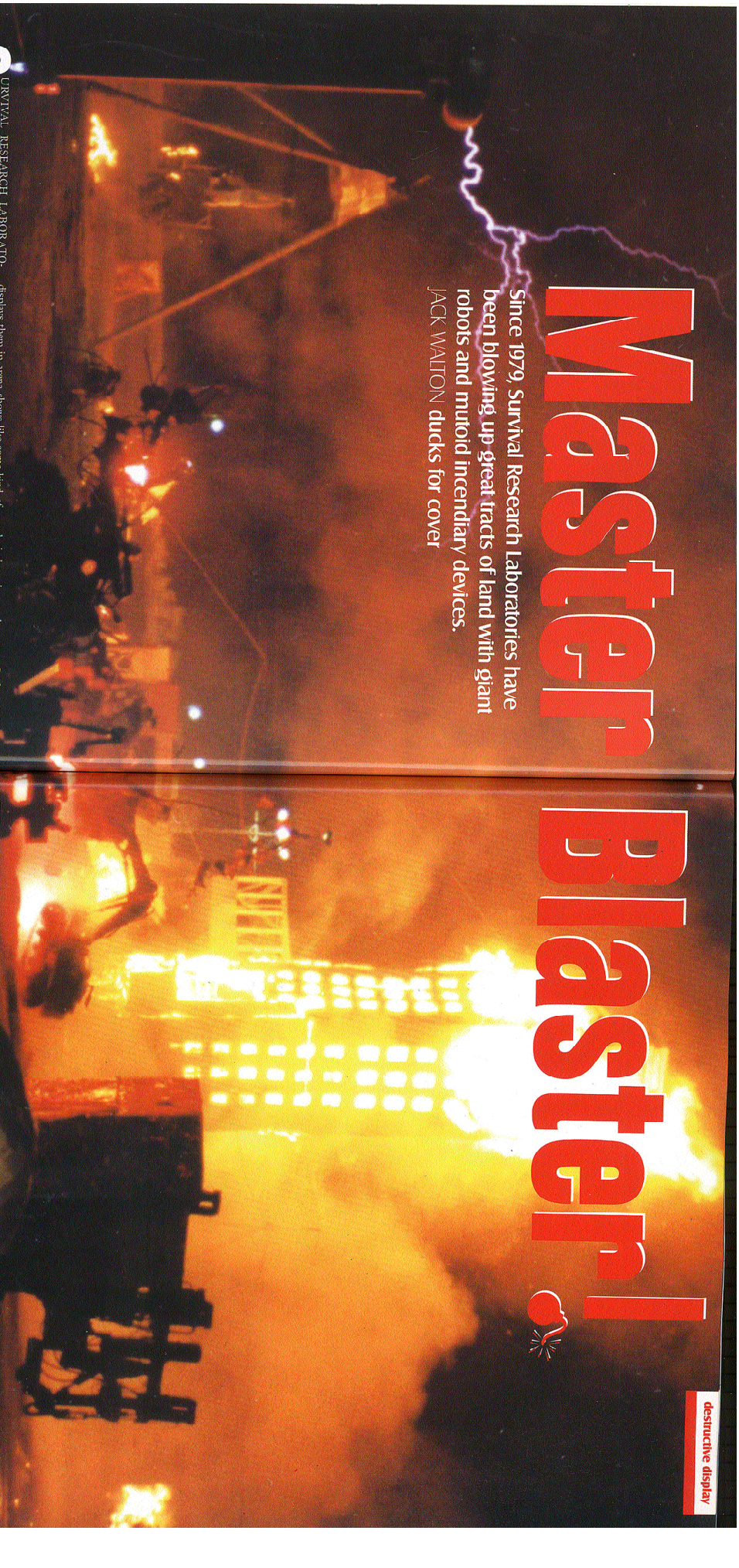


Master Blaster!

Since 1979, Survival Research Laboratories have been blowing up great tracts of land with giant robots and mutant incendiary devices. JACK WALTON ducks for cover



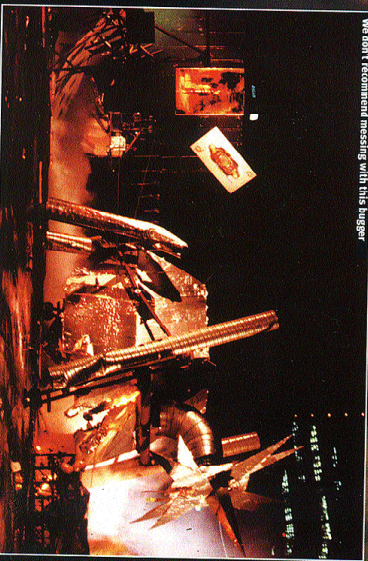
SURVIVAL RESEARCH LABORATORY KIDS put on performances which depict your average circus act. These shows open the gates for the darker side of technology to play. The performers are giant robots, massive cannons and assorted incendiary devices, set free from their military and industrial birthplaces and turned loose in a chaotic frenzy of destruction. Machines are blown sky high in massive displays of pyrotechnics and automated attack. Huge robots collide and fight, smashing everything in their path. Explosives are let off and set off by foot from cranes. The audience is assaulted with a barrage of noise and shock waves. Showers of sparks and flame are set off across the arena. Everything grows with the scent of fire. SRL are masters of the unforgetable.

As many people do, Mark Pauline became a bit pissed off with his job. So he took a bit of time off to gather his thoughts and decide what he wanted to do. In the end, he decided to form a company which makes giant destructive machines and displays them in arena shows like some kind of weird cross between *Robot Wars* and a *Konister Truck* show. One day in 1979, in Los Angeles, Survival Research Laboratories was born.

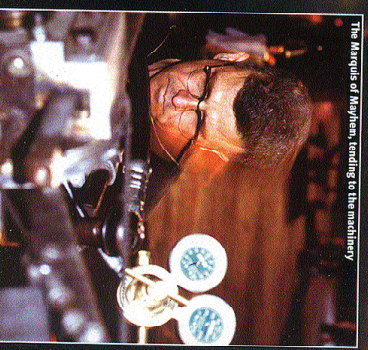
Mark Pauline had finished an art degree and worked for the air force making target rotors for jets, other projects like that. But it wasn't his cup of tea. "I enjoyed the work, but I didn't have much interest in the notion of commerce, or the practical application of what I was doing. It kind of really bothered me. What better option than to go freelance? To make things work for SRL, Mark only saw one option. "I saw that companies were the entities that really got away with the most spending, you could engage in criminal enterprise. As long as it's enterprise, it's fine." So SRL was formed and the shows began.

The events themselves sound massively complex to orchestrate - and probably cost not a trifle at home. But shows that "mix the entertainment value out of military, scientific and industrial technologies, aren't everyday events. In fact, SRL only put on one or two shows a year. Why? Well, a group, which has managed to bring the American security forces to red alert (they mistook the show for a bombing campaign), doesn't usually endanger itself to local courts. Some of the more explicit imagery used in the shows has caused trouble too. The occasional use of meat has riled some, and SRL have been accused of torturing and killing animals - unfairly. "We have made embryonic use of cadavers, corpses and human skin at shows but I can't torture or kill live animals," Pauline emphasizes. "I don't even eat meat. We do it because it freaks people out. We comment on it just like we comment on technology, by being conversant in it and using the extreme images in the same way we use meat in the shows. All I can say is look at my life, whose side am I on?"

Whatever his personal beliefs, the odd words gets attributed to an organization like SRL. A guy in Assisi tried to blow himself up standing over a bomb until it went off. On other occasions, a



We don't recommend messing with this bugger



The Marquis of Mepham, tending to the machinery

Stand too close and you get a sound-sensitivity reaction: your whole body turns into something akin to your funny bone



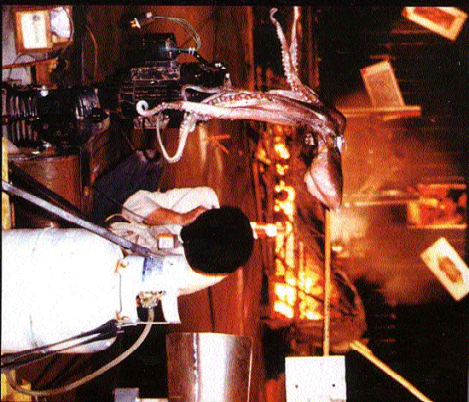
individuals have freaked out and attacked people. Mark says that in a large organization with a high turnover of staff, these things are to be expected. On the whole, the operation seems to run pretty damn smoothly.

Mark complains that people still don't like what he does. The fire and police departments in his home town have threatened him with prison if he puts on any more performances without the correct licenses. He describes SRL as being "considered to be very out of control in this town... very unpolitically correct." So shows remain rare. There's a constant struggle to find the next friendly spot to work in.

When SRL put a show on in Tokyo in late December last year, Mark seemed pretty happy with the whole thing. "We were able to get permits to use armour-piercing projectiles to make holes in metal plates. There were people 30ft away from the explosion and we were using real high explosives. The fire department and police just sat there and watched us. They were like, 'well, you know, whatever...'. To me, that's just sublime pleasure."

The pleasure of a good show has its downside: there is the odd injury. Someone had their back broken by a rifle. Mark has had the skin torn from his leg like a sock. His hand mutilated and, due to faulty storage, a bag of explosives blew up in his face. His response is very philosophical. "The doctors were actually pretty happy when they saw it. They said, 'You'd have to pay \$5,000 to have that done, that's a perfect face-peg!' So, theoretically, it's made me look younger!" All in all, considering SRL work with machines which could kill them, they've done extremely well on the safety front.

As for money, SRL maintains itself as a hitherto equipment dealership. This is a group that has excelled at selling things around in their yard, so it's no surprise that they have a reputation for being able to get odd equipment. It's lucrative, too. Mark gives me a fairly typical example. "Yesterday, I

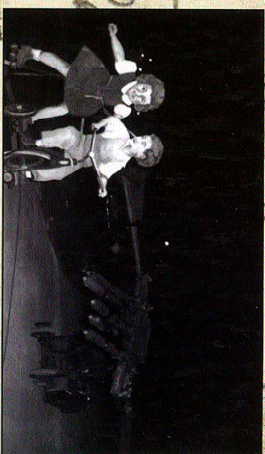


brought two of these very specialised compressors for \$100 each and sold them for \$1100 each. It took me about 20 minutes. Do that a few times a week and you're comfortable.

In the hands of SRL, at the moment is a very specialised precision crane-lifting tool that is used to lower the space shuttle onto the Z17 that transports it from the west coast to Florida. "It looks like it will find a home, probably with a 'smaller' rocket manufacturer or with someone who runs a nuclear power plant."

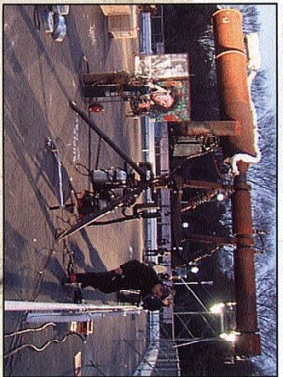
It's most certainly not your average, run-of-the-mill, everyday construction company. In actual fact it's nothing short of bespoke and Marks on course to stir up some shit. As the man says, "It's a fun way to pass the time." So, if you're ever in need of any strange industrial purchases, then Mark Penline could well be your man. If you want to find people making very dangerous equipment, then SRL should be high on your list. If you want to see a show, the next ones in Phoenix, Arizona, in September.

Recent modifications – and the purchase of some special high-speed tyres from Pirelli – have just capped it all: the wood now tears out at 200mph



HAND O'GOD

"If you were God, you wouldn't grab anything. You'd just flick it out of the way." That's the basis of this 10' spring-loaded hand with hydraulic rams which compresses 12 Cadillac springs. Press a button and the springs unload themselves into the hand, straightening out the 5' fingers at lightning speed. If you were standing in the way, the massive steel fingers could easily send you to the Party Gate. As it is, no one gets too close and it just launches objects through the air, knocking things out of its way and causing mayhem while attached to various mobile devices.



SHOCKWAVE CANNON

Take a 21" pipe, charge the back of the party with propylene igniter, focus the blast with lenses and a self-stabilising vortex firing jets, our travelling at 3000mph which can break a pane of glass at 300m. Well, that's the best principle. Those in need by Mark. There's a larger model, closer to ones used by the military. Well, it uses enough TNT to kill everyone within 20m and can knock buildings over. As Mark, "really, doesn't want to kill anyone", it's not used that much.



BOEING BOMBLoader

This is a standard military-type bomb loader, this operated by remote control. The whistle is abnormal, it's a 2000Hz Boeing 502 turbo jet with a fat tube on the exhaust. This is loud, job, and low (180Hz) – like a monstrous siphon. Send too close and after 4 while you get a sound-sensitive reaction: your whole body turns into something akin to your funny bone. Drop this into the exhaust and a giant flame will come out. This is a thing, based on military research into some weapons. SRL have got all the target loggers but it gives everyone nosebleeds when it's mis-activated on, so it's not used.



PITCHING MACHINE

You know those tennis-practise machines? Well, if you took one of those and made it quite a bit larger, you could throw something bigger than tennis balls. Say, lengths of 1"x4". Remembering that this is an SRL invention, it's going to have to be pretty powerful. The lengths of wood are slotted fast enough to punch holes through 1/8" sheets of steel or an 8" tree. Recent modifications – and the purchase of some special high-speed tyres from Pirelli – have just capped it all: the wood now tears out at 2000mph.



SCREW MACHINE WITH LITTLE ARM

The screw machine runs on little steel threads with screw threads, which makes it something like an all-terrain boat. It's only about 9'x6' but the attached arm is 12' when fully extended. The whole thing is remote controlled, and the arm is welded using a device similar to one of those human embankers used in Africa. It's pretty, it's guaranteed to win you any arm-wrestling match.

KNAC.COM
PURE ROCK

LISTEN NOW

STUDIO CAM

Biography
Discography
Sound And Video Clips

PANTERA

Now Playing: I'm with Stupid, Artist: Static-X

MAGAZINE

[NEWS](#) | [FEATURES](#) | [REVIEWS](#) | [EDITORIAL](#) | [INTERVIEWS](#) | [WEEK](#) | [LINKS](#) | [ARCHIVES](#)

[HOME](#) : [MAGAZINE](#) : [FEATURES](#)

First to Fight: Survival Research Laboratories

Jeff Porterfield, Contributor

Monday, January 24, 2000 02:48 PM



Mark Pauline And His Crew Of Tech-Terrorists Continue Their Mission Rock And Sock 'Em Mayhem

"THE UNEXPECTED DESTRUCTION OF ELABORATELY ENGINEERED ARTIFACTS: A MISGUIDED ADVENTURE IN RISK ERADICATION, HAPPENDING WITHOUT KNOWN CAUSE, IN CONNECTION WITH EVENTS THAT ARE NOT NECESSARILY RELATED" (March 28 1997, Longhorn Speedway Austin, Texas)

"THE DELIBERATE EVOLUTION OF A WAR ZONE: A PARABLE OF SPONTANEOUS STRUCTURAL DEGENERATION" (Nov. 28 1992, Graz, Austria)



Armed with powerfully large machines that go by such names as HAND OF GOD/BOMB LOADER (literally a hydraulic lift designed to load bombs onto jets fitted with a very large steel hand who's fingers, looking like missiles themselves, have the ability to crush), SUBJUGATOR (a tractor like design who's huge claw played a part in the destruction of the TRAILER PINATA; yes, a suspended trailer filled with garbage), and THE CHAIR DRILL (a massive rolling motor with a drill bit made up of about 50 kindergarten school chairs) [Survival Research Laboratories](#) really knows how to throw a high tech dadaist party who's titles are just as darkly humorous as the machines.

SRL began in 1979 when Mark Pauline simply dreamt it up. He took the name of his new organization off of an ad for a right wing group he found in the back of Soldier of Fortune and began collecting tools.

In a recent KNAC.COM interview with Mr. Pauline, he explained that his original vision was really quite close to what SRL has become. So, what has it become? Pauline and his group travel the world performing their own self designed, sense surround carnivals of violence, and are currently putting together a performance in Tokyo, Japan. As a warm up for the main attraction, a full-blown SRL invasion of downtown Tokyo, he will allow his creations to be at the mercy of anyone who wanders into the ICC Museum. "Random peaceful Japanese people will be allowed to operate huge lethal machines over the internet," says Pauline. "I don't think that that has been done before."



When asked how important the sense of mortal danger is to SRL shows, Pauline stated: "I think that it's very difficult to appreciate a machine where you are an audience member unless you have the feeling it can do what you always thought a machine could do, which is something so dangerous it could threaten your existence - we make machines that are tailor made to elicit those feelings? you look at those machines and



[Rant about the](#)
[Chat live about](#)

Recent News

[Tomorrow The W](#)
[Snapcase Updat](#)

Recent Feat

[Kittie: Never M](#)
[Name, These C](#)
[Rock!](#)

[The Unknown K](#)
[A KNAC.COM M](#)
[Exclusive!](#)

Armored Saint F

[Sex and Drugs a](#)
[Flicks](#)

[Steve Vai: Prett](#)
[White Guy](#)

[Sebastian Bach:](#)
[Saddle](#)

[First to Fight: S](#)
[Research Labora](#)



think, "That thing can kill me." We want to give people that as their first impression."



The impression has been so great that he has been hounded by Police and Fire officials throughout his career. It seems that no one in local governments wants giant machines stomping on or blowing fire on their citizens. Imagine that? But it is important to note that, as of yet, no one has been hurt at the performances. This fact goes to show the level of professionalism involved since, from all accounts, the action is very similar to that of open warfare. There are fires, high explosives, over-amplified sounds (so strong to have caused nausea in some audience

members), and a whole plethora of special effects using military-grade pieces and parts whenever necessary.

"Watching these machines, you get a sense of disconnection the same way you get in dreams or in the middle of a fever. Your sense of scale gets distorted?like you have a window into a different world," explains Pauline.



As for the competition, Mr. Pauline was kind in his words, to an extent. There were no hard feelings towards the other groups, merely a difference in philosophies. I asked him whether or not any other group came close to SRL's aesthetic, his answer was blunt: "No." I asked if anyone else used all of the incendiaries and special effects, "Believe me, no one uses them like we do!"



"There are a lot of people out there doing this and everyone gets accused of copying me," Pauline says. "I suppose that is because I have been doing it for 20 years and they've been doing it for only a couple. It must be tough for them to weather but I'm not dying soon so I will continue to be a problem."

Mr. Pauline and SRL are surely in it for the long haul. The group is looking towards the future and it has little to do with Rock 'em Sock 'em Robot sized events, SRL is in an extreme world where every sense is alive. This isn't about simple entertainment it's about bringing a vision to life, while pushing into new realms of technology. Simply put it is: "A CALCULATED FORECAST OF ULTIMATE DOOM: SICKENING EPISODES OF WIDESPREAD DEVASTATION ACCOMPANIED BY SENSATIONS OF

PLEASURABLE EXCITEMENT."

[E-Mail This Story to A Friend](#)



READER RANTS (You must be [logged in](#) to add your own rant!)

- [UncleMike](#) ranted on 01/25/2000 04:55 PM ...
How in the fuck do I get to go to one of these shows? This looks like the coolest thing I have ever seen. Loud noises, explosions, potential for crowd injury or death; I love this!!
- [daze](#) ranted on 01/25/2000 02:40 PM ...
stuff go boom.
- [rocker4](#) ranted on 01/25/2000 11:18 AM ...
Whoa! This stuff is cool as shit! I want to blow things up too!!!!

[WEEK IN REVIEW](#)

[MAGAZINE ARCHIVES](#)

MACHINE DESIGN

JULY 8, 1999
www.machinedesign.com



PERIODICALS
A PENTON PUBLICATION
USPS/PENTON AUTOMATABLE POLY



**WHO'S BEST AT CONCURRENT
ENGINEERING, page 76**



**CHIP-SCALE PACKAGES HELP
SHRINK ELECTRONICS, page 86**



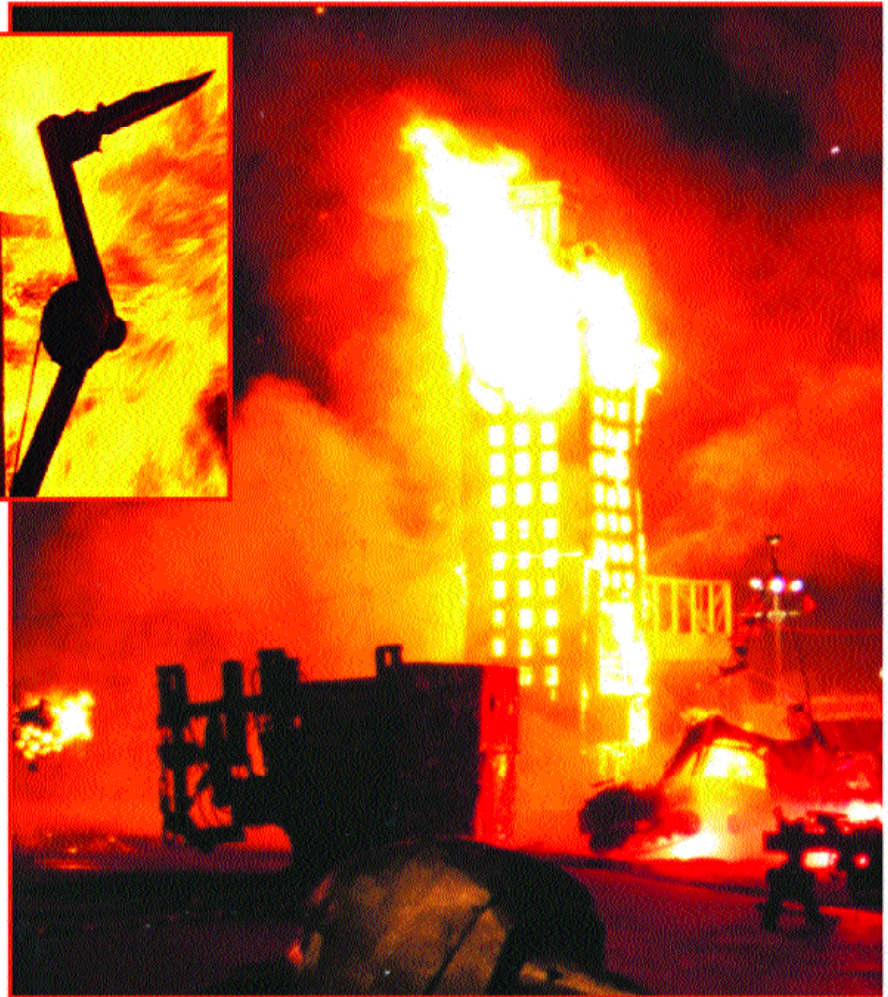
**CAD AND CAM FROM SCREEN TO
MACHINE, page 51**

CHOREOGRAPHED CHAOS

CUTTING-EDGE ART AND ENGINEERING TAKE CENTER STAGE

page 50

Huge machines lurch around on lopsided wheels, tank treads, legs, and other forms of arcane mechanical locomotion during Survival Research Laboratories' show "The Deliberate Evolution of a Warzone: A Parable of Spontaneous Structural Disintegration." Almost 3,000 people paid \$25 apiece to get into an abandoned toilet paper factory in Graz, Austria, and watch machines battle one another. A large overhead crane moves from skirmish to skirmish trying to break up the fights. The crane hurls down bombs, each the equivalent of two sticks of dynamite, while it picks up and drops combatants. Meanwhile, a V-1 rocket backfires, shaking the building with gas detonations and lighting the factory with fireballs. In the



Spinning Machine, a 454-cu-in. V8 twirls a cable so fast the end of the cable breaks the speed of sound. It spews 150 dB of 200-Hz noise audible five miles away. Also blaring away are air-raid sirens powered by multistage turbocompressors.

CRASHING AND BURNING

Performances put on by Survival Research Laboratories are designed to shock, scare, and startle. But there's some serious engineering behind the choreographed chaos.

SRL headquarters are tucked away in what looks like little more than a corrugated steel shack on a dead-end street in southern San Francisco. The building is deceptively large and serves as both machine shop, warehouse, and head-



Local residents refuse to believe the noise is from an art show, despite explanations from police and local authorities. They insist it's a Serbian attack. The Minister of Defence gets involved, putting the military on alert and

sending in a squad of armed troops to investigate. "It was a bad scene," says SRL director and founder Mark Pauline. "We've done five shows in Europe and three ended up generating political repercussions."

WITH CLASS

STEPHEN J. MRAZ
Senior Editor

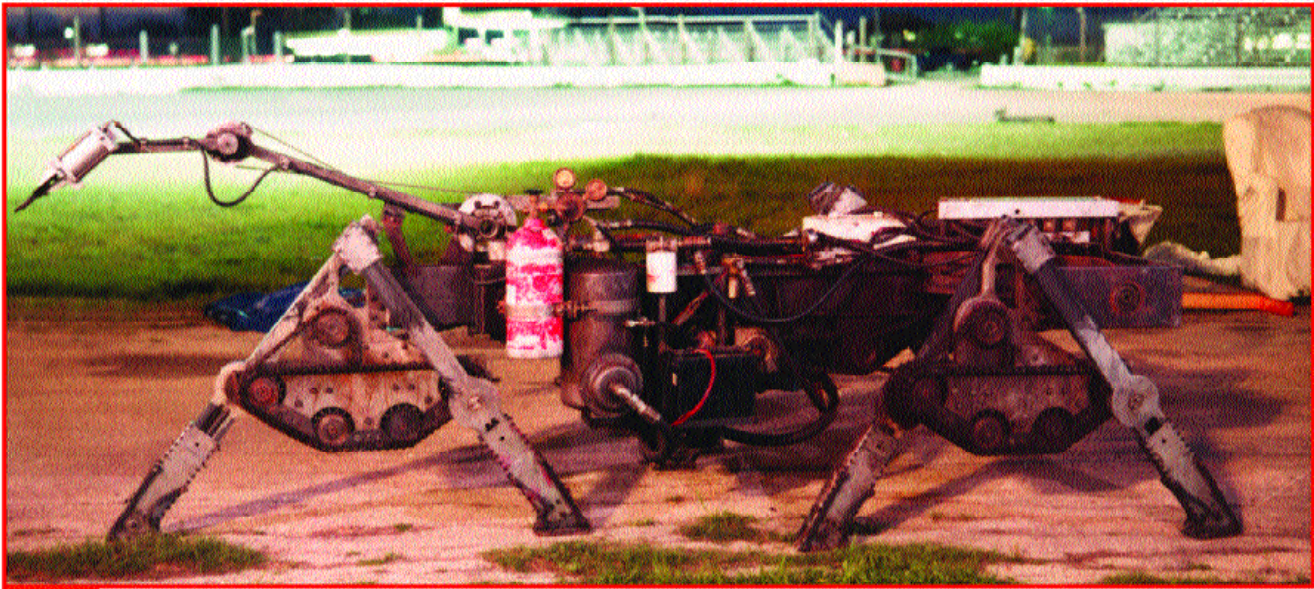
quarters for SRL. Its founder and director Mark Pauline, a forty-something self-taught engineer who works hard to satisfy his high-tech muse, also lives there.

Since 1979, he and his SRL crew have staged more than 45 shows, or

performance-art pieces, with titles like "Increasing the Latent Period in a System of Remote Destructibility," "A Million Inconsiderate Experiments," and "A Calculated Forecast of Ultimate Doom: Sickening Episodes of Widespread Devastation

Accompanied by Sensations of Pleasurable Excitement."

The shows routinely include remote-controlled flamethrowers, jet engines and shock wave cannons, huge teleoperated arms and jaws on wheels, and other oversized pieces of powerful



"The Running Machine isn't quite practical," says SRL's Pauline. "But it can walk over any kind of debris on stage and through the mud and dirt where other machines can't go."

multi-ton machinery designed to make a lasting impression. "The idea is to make people's fear of a technological Armageddon come true in a controlled environment," says Pauline. "So we design machines that look as unsafe as possible, machines that look like they would hurt you if you got too close."

And the massive machines *do* look dangerous with their exposed gear drives, heavy-duty hydraulics, and menacing Mad Max overtones. Despite the implied danger, however, no audience members or SRL crew have ever been seriously

injured at a show, a track record of which Pauline is rightly proud.

GETTING AN EDUCATION AND FINDING FUNDS

Pauline learned his tools of the trade — pyrotechnics and machinery — from friends, books, and a few semesters at the engineering school of hard knocks. "When I was about 10 years old I discovered how to make high explosives, dynamite, picric acid, and all those unhealthy chemicals, and how to handle them," he says. "Of course it's dangerous, but I

WHAT'S THE POINT?

Some people believe SRL shows are all about robots fighting and demolishing other robots. And a little of that may occur. But while props may get destroyed and some machines may take a few hits, there's actually a message in the madness. In the Austrian show, for example, Pauline and his crew mocked war and diplomacy using technology and machines originally developed for the military.

During the show, a very dumb bomb rigged to a winch repeatedly slammed itself into a target painted on the floor, decimating any machine that strayed into the area. Meanwhile, an overhead crane hoisted machines from one fighting zone to another like some bizarre version of UN peace-keeping forces.

Other shows have poked fun at greed and the consumer culture, crime, religion and technology. There are no sacred cows to SRL. At the Austin show titled "The Unexpected Destruction of Elaborately Engineered Artifacts," for example, the major prop was a half-scale replica of the University of Texas (Austin) tower from which sniper Charles Whitman killed 16 and wounded 30



"You can't really call what we do engineering, because there's no real use for these machines," says SRL founder and artistic director Mark Pauline of the machines he and his crew build. "But they're very good design from the point of view that they work, they're practical in their own way."

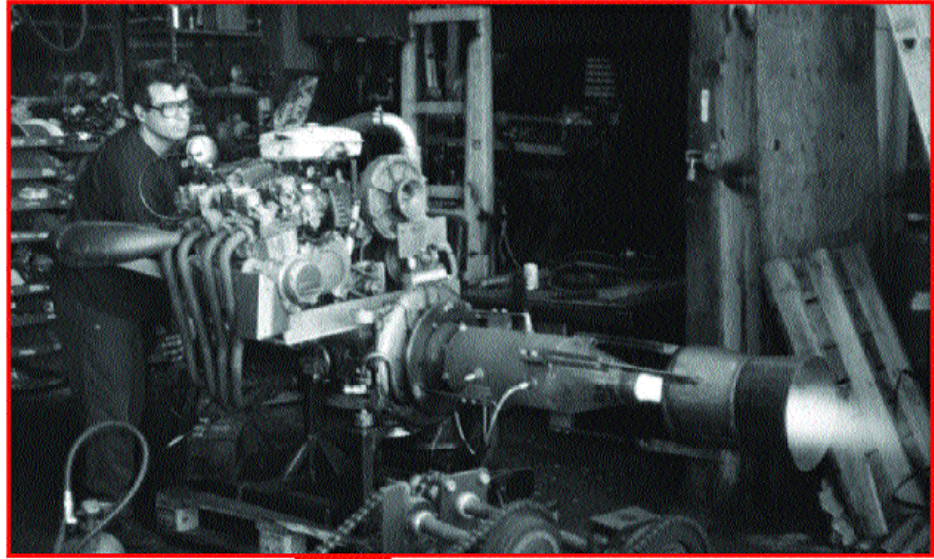
in 1966. A mannequin atop the replica shouldered a rifle.

In general, SRL adheres closely to its mission statement: "SRL is an organization of creative technicians dedicated to redirecting the techniques, tools, and tenets of industry, science, and the military away from their typical manifestations in practicality, product or warfare. Performances consist of a unique set of ritualized interactions between machines, robots, and special-effect devices, employed in developing themes of sociopolitical satire."

never really knew just how dangerous until I had an accident.”

That accident occurred in 1982 during the construction of some rocket engines. The engines were supposed to power heavy, wheeled props into each other at several hundred miles per hour during an SRL show. “The rockets were going to use the same kind of fuel as the Shuttle, right down to the ammonia percholate and rubberized epoxy binders,” recalls Pauline. “I was using pretty sophisticated burn-rate-adjustment chemicals, each with different specific gravities, to build a 1,000-lb thrust engine, the kind you would find on an anti-tank missile. They were about 2.5 in. in diameter and 12 in. long.” Unfortunately, he mishandled one and it exploded, removing the four fingers of his right hand.

In high school he found himself hanging out with kids from the more affluent section of Sarasota, Fla. Coming from less than well-to-do parents, he had a hard time keep-



Mark Pauline tests a jet engine outside the SRL workshop

ing up with his friends' fancy cars and motorcycles. “If you were going to run with that crowd, you needed a nice car, the faster the better,” says Pauline. “So as a practical matter, and to elevate my social standing, I bought junked cars and fixed them up. That’s where I first learned how to work on machines and build them.”

Shortly after graduation, Pauline got a job as a civilian contractor for the Air Force on a project to build two robots. He ended up as foreman on the job because he could read complicated blueprints.

With a few years experience working on a variety of military projects, Pauline went to college and earned an art degree. Shortly after graduating, he was faced with a challenge. “I’d been trained for basically two things. I had a degree in visual arts and I had pretty extensive experience in engineering and making machines,” he says. “I wanted something tailored specifically to my interests, needs, and skills. It was very calculated. I sat down for about two weeks and figured out the basic form. I envisioned at the outset that we would do these huge performances that would rival other popular culture events but be extremely different from them.” Thus was SRL born.

To finance his dream, Pauline did fabrication, custom machining, and prototyping for high-tech companies and laboratories in the San Francisco area, including the Stanford Linear Accelerator Center (SLAC). “I could get a steady stream of work through contacts I made at the labs and people who work here at SRL,” says Pauline. “We can make almost anything here at our shop and we work fast.” He also set up a network of connections who could lead him to sources of industrial material and cast off military gear that would find a second life as SRL machines.

However, jumping from job to job began to eat up too much time. So now he funds SRL as a one-man, high-tech salvage operation. “There are several places in this area, each about the size of a city block, that buy stuff from the big, technically advanced companies by the ton, then sell it to licensed dealers and the public,” explains Pauline. “One place gets five to six 40-foot containers each week



The Hand O' God takes a break during a show.