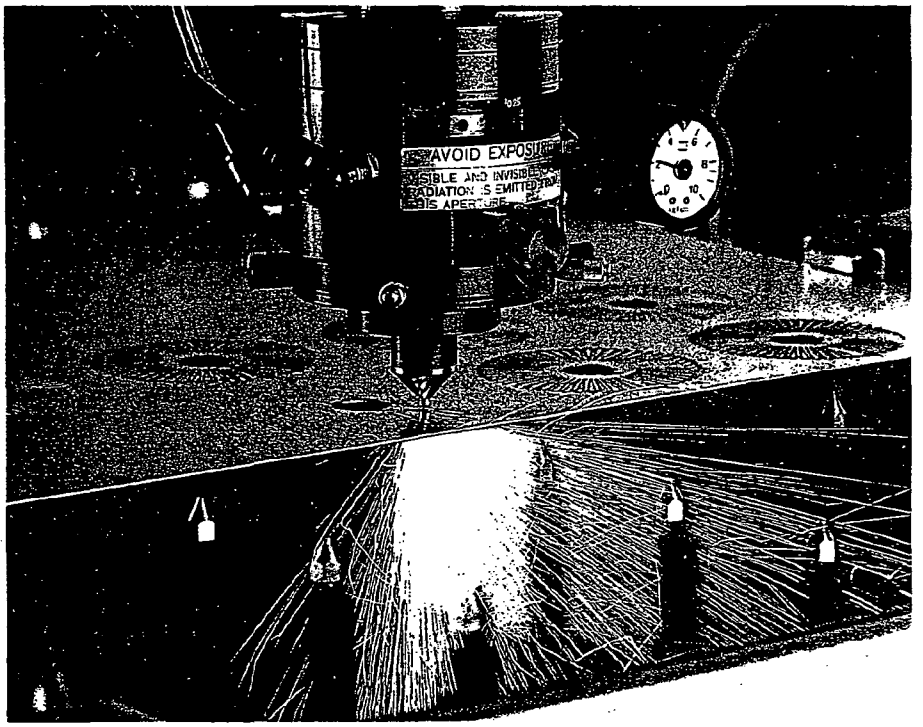
AMADA LASER CUTTING SYSTEMS



Precision, reliability, and proven performance from the leader in industrial laser cutting technology.

LASER CUTTING SYSTEMS OFFER NUMEROUS ADVANTAGES

Laser cutting of both metals and non-metallic materials is now widely accepted as a viable alternative to older, more traditional methods. The advantages offered by laser cutting systems include cut speed, dimensional accuracy, and machine versatility. In addition, the need for costly hard tooling is eliminated, allowing changes in part configuration with minimal lead time.

Laser cutting is well suited to making parts that have complex geometries, especially when JIT production is required. For prototype production and short and medium runs, direct laser cutting of parts makes the most sense, while for longer runs, laser-cut blanking dies offer a cost-effective solution.

Jobs requiring a combination of simple and complex cutting can be handled most effectively using the laser cutter in combination with an Amada turret punch press, linking the two machines with an OVS-1100 turret press integrator.

The Leader In Laser Cutting Technology

Amada is the leader in industrial laser cutting technology. The Amada Group has facilities in the United States, Japan and Europe investigating laser cutting of materials, and has installed more than 1,000 laser cutting systems throughout the world.

Building on more than forty years of experience as one of the world's largest machine tool manufacturers, Amada has developed some of the most productive and reliable laser cutting systems available today.

Clean Cut™ And WACS™— Two Big Advances From Amada

Among the laser cutting breakthroughs which Amada has pioneered are Clean Cut and the Water Assisted Cutting System (WACS).

Clean Cut is a technique which produces virtually oxide- and dross-free edges on laser-cut metal sheets. This eliminates expensive secondary finishing requirements, and yields weld-ready parts.

WACS uses an operator-adjusted mist to absorb much of the heat generated by the cutting process. This allows the use of a continuous wave (CW) beam in applications where a pulsed or gated beam is required with most other systems.

Result: You get the benefits of CW cutting without heat buildup problems. You get faster cutting, cleaner cuts, a smaller heat-affected zone and reduced workpiece temperature for easier handling.

Balanced Machine Design™

Amada's forty-five years of experience in the machine tool industry are evident in the design and construction of our laser systems.

Each system is assembled according to a philosophy we call *Balanced Machine Design*. This simply means that we select the components in each system to work together to produce maximum useful performance, rather than having some components over-specified just to create an impressive number on a spec sheet. And because Amada machine tools have been tested in-use for more than four decades, you can be sure that our laser cutting systems will stand up under real-world conditions!

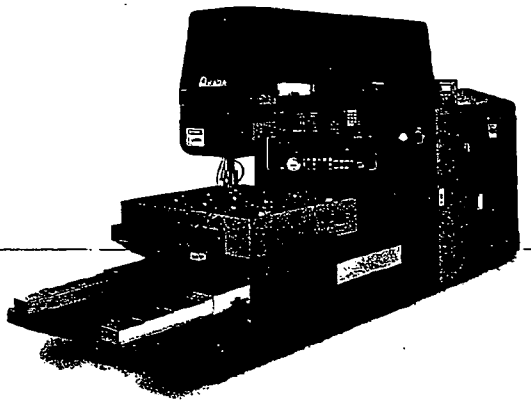
The Right Laser For Every Job

Amada offers three styles of laser cutting machines: ball-transfer systems, pin-table systems and multi-axis systems. Each has its advantages.

Generally, ball-transfer systems make more sense if you're primarily cutting small to medium-size parts from sheet metal, or you want high-volume throughput. Pin-table systems are generally preferable when cutting large parts from thicker plate. And multi-axis systems are the obvious choice when you want to cut three-dimensional contoured parts.

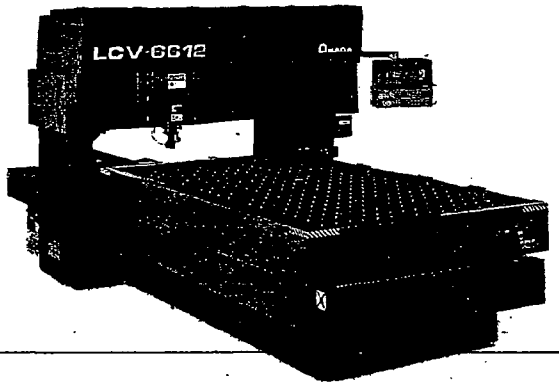
Because Amada makes and sells laser cutting systems of every configuration, we can show you which type best meets your needs, without any bias in favor of one type over another.

PIN TABLE SYSTEMS



LCF-644

The LCF-644 is a pin-table machine which was designed to achieve ultra-fine quality cutting and complement wire EDM machines. To achieve those goals, its design incorporates a high-accuracy X-Y-Z motion package, special software and a stabilized machine base.

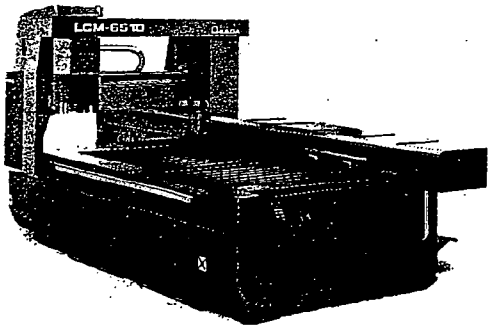


LCV-6510 & LCV-6612

The LCV Series of machines are "hybrid" type pin-table machines in which the table moves in the X-axis while a "bridge" type moving beam provides the Y- axis motion. The LCV-6510 can cut sheets up to 50" x 100" while the LCV-6612 can go up to 60" x 120".

These machines are equipped with an advanced 32-bit CNC control and utilize a 2,000 watt laser. They can cut mild steel up to 1/2-inch thick and more. A sophisticated beam delivery configuration maintains unusually high beam quality.

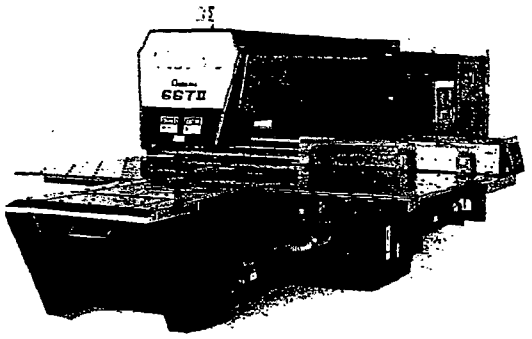
Material is held firmly in place by powerful clamps while the bridge is in operation. Convenience is enhanced by a pendant-type remote control.



LCM-6510

The LCM-6510 is a 3-axis moving-beam machine, in which the cutting beam moves back and forth over a stationary sheet resting on a pin table. The LCM-6510 can cut sheets up to 50" x 100," with Z-axis travel of up to 14."

BALL-TRANSFER SYSTEMS

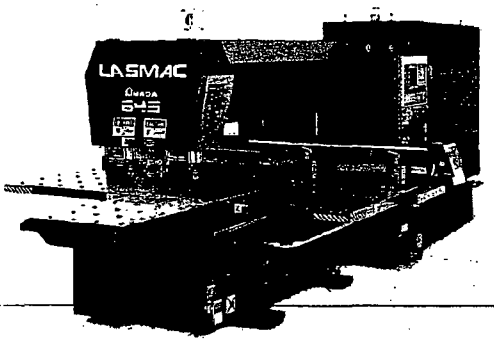


LC-667 II & LC-644 II

The LC Series of ball-transfer machines have a fixed cutting beam and bi-axial table motion. They are equipped with FANUC's latest 32-bit CNC.

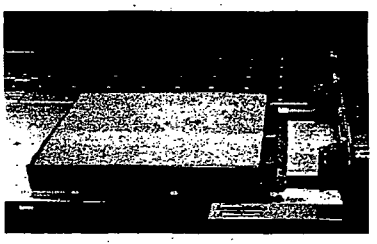
Because the laser and motion package are mounted on a single frame, the LC Series offers the maximum in beam stability and accuracy. The fixed beam design, with its simple beam delivery, means that the spot diameter remains constant throughout the cutting path, for consistent cut quality, kerf width, and edge finish.

The rugged machine frames are similar to those used in Amada's other machine tools, but are specially designed to take advantage of the laser's unique capabilities.



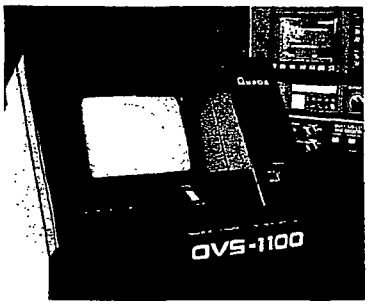
LCE-645

The LCE-645 is an economically priced ball-transfer machine with features not usually found on laser cutters in its price class: a FANUC laser, a 32-bit FANUC controller, feed speeds of up to 472 ipm, position repeatability to 0.0004" and assist gas controls located at the cutting head. Clean Cut is standard on this machine; WACS is not.



Optional Honeycomb Table

For applications where a honeycomb table may be useful — i.e. cutting foil — this option is available. The table is clamped in the standard sheet holders and is moved under the beam, with the sheet stock held in place on its surface.



Turret Press Integrator

An option available for use with our ball-transfer laser cutting systems is the OVS-1100 turret press integrator. This is a "smart" position sensor and control that lets you use your Amada laser cutting system in conjunction with an Amada turret punch press to gain maximum productivity on jobs requiring a combination of simple, standardized cut-outs and complex cutting paths.

For more information on industry's most complete selection of laser cutting systems, fill out and return the attached reply card.

I would like more information about the laser cutting systems checked below:

PIN TABLES	BALL-TRANSFERS	OTHERS
☐ LCF-644	☐ LC-667 II	☐ Optimo
☐ LCV-6510	☐ LC-644 II	☐ CAD/CAM
☐ LCV-6612	☐ LCE-645	☐ OVS-1100
☐ LCM-6510		

My primary use for a laser cutting system would involve:

☐ Sheet Metal (up to 3/8") ☐ Thicker Metal (3/8" and above)

☐ **Please send literature on the above.**
☐ **Please have a technical representative contact me.**

Company _____

Name _____ Title _____

Address _____

City _____ State _____ ZIP _____

Phone _____

BARBER - PRESALE R 0118916

Anyone can sell you a laser.
Amada will sell you the right laser.

To learn how the right laser cutting system can help you make bigger profits, fill out and return the attached reply card.
If you prefer, you may FAX the completed card to us at 714/670-1439. Or you may phone us at 714/739-2111.

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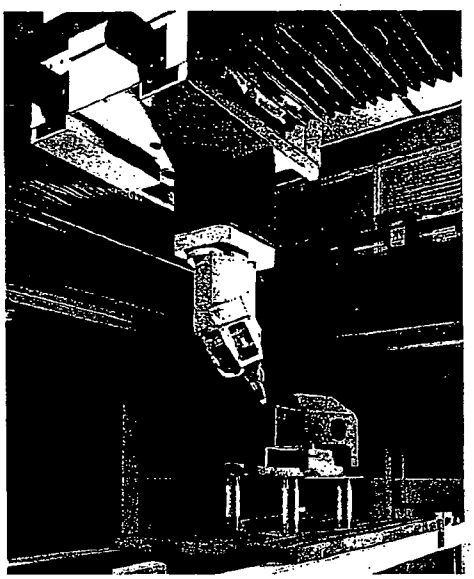
MULTI-AXIS SYSTEMS



Optimo

The Optimo family of 5-axis contour cutting machines have a robot-controlled gantry that manipulates a high-power laser beam through 360° to cut three-dimensional shapes. Optimo machines are available in four series with different working volumes:

- Series 100, suitable for smaller parts such as parts of household appliances.
- Series 200, the most popular size, dimensioned for processing individual parts of car bodies or sub-assemblies.
- Series 500, for cutting larger pieces, with a Z-axis dimension up to 59 inches.
- Series 600, for processing very large items, up to and including an entire car body.

(Photo shows a Series 200 unit with a work envelope of 126" x 88" x 31.5".)

OPTIONAL CAD/CAM PACKAGE

CAD/CAM

Amada has developed a one-screen, icon-driven CAD/CAM package that lets you get the most out of your laser cutting system. The program is flexible and user-friendly; at the click of a button, you can switch back and forth between CAD and CAM to perform all supported tasks. You can also view and verify parts on-screen before cutting, which saves time and prevents costly errors.

For maximum flexibility, the software lets you import CAD files in both DXF and IGES formats, as well as creating original programs on-line. And you can run Amada's CAD/CAM on most MS-DOS computers, from AT's to 386-based systems.

SERVICE AND TECHNICAL SUPPORT

Amada Laser Systems provides the most comprehensive customer support program in the industry to help assure your success in using laser cutting technology.

Our applications expertise is unmatched in the industry... and it's available to help you get the most out of your system. When you need information on how to cut a new material or to maximize your cutting parameters or speed, we can give it to you.

As a part of the system that you get from Amada we provide extensive operator training in system operation, maintenance, cutting technology, and - where it is part of the supplied system - full CAD/CAM training. Its purpose: to help you achieve maximum productivity with the shortest possible learning curve.

Finally, Amada has a permanent staff of highly trained service technicians to maintain and repair the systems that we sell. When you own an Amada laser cutting system, you're well taken care of!

SUMMARY OF FEATURES

MODEL	Max. Workpiece Size	Z-Axis Motion	Max. Speed Traverse/Cut	Laser Power	WACS
LCF-644	40" x 40"	11.8"	590/472 IPM	1500W 1800W	No
LCV-6510	50" x 99"	11.8"	708/590 IPM	1800W 2000W	Yes
LCV-6612	61" x 120"	11.8"	590/590 IPM	1800W 2000W	Yes
LCM-6510	48" x 96"	14.17"	945/472 IPM	1500W 1800W	Yes
LCE-645	40" x 100"*	4.3"	945/472 IPM	1000W	No
LC-644II	40" x 80"*	9.8"	1575/472 IPM	1500W 1800W	Yes
LC-667II	60" x 144"*	9.8"	1575/472 IPM	1500W 1800W	Yes
Optimo 200	88" x 126"	31.5"	1188 IPM	1500W	No

*with one auto-repositioning

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7025 Firestone Blvd.
Buena Park, CA 90621
Telephone (714) 739-2111
FAX: (714) 670-1439