



BrakingNews

Emergency Arresting Systems Division

Spring 2010



FEATURES:

EMAS Prevents Crash

Aerazur Feature

F-35 JSF Arrested

USAF Fighter Wing Tests Cable

Dear Arresting Systems Users and Representatives Worldwide,

A few weeks ago, when I was asked to write the editorial of the third edition of “Braking News”, which I accepted with great pleasure and pride as Director of Aératur Aircraft Arresting Systems Business Unit. As a reminder, ESCO and Aératur merged eight years ago. At that time, both companies were fierce competitors and the decision to work together under the unique banner of The Emergency Arresting Systems Division (EASD) was somewhat challenging. But as time goes on and in my opinion, through personal encounters and affinities, we have made wonderful progress.

Since our merger, a few important examples of this progress:

-Enterprise Resource Planning (ERP) Integration: ESCO and Aératur now use the same ERP system which greatly facilitates intercompany goods exchanges, inventory management, order processing... For instance, a customer order received at Aston can immediately generate a delivery requirement from Aératur inventory in Merpins, France.

-IMRO services are now handled by a unique EASD team. Field Service operations are now streamlined with personnel servicing all of our “merged” companies equipment (ESCO, Befab or Aératur).

-Sharing Resources: Common projects utilizing products conjoined from both companies have been initiated at the Engineering level. The standardization of our range of nets is a good example.

-Sales/Marketing Efforts: Our Sales and Marketing staff gather for periodic meetings that enable us to better serve our customers by unifying and sharing a common approach by customer /country.

I am convinced that we have now entered a new phase which I refer to as: “Leveraging Synergies”. Our diversity has great potential; as we now offer a wider range of products. Our customers can find that exact fit for their needs. Having two strategic locations on each side of the ocean offers more flexibility and reactivity for customer support. We now have to share our best practices for a mutual benefit and consequently for customer benefit. As our representatives worldwide, you are also part of this process and you are welcome to share with us your comments and suggestions.

It will certainly take time with challenges ahead, but I am sure it will be a quite exciting and rich experience.

Some days ago, I stumbled upon this quotation from Tom Mistler, previous ESCO CEO: “catching airplanes and saving lives is an exciting business indeed”. We do in fact, save lives and sometimes during the hustle and bustle of our daily work-days of what sometimes feel like never-ending meetings- we do forget that somewhere in the world an aircraft just landed and depended upon our equipment for a safe stop. So, at the end of the day- we should feel pretty good about our contributions in this exciting industry.

Enjoy this issue of Braking News!

Philippe Bayard

Directeur Systemes d’Arret d’Urgence France / France Emergency Arresting System

“We made the investment, and we saved lives.”

ESCO’s EMAS Safely Stops Regional Jet After Aborted Takeoff

By Stan Koczkodaj, Marketing Creative Director



Yeager Airport, Charleston, West VA – On Tuesday afternoon, January 19th, just after 4:20 PM, US Airways Express Flight 2495, a Bombardier CRJ-200 regional jet with 34 passengers and crew onboard aborted takeoff at the very last second and was safely stopped by an ESCO EMAS (Engineered Material Arresting System) arrestor bed installed in the runway safety area.

The aircraft had travelled at a high rate of speed, leaving skid marks on the runway before penetrating a substantial distance into the length of the EMAS bed, safely stopping short of a steep drop at the end of the airport runway, which overlooks a valley near the Kanawha River and the city of Charleston. The cause is under NTSB investigation.

Like the five previous aircraft engagements involving ESCO’s EMAS, the aircraft sustained no significant damage and none of the passengers were injured. After a brief shutdown, the airport was back in service by 10:15 PM.

ESCO’s EMAS arrestor beds are composed of blocks of lightweight, crushable concrete designed to safely stop airplanes that overshoot runways. Yeager Airport officials and the FAA had the foresight to install an EMAS system as part of an overall airport safety upgrade in April-May 2007. The positive outcome of this event validated that decision, as evidenced by comments from officials and passengers afterward.



Kanawha County Commission President Ken Carper commented: “If it hadn’t been for the EMAS,

I’m convinced a catastrophe would have occurred.” Carper further commented to Charleston radio station WCHS: “This is what is important. The Board of Yeager Airport, Senator Byrd, Senator Rockefeller, Governor Manchin, and others felt that we had to do this. We made the investment, and we saved lives.”

ESCO’s EMAS systems are installed at 48 airport runways at 32 airports worldwide, including Juizhai-Huanglong Airport in China and Barajas International Airport in Madrid Spain. Around the time of the Yeager incident, ESCO received a commitment to install an EMASMAX system (the latest, most durable version of ESCO’s EMAS) at Songshan Airport, in the center of Taipei City, Taiwan in fall, 2010.

FAA’s Randy Babbitt Lauds Yeager Airport for Safety Efforts

By Stan Koczkodaj, Marketing Creative Director

On Feb. 17th, FAA Administrator Randy Babbitt and Sen. Jay Rockefeller (Dem.-WV) visited Yeager Airport in Charleston, WV to participate in a press conference and site tour of the EMAS bed that safely stopped a regional jet on January 19th after an aborted takeoff.

They were joined by Yeager Airport Director Rick Atkinson, Kanawha County Commissioners Ken Carper, Dave Hardy and Hoppy Shores and ESCO’s Kent Thompson (VP-Airport Engineering & Sales) and Kevin Quan (Sr. Regional Director).

Mr. Babbitt lauded Yeager’s Board of Directors for installing an EMAS well in advance of the 2015 FAA deadline (which requires either a 1,000-ft overrun safety area, or an EMAS system, to be in place). He cited the EMAS as “a good investment” and commented that “the real dividend was that 34 people are walking around and healthy because of that investment”.

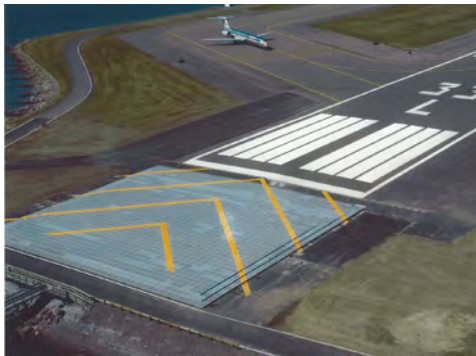
Sen. Rockefeller was instrumental in helping secure Airport Improvement Program funds that led to the installation of the EMAS at Yeager Airport in 2007

EMASMAX® to be Installed at Taipei Songshan Airport

By Tom Giaquinto, Regional Director, Americas and East Asia

ESCO has been awarded a contract by the Civil Aeronautics Administration, Ministry of Transportation and Communication for an Engineered Material Arresting System (EMAS) for Taipei Songshan Airport (ICAO: RCSS, IATA: TSA). ESCO's EMAS, known as EMASMAX®, will be installed in the Runway End Safety Area (RESA) of Runway 10 and is scheduled for completion in late-summer 2010.

Songshan Airport, located in the center of Taipei City, was formerly used only for flights within Taiwan. But since the resumption of direct charter flights between the airport and Mainland China in 2008, the number of flights and aircraft size has increased dramatically. Further increases are expected as direct charter flights between the airport and Japan begin in the Fall of 2010.



According to Civil Aeronautics Administration officials, the EMASMAX installation is one of many safety improvements planned at the airport. "With the increase in the size and number of

aircraft operating at the airport, we wanted to improve our level of safety in the event of an overrun." Being surrounded by the city, it would be very difficult and expensive to increase the length of the safety areas. The FAA-approved EMASMAX system will allow the airport to improve safety without expansion or having to reduce the runway length.

ESCO's EMASMAX is an arrestor bed composed of blocks of lightweight, crushable concrete designed to stop airplanes that overshoot runways. Songshan Airport will join the rapidly growing list of airports that have installed ESCO's EMAS, including



Juizhai-Huanglong Airport in Szechuan Province (PRC), Barajas International Airport in Madrid Spain, and 30 airports in the United States, a total of 48 runways worldwide.

The system has successfully arrested 6 aircraft ranging from a SAAB-340 to a Boeing 747, with no injuries and minimal or no damage to each aircraft.



IMRO Forum Provides Informative, Productive Start to New Year for Field Service Members

By Jerry Cox

To start off the New Year, a group meeting of IMRO Field Service members revealed effective practices for training and sharing information with Field Engineers. Many great ideas were pulled from the session held at Aston, PA. USA

Activity launched with Spencer Hoos sharing the Vision, Mission and EASD Strategic initiatives. Ten IMRO Field Service members gathered for the "2010 GEARS FORUM" session to learn effective practices to help improve customer service and field support.

Team participants created a plan for incorporating what they had learned into existing practices.

They also created an action plan that focuses on how to refine/improve strategies, and provide additional ideas for achieving objectives, thereby broadening effectiveness.

Actual field experiences stimulated the flow of ideas among leadership, provided peer-to-peer learning opportunities, network with experts in similar positions or skill levels to increase the assimilation of information. It also allowed participants time to communicate their accomplishments and history of successes.

According to Dan Edwards, VP of IMRO, "The IMRO 2010 GEARS Forum gave Field Service Members a sense of 'ownership' over customer feedback." Overall, the Workshops provided our Field Service Team great ideas on how to create better communication, acquire the latest technical knowledge and upgrade positive customer relations.

Success Despite Earthquake, Recession



SANTIAGO, Chile - FIDAE 2010 kicked off on March 25th 2010 with Chile's new President- Sebastian Pinera opening the three-day International Air & Space Fair. The show faced more challenges than past exhibitions. For show organizer, Col. Roberto Avendano- persuading exhibitors to sign up during the depths of a global financial crisis, and a recession that hammered the aerospace industry was difficult enough, but to be hit by the major earthquake just three weeks before the event and carry on is remarkable. Despite the hardship, the show was larger than previous years, with participation from 40 countries and over 300 visiting civil and military delegations. The static displays showcased 100 aircraft and even an extra pavilion had to be constructed to house exhibit space.

Since 1980, the Chilean Air Force (commemorating their 80th anniversary) has organized the international, bi-annual event. The show however has outgrown its military origins, incorporating Civil-Commercial Aviation, Defense, Airport Service and Equipment, Space Technology, Aircraft Maintenance and Homeland Security.

ESCO Joins Reps at FIDAE

By Tom Ross

Last week Tom Giaquinto and I joined all of our South American reps at the 2010 FIDAE Air Show in Santiago Chile. This show is growing with each edition and now attracts Air Force personnel from all Central and South American countries and has suppliers showing equipment from all over the world. Both the Chilean and Brazilian Air Force flying teams performed as well as individual demonstrations of Chilean F-16s. But the star of the show was the USAF F-22

Raptor. Its performance included maneuvers in the air that truly seemed to defy the laws of physics. The USAF "Red Horse" Arresting Gear crew supported the F-22s (two were in attendance) with a C-17 full of equipment and personnel, including a P-IV MAAS that was installed on the runway to protect the Raptors. This provided the opportunity for ESCO to show the MAAS personally to several Air Forces who all now want one for their own countries.

Members of U.S. Air Force 219th Red Horse Civil Engineering Squadron, from Malmstrom AFB, Montana set up a P-IV MAAS in support of the FIDAE 2010 International Air & Space Fair.



The 2010 Chilean earthquake occurred off the coast of the Maule Region of Chile on February 27, 2010. None of ESCO's arresting systems in Chile were damaged as a result of the massive quake.

Aérazur

Aérazur was founded in 1929 on Issy les Moulineaux airfield, during the earliest days of aviation. Aérazur attended the first local airshow in 1932 where they demonstrated inflatable balloon. Within a few years later (1938) the first industrial plant was built in Cognac. Production included inflatable balloons for observation, life rafts and rescue lifejackets for airplanes and hydroplanes.



After the Second World War, Aérazur produced more than 200 light aircrafts and developed a comprehensive range of parachutes, airships and inflatable boats during a period of aggressive growth and prosperity.

In 1979, Zodiac and Aérazur merged together. This merger would set the tone for future Zodiac group acquisitions and extensions. Both French and foreign companies would later be acquired (Air Cruisers, Intertechnique, Pioneer, Weber, C&D...). Today, Aérazur employs about 1 400 people, has five plants in France and generates revenue of 170M€.

The Aérazur product line includes parachutes (for troops, ejection seats, load deceleration), Life Rafts (onboard aircrafts, helicopters), Helicopter Floats, Military Suits (lifejackets, anti G suits, immersion suits mainly for pilots), Interconnect Systems (landing gear wiring looms), Elastomeric Systems (fuel tanks and cells, fuel systems, de-icers).



Arresting Systems

It was during the 1960's that Aérazur entered into the aircraft arresting business. As a manufacturer of textile materials and techniques, Aérazur developed the concept of Multiple Element Nets and became the only patent holder for this type of net regarded as a state of the art innovation. During the testing phase held in the USA in 1964, Aérazur nets succeeded in arresting a 12 ton (26 500 lbs) plane travelling at 325 km/h (200 mph) in less than 200m (660 ft). Today, and thanks to the merger with ESCO and BEFAB, the Division offers a wide range of nets suitable for all types of aircrafts. All of them are currently manufactured in Aérazur Cognac plant according to the most stringent quality requirements. To date more than 3,500 nets have been produced in Cognac plant over a period of 40 years.

Aérazur also developed a full range of arresting systems: in the 70's a contract was awarded by French MoD to design and qualify a new generation of energy absorber. The M6 friction brake was fully tested and qualified at Istres French Test Center.

(Aerazur, cont.)

In the 70's and 80's new innovative arresting systems were developed under the same conditions: The textile brake was qualified in 1979. The type 5 stanchion system in 1981. The type H Retractable Hook Cable System in 1982.

The 1990's and 2000's have seen the first foreign sales together with qualifications by several Air Forces., most notably; Switzerland (M6 and type H), Spain (M6, type H and type 5), Belgium (M6 and type 5), Singapore (type 5 and textile brake) and the U.S. Air Force which fully tested textile brakes and type H in the 2000's. The U.S. Air Force is now Aérazur's largest customer.

MATERIEL DE SAUVETAGE AERAZUR

RADEAUX PNEUMATIQUES



GILET DE SAUVETAGE G. 10



Ce gilet a la forme d'un plastron avec collier. Il est entièrement pneumatique avec deux compartiments. Sa portance ou flottabilité maximum est de 10 Kg. Volume du gilet dans la housse : 17 x 14 x 7 cm. Poids total de la housse : 0,950 Kg.



TYPE	RA 100	RA 150	RA 200
Nombre de places	10	15	20
Diamètre de cercle inscrit intérieur (1)	1,823 m	2,430 m	3,000 m
Charge utile	800 Kg.	1,200 Kg.	1,600 Kg.
Dimensions de sacs de transport	1,80x2,30x3,8 m	2,4x3,13x1,1 m	3,1x1,6x1,1 m
Poids total dans le sac de transport avec tout les accessoires et les câbles	37 Kg.	48 Kg.	48 Kg.

N.B. (1) Ces raquettes ont la forme d'un distopédon. Ils sont remplis, par ailleurs un doit le gonfler pour se faire par bouteille de gaz carbonique ou par soufflet.

REDEL - NEULY



ANCIENS ETABLISSEMENTS CLAUDE & HATTON

AERAZUR

CONSTRUCTIONS AÉRONAUTIQUES

10, RUE DE MARIGNAN - PARIS 8^e - Tél. : BAL. 02-51

EMBARCATIONS PNEUMATIQUES - GILETS DE SAUVETAGE
BALLONNETS DE RELEVAGE D'AVIONS - BALLONNETS POUR HYDRAVIONS
RADEAUX PNEUMATIQUES - MATÉRIELS PNEUMATIQUES DIVERS

Today Aérazur Aircraft Arresting Systems activity is structured as a Business Unit of Zodiac Aerospace employing 47 people and covering all functions (including marketing, sales administration, customer support, engineering, purchasing, production and quality).

The complete range of Aerazur Emergency Arresting Systems for fighter aircraft is the result of 50 years of experience in aeronautical safety products, high R&D investment coupled with constant innovation, and the use of state of the art technologies.



SMARTARREST®

ESCO's new updated version of the Computer Controlled Arresting Systems has been named "SMARTARREST®" and it is being certified for operation in 2010. The new computer hardware and software are faster and more powerful, have an operator interface that is easier to use, and provide significantly greater data collection capability. The prototype systems have completed extensive bench testing to verify performance over the full range of expected aircraft weights and engagements speeds. Full scale jet car testing of the SMARTARREST system was successfully completed during a two week program in May 2010 at the U.S. Naval Air Engineering Center, NAVAIR Lakehurst.



The newly updated and revised Computer Controlled Aircraft Arresting System automatically determines an aircraft's speed, predicts the optimum velocity profile for a minimum g-load arrestment and adjusts the braking forces along this profile to stop the aircraft inherently accounting for aircraft weight variations. The system automatically minimizes arresting loads for all aircraft weights and speeds and provides minimum dynamic loads by programming lower brake pressures during the dynamic region. The Variable Runout adjusts braking forces to stop the aircraft within desired distance, as set by the user and has zero walk-back. Electronic control eliminates the need for field synchronization. It also eliminates the need for maintaining many exposed mechanical parts. The system electronics retain the arrestment data for at least 100 events. Aircraft engaging speed, engaging point and runout are available via computer following the engagement.



An informational brochure illustrating the new SMARTARREST® is now available, and more details can be found on the ESCO website.

ESCO Engineers validate performance at the U.S. Naval Air Engineering Center, NAVAIR Lakehurst.

A JSF For Everyone!

How many Lockheed Martin F-35 Joint Strike Fighters will be manufactured? Optimistic marketing figures are telling us that market opportunities of 5,000 – 6,000 F-35's are possible. These optimistic numbers are widely used amongst governmental and industrial organizations in several JSF Partner countries.

Tested and Arrested!

The F-35 Joint Strike Fighter comes to a slow, smooth rest following a barrier engagement with the ESCO BAK-12. The JSF performed arresting barrier tests at Edwards AFB in February 2010.



Lockheed Martin Photo by Tom Reynolds. Cleared/Released by USAF. Information contained herein does not constitute endorsement by DoD or USAF

Getting Arrested - F-16 Tests Runway Cable System

by Airman First Class Ryan Roth
115th Fighter Wing Public Affairs

VOLK FIELD CRTC, Wis. -- An explanation of what a BAK-12 is might as well be written in Greek for many people, but when explained using a comparison from the movie "Top Gun", it might be translated more clearly. The year was 1986. Lt. Pete "Maverick" Mitchell circled the USS Enterprise as he prepared to land the aircraft. On the flight deck was a cable, tightly strung across the metal deck. As Maverick approached, he released an arresting hook from the rear of the aircraft. When the hook and cable connected, the system had one purpose: to safely stop the pilot and plane.



Just like on an aircraft carrier, a cable is run across most military runways to stop certain aircraft. Unlike an aircraft carrier, a Barrier Arrestment Kit-12 at Volk Field Combat Readiness Training Center, Wis., is used only as a last resort when pilots are unable to stop an aircraft on their own.

Members of the 115th Fighter Wing from Madison, WI, and Volk Field CRTC re-certified two BAK-12 systems during a recent-guard drill weekend here. "Each BAK-12 must be certified once a year and put through a comparable test that it would receive in a real-world landing where an aircraft has difficulties stopping," said Master Sgt. Darrell Miller, a crew chief from the 115th FW.

A BAK-12, just like an aircraft carrier arrestment system, can save a life, prevent the loss of military equipment and give assurance to pilots should their aircraft experience maintenance issues. "The BAK-12 has to accommodate all possibilities," said Lt. Col. Nick Radney, an F-16 fighter pilot from the 115th Fighter. "There are lots of different aircraft that use Volk Field. If an aircraft has an emergency situation, the pilot knows he will be able to stop the aircraft on the runway."

With a weight of 29,000 pounds and at a speed of almost 110 MPH, Colonel Radney and the F-16 he piloted came safely to stop after both tests of the BAK-12, one on each end of the runway.

As a former Navy pilot of F-18 Hornets, Colonel Radney has experience using cables to land on aircraft carriers. Unlike a carrier landing, however, the F-16 came to a smooth stop over a distance of 1200 feet. F-16s are unable to use a carrier-based arrestment system due to the design of the plane. A carrier arrestment system is designed to stop an aircraft in less than 350 feet. An F-18 is more bulky than an F-16, which gives the F-16 much better maneuverability but also makes it unable to take the strain of a carrier landing, said Colonel Radney.

The BAK-12 cable has to accommodate many different types aircraft and many different speeds, whether it is a very light and small aircraft or a heavy aircraft fully loaded with fuel and munitions.

There are many aircraft that can utilize the barrier system should they need it, said Lt. Col. Radney. Included are planes with a tail hook system like the F-15 and F-16, and even many foreign aircraft, he added.

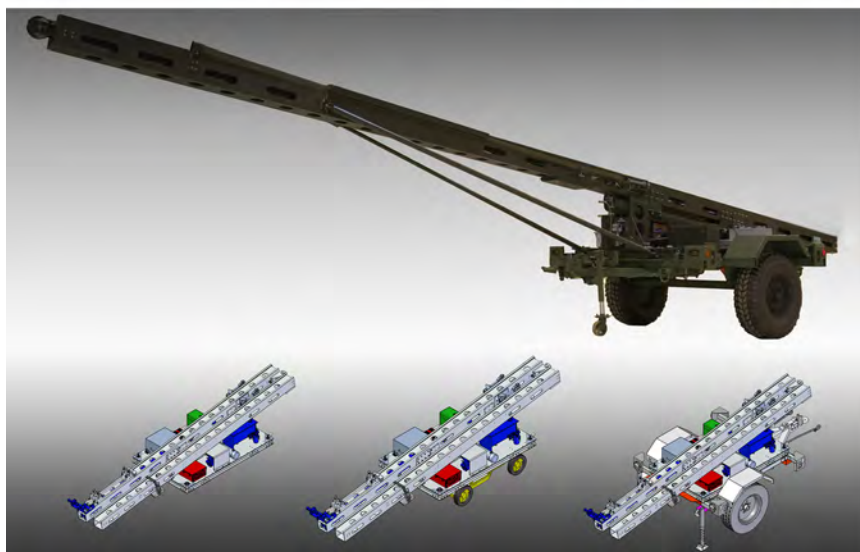
For a pilot, the BAK-12 gives peace of mind and ensures the plane will come to a safe stop.

"One of the great things about having the barrier system out there is that no matter what potential maintenance problem might occur, as long as I can get myself back to the field, I can get myself stopped with the arresting hook," said Colonel Radney. "Thankfully, I have never needed to use the arresting hook because of the fine maintenance crew and the quality of the F-16," he added.



Staff Sgt. Jordan Jensen, a crew chief with the 115th Fighter Wing in Madison, Wis., resets the tail hook on an F-16 Fighting Falcon that is used to "hook" the Barrier Arresting Kit 12 cable installed at the end of each runway, a system designed to stop an aircraft

HP 2002 Launcher Update



The HP 2002 UAV Launcher design is based on the proven launch technologies and components utilized in ESCO's family of launchers; and was specifically leveraged from the larger HP 3003 unit. The HP 2002 launcher is Technology Readiness Level (TRL) Level 8. The components are assembled on a modified HMMWV (Model LTT-HC) trailer, small truck, or towable cart which allows flexibility in transport on land, by sea, or by air.

The launcher consists of the mounting pallet, launch rail assembly, shuttle and UAV interface, launcher controls, and a self-contained launch power source. The power source for launch is a closed loop hydro-pneumatic system, which stores energy when dry nitrogen is compressed in an accumulator by pumping in hydraulic fluid. The hydraulic pump can be driven by an electric motor powered by: 110 VAC or 220 VAC generators, by 12 VDC or 24 VDC batteries, or by a multi-fuel or gasoline engine, depending on customer requirements.

ESCO's 30+ years of producing UAV launch systems based on both pneumatic and hydro-pneumatic technologies has proven that the closed loop hydro-pneumatic system provides the best performance, highest reliability, most repeatable launch dynamics, and lowest life cycle cost over a wide temperature range and at altitudes significantly above sea level.

ESCO's HP launchers have been manufactured, tested and fielded to support UAV's weighing up to 1,225 pounds and launch velocities up to 80 knots. Air vehicles launched using the ESCO HP launchers include: Aquila, Altair, Phoenix, Pioneer, Sky Eye, and most recently, the Killer Bee (KB4), the Storm, and the Fury.

To learn more about UAV Launch and Recovery options, please visit the <http://www.uavlauncher.com> or email edward.caffrey@zodiac aerospace.com

- * UAV Weight 150 lbs @ 68 Kts / 250lbs@ 60Kts
- * Maximum Acceleration 10G's Max
- * Operating Temperature..... -40' F to 150' F
- * Launcher Angle 10 Degrees
- * Module Weight 1,825 lbs
- * Launcher & Trailer Weight ... 3,000 lbs
- * Operating Crew 2
- * Setup Time 10 minutes

- * Complies with U.S.environmental, safety and transportation requirements

The Emergency Arresting Systems Division (EASD)

The EASD is the world's leading supplier of emergency land-based arresting systems for military and commercial aircraft.

Members of the division include ESCO headquarters (Engineered Arresting Systems Corporation), Aston, PA, USA and ESCO's EMAS (Engineered Material Arresting System) Division, Logan Township, NJ, USA, along with Aerazur, located in France.

The EASD's versatile product line for military aircraft is built around friction, rotary hydraulic and textile energy absorbers that are available as part of permanent, semi-permanent and mobile installations. The aircraft's energy is harnessed via cross-runway net stanchion or hook cable equipment configurations and is then transferred to the energy absorbers, safely slowing and stopping the aircraft.

Safety is provided in commercial airports with EMASMAX®, ESCO's latest EMAS (Engineered Material Arresting System) which was developed in partnership with the US FAA (Federal Aviation Administration) and is accepted by the FAA as an equivalent to a Standard Runway End Safety Area (RESA).

With over 50 years of controlled energy absorption experience, the ISO 9001: 2000-certified EASD companies provide a full range of engineering, manufacturing and installation services that are supplemented by continued OEM product and integrated logistics support. A robust research and development program ensures that technically innovative solutions continue to be part of The Division and the customers' future.

Contact Information

Engineered Arresting Systems Corporation

Headquarters

2550 Market Street

Aston, PA 19014 USA

Tel.: +1 610 494 8000 Fax: +1 610 494 8989

Email: sales_aston@zodiac aerospace.com

<http://www.aircraftarresting.com>

Aerazur

2 rue Maurice Mallet

92137 Issy-les-Moulineaux Cedex, France

Tel.: +33 1 41 23 23 23 Fax: +33 1 46 48 83 87

<http://www.aerazur.com>

Engineered Arresting Systems Corporation

EMAS Division

2239 High Hill Road

Logan Township, NJ 08085 USA

Tel.: +1 856 241 8620 Fax: +1 856 241 8621

Email: emasmax@zodiac aerospace.com

<http://www.emasmax.com>

Do you have comments, suggestions or a story to contribute? Send it to us! Your input and feedback is valuable to us. Please send all comments, suggestions, story contributions and ideas to Gary.Ell@zodiac aerospace.com.

