

***Largest Movable Structure Ever Built  
Provides Enclosed Servicing of Airliner Tails  
&***

***Travels on World's Strongest Casters with 100,000 lbs Capacity***

Call us Toll Free for any application solution.

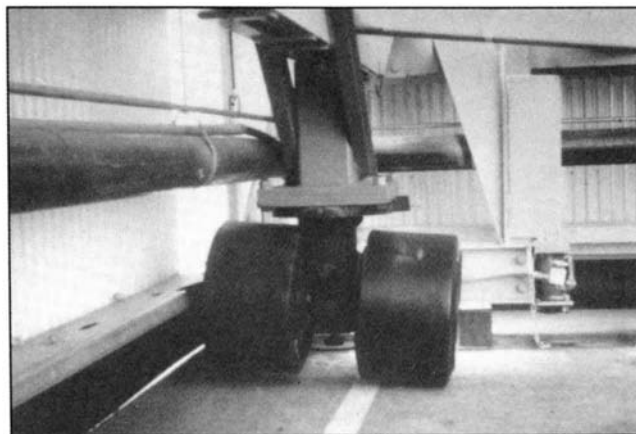
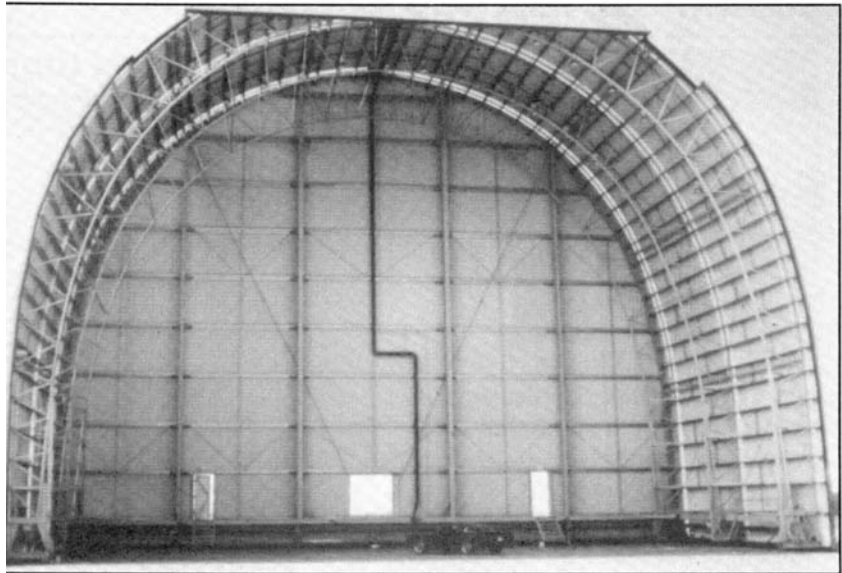
Three movable steel buildings, including what is believed to be the world's largest transportable structure, were recently installed in Lockheed Aeromod's Greenville, South Carolina maintenance center by AmSTRARCH, Inc., also located in Greenville, for use as tail hangars.

The structures, the largest of which is 100 feet wide, 50 feet deep and 78 feet high, provide an enclosed environment for servicing large, wide-bodied aircraft such as Boeing 747's and McDonnell-Douglas DC10's. The airliners are placed tail-out in existing hangars and a movable tail hangar is rolled into place to cover the tail section.

Building a portable structure was far less expensive than expanding the existing permanent hangar because the temporary structure can be only one-half as wide because it does not have to provide clearance for the wings. In addition, each of the movable hangars services up to six permanent hangars because they are moved into place only when needed for maintenance.

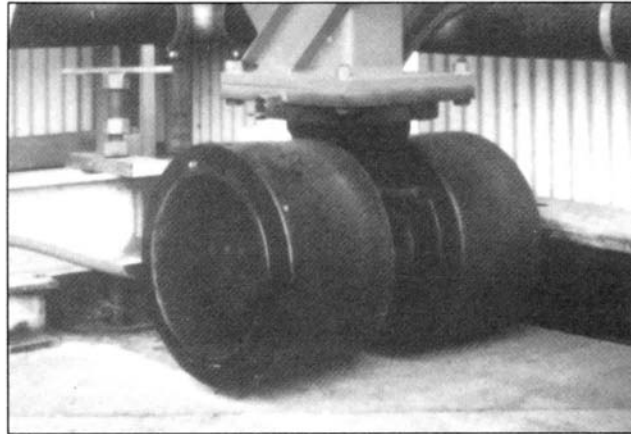
Putting a 140,000 pound steel building on wheels provided perhaps the greatest challenge ever to the caster manufacturer.

The solution was Custom swivel oscillating casters rated at 100, 000 pounds with premium polyurethane press-on tires.



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Each caster assembly is 27 inches high and 36 inches wide, weighs 1200 pounds and includes (two) 22 inch diameter and 12 inch wide polyurethane tires pressed onto extra heavy duty fabricated steel cores. Metal tires could not be used because they would probably damage the airport surface -- the polyurethane tires can move the structure at 20 feet per minute without damage to the tarmac.

In order to support the huge load, the legs of the casters are positioned perpendicular to the ground without the offset or lead that is normally used to allow the caster to be steered by pushing it in the desired direction. Steering capability was provided by locating two bosses on the lower swivel plate of the caster to which a handle is attached to turn the caster assembly. It should be noted that the casters are designed to be turned only when they are in motion.

When the casters are stationary, the torque required to turn them would be beyond the strength of any normal human.

The swivel mechanism itself is unusual in that it does not have any bearings. Because of limited swiveling action needed, the designers felt that it wasn't necessary to go to an expensive bearing when a greased plate arrangement would do the job. The swivel mechanism can be locked at various positions in order to simplify control of the structure while it is being moved.

It is essential that both wheels remain on the ground at all times in order to avoid an overstress condition. This is accomplished through the use of an articulating axle carrier so that if one wheel goes up on a higher surface, the axle will pivot to keep both wheels on the ground.

Capacity to 20,000 lbs.

Designed to meet the needs of the Aviation Ground Support equipment industry, the use of **Pivoting Axle Casters** assures that if one wheel goes on a higher surface, the axle will pivot to keep both wheels under load. It is essential when handling heavy loads that both wheels remain on the ground at all times to avoid an overstress condition. All optional features are standard factory installed for quick delivery. The swivel lock and face contact brake can be installed in the field if not included with the original order. The spring assembly can be retrofitted at a later date by returning the caster to the factory.

### Features:

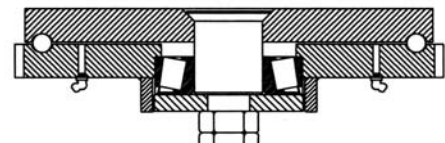
- **Top plate and Yoke Base:**  
1" thick 1045 AISI heat treated steel Plate for superior strength
- **Swivel Raceway:**  
11" diameter precision machined load raceway w/ 5/8" steel and tapered thrust bearing for easy swiveling.
- **King bolt:**  
2" diameter bolt and nut heat treated for added strength.
- **Legs:**  
1/2" thick steel plate welded to form a box section column for maximum load capacity.
- **Lubrication:**  
Zerk fitting in swivel section and wheel hub for ease of lubrication.

Used in:

- Aviation Work Stands
- Hanger Doors
- Fuel cell Transport



Cross Sectional View



Top Plate Size

**KINGPINLESS**  
construction  
recommended  
for  
greater strength

### Options:

- **SL298-2** Swivel Lock
- **FCB298-3** Face Contact Brake
- **SA298-4** Spring Assembly
- **SL/FCB298-5** Swivel Lock and Face Contact Brake.
- **SL/SA298-6** Swivel Lock & Spring Assembly.
- **FCB/SA298-7** Face Contact Brake and Spring Assembly.
- **SL/FCB/SA298-8** Swivel Lock, Face Contact Brake and Spring Assembly.

|                 |                                |   |                                     |
|-----------------|--------------------------------|---|-------------------------------------|
|                 |                                |   |                                     |
|                 | <b>TOP PLATE SIZE (INCHES)</b> | <b>SLOTTED BOLT HOLE CENTERS (INCHES)</b> | <b>ATTACHING BOLT SIZE (INCHES)</b> |
| <b>STANDARD</b> | <b>12 x 12</b>                 | <b>10 x 10</b>                            | <b>5/8</b>                          |

Add 3 digit option # to end of part number for style option desired. Weights in pounds. Custom configurations & Wheels available.

| DIAMETER (INCHES) | WIDTH (INCHES) | WHEEL TYPE            | CAPACITY (RATED FOR MANUAL OPERATION) | OVERALL HEIGHT (INCHES) | SWIVEL LEAD (INCHES) | CASTER NUMBER  |
|-------------------|----------------|-----------------------|---------------------------------------|-------------------------|----------------------|----------------|
|                   |                |                       |                                       |                         |                      | TAPERED ROLLER |
| 12                | 4-1/2          | Rubber Press-on       | 4200                                  | 19                      | 3-1/8                | 298OA12709S    |
|                   |                | Polyurethane Press-on | 6600                                  |                         |                      | 298OG12709S    |
| 16-1/4            | 6              | Rubber Press-on       | 7800                                  | 21.13                   | 3-1/8                | 298OA16909S    |
|                   |                | Polyurethane Press-on | 12000                                 |                         |                      | 298OG16909S    |
| 18                | 9              | Rubber Press-on       | 13000                                 | 22                      | 3-1/8                | 298OA18909S    |
|                   |                | Polyurethane Press-on | 20000                                 |                         |                      | 298OG18909S    |



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**Cost Effective**

- Modular design reduces cost through large product lot manufacturing

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**Short Lead Times**

- Modular design achieves shorter lead times as the desired model only requires final assembly from inventoried items.

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**Reduced Maintenance Cost**

- Through replaceable and field installable options including positive four position swivel lock, dual face contact brakes, and rubber or polyurethane press-on tires.

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**Low Surface Abuse  
(Floor Protection)**

- Dual wheel construction offers better floor loading distribution
- Availability of non-marking polyurethane replaceable press-on tires.

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**Stabilized Load**

- Oscillating wheel axles improve load distribution on uneven surfaces
- Optional spring suspension evenly distributes load and helps prevent overload.

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**Improved Steering Control**

- Width replaceable and field installable optional positive four position swivel lock.

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**Improved Safety and Security**

- With replaceable and field installable optional dual face contact brakes with foot actuation.

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**Simplified Caster Selection**

- Multiple option modular design offers capacities from 4200 to 20,000 pounds for a vast number of applications with short lead times from one vendor.

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**Reduced Engineering Effort**

- Easy-to-use CAD software with drawings and dimensions compatible with AutoCAD systems reduces engineering time, effort, and potential errors.