EST 1808
CITY OF
DELAWARE
OHIO

INFRASTRUCTURE DESIGN MANUAL

APPENDIX E
LADDER TRUCK TURNING PERFORMANCE ANALYSIS

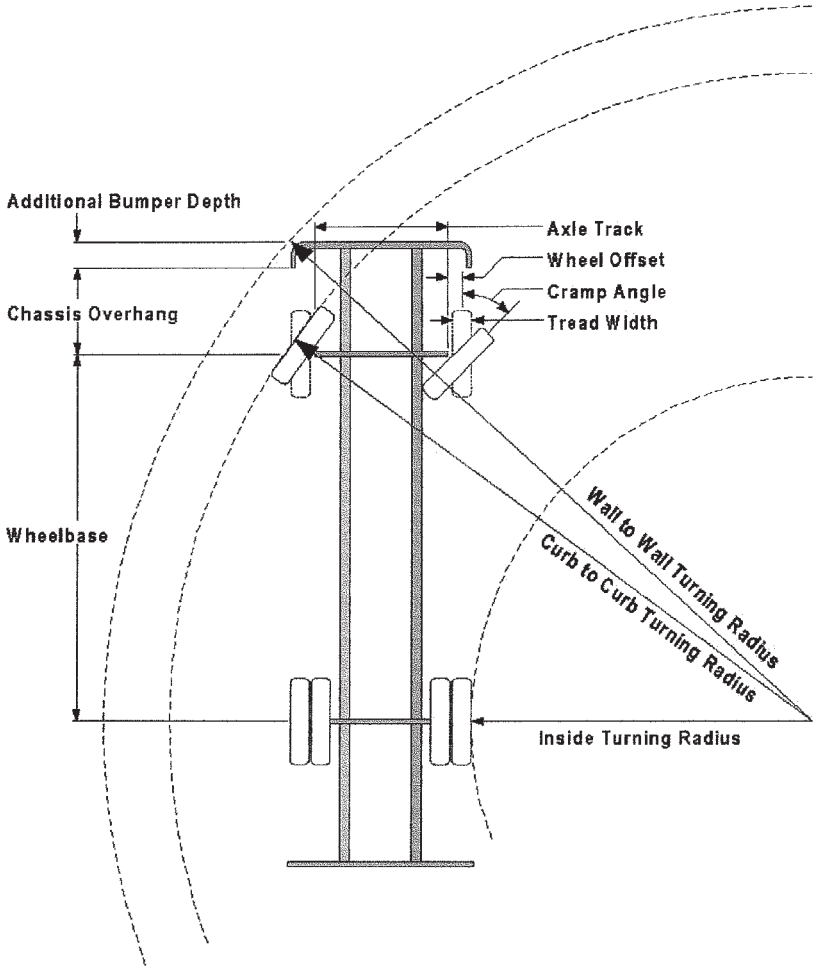
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Turning Performance Analysis

6/24/2009

Bid Number: Delaware, Ohio FD
Department: 1364

Chassis: Velocity Chassis, PAP/SkyArm/Midmount (Big
Body: Aerial, Platform 100', Alum Body



Parameters:

Inside Cramp Angle:	40°
Axle Track:	82.92 in.
Wheel Offset:	5.25 in.
Tread Width:	13.50 in.
Chassis Overhang:	78.00 in.
Additional Bumper Depth:	19.00 in.
Front Overhang:	153.60 in.
Wheelbase:	257.00 in.

Calculated Turning Radii:

Inside Turn:	24 ft. 6 in.
Curb to Curb:	39 ft. 10 in.
Wall to Wall:	47 ft. 10 in.

Comments:

The front overhang dimension given above is the total dimension past the front axle and includes the aerial platform which is 7' off the ground. The aerial platform shall be considered for required clear zone in turns.

Components	PRIDE #	Description
Aerial Devices	0022160	Aerial, 100' Pierce Platform
Wheels, Front	0091794	Wheels, Frt, Steel 22.50" x 13.00", 24K IFS (445)
Tires, Front	0038270	Tires, Goodyear, 445/65R22.50 20 ply G286 SS (24K "IS")
Axle, Front, Custom	0508846	Axle, Front, Oshkosh TAK-4, Non Drive, 24,000 lb, Velocity
Bumpers	0199678	Bumper, 19" Extd-Painted/Reinforced, Imp/Vel, w/Notch for Siren

Notes:

Actual Inside Cramp Angle may be less due to highly specialized options.

Curb to Curb turning radius calculated for a 9.00 inch curb.

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Definitions:

Inside Cramp Angle	Maximum turning angle of the front inside tire.
Axle Track	King-pin to king-pin distance of the front axle.
Wheel Offset	Offset from the center-line of the wheel to the king-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance from the center-line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Depth	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicle's front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle inside of which the vehicle's tires can turn. This measurement assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle inside of which the entire vehicle can turn. This measurement takes into account any front overhang due to the chassis, bumper extensions and/or aerial devices.