

The ease with which the manitous gave up the goods made Percy suspicious. Whenever he tried to cast a spell, he had to pull the manitou to the table kicking and screaming and then lay a whuppin' on it to get what he needed.

When Percy asked the manitous what was up, they just shrugged. No amount of arm twisting could get them to spill the beans. He finally abandoned the direct approach and used his huckster abilities to get some answers indirectly.

Was Sitgreaves really killed by the creature he called, "The Gorgon?"

What he discovered scared the crap out of him! The entire Smith & Robards complex was lousy with manitous. They swarmed over the place like some sort of evil bees, flitting from scientist to scientist, pollinating their minds with the mind-warping information they needed to create their incredible devices. He had discovered the mad scientists' secret!

The Road to Ruin

Percy noticed something else as he studied his fellow inventors. Something as disturbing as his first revelation. He saw a trend in the types of inventions his co-workers were making. Very few of these new devices were concerned with healing or improving the living conditions of the average human. Most of the devices which came out of Smith & Robards, Hellstromme Industries, and all of the small workshops scattered across the continent were bigger and better ways to kill, maim, and destroy faster and more efficiently.

Even devices which could be used to help people, like prosthetic limbs, were turned in this direction. A working artificial arm, for instance, was priced well out of the reach of most average people, making it unlikely that the factory worker who lost an arm on the job would ever get one. These things were bought by the gladiators who fought in the death sports which had become popular in Junkyard even back then.

Was this trend toward machinery of destruction deliberate or just the by-product of the manitous natural inclination toward death and mayhem? This question haunted Percy the rest of his life—foreshortened as it was—and he never did find an answer.

The Gorgon

It seems Percy stumbled onto something that he shouldn't have. You know, one of those things that Man Was Not Meant to Know, at least in the Reckoners' world view.

Not long after his startling revelations Percy found himself haunted by a creature he dubbed "the gorgon" because it resembled that bull-like creature of myth. The beast stalked him through the dark alleys of Junkyard and he felt it was watching him, waiting for him to make one last discovery before it trampled him into a thin, red paste.

The appearance of this creature caused Percy to make some changes. He quit his job at Smith & Robards and started a small printing company. He began devoting all of his free time to increasing his skills as a huckster. He did this both to have a chance of defending himself from the gorgon when it finally attacked, and in the hopes of finding an answer to the unanswered question: why were the manitous doing this?

Thaumaturgical Diffusion

Now listen up, because this is where the powers you're hoping to learn come from.

In the course of his studies, Percy developed the principal of thaumaturgical diffusion. I won't go into all the details now—we'll save that for a later lesson—but this basically allowed him to create hexes which gave him the ability to create small amounts of matter out of thin air. Not only that, he was able to have this created matter take on shapes and combinations which were working devices.

Aha, I just saw the light bulb come on. Maybe you'll work out after all.

Percy's efforts in this direction were a start, but they were far from complete. His hexes could make working devices, but they only worked for as long as he could force a manitou to channel arcane energy into them from the Hunting Grounds. As soon as the energy stopped, so did the device.

Foundations

Still, his work laid the foundation for what was to come, and you can see the roots of junker powers in the hexes he created. The most important of these was a hex he called "infernal machine." This spell allowed him to gather components in rough proportions to the amount needed in a real gizmo, zap them with some mojo, and get a working device. A highly refined version of this hex is the basis for nearly everything we do.

The roots of other powers can be seen in the work he did. The junker ability to create ammo goes back to his "grenade" hex, the power to destabilize other junkers' devices evolved from his "haywire" spell, the ability to repair our own devices came from his "jerry-rig" hex. And so on—there are lots of other examples.

Okay. I can see I'm losing you. Unglaze those eyes, and I'll move along. I'm warning you now, though, that you'll need to learn this stuff someday.

The Catalog

Percy was concerned that the information he had gathered might die with him. Given that he was being stalked by a mythical bull, he had reason to believe that his demise might be more sooner than later.

His company, Infinity Press, held the contract to print Smith & Robards' quarterly mail order catalog. Percy figured there was no better audience for his message than those who read the catalog, so he stole Hoyle's idea and encoded his hexes and the information about the manitous in the pages of the book.

Sitgreaves Vanishes

Not long after the catalog was published Percy disappeared. Nobody is sure exactly what happened to him, but we've got a few ideas.

The offensives launched in the fall of 1876 upset Sitgreaves tremendously because both sides relied heavily on mad science devices and the casualties were horrendous. The journals of the few converts he had indicate that he was so distraught over what had happened that he wrote a letter to President Grant. Shortly after, some men in long, black coats paid a visit to the offices of Infinity Press.

The details are hazy after that because Percy's followers scattered. All we know for sure is that he was taken to an Agency safehouse. Before the Last War, sources within the Agency unearthed some documents related to the destruction of an Agency building in Denver. The place was leveled and everyone inside was killed. One report mentions the discovery of abnormally large bovine hoofprints throughout the yard.

None of these reports mention Sitgreaves by name, so we can only assume from the timing and the hoofprints that Percy's gorgon finally caught up to him.

The Sons of Sitgreaves

When I say "we" and "our," I'm talking about the Sons of Sitgreaves, of course.

This group didn't become a formal organization until the World's Fair in 1889, but it can trace its roots back to the first few converts made by Sitgreaves.

Three of these, Lawley Surratt, Laura Carlton, and Montgomery Booth, played the largest role. Surratt and Carlton were both hucksters who

The first Sons of Sitgreaves meeting.

learned to invent using Percy's methods. Booth was one of the few scientists that Sitgreaves was actually able to convince of the truth about the source of his inspiration.

On The Run

These three disciples spent the next ten years on the run from operatives of the Agency. It seems they were wanted for questioning in the matter of the Denver safehouse. Despite the constant pursuit, they managed to stay in contact with each other and even refine Percy's techniques to some extent.

They first tried hiding out south of the border in the Confederacy, but someone in the Agency leaked information to their opposite number in the Texas Rangers and the trio soon had the southern law dogs after them as well. In desperation, they fled to Europe.

New Recruits

The group found a safe haven amongst the scientific community in Germany. More importantly, they found an audience receptive to their ideas. Mad science was not unknown in Germany, but it had not been embraced as wholeheartedly as it had been in the Americas. The sudden leaps of logic and sometimes-nonsensical scientific premises needed for mad science just didn't sit well with the orderly Prussian mindset of the German scientists. Many of them were willing to believe that this style of invention was instigated by evil spirits.

Despite that, the group grew rapidly and in a few years had almost thirty members. From their base of operations in Hamburg, the trio recruited scientists from all over Europe. Through correspondence, they even managed to recruit some American scientists from prestigious Ivy League schools.

In 1889, the three ringleaders finally decided that the time had come to return to North America. Before they did though, they wanted to formally organize the group and establish a charter and goals, so that if something should happen to them, their work would continue.

The World's Fair

Surratt was the leader of the group, and he decided that the most fitting place for the group to formalize its charter would be the World's Fair being held in Paris. Invitations were sent, and the first meeting of the Sons of Sitgreaves was called to order in October of 1889.

There, in the shadow of the newly-constructed Eiffel Tower, thirty-three men and women pledged themselves to continuing the work Sitgreaves had begun thirteen years earlier. The group established a charter, bylaws, and all of that other official-sounding stuff.

Goals

The group had two simple goals: use the new form of inventing pioneered by Sitgreaves to help out their fellow man; and find out why the manitous—who normally tried to eat any human they encountered for breakfast—were so willing to help mad scientists create their gizmos, especially when many of these gadgets were used against the creatures of the Reckoning.

These poor fools made a lot of progress toward that first goal, but they didn't have much success regarding the second one until it was too late. Hell, I'm gettin' ahead of myself again.

The Return

After the powwow in gay Paree, the three ringleaders returned to the US of A. They arrived in New York City without incident, but they found themselves in trouble before they even got to buy an "I heart NY" shirt.

It seems one of their "converts" in the US had been playing them for fools. Dr. Max Steinman of the Brooklyn Technical Institute had turned the first letter the group had sent over to the Agency. One of their field agents took over and played pen pal with Suratt for nearly two years. When the trio showed up to visit their "friend" they walked right into a trap and were arrested. There was no trial—they were just whisked off to an Agency facility.

Although the Civil War had ended, relations between the US and the Confederacy were far from normal. Both sides were engaged in an enormous technological competition. Each side was racing to develop bigger and better ways to blow the other up in case another source of disagreement raised its ugly head. Anything which might interfere with the progress made by the hordes of scientists laboring away in government laboratories—like the idea that the source of their inspiration was demons from the Great Beyond—was squashed flatter than Kansas.

Surratt and his companions were hauled off to a secure compound where they were subjected to all sorts of psychological and physical tests. They passed them all with flying colors, but the government still found them mentally incompetent and ordered them incarcerated until such time as they were deemed fit to be returned into normal society. Which would be never, as long as the government had its say.

Across the Pond

Despite the imprisonment of their leaders, the rest of the SOS members continued their work in Europe. The group tried to get some European governments to pressure the US into releasing the trio. Some of the members were highly respected scientists within their own countries and they had some success in getting their governments to lodge protests. Unfortunately, the US government responded by saying, "Who?" All their efforts accomplished was to draw the Agency's attention to the organization.

Afraid that the scientists might try to spring their friends or begin spreading its damaging message in a more public forum, the Agency sent operatives to Europe to track down the other members. Some members of the SOS were abducted and taken back to the US, some were hounded to the ends of the earth, and some simply disappeared without a trace. A small handful managed to cover their tracks and disappear among the network of radical groups scattered across Europe.

The Truth Will Set You Free—NOT!

Meanwhile, back in the States, the "Sitgreaves Three," as they were referred to in official Agency documents, were having their brains picked by some of the Agency's top officials. You see, the Agency knew the truth about mad science—some say as far back as 1878 or so—and it was dedicated to making sure that particular truth never saw the light of day. It wouldn't do to have the public know that the gadgets they had come to make part of their daily lives and upon which the nation's defense rested were the products of some Faustian deal with evil spirits. The resulting panic and unrest would be unthinkable.

This didn't mean the Agency wasn't interested in learning more about this though. The Agency scientists were fascinated by the hexes and inventing techniques Sitgreaves had created and the concept of thaumaturgical diffusion. The three captives were reluctant to share their knowledge with the Agency at first, but once it became evident they weren't going anywhere for a while, they decided that sharing might be the best way to convince their captors to release them.

Unfortunately for them, they were wrong. All three of them died in captivity, but their knowledge was preserved in the Agency's archives.

Rabblerousers

The European members who had escaped the Agency's net didn't remain idle. They began publishing leaflets outlining the dangers of mad science and handed them out to anyone who would take them. They eventually attracted a following which grew into the Pure Science movement. This group had members in all of the industrialized European Nations and lobbied for government investigations into all technology which could not be explained through traditional scientific methods.

The group's numbers swelled until it became a powerful political force on the Continent, and the organization's leaflets grew into a full-fledged underground newspaper. A small group traveled to the Confederacy and set up a press in Arizona with the help of Lacy O'Malley—one of the Tombstone Epitaph's top reporters. It didn't take long for the movement to set down roots in the Americas.

The Pure Science movement was in full swing before any of the world's governments realized the danger it posed. Once the rulers of the world woke up, they took decisive action. All across the globe the movement was branded an undesirable radical group out to upset the status quo. The movement was outlawed in most industrialized countries.

Pure Science

This obviously put a dent in the group's membership, but what finally nailed the lid on the movement's coffin was when Dr. Hellstromme issued his famous "Pure Science" essay in 1893. In it, he refuted all of the SOS's arguments about the nature of the "new science" and categorically denied that there was anything the least bit supernatural involved in the invention process. This set the minds of most people—many of whom had a couple of Hellstromme Industries gadgets in their homes—at ease, and ended the debate.

Am I keeping you up past your bedtime? Then quit yawning like you ain't slept in a week. I'll be getting to the juicy stuff in a sec. It's the people who don't have an appreciation for history that always make the mistakes that get the human race into jams like we're in now. If you're going to be a student of mine, you're going to learn to appreciate history if it kills you—and I mean that in a very literal sense.

The Cat is Out

Anyway, the movement was crushed but the damage had already been done. Enough people had heard the SOS's theory that the rumors about mad science never completely died away. Many well-meaning scientists stepped back, took a hard look at what they were doing, and realized that the "radicals" were right. Some found another line of work, some decided to stick their heads in the sand, and some secretly joined the Sons of Sitgreaves and worked to unlock the mysteries that he had uncovered. Some, unfortunately, used the knowledge for the wrong purposes and knowingly sought the manitous' help in quests for power and riches.

As World War I began, mad scientists were still very much in demand and the Pure Science movement had been discredited. Despite this the SOS had grown greatly, and had members or at least someone with a sympathetic ear in nearly every industrialized country in the world. The group was still outlawed, however, and those who belonged to it formed a secret network throughout the world's scientific communities.

World War II

All of this changed drastically in the 1940s. World War II was fought and the death toll was enormous, in part due to the incredible secret weapons that rolled out of Hitler's laboratories.

The German army fielded some of the most horrific killing machines ever seen on a battlefield, then or since. Many of them were not particularly efficient as war machines, but the carnage and terror they created more than made up for any battlefield deficiencies. Most of these contraptions were actually powered by the souls of innocent victims, killing them in the process. Prisoners of war, political dissidents, and Jews were all used like flesh batteries to power the Nazi war machine.

The Allies had their share of mad scientist gadgets on the battlefield, but none rivaled the Nazi inventions in their capacity to create sheer primordial terror in those who saw them. As the war progressed and began to turn against Germany, each invention which rumbled out of Hitler's underground labs seemed to outdo its predecessor. It's never been proven, because so many records were lost when Berlin was nuked, but I believe Hitler was trying to turn Germany into a Deadland and summon the forces of the Reckoners to aid his retreating army.

I guess it's kind of ironic that the weapon which brought the war to an end—the atomic bomb—was a product of traditional science.

Aftermath

Not all of the records were lost, however, and after the war it was learned that the Nazi scientists who had created these monstrosities had knowingly worked with the manitous. Not only they had they cooperated with the evil spirits, they had actually performed human sacrifice and other arcane rituals to bind the spirits into their devices. Thousands of prisoners had died in these rituals.

The Allied governments tried to downplay these discoveries, but the truth was so horrendous that it couldn't be completely hidden. War correspondents from the Tombstone Epitaph did considerable work in getting the story out to the public.

The public, of course, gobbled the story up and then rejected it. It was easy to believe that the scientists had done some unspeakable things, but to believe that some dark entity had actually responded to their rituals was a little farther than John Q. Public was willing to go.

Nevertheless, the whole thing left a bad taste in the mouths of those who heard of it. There were many who remembered the charges made by the Pure Science League and wondered. Mad science fell into disfavor in the post-war years and began a long decline from which it never recovered.

Return of the Pure Science

Part of this decline was also caused by a resurgence in interest in more traditional science. For decades the inventions of mad scientists had been much more technologically advanced than those created using traditional methods—much to the frustration of the manitou-challenged scientists. For many of the old-school scientists this only served as an inspiration to take their work to the next level. If those snake oil salesmen could do it, then by God, so could they.

In the post-war years, the gap between traditional science and the "new" science began to close. Mad science inventions still tended to be more spectacular, but those made by traditional methods were almost always more reliable and less likely to lead to the death or serious injury of the user. Many of the new inventions being turned out by the "old" science were nearly as wondrous as those made by the strange men with the wild hair.

Never Say Die

The disfavor into which mad science fell had little effect on one of its major proponents, Dr. Darius Hellstromme. Hellstromme was a poster child for mad science. He was well over 100 years old at this point and was only still in the Land of the Living by virtue of the artificial body he had constructed for himself decades earlier.

The good doctor (and I use the term in its loosest sense) was able to turn the public's newfound fascination with the old science to his own ends. His company, Hellstromme Industries, had long since branched out into many traditional industries, so the decline in sales of consumer gadgets had little effect on his financial empire (not to mention that his most important buyers of mad science technology remained the world's militaries, who weren't about to slow their orders). His biggest competitor in this area, Smith & Robards, were hit hard by the slump in sales, and Hellstromme was able to snap that company up at a fire sale price in 1962.

Modern science requires good eyes and a steady hand.

Behold, I am Become Death

After the war, the public was both fascinated and terrified by the power of the atom. The names of traditional scientists like Oppenheimer and Einstein became household words. (I'm not so sure that Einstein was a pure traditionalist. He scoffed at the new science, but I heard he dabbled in "intuitive inventing." Look at his hair, for Pete's sake.)

After decades in the spotlight Hellstromme was miffed by this turn of events. He decided to cash in on atomic power's mystique and started research into the mysteries of the atom. The world's foremost mad scientist was not about to dirty his hands with traditional science. He decided to prove that it was possible to use ghost rock as an atomic fuel.

Ghost-rock Reactors

This was easier said than done. For starters, no one had ever found any naturally occurring radioactive isotopes of ghost rock. It's damn near impossible to get a sustainable fission chain reaction with a stable element—you might as well fill your reactor full of Ho-Hos.

Hellstromme overcame this by building breeder reactors that created radioactive ghost rock. Regular ghost rock was used as shielding around a conventional reactor. After prolonged exposure to the reactor core, the ghost rock became heavily-irradiated and usable as an atomic fuel.

Hellstromme also had to overcome government interference. Atomic secrets were jealously guarded by the US government, and it didn't care for the idea of a private company moving into its stomping grounds. The officials charged with licensing new reactors dragged their feet and basically used every petty bureaucratic trick they knew to discourage Hellstromme's foray into the atomic arena.

Hellstromme solved this problem in typical fashion. Projects his company was working on for the military suddenly fell behind schedule and ran hideously over-budget. The government eventually got the message, and licenses for Hellstromme's reactors were approved.

The net result of all this was Hellstromme's research didn't show any real progress until the early 1990s.

Early ghost-rock reactor experiments were extremely dangerous.

Spiritual Energy

There was one other big problem that Hellstromme's scientists had to overcome before they were able to build a safe ghost-rock reactor, and it was a doozy. Every time they fired up a ghost-rock powered reactor, everyone in the vicinity died and people within a mile or so developed all sorts of strange and inexplicable mutations.

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The HI techs were baffled by this phenomenon at first. It was only after a few costly experiments had been run that the answer became evident. It was discovered that the reaction occurring in the core of the reactor couldn't be entirely explained by conventional physics.

After a reaction had run its course, there was only half as much ghost rock left as before it began. If all this lost matter had been converted to energy as Einstein's theories predicted, a ghost-rock reactor should produce absolutely incredible amounts of energy—but the first ghost-rock reactors produced about the same amount of power as a conventional reactor. The confused scientists could not figure out where all the lost energy was going.

The answer to this puzzle also uncovered the reason that being around these early reactors was a very bad idea.

It turned out that the theories concerning ghost rock's aethiferous (that means magical for newbies) qualities were correct. Portions of ghost rock's molecular structure consist of aethiferous atoms; atoms which exist in both the physical world and the Hunting Grounds simultaneously. When these atoms are split in a nuclear reaction the energy they give off is spiritual in nature and dissipates into the Hunting Grounds. This is where all the lost energy was going.

This energy was extremely dangerous to any spirits—like the human soul for instance—in the vicinity of the reaction. It was the spiritual equivalent of conventional radiation, and it had effects on the spirit comparable to the effects that regular radiation have on the body. Spirits exposed to large doses were often destroyed or severely warped by it. In living creatures these spiritual changes often manifested themselves as physical mutations.

Once the scientists discovered the truth, they were able to put up arcane barriers to protect themselves and those around them, and work proceeded more quickly.

Somebody Let Me Out of Here!

It wasn't long after this breakthrough that the scientists made another discovery.

The researchers had set up devices to measure the amount of spiritual energy being released by their reactors and found that the amount of energy coming out was much higher than their new theory predicted. There was another source of energy in ghost rock which had previously gone undetected.

The scientists put their noggins together and it didn't take long for the manitous to give them the answer. There were spirits trapped within the rock.

The same aethiferous atoms that give ghost rock all of its special chemical properties are also what gives the mineral its spirit-trapping ability. To a spirit, a chunk of ghost rock looks like an open portal to the Hunting Grounds, but any spirit trying to pass through the rock does its best bird-and-clean-window imitation. The spirit flows into the aethiferous rock and is trapped by the portion of it which exists in the physical world.

The only way to release a trapped spirit is to burn the rock. Unfortunately for the spirit, this can sometimes destroy it, because when the aethiferous atoms burn, they burn in both the physical and spiritual world and can harm the spirit. Releasing a spirit by burning ghost rock is sort of like using a flamethrower to free someone from a block of ice. It works, but don't expect your buddy to thank you if he lives.

When ghost rock is burned with flame, only a small amount of spiritual energy is released. This is usually not enough to be dangerous, although prolonged exposure can cause sickness or madness. Only the weakest spirits trapped in the rock are destroyed by flame burning; the rest are released to the Hunting Grounds in a process which is painful but not fatal (that's what all that wailing and moaning is about).

Burning ghost rock in an atomic reaction is another story. This process liberates enormous amounts of spiritual energy—enough to destroy all but the strongest spirits. Spirits which are destroyed in this way become spiritual energy themselves and feed the reaction.

Once this last mystery was unraveled, the mad scientists devised a way to trap some of the spiritual energy coming off the reactor. This new energy, which came to be known as G-rays (short for "ghost rays"), couldn't be used to power normal electrical devices, but research was undertaken to see what it could be used for.

The Bombs

Of course, it didn't take long before the idea got into Hellstromme's head that the effects of G-ray radiation could be used as a weapon. He set his best and brightest inventors to work on the idea and it didn't take long before they hit pay dirt. On April 9, 2045, the first atomic ghost-rock bomb was detonated.

As with any new weapon, this sparked an arms race as every nation that was a member of the Mushroom Club scrambled to develop its own version of these horrific bombs. Possession of ghost-rock deposits took on even greater strategic importance as countries looking to expand their ghost-rock bomb capabilities squabbled over them.

Armageddon Express

Those were exciting days for the scientists involved in building these weapons. Every day seemed to bring a new breakthrough in our understanding of how they worked. The size and yield of the bombs grew rapidly. Little did we know that our incredible "discoveries" were being delivered daily by a horde of manitous.

Yeah, I said "we." Don't look so shocked. I was a wet-behind-the-ears kid just out of college back then. I was overjoyed to be offered a job by Hellstromme Industries straight out of school, and then to be assigned to such a high-level project right off the bat had me floating on cloud nine. Looking back, I can't believe how incredibly naive I was, but hindsight being 20/40 and all that.

My involvement has weighed pretty heavily on my conscience since then. There were many times after Judgment Day that I came damn close to eating a bullet, but I decided that I wasn't quite ready to go to Hell just yet. I thought maybe I could use my knowledge to help out the survivors. I'll never be able to wash all of the blood off my hands, but maybe I can scrub them a lighter shade of red.

Anyway, as I was saying, those were heady days. Bomb design progressed so rapidly that sometimes we scrapped one design before it was finished because we'd come up with something better only days later.

Finally, on July 3, 2063, we unveiled the bleeding edge of ghost-rock bomb technology, the HI City-Buster. At the lab we had a Fourth of July celebration that left me feeling like a bomb had gone off in my head. It took me a few days to recover from this, so I didn't notice the change right away.

The Sound of Silence

When I came back into the lab on Monday, everyone was in a state of near panic. All throughout the Hellstromme Industries compound, projects had come to a grinding halt. Some scientists had already taken their own lives, and some had gone berserk and taken quite a few of their coworkers with them.

I didn't understand what the fuss was all about until I tried to get back to work myself. I had been working on improving the trigger housing for the City Buster. I might as well have been working on a new version of the Clockwork De-Moler. The plans on my drawing table were just so much gobbledy-gook. I thought at first someone was playing a prank, but when I asked around I discovered that everyone else was experiencing the same thing.

Cautious messages to other scientists outside of Hellstromme Industries confirmed that they were facing similar problems. No one seemed to know what was happening. No that is except old Ridley Velmer up on the fifth floor in the Consumer Products department.

Ridley Velmer addresses the Hellstromme Industries staff.

Ridley Velmer

While everyone else was wringing their hands in despair, good ol' Ridley came in everyday and continued plugging away on his Instamatic Hair Dryer design. Since no one else was getting any work done, it didn't take long for people to notice.

Dr. Hellstromme himself appeared in the lab one morning and confronted Ridley about it. It was obvious Hellstromme wasn't going to leave until he got an answer that satisfied him, so Ridley just looked at him and said as matter-of-factly as if he was reporting the weather, "The manitous have stopped talking."

We didn't see Ridley again for about a month. When we did, we were all in a massive auditorium and he was addressing us. He told us all about the true nature of mad science and that the source of all of our inspiration was evil spirits known as manitous. It took him quite a while to explain this concept because he was interrupted often by scientists who didn't take the news well. A few times the entire gathering almost erupted into a riot, but things quieted down pretty damn quick when two scientists tried to attack Ridley and were gunned down by the security guards.

Ridley told us that the only way to invent or build something by any way other than traditional means was to confront these demons and beat the information out of them in a psychic duel. This information went over with the crowd about as well as a lead balloon, but the blood stains in front of the stage kept everyone in their seats.

Once Ridley had said his peace, Dr. Hellstromme came out and addressed us. He told us that what Ridley had said was true and that it had been confirmed by other sources. He gave all of us scientists a choice: we could volunteer to learn this new style of inventing, or we could find a pink slip on our desk.

I still had a mountain of student loans to pay off, so I figured I'd give it a whirl even though I didn't believe a single word of it. Little did I know how much it would change my life.

Thaumaturgical Diffusion 101

Ridley couldn't teach all of us of course, so Hellstromme went in search of more faculty. He called in some favors from Congressmen who owed him and quietly got the legal status of the Sons of Sitgreaves changed. Once this news made it around the facility, five more people with Ridley's particular talent appeared on the staff.

I suspect there were a few more around, but many SOS members understandably harbored a grudge about the years of persecution at the Agency's hands. Some were also suspicious of Hellstromme's motives and adopted a wait-and-see attitude about this new turn of events. Looking back I can see that these were the smart ones. The members who outed themselves were looking to see their beliefs vindicated after years of skulking around the back alleys of the scientific community.

Ridley was a member of the Sons of Sitgreaves, of course. I was lucky enough to be assigned to his class, and he became both a mentor and a good friend.

It turned out I had a knack for hucksterism and I was soon whipping up small devices with a much-improved version of Sitgreaves' infernal machine hex. Many of the other scientists simply couldn't get their minds around the concepts Ridley was throwing at them and flunked out. Most of them left the company, but I saw a few of them again later over in the production area of the compound. That should have been a red flag for me, but at the time I didn't think anything of it.

The Sitgreaves Method

My success at learning the "Sitgreaves Method" saved my job, but it didn't do much toward increasing my productivity. Creating even the simplest of gadgets required me to spend hours mentally ambushing manitous and dragging the information I needed out of them. Not only was this time-consuming, but it was damned dangerous. More than once I tangled with a manitou that was more powerful than it seemed and left the Hunting Grounds with my brain in tatters. One particularly unsuccessful attempt sent me to the hospital, leaving me in a coma for nearly three days.

It also became apparent that no one was going to create a better mousetrap with this method. Everything my compatriots and I turned out was simply a variation of something which had already been done. It didn't take long for us to realize that the manitous weren't telling us anything we didn't already know.

I was part of a team along with Ridley that looked into this problem. After comparing the results of all our efforts since the manitous had clammed up, we discovered that not a single new unique invention had been created since July 3, 2063. It seemed as if the scientific knowledge the manitous had simply ended at this date.

Thinking about this now, I just have to sigh. There were so many clues right under my nose, and I missed them all until long after it was possible to do a thing about what was going on.

I can tell from your face that you don't see the connection either. July 3, 2063 was two hundred years to the day that the Reckoners returned to Earth. I don't think that was any coincidence. I think the Reckoners' plan had gone off exactly as they had envisioned it.

The First Junkers

After we presented our findings to Hellstromme, he commissioned our group to study the feasibility of inventing gadgets using the scientist's own knowledge and creativity together with the infernal machine hex. This project was highly classified and our design team was whisked away to a secure facility high in the Rockies.

Ashes to Ashes, Rust to Rust

We were all very excited about our new task, but we knew we had a formidable problem to overcome. To put it simply, devices created using Sitgreaves' hex only worked for as long as you could pump spiritual energy from the Hunting Grounds through them. The minute the energy stopped, the device crumbled back into its component parts.

Getting this energy required dealing with the manitous, and this was always bad news. The original infernal machine hex had undergone some major refinements since Sitgreaves first conceived it, but all this did was extend the duration of the hex. Instead of lasting a few minutes, a device created in this way could be held together for an hour or so. Not exactly something you could market to the public.

Repeating History

Our first approach to the problem was to try to find a way to force the manitous to provide a constant stream of energy to the device, through the use of some arcane bonding ritual. All I have to say is the human race is lucky that Ridley was running that research group.

We sent a request back to corporate headquarters for research material on the subject of bonding rituals. It took almost a month before the first material arrived: container after container of loose-leaf binders jammed full of typed notes. At first we were ecstatic—the material seemed to be exactly what we needed.

The rituals in the first batch of material we received were fairly minor stuff. We tried a few and had great success. Using them we could create devices and maintain them for hours at a time without any strain on the hex caster at all.

Despite the success, this approach just didn't sit right with me for some reason. Call me an old woman, but the notes we were using just gave me the creeps. There was something not right about them. The first thing I noticed was that the grammar seemed off. Nothing major, just strange idiomatic expressions sprinkled throughout the text. The diagrams of arcane sigils in the notes had obviously been photocopied from older documents; the copied pages were yellow with age and showed some crumbling around the edges. They also looked as if portions of them had been altered.

I shared my feelings with Ridley, and he agreed to look into it. In the meantime we forged ahead. The second batch of research material arrived and the team dug into it with gusto. Some of the rituals outlined in this next batch were a little harder to understand and a few of them seemed outright dangerous.

Before we had gotten too far into this new material, Ridley's request for information about the source of the documents was answered by headquarters. According to the lab in Denver, these documents had been obtained from the Agency. They were the research notes of a Sitgreaves follower arrested in the mid-1930s.

That answer didn't fly with either of us, so we decided to dig a little further. We ran some of the photocopied pages through the computer and analyzed the patches that looked as if they may have been altered. Whoever laundered the pictures didn't do a very good job—maybe he thought we'd be so overcome by success that we wouldn't look too hard. Whatever the reason, we hit the jackpot on the first page. The computer was able to pull fragments of handwritten notes out of the background. Notes written in German.

The second picture we ran through confirmed our suspicions. The computer found a big fat swastika stamped in the upper corner of the page. The notes had come from the Agency's files all right—the files they captured from the Nazi scientists!

Ridley pulled the plug on the ritual approach right then and there, and considered pulling the plug on the whole project. We discussed it, and came to the conclusion that if we stopped, Hellstromme would just find someone else to do it—someone who might not be as principled.

G-Rays

I'm glad that we continued our work, because what came out of it is one of the basic building blocks of junker technology.

We figured if we couldn't channel energy from the Hunting Grounds, maybe we could create our own. This led us to the work which had been done with G-ray collection.

To make a long story short, we devised a way to capture the G-rays released from burning ghost rock and store them for later use. This was the very first G-ray collector and spirit battery. Once we get down to nuts and bolts, I'll teach you how to build both.

Using spirit batteries, we were able to create devices which remained operational for as long as their batteries lasted. The drain—the amount of G-rays the device slurps down—of these early devices was incredible because the energy was actually holding the thing together.

We had made major progress, but the process still had a major flaw: we still had to duke it out with a beastie from beyond to kickstart the hex and get the ball rolling. We actually lost two members of our team to manitous.

Removing the manitous from the process was our next goal. It seemed like we were only one step from achieving one of the SOS' major goals: a system of supernatural invention with no strings attached.

The Big Secret

We never got the chance to take that step. Hellstromme was so pleased with our progress that he ordered us back to the main compound in Denver to teach our new techniques to the rest of the staff, most of whom had been sitting around with their learned thumbs up their butts, unable to create a damned thing.

It was while we were doing this that all the puzzle pieces that had been swirling right under my nose clicked into place and I finally saw the big picture. During some casual lunchroom conversation I learned that not all of the staff had been idle while we were gone. The techs in the production center had been busier than a one-legged man at an ass-kicking contest. New City Busters had been rolling out of the plant in a steady stream ever since we unveiled the prototype. Nothing else was currently being manufactured—just the new missile.

I recalled with horror the gibberish that had been on my drawing board when I recovered from my Fourth of July hangover. The schematic which had made perfect sense to me on July

2nd was a meaningless mess of lines to me on July 8. The only catch was that it was these very same drawings that the production guys used to assemble the damn things. If they were still building them that meant that they could read the blueprints. If they could read the blueprints, it meant that the manitous were still contacting them. The manitous wanted us to build ghost-rock bombs!

This little gem of knowledge hit me so hard I spewed my lunch all over the gal sitting across from me—pork barbecue, yuck. It was surreal, here I had just discovered something Man Was Not Meant to Know, and all I could think of was that I had blown my chance to ever score with Myra. Damn shame, she was a babe.

Early Retirement

The first thing I did was share my little epiphany with Ridley. He turned a pale green when I told him, but he kept his lunch down, thank God—he had a small office.

Our first impulse was to tell Hellstromme what we had discovered and demand he halt the missile production. After a little thought, we quashed that idea. Our boss was no fool; he had to know or have some idea of what was going on. The fact that the assembly lines were rolling meant that he didn't much care—he was going to make hay while the sun was shining.

After a little more thought, we did the only thing we could do. We got the Hell out of there before we were forcibly retired by the security staff. Our last act before skedaddling was to E-mail our discovery to everyone we knew to be a solid SOS member.

On the Run

The Agency came after us of course, but we managed to stay one step ahead of them. SOS members who had infiltrated the Agency's ranks kept us informed of both the state of the manhunt after us and the goings-on at Hellstromme Industries and other weapons manufacturers.

The news wasn't good. The phenomenon we had discovered wasn't limited to only the main Hellstromme Industries plant in Denver. All around the world, weapons factories that dealt in mad science weapons, and particularly ghost-rock bombs, continued to churn out their deadly products. The Agency was alarmed by the trend, but had taken no action. It couldn't very well tell the President to halt production while all of the country's enemies continued to stockpile weapons.

Ridley Velmer: Freedom fighter or terrorist?

We also learned that at some point Hellstromme had pulled some strings and the Sons of Sitgreaves were once again considered an outlaw organization. Many of our friends at Hellstromme Industries and elsewhere had been rounded up and imprisoned.

Freedom Fighters

We had achieved one of the society's goals, but there was little joy at the fact. We now knew what the manitous were after, but we still didn't know exactly what they planned to do with their toys. We had a pretty good idea, though—you don't make a bunch of nuclear missiles to use as paperweights.

Ridley and I did what we had to do. We met with other SOS members and decided to go on the warpath and try to undo some of what the Reckoners had wrought. The group divided up into small cells of spies and saboteurs.

During the day we supported peace organizations and groups for nuclear disarmament. At night we struck out at the links in the production chain feeding the US military's nuclear arsenal. Most of the bases with ghost-rock weaponry were too heavily

guarded to attack directly, so we hit mines, companies that made guidance systems, fuel trucks—anything that was in any way connected to the ghost-rock weapons program.

Our newly discovered abilities helped us with our sabotage. We could sneak the materials we needed for our mission past security guards as innocuous parts, and then assemble them into weapons or other damaging or useful devices with our hexes. Despite this, our losses mounted and the organization grew smaller on a daily basis.

Word got out about what we were doing and soon SOS members and concerned scientists throughout the world had taken up the cause. Brave men and women, including Ridley in 2076, sacrificed their lives trying to destroy the world's ghost-rock arsenal, but it was too little too late. The Last War began in 2078, and we could all see the handwriting on the wall. I lie awake some nights thinking that if I had just noticed the signs sooner, we might have been able to stop what followed. I know that's a load of bull, but a billion deaths weigh pretty heavy on your conscience.

Judgment Day

Hold on, I've got something in my eye.

Okay. I don't think I need to fill you in on how the war went. The bombs, some of which I helped design, fell, people died, and Hell came to Earth in the form of the Reckoners.

Judgment Day came and went, and to my surprise I was still drawing breath the day after. I remember not really knowing how to feel about that. I had been so sure that I'd be part of a radioactive dust cloud when the day came. I wandered in a daze for a couple of weeks, using my abilities to help out the refugees I came across.

The Times They Are a Changin'

For quite a while, the funk I was in prevented me from noticing that things had changed in the spirit world. I was still calling up manitous to get things done. I almost—almost—feel sorry for the demons I summoned back then. I had a real mad-on, and I wrung them out like wet dishrags and tossed 'em on the trash heap.

The spirits of junked autos haunt their last resting place: vainly searching for new bodies.

Then one day I was helping some refugees patch up their truck. I reached out into the Hunting Grounds to find a manitou to pound and noticed for the first time that all sorts of other spirits were flitting around near me. And it seemed as if they were trying to get my attention.

At first I thought that they might be the nature spirits an Indian friend of mine had always carried on about. I had never seen one of those before—they normally stayed as far as possible from us techno types. When I looked closely at these ones, though, I could see that they were definitely not nature spirits—at least not the types I had been told about. These creatures all varied in appearance, but they seemed to uniformly embody bits of modern technology. One crackled with electricity and was covered in swirling lines of zeroes and ones that hurt my eyes to watch, another had headlights for eyes and a mouth filled with gear teeth, and yet another had multiple limbs that all ended in various sorts of tools. No doubt about it—if these were something the likes of which I'd never heard of nor seen.

After my initial shock wore off, I pushed past them and found a manitou to whomp. I guess I must have zoned out for a while casting the hex, because when I finished, the folks I was helping were giving me some mighty strange looks. They thanked me, piled into the truck, and disappeared in a cloud of dust.

Tech Spirits

I spent the next year or so studying these new spirits. What I discovered was amazing, and is now the basis for nearly all junker technology.

Many Indians believe that whenever a person creates an object he imparts a little bit of his soul into it, giving the object its own spirit. Turns out they were right. The spirits I had encountered were the spirits of man-made devices.

Although I had never seen or even heard of these spirits before, they were nothing new. The Indians had dealt with these spirits for centuries and not even realized it. The reason for this was that the Indians worked with simple natural components and the spirits of the objects they made closely resembled the nature spirits they were familiar with. So much so, that these spirits still responded to the ancient pacts and rituals the Indians used to communicate with the nature spirits.

The Industrial Revolution

Meanwhile, across the ocean, Europeans were going through the spurt of technological progress known as the Industrial Revolution. New sciences and technologies were appearing on an almost daily basis, and the products of these processes were much farther removed from the natural order of things. Despite this, just like the simple tools of the Indians and the Europeans' primitive ancestors, these objects had spirits instilled within them by their creators. Unlike the spirits of the simple objects, these new spirits neither knew nor cared about the ancient pacts and rituals.

These new spirits—tech spirits, I like to call 'em—are very different from the nature spirits used by the Indians in a number of other ways. Nature spirits in one form or another have been around since the beginning of time, and many are extremely ancient. New nature spirits can come into existence through the natural cycle of the universe, but they owe their existence to no one.

Tech spirits, on the other hand, were created by man from man to serve man. There is nothing these spirits want more than to be useful to a person. Well, not all of them, but I'll get to those in a minute. Also, unlike nature spirits, new tech spirits come into being every time something is built.

Proper Care and Feeding

Good question! Yes, even items built in automated factories have spirits. That's because all manufactured goods have humans involved in their creation at some point, even if it's only as tenuous a link as a human building the machines which build the machines which build the machines.

The level of human involvement in the creation process affects the strength of the spirit at the time of its creation. A hot rod which was lovingly built by hand has a much stronger spirit and reflects more of its creator's personality than an econobox which rolled off an automated assembly. But if that econobox is bought by someone who maintains it well and cherishes it, the spirit can thrive and grow and someday rival that of the hot rod. Tech spirits seem to feed on the care and pride of their owner.

You've probably heard someone talk to his car while going up a steep hill, saying, "come on, baby, you can do it!" Don't think that that doesn't have an effect.

A cybernetic tech spirit contacts the physical world.

This Means War

If tech spirits have been around so long and there are so many of them, why didn't we know about them sooner? Good question—you've got potential, kid. That was the first thought that popped into my head once I realized what I was dealing with.

The answer is as simple as it is sad. Remember that I said nature spirits have been around since the beginning of time? Well, they saw these new spirits forming—spirits who refused to play by their rules—and decided they weren't going to let these newcomers play in their reindeer games. The nature spirits decided to go to war with their younger siblings.

The nature spirits had a couple of huge advantages over the tech spirits. First, there were more of them—lots more. The tech spirits who weren't bound by the old pacts didn't really begin to appear in any real numbers until the Industrial Revolution swept across Europe.

Second, the nature spirits could ambush the tech spirits when they entered the Hunting Grounds. You see, tech spirits are bound to the objects in which they were created. They have no ability to move around in the spirit world until the bonds between them and their objects are severed. This normally only happens when an object is destroyed, although it can sometimes happen due to abuse or neglect. Nature spirits, on the other hand, can flit around the Hunting Grounds all they want.

This led to extremely lopsided battles. A tech spirit would be freed from its device, enter the Hunting Grounds, and then immediately get jumped by ten or twenty nature spirits and torn apart. The early tech spirits never had the opportunity to band together for mutual support.

This went on for centuries. Even in the 20th and 21st centuries, with their abundance of hi-tech devices, the tech spirits continued to lose this one-sided war. The nature spirits were entrenched on the high ground and there was nothing the tech spirits could do to overcome their advantage.

The Old Ways

I've yet to meet a shaman who'll admit it, but I believe this spiritual war is where the Old Ways movement came from. If you're not up on your Indian lore, the Old Wayers renounced technology at the urging of their spirit buddies. In return, the nature spooks grant the Indians extra favors and whatnot.

I could be wrong, but it seems kind of fishy to me that when the Indians suddenly developed a fascination for the white man's flashy trinkets, and inadvertently the tech spirits contained within, the nature spirits just as suddenly said, "There's nothing to see here. Get back in your teepee."

The few shamans I've spoken to have said that they disliked cities because it was harder to contact the nature spirits there. They claimed it was because the spirits disliked the "unnaturalness" of the cities and stayed away. No, the nature spirits were there in the cities. They were just too busy running around squashing tech spirits every time a toaster caught fire or a car got totaled to listen to the shamans.

The nature spirits knew they couldn't allow the tech spirits to reach a critical mass, or they might suddenly find themselves in a stand up fight. So they went on ambushing tech spirits every chance they got. The few tech spirits that weren't destroyed within seconds of being released into the Hunting Grounds were too concerned with surviving to try to contact the physical world.

The Tide Comes In

Judgment Day changed all that. It took a nuclear war to blast the nature spirits off the high ground, but that's exactly what happened.

Each time a nuke went off, be it a conventional bomb or a ghost-rock bomb, the blast ripped through the target area destroying hundreds and thousands of buildings, vehicles, computers, and hair dryers, and liberating all the tech spirits trapped within them simultaneously. This created pockets of tech spirits which were able to band together and fight off the nature spirits that showed up to exterminate them.

Literally millions of tech spirits were dumped into the Hunting Grounds by the destruction wrought on Judgment Day. Overnight the nature spirits had a real fight on their hands. In the days following the end of civilization, the tech spirits from all the nuked cities fought their way through to each other and formed one giant band. They were fed up with being pushed around.

The Net

From what I've been told about the Hunting Grounds, they are pretty much what you make of them. What I mean is, the reality of the Hunting Grounds is determined by who's looking at it. My shaman "friends" tell me that the areas inhabited by the nature spirits are mostly serene pastoral scenes and the spirits of their Indian ancestors all hang around in idyllic little villages. How sweet!

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None of this really appealed to the tech spirits, so they staked out their own turf and set about reforming it in their own image. The result is that the portion of the Hunting Grounds that's now home to the tech spirits resembles a giant gleaming computer network straight out of the best sci-fi vid you've ever seen. If you ever hear a junker refer to the Net, that's what she's talking about.

The Net is home to millions of tech spirits. It's also a complete repository of all the engineering knowledge ever created by the minds of humans. If you know the right questions to ask and how to ask them, there's nothing of a technical nature you can't find out about on the net. Whether you'll understand the answer or not depends on how much gray matter—and experience—you have wedged between your ears.

Turf Wars

The battle between the nature and tech spirits is still going on today. The nature spirits aren't foolhardy enough to assault the Net—the gun spirits would have their balls for breakfast—but they still try to pick off newcomers to the Hunting Grounds before they can find safety with their brethren. They also keep an eye on the Net to make sure the tech spirits don't get any ideas about expanding their sphere of influence in the spirit world.

The tech spirits pretty much keep to themselves. They're not interested in expanding the Net for one simple reason: they don't like the Hunting Grounds and would leave if they could. The only real action they take against the nature spirits is trying to prevent them from ambushing newly released tech spirits.

Junker Tech

So, what does this have to do with junkers?

It's simple. Tech spirits were created to serve man. They are only truly happy when they are part of an object which fulfills this purpose. They hate living in the Hunting Grounds and want to come back to the physical world.

So we give them what they want.

Well, it's a little more complicated in practice, but that's the general idea.

Thaumaturgical Shell Game

The early devices we created using the upgraded version of Sitgreaves infernal machine hex were based on that principal I mentioned earlier, thaumaturgical diffusion. Basically, you laid out various materials in the rough proportions they would appear in an actual device, zapped the pile with some spiritual juice, and you had yourself a device for as long as you kept the mojo flowing. What was happening is that the spiritual energy was temporarily molding the materials into the components needed.

This process works, but it's extremely inefficient. It requires a lot of energy and produces only a temporary effect.

Thaumaturgical Substitution

Junker tech is based on a new principle we've labeled thaumaturgical substitution. What this means is that junker devices are built on the principle of "Hell, that's close enough." It allows

us to build machines out of parts that are similar to what a conventional device would require but are not quite right.

All junker designs start out based on solid scientific principles. As much of the device as possible is built from the appropriate parts. Unfortunately, these days it's next to impossible to find all of the parts and tools needed to make even a simple device, so the missing components are simply filled in with a piece similar to the missing one.

Presto Chango!

Now here's where the hocus-pocus comes in.

Instead of beating the snot out of a manitou for the spiritual energy needed to get the device up and running like in the old days, we just mentally contact the Net and let it be known that a new device is ready for activation. Before you can blink, you'll have tech spirits lined up to jump in the thing. All that's needed then is to select a spirit appropriate to the device and steer it into your creation. The spirit takes it from there, channeling arcane energy from the Hunting Grounds into your construct and adapting the substituted parts to the device's purpose.

Instability

This process is much better than our older techniques. It cuts the manitous out of the loop completely—always a plus—and it doesn't require a constant supply of spiritual energy to keep the device from falling to pieces.

Unfortunately, the process isn't perfect.

One of the biggest drawbacks is a phenomenon we call instability. All junker devices are inherently unstable due to the use of substituted parts. The construct is only held together by the tech spirit's force of will. The stability of any device depends directly on the strength of the spirit inhabiting it and how well constructed it is. The more substituted parts it contains, the more likely the device is to become unstable.

Nearly anything can happen when a device becomes unstable. The most common result is for the machine to stop working or fall apart, but I've seen a whole host of other weirdness. I've had unstable devices rip out of my hands and fly around the room, work even more efficiently than usual, and even vanish into thin air.

Don't snicker—every junker has a device go south on him every now and then.

Damaged Goods

Eliminating the manitous from the equation has made it safer to construct devices, but the process is still not without risk.

One of the dangers you'll face when you begin making devices of your own are what we call "damaged goods," or just "the damaged." These are tech spirits which spent a little too much time at ground zero of a ghost-rock blast and were warped by the intense G-ray exposure. Learning to spot these spirits is very important.

These spirits can be extremely dangerous. They may attack you or they may try to worm their way into your devices and cause all sorts of mischief from there. It all depends on the spirit. Some have merely been twisted by their experiences, but some have become down right evil.

Gun Spirits

Now, before I reveal any more of our trade secrets, I need to give you a warning. If you haven't heard a single word I've said until now, listen to what I'm about to say. It *will* save your life someday.

You showed up here carrying a gun made by my buddy Gibson, and I suppose you're going to want to learn how to make one just like it.

Uhhuh, I thought so.

I can teach you how to do that, but not until I think you're good and ready. Why? Because gun spirits are dangerous, that's why. Even worse, they're unpredictable. You never know when one might get squirrely on you and bite the hand that feeds it.

Remember how I said that tech spirits were created by man to serve man, and they're only happy when they're doing that? And then I said, "Well, not all of them." I was talking about gun spirits.

The reason gun spirits are dangerous is simple: they were made to serve man in killing man. Let that idea sink in and take root.

This little contradiction has made them a bit schizophrenic. You can never know when you encounter one whether it's in a serving mood or out for blood, so never, ever, let your guard down when dealing with one.

Ancient History

Gun spirits are some of the oldest of the true tech spirits. I've read of Indian tribes who actually dealt with some of the original gun spirits. That was back in the days when a gun

was as much a work of art as it was a tool. Guns in those days were usually the work of individual craftsmen and the spirits that inhabited them still responded to the Old Ways. Some of those spirits are still around today, looking to inhabit sleek, new, modern weapons.

Just because they're called gun spirits doesn't mean they only inhabit guns. The name simply comes from their origins. All technological weapons from tanks to fighter jets to attack subs are inhabited by these spirits.

Browser Spirits

That's the dangerous part of being a junker—now let me tell you about some of the perks.

First off, there's no health plan. Sorry.

However, if you get good at what you do, the tech spirits take notice and you'll gain a reputation. After a while you'll have spooks following you everywhere, hoping to be made part of your next creation—kind of junker groupies.

Sometimes you'll attract a powerful spirit that has done some butt kicking in the Hunting Grounds. In the spirit world two things can happen to you if you lose a fight: either your spirit is bound to the victor's service for a period of time, or you get eaten. The spirit which does the chowing down absorbs a portion of the defeated spirit's essence and sometimes picks up some of its lunch's powers.

Some of the tech spirits have fought back and gobbled up nature spirits, manitous, and even less savory things. These badasses have powers not possessed by other tech spirits. Number one among these powers is an ability to maintain a connection to the Hunting Grounds while inhabiting a device in the physical world.

If you can attract one of these spirits, take advantage of it. They can be built into devices and serve as a special link to the Net. They can surf the Net for you and find out information you may need to complete a project. That's why we call them browser spirits.

If you treat them right, they can do even more for you. Take Colt here for instance. Yeah, I named him. It was his idea—I think they like having names.

Anyway, I've never been much of a marksman, but when I'm in a tough scrape and really need to make a shot, Colt'll give my arm a little tug and make sure my sights are dead on. He's also helped me design a few weapons that Throckmorton would give his eyeteeth for.

Malpractice

It's possible to rack up a bad rep with the tech spirits. This usually comes from building a lot of slipshod, unstable devices. Being in an unstable device is a painful and sometimes fatal experience for a techie. If you get a rep for building bad devices, the tech spirits will avoid you in exactly the same way a person would avoid a surgeon who has a reputation for butchering patients.

Once that happens, the only spirits you'll find willing to hop in your gizmos are the damaged.

Even worse, if you mangle enough spooks, you may get a visit from some gun spirits. I knew a guy in Junkyard who had that happen to him—I think his name was Zeke. There wasn't enough left to bury.

Familiars

If you're really fortunate you may attract a familiar. This is an unusually powerful browser spirit that takes a personal shine to you. You'll know when this happens because the spirit initiates contact.

Even browser spirits can have a sense of humor.

Once it's got your attention, the familiar offers you its services. Whether you accept or not is entirely up to you, but I'll warn you now that it can be dangerous. The ritual that bonds you to the spirit can cripple or kill you, and it's possible to get hooked up with a spirit that's a few slices short of a full loaf. Nevertheless, you don't want to pass up an opportunity like that lightly.

'Cause if you do bond with a familiar, you've got a friend for life. Familiars can do everything browser spirits can do, and often a whole lot more. Exactly what depends on the type of tech spirit you've linked with and the body you build for it, but at the very least you have a direct mental link to the spirit which allows you to communicate with it at all times.

Yeah, I've actually had two familiars. The first one got toasted by some Combine bastards. The second one got involved in a dispute I was having with a syker and got blasted. I've had a few spirits offer themselves since then, but I've turned them down. Losing a familiar is a pretty gut-wrenching experience, and I just don't think I want to risk going through that again.

A junker and his familiar

Junker Society

I've given you the basic poop on our friends the tech spirits; I guess I should also fill you in on the shenanigans that your fellow junkers have gotten up to since the end of the Last War.

Junker Magic

I was pretty pleased with myself for figuring out what was up with the tech spirits, and I couldn't wait to share it with others. I came out of the self-imposed seclusion I had been living in and went looking for other SOS members to compare notes.

I ran into Gibson in Near Wichita back in 2083. He deflated my ego pretty quick. He'd figured out the same things as I had, and so had the three other junkers he encountered before he met me. It wasn't like the tech spirits had been playing hard to get—they were practically screaming for someone to pay attention to them. Hell, Gibson had even run into a gal who had been a traditional engineer before the war who'd made contact with them.

Since then I've run into a lot of junkers, and I can tell you they are a varied lot. Some were mad scientists before the war who had returned to inventing in a new way. Some had learned the methods Ridley and I had pioneered before the war and took to this new method like a Maze dragon to water. Surprisingly, some, like the gal Gibson met, had absolutely no experience with the supernatural prior to the war. All of these people had two things in common, though: extensive knowledge of science and engineering, and a desire to rebuild the rubble left behind by the war's devastation.

Lone Wolves

I noticed another thing about junkers in my travels. They tend to be loners. I'm not really sure why this is. Regular people avoid us because we spook them. I think the reason we avoid each other is for our own safety.

All scientists have their pet theories, and junkers seem to be abnormally attached to theirs. I can remember a few years back Gibson and I met up with a few fellow techno-mages in a little cantina down in Texas. After a couple rounds the shop talk started to turn ugly. Next thing I knew plasma bolts were winging past my head. I defended myself, of course. By the time the dust cleared we had leveled half of that town and the cantina was a charred shell.

I didn't know anything about it then, but I think Heston was Tainted. No way to know for sure, 'cuz he's six feet under now.

The Tainted

Quit cocking your head to the side, it makes you look like a damned puppy dog.

The Tainted. It's a fate you want to avoid.

Working with gun spirits can be dangerous even when they're in a good mood. Prolonged exposure to their warped view of things can rub off on you, and pretty soon you start believing everything can be solved through violence.

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Admittedly, these days, that's often the solution of choice, but once you start down that road there's no turning back.

The signs of the Taint are subtle at first. The junker becomes irritable and surly. He starts to focus exclusively on building weapons and only uses his non-weapon abilities in ways that augment the weapons he's built.

Of course, all of this continued contact with gun spirits only causes a snowball effect. The junker progresses quickly to the next stage. At this point his soul becomes so warped that ordinary tech spirits want nothing to do with him. This forces him to rely on damaged goods for any non-weapon projects. This stage of the Taint can be detected by any good browser spirit.

In the final stage, utter madness sets in. When this happens, most junkers start building some sort of "doomsday" device or begin scheming to take over the world. I call this the SPECTRE stage—you remember SPECTRE from the old spy movies, right?

There doesn't seem to be any way to reverse this process once it's begun. The only cure I've found is a .45 caliber lead injection to the forehead. I've had the misfortune to encounter two Tainted junkers since my cantina experience. I put them both down like dogs—there's enough madness in the world without our kind adding to it.

I know some have said that I've picked up the Taint, but don't listen to those stories. I've been a surly, cynical son-of-a-bitch since I was born.

Malcolm Rhinehart

As long as we're on the topic of misbegotten offspring, let me tell you about Malcolm Rhinehart.

Rhinehart was my boss. He was one of Hellstromme Industries' top weapons engineers and the director of the City-Buster program. He was, and still is, a ruthless bastard. I was too low on the pecking order to ever have any direct dealings with him at the time, but some of my superiors did. Those who disagreed with him disappeared. Some ended up working in God-forsaken places like the HI Arctic research station; others just vanished without a trace. Rhinehart had a lot of pull with Hellstromme.

Like the other cockroaches, Rhinehart survived the Last War just fine. He mastered the new junker technology without any effort. He began building and selling weapons to anyone who could pay and was soon a wealthy man by post-war standards.

A Match Made in Hell

Rhinehart's operation was noticed by another up-and-coming creep, General Throckmorton. He invited Rhinehart to join his team. Rhinehart packed up and moved to Denver. I'm not sure exactly what he did while he was there, but my guess is that he helped iron some bugs out of Throckmorton's cyborg program. Cyborg tech is closely related to junker magic—but that's a story for another day.

Unlike nearly everyone else who has worked for the Combine, Rhinehart avoided having one of those chips implanted in his skull. I don't know how he managed that, but he obviously had some serious pull with *el general*.

Rhinehart was in Denver until 2092. Then he packed up and left. How he pulled that trick off, I don't know. No one just stops working for the Combine, but he did. I've been told he left because he felt Throckmorton wasn't ambitious enough.

World Conquest or Bust

I don't know where he is now, but I know he's up to no good. I got an e-mail from him (my computer browser lets me send and receive messages across the Net) just the other day.

It was a long, rambling diatribe about the weakness of the human species and the need to ascend to the next level. At the end he invited me to join his design team for Project Transcendence and rule the world at his side. Luckily the tech spirits don't censor what's sent across the net or he wouldn't have received my reply.

The man has the Taint in a serious way. If it were a case of the glows, you could stick him on a pole and light Yankee stadium. You'd do well to stay far away from him. If I had any notion as to where he was I'd pay him a visit and put him out of my misery.

The Chamber

There's an exception to every rule. The Chamber is the exception to the junkers-are-loners rule.

If I seem less than respectful while I talk about these people, you'll have to forgive me. Their hearts are in the right place, God bless 'em, they just crack me up.

The Chamber was formed back in 2090. It began as a group of junkers who wanted to work together to study the full ramifications of the presence of the tech spirits in the Hunting Grounds, and to explore the depth of technical knowledge stored away in the Net.

These junkers are very interested in the mystical side of our science. They're very secretive about their research, but I know it has to do with actually entering and travelling the Hunting Grounds, something I've never had the least bit of interest in. The brief glimpses I've gotten of the place while working my magic have me convinced that I want to keep my feet planted firmly on good ol' Earth. I think the whole thing's an excuse for them to experiment with peyote and other mind-altering drugs.

What's more, I've heard they've been consorting with the enemy. They actually invited some Old Ways shamans to come and speak with them. It makes me shudder just thinking about it.

Gandalf the Gray

The Chamber members have taken the term "techno-mage" to heart. They certainly dress the part. Most of the higher ranking members wear long, flowing robes covered in arcane symbols. Many of the men have grown long beards. All of the members above the rank of initiate carry metal staves as a symbol of office.

Although they're all a little loopy, these people know their business. I've seen one of these staves up close and personal and it was a lot more than just a walking stick: it was a very slick bit of junker engineering. I'm not really sure how its owner managed to cram all of the functions it had into that small a space—and she wouldn't tell, even when I turned on the old Huber charm.

School's In. Invent Carefully

Living in an ivory tower is all well and good, but the Chamber members quickly realized that it wasn't going to put food on the table—at least not until they invented one of those stupid food replicator things from Star Drek.

The Chamber bigwigs decided to open up a school for prospective junkers. The school teaches not only the junker methods of invention, but basic classes in science and engineering.

The idea is to educate the masses and make sure the scientific knowledge of old farts like myself gets passed down to the next generation. One of the Chamber's fears, and I suppose it's not an unreasonable one, is that unless steps are taken to educate the war's survivors, in a few generations the human race might be plunged into another Dark Age. With the Reckoners running around playing Godzilla, it might be a Dark Age from which there is no recovery.

Tuition to the Chamber Academy is free, as is room and board. However, students are required to spend twenty hours a week working on the farm attached to the school. If they don't work no one eats.

SATs

Not just anyone can get into the academy. The staff have limited resources and don't want to waste their time on someone who just isn't going to get it. Anyone applying to attend the school must pass a whole slew of tests and an interview with the head honcho himself, Earl Whitlow.

Earl Whitlow

Earl Whitlow is the Chamber's High Master. I usually refer to him as the Dungeon Master just to see the vein in his temple throb.

Earl's a good guy and a close friend. As much as I like to rag on him, I support what he's trying to do with the Academy. The Reckoners might have disappeared over the Big Muddy, but who knows for how long. We need to be ready if they come back.

The next item down the totem pole from the Thigh Master—I'm sorry, I can't resist. (Don't get the idea you can get away with being disrespectful, though. Earl will blast you out of your shoes.) Anyway, just below the *High* Master is the Chamber Council. There are six council members. All major decisions are made by a vote of the Council. Earl breaks ties. The Council members spend most of their time doing research in their labs and occasionally teach some of the more advanced classes.

There are a few ranks below Council Member, but I can never keep them straight.

Ivory Towers

When I said the Chamber lived in an ivory tower, I meant that in more than the metaphorical sense. The Chamber's resides in an old, walled research facility high in the... Oops, Earl swore me to secrecy on that. Anyway, at first glance the place looks like an adobe monastery. This impression is quickly dispelled by the razor-wire, hi-tech surveillance cameras, and gun emplacements that top the walls.

Those are just the defenses that can be seen openly. Earl assures me that the place has many other "defensive systems" that can deal with nearly any threat. The Chamber also has a small army of armed security guards.

Quests

What good would a bunch of wizards in a mountain stronghold be if they didn't send people out on quests occasionally. The Council often sends lower ranking members out, sometimes with students and guards, on mundane tasks like gathering components or recruiting new students.

Less frequently they send members out on some task of great import like retrieving valuable books or relics. If the quest seems particularly dangerous, the member charged with the quest is sometimes authorized to hire heroes of good reputation to help out. The Chamber normally pays with junker tech. I've gone on a few of their snipe hunts (Earl waived the good reputation requirement in my case), and picked up some quality stuff.

The Sons of Sitgreaves

The Sons of Sitgreaves still exists as an organization and we're still recruiting new members, if you're interested.

The group's focus has changed some. The SOS' original goals have been pretty much realized. Not quite in the way we had hoped, but then you can't have everything.

The SOS has new goals. The first is to use our junker technology and skills to aid those who've survived the war. We've got a lot of help in that area: the Law Dogs, the Convoy, and the Templars, not to mention many selfless individuals.

The second is to find a way to defeat the Reckoners. Many of us believe that just as mad science was the key to sending the world to Hell, junker science might be the key to blasting the Reckoners back to whereever they came from. Most of us pre-war scientists are pissed about being used like that—we're looking for payback.

It's rumored that the Chamber maintains cybernetic sentries.

Signing Up

Any Taint-free junker is welcome to join. We're not a social club, though. If you join we're going to expect you to live up to the oath all new members swear. It obligates you to help those in need, especially fellow SOS members. Those who fail in their duties are dealt with—if you know what I mean.

I know that sounds harsh, but our philosophy is similar to that of the Templars: If you're not part of the solution, you're part of the problem—you know, tough love and all that. It's rarely ever come to that, though.

Junkyard

If you're looking to find a junker, Junkyard is the place to go. A number of junkers call this place home. Many of them own or work for the few industrial manufacturers in town. Most of the others have small shops in which they sell the items they manufacture.

Parts is Parts

The biggest of these shops is "Parts is Parts." This place is a warehouse that takes up almost an entire city block. The interior looks like some sort of cross between a swapmeet and a plane crash. Mounds of broken and mangled appliance, computer, and vehicle parts cover the floor, all sorted out by type and function. Just about anything you could possibly need to build a junker device can be found here—if you can pay for it.

The place is owned by Mary Beth Booker—"MG" to her friends. Her nickname comes from her love of making things that go boom, especially machine-guns. In addition to nearly any component under the sun, her shop also sells weapons of her design.

Don't even think about trying to pocket any of the stuff in the warehouse. MG's got a hearth browser (that's a sort of browser spirit that takes to houses and buildings) watching over the place. If you take one step outside the door of her place without paying for something you'll get a personal demonstration of some of her wares.

Inventory time at Parts is Parts.

The Opposition

Although few people want to room with a junker, most are fairly civil to us—especially if you've got something they want. There are some people, though, who go out of their way to piss in our canteens. I should warn you about a few groups, so you know what it is you're getting into.

The Neo-Luddites

These people have Cheese Whiz for brains, but that doesn't mean they're not dangerous.

This group can actually trace it's roots back farther than the SOS. The Luddite movement began in England around 1811. The first members were a bunch of textile mill workers who were honked off that their employers had replaced them with a bunch of powered looms. Their name came from the tale of boy named Ludlam, who according to legend broke a loom to spite his father. Whether this brat really existed or not is anyone's guess, but the disgruntled workers went around breaking looms and making proclamations, saying that General Ludd or King Ludd had sent them.

They eventually got carried away and burnt down the house of one of the mill owners. The government got involved then, and strung up a few of the worst troublemakers. The movement died out shortly thereafter.

We're Back!

The movement revived again in the late twentieth century. The pace of technological progress was too much for some genetic throwbacks, and they revived the Luddite ideal of violent opposition to technology. This group of primates, composed primarily of people who couldn't program their VCRs, or who liked to whip open the refrigerator door really fast to see if they could catch the little guy who switched the light on and off, ran around breaking things and generally gumming up the works.

They didn't accomplish much other than getting a lot of innocent people killed. The Agency and the Rangers spent a lot of time chasing these yahoos down, but they multiplied faster than the Man could get the butterfly nets over them.

Strange Bedfellows

As strange as it sounds, the SOS and the Neo-Luddites were allies for a brief period. When we started our sabotage campaign against the ghost-rock bomb program, we relied heavily on the Neo-Luddites for bomb materials and intelligence. Their group had already been planning strikes against many of these targets and had assembled comprehensive files on them. The two groups actually went on a few raids together.

This strange coupling didn't last long. Once we had a few missions under our belt and we felt like we knew what we were doing, we cut our ties with these primitives.

Primitives on Parade

A lot of Neo-Luddites survived the Last War. Many of them lived in remote areas far from civilization, and they were able to avoid the worst of the bombing and the subsequent fallout. In the years since the war, some of these zipperheads have found each other and started talking.

One in particular, Avis Quinlan, has been traveling the countryside preaching the Neo-Luddites' new philosophy of purity through technological abstinence. He tells those who will listen that it was man's pride, and his desire to rival God in power through technology, that brought about his downfall. The Last War was God's way of punishing man for his pride.

Those who survived the war have been given a chance to atone for their sins. The only way they can do this is to forsake the trappings of modern society and return to a simpler way of life. In the Neo-Luddites' world-view any technology which was created after 1863 is verboten.

Quinlan has actually gained a frightening number of new converts. Many of the survivor settlements in southeastern Montana have converted to his warped theology. These groups have renounced modern technology in all forms and defend their beliefs with vigor. Of course, most of them were a few cans short of a six-pack anyway.

Amish with Attitude

In Quinlan's pantheon, junkers are one step below Satan. He tells his followers that our powers were granted to us by Old Scratch himself. Our ability to resurrect modern devices from the rubble is meant to test the Faithful's commitment.

In most Neo-Luddite communities, being a junker is a stoning offense. That's right, I said stoning. Don't go to Nebraska (that's where these boneheads hang out) if you don't need to. The Neo-Luddites especially hate Academy members because they seem to openly flaunt their powers.

Witch Hunt

Quinlan has commissioned some of his most ardent followers as witch hunters. I'll give you three guesses what their job is. That's right, bunky—hunt down junkers.

These devout Luddites travel the Wastes, on foot or horseback of course, looking for junkers to purify. When they find a junker, or someone using junker tech, they try to capture the poor sod if they can.

Those who are captured are in for a world of hurt. Non-junkers are tortured until they swear to never to use junker devices again, and then a large "H" (for heretic) is branded on their foreheads. If the hunters catch anyone with this brand using junker tech, they execute them on the spot.

Captured junkers are tortured until they renounce their ties to Satan, his minions, and the demon Technology. Then they are slowly burned at the stake.

Most witch hunters are loaded for bear with a wide assortment of old black-powder weapons and crossbows. Now, you might ask yourself how a joker with a rusted wheelgun is going to take down a junker sporting a plasma rifle in the 40 megawatt range. Well, it seems like the hunters faith in their "religion" gives them some sort of supernatural powers.

I've never encountered one myself, but I've heard stories of witch hunters who are immune to bullets or who can cause a weapon to malfunction. There must be some truth to these stories, because they've bagged some junkers I know in the past few years. If I ever run into one of these brainers, God had better have mercy on them, because I sure as Hell won't.

The Old Wayers

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Another region to avoid is the area that was once the Sioux Nations. This place is just crawling with Old Ways shamans. Okay, maybe crawling is a bit strong, but there are enough there to make your life extremely unpleasant.

As you might imagine, most Old Wayers don't care much for us techno-mages.

Gremlin infestations can range from annoying to deadly.

The nature spirits are still feeding them a line of bull and they're still gobbling it up. If anything, they've become even more hard core about their beliefs.

The reaction you're likely to get from one of these rattle shakers is unpredictable. Some want to use your skull as a candle holder, others will attack your browsers and let you pass unharmed, and others will have nothing to do with you whatsoever.

The ones who are openly hostile are easy to deal with—blast them before they blast you. The ones who attack you spiritually are the most annoying. They summon up some nature spirits and send them after your browser spirits. Often you won't know anything is up until one of your browsers shorts out.

I've learned how to deal with these bozos though. Almost all shamans have guardian spirits that hang around with them and grant them special favors. Open up some whup-ass on a shaman's guardian spirit and he'll bug out faster than a snowman at a summer barbecue. I always carry this sweet little number for such occasions. It fires pure G-rays and has a spirit sight scope.

The Only Good Shaman...

I don't want to give you the wrong impression: I don't hate all shamans—just Old Wayers.

Why? Haven't you been paying attention? They're siding with the nature spirits! Some shamans even helped them hunt down the tech spirits.

Look at it this way: If the Old Wayers hadn't gone along with the nature spooks, maybe they would have given up their crusade against the tech spirits and maybe, just maybe, we would have learned about them *before* the world went Hell. Who knows how that might have changed things. We might have been able to beat the manitous at their own game.

Enough wishful thinking. It just gets my blood pressure up.

Gremlins

I'm sure you've heard of gremlins. Yeah, cute little green critters. You won't think they're so cute once they muck up one of your creations.

These things lurk around on the Hunting Grounds just looking for a device they can screw up. You need to be on the lookout for them or they'll slip into something you're building and give you no end of grief.

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Gremlin infestations come in two varieties: the pain-in-the-butt type and the kill-me-now variety.

The pain-in-the-butt variety of infestation is the standard type that inventors and mechanics have had to deal with for centuries. The gremlins show up, make a device behave erratically—usually at the worst possible moment—and then they are either forced out of the device or they grow tired of tormenting you and leave.

The kill-me-now variety has only become possible with the latest form of junker magic. Every once in a while, a gremlin masquerading as a tech spirit will slip into a device you're building. Once this happens, lookout! The gremlin has complete control over the device and uses it to create as much mayhem and terror as it can before being exorcised or the object is destroyed.

Hold on just a sec, I've got a message coming in.

Aaahhh, crap.

Aw, it's nothing important. Just a weather report from Comsat.

The Combine

Where was I ? Oh yeah. Last, but not least, we've got General Throckmorton and his happy band of psychopaths.

Throckmorton has quite a bit of standard tech available to him through the Denver AI and the automated factories it controls. But as with most with most petty warlords aspiring to greatness, too much is never enough.

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Combine patrols are always on the lookout for junkers. Any they find are offered jobs. Those who refuse are offered a blindfold and a cigarette. I guess he really doesn't want us working for the competition.

Meat Puppets

There's only one reason I can think of that Throckmorton would need as many junkers as he's recruited. He's trying to resurrect Project Anubis.

I don't know all of the details. What I do know I learned from a deader I met in Kansas. No, not a corpse—one of those intelligent walking dead. The government had filled him full of cyber equipment and turned him into some sort of super soldier.

This guy was literally Hell on wheels. He was known throughout the area around Wichita as the Ghost Rider, and there wasn't anything he couldn't do with a car. Unfortunately, he used his incredible talents to terrorize the locals and run down dogs, kids, and old ladies.

My buddies and I got wind of what he and his gang were up to and decided to put a stop to it. To make a long story short, we had one Hell of a slam-bang fight and the Ghost Rider and his goons got the smelly end of the stick.

We blew the Ghost Rider's car to Hell and gone, but that tough old bastard lived through it. He was injured badly enough that we were able to capture him, though. I was curious about all the hi-tech goodies crammed inside of him, so I opened him up to take a look. I figured if nothing else, I could disassemble him and use him for spare parts.

Once I got poking around in his innards, I got quite a shock. Some of the hardware had the distinct look of junker technology. But this stuff predated the war!

In his head I found some really interesting stuff. He had a device that I later learned was called a spirit fetter. It basically kept the manitou that he shared his gray matter with under control. His fetter had a large piece of shrapnel embedded in it. I dug it out, did some hocus-pocus to fix the whole kit and caboodle up, and when he came to he was a different person—literally.

He had no idea who he was. The head wound that had let his demon out of the box had also scrambled his memories. He could remember some of his past. He had been a bodyguard and driver for some bigwig Northern Alliance general before the caacaa started flying.

Project Anubis

He didn't remember much about how he became a cyber soldier. He just remembers waking up dead one morning. He was filled to the gills with more electronics than you'd find in a hacker's apartment. The same tech that had been keeping his new manitou in line also made him completely loyal to his new masters. Fortunately—as far as he could recall—his new duties were pretty innocuous.

He eventually took off out of Kansas, headed west if I recall correctly. I guess he felt pretty bad about the things he'd done—even though he had no control over it at the time—and he wanted to start up a new life somewhere without all that baggage.

It scares me to think what Throckmorton could do with an army of undead cyborgs. They wouldn't be drivers and bodyguards, I can tell you that.

Hey, let me see that pistol Gibson gave you again. I want to show you a neat little feature he builds into all of his guns.

Wow, this things chambered for a 7.62 rifle round. Hell of a blast for a pistol—enough to ruin your whole day.

<BLAM! BLAM! BLAM!>

Well, well, look at that. Quite the electronics collection you've got in your own noggin there.

I guess you know all about Project Anubis, don't ya? My browser told me there's enough tech crammed into your gut to open an electronics store. Which is good, 'cause I feel like a little shoppin' spree.

So, who sent you? Throckmorton? Rhinestrom? You might as well fess up because I'll get the information out of you one way or the other. Heh.

Don't look at me like that, or I'll shoot out the one eye you've got left. Trust me, this is for your own good.

Hold on a sec, while I dig out my tools. This won't hurt... much.

Now where the heck did I leave that screwdriver?

Chapter Two:
Time to Make the Junkers

Now that you know a whole lot more about junkers and what they are up to, it's time to put all that knowledge to good use. Yup, that's right, time to make your very own techno-shaman.

We've altered some of the rules for creating junkers from the main rulebook, and we've also added a lot of new stuff. In fact, there's so much new character information, we weren't able to cram in the usual adventure into this book.

The Basics

For starters, all junkers must have the *arcane background: junker* Edge, at least 1 point in *academia: occult*, and 3 points or more in *science: occult engineering*.

Starting Goodies

Here's the first change. Two of the original powers from the main rulebook have been broken up into more specific powers, and we've added a lot of new powers. What this means for you is that your junker now starts play with one power or tool trick (see page 45) for each level she has in *science: occult engineering*.

A hero made under the old rules can purchase new powers and tricks up to his level in *science: occult engineering*. Heroes with the *damage* or *trait* power can trade them in for one of the new powers which have replaced them. See page 55 for a list of these new powers.

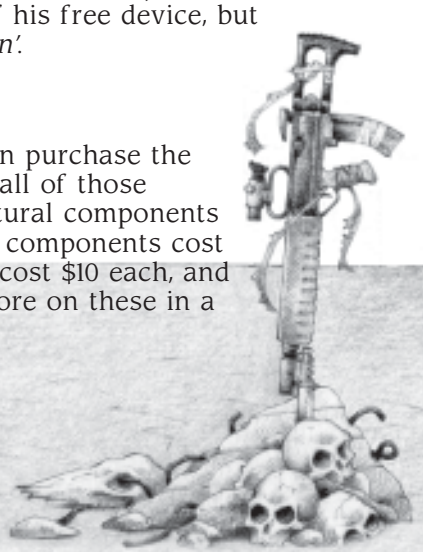
Your brainer also starts off with a free device. That can be any one of the devices listed in the *Hell on Earth* rulebook, or, if your Marshal is a generous soul, you can design a device that has a construction TN of 10 or less. This device must use only powers that your hero knows. Starting devices are assumed to have a Stability of 16.

Of course, no junker worthy of the name goes anywhere without a G-ray collector. Your hero gets a conventional G-ray collector for free—consider it a graduation present.

There's a new, more powerful G-ray collector available: the atomic G-ray collector. These use irradiated ghost rock and split the atom to get at that juicy spirit energy. If your hero knows the *reactor* power, he can choose to take an atomic collector as his one free device. If he doesn't know the *reactor* power, he must have begged, borrowed, or stolen it from another junker. He can still have it in lieu of his free device, but only as a 5-point *belongin'*.

Parts

Lastly, your brainer can purchase the stuff she needs to make all of those wonderful devices. Structural components cost $2 each, mechanical components cost $5 each, electronic parts cost $10 each, and chemical components (more on these in a moment) cost $7 each.



Tricks o' the Trade

That's just the basics. There's a lot more to being a junker than what was covered in the *Hell on Earth* rulebook. Now that we've got room to talk, we're going to fill you in on all the techno-mages' tricks o' the trade. We've repeated some of the information from the *Hell on Earth* rulebook, just so you have all the info you need to play your hero in one place, but most of the material is brand new.

Learning New Powers

There are two ways for your junker to learn new powers: he can find himself a human teacher or he can poke around on the Net and see what kind of information he digs up. Modern junkers have it easy—in the old days, tech-wizards used to have to browbeat the information out of manitous.

Learning a new power from a teacher (another junker, of course, who knows the power in question) takes a week of study. At the end of this period, the student must make an Onerous (7) *science: occult engineering* roll and spend 5 bounty points. If the roll is successful, your brainer has himself a new power. If it's failed he can try again after another week of study.

Surfing the Net for a new power is quicker but it's also dangerous. It takes only a day of contact with the tech spirits' stomping grounds to learn a new power. At the end of the day, your hero must make an Onerous (7) *science: occult engineering* roll and spend 5 bounty points. As usual, if the roll succeeds, your techno-mage has expanded his repertoire. If the roll fails, he can try again.

After each attempt to surf the Net, draw a card for your brainer. If a Joker comes up your hero has had a run in with some damaged goods or a cantankerous gun spirit. He takes 4d10 damage to the noggin.

Parts is Parts

To make things easy on you, we've broken the spare parts junkers collect into three big categories. You can thank us later.

Chemical: These are new. Chemical components put the bang in the bomb and the flame in the fire. They range from simple compounds like salt or alcohol to hydrochloric acid or genetically-tailored enzymes. Just so you know how much junk your hero is lugging around (and it's relative value), chemical components average about 8 ounces and are worth $7 each.

Electronic: These parts are all the electrical goodies that put the high in high-tech. This includes circuit boards, computer processors, shielded cables, LEDs and monitor tubes, etc. These pieces weigh in at 8 ounces to one pound and are worth $10 each.

Mechanical: These are all the little fiddly bits that make things go. This category includes things like gears, electric starters, fan belts, and watch mechanisms. Most mechanical parts average about a pound in weight and are worth around $5 each.

Structural: These are the pieces upon which the rest of a machine hangs. They can be anything from I-beams to fender panels to computer casings to shelf brackets. The average structural component weighs about 3 pounds and is worth about $2.

Note that the prices listed for these components are for people who have a use for them, like junkers. The average joe with no technical skills isn't going to give you a spent shell casing for them.

Finding Parts

So, how does your junker get her grubby mitts on these parts? Listen up, because they're not going to rain down from the sky. As your character travels the Wasted West, she needs to keep her eyes peeled for *scroungin'* opportunities. This could be a wrecked car, a hardware store, or a battlefield.

Whenever your junker spots a likely prospect, she better get to work. Tell the Marshal what sort of component your hero is looking for. It's possible to get multiple types of components from a single source, but each requires a separate *scroungin'* roll.

If the Marshal decides any of the component types are present, he sets the TN for the *scroungin'* attempt. If your hero succeeds, she finds 2d6 components (rerolling aces). Each raise on the *scroungin'* roll adds +2 to this die roll.

Each *scroungin'* attempt takes roughly 30 minutes plus 5 minutes per component recovered.

Scroungin' Guidelines

First off, most electronic components within 10 miles or so of a bomb crater have been fried by the bomb's EMP. Any obvious source of components near a major population center or a major highway is going to be fairly well picked over after 13 years. The TNs for these sources should start at Incredible (11) and run upward.

Larger sources should lower the TN. It's easier to find multiple components on battlefields littered with disabled vehicles than it is to find the same number on a single burned-out hover tank.

Making a Spirit Battery

Junkers store the power needed for their devices in special receptacles known as spirit batteries. These are much lighter than the collectors used to charge them (covered below) and don't generate any heat. They can't be used to power normal electrical devices.

All junkers know how to make these devices. Making a battery requires an ounce of ghost rock and 1 structural component for each 10 points or portion thereof that the battery stores. Assembling a battery requires a *science: occult engineering* roll against a TN of 3, plus the battery's power rating divided by 10. Round normally. It takes 10 minutes, plus 1 minute per point stored, to complete.

A 75-point battery requires 8 ounces of ghost rock, 8 structural components and a *science: occult engineering* roll against a TN of 11 (3+8). It takes 85 minutes to build.

Recharging Batteries

A newly-made battery, on one that's been drained, must be charged by hooking it to an operating spirit collector. A battery absorbs energy as fast as the collector it's hooked generates it. When recharging multiple batteries, divide the energy between them.

G-Ray Collectors

A G-ray collector is a junkman's bread and butter. Without out it, he has no way to tap the juice he needs to power his devices.

A collector consists of a ghost-rock furnace (or reactor) and a converter-coil assembly. Ghost rock burned in the collector releases G-rays which are trapped by the coils. This energy, measured in G-rays (GRs), can be stored in spirit batteries for later use.

Char-broiled or Nuked?

Collectors come in two forms: conventional and atomic.

Conventional collectors are hi-tech versions of the ghost-rock boilers used by the mad scientists of old. They burn ghost rock at high temperatures and collect the spiritual energy released. Only the weakest spirits trapped in the ghost rock are destroyed by burning, so only a small portion of the rock's potential energy is collected. The more powerful spirits are simply liberated and speed off to the Hunting Grounds.

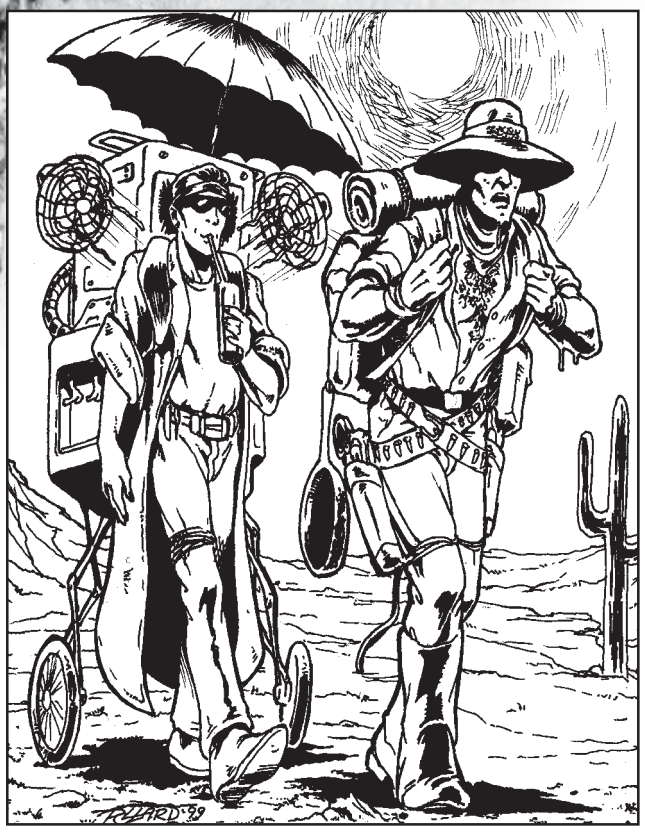
Atomic collectors use irradiated ghost rock as an atomic fuel. This is a much more powerful reaction which destroys all but the strongest spirits. Most of the spiritual energy in the rock is collected by this process.

Conventional G-Ray Collector

Components:
- **Chemical:** 0
- **Electronic:** 0
- **Mechanical:** 3
- **Structural:** 5
- **Ghost Rock:** 2 pounds

Power Output: 50 GR/pound of ghost rock

A conventional collector weighs about 10 pounds and is roughly the size and shape of a small gas grill. The collector's



furnace puts out a lot of heat while burning ghost rock. Most are equipped with hoses to draw cooling water from a nearby source.

When operating with a water supply, the collector remains cool enough to approach, although it's still hot (some junkers cook their meals on their collectors). Without coolant, the furnace gets so hot that anyone within 10 yards suffers 1d6 Wind per minute.

It takes about an hour to extract the energy from a single pound of ghost rock. The typical collector can charge one spirit battery at once.

Any junker with the proper components can build a conventional collector in a day. This requires an Onerous (7) *science: occult engineering* roll. The collector burns a single pound of ghost rock at a time, but it's not necessary to burn the entire pound in a single session.

Atomic G-Ray Collector

Components:
Chemical: 0
Electronic: 5
Mechanical: 5
Structural: 10
Ghost Rock: 10 lbs.

Power Output: 1000 points/pound of irradiated ghost rock

An atomic collector weighs about 30 lbs. and is the size of a large microwave oven.

Like the conventional reactor, it is equipped with coolant hoses. When operating with coolant, treat it as if was an uncooled conventional collector. If the collector operates without coolant, anyone within 30 yards suffers 1d6 Wind per minute and those within 5 yards suffer 2d6 Damage per round from the intense heat. Flammable objects in the area may catch fire at the Marshal's discretion.

It takes about 5 hours (200 points per hour) to extract all the energy from a single pound of ghost rock. The typical atomic collector can charge up to ten batteries at once.

Building an atomic collector is a little harder than building a conventional one. It requires the proper components, a week of work, and an Incredible (11) *science: occult engineering* roll. The junkman must also know the *shield* and *reactor* powers.

New Hindrances

There are a lot more things for a fledgling junker to buy during character creation, so we thought we'd help you out by providing some new and interesting ways to put the screws to your hero. No thanks are necessary.

Slipshod −5

Your brainer's early inventing career didn't go very well and he gained a bad rep with the tech spirits. Now whenever he tries to build something only the dregs of the spirit world show up to help out: damaged goods, cranky gun spirits, and the occasional gremlin.

Your junker suffers a -2 to all *science: occult engineering* rolls made to create devices and adds +4 to all backlash rolls. Your brainer also never attracts browser spirits.

This Hindrance can only be bought off if your junker manages to really impress the denizens of the Net. This requires your hero to build three separate devices with a stability of 20 or more.

Tainted −2 or −4

Your hero has techno-cooties.

Your techno-wizard has spent too many hours in the company of gun spirits, and their homicidal tendencies have started to rub off on her. Your hero has the early stages of the Taint.

The value of this Hindrance depends on how far gone your hero is. If your brainer is only in

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the first stage of the Taint, it's worth -2 points. If your brainer has progressed to the second stage of the Taint, the Hindrance is worth -4 points. To find out exactly what that means for your hero consult your Marshal. Suffice it to say, your character is going to be one unsociable bastard.

In addition to suffering the effects of the Taint, your hero suffers a -4 to all *leadership, persuasion,* and *tale-tellin'* rolls when interacting with any junkers who know of the hero's condition.

Your lucky brainer also picks up a possible enemy: the Sons of Sitgreaves' Ethics Committee. This group keeps tabs on your hero when it can, but won't take any action unless she progresses to the third stage.

Unschooled -3

Not all junkers learned their trade from another of their kind.

In the days following the Last War, some traditional scientists and many of the mad scientists who had lost their manitou buddies began to have dreams—dreams of building all sorts of fantastic devices. These dreams were inspired by tech spirits desperate to get out of the Hunting Grounds and back to work. The restless spirits slowly taught these people, all of whom had a natural talent for magic as well as a strong scientific background, the rudimentary knowledge they needed to perform basic junker magic.

Unschooled junkers cannot learn tool hexes or attract browser spirits.

New Edges

Now that you've squeezed out some more points with the new Hindrances, here are some new Edges to blow them on.

Additional Powers 2

Junkers who have been around a while have often learned a number of new powers and tricks. For every two points spent on this Edge, your hero can learn an additional power or tool trick.

Arcane Background: Huckster 3

Many of the junkers who existed before the war were trained hucksters. They had learned the secrets of putting the slap down on manitous and getting them to cough up spiritual power. Some of these junkers used this knowledge only to power their devices, but some learned more and could actually cast hexes alongside the best spellslingers.

Your brainer can cast hexes the old-fashioned way. He must be old enough to have been a practicing scientist prior to the war, generally 33 years old or higher. A younger huckster, at least with junker origins, would be extremely rare. Very few old junkers pass this knowledge on to their students—it's too dangerous and there are easier ways of doing things.

There's not enough room in this book to detail all about hucksters. To learn about them and their hexes, you'll have to pick up a copy of the *Deadlands: the Weird West* sourcebook *Hucksters & Hexes*.

One of the reasons there aren't many hucksters around these days is because the manitous are much stronger than they were—since the end of the Last War they've been eating well. This makes things difficult for would-be hexslingers. When casting hexes, the minimum hand for the hex is always one higher than listed. Having an aptitude of 3 or higher in a hex confers no advantage as far as resisting backlash. Finally, all backlash rolls suffer a +4 modifier.

Browser Spirit 1 to 5

Your junker has attracted the attention of a browser spirit. Browser spirits are rated in levels from 1 to 5. Purchasing a browser spirit costs 1 point per level. The exact effects of this are described on page 40.

Chamber Initiate 3

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Your brainer is a low-ranking member of the Chamber. This confers a number of advantages.

First, you know where the Chamber is. If you've been a good player and haven't read the Marshal's section, he'll fill you in.

As an Initiate of the Chamber you also have access to the Chamber's extensive technical library. Spending time on research in the library prior to building a device grants a +1 bonus to the *science: occult engineering* device used to construct the item for each eight hours spent studying.

Your hero also receives a metal staff as a badge of his membership. This staff is presented in a special ceremony which bonds it to your junker and prevents

anyone else from using its special functions and powers.

These special functions are chosen by you. The staff has a slot capacity of 30. You can fill these slots with powers as you see fit. The powers built into the staff must be ones which your junker knows. If your junker advances in rank within the Chamber, his staff may gain additional capabilities.

The advantages of Chamber membership are not without cost. All Chamber members are sworn to further the group's quest for knowledge and to obey the Chamber's leaders. Many of the Chamber's Initiates leave the Academy to wander the Wastes. Occasionally the leadership may call upon an Initiate to lead an expedition to recover a particularly valuable book or artifact or perform some other task to further the organization's interests. Failure to comply with one of these requests can lead to expulsion from the Chamber.

Familiar 5

Your junker has had the good fortune to attract a familiar. This is a particularly potent form of browser spirit. We'll discuss all of the effects a familiar has on your junker on page 44.

Browser Spirits

Browser spirits are powerful tech spirits which have fought nature spirits, manitous, and other denizens of the Hunting Grounds and won. In the process, they have absorbed the essences of their enemies and gained new power and insight.

These spirits are no longer pure tech spirits, but a strange hybrid. They still desire to serve man and they're loyal to their tech spirit brethren, but they are not in such an all-fired hurry to leave the Hunting Grounds. Even when they do, they can still maintain a link back to the spirit world.

These spirits like to watch over talented junkers. They assist the junker in building devices and work to keep him alive so that he can create quality homes for other spirits.

There are six primary types of browser spirits, and of tech spirits in general: appliance, building, car, computer, gun, and tool. Each tech spirit represents devices of its kind and has powers related to its type. Before we get into the specific spirit types, let's look at browsers in general.

Browser Powers

All browser spirits share a few common powers.

Power Levels

Browsers are rated from in levels from 1 to 5. This is a measure of both the spirit's power and its commitment to the junker. If the browser was bought as an Edge, the browser's level is determined by the number of character points spent on the Edge. Browsers attracted by the junker's work (more on that in a moment) always begin at level 1.

A browser's power level affects many of its other powers.

Surfing the Net

All browsers can surf the Net for information on topics related to their type. This ability is what gave them their name. This gives the junker a bonus on all *science: occult engineering* rolls made for powers associated with the browser. This bonus is equal to the browser's level.

A techno-mage can also find answers to specific technical questions within his browser's field. This requires a *Spirit* roll against

a TN set by the Marshal. Nearly all human technical knowledge is stored away on the Net. Sifting through it all to find what you need can take some effort.

Chip Powers

Each browser has powers which can be accessed by spending Fate Chips. The browser spirit's level determines the maximum level of chip power which can be accessed by the junker.

Level 1 browsers make only their white chip power available to the junker. The red chip power becomes available when a browser reaches level 3. It's blue chip power is available at level 4. The browser's legend chip power doesn't work until level 5.

Juice

Browser spirits can channel limited amounts of spiritual energy from the Hunting Grounds. A browser can channel one G-ray's worth of energy for each level it has. This energy can be used to power devices, but only those built and used personally by the junker. A browser can only provide energy for powers with which it is associated. A gun spirit can't run a beer cooler and an appliance spirit can't power a plasma rifle.

The Browsers

As mentioned above, there are six big categories of tech spirits in general, including browser spirits: appliance, building, car, computer, gun, and tool. The spirits often vary wildly within these categories, but for our purposes they all perform the same.

Below are the descriptions of the browser spirits and the powers they possess and/or can impart into their junkers. Each type of spirit has a few key concepts listed for it.

Associated powers are the junker powers which are normally associated with the spirit. The spirit can provide juice for, and information on, these powers. A browser's chip powers are generally limited to its associated powers.

Chip powers are special abilities that the browser can perform. Each is rated by chip type. These are activated by the junker spending a chip of the color appropriate to the power. It's possible to spend a higher value chip to activate a lower color power. You could spend a red chip, for instance, to activate a white chip power—but you don't get any change back!

Appliance Browsers

Associated Powers: Commo, Temperature, Rotor

Appliance spirits are the tech spirits most dedicated to serving mankind. They inhabited all of the labor-saving and entertainment devices which made life easier: stereos, refrigerators, microwaves, DVD players, etc. Appliance browsers still work to make life more comfortable and enjoyable for the junkers they serve.

White: The junker and his friends within 100 yards are protected from extreme temperatures due to weather for one hour. The junker has control of the thermostat and can have the spirit maintain any reasonable temperature. This power does not protect against damaging heat or cold from weapons or magic.

Red: All of the gear and clothing of the junker are cleaned and polished or pressed. This dries any moisture out of the gear and removes all toxins, parasites, radioactive dust, and embarrassing stains. This ability can also be used on the junker's friends.

Blue: The spirit peers into the past and harvests old radio and video broadcasts for the junker's entertainment. Radio broadcasts are simply generated out of thin air. Video broadcasts appear on a floating screen which can range in size from a watch face to the size of a small theater screen. The spirit can also play any recordings that the junker possesses. Each use of a blue chip activates this power for one day for each level of the browser.

The junker has the only remote control for this set. The volume can be set from a mere whisper up to a teeth-shaking concert level. The display has all the features of a top of the line entertainment system, including freeze frame, rewind, fast forward, picture-in-picture, etc.

The spirit isn't limited to just entertainment—it can collect nearly any open transmissions including military, Combine and the like. Trying to grab a specific transmission requires a *Spirit* roll by the junker. The TN for this starts at Hard (9) and is then modified by the amount of information the junker has about when and where the transmission took place.

Legend: The spirit completely repairs any one appliance type device to pristine condition (at least half of the original device must be present), or, when used in the construction of a device with an associated power, the device's Stability rating is increased by +6.

Building Browsers

Associated Powers: Shelter, Temperature

Each and every building constructed has or had a building spirit at its heart. Lodge-dwelling Indian tribes and early spiritualists knew the primitive forms of these spooks as hearth spirits. The power of these spirits can vary greatly because this category includes the spirit of the lowliest doghouse right up to the mighty twin spirits which inhabited the World Trade Center.

These spirits are dedicated to keeping those under their protection safe, secure, dry, and warm.

White: The spirit directs the junker to the nearest shelter.

Red: The spirit secures an area within a building 20 feet on a side for each level of the browser. The junker is immediately alerted if anyone other than those authorized by him attempt to enter the area. This can be a silent nudge, or the spirit can let out a piercing warning siren—junker's choice. The junker can mentally open, close, lock and unlock doors and windows within the secured area. This does not require an action.

This ability lasts for 24 hours.

Blue: This is a more powerful version of the red power. In addition to securing the area as described above, the junker can designate a number of locations within the area as trapped. This can be any window, door, or 5' x 5' section of floor. Any unauthorized person moving through one of these trapped locations is zapped for 6d10 massive damage.

This ability also lasts for 24 hours.

Legend: The spirit can temporarily manifest itself, creating a small building of standard construction (no fortified bunkers) no larger than 50' on a side. The interior of the building is laid out to the junker's specifications and is furnished. Any damage inflicted on the building is taken by the spirit, so if the structure is destroyed, so is the browser.

The spirit can only force its way into the physical world for a short time. This ability lasts for 1d6 hours (reroll aces).

Car Browsers

Associated Powers: Locomotion, flight

These are the spirits of all sorts of vehicles: cars, trains, airplanes, ships, what have you. They are referred to as car spirits simply because cars are far and away the most common vehicles on Earth. Cars spirits are also among some of the most powerful tech spirits for their size, due to the love and attention often lavished on them by their owners.

Car spirits are interested in getting people from place to place—preferably in the fastest way possible.

White: The junker gets a +4 bonus to all *drivin'* rolls for an hour.

Red: The junker's vehicle is temporarily souped up. It's acceleration rating is doubled and its Handling receives a +4 bonus.

Blue: Look ma, no hands. The spirit takes over the driving, leaving the junker free for other things like sleeping or fending off unwanted passengers. The junker can maneuver the vehicle with but a thought—this requires no actions. He can also give the browser directions on how to reach a destination and then sit back and take a nap. This ability is handy for getting around in vehicles which the junker has no clue how to operate.

If the browser needs to make a *drivin'* roll, assume it has 6d12 in the appropriate concentration of the aptitude. This ability lasts for 12 hours.

Legend: The spirit can restore any one vehicle to working order. The majority of the vehicle must be intact. The Marshal has the

final say on whether a particular vehicle can be restored. The car spirit only returns function to the portions of the vehicle needed to travel. If the gun on a hover tank is damaged, it stays damaged. Go talk to some gun spirits. This power also does not provide any go juice for the vehicle.

Computer Browsers

Associated Powers: AI, Targeting

These are the spirits of the world's computers and high tech electronics. Computer spirits tend to be the smartest of the tech spirits.

Computer spirits are interested in information—moving it, storing it, sorting it, and analyzing it.

White: This power gives the junker a limited E-mail ability. Each time the power is invoked, the junker may leave a message on the Net. The message may be sent to more than one person, but all recipients must receive the same message. If the target of the message has a computer browser of her own, she gets the message as soon as its posted. If not, the target receives the message the next time she makes contact with the Hunting Ground for any reason—building a device, casting a tool hex, etc.

Red: The junker can learn a new power from the spirits of the Net without fear of mishap. Do not draw a card to see if the junker is attacked. The time needed to learn the power is halved, but the player must still spend 5 character points as usual.

Blue: The computer can run a background check on an individual. If any computer records on the subject existed before the Last War, these are called up. In addition, if the subject has had contact with tech spirits since the end of the war, this is also reported.

This doesn't happen automatically. It requires the junker requesting the check to win a contest of *Spirit* with the target. The junker gets a bonus to his roll equal to the browser's level. The exact amount of information retrieved is up to the Marshal, but each raise on the roll should increase both the amount and the accuracy of the scan.

It takes 2d20 minutes for the browser to complete its check.

Legend: The computer browser calls upon its brethren on the Net for help, forming a colossal supercomputer. This can be used for a number of purposes:

It can answer any one question of a technical nature which the junker has been unable to solve.

When used while designing a device of any type, the item's Stability rating receives a +6 bonus.

It can decrypt an otherwise unbreakable code or scrambled message. The time it takes for this is 1d6 hours.

It can be used for any other purpose for which a colossal supercomputer might come in handy, like monitoring a satellite launch, scanning the heavens for alien transmissions, etc. The maximum time the collective spirits are available is 1d12 hours.

As always, the Marshal has the final say on what this ability can and can't do.

Gun Browsers

Associated Powers: Ammo, gunsmith, rocketman, Flash Gordon, weaponsmith

These are the spirits of the human race's weapons. Like building spirits they vary tremendously in power, ranging from the spirit of a tiny switchblade to the enormous destructive power of the spirits of the ghost-rock bombs.

Gun browsers aren't as twitchy as other gun spirits. Their contact with, and absorption of, many other types of spirits has mellowed them out. They can still be very dangerous to a junker's foes though.

White: The spirit gives the junker a +4 bonus to hit with all weapons for two rounds.

Red: The next attack the junker makes automatically hits its target. The junker may choose the hit location.

Blue: The same effects as red, but the weapon's damage is doubled.

Legend: When used in constructing a device with an associated power, the gun browser can have a number of effects. The junker can choose one of the following for each success and raise he gets on his *science: occult engineering* roll (no effect may be chosen more than once):

The weapon's Stability is increased by +4.

The weapon gives its user a +4 bonus to hit.

The weapon does an additional die of damage.

Tool Browsers

Associated Powers: Finish, Flow, Generator

Tool spirits inhabited the tools and machines people used to make other devices. These spooks not only desire to serve man, but also their fellow tech spirits.

As far as junkers are concerned, they are some of the most useful spirits in the Hunting Grounds. Tech spirits are the "go-to guys" of the spirit world. They help the junker create devices of all sorts.

White: The junker receives a +4 bonus to all *demolition, scroungin',* and *tinkerin'* rolls for one hour.

Red: The junker can cast any tool trick one time.

Blue: If the junker spends 1d4 hours tinkering on a device and succeeds at a Hard (9) *science: occult engineering* roll, the device's Stability is increased by +2.

Legend: If the junker spends 1d6 hours tinkering on a device, and succeeds at an Incredible (11) *science: occult engineering* roll, the device's Stability becomes 20.

Browser Shells

Browser spirits don't need a physical form to work their mojo. They normally hover nearby in the Hunting Grounds, waiting to be of use to the junker they have chosen to serve. That doesn't mean that they wouldn't like a physical form, though.

A junker can choose to build one of his browser spirits into a device containing one of the browser's associated powers. This has its pluses and its minuses.

On the plus side, the browser's effective level is immediately increased by +1. This can make a level 5 browser effectively a level 6. It also provides a safe place for the browser to hide if attacked by a nature spirit.

On the down side, the junker no longer enjoys a purely mental link with the browser. The browser's device must be in physical contact with the junker for him to use any of the spirit's special abilities. If the device is lost or stolen, the junker loses the browser as well until the device is recovered. If the device is destroyed, the browser is lost permanently.

Browsers choose to serve a junker voluntarily. A device inhabited by a browser will not function for another junker unless it is given voluntarily. Even then, the browser might not be thrilled about the change. Pull a card: if either Joker comes up: the browser has called it quits and returned to the Net. The device is now useless and both junkers lose the use of the spirit. No browser ever allows itself to be given to a *slipshod* or *Tainted* junker. Browsers never function for non-junkers.

Attracting a Browser

A browser can be bought as an Edge during character creation, or they can be acquired through play.

Browser spirits are attracted to junkers who do good work. In game terms, this translates into making devices with high Stability ratings. For every 300 slots worth of devices a junker builds containing one of a browser's associated powers, which have a Stability of 20 or higher, he gains a chance to gain a new spirit buddy.

Draw a card. If it's a face card, your hero has attracted a browser of the appropriate type. The new browser starts out at level 1. A junker may never have more than one browser spirit of each type.

Higher Levels

Once your brainer has acquired a browser, its level increases by one for every additional 300 slots of gadgets your hero builds with the browser's associated powers. Devices that don't meet the Stability 20 requirement don't count toward this total. The maximum level for a browser spirit is normally 5.

Marv builds 300 slots worth of weapons with the *gunsmith* power, all with a Stability of 20 or higher. He draws a card and gets a king. He now has a level 1 gun browser. After building an additional 300 slots of weapons (Marv's been a busy bee), the browser's level goes up to 2.

Familiars

Some junkers are lucky enough to attract the attention of a different sort of tech spirit. These spirits have become known as familiars because of their similarity to the creatures often kept by witches and other old-time magic users.

Attracting a Familiar

A familiar arrives at your junker's doorstep if a red Joker is drawn when checking to see if your hero has attracted a new browser. The familiar offers to serve the junker when it first appears. If the junker accepts, the familiar coaches the techno-mage through the ritual which bonds the spirit to the hero. A junker can never have more than one familiar at a time.

I Ain't Got No Body

Part of this ritual involves constructing a body for the familiar—a device, usually shaped like a small robotic animal, that gives the familiar a corporeal form. Building a body requires the *sensor* power and either *locomotion* or *VTOL*. If the junker doesn't know any of these, he's out of luck, and the familiar abandons him. If he's short just one of the needed powers, though, the familiar grants him the power for the duration of the bonding ritual.

All familiars desire bodies of Frame size 4. If there is room left after installing the required powers, other powers may be added to the body. It's not necessary to install any power sources. All powers installed as part of the bonding process are all fully-powered by the familiar.

Familiars have all the Attributes characters do. Draw cards for them, just as if the familiar were a character. The junker's player may assign the cards to Attributes as he see fit. The Marshal plays the familiar as an extra loyal to the junker.

The ritual is completed when the body is finished. Until that time, the junker can't create any other devices—his powers just don't work.

Familiar Powers

After the bonding is completed the familiar's powers take effect:

The junker has a direct mental link to the familiar. He can use this to communicate with the spirit as well as "see" through any of the familiar's *sensors*.

The familiar grants a +2 bonus to all *science: occult engineering* rolls made by the junker, regardless of the type of power being used.

The familiar creates an extra-dimensional space within itself with a slot capacity of 10+2d20. This can be used to install additional powers in the familiar's body. These additional powers require a power source.

Familiars never suffer instability.

Losing a Familiar

Losing a familiar can be hard on a junker. If a familiar is ever destroyed (reduced to 0 Durability), the junker experiences its death through the mental connection he shares with the spirit. This requires a *Spirit* roll against a damage roll of 3d20. If the damage roll is higher, the junker takes the difference between the rolls as damage to the noggin.

Even if the junker survives this damage, he loses the ability to use any of his junker powers for 1d4 weeks.

Tool Tricks

Junkers have a few other tricks up their sleeves. Some of the older junkers have used their huckster training to teach new dogs new tricks. They figured if the manitous could power their hexes maybe the tech spirits could also.

The old farts have had some success in this direction. They've managed to teach some simple tricks to the tech spirits. Few of them are as powerful or spectacular as the hexes of the old-time hucksters, but they are definitely useful.

Learning New Tricks

As we mentioned earlier, your junker can learn tool tricks as part of his starting powers. He can have one power or tool trick for each level of *science: occult engineering*.

New tricks can be learned in the same ways as new powers. Use the same procedures as listed for gaining new powers. The only difference is that new tricks only cost 3 character points each.

Using Tricks

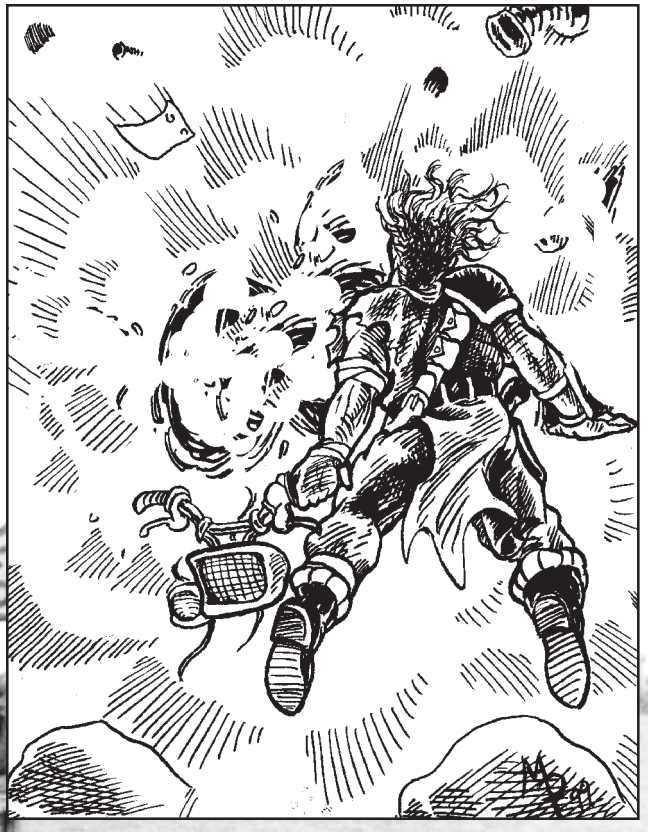
Tricks are powered by tech spirits. Tech spirits are still new to the Hunting Grounds and don't have all the abilities many of the more established spirits have, so they can't pull off the incredible feats that manitous and nature spirits are capable of.

To cast a tool trick, the junker must make a *Spirit/science: occult engineering* roll against the trick's TN. If the roll succeeds, the trick is cast successfully. If the roll is failed, the junker loses 2 Wind from the attempt.

Sorry, Wrong Number

Most tool tricks are powered by tool spirits, but a few are powered by other types of tech spirits. Regardless of what sort of spirit is *supposed to* power the trick, a junker occasionally contacts the wrong spirit. If he gets ahold of damaged goods or a cranky gun spirit, it can be painful.

Pull a card each time your hero attempts a trick, whether it's successful or not. If either of the Jokers are pulled, your junker has rattled the wrong spirit's chain. He immediately takes 4d10 damage to the noggin and the trick automatically fails.



The Tricks

Each of the tool tricks listed below has a number of important statistics:

TN is the Target Number the junker must make on his *science: occult engineering* roll to case the trick successfully.

Speed is the length of time it takes to cast the trick. If only a number is listed, this is the number of combat actions needed to cast the trick. Tricks which are unsuitable for combat have their speeds listed in minutes or hours.

Duration is how long the trick stays in effect. If the Duration is "1 round," the trick lasts until the beginning of the next round regardless of when the trick was cast in the previous round. Concentration means the trick stays in effect as long as the junker does nothing but take simple actions. A "#/time" means the junker must spend that much Wind on his first action of the defined time period to keep the trick in effect. For example, if the Duration is "1/round," the junker loses 1 Wind each round.

Range is the maximum range at which the trick can take effect.

Bar

TN: 5
Speed: 1
Duration: Concentration
Range: 10 feet

If your brainer hasn't buddied up with a building browser, *bar* can save his bacon in an emergency.

This trick strengthens an ordinary door and makes it much harder to break down. Anyone (or thing) attempting to force his way through the door suffers a -5 to his *Strength* totals.

Brace

TN: 5
Speed: 1
Duration: Concentration
Range: Touch

The original version of this handy trick was developed by Sitgreaves himself to help when he was building large devices alone.

This trick summons up a tool spirit to literally give your junker a hand. This "third hand" can be used to hold objects in place.

The object held or structure supported must be one which your tech-wizard could hold or support herself, and she has to hold the objects in place while casting the trick. After that, the huckster can move up to three yards away from the *braced* object and still maintain the trick.

A brainer trying to move a *braced* object must overcome the *brace* in a contest of *Strength*. The *brace's Strength* is equal to the caster's.

This trick doesn't work on living organic material. No *bracing* people to objects, brainer. Your hero could, however, brace a fellow's boot to the floor—if your junker can get a hold of it long enough to perform the trick.

Copy

TN: 5 +1 per copy
Speed: 1
Duration: Permanent
Range: 1 yard

Don't expect the appliance spirit powering this trick to collate too!

This trick allows the caster to make an exact duplicate of a piece of printed material. This copy appears on a piece of blank paper which must be provided by the caster. The caster can make multiple copies by increasing the TN.

Note that each casting of the trick only copies a single sheet of source material. This means each page of a book would require a separate casting. Forget copying *War and Peace*.

Debug

TN: 9
Speed: 10 minutes
Duration: 1 hour
Range: Touch

There are times when your hero needs to be sure that nothing is going to go wrong.

This trick requires your junker to spend ten minutes looking over the device which is the target of the spell. If the trick is successfully cast, the target device's Stability is increased by +2 for each success on the *science: occult engineering* roll used to cast the trick. This effect lasts for one hour.

Destabilize

TN: 11
Speed: 2
Duration: Instant
Range: 20 yards/*occult engineering* level

This is a very difficult trick to pull off. Normal tech spirits won't usually perform it, which means the junker has to deliberately contact a damaged spirit to cast it.

This trick attacks the bond between a tech spirit and the junker device it inhabits. If the trick is successful, the target device must make an immediate Stability check. Each raise on the roll to cast the trick lowers the target device's effective Stability by -2.

Dealing with damaged goods is dangerous. The junker casting this trick must draw two cards when checking for possible backlash.

Drain

TN: 7
Speed: 1
Duration: Instant
Range: 10 yards/*science: occult engineering* level

This is another trick which is handy for When Junkers Attack! A successful casting of this trick drains the target junker device of energy. Each success and raise on the casting roll drains 25% of the device's remaining energy, i.e. a success and two raises drains 75% of the device's energy. Always round up.

This trick only works against devices powered by spirit batteries. Devices which use conventional batteries or are powered by some sort of engine cannot be affected by this trick.

Finish

TN: 5 + Target Frame
Speed: Target Frame x 10 minutes
Duration: Permanent
Range: 1 yard

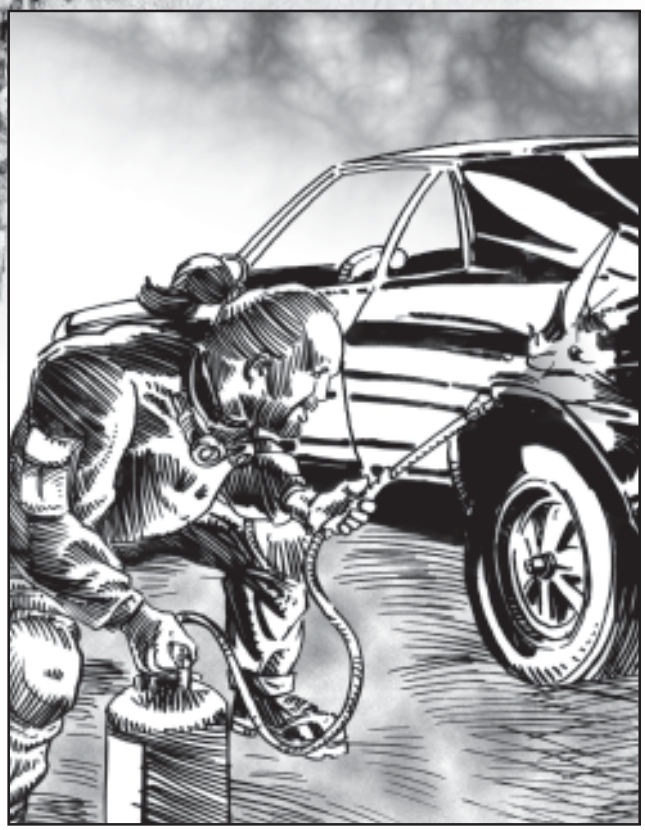
This trick lets your hero indulge her artistic side.

Most junker devices look exactly like what they were constructed from: random pieces of rusted junk. The *finish* trick lets your waster apply some magical spit-and-polish to his devices and shine them up like a new penny. Some junkers use this power to clean up the salvage they drag in from the ruins and sell the pieces as new.

This trick can be used on not only junker devices, but any piece of rusty junk your waster takes a mind to shine up. To do this simply figure out the Frame size of the device or object being spiffied up, and roll. The time needed to perform this power is 10 minutes times the object's Frame size. When complete, the *finished* object is clean of all corrosion and dirt and has been buffed down to the bare metal.

A basic use of this trick simply leaves your waster with a shiny new toy. If your junker likes the brushed steel look, he can stop here.

If your waster is willing to part with some chemical components, however, this power can be used to give any man-made object a custom finish—candy apple red or



gunmetal blue is up to your junker! If your waster is artistic, he can create nearly any pattern or picture he'd like—you can't go wrong with flames or a shark mouth. The success of this is up to the Marshal and probably involves some sort of *arts* roll. Using *finish* in this way requires chemical components equal to the target object's Frame size.

One important thing to remember is that *finish* only improves the appearance of an object, it doesn't actually fix anything. Your waster can apply *finish* to his broken blaster all day long, but it's still busted (although he might be able to pass it off as new to some unwitting buyer).

Jerry-Rig

TN: 7
Speed: 2
Duration: 1 minute/*science: occult engineering* level
Range: Touch

This is another trick which was originally designed by Sitgreaves.

Jerry-rig temporarily restores lost Durability to a damaged device. Each success on the roll to cast the trick restores 20% of the device's original Durability (round up). A device's Durability cannot be raised above that which it started with through this trick.

This trick works on both conventional and junker devices, but it won't work on any item which has been destroyed (lost of its Durability).

Light

TN: 5
Speed: 1
Duration: 10 minutes/*science: occult engineering* level
Range: 10 yards

It can be hard to see while working under a car during an eclipse.

Light creates a small sphere of illumination about the size of an average droplight. The sphere gives off enough light to illuminate an area about 1 yard in radius. The junker can move the sphere mentally with a Pace of 6. This requires an action.

Miniaturize

TN: 11
Speed: Frame minutes
Duration: Permanent
Range: Touch

Miniaturize gives your junker a chance to jam more techno-magic goodness in his devices. This trick is used on powers to decrease the number of slots they require.

Roll first to see if your junker was able to successfully install the target power. If this succeeds than make a *science: occult engineering* roll for the *miniaturization* attempt. If this succeeds, the number of slots a power requires is reduced by 10% for each success and raise. No power can be reduced to less than 10% of its original size. A power may only ever be *miniaturized* once. Use the power's original slot cost for determining needed components.

Failing a *miniaturization* attempt forces the target power to make a Stability check. Going bust while using *miniaturize* destroys the target power.

Miniaturize does not work with all powers in all situations. Some powers like *ammo, gunsmith, locomotion, shelter,* and *weaponsmith,* depend on the size of the device to achieve their intended effects. With *ammo* for instance, making smaller bullets reduces the damage they cause and defeats the purpose. A *miniaturized* vehicle isn't good for much except hauling clowns around. Your Marshal has the final say on what can and can't be *miniaturized.*

Mirror
TN: 5
Speed: 1
Duration: 1 minute/*science: occult engineering* level
Range: 2 yards

Junkers often tinker around inside machines packed with wires, pipes, and what have you. All this stuff can make it hard for your hero to see what he's working on.

Mirror creates a small, shimmering area about 2 inches in diameter that acts just like a mirror. It's great for seeing inside cramped spaces like compact car engines, or for looking around corners.

The caster can move the *mirror* anywhere within two yards of himself with a simple mental command. This requires an action to perform in combat. The mirror is insubstantial and can be moved through solid objects.

Reload
TN: 5
Speed: 1
Duration: Instant
Range: 10 yards

Gun spirits hate to see a weapon run dry. This is a 21st century version of an old huckster trick from back in the days when the six-gun was king.

When successfully cast, this trick inserts a fresh clip or battery into the target weapon. It can also reload empty clips, revolvers, and other weapons with internal magazines, like many shotguns, at the rate of 5 rounds per success on the casting roll.

This trick does not create ammunition out of thin air. The caster must have the ammunition, clip, or battery on her person somewhere.

Spit & Polish
TN: 5
Speed: 1 minute
Duration: Instant
Range: Touch

There aren't many laundromats open in the Wasted West, and a brainer often wears clothes strong enough to carry him.

Spit & polish summons up an appliance spirit to do some scrubbing. This trick cleans and presses all of the clothes worn or carried by the target, polishes his shoes, and buffs his gear.

Unfortunately, it doesn't do anything for the person inside the clothes. Better find a nice stream.

Tool
TN: 5
Speed: 2
Duration: 1 minute/*science: occult engineering* level
Range: Touch

The *tool* trick allows your techno-mage to make a tool from some raw material. A casting of this trick creates a single, unpowered hand tool. It doesn't create the tool from thin air, however—it needs some raw material to work with. This can be anything that is somewhat related to the tool being made. For instance, a rock could be transformed into a hammer, a jagged piece of metal could become a saw, and a pointy stick could be turned into an awl.

Weld
TN: 7
Speed: 1
Duration: 1 Wind/round
Range: Touch

The Last War has created a worldwide shortage of duct tape. This means your junker is sometimes going to have to hold her devices together the old-fashioned way: welding.

This trick allows your junker to weld without a torch. All that's needed is some sort of nozzle-like item to serve as a focus for the trick. The spray nozzle from a garden hose works perfectly for this.

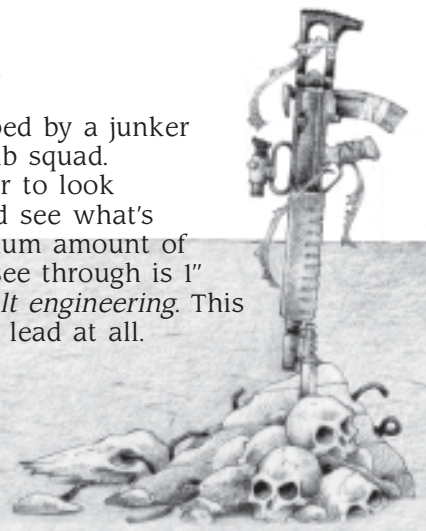
Once cast, the nozzle projects an intensely hot flame roughly eight inches in length. This flame is hot enough to weld metal together. It also cuts through flesh fairly well, too.

When used as a cutting tool it takes the flame 1 round per level of Armor the target has to make the initial cut and an additional 1 round for every 5" cut. When used as a weapon, the torch has a speed of 1, Defensive Bonus of 0, and does 3d10 AP 1 damage.

X-Ray
TN: 9
Speed: 1 round
Duration: Concentration
Range: 10 yards

This trick was developed by a junker who was once on a bomb squad.

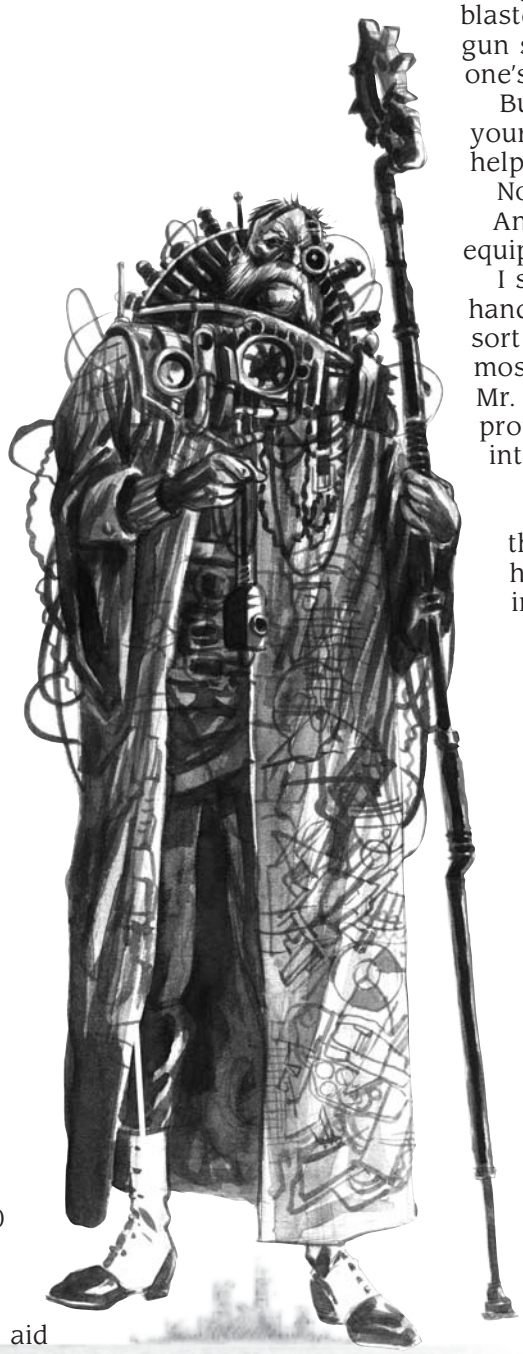
X-ray allows the caster to look through solid objects and see what's behind them. The maximum amount of material the caster can see through is 1" per level in *science: occult engineering*. This trick cannot see through lead at all.



Chamber Initiate

Traits & Aptitudes

Deftness 1d6
Nimbleness 3d6
Climbin' 1
Drivin': car 2
Fightin': brawlin' 3
Sneak 1
Strength 1d6
Quickness 3d6
Vigor 1d8
Cognition 3d8
Scrutinize 2
Search 2
Knowledge 2d12
Academia: occult 3
Area knowledge 2
Language 2
Science: occult engineering 5
Mien 4d6
Overawe 2
Persuasion 2
Smarts 2d10
Scroungin' 4
Survival 2
Tinkerin' 3
Spirit 4d10
Guts 2
Wind 18
Pace 6
Edges:
Arcane background: junker 3
Chamber Initiate 3
Mechanically inclined 1
Hindrances:
Pacifist: kills only in self-defense -3
Self-righteous -3
Obligation: The Chamber -2
Powers: AI, brains, commo, healing, sensor
Gear: A robe, a Chamber staff (Commo: transceiver, audio only, 10 channels, 100 mile range, scramble capable, Drain 9/Hour; Powerjack; 40-point powerpack, Stability 14), an aid pack (Healing: 3 wound levels, Drain 30, Stability 14), a can of Dr. Pepper, a knife, 5 electronic components, and $90.



Personality

(Sigh) No, I can't make you a blaster pistol. Dealing with the gun spirits is dangerous for one's soul.

But if you have any injured in your village I would be happy to help.

No?

Any tractors or farm equipment that needs fixing?

I see, you have a local handyman who handles that sort of thing for you. I would be most interested in meeting this Mr. McCallum. I may have a proposition which might intrigue him.

Quote: "Put me through to the High Master, please. I have something very interesting to report."

Repair Man

Traits & Aptitudes

Deftness 3d6
- Shootin' 3

Nimbleness 1d6
- Climbin' 1
- Fightin': brawlin' 3
- Sneak 1

Strength 1d8

Quickness 1d6

Vigor 3d6

Cognition 4d10
- Scrutinize 2
- Search 2

Knowledge 2d12
- Academia: occult 3
- Area knowledge 2
- Language 2
- Science: occult engineering 5

Mien 4d6
- Persuasion 3

Smarts 2d10
- Scroungin' 4
- Streetwise 2
- Tinkerin' 4

Spirit 3d8
- Guts 2

Wind 14

Pace 6

Edges:
- Arcane background: Junker 3
- Appliance Browser 3
- Extra powers 2

Hindrances:
- Big 'un -1
- Curious -3
- Greedy -2
- Intolerance: Luddites -2

Powers: Generator, locomotion, temperature

Tool Tricks: Light, miniaturize, weld

Gear: A toolbelt with an assortment of basic tools, an NA officer's sidearm, 30 rounds of 9mm, a beer cooler (Temperature: cooler, Frame 5, Drain 3/Day, 24-point battery), and $70.

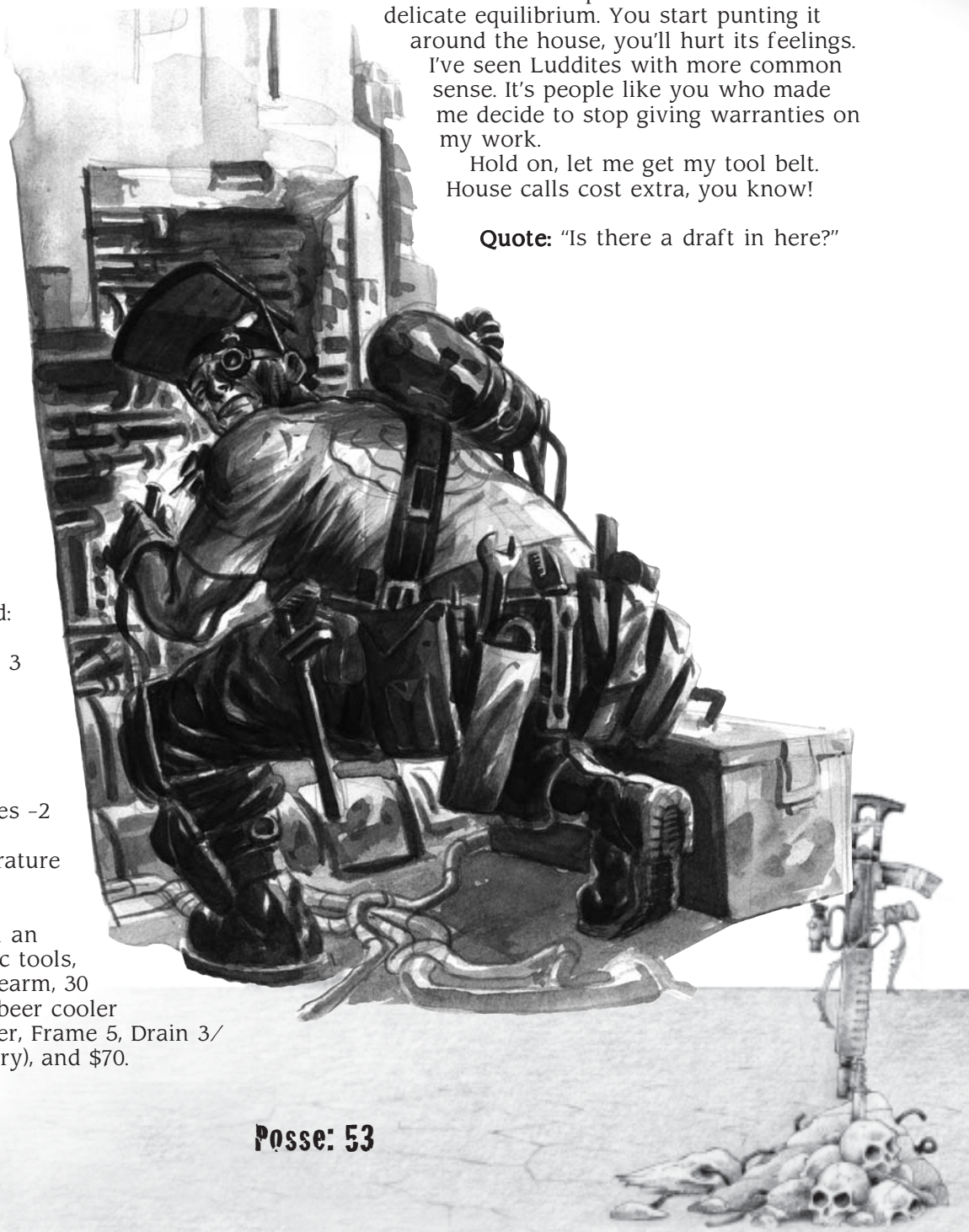
Personality

Whaddaya mean your AC has stopped working? I just came over and checked it a few days ago. You should have plenty of juice left in that battery I sold you.

Oh, it made a strange sound so you kicked it. How many times do I have to tell you yahoos not to do that? The spirit in that unit is in a delicate equilibrium. You start punting it around the house, you'll hurt its feelings. I've seen Luddites with more common sense. It's people like you who made me decide to stop giving warranties on my work.

Hold on, let me get my tool belt. House calls cost extra, you know!

Quote: "Is there a draft in here?"



Tainted One

Traits & Aptitudes

Deftness 3d8
Shootin': pistol, rifle 4
Nimbleness 1d6
Climbin' 1
Fightin': brawlin' 1
Sneak 2
Strength 3d6
Quickness 4d6
Vigor 3d6
Cognition 4d10
Search 2
Knowledge 2d12
Academia: occult 3
Area knowledge 2
Language 2
Science: occult engineering 5
Mien 2d10
Overawe 4
Smarts 1d8
Scroungin' 3
Survival 1
Tinkerin' 2
Spirit 1d6
Guts 2
Wind 12
Pace 6
Edges:
Arcane background: Junker 3
Gun browser 5
The "voice" 1
Hindrances:
Grim Servant o' Death -5
Mean as a Rattler -2
Tainted -2
Powers: Ammo, gunsmith, targeting
Tool Tricks: Destabilize, reload
Gear: A custom rifle (Gunsmith: stats below, selector switch, Stability 14), 30 rounds of 7.62 caseless ammo, one grenade, a large knife, a bandolier, an SA officer's sidearm, and 10 rounds .50 pistol ammo.

Personality

Ah, don't give me any of that crap about going down the "dark path." You're just jealous because the gun spirits like me better. I've made some of the best weapons ever crafted by human hands.

There's nothing that gives me more satisfaction than to rack back the slide on a well-built weapon and then hit the release and feel the gun jump as it slams a round into the chamber. Better'n sex.

Look Sparky, let it rest or me and ol' Bessy here will blast you out of your skin and use it as a throw rug.

Quote: "I only need to know one thing..."

Custom Rifle

Weapon	Ammo	Shots	Speed	ROF	Range	Damage
Custom rifle	7.62mm caseless	30	1	9	10/20	4d8

Posse: 54

Wanderer

Traits & Aptitudes

Deftness 1d6
- Shootin': energy weapon 3

Nimbleness 3d6
- Dodge 3
- Drivin': car 1
- Climbin' 1
- Fightin': brawlin' 2
- Sneak 3

Strength 3d6

Quickness 4d6

Vigor 1d6

Cognition 4d10
- Scrutinize 1
- Search 2
- Trackin' 1

Knowledge 2d12
- Academia: occult 3
- Area knowledge 2
- Language 2
- Science: computer programming, occult engineering 5

Mien 3d8
- Overawe 3
- Tale-tellin' 2

Smarts 2d10
- Scroungin' 3
- Streetwise 2
- Survival 2
- Tinkerin' 3

Spirit 1d8
- Guts 2

Wind 14

Pace 6

Edges:
- Arcane background: Junker 3
- Extra powers 4
- Familiar 5
- Mechanically Inclined 1
- Veteran o' the Wasted West 0

Hindrances:
- Enemy: the Combine -3
- Loyal -3
- Stubborn -2

Powers: Ammo, armor, brains, Flash Gordon, shield

Tool tricks: Drain, tool

Gear: A plasma pistol (Stability 14), a backpack, a duster, and a few components: 5 electronic, 6 mechanical, 10 structural.

Personality

I can help with your biker problem. I've faced down a lot worse than them. Hell, ever since I turned down Throckmorton's "employment opportunity" I get regular visits from his goons. I could set my watch by them if I had one—need to get around to making one someday.

My fee? A hot meal, some good conversation, and a place to lay my head for a few days. I've been rooting around out here in the rubble so long, I'm starting to talk to myself. You know where that leads.

There's an awful lot of suffering in the world these days. A lot of it caused by people with more brains than common sense. I aim to reverse that trend.

Quote: "I just happen to have a copy of Donkey King XV here in my pack. I'll trade you for some stew."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ROZ

Chapter Three: Buildin' Stuff

Now we get into what being a junker is all about: building stuff. This chapter has lots of new powers and some twists of the old ones for all your junker inventing enjoyment.

What's Changed

We've made a few changes to the junker rules since the *Hell on Earth* rulebook came out. Space was short in that book and much of the material that was generated for junkers had to be cut back or removed entirely so that we could cram in all of the other character types, monsters, and background info we needed to make the *Hell on Earth* world complete.

You've already seen some of the new goodies your hero can get. Well, now your junker has a lot more options when it comes time to earn his bread and butter.

Expanded Powers

The junker powers in the main rulebook were highly generalized so we could cover a lot of ground in a few pages. A couple of these macro powers have been broken up into smaller, more detailed powers. *Damage* for instance, has been broken up into *ammo, Flash Gordon, gunsmith, rocket man,* and *weaponsmith*. *Trait* has become *agility*, *AI*, *brains*, *reflexes* and *super strength*.

This makes it easier for your Marshal to figure out a device's game stats, and allows you to have fun mixing and matching the powers.

New Components

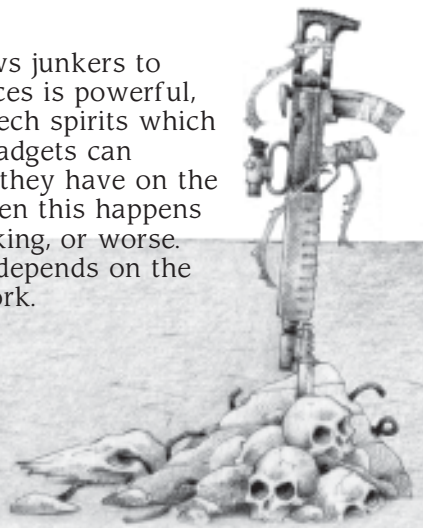
The three components in the original junker rules were fine for building most mechanical or electronic devices, but they just didn't cover all the bases once the powers were expanded to include things like explosives, ammunition, treated armor, rockets, and custom paint jobs and finishes. All of these new goodies require a new component type: chemicals. Chemical components can be hard to come by, but they are worth the effort.

Frames

Under the original rules there was no way to know exactly how big your junker's latest creation was. Frames (we're not talking about the web browser type) fix that. Each device your techno-mage creates is now built into a Frame that determines its size. We'll talk more about this in just a moment.

Instability

The magic which allows junkers to build their fantastic devices is powerful, but it's not perfect. The tech spirits which inhabit their makeshift gadgets can sometimes lose the hold they have on the device's components. When this happens the gizmo may stop working, or worse. How often this happens depends on the quality of your hero's work.



The New Stuff

Okay, let's unwrap the new goodies.

Chemical Components

Some of the new junker powers need more than metal and silicon to get results. Things that require a big bang, a specially treated metal alloy, or synthetic fibers to function need a little something else. That something else is chemicals.

Scroungin' Chemicals

Finding chemical components can be tricky since there are very few chemical supply houses operating these days (okay, actually there aren't any). Some common components like salt, water, and certain ores, can be found occurring naturally in the environment. These can sometimes be found with a *science: geology* roll or a little common sense if the Marshal allows.

Most chemical components require more work to find. The chemicals most often used by junkers are normally found at industrial sites, but abandoned labs, pharmacies, and, of course, chemical supply houses are also likely sources of these components.

Frames

Each device a junker builds starts with a Frame. This is the bare bones skeleton of structural parts upon which the rest of the device hangs. Frames are rated in size, from 1 to 18. When referring to Frames, the size of the Frame normally follows it. A Frame 9 device, for instance, would have a size of 9. Frame size is used for a number of purposes.

Physical Size

Under the old system, there was no way to tell how big your hero's creations were. Now, the larger a device's Frame size, the larger the device itself is. The Frame Table on page 59 lists examples of objects that match each Frame size.

This serves to limit the amount of powers a junker can install in a device. If your hero is trying to create a new assault rifle, it can't be the size of a truck if he intends to carry it around with him. The actual number of powers that can be crammed into a given Frame size is determined by the Frame's slots.

Slots

Each Frame size has a number of slots listed for it. Slots represent the amount of space available for device components. Once all the slots in a Frame have been filled, no further powers can be added to a device.

You can add as many powers as you want to a device within the slots listed for its Frame. If the powers you want to add to a device don't fit, you have a few choices. You can tone down a power to reduce the number of slots it requires, you can increase the device's Frame size, or, on some powers, you can use the *miniaturize* tool trick.

You can also add dead space to a device with slots. This can be used as cargo or even passenger space if there is enough room. This takes up fewer slots than adding a power to a device because the normal slot costs for powers include space for controls, movement of mechanical parts, etc. To add cargo space to a device simply find the Frame size that fits the desired dead space and allot half of that Frame's slots to it. Adding a human-sized passenger in an enclosed cabin, for instance, takes up 64 slots. This is half of the slots available to a human-sized Frame 6.

Construction TN

The Frame size concept is also used to determine the TN of the *science: occult engineering* roll needed to add each power to the device. Each junker power now has a base TN needed to construct it. The Frame Size of the power (that is, the size that corresponds to the number of slots the power takes up, not the overall Frame size of the device) is added to the TN.

Structural Components

A number of structural components are listed for each Frame. This is the number of components needed to build the basic structure of the Frame.

Game Stats

Frame size also determines a couple of basic game stats for a device.

Durability is the amount of damage the device can withstand. This is figured in the same way as damage to vehicles. The Load rating is a rough measure of how heavy and bulky the item is. This is intended for use with the vehicle rules in *Road Warriors.* In the event your waster makes some handy accessories for

his ride, he'll know how much room they take up. All of this information is summarized in the Frame Table on page 59.

Instability

There's a whole new wrinkle your junker needs to look out for when creating devices.

Instability is an inherent part of junker magic. It's caused by the fact that junker devices are generally not made from ideal parts, but are held together by tech spirits. The tech spirit which sets up housekeeping in the device can compensate for that to some extent, but the greater the portion of the device which has been jerry-rigged, the harder the spirit has to work to hold the entire thing together. Eventually this strain can become too much for the spirit, and its grip on the device's components can slip. When this happens all sorts of strange phenomena can occur.

Instability can even happen to junker devices which have been constructed entirely of the proper parts. Because the tech spirit inhabiting the device is not "native" to it, it can take some time before the spirit is completely at home in the machine.

Stability

All junker devices now have Stability ratings. This is a measure of how good a job the junker who created it did of piecing it together and how much of it is substituted parts.

Devices begin with a Stability of 16. Each raise the junker gets on her *science: occult engineering* roll when a adding power to the device increases its Stability by +2. There is no maximum limit to a device's Stability.

Many devices have multiple powers installed. When that's the case, use the lowest Stability rating generated for the device's Stability.

Stability Checks

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Junker devices must make periodic Stability Checks. A device must make a Stability Check the first time it is used each day. All devices, used or not, must make at least one Stability Check a week.

To perform a Stability Check, roll 1d20. If the roll is higher than the device's Stability, it has became unstable and must roll on the Instability Table. A roll of 20 always fails, regardless of the device's rating.

Add the amount by which the Stability Check was missed to the roll on the Instability table. If Stability is greater than 20, subtract the amount by which it is greater from the roll on the Instability Table.

Damaging Devices

All devices have Durability ratings determined by their Frame sizes. This is listed on the Frames Table. The entry for Durability has two numbers divided by a slash. The first number is the total amount of damage the device can take before it is destroyed. The second number is the device's Durability Step.

Each time a device accumulates an amount of damage equal to its Durability Step, its performance drops. All rolls to use the device suffer a -1 cumulative penalty for each Durability Step lost. The device's Stability is also reduced by 1 for each Durability Step lost.

Damage Induced Instability

That's just the beginning of the bad news, brainer. Each time a device loses a Durability Step, it must also make a

Stability Check at its new, lower Stability. The more the device is battered, the harder it is for the tech spirit inside to keep its grip on everything. Too much damage and the device may give up the ghost—literally.

Repairing Devices

Once the shooting stops, your junker is going to want to bang the dents out of his equipment. Repairing a damaged junker device requires a Foolproof (3) *science: occult engineering* roll. The TN is increased by +2 for each Durability step the device has lost. The repairs take roughly an hour and 1d4 components per Durability step lost. You can determine the type of components needed randomly or the Marshal can choose based on the device's powers.

Making a Device v2.0

The addition of Frames to the rules has added a few new wrinkles to the building of a device. There's an example of a device being built from start to finish on page 105.

There are seven steps to building a device:

1. Concoct a Theory
2. Select a Frame
3. Determine the powers
4. Design the powers
5. Assemble the components
6. Build it
7. Determine Stability

Step 1: Concoct a Theory

Not much has changed here. It's still necessary for the player to come up with a theory as to how the device works. This is fairly easy, because most junker devices imitate or slightly improve conventional technology.

This step is necessary more for defining exactly what it is the device does rather than explaining exactly how it works. It helps define what powers the device requires as well as suggesting possible ideas for side effects.

Step 2: Select a Frame

This is not necessarily a mandatory step. It's only necessary when your junker is trying to design a device of a particular size. If your waster is designing a new pistol, he can't build a gun the size of a motorcycle. This means he needs to build a Frame 1 device and fit all the gun's powers within the 7 slots the Frame provides.

If your hero's not worried about how big the final device is, he can simply add powers to the device until he's satisfied, total up all the slots used, and pick a Frame large enough to house all the powers.

Some powers, like *locomotion,* require the selection of a Frame size before powers are installed. This is generally because the slots required by these powers are tied to the Frame size. When this is the case, you need to pick a Frame and stick to it, brainer.

Step 3: Determine Powers

Once you know what your waster's new toy is supposed to do and how big it is, you need to determine which powers are necessary to achieve this. You as a player should come up with a list of powers you believe are necessary, but the Marshal always has the final say on this matter. Note that complex devices often have complex requirements: the ability to sense things, to output information, to communicate, to move, etc. If your device is sophisticated, think through your power requirements carefully.

Remember when selecting powers that some of the powers listed in the *Hell on Earth* rulebook have been broken up into smaller, more specific powers.

Step 4: Design the Powers

This part of the process now works a little differently. Each power takes up a number of slots. The exact number depends on the individual power and the options you select for it. Simply follow the directions for each power to find a total slot cost for all of the powers in a device.

If this total is equal to or less than the number of slots available in the selected Frame, you're good to go. If the selected powers fill less than the number of available slots, you can use this empty space later to add more powers. If the total is greater, you need to either reduce the number of slots being used or increase the Frame size.

There are three ways to reduce the number of slots required by a power: reduce it's potency, use the *miniaturize* tool trick on it, or accept a side effect. If your junker does not know the

miniaturize tool trick, or if you think a side effect is too dangerous, your only option is to tone down the power.

Rounding

Don't worry about rounding things off while figuring slot costs. It's perfectly okay to use partial slots. In fact, for many of the smaller Frames, the only way to cram in everything you want is to use partial slots.

Step 5: Assemble the Components

At this point your junker needs to find all the components needed to put his piece of technomancy together. The process for this has also changed slightly. Instead of requiring so many components per construction point, the components a power requires are determined by the number of slots it fills.

This is expressed in the power descriptions as a percentage. If a description lists "**Chemical:** 20%," this means that the power requires a number of chemical components equal to 20% of the slots used by the power—that is, a power that requires 15 slots would need 3 chemical components. Always round the number of components needed up. If a description say increase the chemical components by +10%, this is added to the listed percentage.

If your techno-mage has all the components needed, he can proceed on to the next step.

Drain

Many powers require G-ray energy to function—this is referred to as the power's Drain. This is no longer based solely upon the device's construction point cost. Consult the individual power descriptions for instructions on how to figure a power's Drain.

Step 6: Build It

Once all the powers are designed and the components are gathered, it's time to put the dang thing together.

Your junker needs to make a construction roll as he installs each power in the device. The Target Number for this roll is equal to the power's TN plus the Frame size of the power the junker is building.

If the device has only a single power, the Frame size of the power is the same as the device (even if it doesn't fill all of the device's slots). If a device has multiple powers, you need to determine the Frame size for each power individually. Look on the Frames Table and find the smallest Frame size which has sufficient slots to hold the power. This is the power's Frame size.

Frames

Size	Structural	Slots	Durability	Load	Examples
0	2	2	3/1	0.25	Pocket knife, derringer, mouse
1	3	7	4/1	0.5	Large knife, pistol, rat
2	5	16	5/1	1	Submachine-gun, small briefcase, cat
3	7	31	6/2	2	Rifle, dog, large backpack
4	10	54	7/2	3	Cello case, light machine-gun
5	13	86	8/2	4	Heavy machine-gun, small refrigerator
6	17	128	9/2	6	25mm cannon, person
7	21	182	10/2	10	Motorcycle
8	26	250	15/3	20	Motorcycle and sidecar, phone booth
9	31	333	20/4	40	Econo-box
10	37	432	25/5	60	Sports car, dumpster
11	43	549	30/6	80	Sedan
12	50	686	35/7	100	Sport-utility vehicle
13	57	844	40/8	120	Mid-sized pickup truck
14	65	1024	45/9	140	Van, large pickup, elephant
15	73	1228	50/10	160	Delivery truck
16	82	1458	60/12	180	Mack truck
17	91	1715	75/15	200	Large bus, 40' trailer
18	101	2000	90/18	220	Mojave rattler, diesel locomotive

The Construction Table lists the time it takes to install a power of a particular TN and the number of cards the junker must draw when checking for backlash.

If your junker succeeds at the roll, the time is spent, and the device is ready to rock. Each raise on the construction roll reduces the amount of time needed by the listed increment. If the listed time is 1d6 days, each raise reduces the required time by a day. The time needed can never be less than 1 increment. Some powers have additional benefits from raises; these apply in addition to the time saved.

If the roll is failed, the time spent is wasted. The junker can try again, however. If he goes bust, the components for that power are destroyed in the process, and he must gather new ones.

Adding New Powers

It's possible to add new powers to an existing device, provided there is enough room in the device's Frame. Adding the new power simply requires a normal construction roll to install it.

When a new power is added to a device, its Stability is equal to the lower of either the device's original Stability or the Stability of the new power.

Marv builds an assault rifle using the *gunsmith* power. He builds it in a rifle-sized Frame, but the power only uses up 24 of the Frame's 31 slots. This means he has 7 slots left if he wants to install additional powers in the gun later.

Side Effects

Sometimes it can be hard to cram everything you want into a particular Frame. One way around this is through the use of side effects. Side effects are small unwanted effects a device has that are detrimental to the user. They come in two sizes: minor and major.

Minor side effects are more annoying than really dangerous. A plasma rifle which has a hot muzzle blast that causes the user to lose 1 Wind every time it's fired is a good example. A minor side effect reduces the slots used by a power by 5%.

Major side effects can actually be deadly to the user. If that same plasma rifle had to roll a d20 against its Stability each time it fired to avoid overheating and causing 3d6 damage to the user, it would have a major side effect. Major side effects cut the number of slots needed by 10%.

All side effects are subject to approval by the Marshal.

Construction Table

TN	Time	Cards	Spirit
3–4	2d20 minutes	1	d4
5–7	3d20 minutes	1	d6
8–11	1d6 hours	2	d8
14–17	2d6 hours	2	d10
18–21	2d20 hours	3	d12
22–25	2d6 days	4	d12+2
26–28	2d6 weeks	5	d12+4
29–30	2d12 months	6	d12+6
31+	2d6 years	7	d12+8

Step 7: Determine Stability

All devices have Stability ratings. This rating starts at 16. Each raise on the construction roll to install a power raises its Stability by +2.

A device can only be as stable as the least stable power in it. When building a device with multiple powers, keep track of how many raises your junker got on each power. Use the *science: occult engineering* roll which generated the fewest raises to determine the device's Stability.

When adding new powers to an existing device, remember that the device's Stability is equal to the lower of its original Stability or the Stability result from the new power.

Backlash

Most tech spirits are happy to cooperate with junkers. Sadly, though, there are some spirits out there that aren't always keen to see techno-wizards. If your waster isn't careful he can get burned by these spirits while surfing the Hunting Grounds.

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Each time a junker tries to install a power into a device, he must pull the number of cards indicated on the Construction Table. If any of these is a Joker, the brainer suffers some sort of backlash from the spirit world. The Marshal has all the details.

Gun Spirits

Dealing with gun spirits can be dangerous even when they're in a good mood. Gun spirits are powderkegs of whup-ass, and it doesn't take much to set them off. Whenever a junker builds a device which includes a power associated

with gun spirits, he must draw two additional cards when checking for backlash.

The Taint

The gun spirits' volatile personalities can rub off on wasters who spend too much time with them. Junkers call this descent into madness the Taint.

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Each time your junker builds a device with a power associated with gun spirits, she must try to resist the effects of their peculiar insanity. This requires a Fair (5) *Spirit* roll.

There's a catch. Certain personality traits make it easier to lose control. The TN for this roll is increased for brainers with the *bloodthirsty, mean as a rattler,* or *vengeful* Hindrances. The TN goes up by +2 for *each* of these Hindrances your waster possesses.

Device Traits

It's possible for junker devices to have many of the same Traits that characters have. Some are built-in, others the device has by virtue of its size or design.

Mental Traits

All but one of a device's mental attributes must be deliberately installed by the junker.

Cognition

This is the device's ability to detect its surroundings. It's provided via the *sensor* power.

Knowledge

Knowledge is a measure of the information stored in the device and its ability to process it. This is granted to a device via the *brains* power.

Mien

Mien is a function of the device's personality. Only devices with the *AI* power have *Mien*.

Smarts

Smarts is a measure of the device's decision-making ability. Only devices with the *AI* power have a *Smarts* attribute.

Spirit

All junker devices have *Spirit* attributes. Generally speaking, the larger or more powerful the device, the larger the spirit inhabiting it.

The *Spirit* rating of a device is determined by the TN needed to construct it. The die type is listed on the Construction Table. Pull a card to determine the device's *Spirit* Coordination.

Physical Traits

Many of a device's physical attributes are determined by its size.

Deftness

Deftness measures a device's ability to manipulate objects. No device has a default *Deftness*. It's installed using the *agility* power.

Nimbleness

This is a device's ability to maneuver itself. No device has a default *Nimbleness*. It must be installed using the *agility* power.

Quickness

This is a measure of how quickly a device can react. It is normally only important for devices capable of acting on their own. Smaller devices tend to have higher *Quickness* attributes than larger devices.

The default *Quicknesses* for devices are listed on the Default Traits Table, below. A device's *Quickness* can be enhanced by the *reflexes* power.

Strength

This is a measure of pure, brute force. As such, it is based on the size of the Device. The default *Strengths* for devices are listed on the Default Traits Table. A device's *Strength* can be enhanced by the *super strength* power.

Vigor

Devices do not have *Vigor* ratings. This attribute is replaced by Durability, which is determined by the device's Frame size and can be found on the Frame Table. This rating can be modified by the *reinforce* power.

Default Traits

Frame	Strength	Quickness
0	1d4-2	3d12
1	1d4	2d12
2	2d4	3d10
3	2d4	2d10
4	3d4	3d8
5	2d6	2d8
6	3d6	3d6
7	2d8	2d6
8	3d8	3d4
9	2d10	2d4
10	3d10	2d4
11	2d12	2d4
12	3d12	2d4
13	2d12+2	2d4
14	3d12+2	2d4
15	2d12+4	2d4
16	3d12+4	2d4
17	2d12+6	2d4
18	3d12+6	2d4

Energy Supplies

There is one other thing your junker must consider when building a device: where its power comes from. All junker devices which require power run on G-rays. There are a number of ways the energy can get into the device.

Spirit Batteries

The most common form of power for junker devices is the spirit battery. All techno-mages know how to build these things, which work with all G-ray-powered gadgets.

Your brainer can build battery jacks into a device. This doesn't require a roll or additional components, but it does take up some extra slots in the device. A battery jack (including space for the battery) takes up a number of slots in the device equal to the battery's GR capacity divided by 8. The jack can accept any spirit battery up to the size for which it was designed.

Switching a battery in combat requires two actions: One to remove the old battery, and one to stick in a new one.

Powerpacks

Powerpacks are basically spirit batteries that are permanently built into the device. They are more space efficient than batteries because it's not necessary to leave room for G-ray contacts and the battery's bulky casing.

These are built in the same way as spirit batteries. It's not necessary to build a large power pack in one piece. A device which needs a 100-GR powerpack may actually have ten 10-GR packs inside it.

Divide the powerpack's GR capacity by 10 to find how many slots it takes up in the device.

Powerjacks & Spirit Cable

To save room for components, many junkers don't actually mount a battery or powerpack in the device itself. Instead, they connect it to an external spirit battery or another device with excess power via powerjacks and a length of spirit cable.

Building a jack (input or output) into a device takes up two slots per jack. A device which has a powerjack and which contains a power source can provide energy for other devices connected to it by spirit cable.

All junkers know how to make spirit cable. This is special power cord that conducts G-rays. Building it requires 15 minutes, an ounce of ghost rock, and one structural component per yard of cable. It also requires a Foolproof (3) *science: occult engineering* roll.

The disadvantage of spirit cable is that it can be broken in combat. Ranged attacks against a cable suffer a -8 modifier. Melee attacks suffer a -4 modifier. Spirit cable has Armor 1 and takes 10 points of damage to sever.

Browsers

Browser spirits can supply energy to a junker's devices. A browser can only power a

device which the junker is using personally. It won't power gadgets for his friends. A browser within a device can only supply energy for powers in the device, or devices which are jacked into it with a spirit cable.

The amount of power provided by a browser spirit per round is equal to its size. A browser will only provide energy for device powers with which it is associated.

Tech Spirits

Normally, when a junker builds a device, he selects a tech spirit of the appropriate size for the gadget. He doesn't cram a bus spirit into a scooter.

It's possible to do so, but it ain't easy. The advantage of doing it is that when an over-sized spirit is installed in a device it can use its excess energy to power the device's functions.

Powering a device in this way is difficult. When rolling to create the device, increase the TN needed by +2 for each point of Drain which the spirit is to supply. Most tech spirits don't care for cramped accommodations, so the junker must draw an additional card when checking for backlash.

The poor fit makes it hard for the tech spirit to settle into the device. Its Stability is reduced by -1 for each point of Drain the spirit supplies.

Sykers

The energy sykers channel can be used to power properly-equipped devices. Check out the *brain drain* power on page 69.

Reactors

Devices can be powered by ghost-rock reactors. The reactor can be built into large devices, or connected by spirit cable to smaller gadgets. See the *reactor* power on page 84.

The Powers

The powers learned by junkers are a combination of the scientific and the arcane. When performed properly, they summon tech spirits from the Hunting Grounds to inhabit the techno-shaman's devices.

Without these powers, the gadgets junkmen build would be exactly what their name implies: junk. Different powers require different arcane trappings and rituals, so each one must be learned separately. The exact effects of each power depend on the desires of the junker and the technology upon which he chooses to build it.

Each power description spells out what the power can do and explains all of the modifiers which apply specifically to that power. Each power also has some standard information:

Associated spirits are the tech spirits with which the power is most often identified. This determines which browser spirits can provide energy for the power. Powers associated with gun spirits also have an increased risk of backlash and a chance of Tainting the junker.

TN is the base Target Number for the *science: occult engineering* roll needed to install the power. The actual TN for the roll is equal to this base TN plus the power's Frame size.

Components lists the types and number of components needed to build a device with a particular power. The amount of components needed is expressed as a percentage of the slots used by the power. For example, if the listing says **Mechanical:** 25%, and the power used 80 slots, then 20 mechanical components are needed. The base number of structural components needed for a device is determined by its Frame size. If a power has a listing for structural components, these are in addition to the ones required by the Frame.

Drain is the amount of energy the power drains from the device's power source each time it's activated. The way in which Drain is figured can vary from power to power. A power always uses its full Drain, even if shut off before the listed duration has expired.

Agility

Associated Spirits: Car, Computer
TN: 5
Components:
Chemical: None
Electronic: 10%
Mechanical: 20%
Structural: None
Drain: (Die type/4)/Hour

This power is a must for devices which can act independently of their users.

Agility gives a device with this power both the *Nimbleness* and *Deftness* Traits. It usually involves installing gyroscopes, tilt meters, and other motion-sensitive instruments throughout the device. It allows the device to be given Aptitudes normally associated with *Nimbleness* and *Deftness* through the *AI* and *brains* powers.

This power is usually only useful if the device can see what it's doing. Check out the *sensor* power on page 88.

Coordination

The first step in installing *agility* is to buy the device a die type and coordination, which serves for both the device's *Nimbleness* and *Deftness*. Look on the Agility Table to find the basic cost in slots for each die type. This cost is listed as a percentage of the device's total slots. Multiply this percentage by the number of dice desired for the Coordination to find the total slots costs. No junker device can have higher than 5 dice in a Trait.

The Drain for this power is equal to the selected die type divided by 4.

Trait

Die Type	Slots per Die
d4	1% of device total
d6	2% of device total
d8	3% of device total
d10	4% of device total
d12	5% of device total
d12+2	6% of device total
d12+4	7% of device total
d12+6	8% of device total

AI

Associated Spirits: Computer
TN: 11
Components:
Chemical: None
Electronic: 50%
Mechanical: None
Structural: None
Drain: (Slots/5) per day

What's wrong, Dave?
—Hal 9000

The *AI* power gives your junker the ability to build truly intelligent thinking machines. These creations can be incredibly useful—and just as all the sci-fi movies before the Last War suggested, they can also be extremely dangerous if they turn on you.

Independence Day

A tech spirit inhabiting a conventional device is completely bound to the user's will. It isn't capable of independent thought.

This isn't true of junker devices. Because the spirit isn't native to the object, the techno-wizard can "liberate" the spirit inside the device and allow it a degree of autonomy. The rituals used to summon and channel the spirit into the device bind it to the junker's service, but it is otherwise completely capable of independent thought and has true decision-making ability.

Just like people, some spirits are smarter than others. The junker has control over how bright his recruited spirit is. The larger an artificial brain he builds, the smarter a spirit he gets.

To determine the number of slots needed for an AI, choose a *Smarts* die type. Look on the *AI* Table to find the slot cost per die and multiply this by the desired Coordination. The maximum Coordination is 5.

AI

Smarts Die	Slots per Die
d4	1
d6	2
d8	4
d10	8
d12	16
d12+2	32
d12+4	64

Happy Birthday!

A device with the *AI* power has roughly human intelligence (the exact level depends on the brain the junker built). It can learn, and it has true decision-making capability. The Marshal should run the *AI* just like any other extra.

Who's In Charge Here?

The ritual used to install the computer spirit also binds it to the junker. The spirit is required to obey the techno-mage's orders even if they would result in the AI's destruction. A new AI is doggedly loyal to its creator. Over time this enthusiasm may lessen, though, depending on how the AI is treated.

Just like a person, the AI may grow to dislike its creator if it is mistreated. When this happens is entirely up to the Marshal. If it does, the AI continues to obey its master, but it goes out of its way to distort the meaning of its orders if possible. No matter how much an AI may hate its creator, though, it is unable to harm him or fail to prevent something within its control which may harm him.

AIs can control any device which they are built into or to which they are attached via a data jack. This assumes, of course, that the device is properly equipped for computer control. A vehicle without the *Agility* power can't be controlled by an AI—the necessary sensors and servos just aren't there.

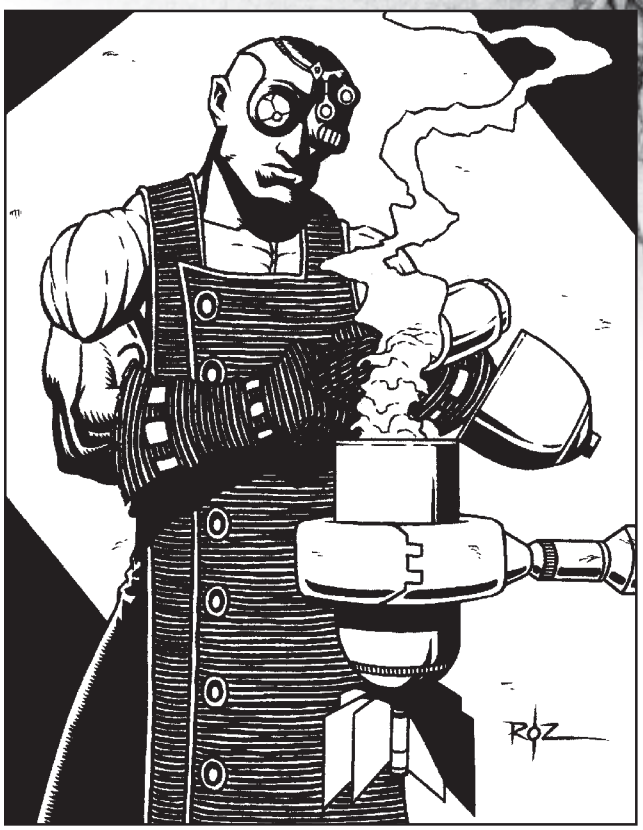
Input

A newly awakened *AI* has no knowledge of the world other than the ability to communicate in the junker's native language. The power doesn't give the AI any means to communicate, however, so the junker must build in some sort of *commo* device if he wants to talk to his new electronic buddy.

This lack of skills can be overcome. The computer can pick up skills instantly through use of the *brains* power and data slugs (see page 69). The *AI* can also learn any skill that a person can through experience or training. The junker may spend his own Fate chips to purchase skills in this way for the *AI*.

Charmed, I'm Sure

In addition to a *Smarts* Trait, the *AI* picks up a *Mien* Trait as well. Determine this Trait randomly by drawing a card just as you would for a new character.



Ammo

Associated Spirits: Gun
TN: 5
Components:
Chemical: 10%
Electronic: None
Mechanical: None
Structural: 10%
Drain: None

With the *ammo* power your junker can create specialized ammo to use in ordinary weapons, as well as new types of ammo to use with other weapon powers.

Ammo Size

There are two things that need to be determined for new ammo: how much damage it does and how big it is.

Determining the damage is easy. Simply pick a die type and a number of dice. No ammo may have more dice than its die type. Four dice is the maximum for a d4 ammo, for example.

Once you know the damage, it's time to work out the ammo's size. This is the number of slots one round of this ammunition takes up in a weapon. Look on the Ammo Size Table and multiply the number of damage dice by the number listed for the appropriate die type. For instance, 3d8 is 0.2 x 3, for a total size of 0.6.

Ammo Size

Die Type	Slots per Die
d4	0.05
d6	0.1
d8	0.2
d10	0.4
d12	0.8
d20	1.6

Ammo Types

If the round is anything other than your garden variety cartridge, there are a whole host of modifiers that can affect the ammo's base size. Which modifiers apply depend on what type of round your junker is trying to cook up for his weapon. Add all size modifiers together before applying them to the ammo's size.

Ammo falls into two general categories: slugs and warheads. Figure out which category your techno-mage's invention falls into and apply all of the appropriate modifiers to the ammo's base size. This is the ammo's size in slots. Don't round the number off.

Slugs

A slug is any round which causes damage through the sheer force of its impact.

Propellant

The sizes listed on the Ammo Table are for standard, cartridge-type ammo. If the ammo is caseless, reduce its size by 25%, but increase the amount of chemicals components by +10%.

If the ammo does not require propellant because the weapon itself provides the energy needed to shoot the round out of the barrel, reduce its size by 50%. These types of ammo require no chemical components.

If the ammo is for a gyro-jet weapon, increase the ammo's size by 25%, and the amount of chemicals needed by 20%. This ammo doubles the range increment of the weapon it is used in.

Armor Piercing

Slugs can be made armor piercing in two ways: jacking up the round's muzzle velocity or constructing the slug itself of some sort of hard metal. Most AP rounds use a combination of these approaches.

Armor-piercing rounds work just as described in the main rulebook. Each AP level increases the chemical and structural components needed to manufacture the ammo by +10%. (Rounds which do not use propellant can ignore the increased chemical costs, but check out *gunsmith* for details on how this affects the weapon's Drain).

Multiple Projectiles

Some rounds, like shotgun shells, fire multiple projectiles to increase the likelihood of hitting the target. These ammo types give the weapon +2 to hit, and increase the size of the round by 50%.

Anti-personnel Rounds

It's possible to make rounds designed specifically to blow big holes in people. These types of slugs are usually made of a soft metal and are designed to deform on impact. Most of these rounds also pack a higher powder load to ensure that they make a really big splat when they hit. Antipersonnel rounds are treated as frangible or dumdum rounds (junker's choice, see *Wasted West* for details). These require +10% more chemical components, and have their construction TN increased by +2 due to the extra care required in casting the bullets.

Wind Damage

Although there is little call for it in the Wasted West, it's possible to create non-lethal slugs. These rounds have very little penetrating power, so the maximum die type for a bullet of this type is d6. They also may not have any armor-piercing capability.

Non-lethal slugs rely on the weight of their impact to cause damage. This multiplies the ammo's size by four.

A living target hit by one of these rounds must make a *Vigor* roll against its damage. A failed roll results in the target taking an amount of Wind equal to the difference in the rolls. Non-lethal rounds do no normal damage.

Warheads

A warhead is any type of ammunition that causes damage by exploding. This covers everything from grenades to antiaircraft

missiles. The *ammo* power doesn't deal with making the warhead delivery device—you need *gunsmith* or *rocket man* for that.

Although not a warhead, ammunition for flamethrowers and other chemically-fueled projector weapons falls in this category.

All warhead type ammunition requires double the amount of chemical components to create.

Burst Radius

The most important modifier for an exploding warhead is the size of the bang it makes. All warhead-type munitions must have specific Burst Radii. Most explosive warheads have a circular area of effect. Apply the modifier listed under "Full Arc" from the Burst Radius Table to the warhead's base size.

It's also possible to make directed explosives that don't cover a full circle. A good example of this type of weapon is the claymore mine, which explodes over an arc of roughly 120°, with little blast over the rest of its arc. The Burst Radius Table also lists modifiers for partial arcs.

Burst Radius

Radius	Full Arc	60° Arc	120° Arc	180° Arc
1 yard	+30%	+10%	+15%	+20%
5 yards	+40%	+15%	+20%	+25%
10 yards	+50%	+20%	+25%	+30%
15 yards	+60%	+25%	+30%	+40%
20 yards	+70%	+30%	+40%	+50%

Armor Piercing

It's possible to make armor-piercing warheads. These use a shaped charge to create a narrow jet of superheated gas that burns through armor. Each AP level applied to a warhead affects any target directly struck by it, but reduces the number of dice caused to other nearby targets by -1.

For example, a warhead that does 5d20 damage with a Burst Radius of 10 yards and 3 levels of armor piercing would do full damage to the target, but only 2d20 damage to other targets within 10 yards and 1d20 between 10 and 20 yards.

Wind Damage

It's possible to make a warhead which causes only Wind damage. It goes off with a tremendous flash and a bang that disables anyone caught in its blast. These weapons have limited penetrating ability, so they may not be made armor-piercing, have a die type greater than d6, or have a Burst Radius larger than 5 yards.

Damage from these weapons is resolved as described above for non-lethal bullets.

Propellant

The base size listed for these ammos assumes some sort of propellant charge to fire the warhead from a gun, grenade launcher, or cannon. If the warhead is a thrown grenade, or if it's intended to be built into a missile or mechanical launcher, reduce the chemical components by -10% and the size by -50%.

Projectors

If your junker is designing ammo for a flamethrower or other weapon that projects a continuous stream of material, things change a bit. For starters, the amount of chemical components needed doubles, the number of structural components needed drops to zero, and the ammo's base size is doubled.

Projectors fires a concentrated stream of fuel at the target area that pools and splashes on contact. Use the "Full Arc" listing on the Burst Radius Table to determine the modifier to the ammo's base size. The selected radius is the area around the target point that's covered with fuel. Unlike explosives, damage from the pooled fuel does not extend past the first Burst Radius.

Time to Make the Ammo

Ammo is normally created in batches. The larger the batch, the more difficult it is to cook up, but the less often your junker has to check for backlash.

To figure the difficulty of making a batch of ammo, multiply the ammo's slot size by the number of rounds your waster is creating. This gives the number of slots the batch takes up. Find the smallest Frame on the Frame Table that can hold that number of slots. This is the batch's Frame size. Add this to the *ammo* TN to find the Target Number for the batch.

For instance, a batch of 50 rounds with a slot size of 0.3 takes up 15 slots (50 rounds x 0.3 slot size = 15). The smallest Frame that can accommodate this is size 4. The TN for this batch is 9 (5 base + 4).

The amount of material needed to make the ammo depends on how many slots worth of ammo was created. Using the same example, 15 slots worth of ammo was

created, so the junker would need to cough up 2 (1.5 (that's 10%) rounded up) chemical components and 2 structural components.

Conventional Ammo

It's possible for a junker to use this power to create ammunition for conventional firearms. Many junkers make a living with this power alone. As long as your waster has the proper components, he just needs to create a batch of ammo of the same size as that used by the weapon. It's necessary to specify a particular caliber when creating ammo in this way. Although 9mm and .45 ACP rounds have the same ammo size, they are not interchangeable. Some of the most common ammo sizes are listed below on the Standard Ammos Table.

The sizes listed on this table are for standard slug types. If you want to make AP, dum-dum, or frangible rounds, you must apply the modifiers described above for these specialty rounds.

Standard Ammos

Size	Ammo
0.1	.22
0.2	.38, 9mm caseless
0.3	9mm, 10mm, .45
0.4	.357 Magnum, .44 Magnum, .50 pistol
0.5	.45 gyrojet
0.6	5.56mm, 10mm caseless
0.8	.30, .30-06, 7.62mm
0.9	12 gauge
1.2	12mm caseless
2	.50 MG

Armor

Associated Spirits: Building
TN: 3
Components:
Chemical: 10%
Electronic: None
Mechanical: None
Structural: 10%
Drain: None

The *armor* power gives your junker the ability to armor up his devices. This armor is made from ghost steel, polymers, and a pinch of arcane energy.

Each level of Armor added to a device uses up 10% of slots in the Frame being armored. These are used up with armor plates, structural reinforcements and attachment points.

Good craftsmanship can have a significant effect on *armor*. Every raise on the roll allows the junker to either increase the AV of the *armor* or lighten it. Each increase in AV fills additional slots equal to the Frame's size. Each raise used to lighten the armor reduces the total number of slots needed to mount it by 10%.

It's sometimes important to figure the weight of *armor* worn by a hero. Assume that each slot used by *armor* supports 2 pounds of armor.

Dave is making an armored vest that covers both the upper and lower and the gizzards. His Marshal rules that since this covers roughly half a human-sized volume, 32 slots of the device must be devoted to the wearer. (Check out the dead space rules on page 56. A human-sized Frame (Frame 6) has 128 slots. Half of this is 64; half again is 32.)

Looking on the Frames Table, Dave sees that the vest must be at least Frame 4 to fit the wearer's torso. This uses up 32 of the Frame's 54 slots. Dave decides to give the vest AV 2. This takes up 10.8 slots, gives the *armor* power a Frame size of 2, and makes the TN for the construction roll a 5 (base 3 + Frame 2).

Dave rolls and gets an 11—a success and a raise. He uses the raise to increase the AV of the vest from 2 to 3. This takes up an additional 4 slots, leaving Dave with only 7.2 slots left in the Frame for other powers. The vest weighs in around 30 pounds.

Brain Drain

Associated Spirits: Tool
TN: 9
Components:
Chemical: None
Electronic: 30%
Mechanical: None
Structural: None
Drain: None

Ghost rock isn't the only source junkers can find to power their devices. The spiritual energy sykers channel through their craniums can also be used as go juice—provided the device has the *brain drain* power.

This power uses a number of slots equal to twice the highest single power Drain in the device.

Mind Over Matter

A syker using a device equipped with the *brain drain* power can spend Strain to energize it. Each point of Strain spent generates 5 points of G-ray energy to power the device. If this is more energy than needed by the device, the excess is lost. For example, if a syker spends 1 Strain to power a device with a Drain of 3, the 2 points of excess energy are wasted.

Feedback

This power is not without risk for the syker. If a device the syker is powering ever becomes unstable, he must roll on the Brainburn Table (in *Brainburners*) in addition to suffering the result from the Instability Table.

In addition, if the syker ever draws a black Joker as an Action Card while energizing a gun spirit power, he must make an Onerous (7) *Spirit* roll to avoid becoming Tainted.

Brains

Associated Spirits: Computer
TN: 7
Components:
Chemical: None
Electronic: 50%
Mechanical: 10%
Structural: None
Drain: Special/hour

A smart gun ain't very smart if it doesn't know how to fire. *Brains* allows your junker to add skills to his devices. It also gives the device room to store all sorts of useful information like maps, faces, sensor data, journals, and shopping lists.

The number of slots needed for this ability depends entirely on how much processing power your junker wants to give the device. There are three primary components to this power: the processor, slug ports, and storage.

The Processor

The processor is important because it is what allows a device to use the other two components. It also determines how well it is able to use them.

Look on the Processor Table and pick a *brains* die type. The number of slots needed for the processor is equal to the slots per die for the selected die type times the number of dice. The maximum Coordination a device may have in *brains* is 5.

A device's *brains* rating has two uses. First, the number of programs and data packages the device can use simultaneously is equal to its *brains* die type. Second, whenever the device analyzes or sorts data, uses a program in an unusual way, or does anything else which the Marshal feels requires a roll, the *brains* rating is used to make the roll.

The Drain for this power is equal to the device's *brains* die type divided by 4.

Processor

Die Type	Slots per Die
d4	1
d6	2
d8	4
d10	8
d12	16

Slug Ports

Each slug port built into the device can hold a single data slug. These are small metal cylinders about the size of AAA batteries. Each one can hold about a

terabyte of information (that's roughly the equivalent of 1700 modern-day CDs). Slugs can hold programs, data, and most importantly, Aptitudes.

A device can use any information on a slug directly off the slug, or it can download the data into storage. Downloading an entire slug into storage takes about 10 minutes.

Aptitude slugs give the device the Aptitude with which they are programmed. This may or may not do the device any good. As with *AI*, if the device does not have the Trait needed to use an Aptitude, it doesn't work.

You can load *shootin'* slugs into your beer cooler all day long, but without the *agility* power and a weapon, it's not going to kill anyone. Devices also can't use any Aptitudes that require *arcane background* Edges—no building a lab assistant to build devices while your junker sleeps.

Each slug port added to a device takes up two slots. Changing slugs in combat takes two actions: one to remove the old slug, and one to pop in the new one

Making Slugs

Some junkers earn their bread and butter with this power. As ravaged as the world is, there are still many console junkies who just have to have the latest video game.

Brains also allows your techno-wizard to create data slugs. As all data slugs are the same size, the components for this are fixed: 1 structural and 2 electronic. The TN to make the slug depends on what type the junker is creating.

Your waster can use this to create blank slugs or duplicate the contents of any data or program slug. He can also make slugs containing original programs if he knows the *science: computer programming* Aptitude. The slug creation time doesn't include the time it takes for the junker to write the program. Some junkers use this ability to make computer games, others use it to encode sophisticated behaviors into their devices. Exactly what is possible in this area is up to your Marshal.

Skill Slugs

One of the most important uses of *brains* is creating skill slugs. These slugs contain detailed knowledge of an Aptitude. When plugged into a device with *brains*, they grant the device the Aptitude. A human with one of these slugs and a teaching machine (normally only found on military bases) can learn the skill on the slug in 1d4 hours.

There's one catch when creating skill slugs. The junker can't make a slug containing a skill she doesn't know personally. The maximum level a skill slug can give a device or person in an Aptitude is equal to the highest level the junker had when she created the slug.

When a device uses a skill slug, it uses its own Attributes but has the level granted by the slug. A device's maximum level in an Aptitude is twice its Coordination in the controlling Trait.

Marv creates a *shootin'* slug for his gun platform. He has a *shootin'* Aptitude of 4d6. The gun platform has a *Deftness* of 2d8, so it gains a *shootin'* Aptitude of 4d8.

Slug

Type	TN
Blank	5
Duplicate of existing slug	7
Original program	9
Skill slug	11

Storage

A device can be equipped with the ability to store the data from slugs plugged into it. Each slot devoted to storage can record an entire slug's worth of data.

Activating a new program from storage takes an action for the data to transfer from storage to the processor.

Marv builds the *brains* power into his motorcycle. He gives it a 3d6 *brains*, 3 slug ports, and 9 slots worth of storage. The power takes up 21 slots (6 for the 3d6, 6 for the ports, and 9 for storage) and has a Drain of 2 per hour (d6 ÷ 4). It can run 6 different programs or data packages (due to its d6 processor), either off slugs plugged into its ports or from storage. Now Marv can listen to his Creedence slugs while he drives.

Programming

Last but not least, *brains* allows your junker to program the behavior of his creations. This is not true artificial intelligence (see *AI* on page 64 for that), but simple commands that allow a device to operate on its own. It can be used in conjunction with the *AI* power, however, to impose limits on an intelligence device's behavior.

Each slot used for this power allows the junker to give his device three commands. Each command must be a simple objective statement within the device's ability to perform. The Marshal has the final say on what is legal. (The Marshal also has our permission to have as much fun as possible with poorly worded or ambiguous commands.)

Commands to perform an action must have a trigger event which is within the device's ability to detect—verbal commands don't work if the device has no audio sensors, hand signals don't work if it has no video sensors, etc.

The device has no real decision-making ability. If a situation not covered by its *program* occurs, it is up to the Marshal to decide how the device reacts.

Reboot

This power simply embeds the capacity for programming in the device. The actual commands can be changed by the junker at any time. Reprogramming a device in combat takes approximately one action per command changed. The Marshal has the final say on exactly how long it takes.

Marv is *programming* his mobile gun platform. His first three commands are:

"If any person not wearing a yellow badge comes through the door, shoot them and alert me via comm-link." [He can't tell it to shoot at anyone over 40, because the platform has no way of determining the target's age.]

"If your Durability drops below half, retreat to a pre-designated spot." [The platform must know how to get there somehow, via a stored map, a radio beacon to home on, etc.]

"If I say 'Heel,' drive beside me 1 yard to the right." [The gun platform performs this literally, right up to driving off a cliff if Marv gets too close to the edge.]

Commo

Associated Spirits: Appliance, computer
TN: 5
Components:
Chemical: None
Electronic: 20%
Mechanical: 10%
Structural: None
Drain: Special per hour

Using the *commo* power, your waster can build all sorts of communications devices. Your junker can use these to talk with his friends, allow his devices to transfer data to each other, watch old videos, or prank call his enemies.

Signal Type

The most basic decision your junker must make about his device is what sort of data it handles. Units which only handle data or sound are more compact than devices which handle visual data. The types of data handled determine the basic size and Drain of the device.

Signal Type

Signal	Base Slots	Drain
Data/sound	1	1
Video	2	2

Channels

A basic *commo* device has only a single channel. Each extra channel adds takes an additional slot. A device must have at least ten channels to use the scrambling option.

Transmitting

A basic device built with the *commo* power can only receive, not transmit. The ability to transmit greatly increases the size and power requirements of the device. If your junker wants to be able to e-mail his friends pictures of his latest gizmo, pick a range from the table and multiply the device's slot cost and Drain by the listed multiplier. These ranges aren't absolute; the factors the affect transmissions in *The Wasted West* apply.

Range

Range	Multiplier
Cable or direct link	0.25
25 yards	0.5
100 yards	1
250 yards	1.5
1,000 yards	2
1 mile	2.5
5 miles	3
25 miles	3.5
50 miles	4
100 miles	4.5

Data jacks

Any device with the *commo* power can be equipped with data jacks. Each data jack uses two slots. Data jacks can be connected via spirit cable to allow devices so that they can communicate with each other.

Input

If the *commo* power is built into a gizmo it automatically receives data from other systems in the device and can transmit this information. The device can also transmit data from any device plugged into it.

If you want to build a walkie-talkie, the device needs an audio *sensor*. If you're making a video camera, it needs a visual *sensor* and an audio *sensor*, and so on. Check out the *sensor* power on page 88 for all the details.

A keyboard can be added to a device at a cost of 5 slots. A mouse costs 2 slots.

Output

If the *commo* device is intended to relay the information it receives in a form comprehensible to humans, it needs some type of output device.

The three basic options for this are speakers, a display screen, or hard copy. Check out the Output Devices Table below to see your options and how it affects the size and Drain of the device.

It's possible to build output devices of sizes different than listed here, but you'll have to discuss the slot cost and Drain with your Marshal.

The hard copy option also requires 2 chemical components. The junker must supply the paper.

It's possible to add a 3D holographic display to a device. This requires half the slots of a conventional monitor but twice the Drain.

Commo devices can also output their info to data slugs. This requires the device to have a slug port or be connected to a device which does. See the *brains* power for the details.

Output Devices

Device	Slots	Drain
Small speaker	1	0
Good quality stereo	4	1
Quadraphonic sound	8	2
Tiny monitor	2	1
Standard monitor	8	2
Very large monitor	24	3
Hard copy	8	1

Getting Fancy

There are a few other twists your junker can add to his device if he feels it's necessary. They all add to the size and Drain of the device, but it's possible they just might save your hero's butt some time.

Tight-Beam Transmission

Standard transmitters broadcast in all directions at once. This is good if you don't know where the target of your transmission is or if you're broadcasting to more than one receiver, but it also means that anyone tuned to your frequency can listen in. It also means that anyone looking for your junker can home in on his signal and track him down.

Tacking some extra doodads on your hero's device allows it to send out tight-beam transmissions. These broadcasts can only be intercepted by someone who is positioned directly between the transmitter and the receiver.

To use a tight-beam transmission, the transmitter must know where the receiver is. Two tight-beam equipped transceivers which are both within range of each other can locate each other with a standard broadcast and switch to tight-beam transmissions in a single action.

This equipment increases the number of slots required by the device by 20%. Drain is halved while operating in tight-beam mode. Switching from broadcast to tight-beam takes an action.

Scrambling

If your waster is worried about people listening in on his conversations, he might want to put a scrambler on his *commo* unit. Scramblers encode transmissions by hopping from frequency to frequency, so a device must have at least ten channels to mount one.

A scrambler increases the slots needed for a device and the Drain by 10%. Scrambled transmissions can only be understood by another scrambler-equipped device set to the same encryption key. Switching from clear to scrambled transmissions requires an action.

Burst Transmissions

The last little trick your junker can pull on eavesdroppers is to use burst transmissions. These devices compress data in little chunks, transmitting the chunks in micro-second bursts. Unless a listener has equipment to uncompress the transmission, it sounds like little bits of static. Only another burst-transmission-equipped set tuned to the same encryption key can understand the message. It's also hard (+4 to the TN of *sensor* rolls) to locate the transmitter.

It takes an action to broadcast a burst transmission once the message itself has been recorded. Burst transmissions can be combined with scrambling.

Burst transmission capability increases the number of slots required by the device and the Drain by 10%.

Flash Gordon

Associated Spirits: Gun
TN: 7
Components:
Chemical: None
Electronic: 20%
Mechanical: 10%
Structural: None
Drain: Special/shot

This power allows a junker to build weapons that look like they're straight out of a B-grade movie—that's how this power

got its name. These weapons convert G-rays directly into some form of damaging energy that can be used to kill or stun.

If you're looking to build energy hand weapons, you're in the wrong place. Check out the *weaponsmith* power on page 99 for these.

Ammo Types

The first step in building one of these guns is to figure out how much damage it causes.

Use the tables for the *ammo* power to come up with an ammo size for your hero's ray gun (your waster does not have to know the *ammo* power to do this. Creating ammo for these weapons is part of the Flash Gordon power). This doesn't represent a physical size for the ammunition like it does for other weapons. It's simply a measure of the amount of power the weapon must channel with each shot and therefore how many resistors, capacitors, and whatnot are needed to make it operate.

Weapons made with this power can fire energy in one three forms: beam, bolt, or stream. The energy form your junker selects has an important effect on the weapon's performance and the amount of havoc your waster can cause.

Beam Weapons

Beam weapons fire a tightly focused beam of energy which affects only the point at which it hits. The most common form of this weapon is the laser. Beam weapons have the lowest power consumption of the three types and require the least hardware. These weapons use the listed costs when buying ROF and Range Increment (below).

Drain for a beam weapon is equal to twice the ammo size.

Bolt Weapons

Bolt weapons fire magnetically-encapsulated bolts of highly energetic particles. The magnetic field collapses on impact, releasing the particles against the target. This sudden release of energy causes a small explosion at the point of impact. Plasma bolt weapons are the most common weapon in this category.

All of these weapons affect an area when they impact. Select a full arc burst radius from the Burst Radius Table on page 67, and apply the modifier to the weapon's ammo size before selecting ROF or Range Increment.

The magnetic fields used to encapsulate the weapon's bolts degrade quickly with range. This means longer ranged weapons need more powerful field generators. This increases both the bulkiness of the weapon and the power consumption per shot. Bolt weapons pay double the slot cost for Range Increment.

Drain for a bolt weapon is equal to three times the ammo size.

Stream Weapons

Stream weapons release energy in a wide, unfocused blast, much like a flamethrower. This increases the area covered by the energy but greatly reduces the range and increases power consumption.

Stream weapons release energy in a wide cone. Modify the ammo size in the same way as for projector weapons. See page 67.

Due to the large amounts of energy released with each shot, stream weapons pay double slot costs for ROF.

Drain for a stream weapon is equal to four times the ammo size.

In combat, the shooter rolls to hit against all targets within the weapon's range and arc. If the weapon has an ROF of 3 or better, treat this as automatic fire—that is, each raise on the shootin' roll means an additional "round" of ammo hit. All damage caused by these weapons is applied as massive damage.

Damage Types

There are a few modifications which can be made to the damage caused by energy weapons.

Armor Piercing

The ability of a beam weapon to pierce armor can be increased by tightening the focus of the beam and cranking up the wattage. Each level of armor-piercing ability decreases the target's AV by one and increases the weapon's Drain by +25%. Bolt and stream weapons can't be armor piercing.

Wind Damage

At the other end of the spectrum, energy weapons can be designed to cause only Wind damage to the target. Weapons which do Wind damage may not have any armor-piercing ability or a die type greater than d6. Drain for these weapons is half of normal.

A living target hit by a non-lethal shot must roll a contest of *Vigor* against the weapon's damage. If the roll is failed, the target takes an amount of Wind equal to the difference.

Since most of an energy weapon's damage is due to the amount of energy pumped through it, it's possible to add a switch to a weapon which allows it to inflict Wind damage. Setting a weapon to "stun" drops its die type to d6 (if it was greater) and reduces the Drain per shot by half. If the weapon is a bolt weapon, its maximum Burst Radius drops to 5 yards.

Adding a selector switch takes up two slots. It takes an action to switch a weapon between lethal and stun damage.

Rate of Fire

The weapon's ROF (rate of fire) is a measure of both how quickly a weapon can be brought to bear on a target and how many bolts it can fire off each time the trigger is squeezed. Weapons with a ROF of 1 or greater are assumed to have a Speed of 1 unless your Marshal rules otherwise.

A weapon with an ROF of 3 or greater may have a selector switch added to it. This takes up a single slot. A selector switch allows the shooter to fire any number of rounds between 1 and the weapon's ROF (bursts must still be fired in three round groups). Without a selector switch, the weapon always fires at its maximum ROF.

Flash Gordon Rate of Fire

ROF	Slots
Speed 5, ROF 1	0.5 x ammo size
Speed 4, ROF 1	1 x ammo size
Speed 3, ROF 1	1.5 x ammo size
Speed 2, ROF 1	2 x ammo size
1	3 x ammo size
2	6 x ammo size
3	9 x ammo size
6	12 x ammo size
9	15 x ammo size
12	18 x ammo size
15	21 x ammo size

Range Increment

The blast from an energy weapon tends to disperse with range. The farther a weapon intends to shoot, the more energy needs to be pumped into its shot to offset this. When figuring Drain for a weapon, multiply the result by the Drain Mod listed for its Range Increment to find its actual Drain. Round fractions up to the next whole number, as usual. Then get to blastin'!

Flash Gordon Range Increment

Increment	Slots	Drain Mod
5	2 x ammo size	0.5
10	4 x ammo size	1
20	8 x ammo size	2
30	10 x ammo size	2.5
50	15 x ammo size	3
100	20 x ammo size	3.5
250	25 x ammo size	4

Generator

Associated Spirits: Appliance
TN: 3
Components:
Chemical: 10%
Electronic: NA
Mechanical: NA
Structural: 10%
Drain: Special/hour

Sometimes nothing beats good, old-fashioned electricity. The *generator* power allows your junker to build electrical generators that run on G-rays. These devices convert one form of energy to the other.

The Drain and size of a generator depends on how large a job it has to do—see the Generator Table for details. A generator uses all the slots available for its Frame size, including power jacks.

Generator

Job	Frame	Drain
Single lamp	2	1
Stove, air conditioner	3	2
Typical household	5	4
City block	10	8
Small town	14	16
Large town	18	32

Gunsmith

Associated Spirits: Gun
TN: 5
Components:
Chemical: None
Electronic: 10%
Mechanical: 30%
Structural: 5%
Drain: None

Gunsmith allows your techno-mage to build working firearms from the debris around him. Weapons built with this power all fire some sort of physical projectile at the target.

The first step in designing a gun is figuring out exactly what sort of unpleasantness the weapon lobs at the target. This means choosing an ammo type. Your junker can design custom ammunition for his piece using the *ammo* power, or he can choose to use a standard ammo type. Either way, you need to know the ammo's size because this is used to determine the rest of the weapon's statistics.

Once you've selected your weapon's favorite chow, it's time to decide exactly which category of gun the weapon falls in.

Slugthrowers

These are traditional firearms. They use some sort of chemical propellant to fire slugs from their barrels. There are three things that need to be determined for a slugthrower: Range Increment, ROF, and ammo capacity. All of these things are dependent on the size of the weapon's ammo and the size of the weapon itself. The larger each of these ratings is, the more slots it takes up, and the larger the final weapon is. Let's take a quick look at each item

Rate of Fire

The weapon's ROF is a measure of both how quickly a weapon can be brought to bear on a target and how many rounds it can fire off each time the trigger is squeezed. Weapons with a ROF of 1 or greater are assumed to have a Speed of 1 unless your Marshal rules otherwise.

A weapon with an ROF of 3 or greater may have a selector switch added to it. This takes up a single slot. A selector switch allows the shooter to fire any number of rounds between 1 and the weapon's ROF (bursts must still be fired in three round groups). Without a selector switch, the weapon always fires at its max ROF.

Gunsmith Rate of Fire

ROF	Slots
Speed 4, ROF 1	2 x ammo size
Speed 2, ROF 1	4 x ammo size
1	5 x ammo size
2	10 x ammo size
3	15 x ammo size
6	20 x ammo size
9	25 x ammo size
12	30 x ammo size
15	35 x ammo size

Range Increment

A weapon's Range Increment is a measure of how accurate it is. As with normal weapons, dividing the range to the target by the weapon's Range Increment yields a modifier to the TN of the shot.

When selecting a Range Increment, the Max Die listing on the chart refers to the maximum die type of damage a weapon of that increment can inflict. This applies only to slug-firing weapons and reflects the fact that direct fire weapons require a certain barrel length to achieve proper muzzle velocities. You can fire a large round from a short barrel, but it won't do as much damage.

In game terms, whenever you select an increment for a weapon that has a lower Max Die rating than the ammo's damage dice, the damage dice are reduced to the increment's Max Die rating. For instance, if you select an increment of 15 for a round that normally does 5d20, its damage is reduced to 5d10 because d10 is the Max Die rating for that increment.

Gunsmith Range Increment

Increment	Slug Slots	Slug Max Die	Warhead Slots
5	2 x ammo size	d6	NA
10	4 x ammo size	d8	NA
15	6 x ammo size	d10	NA
20	8 x ammo size	d12	0
25	10 x ammo size	d20	5 x ammo size
50	15 x ammo size	no max	8 x ammo size
100	20 x ammo size	no max	10 x ammo size
250	25 x ammo size	no max	13 x ammo size
500	30 x ammo size	no max	15 x ammo size

Ammo Capacity

This is simply the number of rounds the weapon can hold before it must be reloaded. The Reload speed listed for each magazine type is the number of actions it takes to reload.

Internal magazines hold the ammo inside the gun itself. This usually comes in the form of an internal box magazine or a tubular magazine under the barrel. These magazines take up a lot of room: a number of slots equal to the number of rounds they hold multiplied by the ammo's size.

Most modern weapons use detachable magazines. Because these store most of the ammunition outside the weapon, they take up less space than an internal magazine. Divide the number of rounds in the magazine by four before multiplying by the ammo's size when figuring slots.

Belt feed systems are commonly found on large, crew-served weapons like machine-guns. These allow large amounts of ammunition to be hooked to the weapon on a belt. These mechanisms take up little space in the weapon itself, but they are slower to reload and require an additional person to deal with large, bulky belts when the weapon is moved.

Ammo Capacity

Ammo Feed	Reload Speed	Slots
Internal Magazine	1/round	Ammo size x number of rounds
Detachable Magazine	1	Ammo size x number of rounds ÷ 4
Belt	3	Ammo size x 2

Rail Guns

Rail guns are much like conventional slugthrowers. The only major difference between them is that instead of a using an explosion to push the round out of the gun, rail guns use a powerful magnetic field to accelerate the round.

Purchase the Range Increment, ROF, and ammo capacity for your junker's rail gun just as you would for a conventional weapon (but don't forget when designing the ammo that it gets a size reduction for needing no propellant).

Drain

Rail guns require a source of G-rays to operate. The rate at which this is drained by the weapon depends on the size of the ammo. Each round fired burns a number of G-rays equal to its size. If the weapon is capable of automatic fire, each burst drains an amount equal to the ammo size times three.

If the weapon's ammo was designed to be armor-piercing, the drain per shot is increased by an amount equal to the ammo's size multiplied by the ammo's AP rating. An AP selector switch can be added to a rail gun. This uses up one slot and allows the user to select any AP rating for the weapon from zero to the ammo's maximum AP rating.

Ammo Processing

It's possible to make rail guns which can create their own ammo. Adding an ammo processor to a rail gun takes up a number of slots equal to 10 times the ammo's size. The Drain for the processor is equal to the ammo's size per use.

The unit must be attached to some sort of metal supply. This can come from a hopper, magnetic collector tube, or magazine. Each use of the processor requires an action and creates 1d6 rounds of ammo for the weapon.

Warhead Launchers

Weapons that fire warhead rounds—grenade launchers, mortars, and artillery pieces—don't depend on the round's velocity to cause damage. That's taken care of by all the explosives packed inside. Rounds from these weapons are normally fired at high trajectories and hit the target from above.

Because of this, these weapons can get by with slightly shorter barrels. This is reflected in the lower slot requirements for warheads on the Range Increment Table (on page 77).

The weapon's other characteristics—ROF, ammo capacity—are bought the same way as for any other gun.

Dual-Purpose Guns

It's possible for a weapon to be designed to fire both slug and warhead ammo. If this is the case the Range Increment must be purchased using the costs for slug-throwing weapons.

Rail Launchers

Warhead launchers can also be energy powered. The Drain for such a weapon is equal to half the ammo size, rounded up.

Projectors

The most common weapon in this class is the flamethrower, but it also includes things like acid sprayers, steam guns, and such.

Purchase the weapon's ROF and ammo capacity as for a slug-throwing weapon. The slot cost for Range Increment is doubled, though, because it is much harder to propel a stream of liquid a long distance than a solid object.

In combat, roll to hit the target area normally. If the shot misses, roll deviation. Once you've determined where the shot lands, every target within the weapon's Burst Radius is hit. The pool of burning fuel (or acid, or whatever) lingers on. Each round it loses one die of damage. Once it is reduced to zero dice, the fuel has burned itself out (although flammable objects set alight by the fuel may continue to burn at the Marshal's discretion).

Healing

Associated Spirits: Tool
TN: 5
Components:
Chemical: 10%
Electronic: 10%
Mechanical: 10%
Structural: None
Drain: 10 per wound level

Many junkers use this power with pride. Healing devices were one of the things mad scientists never had much success with. The fact that junkers can create these things is seen as evidence of the superiority of junker magic.

Healing calls on the spirits of the hospital equipment destroyed in the Last War for help. It can be used to create one-shot, disposable healing packs or powerful reusable devices.

Aid Packs

The most common use for this power is to make single-use aid packs.

The Frame size of an aid pack is equal to the number wound levels it can heal. The maximum is 5. The *healing* power uses up all of the slots in the Frame. The Drain of the pack is equal to 10 times the number of wound levels it can heal.

Using Packs

All aid packs have built-in power jacks. The pack must be connected to a G-ray power source to function.

Using a ready pack takes two actions in combat. The pack must be placed against the injured location and then activated. At the end of the second action, the location is healed of as many wounds as the pack is capable of removing, and the pack is discharged. Any wounds the pack can heal above the actual wound level are lost.

Packs capable of healing maimed body parts can't bring someone back from the dead. They can heal severed and maimed limbs if all the parts are present and the attempt is made within 30 minutes of the wound being inflicted.

A discharged pack can be recharged by using the *healing* power on it again. This requires a roll as if creating the device, but only takes 15 minutes. It also requires a fresh batch of chemical components.

G-ray Exposure

Patients healed with an aid pack are exposed to low levels of G-ray energy. The patient must make a Foolproof (3) *Spirit* roll to avoid gaining a random mutation. The TN for this roll is increased by +1 for each wound level healed.

Re-Usable Devices

It's possible for your techno-mage to build reusable healing devices, but these are larger than aid packs. The Frame size for a reusable device is triple the number of wound levels the device can heal. The device's Drain is doubled—it's now 20 per wound level healed.

Patients healed in a reusable device also must roll to avoid mutation.

Resurrection

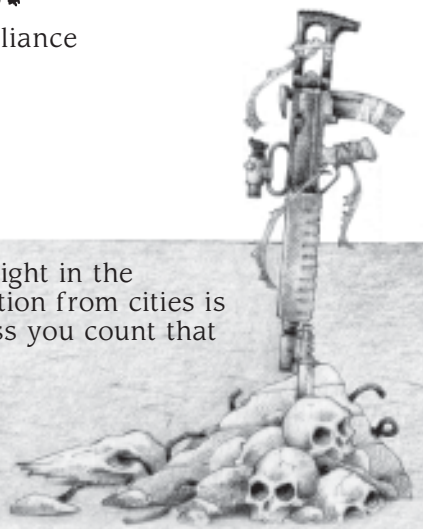
A reusable device capable of curing maiming wounds can be used to return someone from the dead if the attempt is made within one hour of the patient's demise. Resurrection attempts cost double Drain. This means that resurrecting someone costs 200 G-rays of energy.

Draw a card for each ten minutes or portion thereof the poor sod has been dead. If a deuce is drawn, the brainer's soul has wandered too far into the Hunting Grounds to be recalled. The attempt fails. If a Joker is drawn, the waster's soul returns, but a manitou slipped into the body with him. He's now Harrowed. Any other result means a successful attempt.

Light

Associated Spirits: Appliance
TN: 3
Components:
Chemical: None
Electronic: 10%
Mechanical: 10%
Structural: None
Drain: Special/Hour

It gets pretty dark at night in the Wasted West. Light pollution from cities is a thing of the past—unless you count that



pretty green glow. *Light* is a simple power, but that doesn't make it any less handy. It lets your waster create lights of all sorts.

The number of slots and the Drain required by a light are summarized in the Light Table.

Light

Light	Slots	Drain
Mini flashlight	2	1
Large flashlight	4	1
Headlight, lamp	6	1
Stage spotlight	30	3
Antiaircraft spotlight	60	4

Locomotion

Associated Spirits: Car
TN: 3
Components:
Chemical: 10%
Electronic: 10%
Mechanical: 30%
Structural: 20%
Drain: Special/Hour

Locomotion deals with the fine art of creating ground vehicles and self-propelled devices. Your junker can use this power to slam together a custom ride she can use to cruise the Wastes in style, or it can be used to give any of her devices a means of getting from here to there on their own.

Locomotion is a little different from other powers in that you need to know what the device's final Frame size is going to be before you install this power.

To make things simpler, we've broken down the process of adding *locomotion* to a device into a few easy steps:

1. Select the chassis
2. Select the suspension type
3. Design powerplant & fuel system
4. Add passengers & cargo space
5. Add weapons & armor
6. Build it

Step 1: The Chassis

The chassis is the basic framework of the vehicle and defines many of its characteristics. Select a final Frame size for the vehicle. The number of slots available and Durability are as listed on the Frames table on page 59. Look on the Chassis Table to find the Frame's other performance characteristics. Handling and Load Limit are for use with the rules found in *Road Warriors*.

All chassis begin with an Armor Value of 1.

Chassis

Frame	Handling	Load Limit
0	+6	0.5
1-2	+5	1
3-4	+4	2
5-6	+3	3
7-8	+2	6
9-10	+1	12
11-12	0	24
13-14	-1	36
15-16	-2	48
17-18	-3	60

Step 2: The Suspension

There are a number of ways your junker's contraption can wander the Wastes. For the purposes of this power, there are four primary forms of ground vehicles: hover, tracked, walking, and wheeled. The mode of locomotion you choose has a number of effects on your hero's device. Read the descriptions below to see how its stats are affected.

Hover

Hover vehicles are the fastest ground vehicles. They use large ducted fans to create cushions of air on which they float. This makes for a smooth ride over most terrains and allows the vehicle to travel over water.

The large fans and heavy skirts needed by a hover vehicle take up 30% of the Frame's slots.

Tracked

Tracked vehicles are slower than wheeled vehicles, but there are very few types of terrain they can't handle. Tracked suspensions are considered off-road suspensions for purposes of the rules in *Road Warriors.* A tracked suspension uses up 20% of a Frame's slots.

A tracked vehicle can carry greater loads than a wheeled vehicle. Increase the Frame's Load Limit by 20%. Tracked vehicles can climb grades of up to 30 degrees and obstacles less than half the vehicle's height. In muddy or swampy conditions, tracked vehicles are less likely to bog down due to their lower ground pressure (Marshal's call as to when this applies).

The tracks are independently geared and may move in opposite directions. This allows the vehicle to pivot in place while stationary. If you are using the rules in *Road Warriors*, treat this as a maneuver with a TN Modifier of 0.

Walkers

Vehicles capable of walking are the slowest of the four types. The primary advantage of a walker is that it can travel over nearly any type of uneven terrain. A walker suspension comes with four legs and uses up 30% of the Frame's slots. This can be halved by reducing the number of legs to two, but the vehicle must also have the *agility* power to operate without falling over.

Wheeled

Wheeled vehicles are the second fastest ground vehicles. The standard vehicle created with this power has four wheels. Frames size 8 and under can get by with as few as two wheels, but they require something to keep them balanced, such as a human rider or the *agility* power. A wheeled suspension takes up 10% of the Frame's total slots; 5% if the vehicle has only two wheels.

Each pair of wheels added to a vehicle beyond its basic four takes up an additional 5% of the Frame's slots, increases its Load Limit by 5%, and lowers its top speed by 5%.

The standard wheeled vehicle created with *locomotion* comes with a standard suspension. This can be upgraded to a racing suspension which increases the vehicle's Handling by +2 at a cost of 5% more of the Frame's slots. Racing suspensions don't fare very well off road. Check out *Road Warriors* for all of the very messy details.

At a cost of 10% of the Frame's slots, the vehicle's suspension can be upgraded to an off-road suspension. You'll have to look in *Road Warriors* to see how this benefits you.

Max Speed

Frame	Hover	Wheeled	Tracked	Walker
0–2	40	30	10	10
3–4	75	60	15	15
5–6	100	80	25	20
7–8	140	100	35	25
9–10	180	120	45	30
11–18	200	120	60	40

Step 3: Powerplant & Fuel

Once you've crammed everything you possibly can into the Frame you selected, it's time to build an engine for this monstrosity. Simply pick the Acceleration rating you'd like off the Powerplant Table and allocate the listed number percentage of slots to the engine.

Powerplants

Acceleration	Slots
5 mph (slow)	15%
10 mph (average)	25%
15 mph (quick)	35%

Fuel

Your waster has two options for powering this beast: G-rays or spook juice. This must be set at the time the vehicle is constructed and cannot be changed later.

A vehicle using G-rays has a Drain like most other devices. To figure out a vehicle's Drain, simply divide its

Acceleration by 5 and add this number to half its Frame size (rounded up). This is the number of G-rays the vehicle burns per hour of operation, regardless of speed.

Junker engines can also run on spook juice (straight gasoline or alcohol won't work) due to its high spirit content. To figure out how far you can get on a tank of fuel, subtract the vehicle's Frame size from 20 and multiply the result by 5. This how many miles the vehicle can travel on a gallon of spook juice. Installing a fuel system in the vehicle uses up 10 slots per gallon.

Ready to Roll!

If you're installing *locomotion* in an unmanned device, it's ready to roll. Skip ahead to step 6. If you're building an actual vehicle, there are a few other items you may wish to include.

Step 4: Passengers & Cargo

What good's a vehicle without passengers? Each human-sized passenger uses up 70 of the Frame's slots. This includes all necessary controls, doors, etc. needed by that passenger. If the passengers are not enclosed in the vehicle, like on a motorcycle or dune buggy, reduce the number of slots needed to 35.

The amount of cargo space a vehicle has is up to the junker building it. The number of slots needed for this space is figured using the rules for dead space on page 56.

Marv is building a pickup truck for his buddies. A driver and two passengers in the cab take up 210 slots. He also wants to make sure that they can haul his motorcycle around if it breaks down, so he gives the vehicle a Frame 7 (the same size as his bike) cargo bed. A size 7 Frame has 182 slots, so the cargo bed takes up 91 slots (182/2).

Step 5: Weapons & Armor

It may occur to your waster to install some firepower in his ride. There are two ways to go about doing this. You can completely finish the vehicle, and then use the rules in *Road Warriors* to slap some weapons on it just as you would any other conveyance, or you can build some goodies right into the vehicle's frame. Either way, people better not drive slow in the fast lane.

Armor

You can add armor to your junker's ride using the rules in *Road Warriors*, or you can use the *armor* power (see page 66). Use the vehicle's Frame size and slots to determine the cost of the *armor*.

Weapons

For each weapon added to the vehicle, you need to know the potential number of slots it fills. If the weapon is one of your own design, this is the number of slots used in its construction. If it's not junker tech, find a Frame size that matches the weapon and assume that it uses all available slots for the Frame.

The actual number of slots it takes up depends on the type of mounting it is in. These mounts are covered in *Road Warriors*. There isn't room to fully explain all the possible mount and firing arc combinations here, so check *Road Warriors* for all the details.

The slots listed for each mount include all of the controls needed to operate the weapon.

Articulated mounts allow a weapon a limited traverse. This uses slots equal to 20% of the weapon's.

Fixed mounts lock weapons in place, where they cannot be moved. They can only be aimed by turning the vehicle. This uses slots equal to 10% of the weapon's.

Pintle mounts basically place the weapon on a post. This requires some reinforcement of the vehicle's frame around the mount. This uses slots equal to 5% of the weapon's.

Ring mounts are normally found on the roofs of vehicles. They allows a gunner to rotate the weapon a full 360°. This uses slots equal to 15% of the weapon's.

Turrets

The *locomotion* power can be used to create turrets, not just for vehicles created with this power but for ordinary vehicles as well.

Treat a turret as a vehicle without a suspension or powerplant. It is created separately from the vehicle it is to be mounted on. Weapons and armor can be mounted on the turret just as on a vehicle. Simply add any weapons or other systems you'd like to put in the turret and total up the slots used.

Mounting the turret on a vehicle built with *locomotion* uses up slots equal to a quarter of the slots used to build the turret. This is taken up by the turret's rotating mechanism.

To mount the turret on a conventional vehicle, simply find the Load of the turret based on its Frame size and use the rules in *Road Warriors*.

The Frame size of a turret may be no larger than 75% of the vehicle's Frame size. It's possible to mount multiple turrets on a vehicle, but the total combined Frame size of the turrets may be no greater than 75% of the vehicle's Frame.

Drain

Turrets require power to operate. The Drain of a turret is equal to half of its Frame size. This is enough energy to power the turret mechanism for one hour.

Build It

Car spirits are highly responsive to attention. Each raise a junker gets when building a vehicle allows him to increase its performance. Each raise can be used to increase acceleration by 5 mph (to a maximum of 20 mph), to increase Handling by +1, to increase Top Speed by 20 mph, to lower the rate of Drain by 1 (to a minimum of 1), or to reduce fuel consumption by 10%.

Reactor

Associated Spirits: Tool
TN: 11
Components:
Chemical: None
Electronic: 30%
Mechanical: 25%
Structural: 25%
Drain: None

Reactor allows your junker to build small ghost-rock reactors. These can be valuable power sources, but they can also be dangerous if they become unstable.

The power of a reactor is determined entirely by its Frame. The smallest reactor it is possible to make is Frame 4. A reactor produces G-ray energy equal to the square of its Frame size each round. A Frame 4 reactor, for example, produces 16 G-rays per round.

A reactor uses up all available slots in its Frame. No other powers can be built into a *reactor* Frame. The reactor can, however, be built into another device larger than itself. This requires a number of slots equal to the slots for the reactor's Frame size, plus another 50%. Whether it stands alone or is built into something else, a reactor includes a number of power jacks equal to it's Frame size divided by 4 (round down).

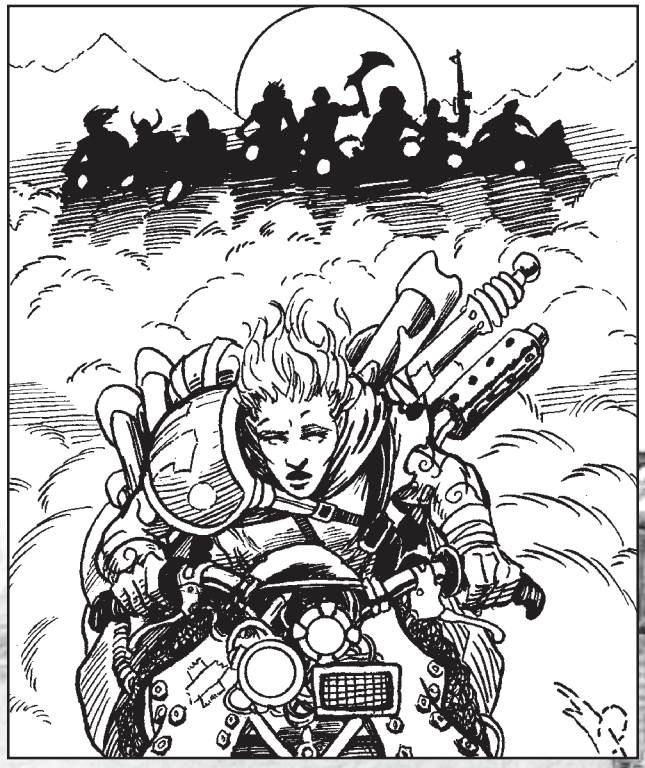
Marv decides to build a Frame size 4 reactor into the motorcycle he is building with *locomotion*. A Frame 4 device has 16 available slots. This means the reactor takes 24 slots (16 +8) in the motorcycle.

Reactors need fuel. Ghost-rock reactors require a number of pounds of irradiated ghost rock equal to twice the reactor's Frame size. This is enough fuel to last for one year.

Unstable Reactors

Ghost-rock reactors can be extremely dangerous when they become unstable. For starters, in addition to any result from the Instability Table, reactors always leak G-rays when they become unstable. Anyone within 5 yards times the reactor's Frame size must make a Hard (9) *Spirit* roll to avoid gaining a random mutation.

Unstable reactors are also subject to uncontrolled power surges. This means that all devices which are drawing power from an unstable reactor must make a Stability check.



Irradiated Ghost Rock

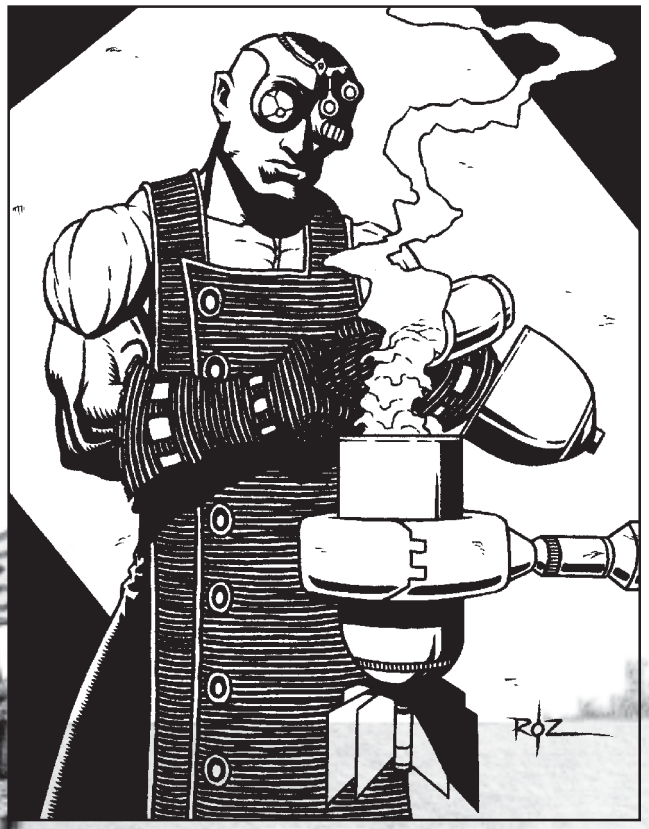
As powerful as ghost-rock reactors are, they aren't very common—and there's a good reason. They require irradiated ghost rock for fuel, and that's about as common as a mutie with a good complexion.

Reactor Chow

There are only two reliable sources for this rare mineral: one of Hellstromme Industries' breeder reactors, and the very center of a blast crater caused by a ghost-rock bomb.

Most of the HI reactors that didn't get nuked have been occupied by Throckmorton's goons or vicious tribes of muties. The remaining ones are still guarded by the automated defenses designed by Hellstromme himself—that's why Throckmorton doesn't have them.

Blast craters only exist where ghost-rock bombs made ground-level detonations. They were only used in this way against hardened underground military complexes that could only be penetrated by the bombs' G-rays. If you can make it through the swirling ghost-rock storm surrounding these places, you still must survive the things which live within such places.



Random Strikes

The only other source of the mineral is an occasional ghost-rock vein in the Maze that was exposed to radiation by a nearby ghost-rock bomb detonation. This stuff is extremely hazardous to mine, and very few people do because it's only of use to junkers. In short, if a trader claims to have irradiated ghost rock, he's probably trying to sell you a lump of radioactive coal. If he actually has the real stuff (which is entirely up to your Marshal), it is expensive. Irradiated ghost rock normally sells for upwards of $1000 a pound.

Lead Aprons

Working with irradiated ghost rock—IGR for those in the know—can be hazardous for one's health. Each day spent in contact with the stuff requires an Onerous (7) *Vigor* roll to avoid getting a random mutation—that's if proper precautions like rad suits with filtered ventilation systems are used! Coming in direct contact with the stuff requires an Incredible (11) *Vigor* roll for every minute of exposure.

Most junkers who work with this stuff either learn the *shield* power or become buddies with someone who does. Only a *shield* hardened against spiritual energy can completely block the ill effects of exposure to IGR.

Reflexes

Associated Spirits: Computer, Tool
TN: 9
Components:
Chemical: None
Electronic: 50%
Mechanical: 10%
Structural: None
Drain: (Quickness die ÷ 4)/Hour

A spy drone with a *Quickness* of 2d4 won't be spying long. This power gives your techno-mage the ability to increase the *Quickness* of his devices.

Look on page 61 to find the device's default *Quickness*. This power can be used to increase both the device's *Quickness* Coordination and die type. Each increase in Coordination, up to the maximum of 5, uses up 1% of the device's total slots, minimum of 1. Each increase in the device's die type uses up 5% of the device's total slots.

The Drain for this power is equal to the device's final *Quickness* die type divided by 4. Round up as usual.

Rocket Man

Associated Spirits: Car, gun
Components:
Chemical: 40%
Electronic: 10%
Mechanical: 10%
Structural: None
Drain: special

The *rocket man* power deals with the fine art of constructing rockets, missiles, and the launchers that fire them.

The first step in designing one of these weapons is deciding whether it is a rocket or a missile. As far as this power is concerned, there is only one difference between a rocket and a missile: a missile has a guidance system and a rocket doesn't.

Rockets

Making rockets is easy. Just grab a warhead and slap it on the end of a tube full of fuel. Okay, maybe there's a little more to it than that.

The component upon which everything else hinges is the warhead. The size of the warhead determines the rest of the weapon's stats. So if you haven't already, go back to the *ammo* power and design yourself a bundle o' bang.

Range Increment

The only thing a rocket requires is a Range Increment. Just select the Range Increment you want from the table below—this automatically sets the rocket's speed. There are two numbers listed for the rocket's speed. The first is the weapon's speed in miles per hour; the second is the number of yards the rocket can cover in a single round.

Multiply the number under Slots by the warhead's Frame size to determine the number of slots used by fuel tanks. These slots provide only enough fuel for a single round of flight. The rocket's range can be extended by paying half of the Range Increment's slot cost. Each time this is done, the rocket's flight time is increased by one round.

Backblast

The backblast listing on the chart below lists the damage a person suffers if he is standing behind the launcher within the listed range when the rocket fires. Backblast damage normally extends back in a cone, but may spread if there is an obstacle behind the launcher.

Rocket Range Increment

Increment	Speed	Slots	Backblast
10	100/250	1	3 yards, 2d4
20	200/500	2	5 yards, 2d6
25	300/750	4	10 yards, 2d8
50	500/1250	6	15 yards, 2d10
100	700/1750	8	20 yards, 2d12
250	900/2250	10	25 yards, 2d20
500	1100/2750	12	30 yards, 4d20

Missiles

To design a missile, start with a warhead just as you would with a regular rocket. Once that's done, it needs a guidance system.

Guidance System

Building a guidance system usually requires the use of other junker powers. *Rocket man* doesn't give your waster the ability to create a guidance system, just the knowledge of how to install it in his rocket.

There are many different ways to create a guidance system, but they all have a few common traits. First is the ability to fly the missile and correct its course to intercept the target. The second is a way to locate and track the target and provide course corrections.

The powers used to guide the missile can be split between the missile and its launcher (See **Launchers** below). Slots used by powers in the missile are added to the warhead size when buying the weapon's range increment, so it's often beneficial to off-load as much of the guidance system as possible to the launcher.

Here are a few ideas based on real-life guidance systems to get you started:

Command-guided: The missile is manually guided to the target by the shooter. This requires the *commo* power in both the missile and the launcher to allow them to communicate. The weapon operator must also have the *shootin': missile* aptitude.

IR Seeker: The missile locks onto the target's infrared signature. This requires a passive IR *sensor* in the missile. The missile also requires the *agility* and *brains* powers and the *shootin': missile* Aptitude.

Laser or radar-guided: The launcher contains an active laser or radar *sensor*. The missile contains a passive laser or radar *sensor*. The missile homes in on the spot at which the launcher's *sensor* is aimed.

Range Increment

Once the warhead and guidance components are installed it's time to strap on the rocket. Purchase the missile's Range Increment in the same way as for a rocket, but add the warhead and guidance system slots together before multiplying. Add 10% to the final total to account for gyros, servos, and control fins.

Build It

Missiles cannot be built in batches. Each missile must be built separately.

Launchers

A missile or rocket launcher is a separate device from the weapons it fires, and must be built separately.

Size

The basic size of a launcher in slots is equal to the number of slots used in constructing the rocket it fires plus 20%. If constructing a missile launcher, add to this the size of the guidance system components installed in it.

Ammo

Because most missiles and rockets are bulky, it's easier to add an additional launch tube than try to feed the launcher from a magazine. Each extra rocket or missile in a launcher takes up a number of slots equal to the slots used to construct the missile plus 20%.

ROF

Rocket launchers have an ROF equal to the number of rockets remaining in the launcher.

Missile launchers have an ROF of 1. In addition, only one missile from a launcher may be in flight at one time if the missile is controlled from the launcher.

Speed

The Speed of a rocket or missile launcher is equal to its Frame size divided by two and rounded up.

Combat

Rockets and missiles work a little differently than other weapons. Because of the long distances they can cover, they do not always reach their targets on the action, or even round, they are fired.

Rockets

The TN to hit with a rocket is figured in the same way as for other weapons: start at a base TN of 5 and add the standard modifiers for range, size, movement, etc.

It takes a number of actions equal to the launcher's speed to fire the rocket. Launchers with a Speed higher than 2 cannot be hip shot under any circumstances.

Once the rocket leaves the launcher, it travels a distance equal to that listed for its Range Increment. If this is enough to allow the weapon to reach its target, the attack and damage are resolved on the action the rocket was fired.

If not, the rocket remains in flight. Draw an action card for it on the following round. When this card comes up the rocket moves toward its target again. This continues until the rocket reaches its target and blows it to bits or runs out of fuel.

If the attack roll was successful, the rocket hits exactly where the shooter intended. If the roll failed, the rocket deviates 5% of the range fired times the amount by which the roll was missed in a random direction.

Missiles

Guided missiles work a little differently. Before a missile can be fired it must lock onto the target. It takes one action to acquire the target. The user must make a roll against a Fair (5) TN.

This is a contested roll if the target is actively jamming the launcher. The roll is made using the operator's *shootin': missile* Aptitude if the missile is manually guided, or the launcher or missile's *sensor* rating if it has some other form of guidance system. If the roll is failed, the missile operator can continue trying to acquire the target on each of her later actions, until the target's acquired, moves out of range, or the brainer gives up.

Once the weapon is locked on target, it takes a number of actions equal to the launcher's speed to power the missile up and launch it. After the missile is launched, it travels toward its target in the same way as described for rockets. When the weapon reaches the target, another *shootin': missile* or *sensor* roll is needed to actually hit. This normally requires a Fair (5) roll against either the operator's or the missile's *shootin': missile* Aptitude.

If the target is taking evasive action or has equipment capable of jamming the missile, this is a contested roll against the target's *drivin'* or *sensor* rating. If a *sensor* with the ECM modification is attempting to jam the shot, the missile must fall within the *sensor's* arc. An ECM *sensor* can jam an unlimited number of missiles each round as long as they fall within the *sensor's* scan arc.

If the roll succeeds, the missile hits. If it fails, the missile deviates 5% of the range fired times the amount by which the roll was missed in a random direction.

Payloads

Not all rockets and missiles are loaded with explosive mayhem. It's possible to build other things into a missile. For instance, you might build a recon missile with the *sensor* and *commo* powers that relays pictures of the area over which it flies, or one that drops Doomsayer literature on the target.

To do this, just calculate the number of slots used by the additional powers built into the missile and substitute this number for the warhead size. Don't forget to include the slots used by any batteries or powerpacks the payload powers require to operate.

Sensor

Associated Spirits: Appliance, Tool
TN: 5
Components:
Chemical: None
Electronic: 20%
Mechanical: 10%
Structural: None
Drain: Special/Hour

The *sensor* power gives a device the ability to scan its surroundings. The basic level gives the device senses equivalent to a normal human. More advanced powers give the device the ability to detect an array of energy types. Many devices need *sensor* to see what it is they are doing.

Sensor Types

Each sense must be bought separately. Each sense has a slot cost and a maximum range. The maximum range is the normal maximum distance at which the sensor can reliably detect items. The Marshal may adjust this as he see fit, based on conditions.

The basic *sensor* package gives the device one of the five basic human senses at roughly average human levels. For instance, buying basic vision for a device allows it to see as if it were a human with 20/20 vision. If something is not visible to the old Mk I eyeball, it's not visible to this device either.

Enhanced senses are just that: enhanced versions of the human senses or parallels to senses found in the animal kingdom. This includes things like telescopic or night vision and sonar.

Energy sensors detect wavelengths of energy not normally apparent to biological creatures. This includes radio waves, ultrasound, microwaves, etc.

The *spirit sight* ability allows the device to see the energy given off by spirits and other supernatural creatures which are present in the physical world.

Active versus Passive

Sensors can be active or passive. Passive *sensors* rely on detecting energy given off by objects around them, like an eye detecting the light reflected off the objects surrounding it.

Active *sensors* transmit energy and build a picture of their surroundings by detecting reflected energy. A radar dish, for instance, beams radio waves out and then detects the ones which are reflected back.

Passive *sensors* are cheaper and easier to use than active ones. The slots and Drain discussed in this power are for active *sensors*. Passive *sensors* use -25% fewer slots and -50% less Drain.

Some *sensors* may be bought (separately, of course) as either active or passive. Radar can be an active sensor giving your device the ability to detect objects. As a passive sensor, it has the ability to detect other operating radar sets by the energy they give off.

Sensor

Sense	Slots	Max Range
Basic sight, hearing, etc.	1	1000 yards
Enhanced senses	2	5 miles
Energy sensors	4	Infinite
Spirit sight	8	5 miles

Sensor Rating

If the device is something which depends on its user to spot things (night-vision goggles are a good example), you only need to purchase the basic sense. If the device needs to detect things on its own, like a radar set, you need to buy a *sensor* rating also.

Select a die type and number of dice. Multiply the number of dice by the listed cost to determine how many slots this rating takes up in the device. This rating is used just like a character's *Cognition* for all rolls used to detect things with that sensor. No sensor may have more than 5 dice.

It's not necessary to roll to detect every little thing, only things which might be missed or are actively trying to avoid detection. A radar set, for example, automatically detects all aircraft within range, flying at normal cruising altitudes. Detecting a chopper flying nap-of-the-earth requires a roll. The TN is up to the Marshal.

If the target has an ECM *sensor* of the same type as the scanning *sensor*, detecting it requires the searching *sensor* to win a contest of *sensor* ratings.

Sensor Rating

Die Type	Slots/Die
d4	1
d6	2
d8	4
d10	6
d12	8
d20	10

Drain

The base Drain for a *sensor* is equal to the number of slots required for its *sensor* type. Energy sensors have a Drain of 4 per hour, for instance. This number is modified by the *sensor's* range, scan arc, and other factors, so read on.

ECM

Sensors can be bought with the electronic countermeasures *(ECM)* modification. This makes it a system which defeats other sensors of the same type. Buying basic sight with the *ECM* mod gives the device the ability to fool other visual sensors. This could be an ability which allows the device to blend into its surroundings.

When an ECM-equipped device is scanned by a *sensor* of the same type, the scanning sensor must win a contested *sensor* roll to detect it. ECM sensors are always considered active sensors.

Range

All active sensors must purchase a range (the range of a passive sensor depends mostly on the range of the active sensor it is listening for). Each range on the Range Table lists a modifier. This modifier is applied both to the number of slots required by the device's *sensor* package and to the device's Drain. When calculating slots, apply the modifier only to the number of slots needed for the *sensor* type, before adding the extra slots for the *sensor* rating.

Range

Range	Modifier
Touch	-10%
1 yard	+5%
10 yards	+25%
100 yards	+100%
500 yards	+150%
1,000 yards	+175%
1 mile	+200%
10 miles	+250%
25 miles	+275%
50 miles	+300%
100 miles	+325%

Scan Area

The basic scanner sweeps a 90° arc in front of it. Increasing the scan area increases the number of components needed and the device's Drain. Cutting it down to a narrow beam that must be aimed at a target saves space and energy.

Sensor Mods

Mod	Slots	Drain
ECM	+25%	+50%
Beam scan	-25%	-25%
Wide scan (180°)	+25%	+25%
All-around scan (360°)	+50%	+50%

Shelter

Associated Spirits: Building
TN: 3
Components:
Chemical: None
Electronic: None
Mechanical: 10%
Structural: 30%
Drain: Special

Although there are a lot of empty buildings in the Wasted West, sometimes a junker wants a place he can call his own. The *shelter* power lets your waster build the house of his dreams.

Just pick a Frame size that fits the dimensions your junker is looking for. If he is trying to build a large structure, he may need to build a modular home and attach a number of Frames together. The slots used by this power are equal to 10% of the Frame's total slots.

The rest of the slots are available for the junker to add any extra devices he cares to. If your waster is in the custom bunker business, he can add weapons and armor to the building in the same way as for a vehicle or other device. Check out *locomotion* on page 80 for the details.

Interior Decorating

Your techno-mage shouldn't go too crazy adding extras to his dream home—if he fills up all of the slots with devices, he won't be able to get in the front door. Once you've added all the extras, you need to see how much floor space is left.

Find the rough area of the building based on its Frame size. A Frame 17 building is roughly 40' x 8', or 320 square feet.

Divide the number of slots used by all of the buildings powers, including *shelter,* by the Frame's total slots. Multiply this by 100 to get a percentage.

Multiply this percentage by the Frame's square feet to determine how much floor space is left.

Within the amount of available floor space, the layout of the building's interior and the location of the doors and windows is entirely up to the junker. Sorry, but the tech spirits don't provide furniture.

Packing Up

Truly ambitious junkers may want to take this power a step further. It's possible to build a structure which can pack itself up for travel. This increases the structural components by +10%. It also requires additional mechanical components equal to the structure's Frame size which use up an additional 5% of the building's slots.

The structure takes a number of minutes equal to its Frame size to fold itself up or unpack itself. When folded up, the structure's Frame size is half what it normally is. The packing and unpacking process has a Drain equal to the building's full Frame size.

Shield

Associated Spirits: Building
TN: 5
Components:
Chemical: None
Electronic: None
Mechanical: 10%
Structural: 30%
Drain: Special

Devices equipped with the *shield* power can generate powerful energy fields capable of stopping or slowing incoming attacks. A basic shield works only against physical weapons. This includes things like bullets, swords, rocks, etc. By increasing the strength and make-up of the fields, it's possible to make them effective against energy attacks. These shields are also a barrier against radiation. While protected by such a shield, those inside it are immune to the effects of radiation.

When combined with the *spirit weapon* power, these energy-blocking shields can stop even spiritual energy directed at them. These shields protect against the effects of G-ray exposure (although not if it's due to a flaw in the shield unit) and some spells. Junkers who work with irradiated ghost rock usually invest in these.

Basic Shields

A basic *shield* requires a number of slots equal to the Frame size of the object being protected (the Marshal has the final say on what size any particular object is). A man for instance, is size 6, so a man-sized shield requires 6 slots.

A basic *shield* provides Armor 1 against all physical attacks directed at any object inside the shield. It also takes a full combat round to form. This means that once a shield is activated, it doesn't completely stabilize until the end of the following combat round.

A basic *shield* has a Drain equal to half of the protected area's Frame size per round. A man-sized *shield* (size 6) has a Drain of 3 GR per round.

Higher Armor values require larger generators and more power. Multiply the slots and the Drain by the armor level of the *shield*. An Armor 6 man-sized *shield* requires 36 slots and has a Drain of 18.

Upgrading

Normally, shields take a full combat round to power up. With a raise on the construction roll, however, the shield operates a little faster, powering up in a single action.

Shape

Your garden variety *shield* projects a dome-shaped field over the object within it. Changing the shape changes the component and power requirements.

Creating a shield projector which creates a flat *shield* only slightly wider than the object it protects requires only a quarter of the slots of a dome-shaped projector. Drain is also divided by four. Flat *shields* protect only against attacks which originate from the direction they face.

A spherical *shield* projector requires double the slots and has twice the Drain of a dome projector. It protects the user from attacks from all directions, even attacks from below.

Energy Shields

A standard *shield* keeps your noggin safe from rocks, bullets, and other unpleasantness of the physical variety, but it won't do squat

when your enemy pulls out his plasma gun and sends a wad of superheated matter in your way.

It's possible to harden the *shield* against energy attacks, but this increases the number of slots needed and the Drain by 50%. An energy-hardened shield protects against magical attacks that cause damage through energy, like *arson* or *nuke*, but has no effect against magic that directly affects the target, like *boneripping*.

Shield Control

The *shield's* controller can adjust the size of the shield from a pinhead to its maximum size. The only restriction is that any object covered by the *shield* must be fully within it when the *shield* is activated or the field does not stabilize properly. If this happens, a round's worth of Drain is lost and the controller must reactivate the *shield*.

Once a *shield* has been formed, it's also possible to create a gap in the field to allow someone or something to enter—not always a good idea.

Adjusting the *shield* size or opening a hole to let someone enter the *shield* requires an action. Opponents with cards up their sleeves may take this opportunity to slip a shot past the *shield*.

Combat Drain

The listed Drain is just enough to keep the *shield* in place each round. If it is actually hit by an attack, more energy is required to maintain the *shield's* integrity. The Drain for this is 1 for each die of damage reduced or negated. If the *shield* runs out of power while resisting damage, it collapses as soon as the last point is spent. All remaining damage passes through to the target.

A 3d6 attack hits an Armor 4 shield. The die type is reduced by one to d4 and the remaining levels of Armor negate the three damage dice. This has a Drain of 4 (1 die reduction + 3 dice negated). However, the shield had only 3 Drain left, so it collapses and 1d4 damage slips through to the target.

Shield Synchronizers

A *shield* cuts two ways—it protects the user from attacks, but it also blocks the user's weapons. There are two ways around this. The wearer can either use a weapon or power which is not affected by the *shield*—an energy weapon or magical power through a standard *shield*, for example, or she can use a *shield* synchronizer.

A *shield* synchronizer is a device which is attached to a weapon. The synchronizer is normally attached to the *shield* projector by cable (although if your junker wants to get fancy and knows the *commo* power he could use this instead). Each time the weapon fires, the *shield* projector opens a small hole to allow the shot to pass.

A *shield* synchronizer takes up 5 slots on the projector. Each weapon port added to the projector takes up an additional slot. The device which attaches to the weapon takes up two slots. It can be built into the weapon at the time of construction or built as a separate device using the *shield* power.

Spirit Trap

Associated Spirits: Building
TN: 9
Components:
Chemical: None
Electronic: 10%
Mechanical: 10%
Structural: None
Drain: Special

Who ya gonna call? This power was developed by a junker who spent too much time watching old vid-slugs. It occurred to him that maybe the spirit-trapping powers of ghost rock could be put to good use against some of the nasty phantasms floating around the Wasted West.

The Frame size for this power is determined by how big a critter your junker is aiming to catch. The larger the trap, the more dice it has for its roll against spirits it takes on, and the easier it is to haul in your catch. Look on the Spirit Trap Table for details. The trap uses all of the available slots in its Frame. A finished trap includes a remote foot-switch with 5 yards of cable and a power jack.

In addition to the standard components, the trap requires a number of pounds of ghost rock equal to the trap's Frame size. When energized with G-rays, it's this ghost rock that gives the trap its soul-grabbing power.

Spirit Trap

Frame	Trap Spirit Dice
2	3d6
3	3d8
4	3d10
5	3d12
6	3d12+2
7	3d12+4

Using the Trap

A *spirit trap* can be placed nearly anywhere: on the floor, hung on the wall, etc.

When activated, the trap projects a wide beam that extends out roughly 10 yards. Any spirit caught in the beam must roll a contest of *Spirit* against the trap. If the trap wins, the spirit is pulled 3 yards closer to the trap for each success. If the unfortunate spirit comes into contact with the trap, it is immediately sucked in and the trap closes.

The heroes operating the trap have only a limited amount of time to get their quarry into the trap. The beam only lasts for 1d4 rounds before it burns out. The trap also becomes incredibly hot while the beam is in operation. Anyone in contact with it while the trap is open takes 3d8 damage per round.

Once a trap has been used, it won't work again until the ghost rock in it has been replaced.

Valid Targets

The trap works as intended only against purely immaterial spirits. You know: ghosts, will o' wisps, and you're classic Type 4 free-floating phantasms.

Against spirits with a material form like walkin' dead, Harrowed, and even human beings, being caught in the beam simply immobilizes the target. The critter caught in it must spend an action and win a contest of *Spirit* with the *spirit trap* to break free of the beam.

Drain

The *spirit trap's* Drain depends on the size of the demon trapped inside. The Drain is equal to half of the trapped ghost's *Spirit* die type per hour.

If the trap ever loses power for more than 5 seconds, the critter inside is released—and it won't be too pleased with the heroes.

Now What?

What do you do with a trapped spirit? Well, your heroes can practice a humane capture-and-release program and let the spirit go in the wild, or they can set up an ambush and toast the sucker the second it leaves the trap. A third option is to use the *spirit trap* power to build a containment system.

A containment system can be of any Frame size. It uses up all of the available slots in its Frame. Building one requires the same components as a trap, but the amount of ghost rock required is doubled.

The holding capacity of the system is determined by the Frame's slot capacity—quite simply, the bigger the container, the more (or bigger) spirits it can hold. Each spirit transferred to the containment chamber takes up a number of slots equal to its *Spirit* die type. Once all the slots are filled, no more spirits can be added.

Because the added ghost rock helps hold the spooks in, the Drain for a containment system is much lower. The Drain is a flat 1 per spirit per day.

Unlicensed Particle Accelerators

Sometimes a pesky spirit just won't stand over the trap. If you can't trick a spirit into getting near the thing, you might be able to coerce it with some sort of weapon capable of doing it much harm. See the *spirit weapon* power, just below.

Spirit Weapon

Associated Spirits: Gun
TN: 9
Components:
Chemical: None
Electronic: 20%
Mechanical: 20%
Structural: None
Drain: Varies/shot

Spirit Weapon is not a stand-alone power. It's used in conjunction with some of the other weapon-building powers, namely: *ammo*, *Flash Gordon*, and *weaponsmith*. It can also be used with the defensive powers *armor* and *shield*.

What spirit weapon does is infuse the weapon or defensive device upon which this power is used with spiritual energy. This energy is damaging to spirits, allowing the weapon to injure creatures which can only be harmed by magical weapons.

This power is actually performed simultaneously with the power it is modifying, so when figuring the construction time, roll for each power, take the highest result, and add 50%.

This power works a little differently with each of the other powers, so let's take a look at each one in turn.

Ammo

Spirit weapon can be used in conjunction with *ammo* to create magical bullets and warheads for your waster's weapons.

Slugs

Spirit weapon can create bullets capable of harming supernatural creatures immune to physical damage. The spiritual aura imparted by the power allows these slugs to tear into the creature as if they were regular flesh and blood. Slugs affected by *spirit weapon* do no extra damage to other targets.

Spirit weapon must be used when the slugs are created. It's not possible to use the power on existing ammunition.

When figuring the TN and components for this power, use the size of the *ammo* multiplied by the number of rounds being affected to determine the Frame size, and use that to derive the TN.

Dave is using *spirit weapon* on a batch of 9mm ammo he's making (ammo size 0.3). He's making 50 bullets so the size of the batch is 15 (50 x 0.3). Looking on the Frame chart shows that the minimum size Frame that can hold 15 slots is size 4. The TN for *spirit weapon* is 13 (9+4).

Warheads

Design a standard warhead using the rules for the *ammo* power. Use the Frame size of the warhead to determine the TN and components for *spirit weapon*. Roll only for the *spirit weapon* power, not the *ammo* power—if the roll fails, the warhead is useless.

Spirit weapon warheads don't explode like conventional warheads. They unleash a blast of supernatural energy which damages only living and spiritual creatures and passes right through physical obstacles. This means normal armor and cover have absolutely no effect against these warheads. Due to the close linkage of body and soul, any wounds caused to the soul by the spiritual damage manifests themselves on the body. Harrowed and other undead take normal damage from this energy and can be killed by it without a maiming wound to their focus.

On the flip side, it means that nonliving objects can't be damaged by these weapons. You can toss *spirit weapon* grenades at a car all day and not harm anything except the gremlin living in its engine.

A *spirit weapon* warhead needs a source of energy for this spiritual explosion. This means it needs a G-ray source. The Drain of a warhead is equal to ten times the warhead's slot size. Add the slot size of any necessary battery to the warhead's size when designing a launcher or missile for it. The blast of spiritual energy released by the warhead blows the battery and the electronics of the device, so these warheads are not reusable.

Armor

Spirit weapon can be combined with *armor* to create *armor* that gives full protection against spiritual energy.

While the *armor* is forged, *spirit weapon* is used to infuse it with arcane energy. If the *spirit weapon* roll is failed, but the *armor* roll succeeds, the junker is left with just an ordinary piece of armor plate—not a complete loss, but no help against spirits. If both rolls succeed, the *armor* is now resistant to magical attacks.

If the *armor* is attacked by a damage-causing spell, syker power, or another *spirit weapon,* it protects against it with its full armor value. If the wearer is the target of a non-damaging power, he can use his *armor* to resist the effects of the spell. Roll against the *armor's* Stability. If it succeeds, the spell has been canceled. If it fails, the item's Stability drops by 1.

Flash Gordon

Using *spirit weapon* with *Flash Gordon* allows your junker to create weapons capable of firing bolts of pure spiritual energy. Like a *spirit weapon* warhead, these bolts pass through nonliving physical objects and cause damage only to living and spiritual creatures—talk about armor piercing!

Build and design a weapon as usual with the *Flash Gordon* power. When calculating the Drain per shot, multiply the ammo size by 10. The techno-wizard must succeed at both a *Flash Gordon* and *spirit weapon* roll to create a working weapon.

It's possible to create a dual-purpose weapon that can fire both normal and spirit energy beams. To do this, double the slot cost of the weapon's ROF and add 1 slot to the cost for a selector switch. Switching between normal and spiritual energy requires an action. Drain is computed as normal for standard beams and multiplied by 10 when firing spiritual energy beams.

Shield

As with *armor*, *spirit weapon* can be used to create *shields* which are resistant to spiritual energy.

To do this, first create an energy-hardened shield using the *shield* power. Then use the *spirit weapon* power on it. This increases both the slots needed and the Drain by 50%.

Spirit weapon shields resist damage-causing spells and powers, including other *spirit weapons*, normally. In addition, whenever a non-damage causing spell or power is used on a target within the shield, make a Stability roll for the shield. It if succeeds, the power or spell is negated within the shield's protected area. If the roll is failed, the *shield's* Stability drops by 1 for the next hour. The Drain for blocking a power in this way is equal to the caster's level in the Aptitude used to activate the power.

Weaponsmith

Using *spirit weapon* with *weaponsmith* creates hand-to-hand weapons which can cause damage to creatures normally immune to physical weapons.

There are two ways to use *spirit weapon* with *weaponsmith*.

The first way is to infuse the spiritual energy directly into the weapon. This has the advantage of requiring fewer components, taking up less space, and not needing a power source. The disadvantage is that each time one of these weapons is used to cause spiritual damage (wielder's choice whether or not to use the weapon's *spirit weapon* ability on any particular strike) it must make a Stability roll. If the roll is failed, some of the energy stored in the weapon is lost and its Stability drops by -1. There is no way to renew the power short of melting the weapon down and reforging it.

The second approach is to build a spirit converter into the weapon. This requires a number of slots equal to the weapon's Frame size. The converter has a Drain per round of operation equal to the weapon's Frame size. Turning the converter on and off requires an

action. While the converter is on the weapon functions as a *spirit weapon*. No Stability rolls are needed for a converter-equipped weapon.

Note that physical weapons with the *spirit weapon* power cannot pass through solid objects, they can only damage spiritual creatures they come in contact with.

Lastly, *spirit weapon* can be used with energy hand weapons. A selector switch can be added for one slot to toggle the weapon between normal damage and spiritual damage. Switching modes takes an action. While in spiritual damage mode, the weapon's Drain is multiplied by 10, and its blade can pass through solid objects—negating normal armor.

Spook Juice

Associated Spirits: Car
TN: special
Components:
Chemical: special
Electronic: None
Mechanical: None
Structural: None
Drain: None

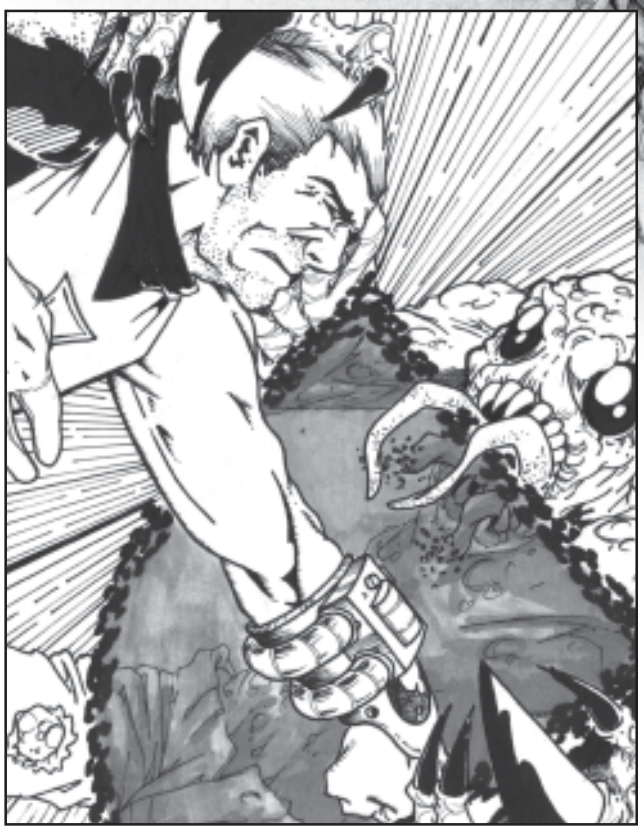
Junkers who have developed this power can make friends anywhere they go. As its name implies, this power allows your junker to create the much-coveted spook juice.

Creating this popular fuel and beverage requires an ounce of ghost rock, 1 chemical component, and 4 gallons of water for every 5 gallons created. The TN to create the go juice is 7 plus +2 for every 5 gallons created in the same batch. Find the TN your junker is rolling against on the Construction Table on page 60 to determine how long it takes to make the stuff.

For some reason, spook juice never suffers from instability. Don't worry about determining the fuel's Stability, or about that Marshal's star.

Super Strength

Associated Spirits: Tool
TN: 9
Components:
Chemical: None
Electronic: 10%
Mechanical: 20%
Structural: 10%
Drain: (*Strength* die/4)/Hour



Sometimes the basic *Strength* a device has by virtue of its Frame size just isn't enough. This power allows your junker to add extra powerful servos and major structural reinforcements to the devices, to give it some extra muscle for lifting and whacking bad guys.

This power can be used to increase both the device's *Strength* Coordination and die type. Each increase in Coordination, up to the maximum of 5, uses up 1% of the device's total slots, minimum of 1. Each increase in the device's die type uses up 5% of the device's total slots.

The Drain for this power is equal to the device's final *Strength* die type divided by 4. Round up as usual.

Targeting

Associated Spirits: Computer, Gun
TN: 7
Components:
Chemical: None
Electronic: 20%
Mechanical: 10%
Structural: None
Drain: (Slots/2) per hour

Pull!

The targeting power is used to create slick, special-purpose targeting computers. These computers don't give bonuses to hit—they negate the penalties due to common targeting problems.

There are three different types of penalties a *targeting* computer can compensate for: those due to relative speed, those due to range, and those due to the firer's stability (or lack thereof). The slots and Drain required by one of these devices depends on the level of penalties it can negate.

The Penalties

Speed

Computers love to crunch numbers. Calculating the lead on a moving target is child's play. Penalties due to a target's relative speed are fairly easy to compensate for. Each -1 penalty negated requires 2 slots.

Range

Range penalties are also fairly easy to compensate for. Every 2 slots devoted to range penalties increases the weapon's Range Increment by an amount equal to half of the weapon's basic Range Increment. For instance, when used on a rifle with a Range Increment of 20, each two slots devoted to *targeting* increases the increment by 10.

Stability

Stability modifiers are caused by the shooter's movement and include the penalty for firing while mounted or in a moving vehicle, and the running penalty. These penalties require a little more work to adjust for. The weapon must be equipped with gyrostabilizers which keep it level regardless of the movement of the vehicle or person carrying it. This requires a number of slots equal to 10% of the weapon's Frame's slots.

Using the Computer

A *targeting* computer is nearly useless unless it is connected in some way to a *sensor* which can detect and track the target. Without this information, the computer cannot form a firing solution and negate penalties due to speed or range. This is normally some sort of radar or motion *sensor*. The Marshal has the final say on what works.

Man Versus Machine

If the computer is being used in a device with the *shootin'* Aptitude, no further powers are necessary. The computer simply feeds the info to the device's weapon and blasts away at its target.

If the *targeting* computer is intended to aid a human gunner, it must also be connected to some sort of *commo* device through which it can display the necessary targeting information to the user. This can be as elaborate as a sophisticated heads-up display or as (relatively) simple as an electronic rifle scope. Either way, the device is going to need the *commo* power.

Drain

The Drain for this power is equal to the total slots devoted to the *targeting* power divided by 2.

Temperature

Associated Spirits: Appliance, Building
TN: 3
Mods:
Components:
Chemical: 5%
Electronic: 10%
Mechanical: 10%
Structural: None
Drain: Slots/Day

This appliance power allows your waster to make all sorts of devices beneficial to her health and comfort—everything from microwave ovens to air conditioners to the highly-demanded beer cooler.

The number of slots needed for this power depends on the size of the area for which *temperature* control is needed and the desired *temperature*.

Find the Frame size of the area to be *temperature*-controlled. The base number of slots needed for this power is 10% of that Frame size's total slots. For instance, a refrigerator-sized device, Frame size 5, has 86 slots. The number of slots needed for *temperature* is 8.6. This number, rounded up, is also how much Drain the device sucks down to function for 24 hours.

Both the number of slots needed and the Drain are modified by the desired temperature. Look on the Temperature Table to find the appropriate modifier. This is what the listings mean:

Climate control is a basic air conditioner setting. It maintains a stable temperature of the user's choosing within 20° in either direction of 72°.

Cooler maintains a temperature within 20° of freezing (32°).

Deep freeze can reach temperatures around -300° Fahrenheit.

Boil reaches a temperature of 250° Fahrenheit.

Bake heats the area up to 500°.

Broil reaches temperatures of up to 750°.

Nuke allows the device to boil, bake, or broil, but anything placed in the device is fully cooked in 30 seconds.

Temperature

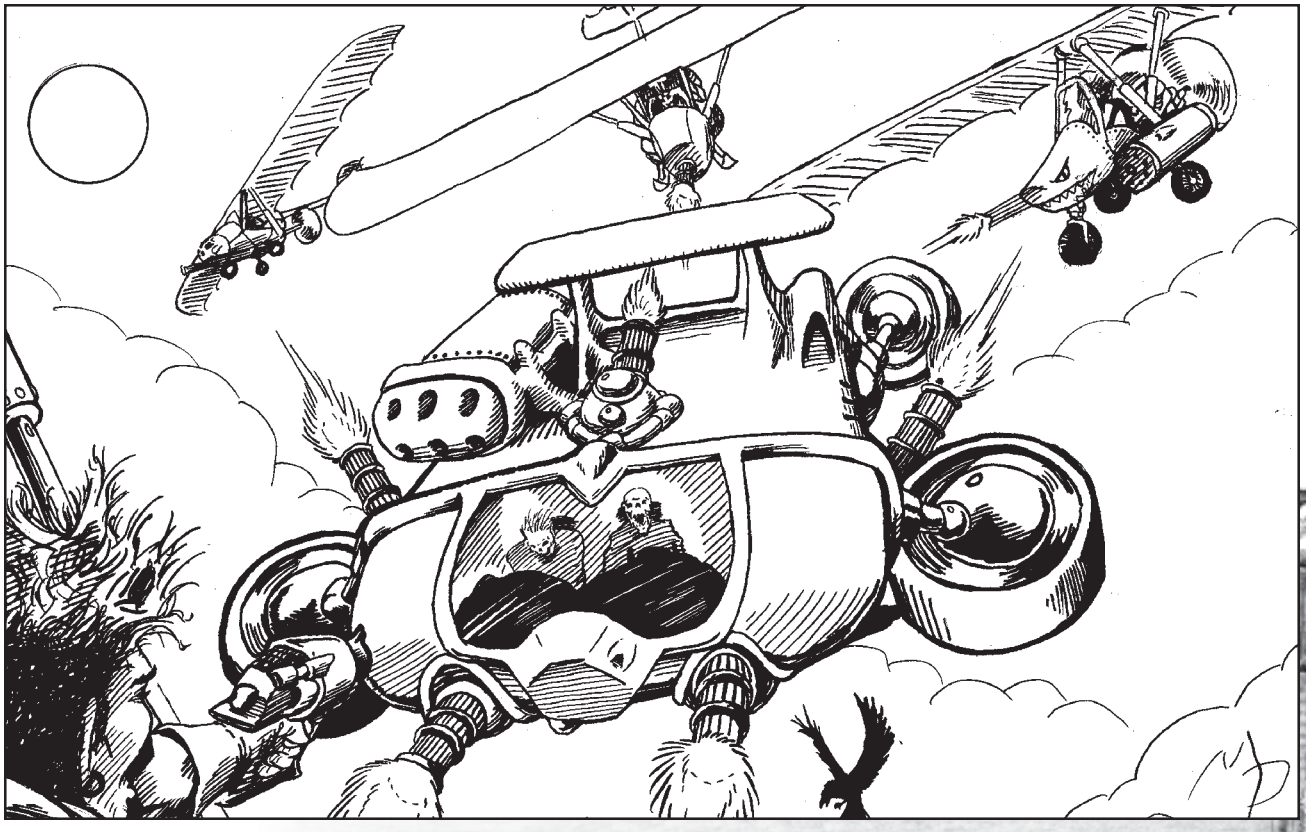
Temperature	Slot/Drain
Climate control	+0%
Cooler	+10%
Deep freeze	+50%
Boil	+20%
Bake	+30%
Broil	+50%
Nuke	+100%

VTOL

Associated Spirits: Car
TN: 5
Mods:
Components:
Chemical: None
Electronic: 10%
Mechanical: 20%
Structural: 10%
Drain: Frame/Hour

VTOL (Vertical Takeoff and Landing) craft were the most common close support aircraft of the Last War. The advent of battlefield lasers and other energy weapons simply made it too dangerous for high-flying fixed wing aircraft. Close support craft needed to be able to hug the terrain and hover behind every scrap of cover.

Unlike 20th century winged VTOL aircraft, like the Harrier, 21st century VTOL craft depended entirely on powerful ducted fans or jets to fly. This gave them greater maneuverability than traditional fixed-wing aircraft and led to them taking over many of the helicopter's combat duties. VTOLs—most notably the Combine's Raptors—are still in use in the Wasted West.



Big Engines

As with the *locomotion* power, a VTOL device must be built around a pre-selected Frame size. The first step in designing a VTOL craft, then, is to pick a Frame size, and then immediately fill up 40% of the Frame's slots with engines, fans, and thruster ducts. This gives the VTOL a top speed of 200 mph, an Acceleration of 10 mph, and a Handling Rating of 0. Each additional 5% of the Frame's slots filled with engine components increases the craft's speed by 20 mph, its Acceleration by 5 mph (max of 30), and its Handling by +1.

Payload

A flying engine isn't useful by itself. The remaining slots can be used to add passengers, cargo space, weapons, and any other junker powers your techno-wizard desires. Check out the *locomotion* power on page 80 to see how to do this.

Gas Guzzler

The disadvantage of VTOL craft is that they burn through fuel like a millionaire does money. Like ground vehicles, VTOLs can use G-rays or spook juice for fuel. This must be set at the time the vehicle is constructed and cannot be changed later.

To figure drain for a G-ray powered VTOL, divide its Acceleration by 5 and add this to its Frame size.

To figure out how far you can get on a gallon of spook juice, subtract the vehicle's Frame size from 20 and multiply the result by 3. Installing a fuel tank in the vehicle uses up 10 slots per gallon.

Jet Packs

VTOL craft of Frame size 5 are powerful enough to lift a person and roughly 100 pounds of equipment, while still being small enough to be carried. Configuring a VTOL of this size as a jet pack uses up 5 slots for the user's controls. The added weight of the pilot reduces the basic engine's performance to a top speed of 140 mph, an Acceleration of 5 mph, and a Handling of -2. If your junker desires he can add additional slots to the pack's engine to increase its performance as described earlier.

All You Need is Love

Just as with *locomotion*, the car spirits in a VTOL respond to the care the junker puts into the vehicle's design. Each success and raise on the construction roll can be used to enhance the craft's performance. Look on page 80 to see how this works.

Flying

When using a VTOL with the vehicle rules in *Road Warriors*, treat it as a hover vehicle for maneuvering purposes. Unlike a standard hover vehicle, though, it can change altitude. This counts as a maneuver with a 0 difficulty modifier. Every 5 mph of speed sacrificed allows the vehicle to increase its altitude by up to 10 yards. This is reversed when diving. Each 5 yards of altitude lost increases the craft's speed by 10 mph.

VTOLS can use reverse thrust to brake by up to 50 mph per action phase.

VTOLs have a maximum altitude of 3000 yards.

Weaponsmith

Associated Spirits: Gun
TN: 3
Components:
Chemical: None
Electronic: 10%
Mechanical: 10% (powered weapons only)
Structural: 10%
Drain: Special/round

Weaponsmith allows your waster to build a wide variety of hand-to-hand weapons. Unlike the other weapon-building powers, where you can select your Frame size based on the powers you intend to put into it, this power requires you to select the Frame size first. The reason for this is that the Frame size determines the basic statistics of the weapon.

Your techno-mage can also use this power to build weapons which use blades of pure energy to do their slicing. To pull off this nifty trick, your junker must also know the *shield* power. This is because shields are needed to channel and form the energy of the weapon's blade.

Enhancements

Once you've picked a weapon type, you must figure out how you want to soup it up.

Armor Piercing

The use of lightweight, high-tech alloys makes it possible to increase the penetrating power of a hand weapon. This requires the

weapon's cutting edge and shaft to be reinforced to withstand the pressure needed to penetrate and to prevent the blade from snapping off inside the armor.

Weapons of this type are highly sought after by those who want concealable weapons capable of damaging armored targets. Each AP level uses up 20% of the weapon's slots and requires an additional structural component.

Increased Speed

Slow weapons can be sped up through the use of lighter materials and gyroscopes which help the user recover more quickly after each attack. Each level of increased Speed uses up 20% of its available slots and reduces its Speed by 1. It's possible to reduce a weapon's Speed to 0. A Speed 0 weapon still requires an action to use, but its ultra-fast recovery time increases it's Defensive Bonus by +1.

Each level of increased Speed gives the weapon a Drain of 1 per round.

Increased Damage

The penetrating power of a hand weapon can be enhanced by increasing its weight, the hardness of the metals used in its construction, and the sharpness of its edge.

This doubles the number of structural components needed to construct the weapon (most of which are melted down and combined into mystical alloys). It also uses up 20% of the weapon's total slots and slows its Speed by 1.

Extra Damage

The number of damage dice a weapon causes can be increased by turning it into a powered weapon. This can take many forms, such as adding a revolving chain blade or electrifying the blade. Each damage die added in this way takes up 20% of the weapon's slots and slows its Speed by one.

The Drain for a powered weapon is equal to its Defensive Bonus (before any adjustments are made for levels of increased speed) times the number of damage dice added.

Energy Weapons

If your junker knows the *shield* power in addition to *weaponsmith*, he can build weapons with blades of pure energy. To do this, simply select a die type for the weapon—it's not necessary to select a Frame size ahead of time for an energy weapon. The basic weapon has a damage rating based on the user's *Strength*.

The blade transmitter fills a number of slots equal to the die type times the number of dice. Drain is equal to a quarter of the die type times the number of dice per round. So for example, an energy weapon that did STR+4d6 would require 24 slots, and have a Drain of 6 per round. Turning the weapon on or off takes an action.

Weapon Frame

Frame	Damage	DB	Speed	Weapon
0	STR+1d4	+1	1	Switchblade
1	STR+1d6	+1	1	Large knife
2	STR+2d6	+2	1	Machete
3	STR+2d8	+2	1	Sword
5	STR+2d10	+3	2	Battle ax
7	STR+2d12	+3	2	Halberd

Figurin' All This Stuff Out

This is a sophisticated and detailed system, which can sometimes make a waster's brain hurt. Fortunately, we've put together an example for you—it's on the next page.

Marvelous Marv's Motorcycle

Now that we've had a look at the junker powers, let's put it all together and see how device creation works in practice.

Marv wants to create a motorcycle using the *locomotion* power. Looking at the Frame Table, he sees that the Frame size 7 corresponds to a motorcycle-sized vehicle, so he selects that as the chassis of his bike. A size 7 Frame has 182 slots.

Marv's not interested in a hover bike—he wants an old-fashioned hog. He selects a standard wheeled suspension. Since this is a two-wheeled vehicle, this only takes up 5% of the available slots. That fills 9.1 slots; he's got 172.9 left to work with.

Next comes the powerplant. Marv wants to be able to move out, but he also wants to have enough room for everything, so he opts for a 10 mph Acceleration. This uses up 25% of the Frame's slots, or 45.5. He decides it's going to run on G-rays, so he needs to install a powerpack or spirit battery (even Marvelous Marv isn't quite ambitious enough to tackle a built-in reactor on this project). A 100-point powerpack takes up another 10 slots. Down to 117.4. As long as he's got that powerpack in there, he might as well include a couple of powerjacks so he can power other devices from the bike if he needs two. These take up 2 slots each, for a total of 4. He now has 113.4 slots free.

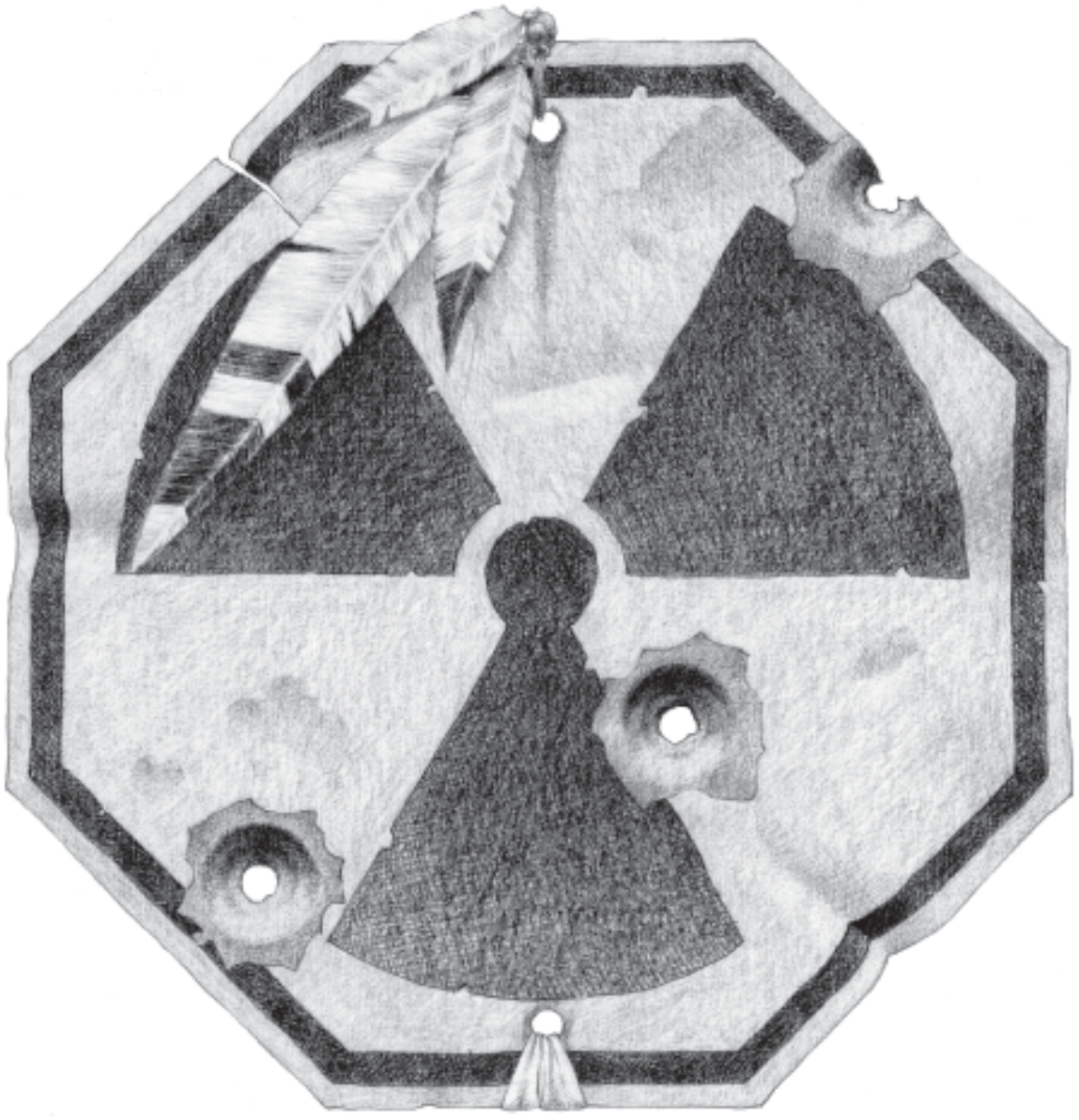
Next Marv pencils in 35 slots for himself as a passenger (an open vehicle requires only 35 slots per person—if this was a car or other closed vehicle, he'd have to set aside 70 slots). He plans on cruising the Wastes for babes, so he fills in another 35 slots with room for a second passenger. With his luck the extra seat will be empty most of the time, but on the off chance that it isn't, he'll need a little room for cargo. He sets aside another 16 slots (enough space for a Frame size 3 object, remembering that cargo only requires half the number of slots as device components). He's now used 154.6 slots, leaving him with 27.4 free.

Time to put it all together. Marv needs 16 chemical components (10% of the 154.6 slots used by the *locomotion* power), 48 mechanical components (30%), 16 electronic components (10%), and 53 structural components (21 for the Frame (from the Frame Table), +32 (20%) for the *locomotion* power). The TN is 10 (3 for the *locomotion* power, +7 for Frame size 7); and the work will take a base 1d6 hours to complete (from the Construction Table). Marv gets an 18 on his *science: occult engineering* roll. That's a raise. He uses it to increase Acceleration up to 15 mph (an option allowed by the *locomotion* power), and he also saves an hour off his construction time. It also gives the bike a Stability of 18 (base 16, +2 for the raise).

The final bike has an Acceleration of 15 mph, a top speed of 100 (from the Base Speed Table), a Handling of +2 (from the Chassis Table), a Durability of 10 (from the Frame Table), and a Drain of 7 per hour (Acceleration 15 ÷ 5 = 3, +4 (half of the Frame size)). It also has Armor 1 (all *locomotion* Frames do), though this doesn't protect the passengers in an open vehicle like a motorcycle.

As mentioned above, Marv has 27.4 slots left open on the bike. He later decides to use that space to install a plasma gun. He works out the numbers for a bolt-throwing plasma gun that does 4d8 damage with a 5-yard burst radius, an ROF of 1, and a Range Increment of 20: it requires 22.8 slots (plus an additional 2.3 slots for the fixed mount) and has a Drain of 8. That fits nicely into the motorcycle's remaining available space. After gathering the necessary components, Marv makes the construction roll against a TN of 10 (7 for the *Flash Gordon* power, +3 for the minimum Frame size of a 23-slot power). This time, Marv rolls a 13—a success, but no raise. He successfully builds the plasma gun into the motorcycle, but the bike's Stability drops to 16.

No Man's Land



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Chapter Four: Devices & Relics

Tucked away in this chapter are a reworking of the junker devices from the main rulebook and a more advanced a device you can use either as an example on the ways in which junker powers can be used in combination, or place in your campaign as a reward for junker players. It also makes good way to beef up encounters with the Combine. Following these is a device design example and some relics of importance to the junker world. Let's take a look.

The Devices

The original junker devices have changed slightly under the new rules.

Chainsword

Many of the denizens of the Wasted West like to play up close and personal, so lots of junkers like to have something to keep them at arm's length. If your hero has a chainsword, he can hack off an offending arm if his playmates get too close.

The chainsword has a thick blade around which runs a chainsaw. This blade has an added kick to it: a current of arcane energy runs through the chain, allowing it to damage creatures which are normally only harmed by magic. A selector switch allows the wielder to turn this arcane energy on and off. Doing this requires an action.

The chainsword also has a few small gyros built into the handle, which assist the wielder in recovering the heavy blade after each stroke. This makes for a surprisingly quick weapon, despite its cumbersome look.

Device Profile: Chainsword

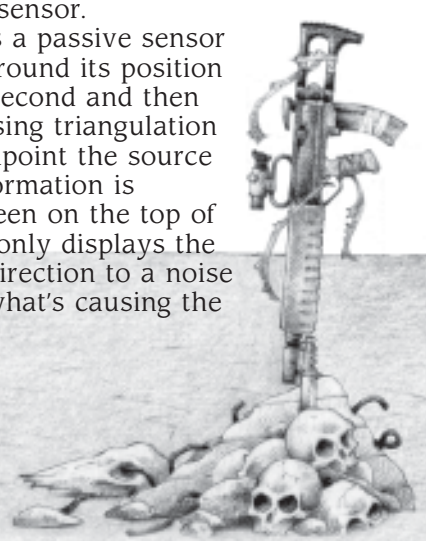
Frame: 3
Weaponsmith: Increased damage 1, extra damage 1, increased speed 2
Spirit Weapon: Supernatural damage
Extras: Powerjack, selector switch
Drain: 4/round, 7/round with spirit weapon on
Available Slots: 0.2

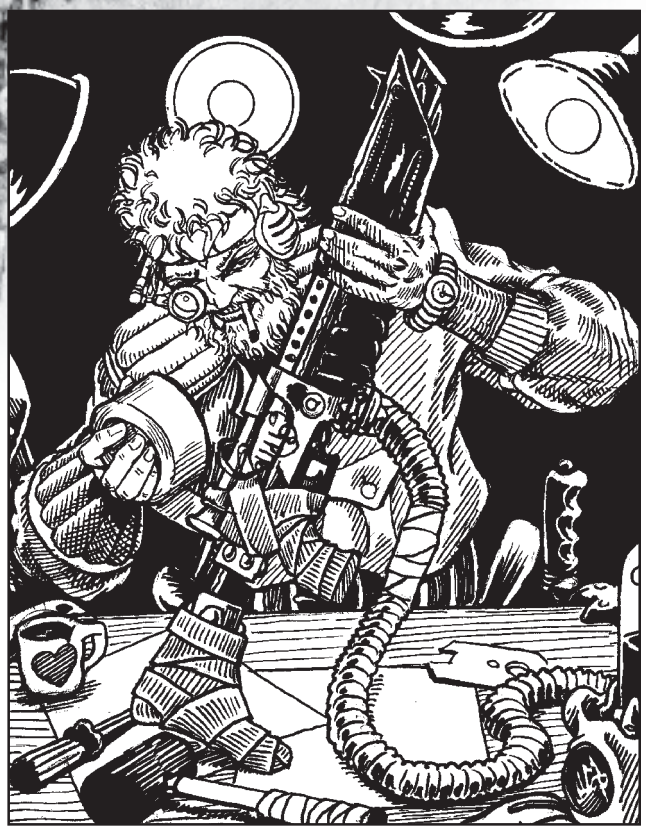
Weapon	Def. Bonus	Speed	Damage
Chainsword	1	+2	STR+3d10

Motion Detector

Tired of people sneaking up on you? Put a stop to it with a motion sensor.

The motion detector is a passive sensor that samples the noise around its position thousands of times per second and then compares the samples using triangulation and Doppler shifts to pinpoint the source of these noises. This information is displayed on a small screen on the top of the device. The detector only displays the estimated distance and direction to a noise source. It can't identify what's causing the noise.





Under normal conditions, the detector automatically detects any noises above a whisper within 250 yards of its position. Anyone trying to move undetected through this area must win a contested roll of *sneak* versus the detector's *sensor* rating of 3d8 each round.

The Marshal should feel free to modify the detector's rolls under conditions that may interfere with its performance. These include things like high winds, loud noises which might overload the sensor or cover other noises (like explosions and gunfire), and caves, canyons, and other areas with odd acoustics. The scanner works best when stationary. When moving, apply a cumulative -2 modifier to all scanning rolls for each 10 m.p.h. of speed.

The sensor can be set to give an alarm when a new and persistent noise source enters its scan area.

Device Profile: Motion Detector

Frame: 3
Sensor: Enhanced sonic 3d8, passive, 360° arc
Extras: Powerjack, 24-point battery
Drain: 1/hour
Available Slots: 10.5

Junkgun

Ammunition is scarce in the Wastes, so some enterprising junkman devised a way to make his own.

The junkgun is a large backpack-like weapon. Attached to the pack is a long magnetic collector tube. This acts just like a giant vacuum cleaner, except that it only works on ferrous metals. When activated, it uses powerful magnetic pulses to suck up any metallic junk within a few inches of the tube. The tube is roughly 6" in diameter and can handle any object smaller than that, weighing up to 3 pounds.

Scrap metal picked up by the tube goes into a hopper at the top of the pack and then feeds down into a miniature electric furnace which slices the metal up into uniform-sized chunks. The chunks drop down into an ammo storage container and remain there until fired.

A second, smaller tube reverses the process and uses magnetic pulses to fire the processed chunks out in a devastating spray of jagged metal. This creates a shotgun-like effect.

Firing a junkgun is its own concentration of *shootin'*. In combat, the junkgun gets a +2 to hit due to the large spread of its shot. Because it fires a long stream of projectiles, it doesn't lose damage with range like a shotgun.

The ammo hopper can hold 30 shots worth of scrap metal. If there is suitable metal debris in an area (Marshal's call), this can be replenished in combat. Spending an action to run the collector tube gathers enough metal to replace 1d6 shots, and it burns off 2 GR of power. It's possible to run the collector while firing the gun, but this imposes a -4 penalty to hit, because it normally requires two hands.

When not in combat, it's possible to open the scrap hopper and feed in large hunks of metal too large for the collector tube to handle.

Device Profile: Junkgun

Frame: 5
Gunsmith: 3d10 damage, multiple projectiles, 30-round internal magazine, ammunition processor
Extras: Powerjack, selector switch, 60-point battery
Drain: 2/single shot, 4/burst, 2/1d6 rounds processed
Available Slots: 2.3

Weapon	Speed	ROF	Damage	Range	Inc
Junkgun	1	3	3d10	15	

Plasma Pistol

The plasma pistol is a small gun with a big punch. You don't have to be overly accurate with it. As long as you get your shot in the general area, your target's going to have a really bad day.

The pistol uses a small piece of irradiated ghost rock as its ammo source (this one-ounce chunk needs to be replaced every 100 shots or so). When the gun is fired, arcane energy washes over the ghost rock and breaks part of it down into superheated plasma. This is propelled down the barrel by powerful magnetic fields.

The plasma bolts are extremely powerful. Each bolt does 3d8 damage and explodes on impact with a 1-yard Burst Radius. Due to this Burst Radius, you need to know where missed shots go. Use the standard grenade deviation rules for shots that don't connect with the target.

Device Profile: Plasma Pistol

Frame: 2
Flash Gordon: 3d8 damage, Burst Radius 1 yard
Extras: 15-point powerpack
Drain: 3/shot
Available Slots: 0

Weapon	Speed	ROF	Damage	Range	Inc
Plasma pistol	1	1	3d8	5	

MGP-100

This device is much more powerful than something a character can begin play with. Think carefully before letting it fall into the hands of players.

The MGP-100 is a mobile gun platform constructed by Malcolm Rhinestrom for the Combine. He built a number of them for Throckmorton's forces before he left for greener pastures. The design of each one varied slightly, but they all possessed some common features.

Any large Combine force (a company or larger) is bound to have one or two of these devices. The MGP-100 is manually controlled via a small remote unit connected to the gun platform by a 100-yard cable. This allows the operator to find some cover and control the gun in relative safety. The operator does not have to aim the weapon. He simply has to designate a target, and the gun will track and fire at it until it moves out of sight or a new target is designated. The gun has a number of automated modes it can be set in.

Although no one who isn't part of the Combine has ever seen one (and lived), it's rumored that Rhinestrom built a few larger versions with the *AI* power. These machines roam the wastes outside of Denver, looking for victims.

The MGP-100 is normally equipped with an M-120 mini-gun.

Device Profile: MGP-100

Frame: 6
Agility: 4d6 rating, Drain 2/Hour
Armor: 3
Brains: 3d6 rating, 1 slug port, 3 slugs of storage, Drain 2/Hour. Normally in storage: *area knowledge: Denver area* 3d6, *drivin'* 4d6, *shootin'* 4d6.
Programming:
"If set to overwatch, shoot any moving object larger than the size of a basketball until it stops moving."
"If set to track, move to keep the designated target in sight and shoot it until it stops moving."
"If set to friendly, shoot the closest person not wearing a black hat."
Commo: Linked keyboard and 3" view screen, Drain 2/Hour
Locomotion: Tracked suspension, Durability 9/2, Acceleration 5 mph, Handling +2, Load limit 6, top speed 25 mph, heavy machine-gun pintle mount, Drain 4/Hour
Sensor: 3d8 passive low-light sensor, Drain 1/Hour
Extras: Powerjack, 60-point powerpack.
Drain: 11/hour
Available Slots: 5.1
Stability: 18

Recon Drone & Controller

Once your junker builds one of these, his days of walking around corners into ambushes are over. Now he can send his drone to catch the bullets meant for him. This approach can get expensive in time and materials, but it sure beats being dead.

The drone itself is roughly the size of a small dog, and moves about at high speeds on four small, vectored-thrust fans. Its small size makes it difficult to hit. All attacks aimed at the drone suffer a -2 modifier.

The drone can beam what it sees through its small video camera back to the monitor in its controller. The drone only

shows what it's aimed at—it has no ability to notice things on its own. That means it's up to the controller to make all the necessary *Cognition* rolls to spot things of interest within the drone's field of view.

The drone is controlled by a small handset about the size of a typical hardback novel. The controller has a built-in joystick for regulating the drone's movement, and a small view screen which displays the video feed from the drone's camera. Because the screen is so small, all *Cognition* and *search* rolls made to notice important details of the display are at -2.

Flying the drone requires the operator to know the *drivin': VTOL* Aptitude. Any *drivin'* rolls made to maneuver the drone suffer a -2 penalty because the craft is being remotely piloted.

Device Profile: Recon Drone

Frame: 3
Commo: Video, 90° scan arc, 1 mile range, Drain 6/Hour
Sensor: Basic sight, Drain 2/Hour
VTOL: Top speed 200, Acceleration 10 mph, Handling 0, Drain 5
Drain: 13/Hour
Extras: Powerjack, 100-point powerpack
Available Slots: 4.6
Reliability: 18

Device Profile: Recon Drone Controller

Frame: 2
Commo: Video, 1 mile range, joystick controller, tiny monitor, Drain 7/Hour
Drain: 7/Hour
Extras: 49-point powerpack
Available Slots: 1.1
Reliability: 18

The Relics

The supernatural energy swirling through the Wasted West can often imbue objects associated with important events and people with mystical powers. Here's a few from the junker world.

Vickers' Saber

This particular item was built by Lazlo Huber for a Templar pal of his known only as Vickers. It's an energy saber of remarkable quality.

You wouldn't know it by looking at it. Vickers asked Lazlo to disguise the casing so he could openly carry it while moving through waster settlements incognito. The cylindrical handle looks like a blind terrorist's attempt at making a pipe bomb.

Vickers was killed defending a town in Oregon. The townspeople assured him they would help fight against the road gang that had been terrorizing them, but when the bikers showed up, they broke and ran. Vickers was cut down by a hail of crossbow bolts, but he managed to take the head of the gang's leader before he died.

Power: Anyone with the *outlaw* Hindrance who touches this weapon takes 4d8 damage.

In the hands of an ordinary person, the energy saber does nothing—although you could use the handle as a club. When wielded by a Templar, however, the weapon comes alive with a glowing, green blade of energy. The saber does STR+3d8, has a Defensive Bonus of +2, and a Speed of 1. It requires no energy to operate. Turning the saber on and off requires an action.

Taint: The owner of the sword gains a 3-point *intolerance* of cowards.

Marvelous Marv's Duct Tape

A legend among junkers, Marvelous Marv led a band of courageous heroes in the fight against the minions of the Reckoners. He was eventually laid low by a nameless horror high in the Rockies, but his legacy lives on. Travelers in the mountains near his final resting place have reported seeing a ghostly junker zooming through the mountain passes on a makeshift motorcycle.

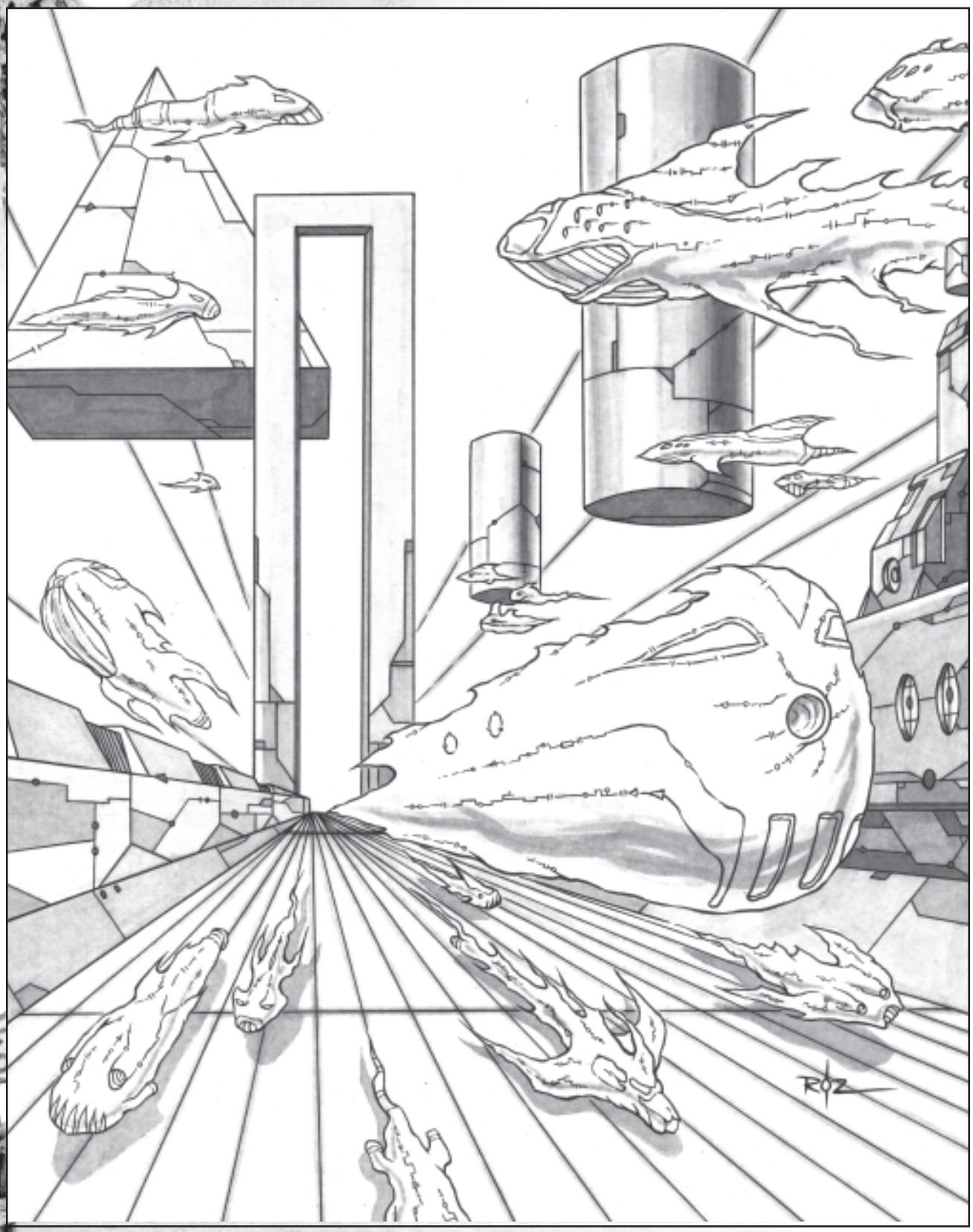
Marv had a reputation for being able to fix nearly anything with duct tape. He was always able to scrounge up some, and he normally had a case of it with him wherever he went. When he died, his companions sold his last case of tape. These rolls are now spread throughout the continent.

Power: The rolls of tape in this case picked up some of the mojo of the Wasted West and have a special ability. They can be used to repair devices of all kinds, both conventional and junker. Every 10 minutes spent applying tape to a damaged device restores one step of Durability. This ability only works for junkers.

These rolls of tape last for a mighty long time, but they do eventually run out. The junker using the roll of tape must make a *Spirit* roll against a TN of 3 plus the Frame size of the object being repaired. If he fails, the tape has finally run out.

Taint: None.

The Marshal's Handbook


ROZ

Chapter Five: Junker Mysteries

Are you ready for all the behind the scenes dirt of junker life? Good. Grab a shovel and let's start digging.

Lazlo Huber

Lazlo, the narrator in Chapter 1, can be cranky, but he's basically a good guy. He's got a lot to be cranky about. Besides feeling guilty about the Last War, Throckmorton's out to get him. The Combine's sent a number of Tainted junkers and cyborgs out to track him down. Despite the rumors, he doesn't have the Taint.

The history Lazlo gave of the development of junker magic is all right on. The only place in which he sometimes gets carried away is when he blames *all* Indians for the Reckoning. As we all know, it was only Raven and his followers that opened that can of worms.

Spirit Wars

The other subject on which Lazlo tends to be a bit extreme is the war between the nature spirits and the tech spirits. Many of the nature spirits were willing to war on the tech spirits simply because they were different and didn't play by the old rules, but what motivated the extermination program the nature spirits attempted was the fact that technology was somehow integral to the Reckoner's plans.

Some of the most ancient and revered spirits in the Hunting Grounds knew this, and it was these spirits which spurred the nature spirits to war on the tech spirits. There was little the nature spooks could do to the tech spirits while they existed as objects in the physical world, so they had to be content with ambushing them as they entered the Hunting Grounds.

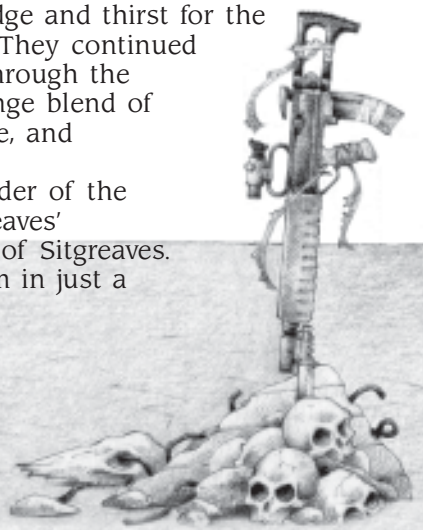
Sitgreaves and the Gorgon

The gorgon, actually a servant of the Reckoners known as El Diablo, did show up at the safe house in Denver. It leveled the place and killed everyone inside—everyone but Sitgreaves. The hexes he had developed to fight the beast worked and he was able to defeat it.

Sitgreaves fled before he could be recaptured, and disappeared into the Sioux Nations. He lived out the rest of his life there, marrying and having children. He studied the beliefs of his adoptive family and eventually became a practicing shaman.

He passed his knowledge and thirst for the truth on to his children. They continued his search for answers through the generations using a strange blend of hucksterism, mad science, and shamanism.

Earl Whitlow, the founder of the Chamber, is one of Sitgreaves' descendants—a true Son of Sitgreaves. We'll talk more about him in just a moment.



World War II

The Nazi scientists had revived an ancient form of blood magic which was practiced by primitive tribes that worshiped the Reckoners and the manitous as gods.

In return for week-long offerings which were orgies of pain, suffering, and blood, the manitous assisted the scientists in building horrific devices which struck terror in all who saw them, friend and foe alike. These terrible constructs soaked the battlefields of Europe with blood and raised the Fear level of the entire continent.

Hitler was in fact trying to turn all of Europe into a Deadland so that he could call the Reckoners forth. In his megalomania, however, he envisioned the Reckoners as his servants leading his troops on to victory over the entire world.

Raw Evil

There is something Lazlo and most junkers don't realize about the energy given off by burning ghost rock.

The first research done into this energy was simply to define the nature of this new power source. After much testing, the mad scientists concluded that it was the spiritual equivalent of nuclear radiation.

Survey Says, Errr!

They were wrong, of course. The energy they were dealing with was pure, unadulterated, distilled evil. Ghost rock had been placed on Earth by the Reckoners themselves and contained a slight bit of their essence. Anything that came in contact with it, no matter how wholesome, could not help but be corrupted by it. The spirits and human souls trapped within it, many of which belonged to greedy miners, claim jumpers, and bandits, were warped and twisted into manitous and other foul demons.

When ghost rock is burned, the spirits which survive the process become servants of the Reckoners. Those that don't become evil in raw energy form.

It is this evil that gives the energy the same effects on spirits as x-rays have on living tissue. Any spirit touched by it is warped and twisted by its evil. In living things like humans and animals, this spiritual damage manifests itself in the flesh, causing sickness, mutation, and often death.

The Net

The reality of the Hunting Grounds is malleable and the tech spirits have shaped a portion of it into a high-tech landscape with which they are comfortable. Tech spirits zoom around a futuristic computer network carrying nuggets of data to wherever they are needed and wait for the day when they hear the sweet sound of a junker calling them back to Earth.

The Spirit War

The battle between nature and tech spirits continues, but the intensity has waned since the Last War. The nature spirits have failed to do the one thing they were trying to do—keep the tech spirits from uniting on the Hunting Grounds—and the more intelligent ones realize that the Reckoners plan has already come to fruition. Unfortunately, a spirit can hold a grudge as well as any human, so the fighting goes on without much purpose behind it.

No Spirit's Land

The portion of the Hunting Grounds just beyond the edge of the Net is a spiritual no-man's-land. This area is inhabited by damaged goods. These warped tech spirits lurk at the edge of the tech spirits' reality ready to attack anything which crosses their path—nature spirit, tech spirit, or the mind of a junker.

The damaged goods are led by some truly dangerous spirits—the spirits of the City-Buster missiles which caused so much destruction on Judgment Day. These spirits are tremendously powerful and completely psychotic. They were all hideously warped by the blast of spiritual energy which they released on detonation. It is only their own sheer size and strength which allowed them to survive the experience.

These deranged gun spirits are out for blood. They never pass up any target, but they are particularly fond of capturing and tormenting Old Ways shamans in the Hunting Grounds.

Unholy Alliance

The damaged goods have been joined by a number of toxic spirits. These are nature spirits which were deformed by ghost-rock bomb explosions or by the spiritual pollution caused by burning spook juice. Many of these spirits are as homicidal as the warped tech spirits they have joined with. (You can learn more about these in the upcoming *Spirit Warriors* book.)

The Tainted

Being a junker can be dangerous. Especially for one who specializes in building weapons. The constant exposure to the schizoid personalities of the gun spirits can rub off after a while. This drives the techno-mage into a special form of insanity known among junkers as the Taint.

This fate can befall junkers in your posse if they're not careful. Some may even already have the beginnings of the Taint, if they purchased the *tainted* Hindrance. The road to insanity is a slippery downhill slope. It's made all the harder to resist by the enticing goodies the gun spirits have left along the roadside.

Going Downhill and Picking Up Speed

The Taint has five major stages. Once a hero has reached stage one, there's no turning back. The best she can do is run uphill and hope to hold her position. A junker must make a fair (5) *Spirit* roll to see if her Taint stage increases every time she calls upon a gun spirit power. Certain Hindrances—*mean as a rattler*, *bloodthirsty*, and *vengeful*—increase this TN by +2 for each one that the junker has.

Stage One

If a character was surly to begin with, this stage of the Taint is often undetectable. The hero gains the *mean as a rattler* Hindrance if he doesn't already have it, giving him a +2 to future Taint rolls.

It's now possible for the junker to open himself up more to the gun spirits' influence. This helps in building bigger and better weapons, but it also accelerates the increase in Taint. The junker can now take up to a +4 bonus to his *science: occult engineering* rolls when creating weapons. If he does, the bonus is also applied to the Target Number of his roll to avoid further Taint.

Marv is at stage one. He now has the *mean as a rattler* Hindrance. He builds a new weapon and takes a +3 bonus to his *science: occult engineering* roll. The TN for his roll to avoid advancing to stage two is 10: 5, +2 for *mean as a rattler*, +3 for the bonus he used in making the gun.

A background check by a computer browser requires two raises to detect the Taint at this stage.

Stage Two

The junker becomes more antisocial at this stage. He picks up the *bloodthirsty* Hindrance. This Hindrance adds another +2 to Taint roll TNs.

The gun spirits offer the junker some more candy. The bonus the tech-wizard can now take to his *science: occult engineering* rolls for making weapons increases to +6. Again, the amount of bonus used is applied to the TN of rolls to resist further Taint.

A background check by a computer browser requires a single raise to detect the Taint at this stage.

Stage Three

The junker is now downright disagreeable. He gains the *vengeful* Hindrance. As with stage one, this new Hindrance modifies the rolls to resist further Taint.

The hero begins to believe that all problems can be solved with guns or the proper application of high explosive. The brainer must make a Fair (5) *Smarts* roll to avoid attacking anyone who crosses him, insults him, or otherwise piddles in his corn flakes.

The possible bonus offered by the gun spirits is now up to +8.

Normal tech spirits begin to avoid the hero at this point, and he must rely on damaged goods for creating devices. The junker draws one extra card for backlash each time he creates a device and adds +4 to any rolls on the Backlash Table.

Once the junker has reached this stage, the changes in his personality should be obvious to those close to him. In addition, his soul has become warped enough that a successful background check by a browser automatically detects the Taint.

Stage Four

Many junkers never reach this stage—because they're dead. Being a totally unpleasant, trigger-happy S.O.B. in the Wasted West is good way to get planted six feet under unless you've got the cojones to pull it off.

The hero now responds to all problems with violence. The thought of restraint doesn't normally occur to the junker unless the person he's about to kill is a close friend or is valuable to him in some way. Even then, the junker must make a Hard (9) *Smarts* roll to control his temper.

The possible bonus to *science: occult engineering* is now a whopping +10. All the usual strings are still attached.

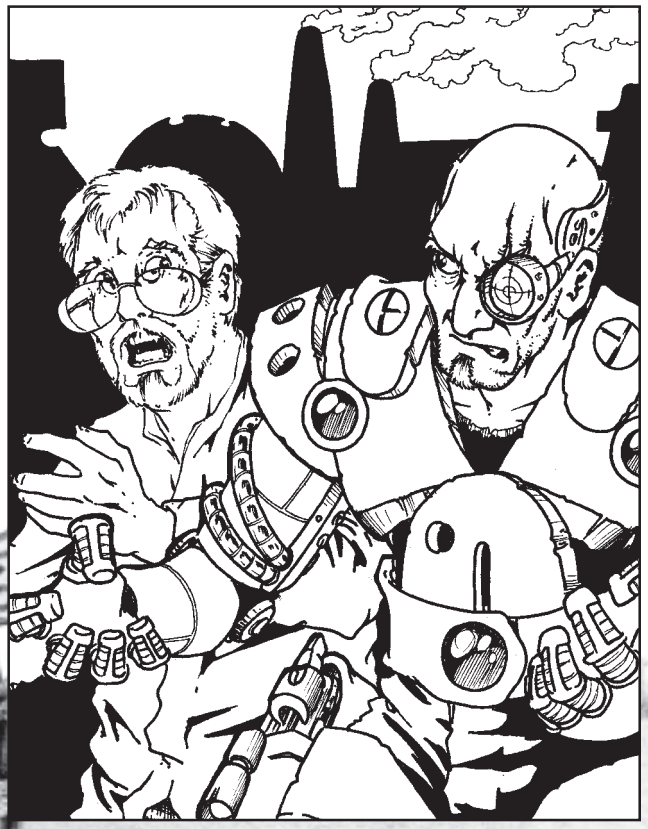
Those who are sensitive to the spiritual world (anyone with an *arcane background*) can sometimes sense the Taint within the hero when within 10 yards of him. This requires an Onerous (7) *Spirit* roll.

Stage Five

Once a hero has sunk this low, it's time to turn the character over to the Marshal. He's become an extra. The character is obsessed with one of two goals: world domination or world destruction. The character either sets about recruiting an army to conquer the world or he begins constructing a fiendishly clever Doomsday device.

A brainer with this level of Taint can receive a bonus of up to +12 to *science: occult engineering* rolls for making weapons.

The Taint is so strong in the few junkers who have progressed to this point that any hero with an *arcane background* can sense it automatically when they are within 50 yards, and mundane characters can feel it if they succeed at an Onerous (7) *Spirit* roll.



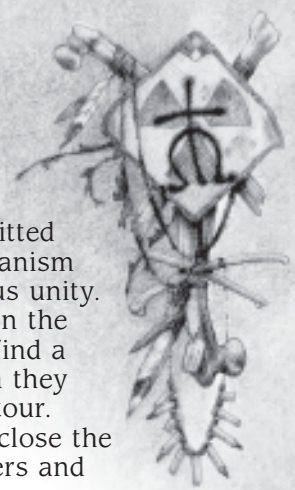
Malcolm Rhinehart

Malcolm Rhinehart was one of the first junkers to fall prey to the gun spirits' warping influence.

The details Lazlo gave were correct. He also guessed correctly that Rhinehart was involved with Throckmorton's attempts to revive the Anubis Project. (We don't have room to go into all of the details about the Anubis Project here, but you can read all about it, and the undead cyborgs it spawned, in the upcoming *Cyborgs* book.)

Rhinehart was only at stage three of the Taint when he began working for Throckmorton. As obsessed as he was with his work, it didn't take long for him to slide down that rocky slope.

He became erratic and abusive, and soon most of Throckmorton's other scientists refused to work with him. The general was about to have Rhinehart forcibly retired when the junker told Throckmorton he was leaving. He informed the general that he had made a pact with one of the damaged City-Buster spirits. If Throckmorton interfered with him in any way, this spirit would see to it that little was left of the general's Denver HQ. Throckmorton let him leave.



Unified Theory

Rhinehart is a true Renaissance junker. He practices hucksterism and junker magic, and he has studied the powers of shamanism, sykers, and the Doomsayers. He has also recently begun experimenting with the ancient blood magic unearthed by the Nazis. His goal is to develop a unified theory of magic. He believes such a theory will allow him to wield enormous power.

Once he achieves his goal, he plans to use his power conquer the world. Then he will implement his plan to re-engineer the human race by eliminating all those who do not have the genetic capability to wield magic.

This madman is currently working in seclusion in the mountains of Montana. He has surrounded himself with some loyal henchmen nearly as deranged as himself. The Wasted West has not seen the last of him.

Profile: Malcolm Rhinehart

Corporeal: D:3d8, N:3d6, S:3d6, Q:4d6, V:3d8
Dodge 3d8, drivin': car, light aircraft 4d6, fightin': brawlin', power sword 4d6, quick draw 4d8, shootin': pistol, rifle, energy weapon 5d8, speed load 2d8
Mental: C:4d8, K:2d12, M:2d8, Sm:4d12, Sp:3d10
Artillery 4d8, guts 3d10, demolition 5d12, overawe 5d8, science: engineering, occult engineering 7d12, scrutinize 4d8, search 3d8, survival 2d12, tinkerin' 6d12
Edges: Arcane background: huckster 3, arcane background: junker 3, mechanically inclined 1
Hindrances: Bloodthirsty -2, loco: megalomaniacal -4, mean as a rattler -2, ugly as sin -1, vengeful -3, yearnin': world domination -4
Pace: 6
Size: 6
Wind: 18
Special Abilities:
- **Huckster:** Hexes: bulletproof 4d12, grenade 5d12, sliver spray 5d12, soul blast 5d10.
- **Junker:** Powers: AI, ammo, deftness, Flash Gordon, gunsmith, knowledge, program, rocket man. Taint: stage five.

Gear: A brain implant (containing a level 5 computer browser), a plasma pistol (Stability 18; it contains a level 6 gun browser), and an infantry battle suit.

The Chamber

The Chamber was founded by Earl Whitlow. An actual descendant of R. Percy Sitgreaves, he shares his ancestor's fascination with both magic and technology. He is committed to finding a way of blending shamanism and junker magic into a harmonious unity. He believes that only by building on the strengths of both is it possible to find a way to defeat the Reckoners when they return from their world-stomping tour. Because of this, he works hard to close the rift that exists between most junkers and shamans.

Mountain Retreat

The Chamber has set up shop in an abandoned Confederate research facility high in the Dragoon Mountains of Arizona. The majority of the facility was built beneath an old Spanish mission to conceal it from detection by spy satellites. The fact that the place wasn't bombed seems evidence enough that the trick worked.

Beneath the old mission are state-of-the-art labs, barracks, and warehouses. Most of the upper ranking Chamber members live in this lower portion. Initiates and students live above ground in the mission itself. Students are not allowed in the lower portion of the facility unless summoned by a member of the Chamber.

Old Whitlow Had a Farm

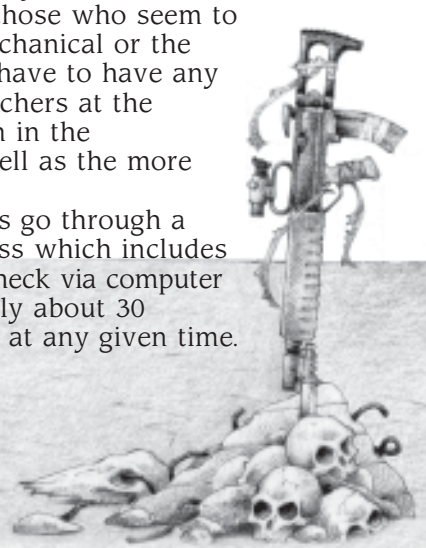
The Chamber and Academy are self-sufficient. The grounds inside the walls of the mission as well as a portion of the plateau on which it rests have been cultivated with a variety of crops. A small herd of goats and cattle are kept in a sheltered box canyon not far from the mission. The underground facility's water system taps into a deep aquifer and provides the inhabitants with all the fresh water they can use.

The Academy

The sanctuary of the mission and some of the living quarters on the upper level are used as classrooms.

Students are recruited by Initiates who roam the wastes in search of those who seem to have a knack for the mechanical or the scientific. Recruits don't have to have any formal schooling; the teachers at the Academy give instruction in the traditional sciences as well as the more arcane subjects.

All prospective recruits go through a rigorous screening process which includes a thorough background check via computer browser. There are usually about 30 students at the Academy at any given time.



The Palace Guard

Whitlow is fearful that Throckmorton or some other power-crazed warlord may attempt to seize the mission if they should learn of the wealth in technology and technical knowledge stored there. For that reason, the Chamber maintains a small legion of armed guards to defend the place.

The Chamber's garrison is roughly 40 guards. This number can fluctuate if guards are dispatched to accompany members on their journeys. They are all combat veterans, and they have all been equipped with the best junker weapons and equipment the Chamber members can create.

The walls of the mission are studded with heavy weapons, both conventional and junker.

In the course of their research into the mysteries of junker magic, the Council members have awakened the building spirit which inhabits the mission. This spirit functions as a nearly infallible alarm system.

Chamber Guard

Chamber guards are all dedicated to the group's cause. Like students, guards are recruited by the members of the Chamber who wander the Wastes. Only those who show a genuine concern for other people are approached.

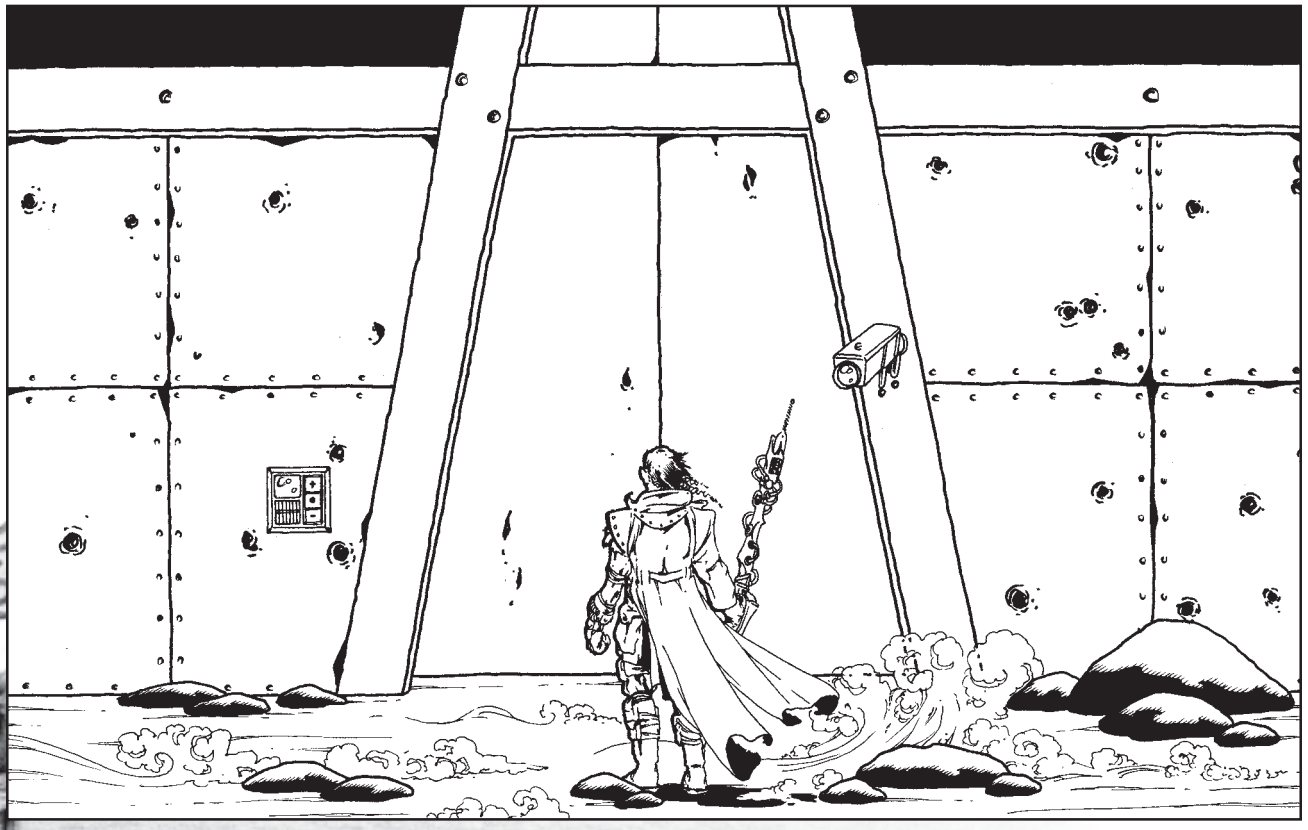
Profile: Chamber Guards

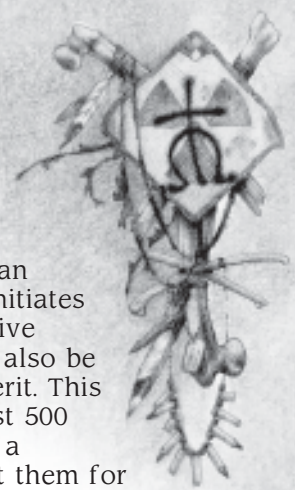
Corporeal: D:3d8, N:3d6, S:3d6, Q:4d6, V:2d8
Dodge 3d8, drivin': car 4d6, fightin': brawlin', knife 4d6, quick draw 3d6, shootin': pistol, rifle, energy weapon 5d8, speed load 2d8
Mental: C:4d8, K:2d8, M:2d6, Sm:3d6, Sp:3d8
Artillery 2d8, guts 3d8, overawe 3d6, scrutinize 2d8, search 4d8, survival 3d6, tinkerin' 3d6
Pace: 6
Size: 6
Wind: *16*
Edges: Brave 2
Hindrances: Loyal: the Chamber -3
Gear: infantry battle suits and plasma rifles,

The Inner Sanctum

Some of the lower members of the Chamber think Whitlow is being unnecessarily paranoid, but they haven't been clued in to the secret of the Confederate base's inner sanctum.

Deep in the heart of the mountain below the laboratories is a large chamber. This chamber is where Cochise entered the Hunting Grounds to





do battle with the mountain's spirit and force it to protect his Chiricahua Apaches from both Union and Confederate soldiers.

Cochise's body lay in this chamber for years in a state near death. Only the constant attention of Apache medicine men kept him alive. His soul's extended travel in the Hunting Grounds away from his body weakened the barrier between the two worlds. When he finally died, his passing ripped a small hole in this barrier.

Those who are knowledgeable in the ways of the Hunting Grounds can enter the spirit world through this portal. Whitlow and the other Council members have done this numerous times and have even traveled to the Net itself in search of knowledge.

We don't have room here to discuss the ins and out of travel in the Hunting Grounds. If you're interested, check out the *Ghost Dancers* book for *Deadlands: the Weird West* for all the details.

Movin' On Up

Heroes who buy the *Chamber member* Edge begin play as Initiates, the lowest ranking members of the order. It's possible for characters to rise through the ranks of the group. As they do, they gain new advantages and privileges.

Initiate, Rank 1

Initiates are the lowest members of the Chamber. Those that stay at the Academy live above ground in the mission with the students. Initiates are allowed to enter the lower levels of the facility and use the labs to perform research or construct devices. As described in the *Chamber member* Edge, Initiates are presented with staffs as badges of membership.

Initiates are expected to assist the instructors with teaching duties as well as help other, higher-ranking members with their research projects.

Initiates are often sent out into the Wastes on important but low priority tasks such as finding sources of salvage or recruiting new students. Some are also sent out simply to wander and use their powers to help out the war's survivors. These junkers are expected to return to the Academy once every two years to give a full account of their experiences (and so Whitlow can scan them for the Taint).

The Chamber currently has about 100 Initiates.

Acolyte, Rank 2

There are a few ways in which an Initiate can advance to this rank. Initiates are automatically promoted after five years of faithful service. They can also be promoted by showing technical merit. This requires the Initiate to build at least 500 points of devices of any type with a Stability of 20 or better and submit them for review.

The last way to achieve promotion, and this holds true for all ranks, is by performing some form of invaluable service for the Chamber. Exactly what qualifies for this is up to you, Marshal.

Acolytes are assigned quarters in the underground portion of the facility. Most Acolytes work as instructors or senior research assistants. Some are dispatched on important missions for the Chamber, and they are often accompanied by as many as five Chamber guards.

Acolytes also serve as the Chamber's enforcers. If reports come in of an Initiate succumbing to the Taint, a team of Acolytes is often dispatched to end the poor sod's career.

Lastly, Acolytes learn the secrets of their staves. The ceremony which bonds an Initiate's staff to her also does much more. It creates a permanent link between the staff and the Net. This link allows a portion of the staff's innards to reside in the Hunting Grounds. This means the junker can cram more functions into it than a normal staff. When the member is promoted to Acolyte rank, this link is expanded, increasing her staff's slot capacity to 60.

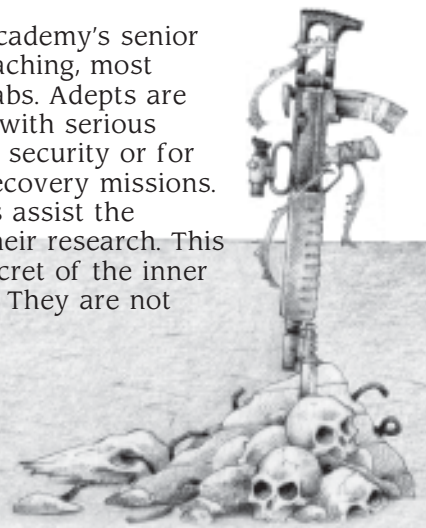
The Chamber currently has roughly 30 Acolytes.

Adept, Rank 3

It's only possible to achieve this rank through technical merit or as a reward for outstanding service. The merit route requires the member to construct 1000 points of devices with a Stability of 22 or better and submit them for review by the Council.

Adepts serve as the Academy's senior instructors. When not teaching, most spend their time in the labs. Adepts are also called upon to deal with serious threats to the Academy's security or for particularly dangerous recovery missions.

The Adepts sometimes assist the Council members with their research. This means they know the secret of the inner sanctum below the base. They are not



allowed down there, however, unless accompanied by a Council Member.

An Adept's staff has a slot capacity of 100. The Chamber has only 15 Adepts.

Council Member, Rank 4

There are only six Council members. The only way to reach this rank is for one of them to die. Whitlow would then select a replacement from among the Adepts, who would be voted upon by the remaining Council members.

The Council oversees the day-to-day running of the Academy. What time isn't taken up by administrative duties is spent in research, much of it conducted in the Hunting Grounds. All of the Council members have learned some of the shamanic rituals known by Whitlow and use these in combination with their junker powers to journey through the spirit world.

A Council member's staff has a 150-slot capacity.

High Master, Rank 5

This is the Grand High Poobah himself, Earl Whitlow. If anything happens to Earl, one of the Council members will take his place.

Earl is dedicated to continuing his ancestor's work. He has two goals. The first is to prevent another Dark Age by preserving and spreading knowledge. The second is to use that knowledge to find a way to defeat the Reckoners. He's not interested in locking them away for a few centuries, either. He wants to dance on their smoking corpses.

Earl is a soft-spoken man who's considered to be a softie by many. But those close to him know that he can be utterly ruthless in pursuit of his goals. He does not tolerate any junker with the Taint in his organization. Any techno-wizard found to be Tainted is killed in as humane a way as possible. Earl feels that mad scientists have done enough evil in the world—he won't allow his junkers to add to it in any way.

The Sons of Sitgreaves

The SOS is a fairly informal group. It has only three officers: president, secretary, and sergeant-at-arms. The current president is Stephanie "Fridge" Lockhart (she specializes in building beer coolers), the secretary is Miles Gardner, and you've already met the sergeant-at-arms, Lazlo Huber.

All of the members are dedicated to using their powers to help out the survivors of the Last War. Many of the older members, like Lazlo, are carrying around a lot guilt about their roles before the war and they are looking to make amends.

The organization works as a sort of junker support group. The members try to educate those they meet about junker magic, to remove some of the fear and hatred many people feel toward junkers. Group members sometimes band together to help fellow junkers with problems, but the SOS is not a paramilitary organization. If a town is hostile to techno-wizards, they simply avoid it or try to change the townsfolk's attitudes peacefully.

The Gathering

The SOS has a yearly meeting in Junkyard. This is normally held in October and is timed to coincide with the arrival of the Convoy in town, so the visiting junkers can get a crack at the primo salvage the Convoy traders bring. The meeting itself is just a chance for the members to get together, compare notes, and throw back a few. If there are any important issues that need to be discussed, these are brought up and

voted on. After a lot of heated debate, last year's meeting passed a resolution authorizing the Ethics Committee to actively hunt down Neo-Luddite witch hunters.

The Ethics Committee

The Ethics Committee is headed by Lazlo. This group acts as "junker police." The members' primary duty is to hunt down Tainted junkers. Like the Chamber, the SOS doesn't want junker powers being used for evil. A few of the Ethics Committee members are searching for a way to remove the Taint, but they have had little success.

The Ethics Committee has also been authorized to hunt down and kill the Neo-Luddites witch hunters. This caused some controversy at the last gathering, because it was the first time the group decided to use force against anyone other than other junkers. Lazlo and his buddies have bagged some Luddites, but they have also lost a few of their own.

Profile: Ethics Committee Member

Corporeal: D:2d8, N:3d6, S:3d6, Q:2d6, V:3d8
Dodge 4d8, drivin': car 5d6, fightin': brawlin', power sword 5d6, quick draw 3d6, shootin': pistol, rifle, energy weapon 5d8, speed load 2d8
Mental: C:3d8, K:2d12, M:2d8, Sm:3d10, Sp:3d8
Guts 3d10, overawe 4d8, science: engineering, occult engineering 5d12, scrutinize 4d8, search 3d8, survival 3d10, tinkerin' 5d10
Edges: Arcane background: junker 3, mechanically inclined 1
Hindrances: Loyal: Sons of Sitgreaves -3, Obligation: Ethics Committee -3
Pace: 6
Size: 6
Wind: *16*
Special Abilities:
Junker: Powers: ammo, Flash Gordon, gunsmith, rocketman, spirit. Tool Tricks: destabilize, drain, reload, tool.
Gear: A variety of interesting junker devices.

The Neo-Luddites

There are many people in the Wasted West who are not big fans of technology—look at where it's gotten them. They have learned to do without, and many have found that they don't miss all their fancy gizmos as much as they thought would (or they're too busy keeping body and soul together to miss them).

Avis Quinlan

Avis Quinlan has developed a new philosophy that plays on the attitudes and fears of these people. He was a car salesman before the war—the kind who could persuade the most savvy buyer into springing for the deluxe undercoating, a five-year extended warranty, and heated cupholders.

It didn't take long for him to find an audience for his anti-technology gospel. He began his crusade in the ruins of Billings, Montana, in 2092. Within a few months he had nearly 100 followers. Inside of a year he had almost 500 disciples. Today, almost all of the survivor settlements in western Nebraska belong to the Neo-Luddite movement.

Drop That Toaster, and Move Away From it!

The Neo-Luddites believe God has punished man for his arrogance. The survivors of the Last War are being given a chance to atone for their sins. They can do this by living humbly with only simple technology.

In Quinlan's world any technology developed after 1863 is sinful because it may be tainted by the manitous' influence. Members of the movement found using a prohibited device are given public floggings. Repeat offenders can be stoned at the discretion of the village elders.

Junkers are the servants of Satan. Practicing junker magic is a stoning offence. Possessing junker technology calls for a severe flogging which many don't survive. A second offense automatically calls for stoning.

Agnes Petrie

One of Quinlan's first converts was Agnes Petrie. Agnes took the end of civilization hard—so hard in fact she's certifiably insane. She's a junker and former SOS member who has foresworn the use of her powers because she believes they were granted to her by Satanic spirits.

Agnes became Quinlan's closest advisor. She's the real brains in the outfit. She helped refine Quinlan's theology, and she makes all of the important decisions for him. It was her idea to commission witch hunters to find and kill junkers.

The Witch Hunters

The most faithful of Quinlan's followers are rewarded by being commissioned as

witch hunters. These rabid Luddites are sworn to the defense of the faith and the destruction of the faithfuls' enemies, namely junkers.

Witch hunters normally travel in pairs. They have spread south and west from Montana and can be encountered nearly anywhere in the Wasted West. They search out junkers and those using junker technology and purify them with torture and flame as Lazlo described.

Witch hunters dress in black. They wear the symbol of their faith, a gold crown representing the crown of King Lud, on a chain around their neck.

What makes these yahoos dangerous is that their faith has given them limited powers which actually allow them to take on well-armed junkers and come out on top. They can activate any of these powers simply by making a Fair (5) *faith* roll. A failed roll costs the witch hunter 2 Wind.

Profile: Witch Hunter

Corporeal: D:2d8, N:3d8, S:3d6, Q:2d8, V:3d8
Dodge 4d8, fightin': brawlin', sword 5d8, quick draw 3d8, ridin' 4d6, shootin': pistol, rifle 5d8
Mental: C:3d6, K:3d6, M:2d8, Sm:2d6, Sp:3d10
Academia: Luddite theology 4d6, faith: Luddism 5d10, guts 3d10, overawe 4d8, scrutinize 4d6, search 4d6, survival 3d6
Edges: The "voice"
Hindrances: Bloodthirsty, intolerance: junkers, stubborn
Gear: Horse, 4 Colt Dragoons, Springfield musket, sword
Pace: 8
Size: 6
Wind: *18*
Special Abilities:

Armor: Each success on the caster's *faith* roll gives the caster 1 level of Armor. This effect lasts for ten minutes.

Destabilize: This works in the same way as the tool trick of the same name.

Drain: This works in the same way as the tool trick of the same name.

Wrack: The hunter can activate this power after hitting his target in hand-to-hand combat. The target must roll a contest of *Vigor* versus the hunter's *faith*. If the hunter wins the contest, the target is wracked with incredible pain and suffers a penalty to all actions equal to the difference in the rolls. This lasts for 1d6 rounds.

The Old Wayers

Old Ways shamans are another group which doesn't particularly care for junkers and their ilk. Most Old Ways shamans wouldn't piss on a junker if he were on fire. They're still sore about the whole spirit war thing.

Not all Old Ways shamans feel this way, though. Some have actually visited the Chamber and given instruction on shamanic magic to the Council members. Exactly how an Indian shaman reacts to the junkers in your posse is up to you Marshal.

Spiritual Warfare

If your heroes run into a grumpy shaman, he will more than likely summon up some spirits to attack his opponent's browsers. If you want all the details on how this is done, check out the *Ghost Dancers* book for *Deadlands: the Weird West*—otherwise just make a Fair (5) *faith* roll for the shaman. If it succeeds, draw a card for each success and take the highest. Use this card to determine the nature spirit's *Spirit* rating just as you would during character creation.

Combat between the spirits is handled normally. Assume the spirits have a *brawlin'* aptitude equal to their *Spirit* coordination and a size of 6. Substitute *Spirit* for all other Attributes like *Quickness.* When one spirit hits another, it inflicts its *Spirit* in damage.

A browser spirit with a shell can retreat into it. This takes an action. Once inside the shell, the nature spirit cannot harm it (although the shaman might try to bash it).

Gremlins

Gremlins exist solely to cause mischief and disaster via mechanical contraptions. Some junkers theorize that they were formed from tech spirits which became trapped in ghost rock.

Wherever they came from, they're bad news. Gremlins can inhabit nearly any device, but they seem to have a special liking for junker devices. Gremlins can get into devices while building them, via the Backlash Table, or any time the junker goes bust while repairing a device.

Pain in the Butt

Most gremlin infestations are of the pain-in-the-butt variety. In these cases, the gremlin simply uses its jinx ability to screw up the

device. Worse, each day the gremlin may attract more of its mischievous brothers and sisters. Roll 1d6 once per day. On a roll of 1, another gremlin spirit enters the device and causes another jinx.

The only way to get rid of the gremlins is for someone to make an opposed *Spirit/tinkerin'* roll versus the gremlin's *Spirit*. If the tinkerer gets one success, the combined jinx of all the gremlins inside is canceled for 24 hours.

On a raise, the gremlins are actually forced out of the item, where they involuntarily materialize in the flesh for one hour. If they think they can win, the gremlins attack. Otherwise they make the best of their situation and run around causing as much havoc as possible.

Kill Me Now

The kill-me-now infestations are a mite worse. In this case, the gremlin has actually replaced the tech spirit that's supposed to reside in the device. This gives the gremlin complete control over the device. The gremlin uses this ability to create as much mayhem as possible: guns accidentally hit friends, vehicles back over vital pieces of equipment, computers give altered information, etc.

There are only two ways to get rid of a pesky gremlin that has possessed an object. The first is to destroy the object. The second is to perform an honest-to-God exorcism. Preachers who can do this are hard to come by in the Wasted West.

Sky Raider II

A gremlin is currently causing all sorts of mayhem in Nevada.

One of the Sky Pirates' airships, the Sky Raider II, was passing near Polson Field in northern Nevada when the ghost-rock bomb hidden there exploded (check out *Apocalypse Now* in the *Radiation Screen* for details).

The explosion caused damage to the airship and forced it to land and make repairs. While it was on the ground, the rift caused by the ghost-rock explosion allowed a gremlin to enter the craft via its radio system. The malicious spirit took over the ship and began tormenting the crew.

Before the gremlin got to have too much fun, a horde of walkin' dead (the reanimated corpses

of the airfield garrison) attacked the ship and slaughtered the crew. The crew had completed enough of the repairs to allow the ship to fly again, so the gremlin decided to take to the skies.

The Sky Raider II now cruises the skies of northern Nevada looking for settlements to raid. When it finds a likely target, the airship sets down and releases its skeletal crew of reanimated soldiers on the hapless inhabitants. Some of the victims are carried away in the ship, destined to become part of its undead crew.

If encountered, the Sky Raider II is inhabited by 3d10+10 walkin' dead.

Sky Raider II

Durability	Armor	Handling	Size
80/16	see below	0	+6

Armor: Bottom 3; Front 2; Rear 2; Left side 2; Right side 2; Air bag 1

Weapon	Mount	Location	Arc
M-120 x 6	Turret	Bottom	360

Junker Hazards

As if witch hunters, Old Ways shamans, the Taint, and the Combine aren't trouble enough, junkers also have to contend with a variety of supernatural hazards.

Backlash

Although it's not as dangerous as it was in the old days when junkers had to wrestle manitous in slimy mud pits for the power their devices needed (okay, I made up that part about the mud), building junker gadgets can still be hazardous to one's health. Each time a junker creates a device, she opens herself to the Hunting Grounds mentally. If all goes well, she finds a tech spirit that wants to play nice, and she channels it into the device.

Unfortunately, there is a lot that can go wrong. Instead of a tech spirit, the junker might encounter damaged goods, a gun spirit with a mad-on, or even a nature spirit out to end the techno-mage's inventing career. These spirits may attack the junker's mind or they may try to mess with the device in some way.

Backlash can also be caused by a flawed design. If there is an unseen flaw in the device being constructed, all sorts of strange effects can occur when the tech spirit flows into it.

Regardless of how it happened, when the cards indicate that backlash has occurred, roll 1d20 on the Backlash Table on page 122.

Instability

Another supernatural phenomenon that junkers must contend with is Instability. Instability occurs when the tech spirit inhabiting a device temporarily loses its grip on the item. When this happens, all types of supernatural mayhem can ensue.

Whenever a device fails a Stability Check, roll 1d20 on the Instability Table. Add the amount by which the check was missed to the roll on the table. If the device had a Stability greater than 20, subtract the amount by which the Stability exceeds 20 from the roll on the table.

Instability affects the entire device. If a device stops working, this means none of the device's powers work.

Use 'em

As a Marshal, make the Instability rules work for you. Unlike the other magic-using character

types, the things created with junker powers stick around for quite a while. If your posse starts to resemble a walking swap meet, have items become unstable.

There are all sorts of reasons this can happen other than those listed in Chapter Three. The posse could run into some sort of creature that feeds on the device's energy, or the spiritual vibes caused by a radstorm or black rain might trigger a Stability Check. You get the idea.

AIs

Most AIs are completely loyal to their creators. As was mentioned in the *AI* power, mistreating an AI can make it surly and uncooperative, but it will never directly disobey one of its creator's orders.

There is a risk in associating with AIs, however. Whenever a device containing an AI becomes unstable, make a Fair (5) *Spirit* roll for it. If it fails the roll, the instability has affected its mind. The AI now has its own agenda, one which most likely doesn't include the junker that created it. We'll leave it up to you to determine the details, Marshal.

A rogue AI is still bound to its creator, but it can now try to disobey him. Whenever an AI wishes to disobey any direct order, or a command *programmed* into it, it must succeed at an Onerous (7) *Spirit* roll. Most rogues use this ability to eliminate their masters and gain complete freedom.

Spook Juice

Spook juice is a fuel made exclusively by junkers. The Reckoners are the reason that spook juice never suffers instability. As we mentioned in *Road Warriors,* this wonder fuel is part of the Reckoners' plan to terrorform the Earth and the Hunting Grounds. Burning spook juice creates supernatural pollution which dissipates into the Hunting Grounds. Nature spirits who come into contact with this cosmic crud can be warped by its insidious nature. Tech spirits are immune to this spiritual smog.

Whenever a tech spirit starts to lose its grip on the spook juice it inhabits, the Reckoners give it a friendly nudge to help it hold on.

This has no effect on those who use spook juice or the junkers who make it. But we don't have to tell the players that, do we? Let them worry about why that Marshal's Badge is there.

Designing New Powers

Eventually the junker in your posse is going to want to create something that is not covered by the powers in this book.

When this happens, the first thing you should do is look over the existing powers and make sure it isn't possible to build the device using a combination of other powers.

Once you've determined that the gizmo your player wants to design is a truly new class of device, give him the go-ahead to design a new power. As always, make the player do the work.

Junker powers should be based on real technology, future technology that is part of the *Hell on Earth* world, or staples of science fiction like power shields, light sabers, etc.

A new power shouldn't be specific to the particular gadget your player wants to build. If it only turns out Frame 5 widgets that recleat your golf shoes, the power is too specific.

A power should be able to create a variety of devices within a class. *Gunsmith,* for instance, allows the creation of a large spectrum of firearms, launchers, and rail guns. *VTOL* gives a junker the ability to create anything from unmanned recon drones to enormous, flying APCs that can carry an entire squad.

A power shouldn't create abilities covered by other powers. A power to create fixed-wing aircraft shouldn't also equip them with missiles. The junker should use *rocket man* for that.

Use the existing powers as a guide. If a junker wants to invent a boat-building power, it should be modeled along the lines of the *locomotion* power. The boats should be broken down into a few basic hull and propulsion types, allowing passengers and weapons can be tacked on, etc.

Reigning Them In

As a Marshal, the things you need to look at for game balance are the TN, the components, and the Drain. In general, the more powerful the devices created, the higher all of these things should be. A high TN doesn't provide you with as much control as high component demands or high Drain.

The most effective way to keep powers under control is to keep junkers component-poor. A high skill and chips mean nothing if the character doesn't have the components needed to build a device. Don't discourage your junker players—just make them work for that super-widget they want to build.

Backlash

1d20	Effect
1–2	**Busy Signal.** The junker fails to contact the Hunting Grounds. Only half the normal construction time is spent before the junker realizes he can't get through. He can call back later.
2–3	**Doh!** Something in the device is not quite right. It gains a minor side effect of the Marshal's choosing.
3–4	**Gremlins.** A gremlin slipped into the device along with the tech spirit. This a pain-in-the-butt level infestation.
5–6	**Damaged Goods.** The junker installs a faulty tech spirit in the device. Its Stability is reduced by 1d4 points.
7–8	**Double doh!** Something is really not right. The device gains a major side effect of the Marshal's choosing.
9–10	**Misinformation.** A nature spirit pulls a fast one on the junker and gives him a bum steer. There's no way in Hell the device is going to work. All of the time spent on the device is wasted and all of the components have been trashed. The junker must start over again from scratch.
11–12	**Ambush!** A disgruntled gun spirit uses the junker's gray matter for target practice. He takes 3d6 damage to the noggin and he may not contact the Hunting Grounds again for 24 hours.
13	**Power Flare.** A wave of spiritual energy crashes into the junker's mind. Roll the junker's *Spirit* versus 3d12 damage. If the junker fails, he takes the difference in damage to the noggin. In addition, his overloaded cranium needs some time to recover. The techno-wizard is unable to make contact with the Hunting Grounds for 1d4 days.
14	**Taint.** The junker gets into a mental wrestling match with an agitated gun spirit. He takes no damage, but the spirit shows him some disturbing snuff films. The junker must make an Onerous (7) *Spirit* roll, subject to the normal modifiers due to Hindrances, to avoid gaining a level of Taint.
15	**Scrambled Brains.** The junker's mind returns from the Hunting Grounds in tatters. He loses 1 level in *science: occult engineering,* and he can't contact the Hunting Grounds for 1d6 days.
16	**Arcane Leak.** The device's power system isn't shield properly, allowing G-rays to leak. Each day the device is used, everyone within 10 yards of it while in operation must make a Fair (5) *Spirit* roll. If the roll is failed, the victim gains a random mutation. If the device does not require power to operate—armor for instance—a portion of the device has become irradiated. This effects only the user, but the TN for the *Spirit* roll to resist mutation is now Hard (9).
17	**Minor Possession.** A deranged gun spirit gains control of the junker's body for 1d20 minutes. During that time, the possessed techno-mage tries to kill anyone he sees.
18	**Fried Synapses.** A damaged spirit rejected by the junker isn't going to leave without a fight. It rummages through the techno-wizard's brain and pulls the plug on the power he's using. The junker loses all knowledge of the power he was attempting to use.
19	**Ghost in the Machine.** A gremlin masquerading as a tech spirit has slipped into the device. The junker now has a kill-me-now gremlin infestation in his device as described on page 118. Good luck finding a priest!
20	**Major Possession.** The junker's body is now host to a gun spirit. For the next 1d6 days, the spirit may initiate a contest of *Spirits* against the junker any time it wants (but you have to spend a chip to do it, Marshal). If the spirit wins, it gains control of the techno-mage's body for 1d4 hours. During that time it goes on a bloody killing rampage. No one is safe, not even the junker's closest frames.

Instability

1d20	Effect
1–2	**Minor Slippage.** The tech spirit momentarily loses its grip on the device. It stops working for 1 round.
3–4	**Damaged.** The tech spirit holds on, but its grip is loosened. The device's stability drops by 1.
5–6	**Major Slippage.** The tech spirit is barely holding on. The device ceases to work for 1d6 rounds.
7–8	**Woohoo!** The tech spirit starts to slip, knocking the device out for 1d6 rounds, but once it recovers, it actually has a better grip on the device than before. Its Stability is increased by +1.
9–10	**Oh, yeah!** The tech spirit slips, but then recovers. Once it has settled back in, it finds a more efficient way to route power through the device. The Drain for one of its powers has been reduced by 1. If the device is unpowered, treat this as a woohoo!
11–12	**Energy Leak.** The device has sprung a leak, bathing everyone nearby with arcane energy. The Drain for one of its powers is increased by 1. In addition, each time this power is used, everyone within 10 yards must make a Fair (5) *Vigor* roll. Those who fail gain a random mutation. If the device is unpowered, this result causes a one-time burst of G-rays. The TN to resist mutation from this blast is Hard (9).
13–14	**Extreme Slippage.** The tech spirit is holding on by the skin of its, um, teeth. The device stops working and stays that way for 1d6 days.
15	**Warped.** The device will never be quite the same. It conks out for 1d6 rounds. Once the device recovers, its Stability is reduced by a whopping 1d8 points.
16	**Dustbin.** The device gives up the ghost—literally. It ceases to work and crumbles into its individual components. Half of the components (round down) can be used to rebuild the device or recycled into something new.
17	**Poltergeist.** The wrenching pain of leaving the device causes the tech spirit to thrash around. The device flies 2d20 yards in a random direction (use a d12 and a clock facing) at the beginning of each round for 1d6 rounds. Anyone in its path is struck for 3d8 damage (or more if it's a really large device—Marshal's call).
18	**Poof!** The tech spirit and the device vanish into the Hunting Grounds, leaving the junker looking rather foolish. The device is gone for good.
19	**Whoa, Nelly!** The tech spirit and the device take a trip to the spirit world. Anyone in contact with the device gets to go with them. All characters in physical contact with the device are transported to the Hunting Grounds. The spirit world spits the characters back out 1d4 hours later, but the device is history. What adventures, if any, the heroes have in the Hunting Grounds is entirely up to you, Marshal.
19	**Beast From Beyond.** The device opens a portal to the Hunting Grounds and something steps through. The junker and his friends are attacked by an evil spirit manifested in the flesh. Pull a card as in character creation to determine its stats. Use this one stat for all its Attribute and Aptitude rolls other than *fightin': brawlin'*. It has *fightin': brawlin'* 5 and claws that do *Strength*+2d8. The spirit is size 8.
20+	**Kaboom!** The tech spirit doesn't survive its removal from the device. It doesn't go quietly into that good night. Its death liberates a blast of energy that causes the device to explode in a spectacular shower of debris. The device causes 1d20 damage for every 50 points of powers in it. This blast has a burst radius of 10 yards.

Deadlands Dispatch

Issue #2

Character Info, Errata, and The Big Picture of the Deadlands Universe

Welcome to Pinnacle's regular update on the Deadlands universe. In this issue we hear about recent events in SoCal, provide you with a few new Edges and accessories for your ride, and stomp out some gremlins from some recent releases.

The Big Picture

History marches on! Here are some of the recent events in the *Deadlands* universe.

Hell on Earth

Those survivor settlements lucky enough to lie along the regular routes of the Convoy or other trade caravans, or which are reasonably close to SoCal and Movie Town, often get their hands on the vid slugs put out by The Director. Unfortunately, not everyone who has the chance to enjoy this unusual luxury is really that deserving. Apparently, a copy of *Virginia City Massacre*, The Director's 2091 release, fell into the hands of some Cult o' Doomists, who, among their mutations, seem to have lost any appreciation for the arts. They were not amused.

It didn't take long for Silas and his Green-robed philistines to respond to this film, which doesn't exactly portray them in the most flattering light. Filming of The Director's latest vid, *Evil Dead Too*, was interrupted by the roar of motorcycles and dune buggies as a hoard of mutant gangers—apparently members of the Shan Fan gang "the Road Orcs"—tore through the lot, trashing sets and poppin' caps. The road gang was led by three green-robed Doomsayers. Unfortunately for them, they picked a bad day for their raid. Masks and stage makeup being a little scarce these days, The Director was using real live zombies (well, maybe "live" isn't quite the right word) in his movie—and he was filming the climactic scene just as the gangers rolled in! The surprised bikers met with a somewhat different battle than expected, and were quickly turned back when resourceful stage hands turned the extras loose upon them. Though fierce, the battle was brief, and The Director himself was not injured.

It's not entirely true to say that the vid's filming was interrupted—the cameras kept rolling throughout the fiasco. *Evil Dead Too* will be delayed due to some rewriting, as the new scene is built into the plot. Silas probably won't be too amused at how the new footage will be put to work.

The Weird West

Events in Southern California aren't limited to the Apocalypse—we've got news from the Deadlands universe of 1877 as well. The War Between the States seems to have entered yet another lull, with only sporadic fighting along

the front. Both Blue and Gray troops along the Virginia front have settled into a sort of waiting game, with only occasional scraps Between them of late. Kentucky and Tennessee have been similarly quiet in the wake of the November offensives.

The British occupation of Detroit continues, but the garrison there is constantly harassed by partisans in the city. British Navy vessels have been sighted on the Great Lakes, as well. So far these ships have restricted themselves to commerce raiding, and have not tangled with the Federal Navy. Still, their presence is an ominous indicator of what may come.

Meanwhile, Reverend Ezekiah Grimme now has the City o' Lost Angels firmly in his control, and has continued to consolidate his hold on the area immediately surrounding it. Missionaries from the Church of Lost Angels are now a familiar sight throughout the Great Maze, and a few have even been seen as far east as Tombstone, AZ!

Needful Thangs

We've got a bunch of nifty stuff in this edition of Needful Thangs: a new Edge for truly ballsy heroes, a couple of new vehicle components for the road warriors out there, and a new critter to terrify your players!

New Edge

Here's a new Edge the hero that just loves to get out in front in the thick of things.

Insane Bravado 3

War brings out all sorts of odd qualities in fighting men and women. The history books are full of soldiers and officers who's courage was matched only by their incredible luck—and few combats produced as many such leaders as the desperate and futile struggle that was the Last War.

A hero with this edge is a real leader, the sort who jumps out in front of his men to spearhead the charge—somehow remaining unscathed as others fall about him. Explosions, shrapnel, and the random death of the battlefield seem to pass this hero by, as lesser men succumb.

So long as he exercises up-front leadership and fearless bravado in the face of danger, this hero will not die a "random" death in combat, and is seldom affected by incidental damage. Undirected or random attacks—like damage from nearby explosions (not actually aimed at him) or stray bullets—can be ignored completely. Damage more directly related to the hero—such as that taken from a wrecking vehicle that he happens to be in—can be resisted. The hero makes a Foolproof (3) *Spirit* roll; each success negates one wound. Damage or attacks aimed directly at the hero are not affected by this Edge, and can kill or wound him just like any other.

This Edge only takes effect in the heat of battle; a hero with this Edge could just as easily be killed by a random or non-directed attack as any other character if it comes out of the blue. Furthermore, this is the true hero's Edge—it only works when the hero is gloriously leading those around him through the thick of danger. When not in the lead—when not out ahead, facing the danger as an example to those around him—the hero gains no benefit from this Edge.

New Vehicle Accessories

As long as we have the attention of junkers and others among you that like to build cool toys, here are a few vehicle accessories that didn't make it into Road Warriors.

Roll Cage

Cost: $50 x Size modifier
Load Points: 2 LP/ x Size modifier
Installation:
TN: 7
Time: 4 hours
Raise: 30 minutes

A roll cage is a structural cage around passenger compartment of a vehicle, which prevents the vehicle from collapsing and crushing its occupants should it roll over or suffer a severe impact. It gives the passengers a good deal of extra protection in a collision. When figuring the damage taken by passengers, reduce the effective speed of the crash by 30 miles per hour.

Targeting Computer

Cost: $5000
Load Points: 1 LP
Installation:
TN: 11
Time: 4 Hours
Raise: 10 minutes

This is a military-grade targeting computer that has been stripped from a knocked-out combat vehicle, such as a hover tank or armored personnel carrier. It works in conjunction with a small revolving targeting laser installed on the roof of the vehicle.

The targeting computer includes a HUD and requires an intact windshield to display information properly. The computer operates in two modes: acquire and lock. In acquire mode the computer provides the same benefits as the HUD (see *Road Warriors*).

Switching to lock mode takes an action and requires the operator to designate a target. The system then tracks the target with its laser and displays the proper aiming point for the weapons based on the relative motion of the vehicles. This halves the *shootin'* penalty due to a target's relative speed (round down).

This device only works with fixed weapons or those with servo controls.

New Critter

Finally, we've got a new monster to sic on your heroes—yet another terrifying pitfall of the blasted wastes. This here's just a taste of more to come—look for *Monsters, Muties & Misfits*, an entire sourcebook chock full of new horrors, in just a few months.

What follows here is Marshal territory, of course—players, keep your snouts out!

Color Leech

Leeches: slimy, nasty little things, fit to give the hardiest waster a giant case of the creepin' heebie jeebies. And that's the normal kind—you can imagine how much worse the Reckoning made some of these little nasties.

Color leeches are much like their mundane cousins in size, habitat, and activity. They dwell in stagnant ponds and puddles, polluted creeks, and even mud and damp debris. In appearance they resemble regular leeches, except for the pale, nearly transparent quality to their flesh, within which the shadowy forms of their organs are visible. Like regular leeches, they are cold and slimy to the touch, soft and jello-like. They are easily destroyed—they can be crushed or squashed with little effort.

When you discover them, that is. Much like normal leeches, color leeches afix themselves to their victims unnoticed. This subtle touch, combined with their pale coloration, means that a waster can easily go hours—sometimes even days—without realizing these creepy little bloodsuckers are all over his body.

But it's not just blood that they suck. This is the nasty part: color leeches actually draw the color right out of their victims' flesh. The area around the leech grows pale, translucent, and soft, much like the creature's own flesh. If the leech isn't removed, the victim's entire body is eventually reduced to this jelly-like state, leading to the death of the hapless waster. Victims killed in this manner revive as a sickening form of walkin' dead: translucent, jello-like zombies whose rotten organs and bones are softly visible within their slimy bodies.

Profile: Color Leech

Corporeal: D:—, N:1d10, Q:1d4, S:—, V:1d6
Sneak 5d10
Mental: C:3d8, K:1d4, M:—, Sm:1d4, Sp:1d6
Pace: 1
Size: 0
Wind: NA
Terror: 7
Special Abilities:

Drain: A color leech draws the color out of its victim's flesh, in an area with a radius of roughly an inch for every hour the critter's been attached. The victim must make an Onerous (7) *Vigor* check every six hours; failure means that she takes 1d4 Wind from each attached leech. This Wind can't be restored until the leech is removed.

Infection: Those killed by color leeches return as slimy, translucent zombies. Use the walkin' dead profile in the *Deadlands: Hell on Earth* rulebook, but increase the creature's Terror to 11.

Nightmares: A waster with a color leech attached suffers terrible nightmares. The effects are identical to the *night terrors* Hindrance (see the *Hell on Earth* rulebook), except that the TN to avoid nightmares is Hard (9).

Subtle Attack: When a victim passes through water or damp terrain infested with color leeches, have her make an Onerous (7) *Vigor* roll. She is infected by

one color leech for each point by which the roll is missed; the creatures settle into concealed areas of the victim's body. Only an Incredible (11) *Cognition* roll notices these creatures at this point. From that point on, the victim can attempt another Incredible (11) *Cognition* check every six hours to notice the leeches (reduce the TN to Onerous (7) or lower if the hero changes clothes, bathes, or otherwise has a easier chance to notice, or if the infection spreads the translucency to obvious areas). It's a good idea to make these rolls in secret yourself, Marshal, so that your players aren't clued in.

Gremlins

Here are a few gremlins that made it past our intrepid editorial staff, and into print.

Children o' the Atom

The Glow works in mysterious ways, and seems to have had it's mutating effects on our Doomsayers book. Here's the corrected text for your perusal:

Page 55: The Initiate archetype lists a *faith* of 3. Whoops. Initiates can only have *faiths* of 1. Good news for Initiates, though: if you take this archetype, you can not only have the two extra points from the lower faith, but also an additional 5 points we shorted the archetype!

Page 56 and 57: Both of these archetypes feature the miracle aegis. Unfortunately, to have aegis, a Doomie must have a *faith* of 6 or higher. You'll have to alter the archetype, or choose another miracle.

Page 73: The weapon stats for the *glow stick* miracle are unclear. The weapon has a Speed of 1 and a Defensive Bonus of +1, regardless of whether the stick is "on." The only difference between "on" and "off" is the damage.

The Wasted West

Many people lost their homes, their loved ones, and even their lives in the Last War—we should be happy that we only lost a few rules. Here they are, recovered again after much painstaking research:

Page 111: A draw of four on the Veteran of the Weird West Table indicates that a character has become a vampire, and refers to rules on page 151. Ya know what? Uh-uh. The rules seem to have slipped off into the night, but fortunately you can find stats for nosferatu in *Road Warriors*. To make the conversion for your character, increase her *Quickness* and *Strength* by two die types and gain the Terror and Special Abilities listed there. And welcome to the world of bloodsucking freakdom!

Profile

Here's a brief profile of the author of the book you've just enjoyed reading.

John Hopler

John Hopler has been with Pinnacle since it began back in 1996. Since that time he's worn many hats. He's currently the Special Projects Manager and one of the principal writers and designers for the *Deadlands: Hell On Earth* line.

Originally a Yankee from New Jersey, John moved to Blacksburg, VA in 1986 to attend Virginia Tech, from which he graduated with a degree in History. He's been in Blacksburg ever since. John got started in the game industry as a freelance writer working for such companies as Chameleon Eclectic and Iron Crown Enterprises. In 1995 he designed *The Last Crusade*, an historical card game based on World War II. In January 1996, he went to work full-time for Pinnacle.

When he's not playing or writing for a *Deadlands* game (his *Hell on Earth* campaign has been running since well before the initial release of the game), John enjoys fishing, blasting tiny clay pigeons into even tinier bits, world conquest, and sniping his co-workers in the head on the office network. We don't hold it against him.

Deadlands

Marshals Do It With Their Badges On!

Howdy, pardner! You look like just the cowpoke I've been searching for. I bet you're already a good Marshal, and now you're lookin' for a new challenge. Well, honey, I got just the thing for ya! We need a few good hombres to head out into the territories to round up some posses. Your still gonna be a Marshal, but when you sign up for our demo teams we're gonna call you a Bounty Hunter. You see, if you're out there rounding up players and running games for Pinnacle, we consider that bounty, and you're the hunter. So if you think you got what it takes, just check out the Bounty Hunter's section at *www.peginc.com*, and maybe you'll collect a reward!