

Orbital Welding of Titanium Hydraulic Lines for Cessna's Fastest Business Jet

Application:

- Hydraulic and fuel lines

Material:

- 1/4" OD to 5/8" OD titanium tubing

Welding Equipment:

Power Supply:

- Model 207

Weld Head::

- Model 9-750

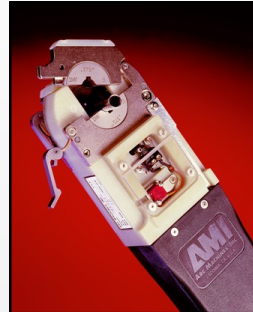
Benefits:

- ✓ Elimination of pretacking
- ✓ Increased productivity to manual welding
- ✓ Consistent, high-quality weld-after-weld
- ✓ 150,00 welds in 5 years

For further information, call AMI at 1-818-896-9556 or e-mail sales@arcmachines.com



Model 207



Model 9-750



When Cessna decided to improve on their first and fastest jet, the Citation X, one of their goals was to increase the maximum takeoff weight, enabling the jet to carry 7 passengers. The use of titanium hydraulic and fuel lines is a key weight-saving feature, comprising about 700 assemblies between 1/4" and 5/8" in diameter on the plane. Because Cessna's engineers experienced challenges with using manual welding in the past, they chose to go with orbital welding for this project.

Cessna turned to Arc Machines, Inc. for orbital welding equipment. They selected the **Model M207** power supply and the **Model M9-750** weld head with two-sided clamping mechanism. The clamps eliminated the need for pretacking and could be quickly and easily replaced with a different size, so each weld head could weld a wide range of tube or pipe sizes.

An advantage of orbital welding on this application was that once the weld program was established, the system could repeatedly perform the same weld in exactly the same manner, eliminating the inconsistencies and errors of manual welding.

Arc Machines, Inc. intelligent orbital welding equipment proved highly reliable and it has contributed to Cessna's success over the years. Cessna's produced more than 150,000 welds within 5 years using AMI's equipment.

To read the full story, visit www.arcmachines.com



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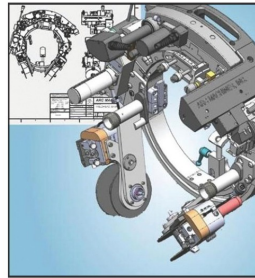
LEADERS & INNOVATORS in Automated Orbital Welding



Cutting Edge Narrow-Groove
Pipe Welding Technology



Advanced Fusion Welding
and Process Control



High-Tech Designs &
Engineering Services



Turnkey Integrated Systems

Advanced Products, Systems & Solutions



With over 3000 customer relationships in over 50 countries, Arc Machines, Inc. has set the standard for Automated Orbital Welding Equipment for over 30 years, combining Quality and Durability with Innovative Engineering and Design.

Around the world, leading manufacturers and contractors rely on AMI for their expertise in automated orbital welding and to develop customized solutions for new welding challenges.

www.arcmachines.com

AMI

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M207 Power Supply

QUICK SPECS

Input Power

100 - 240 VAC service
single-phase
50/60 Hz

Weld Current

100 - 150A DC
100% Duty Cycle

I/O Device

M-207EMM

Memory Capacity

100 weld schedules maximum,
100 levels per schedule maximum

Water Cooler

Optional

Dimensions

11" x 22.75" x 18.75"
(279 mm x 578 mm x 476 mm)

Weight

79 lbs.
(36 kg)



M9 Series Weld Heads

OD Range

0.093" to 7.500"
(2,362 mm - 190,500 mm)

Travel Motor

D.C., P.M., D.C. Tachometer

Head Weight

11 lbs. - 35 lbs.
(4,9 kg - 15,9 kg)

Electrode Size

0.040", 1/16", 3/32"
(1 mm, 1,6 mm, 2,3 mm)

Rotor RPM

0.1 - 20

Cable Length

25 ft. (7,6 m) when connected to adapter cable
(extensions available)

➤ Removable tube clamps

➤ Pre-plumbed for water-cooling



Compatible with all AMI Power Supplies