

SKATE PLATE SUMMARY

Product/Part: ***SKATE PLATE***

Intended Use: Greaseless Coupling System (GCS); designed for use as an add-on trailer upper coupler plate; renders truck/trailer combination greaseless.

History: Our search to develop a greaseless coupling system began in 1990 with the coating of fifth wheels. While this method did render the coupling system greaseless, improve handling, and last a long while, there were many considerations that made this technique unacceptable to the industry. With this information, we turned our efforts to focussing on the trailers, rather than the trucks. At first the idea of making the trailers greaseless was met with skepticism, primarily due to the fact that there are more trailers than trucks. However, once the total cost of the product and its return on investment was better understood, we realized that rendering the trailers greaseless was the best alternative for most of the trucking companies, and development and testing of the ***SKATE PLATE*** began as a result.

Product Description:

- greaseless upper coupler plate
- manufactured of the highest quality polyurethane resins
- utilizes unique blend of release agents to provide both lower static (breakaway) and kinetic (moving) coefficients of friction
- primer system is latest technology corrosion resistant epoxy system which is specified by military
- carbon steel plate welded onto existing upper coupler
- kingpin goes through center hole in ***SKATE PLATE***
- set back around edges to ease welding
- installs in around 20-30 minutes
- center hole is offset for best fit onto most trailer/kingpin designs

Benefits Analysis:

- no fifth wheel plate grease necessary
- permanent lubrication – better steering and handling
- less wear on fifth wheels and upper coupler plates
- significantly mitigates or eliminates upper coupler plate replacement
- reduced time and money in fifth wheel lubrication
- improved safety – less oversteering required, better trailer response
- much better cold weather handling performance
- much cleaner operation – no more steam cleaning of fifth wheel and truck frame, grease disposal or grease contamination of electrical connections

- great for environment – over 75MM pounds (low estimate) of grease on roadway annually; less stream pollution and fewer slick roads
- reduced tire wear
- reduced maintenance costs and improved productivity – no grease means easier inspection and improved shop productivity
- easier on drivers – better handling and no grease stains on clothes

Test Results:

- oldest plate running for 30 months; projected life of 7 years
- plates currently operating on wood chip haulers, solid waste chassis trailers, end dumps, lowboys, dry vans, tankers and a jeep
- test plates exposed to temperature extremes ranging from -60°C to 105°F with excellent performance across range
- solid waste chassis application is particularly abusive as it experiences the following conditions; customer hopes for one year life, test results show estimated life of two years:
 - twenty-eight, 90° turns or greater each direction with six round trips made per day
 - temperature extremes of -20°F to 100°F
 - very dirty and dusty environment
 - sanded and salted roads during winter
 - a lot of twisting and flex between truck and trailer; increases compression on coupler plate and fifth wheel
 - active coupling where trailer is not completely lowered when truck backs in for coupling
- feedback from drivers is that trailer handles like on a freshly greased fifth wheel at all times
- significantly improved cold weather performance versus grease
- first three customers that tested the **SKATE PLATE** all chose to switch over fleet
- each of first three customers maintains return on investment of less than one year

Conclusion:

- while it is difficult to assess each companies return without their numbers, there are many ways that the **SKATE PLATE** pays for itself
- those customers that have analyzed their return on the **SKATE PLATE** have realized a payback of one year or less
- customers realize significant environmental improvements
- customers realize safety and maintenance benefits
- customers experience a noticeable decrease in cleanup costs
- drivers appreciate the **SKATE PLATE**