

**Situation:** North Tonawanda High School (near Buffalo, NY) had 10-year-old Folding Bleacher Co. telescopic platforms with folding chairs in the “blue gym/auditorium.” Extensive sagging made the bleachers difficult to open and close, put an extra strain on the reverse-fold non-friction drive motor system. A custom version of Century Design® no-sag system was installed, specially designed to bear the extra weight of a platform system.



North Tonawanda High School is near Buffalo, NY. This was a 3-gym project, the first project was the “old gym,” the second project was the “new gym” and the final project was the “blue gym/auditorium.”



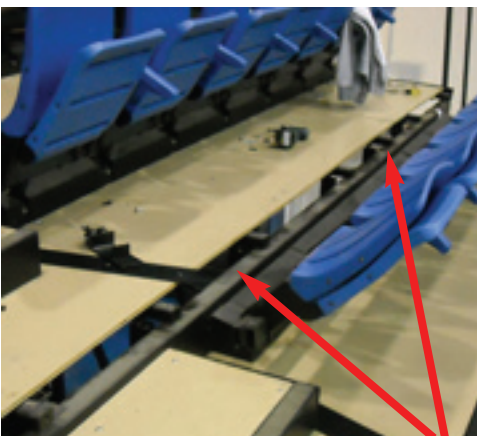
Platforms with folding chairs were used for seating in a multi-use facility, which was used both as an auditorium and a gymnasium.



Because the platforms were sagging, they were difficult to close. A scraping/grinding noise could be heard when the folding platforms were operated.



Because of damage incurred during opening/closing, the platforms would not retract completely and intruded upon the space needed for gym activities.



The platform had sagged to the extent that the nosebeam was damaged and deformed. Shows removed nosebeam.



Comparison of new replacement nosebeam and old damaged nosebeam.



The nosebeam should look like this.

### A Different Kind Of Bleacher Requires Different Expertise

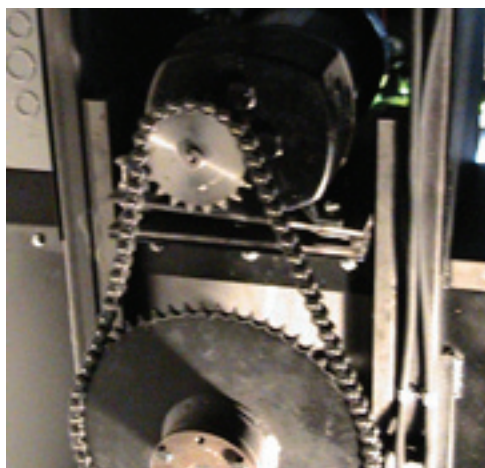
Platforms with folding chairs - especially this one, which is 16 rows high -- are very heavy and have a different type of motor drive system. When the 34-inch wide platforms sag, it requires additional power, because the motors are "lifting" the platforms that are sagging and binding on the one below. The motor drive system is not designed for this, and damage occurs.



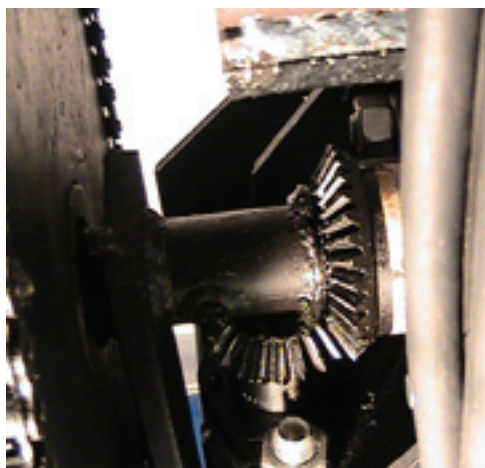
Five motors drive units that work together to open and close the bleachers.



Motors for reverse-fold, non-friction drive are located underneath the platforms. It's dark back here!



Gear reduction chain drive showing motor and drive sprocket, exterior view.



Drive sprocket turns bevel gear powering the drum that takes up the metal drive links.



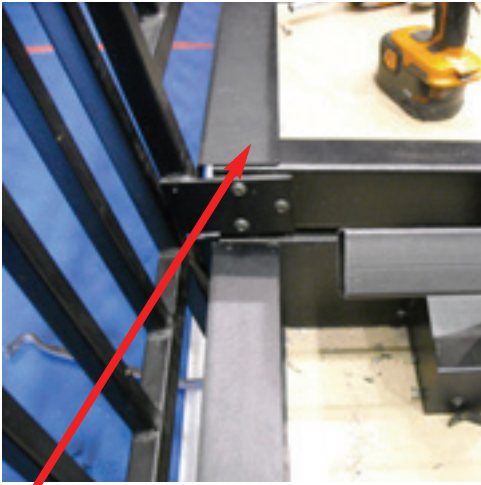
Close up of damaged teeth on beveled gears. Gears and motors were damaged due to sagging and had to be replaced.



The metal chain links are taken up on sprockets in the motor drive unit as the platforms are retracted to the closed position. These reverse fold metal links are 10.325 inches wide, but even these very heavy-duty links can be severely damaged when the platforms sag.



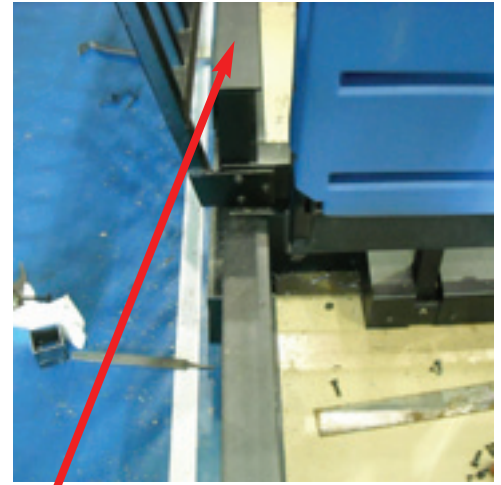
The metal chain links lay flat on the floor, when extended to the full open position. Seen here after repair and replacement of broken components. Platforms and their motor systems are specially built, very expensive to repair. That's why it is critical to install a Century Design® no-sag system -- to prevent future sagging and redundant, expensive repairs.



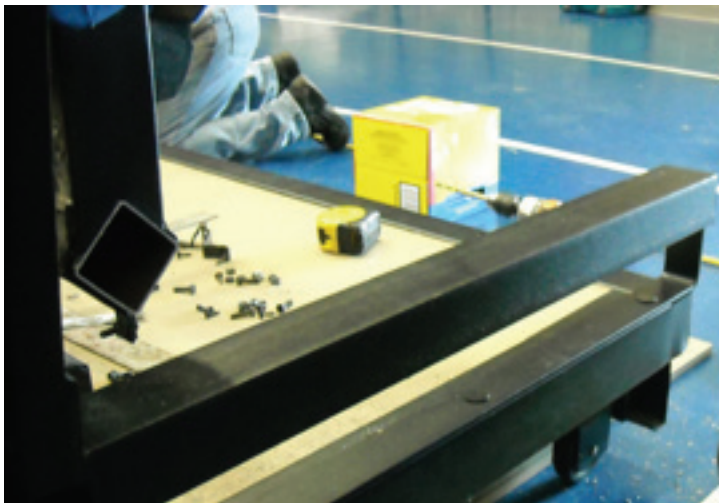
Shown here is the end of the platform showing the end safety rails and a metal end cap



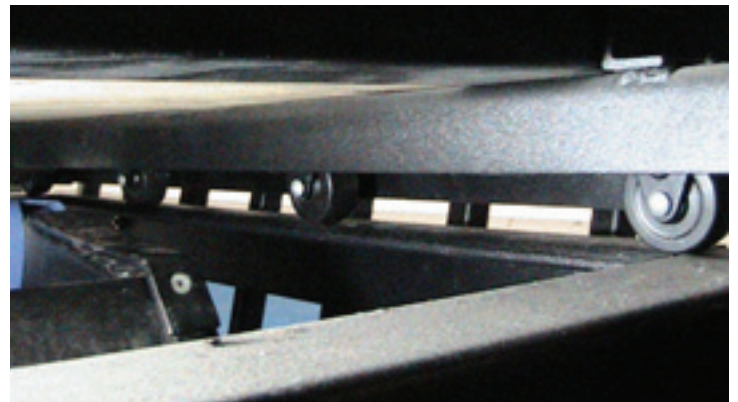
The metal end cap is removed



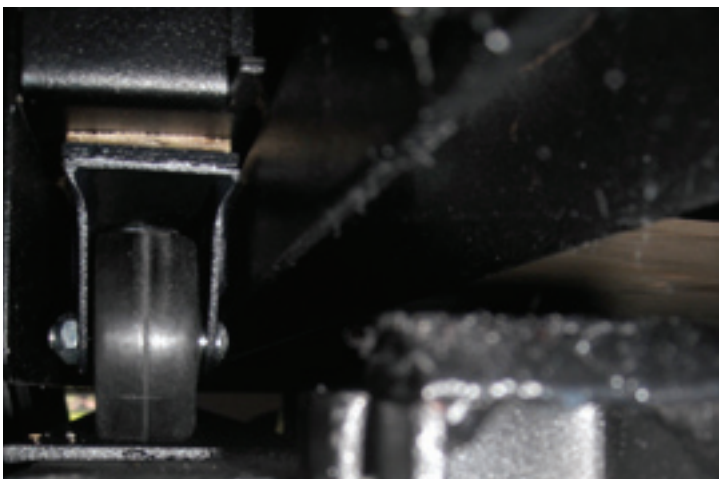
A metal “runner” is installed in place of the metal end cap. This will support the Century Design® wheels on the row above.



A side view of an installed “runner.” Note the runner is the same size as the metal end cap, No additional room was required, no other adjustments had to be made.



The Century Design® “centipede” system has four in-line wheels. During operation, there are always two or more wheels supporting the dead load of the platform. The heavy duty “centipede” system for platform seating was first designed for Wilfrid Laurier University in Waterloo, Ontario.



This view shows the Century Design® wheel from the front, in the fully closed position. In the partially or full closed position (unintended for occupancy), Century Design® provides continuous support, needed to prevent sagging.



This view shows the platform in the full open position, showing the Century Design® wheels from below. In the full open position (intended for occupancy), the understructure support is locked into position. Century Design® is not required for support.