



# *Society of Allied Weight Engineers, Inc.*

Aerospace • Marine • Offshore • Land • Allied Industries

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## Welcome to the SAWE Southeast Region



**A Proud Chapter of the  
Society of Allied Weight Engineers**



# Who is SAWE?

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- We are a non-profit International Organization of Mass Properties Engineers founded in 1939, incorporated in 1941
- Our Purpose:
  - To promote the Mass Properties discipline
  - To provide a medium for exchanging recommended practices based on experience and innovation
  - To foster technical excellence and superior quality in mass properties prediction, control and validation
- 22 Chapters in the US, Canada, South America, UK and Europe
- 18 Corporate Partners and over 500 members



# Industries Served by SAWE

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- Initially - Society of Aeronautical Weight Engineers
- 1973 - Renamed Society of Allied Weight Engineers to include:
  - Aerospace – aircraft, missiles, space, electronics, ...
  - Marine – surface, cargo, submarines, ...
  - Offshore Platforms – oil and gas, launch/landing, ...
  - Land Vehicles – automotive, armored, construction, ...
  - Allied Industries – scales, equipment, software, ...





# SAWE International Leadership Team

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Position	Officer	Organization
President	Damian Yañez	Gulfstream Aerospace Corporation
Executive VP	Darren Gamble	Bombardier
Senior VP	Fred Brown	Huntington Ingalls Industries
VP Publications	Nicholas Marickovich	Huntington Ingalls Industries
VP Technical	Robert Zimmerman	Lockheed Martin - Retired
VP Training	Dan Rowley	Northrop Grumman Corporation
VP Vendor Relations	Clint Stephenson	The Boeing Company
VP Internet	Greg Ray	Bell Textron
VP Standards & Practices	Douglas Fisher	Collins Aerospace
VP Academic Affairs	Dr. Donna Gerren	University of Colorado Boulder
Executive Director	Bill Boze	Huntington Ingalls Industries



# Our Chapter History

**1982**

## Our Beginnings

In 1982 the Atlanta Chapter of the Society of Allied Weight Engineers was created to serve those Mass Properties Engineers primarily affiliated with Lockheed Martin and Delta Airlines in the Atlanta area. The chapter included members with backgrounds in military transport and fighter aircraft, as well as airline operations.



**PRESENT**

## Welcoming New Members

Our Chapter welcomes all those interested in estimating, calculating, managing and measuring the mass properties of all types of products from the aerospace, land, offshore, marine and other allied industries. We are especially excited that members from Boeing in South Carolina are now part of our chapter. Our goal is to provide our members a place to meet others in the Mass Properties field, and share ideas, innovations and opportunities.



**2011**

## Expansion

As the membership shifted away from Atlanta, a new focal point was created in Savannah, Georgia to serve those primarily at Gulfstream Aerospace, as well as others in the commercial aircraft and space community. The Chapter was renamed and expanded to include all of Georgia, South Carolina, and North Carolina.





# Our Chapter Leadership Team

## OFFICERS

*Our Current Leadership Team*



**Tom Tanner**  
International Director



**Ross Campbell**  
President



**Peter Stubbers**  
Vice President



**Santiago Cortina**  
Secretary



**Adam Cox**  
Treasurer





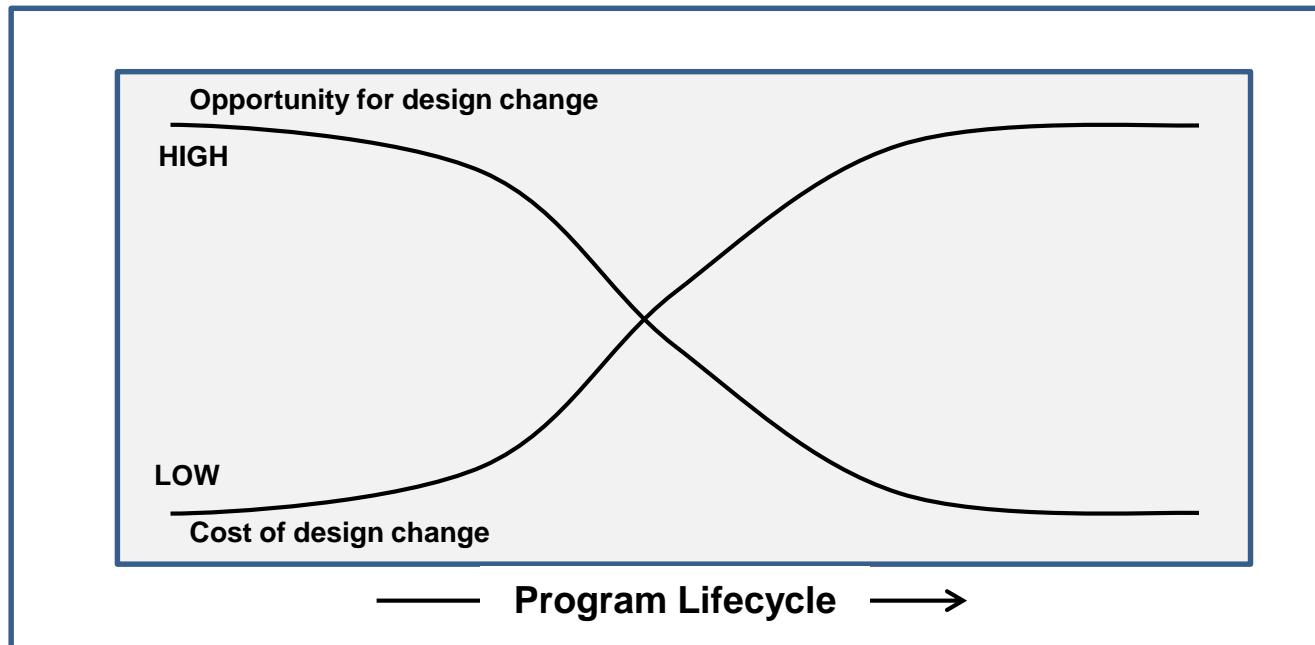
# Why is Mass Properties Control important?

- Weight, Center of Gravity, Moments and Products of Inertia are ***critical*** for vehicle safety and performance



# Why is Mass Properties Control important?

- Cost of weight growth and balance issues increases dramatically as your programs progress





# Why is SAWE important?

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- **Mass Properties discipline often overlooked**
  - Not specifically in college curriculum even though it is integral to every product and system
  - Company Management mistakenly thinks CAD can do it all
  - Inadequate staffing/skills increases program risk
  - Aging workforce in this crucial discipline
    - 62% retiring over next 10 years\*
- **SAWE provides:**
  - Proven processes and experience for mass properties control
  - Educational resources for ensuring a skilled workforce
  - International collaboration between industry and governments
  - Venue for sharing and discovering new methods and lessons learned

\**The Health of Mass Properties Engineering - 2018 Industry Survey*



# Why should I be a member?

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- **Networking**

- Collaborate with peers at chapter meetings, virtual forums, and regional and international conferences
- Mentor the next generation and learn from experts
- Discover career opportunities
- Make lifelong friendships

Society of Allied Weight Engineers, Inc  
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80th International Conference on  
Mass Properties Engineering  
October 2, 2021 - October 6, 2021 Cocoa Beach,  
Florida, United States

## Upcoming International Conferences

2021 Cocoa Beach, FL

2022 Savannah, GA

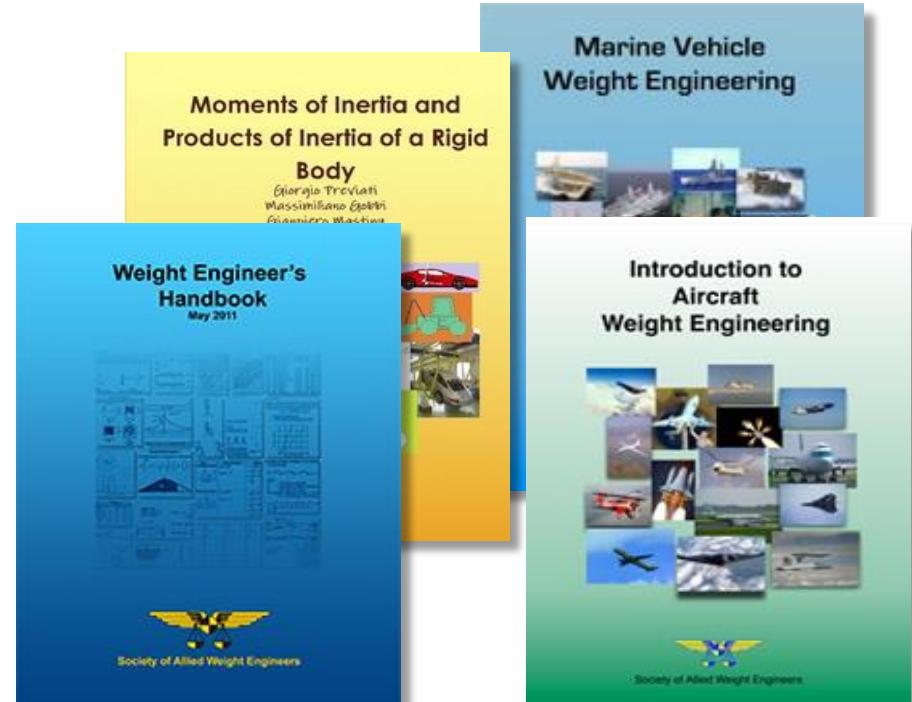
# Why should I be a member?

- **Publications**

- Members Only access to the premier source for Mass Properties literature
- Extensive Library of over 3000 Technical Papers\*
- 3 issues of Weight Engineering Journal per year
- SAWE Blog
- Discounts for all SAWE publications and textbooks
- Free SAWE Handbook (digital) plus updates

- **Conference Papers and Exhibitor Information provided to Registrants and Corporate Partners**

\* 10 free downloads/year



# Why should I be a member?

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- **Training**

- Variety of courses from analytical methods to measurement techniques taught by experts online, onsite, or at conferences
- Improve technical capabilities and skills



Classroom



Hands on

# Why should I be a member?

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- **Scholarships\***
  - SAWE Scholarship - \$1000 (2 awarded/year typically)
    - Applicants must be high school seniors or graduates who plan to enroll or students who are already enrolled in a full-time undergraduate course of study at an accredited four- year college or university.
  - Frank Fong Memorial Scholarship - \$1000 (1 awarded/year)
    - Same requirements as above, but applicant must be majoring in a scientific field (e.g. engineering, physics, mathematics, computer sciences, etc.)
  - Annual Conference Scholarship - \$1000 (1 awarded/year)
  - Chapter Scholarships
    - Amount determined by individual Chapter

\*For student members and children or grandchildren of members active for at least 1 year



# Why should I be a member?

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- **Recognition**

- Awards for advancing the Mass Properties discipline
  - Best Student Paper Award
  - Best Student Presentation
  - Ed Payne Young Engineer Award
  - L. R. “Mike” Hackney Best Paper Award
  - Special Merit Award
  - SAWE Fellow
  - SAWE Honorary Fellow
  - SAWE Richard Boynton Lifetime Achievement Award



# Why should I be a member?

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- **Leadership Development**
  - SAWE helps you:
    - Innovate
    - Create
    - Solve problems
    - Make a difference locally and globally!
  - Numerous opportunities to get involved and lead
    - Local Chapter Positions
    - International Officer Positions
    - Committee Chairs



# How does my company benefit?

- Skilled Workforce**

- Mass Properties Engineers properly trained with access to the latest knowledge base
- Program risk reduced through proper application of proven processes
- Lessons learned passed on to younger generation starting at the college level





# How does my company benefit?

## • Standards

- Gain access to proven recommended practices created through years of SAWE, industry and government collaboration
- Help shape these standards

 SOCIETY OF ALLIED WEIGHT ENGINEERS, INC. <i>Serving the Aerospace, Shipbuilding, Land Vehicle and Naval Industries</i> Executive Director P.O. Box 60024, Terminal Annex Los Angeles, CA 90068	<b>RECOMMENDED PRACTICE NUMBER</b> <u>7</u>
Date Issued <u>May 18, 2004</u>	
MASS PROPERTIES MANAGEMENT AND CONTROL FOR MILITARY AIRCRAFT	
Revision Letter D	
Prepared by Government - Industry Workshop Society of Allied Weight Engineers, Inc.	
<small>All SAWE technical reports, including standards, reports and practices recommended, are advisory only. Their use by anyone engaged in industry or made available to the public is entirely voluntary. There is no agreement to adhere to any SAWE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the SAWE will not investigate or consider patents that apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents. No claim for damages resulting from the use of the recommended practice is incorporated into a contract; it shall be binding to the extent specified in the contract.</small>	
 SAWE RECOMMENDED PRACTICE	

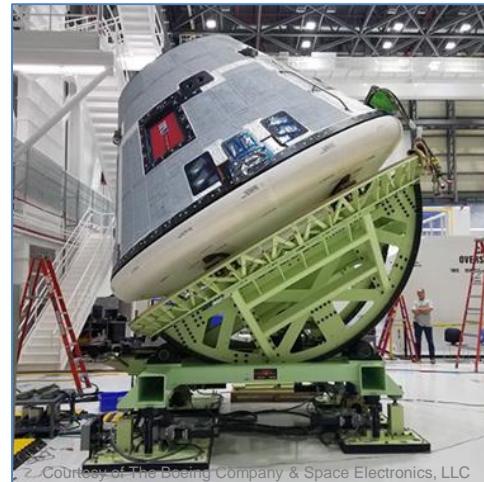
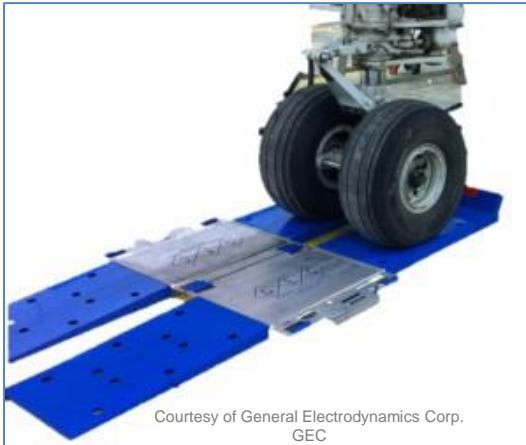
 SOCIETY OF ALLIED WEIGHT ENGINEERS, INC. <i>Aerospace • Marine • Offshore • Land Vehicle • Naval Industries</i> Executive Director P.O. Box 60024, Terminal Annex Los Angeles, CA 90068	<b>RECOMMENDED PRACTICE NUMBER</b> <u>8 A/7</u>
Date Issued <u>July 1, 2015</u>	
Weight and Balance Data Reporting Forms for Aircraft (including Rotorcraft and Air-Breathing Unmanned Aerial Vehicles)	
Revision B	
Prepared by Standards and Practices Committee Society of Allied Weight Engineers	
<small>All SAWE technical reports, including standards, reports and practices recommended, are advisory only. Their use by anyone engaged in industry or made available to the public is entirely voluntary. There is no agreement to adhere to any SAWE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the SAWE will not investigate or consider patents that apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents. No claim for damages resulting from the use of the recommended practice is incorporated into a contract; it shall be binding to the extent specified in the contract.</small>	
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 SOCIETY OF ALLIED WEIGHT ENGINEERS, INC. <i>Serving the Aerospace, Shipbuilding, Land Vehicle and Naval Industries</i> Executive Director P.O. Box 60024, Terminal Annex Los Angeles, CA 90068	<b>RECOMMENDED PRACTICE NUMBER</b> <u>9</u>
Date Issued <u>03 June 2008</u>	
WEIGHT AND BALANCE CONTROL FOR GUIDED MISSILES	
<small>Prepared by Government - Industry Workshop Society of Allied Weight Engineers, Inc.</small>	
<small>All SAWE technical reports, including standards, reports and practices recommended, are advisory only. Their use by anyone engaged in industry or made available to the public is entirely voluntary. There is no agreement to adhere to any SAWE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the SAWE will not investigate or consider patents that apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents. No claim for damages resulting from the use of the recommended practice is incorporated into a contract; it shall be binding to the extent specified in the contract.</small>	
 SAWE RECOMMENDED PRACTICE	

# How does my company benefit?

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- **Technology Awareness**
  - Keep abreast of the latest equipment, software and services available
  - Share your innovations with potential customers / collaborators





# How much does Membership cost?

Level	Cost
Individual	
• New Member	\$40/1st year
• Member	\$80/year
• Retired Member	\$40/year
• Student Member	Free (pending verification)
• Lifetime	\$900

Special Deal - Gulfstream reimburses half of annual dues for employees!



# Where can I learn more?

- <http://www.sersawe.org> and <https://www.sawe.org>





# Where can I learn more?

- <https://www.sawe.org/students/>

The screenshot shows a web browser window displaying the SAWE Students website. The page has a blue header bar with the SAWE logo and the text "SAWE Students - Society". Below the header, there's a navigation menu with links to Home, Mass Properties, Conferences, Membership, and Scholarships. The main content area features a large photograph of a man speaking at a podium in front of an audience seated in rows of chairs. Below the photo, there's a "FEATURED" section titled "Join the SAWE" with a "Membership" link. To the right of this section is a search bar. At the bottom of the page, there's a call-to-action button with the text "Join today for FREE!" and a link to the "MEMBERSHIP PAGE". The URL "https://www.sawe.org/students/design-your-future-in-mass-properties-engineering/" is visible at the very bottom of the browser window.



# How do I join?

The screenshot shows a Microsoft Internet Explorer browser window displaying the SAWE Southeast Region website at <http://sersawe.org/>. The page has a black header bar with the text "SAWE Southeast Region" on the left and "ABOUT", "EVENTS", "NEWS", "MEMBERSHIP" (which is highlighted in yellow), "OFFICERS", and "CONTACT" on the right. Below the header is a large yellow arrow pointing downwards towards a yellow circular icon containing a white person silhouette. To the left of the arrow are three circular icons: a yellow shopping cart icon labeled "E-Store", a yellow laptop icon labeled "Blog Site", and the yellow person icon labeled "Join/Renew". Below each icon is a brief description of its purpose.

**MEMBERSHIP**

*Build your knowledge! Improve your skills! Advance your career!*

**E-Store**

Download technical papers and publications from the SAWE International Website.

**Blog Site**

Join the conversation at the SAWE International Blog Site.

**Join/Renew**

Update your membership information, and pay your annual dues at the SAWE International Website.



# Come and Join Us!

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- We encourage you to join us at our quarterly meetings
- Help us keep our critical discipline alive and well
  - Write a paper, attend a conference, help with chapter projects



## Help Us Help YOU!