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Section 3 Frame, Bumper & Crossmember Components

This guide is to be used as a reference document only.
Please consult your Western Star CAE representative on
specific spec'ing needs as the information contained in
this document can change without notice.

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4700 Main Frame Rail

3

P. 3-2

4700 Frame Rails

4700 frame rails are designed to maintain a constant main rail inside dimension of 33.6".

Mod 546

- Main frame rails for the 4700 chassis are offered in only single channel configurations
- Single Channel rail is made up of a single main frame rail component which can be combined with a 547 partial liner to add strength only where needed and reduce overall weight.
- Single Channel Rails can also be combined with 547 partial liners liners to meet the needs of severe loading applications.

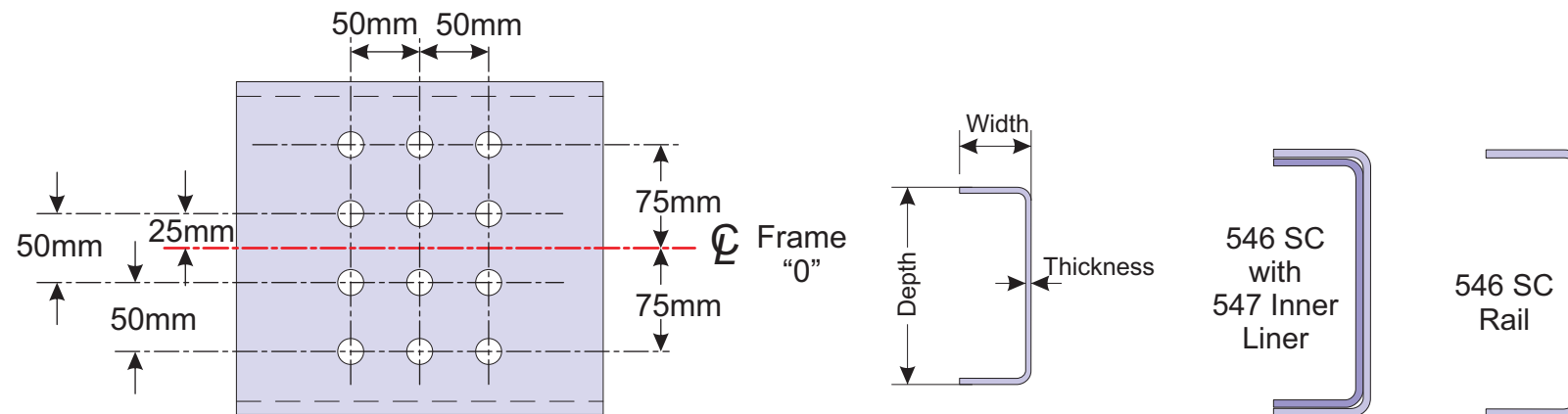
Mod 547

- Inner frame reinforcements (See Next Pages)

Mod 548

- Not currently available with 4700 chassis designs

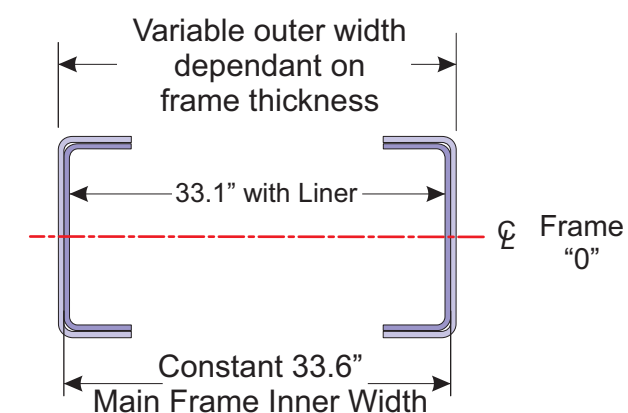
4700 Chassis Grid



4700 Frame Rail Combination Chart

Sales Code Information		Main Rail			Liner			Inner Width	Outer Width	Frame RBM
Option Code	Option Code Description	Thickness	Width	Depth	Thickness	Width	Depth			
546-099	9/32 x 3-7/16 x 10-1/16 inch 120KSI	0.281"	3.443"	10.062"	None			33.62"	34.18"	1.48M
546-100	11/32 x 3-1/2 x 10-3/16 inch 120KSI	0.344"	3.472"	10.187"	None			33.62"	34.31"	1.81M
546-101	11/32 x 3-1/2 x 10-15/16 inch 120KSI	0.344"	3.519"	10.937"	None			33.62"	34.31"	2.04M
546-102	7/16 x 3-9/16 x 11-1/8 inch 120KSI	0.473"	3.564"	11.125"	None			33.62"	34.57"	2.59M
546-1B2	1/2 x 3.64 x 11-7/8 inch 120KSI	0.500"	3.64"	11.875"	None			33.62"	34.62"	3.20M
546-101	11/32 x 3-1/2 x 10-15/16 inch 120KSI	0.344"	3.519"	10.937"	0.25"	2.99"	10.13"	33.12"	34.31"	3.22M
547-001	Liner 1/4 inch C-channel inner reinforcement									
546-102	7/16 x 3-9/16 x 11-1/8 inch 120KSI	0.473"	3.564"	11.125"	0.25"	2.99"	10.13"	33.12"	34.57"	3.72M
547-001	Liner 1/4 inch C-channel inner reinforcement									
546-1B2	1/2 x 3.64 x 11-7/8 inch 120KSI	0.500"	3.64"	11.875"	0.25"	2.98"	10.75"	33.12"	34.62"	4.41M
547-001	Liner 1/4 inch C-channel inner reinforcement									

4700 SF/SB Frame



4800/4900/6900 Frame Rails

WST frame rails are designed to maintain a constant outside dimension of 34" with the exception of the 548 outer reinforcement.

Mod 546

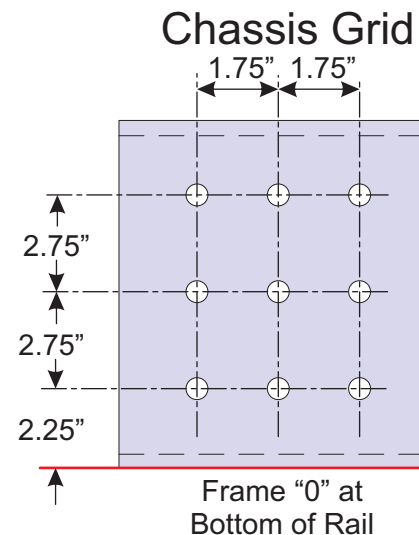
- WST Main frame rails are offered in two configurations Single channel and Double Channel.
- Single Channel rail is made up of a single main frame rail component which can be combined with a 547 partial liner to add strength only where needed and reduce overall weight.
- Double channel rails are also available which provide end to end full length double channel rails for maximum strength and durability. Double channels can also be combined with 547 partial liners and 548 outer liners to meet the needs of severe loading conditions.

Mod 547

- Partial Inner frame reinforcements (See Next Pages)

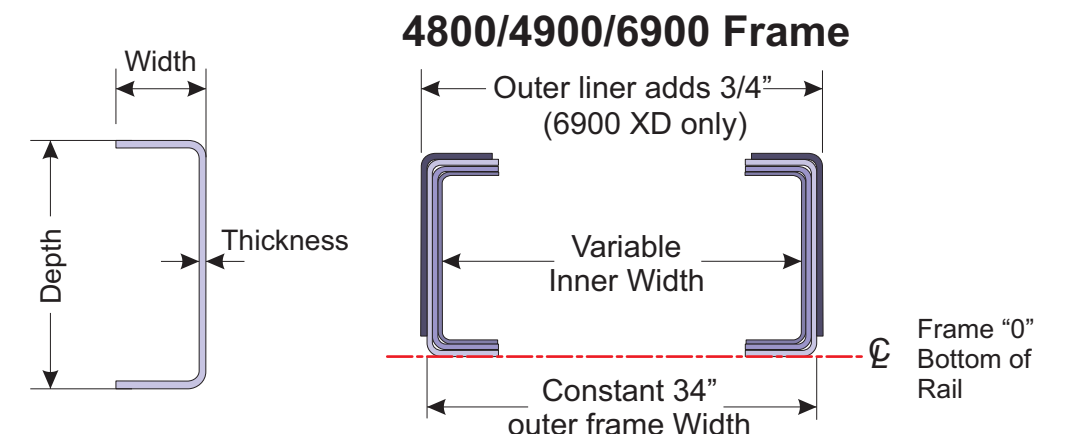
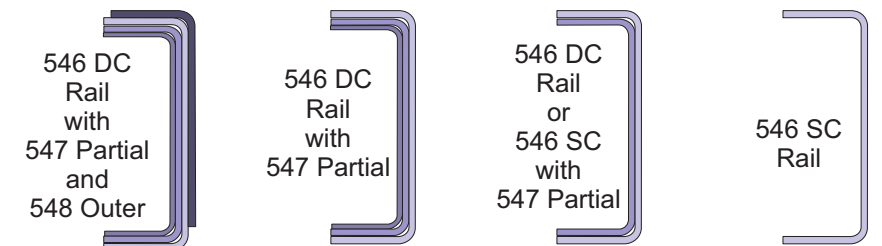
Mod 548

- Outer glove frame reinforcements (See Next Pages)



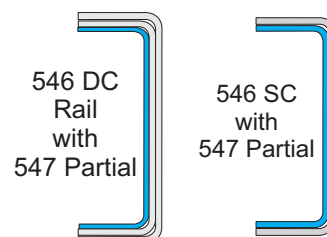
Frame Design Data			
Data Code	Description	SECTION MODULUS	RBM (IN-LB)
546-089	5/16"X3-1/2"X10-5/8" 120KSI	14.8	1,776,400
546-087	3/8"X3-1/2"X10-3/4" 120KSI	17.8	2,135,700
546-090	3/8"X3-7/8"X11-5/8" 120KSI	21.47	2,576,000
546-501	5/16"X3-1/2"X10-5/8" Double channel 120KSI (5/16" outer + 1/4" inner)	23.96	2,874,700
546-502	3/8"X3-1/2"X10-3/4" Double channel 120KSI (3/8" outer + 1/4" inner)	26.84	3,220,800
546-503	3/8"X3-7/8"X11-5/8" Double channel 120KSI (3/8" outer + 1/4" inner)	31.72	3,807,000
546-504	3/8"X3-7/8"X11-5/8" Double channel 120KSI (3/8" outer + 3/8" inner)	37.71	4,525,500
546-504 + 547-030	3/8"X3-7/8"X11-5/8" double channel 120KSI (3/8" outer + 3/8" inner) + 1/4" (6.35MM) C-channel partial inner frame reinforcement, forward of back of cab crossmember to end of frame	46.68	5,601,800
546-504 + 547-030 + 548-015	3/8"X3-7/8"X11-5/8" double channel 120KSI (3/8" OUTER + 3/8" INNER) + 1/4" C-channel partial inner frame reinforcement, forward of back of cab crossmember to end of frame + 3/8" inverted I-section outer frame reinforcement rear of back of cab crossmember to end of frame	56.43	6,772,000

Frame Rail Combination Chart											
Sales Code Information		Rail QTY	Main Rail			Liner			Inner Width	Outer Width	Frame RBM
Option Code	Option Code Description		Thickness	Width	Depth	Thickness	Width	Depth			
546-089	5/16X3-1/2X10-5/8 inch steel frame 120KSI	SC Rails	5/16"	3 1/2"	10 5/8"	None			33.4"	34"	1.77M
546-087	3/8X3-1/2X10-3/4 inch steel frame 120KSI		3/8"	3 1/2"	10 3/4"	None			33.25"	34"	2.13M
546-090	3/8X3-7/8X11-5/8 inch steel frame 120KSI		3/8"	3 7/8"	11 5/8"	None			33.25"	34"	2.57M
546-501	5/16X3-1/2X10-5/8 inch double channel 120KSI (5/16 inch outer and 1/4 inch inner)	DC Rails	1/4"	3 1/2"	10 5/8"	1/4"	3 1/4"	9 7/8"	33.0"	34"	2.87M
546-502	3/8X3-1/2X10-3/4 inch double channel 120KSI (3/8 inch outer and 1/4 inch inner)		5/16"	3 1/2"	10 3/4"	1/4"	3 1/4"	9 7/8"	32.88"	34"	3.22M
546-503	3/8X3-7/8X11-5/8 inch double channel 120KSI (3/8 inch outer and 1/4 inch inner)		3/8"	3 7/8"	11 5/8"	1/4"	3 1/2"	10 1/2"	32.75"	34"	3.80M
546-504	3/8X3-7/8X11-5/8 inch double channel 120KSI (3/8 inch outer and 3/8 inch inner)		3/8"	3 7/8"	11 5/8"	3/8"	3 1/2"	10 3/4"	32.5"	34"	4.52M



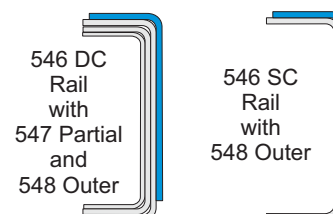
Mod 547 Partial Frame Rails

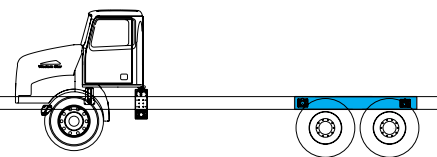
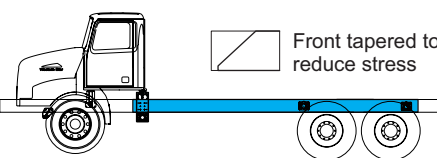
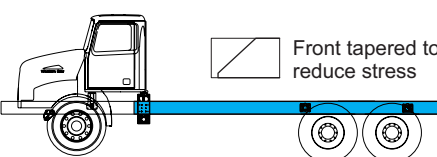
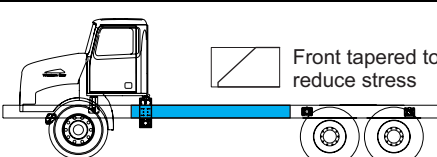
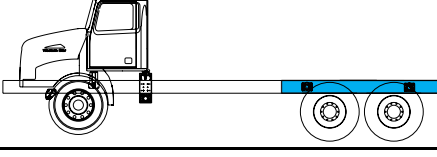
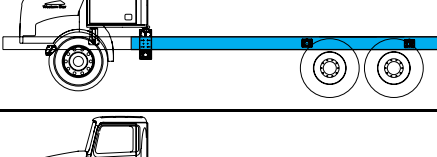
- Partial Inner frame reinforcements are used in conjunction with module 546 SC and DC main frame rails.
- Where weight is an issue WST's partial liner options can help reduce overall weight and achieve the RBM strength only where needed.
- 1/4" liner material is sized to fit inside all main rail stock with the exception of 3/8 x 3 7/8" x 11 5/8" frame rail.
- 3/8" liners are made from 3/8" x 3 1/2" x 10 3/4" main rail stock and is only compatible with 3/8" x 3 7/8" x 11 5/8" frame rail.



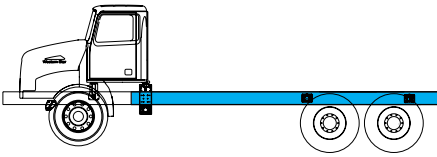
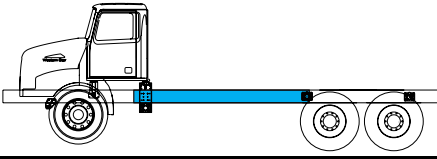
Mod 548 Outer Reinforcements

- Outer frame reinforcements are used in conjunction with module 546 main frame rails and module 547 partial reinforcements
- Outer frame reinforcements do not affect the cross member width sizes but can affect suspension, fifth wheel components and any components where overall width may be critical such as fuel tank steps.
- Outer reinforcements can be made in 1/4" or 3/8" material.
- Special consideration should be given to outer liner locations to ensure frame components mounted on the outside of rail are compatible with the extra rail thickness resulting from this option.
- Outer reinforcement options can be used to strengthen the BOC area or in cases that body builders need to weld to the top flange and web without effecting main frame rail strength.
- Please contact WST if you have special mounting requirements that can make use of the outer reinforcement application and a factory direct solution can be developed to meet your needs.
- Outer reinforcement end locations that go to end of frame stop 21" short of EOF for all taper applications.



Option	Description	4xxx	69XX	Liner Location
547-019	1/4" (6MM) C-channel insert at rear suspension only	●		
547-026**	1/4" (6.35MM) C-channel partial inner frame reinforcement, rear of rear suspension to forward of back of cab crossmember	●		
547-027**	3/8" (9.53MM) C-channel partial inner frame reinforcement, rear of rear suspension to forward of back of cab crossmember	●	●	
547-030**	1/4" (6.35MM) C-channel partial inner frame reinforcement, forward of back of cab crossmember to end of frame	●		
547-031**	3/8" (9.53MM) C-channel partial inner frame reinforcement, forward of back of cab crossmember to end of frame	●	●	
547-023**	1/4" (6.35MM) C-channel partial inner frame reinforcement forward of back of cab crossmember to forward rear suspension	●		
547-029	3/8" (9.53MM) C-channel partial inner frame reinforcement, forward of rear suspension to end of frame	●	●	

** Qualifies as a full double channel frame rail

548-014	3/8"(9.53MM) Inverted L-section outer frame reinforcement under cab to EOF		●	
548-018	3/8" (9.53MM) inverted I-section outer frame reinforcement forward of back of cab crossmember to forward of rear suspension		●	

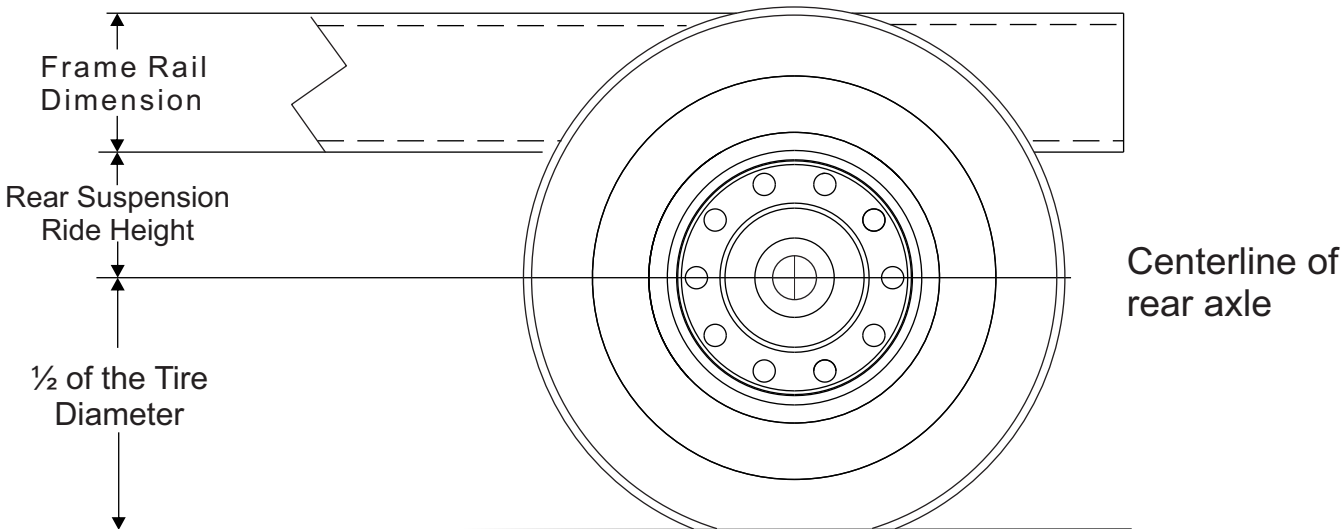


All Models Frame Height Calculation

Ride height information

Tire, suspension and frame data will be calculated by your dealer sales person for a specific serial number once the order has been entered into SpecPro

The ride height calculation information will be located under the Performance “tab” / Unladen FrameHeight / View - Graph.



Excerpt from SpecPro

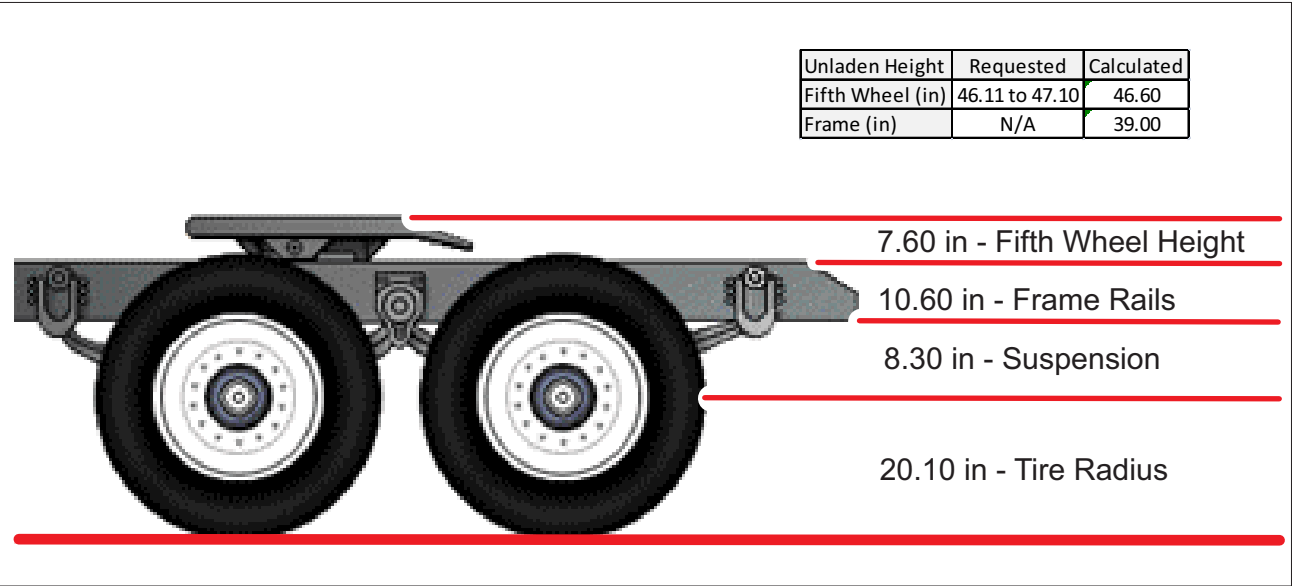


Performance Tests:

Unladen Frame Height

Views:

Graph



Frame Height = 1/2 the tire diameter + Rear Suspension Ride Height + Frame Height.

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All Models Frame Slope Calculation

Frame Slope Calculations

“Calculated Frame Slope @ Front/Rear Suspension Ratings” so chassis suitability is easier to determine for all parties.

The frame slope percentage expresses the rake, or slope, of the frame rails as seen from the side of the vehicle when the axles are loaded to their Gross Axle Weight Ratings (GAWR's).

A positive (+) number indicates a rear-high chassis slope.

A negative (-) number indicates a front-high chassis slope

A zero slope would predict a level chassis.

Frame slope appears on the TSO as shown in the following example:

AB8-99D CALC'D FRAME SLOPE @ FRT/RR SUSP RATINGS -0.661%

Frame slope is calculated as follows:

First it is important to remember that the frame slope percentage predicts the chassis slope in a loaded condition; the loaded frame slope will differ from the unloaded frame slope for most vehicles.

Different suspension types exhibit different height changes between loaded and unloaded conditions.

For example, a unit with an 18,000 lbs capacity taper leaf front suspension and a 46,000 lbs capacity Airliner rear suspension may have a loaded frame slope of nearly zero, but its unloaded frame slope may grow to over -0.8 % (front-high).

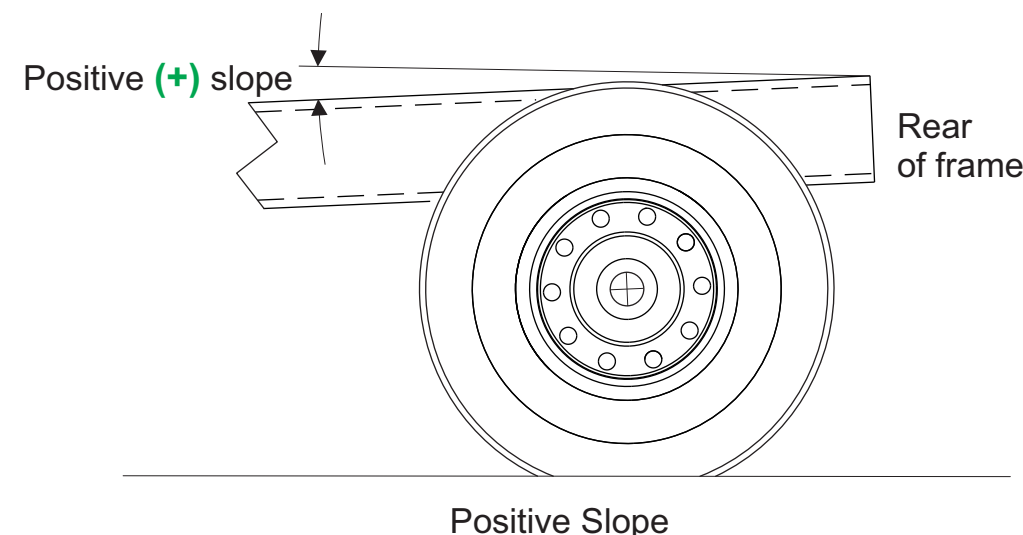
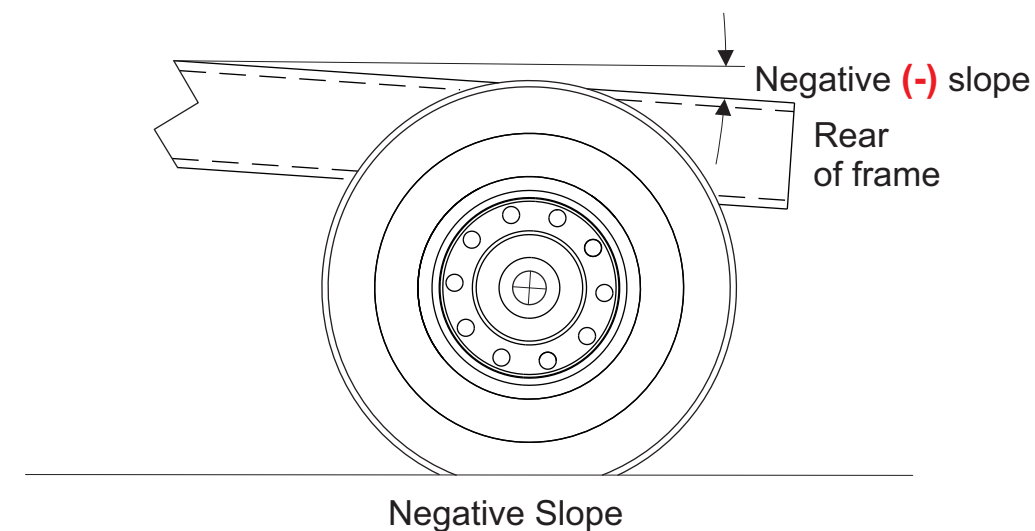
This slope change is because the front suspension height can increase as much as several inches in the transition from loaded to unloaded while the rear suspension leveling valves keep the rear suspension height nearly the same between loaded and unloaded conditions.

CAE will annotate the quote/order to identify situations where predicted frame slopes **does not fall within a -0.5% to +1.5% range**. Quotes/orders will also include a note stating the calculated frame slope.

When processing quotes/orders, CAE will use notes or specific TSO codes to identify predicted frame slopes outside of the -0.5% to +1.5% range as shown in the following example:

999-011 CHASSIS IS HIGHER AT REAR THAN AT FRONT; SLOPE > 1.5%; DEALER ADVISED AND ACCEPTS

Your CAE Application Specialist or Team Application Engineer can assist with frame slope and chassis suitability questions.



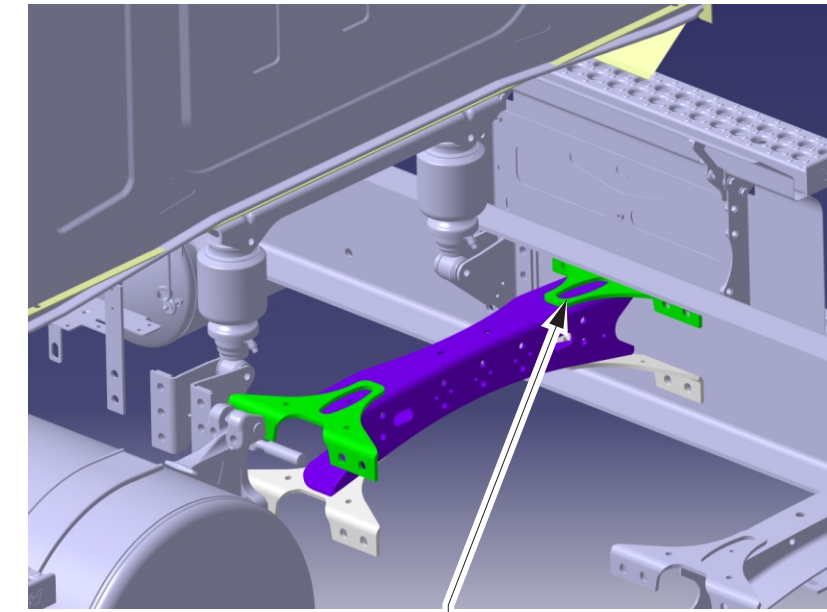
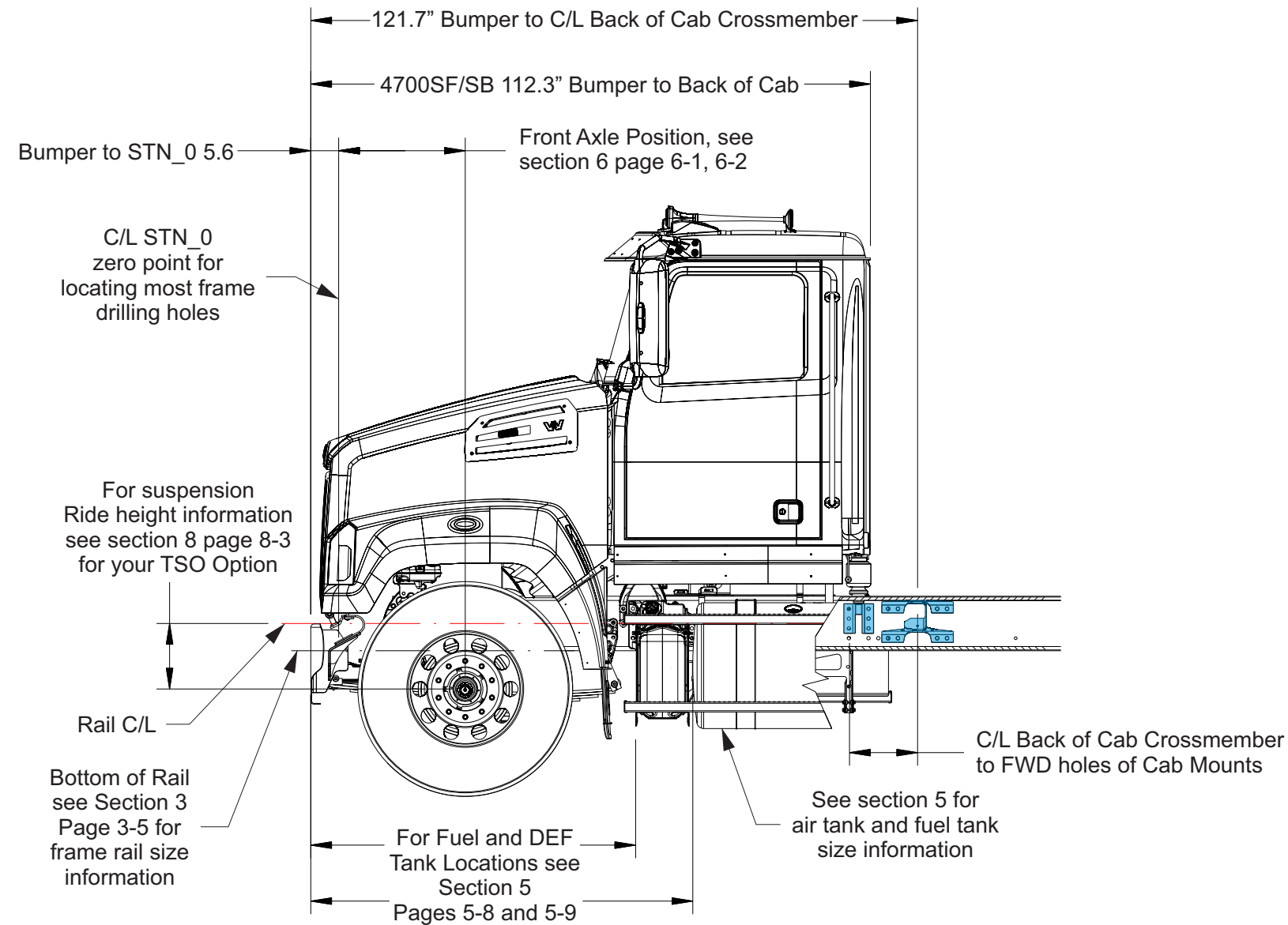


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Basic 4700 Design Parameters

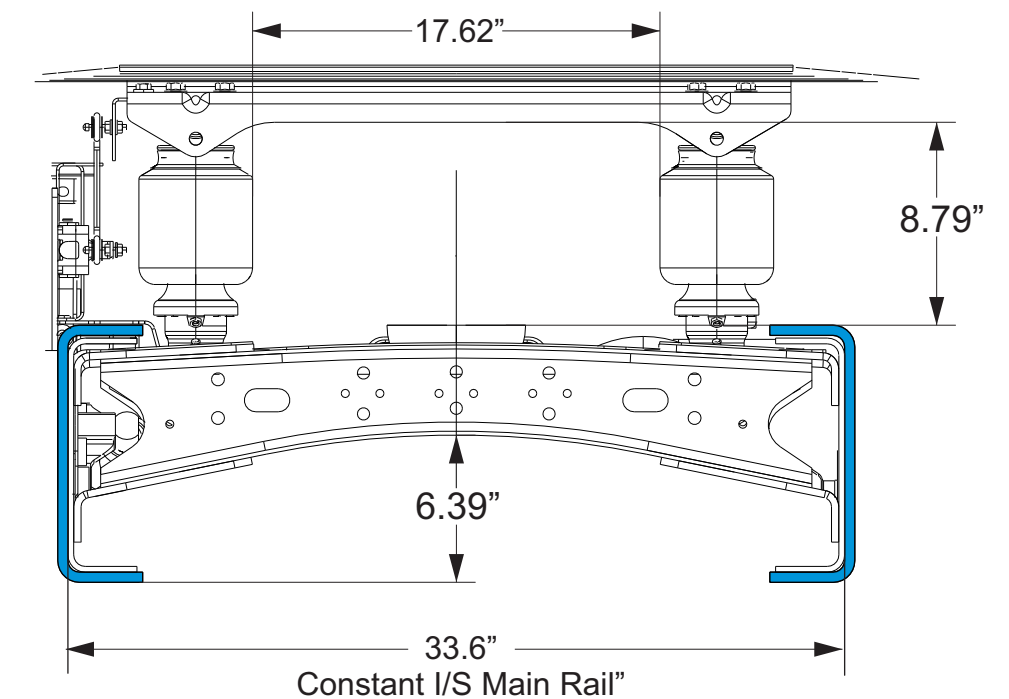
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P. 3-7



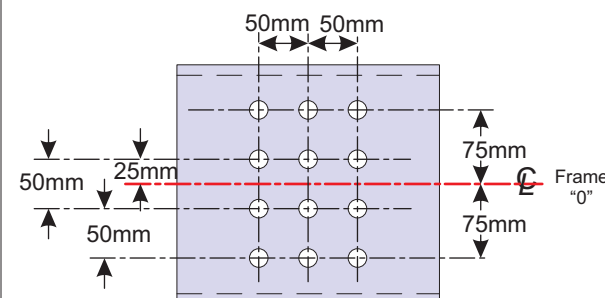
Rear cab supports are located outboard on the 4700 to improve access to Rear PTO locations.

561-026 5 Piece Bolted Back Of Transmission Crossmember provides a bolted crossmember for extra strength. This option also provides a crossmember that can be easily relocated or modified to suit body components. Complete removal of the crossmember is not recommended as this weakens the frame support longitudinally. If crossmember is removed body builder is responsible for supplying adequate replacement support.



4700 Models

Standard DCC Chassis Grid



Daimler Common Chassis (DCC) Frame Rails

DCC frame rails are designed to maintain a constant main rail inside dimension of 33.6". The frame 0.0 point of these rails is located at the center line of the rail web with all frame holes dimensioned up or down from the center of rail. For this reason frame size is a critical component that must be taken into account when locating components off existing hole patterns and calculating ride heights.

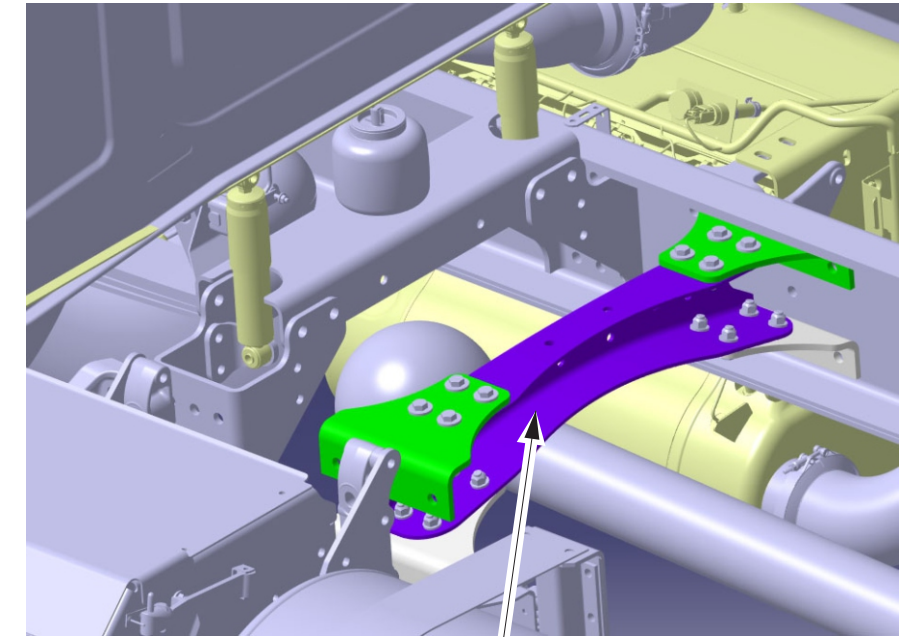
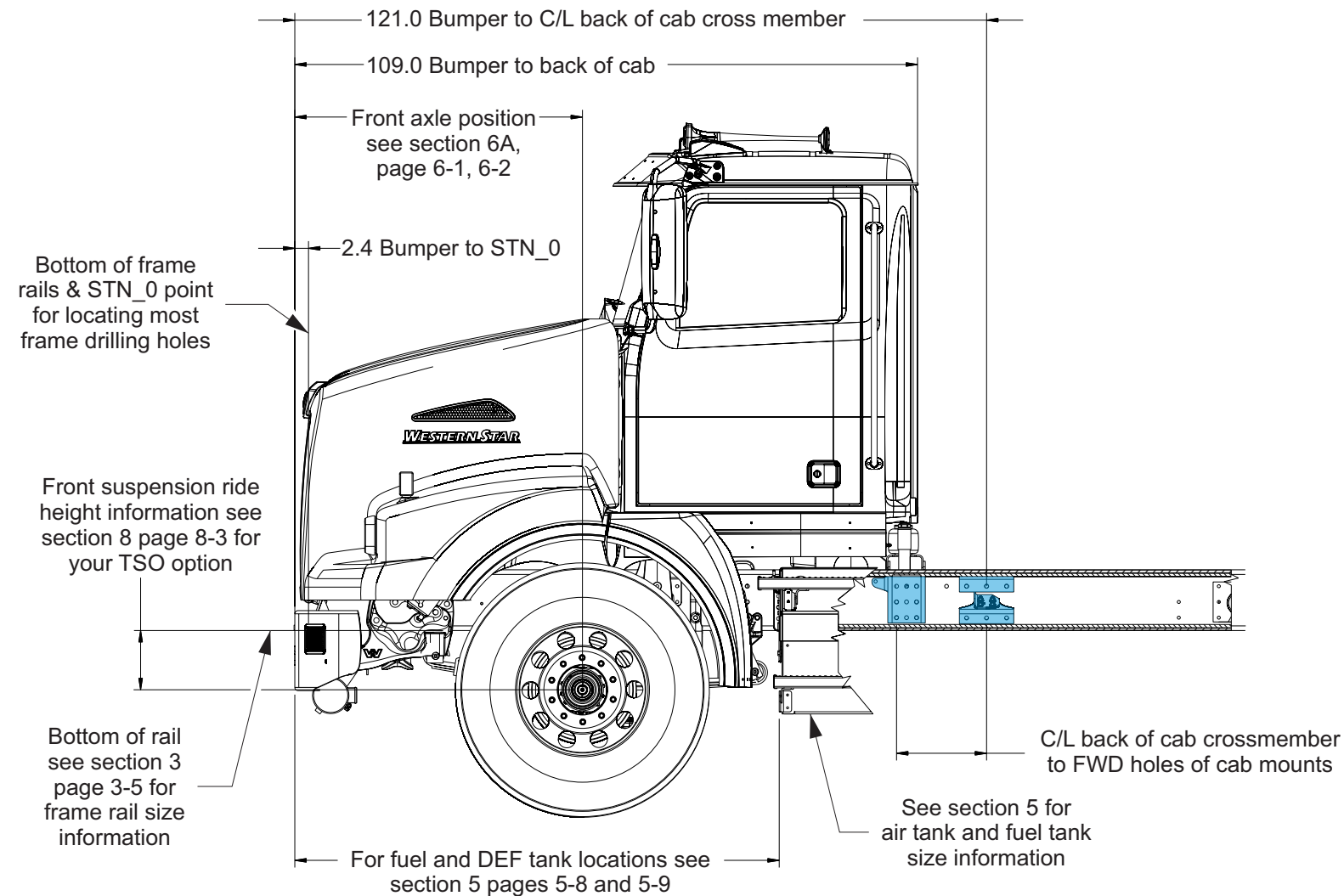


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Basic 4800 Design Parameters

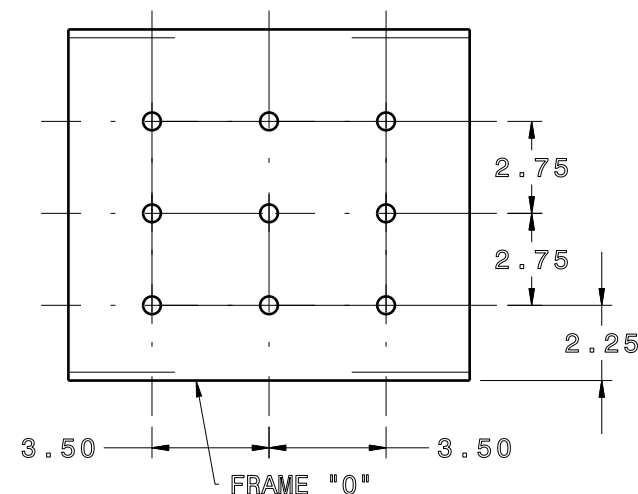
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P. 3-8



561-026 5 Piece Bolted Back Of Transmission Crossmember
provides a bolted crossmember for extra strength. This option also provides a crossmember that can be easily relocated or modified to suit body components. Complete removal of the crossmember is not recommended as this weakens the frame support longitudinally. If crossmember is removed body builder is responsible for supplying adequate replacement support.

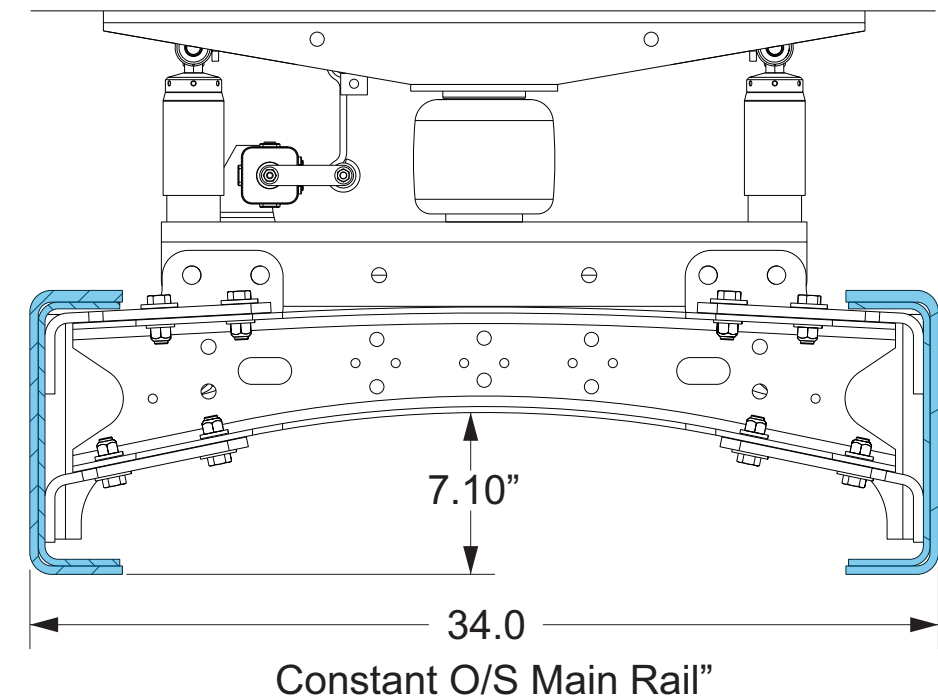
Standard WST Chassis grid



Western Star (WST) Common Frame Rails

WST frame rails are designed to maintain a constant main rail outside dimension of 34.0".

The frame 0.0 point of these rails is located at the bottom of the rail with all frame holes dimensioned up from the bottom of the rail.



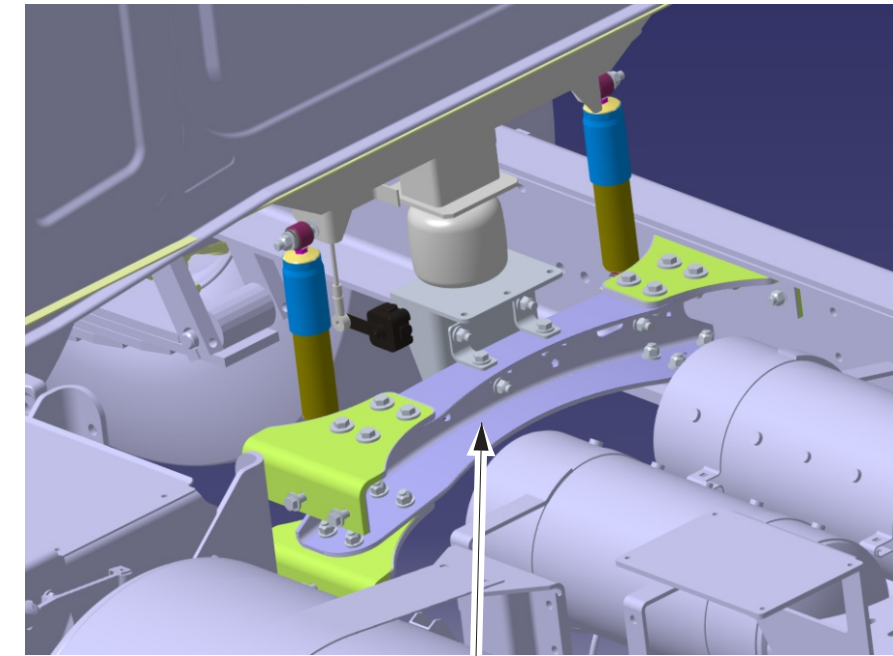
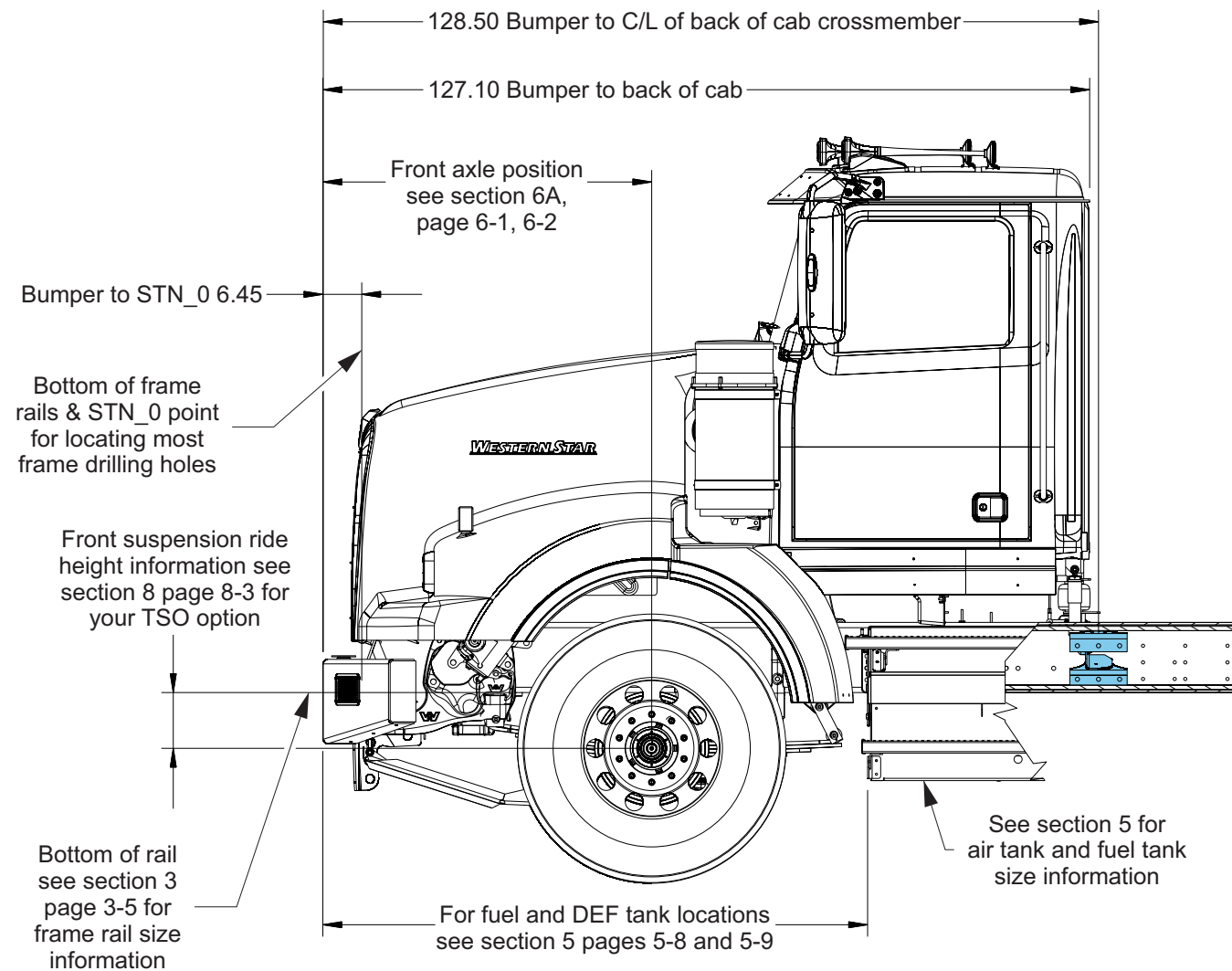


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Basic 4900 Design Parameters

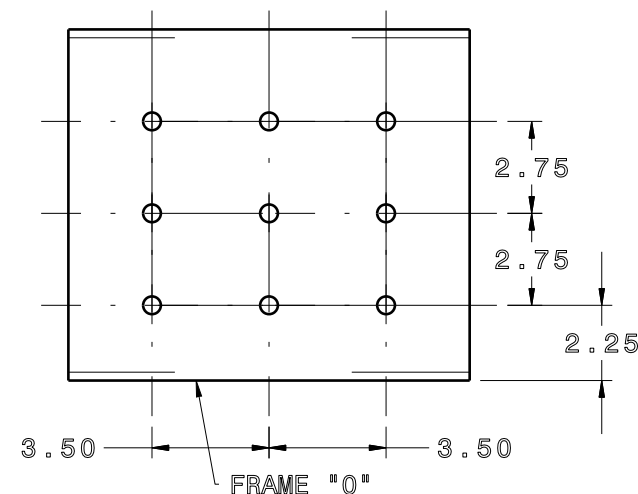
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P. 3-9



The 4900/6900 models use a back of cab cross member that is integral to the rear cab mount. As such the rear cab cross member cannot be moved or eliminated.

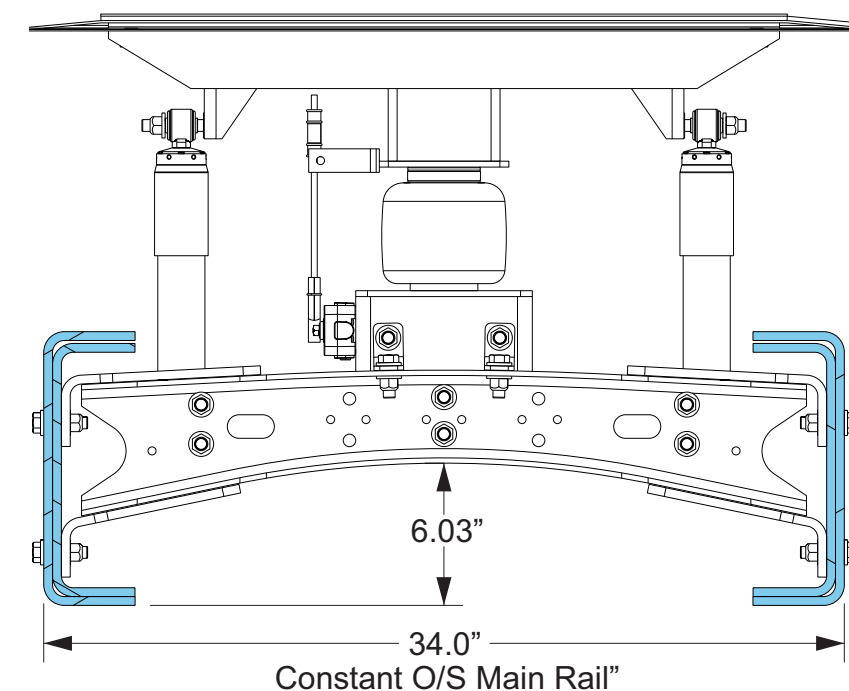
Standard WST Chassis grid



Western Star (WST) Common Frame Rails

WST frame rails are designed to maintain a constant main rail outside dimension of 34.0".

The frame 0.0 point of these rails is located at the bottom of the rail with all frame holes dimensioned up from the bottom of the rail.



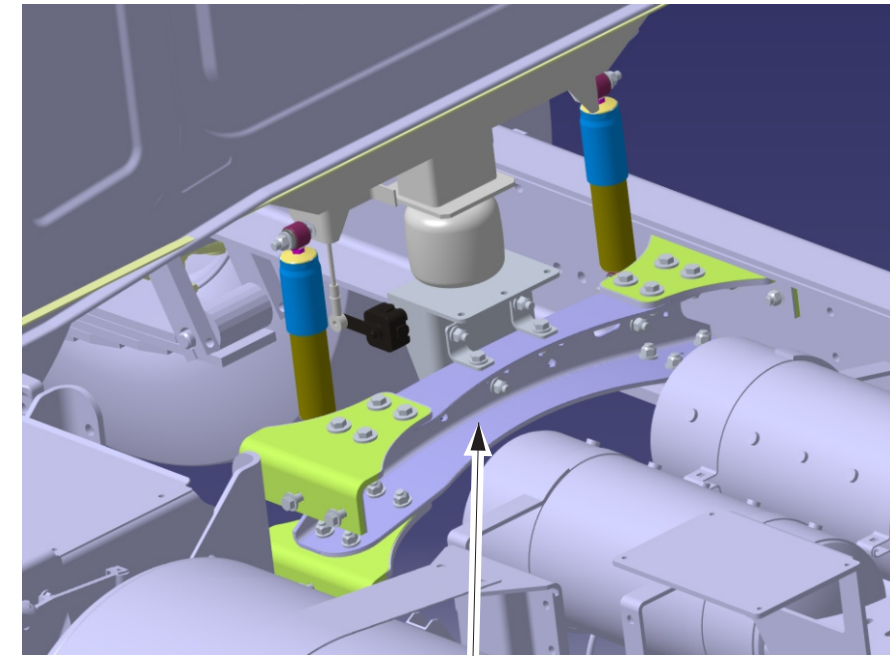
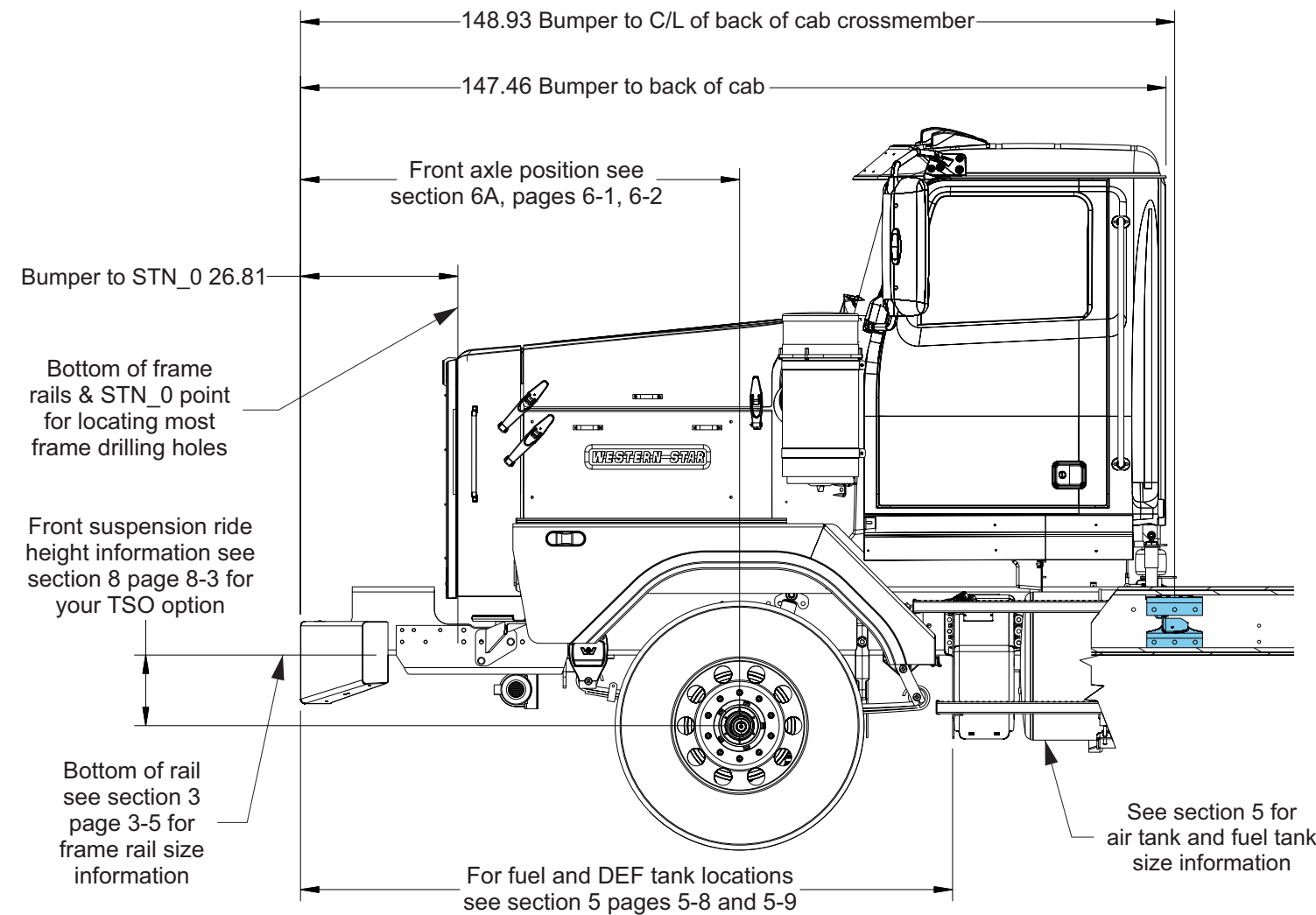


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Basic 4900XD Design Parameters

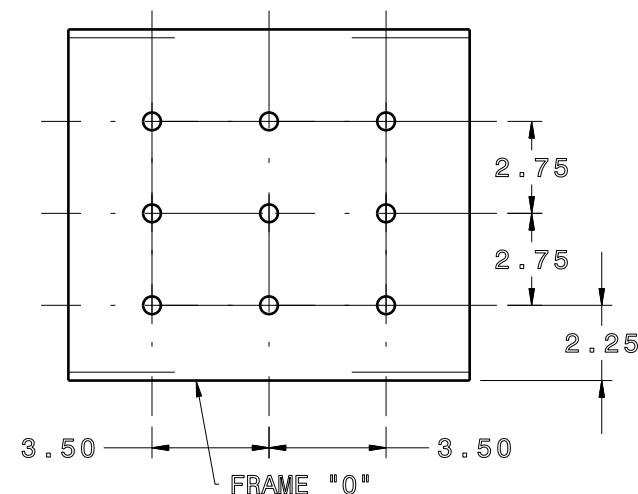
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P. 3-10



The 4900/6900 models use a back of cab cross member that is integral to the rear cab mount. As such the rear cab cross member cannot be moved or eliminated.

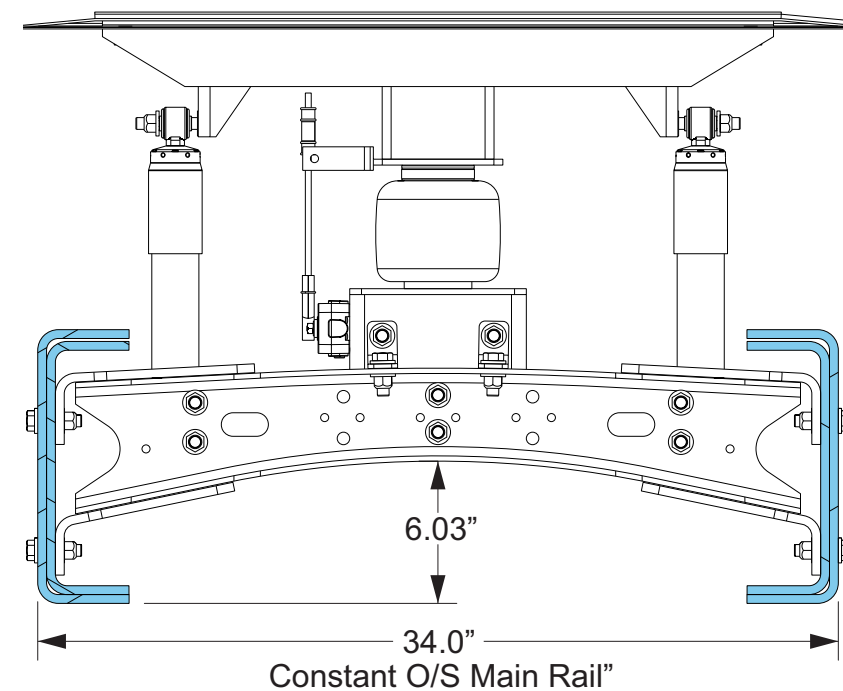
Standard WST Chassis grid



Western Star (WST) Common Frame Rails

WST frame rails are designed to maintain a constant main rail outside dimension of 34.0".

The frame 0.0 point of these rails is located at the bottom of the rail with all frame holes dimensioned up from the bottom of the rail.



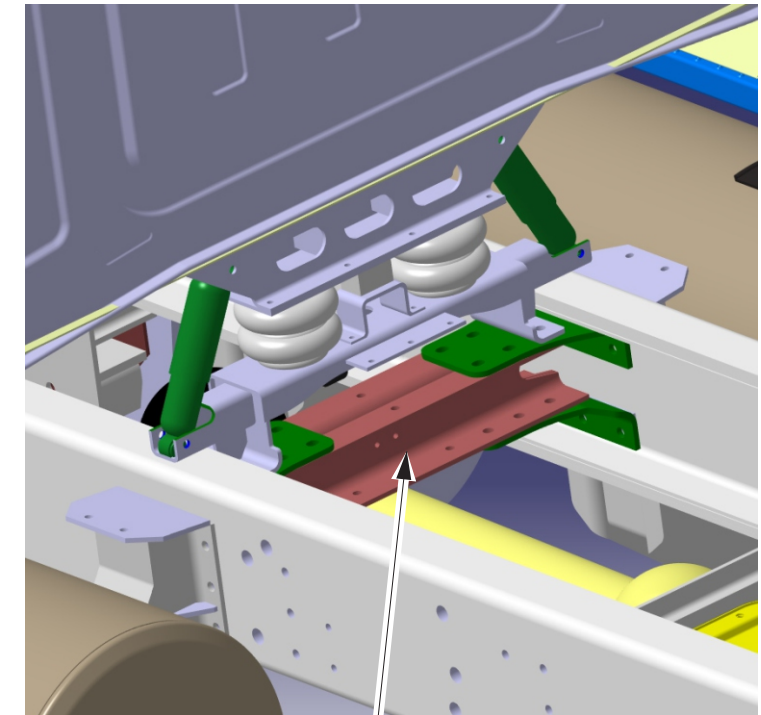
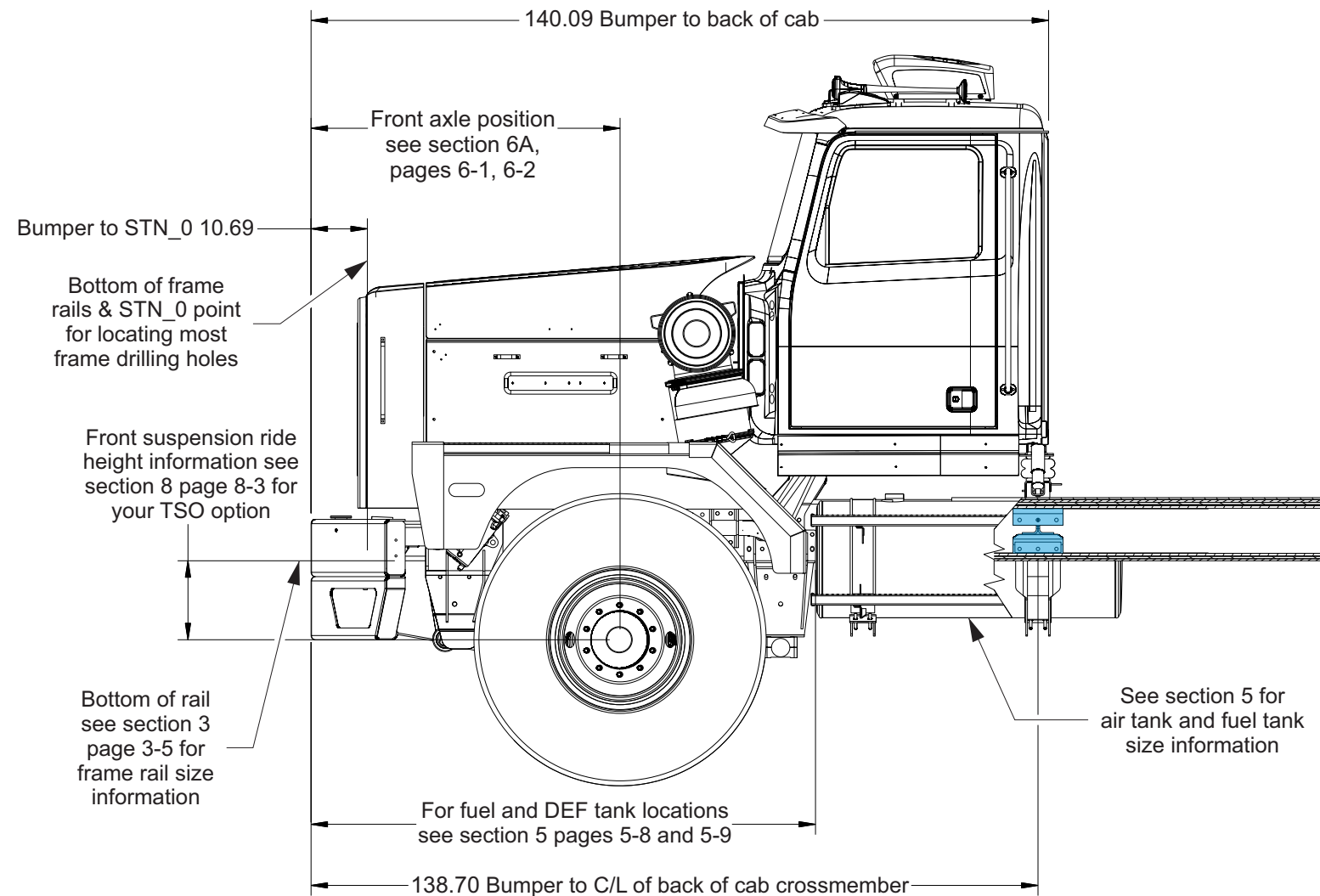


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Basic 6900XD Design Parameters

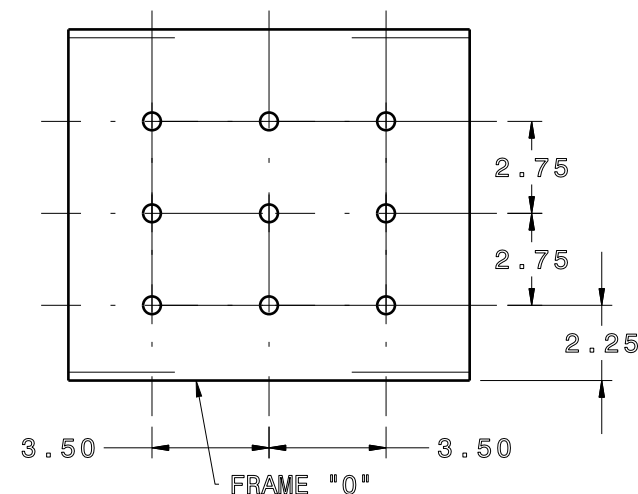
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P. 3-11



The 4900/6900 models use a back of cab cross member that is integral to the rear cab mount. As such the rear cab cross member cannot be moved or eliminated.

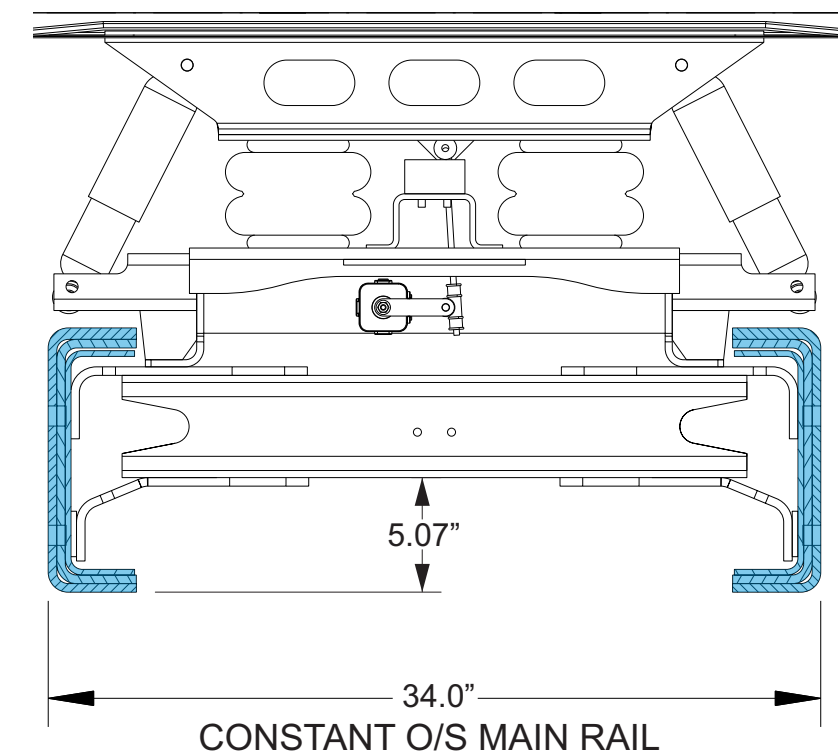
Standard WST Chassis grid



Western Star (WST) Common Frame Rails

WST frame rails are designed to maintain a constant main rail outside dimension of 34.0".

The frame 0.0 point of these rails is located at the bottom of the rail with all frame holes dimensioned up from the bottom of the rail.

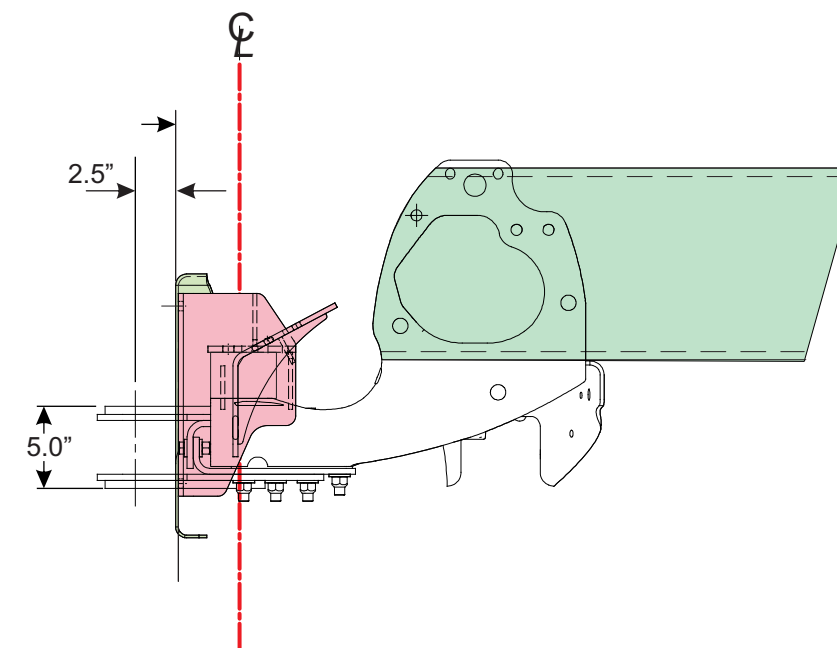
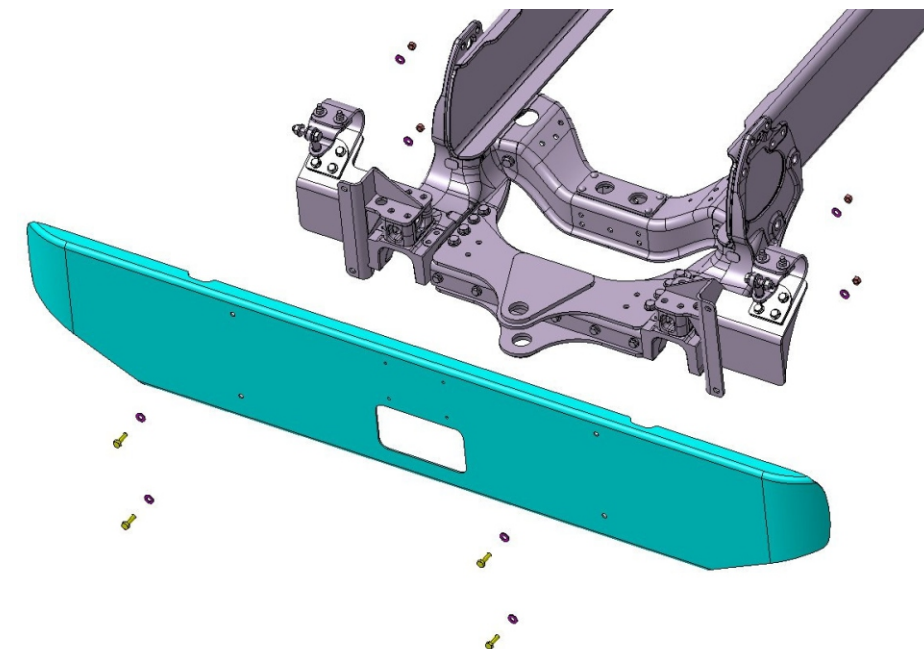
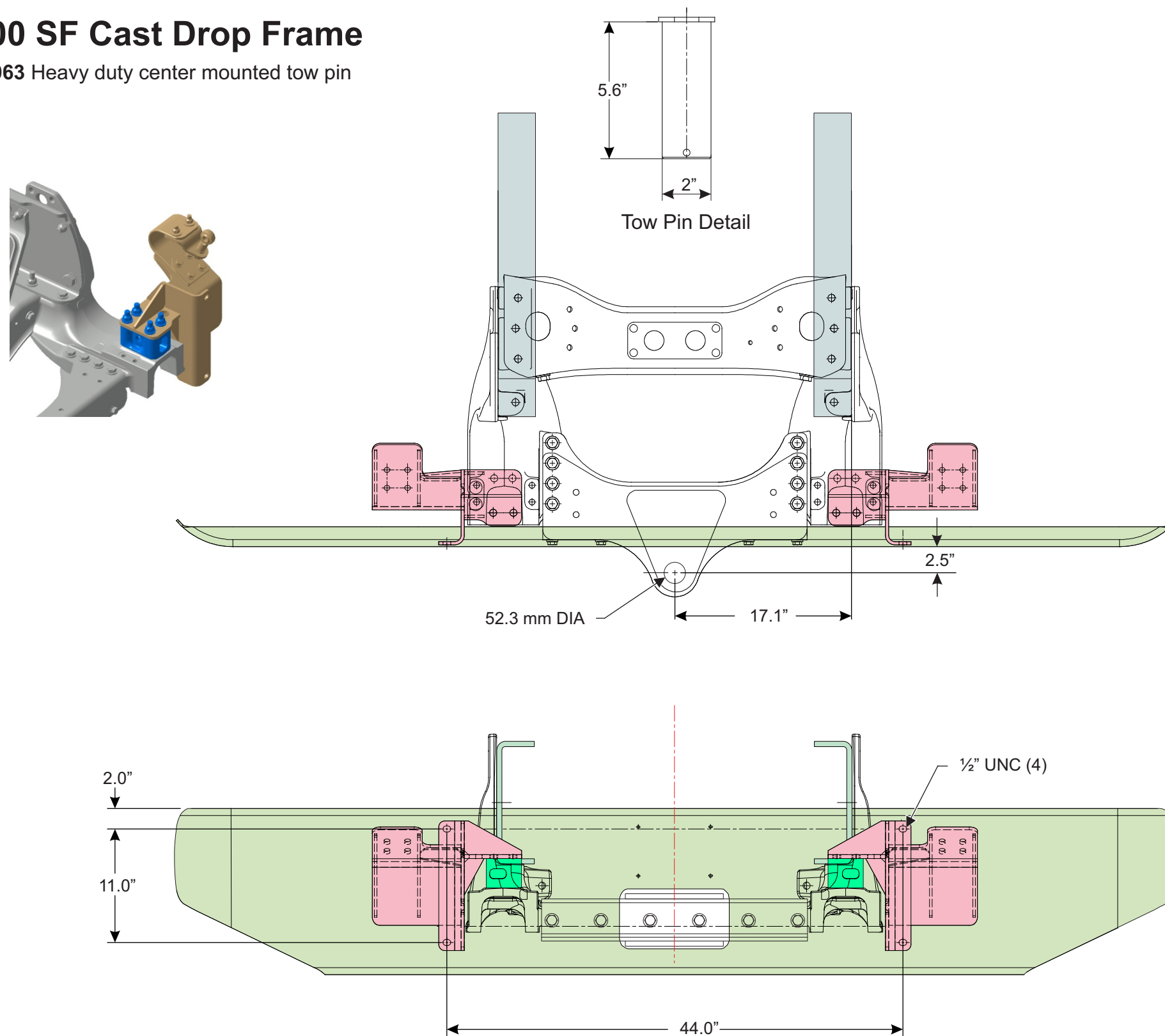


Western Star Bodybuilder Book: Revision 3.1

4700 Front Frame Options

4700 SF Cast Drop Frame

558-063 Heavy duty center mounted tow pin

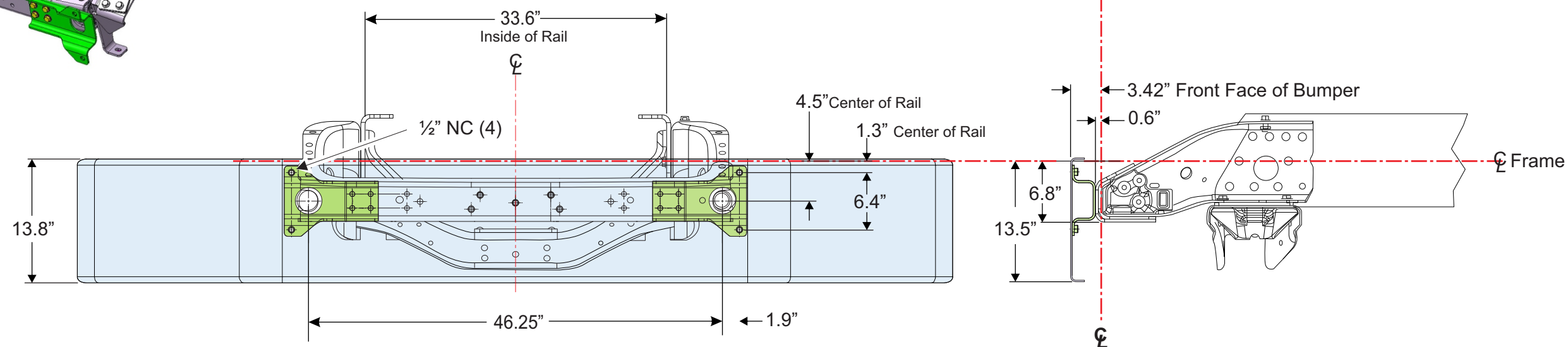
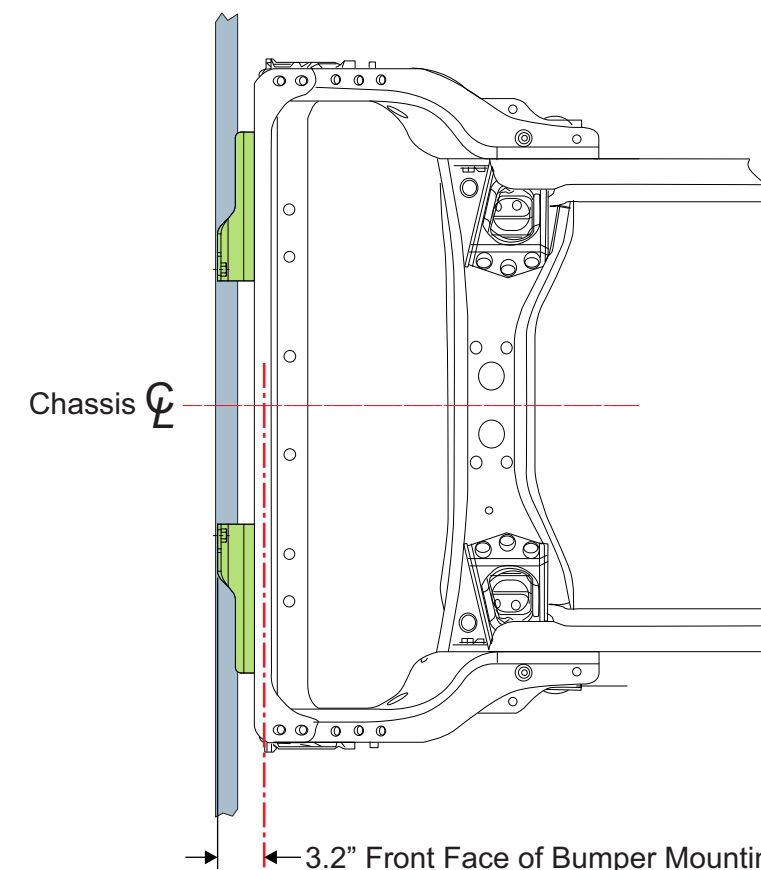
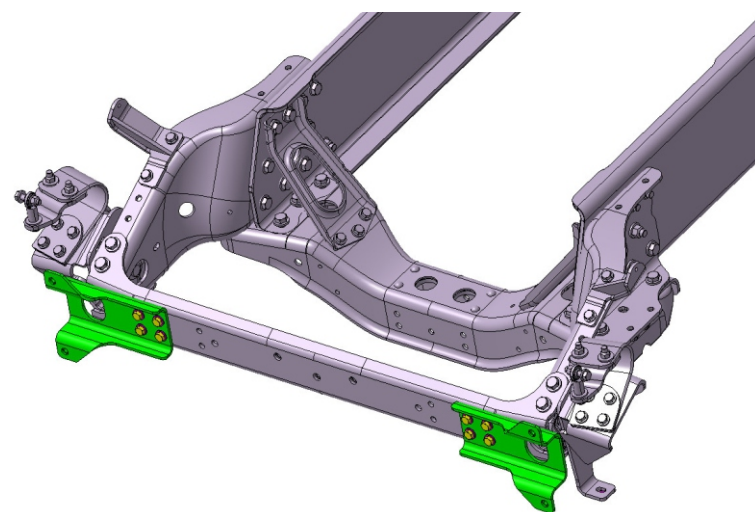
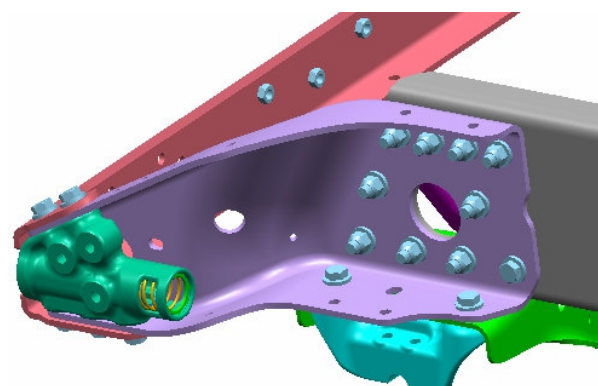
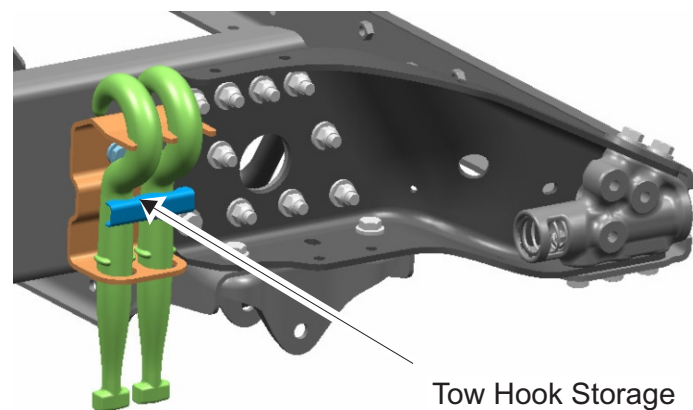


Western Star Bodybuilder Book: Revision 3.1

4700 Front Frame Options

4700 SB Stamped Front Frame

558-033 Removable front tow hooks stored on the chassis frame

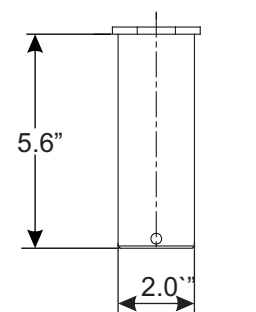
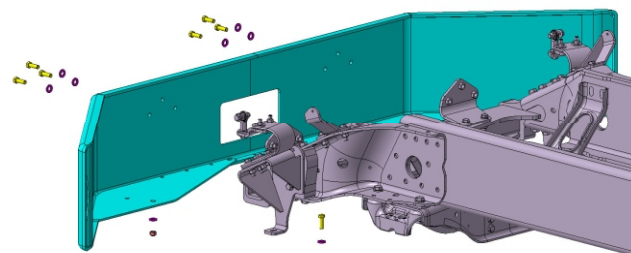
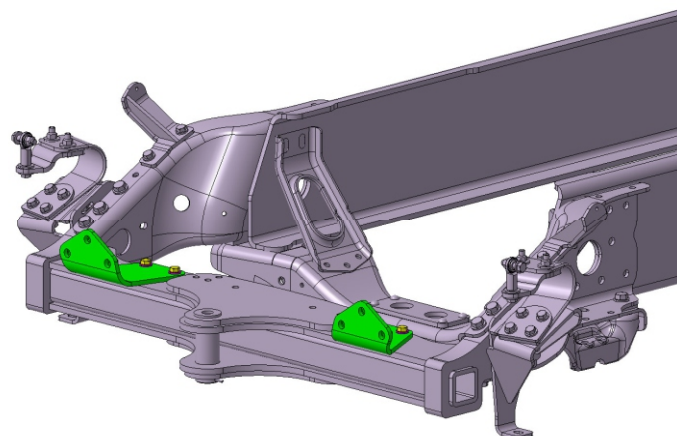


Western Star Bodybuilder Book: Revision 3.1

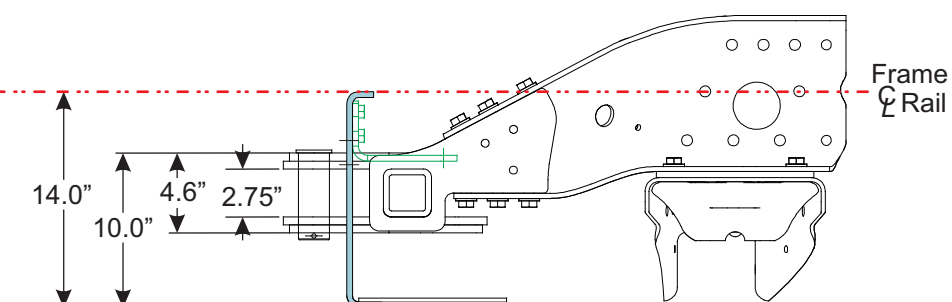
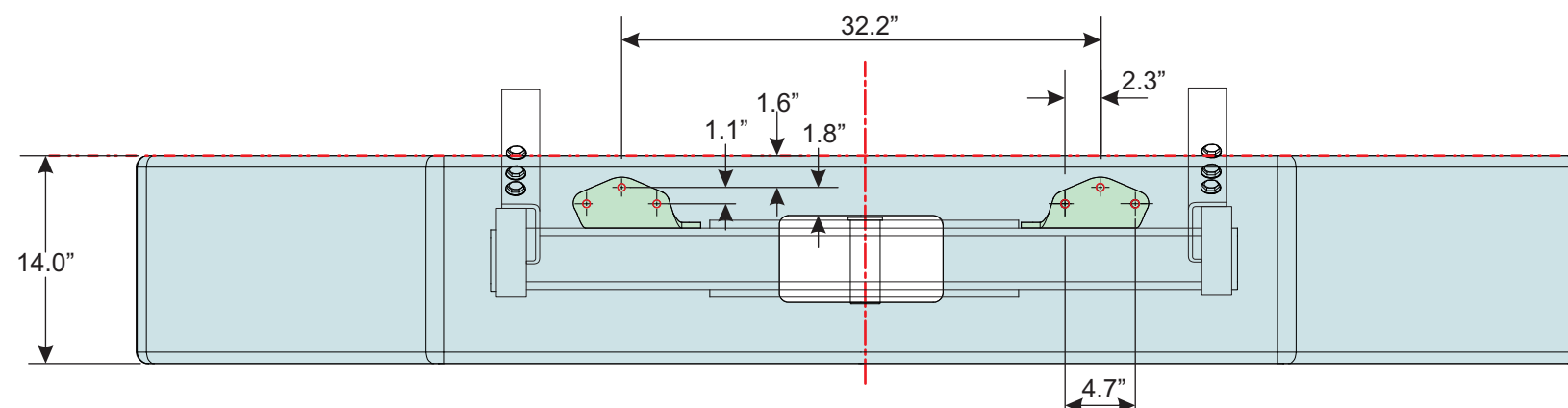
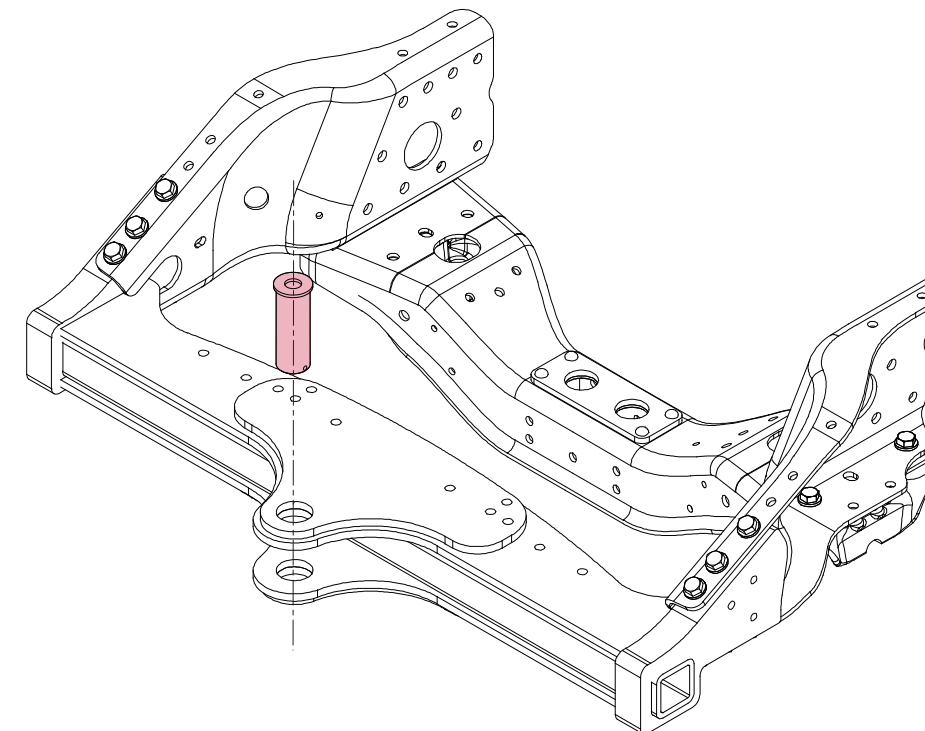
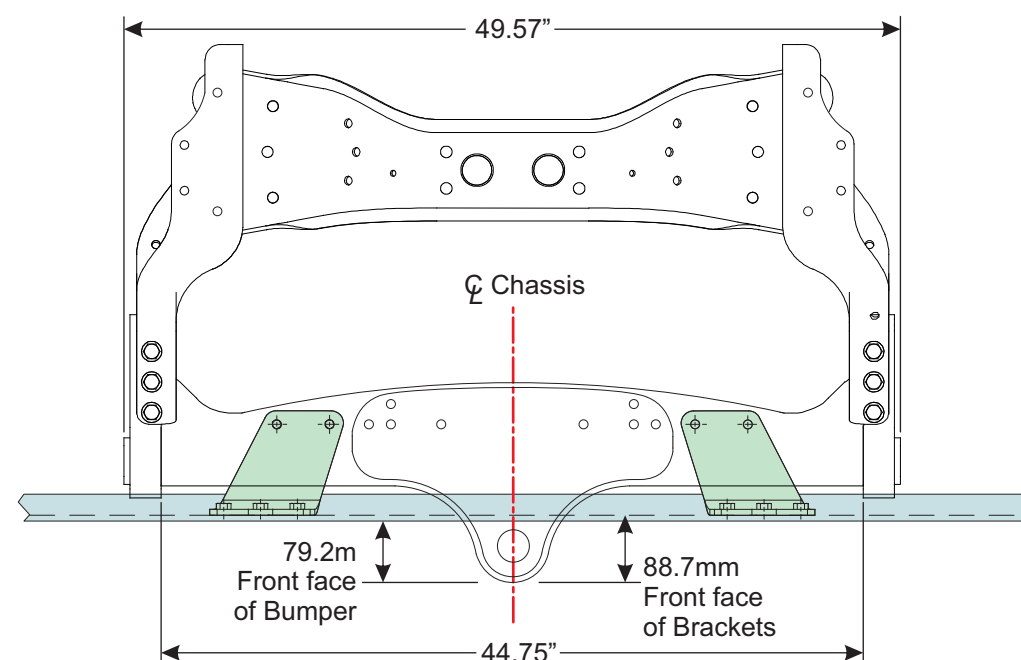
4700 Front Frame Options

4700 SB Bolt-on Front Frame

558-033 Heavy duty center mounted tow pin



Tow Pin Detail



Western Star Bodybuilder Book: Revision 3.1

4700 Front Frame Options

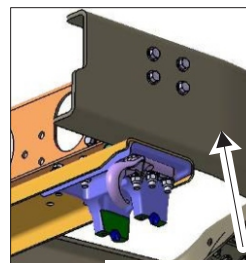
4700 SF/SB Front Frame Extensions

549-002 - 24" Integral front frame extension

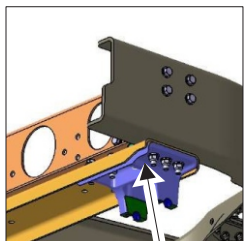
549-016 - 24" Integral front frame extension with 14" reinforcement

549-036 - 12" Integral front frame extension

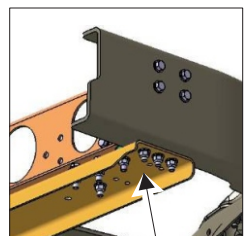
549-018 - 12" Integral front frame extension with 14" reinforcement



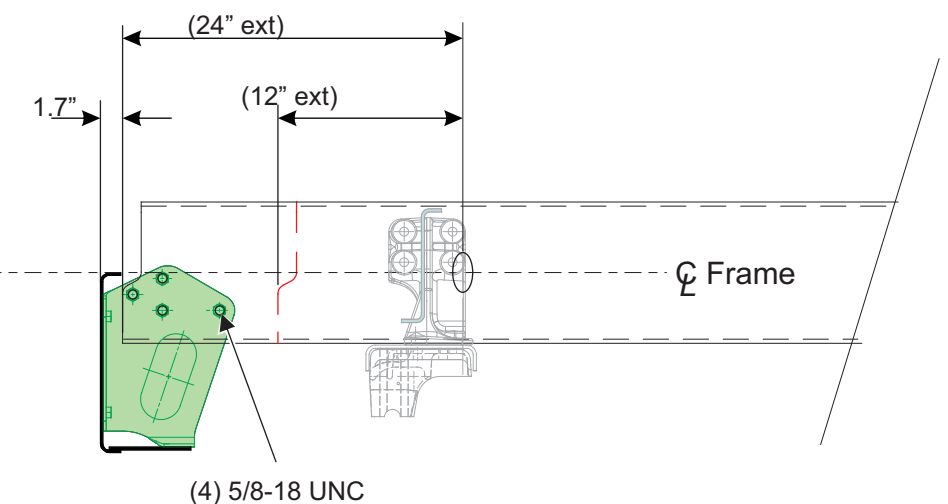
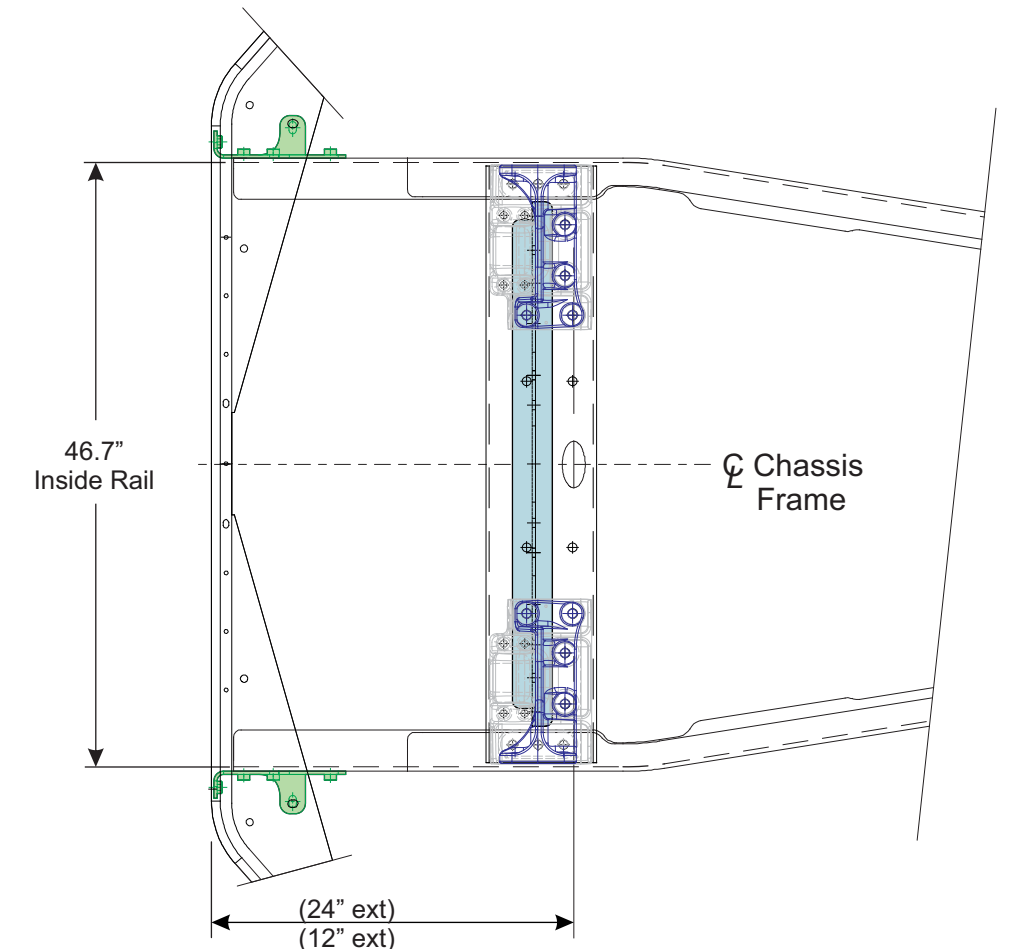
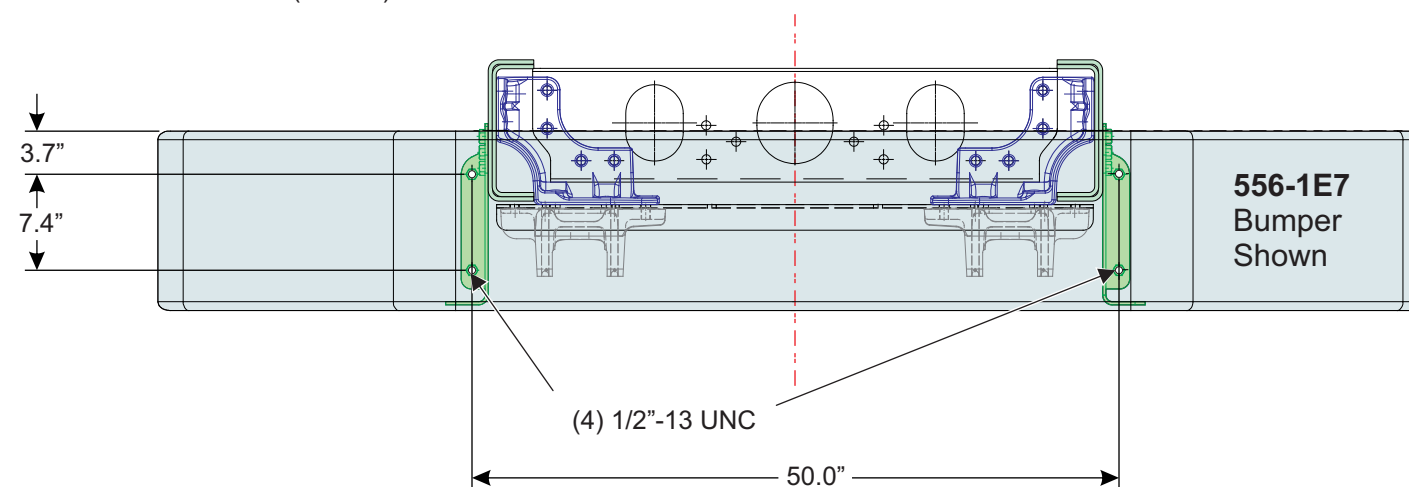
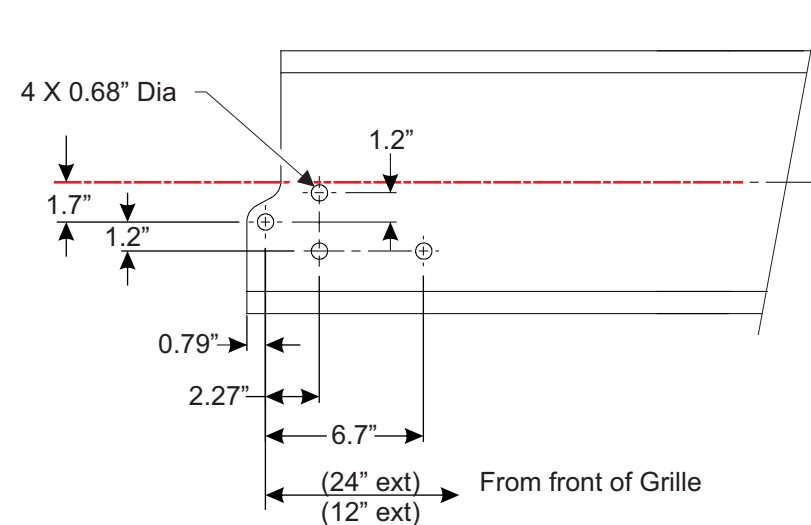
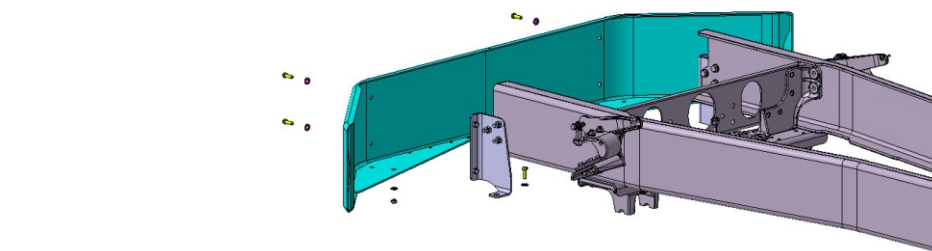
4700SF With
Brackets & Tow Hooks



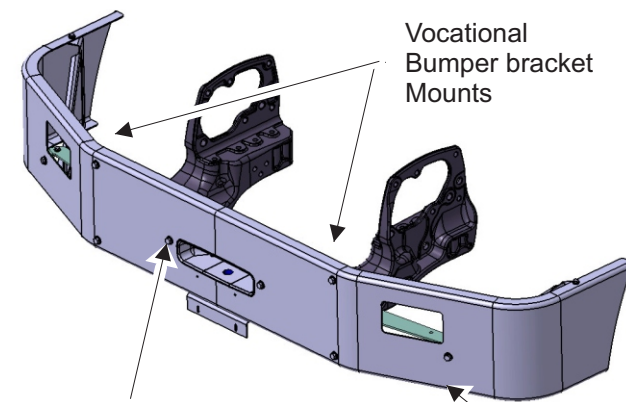
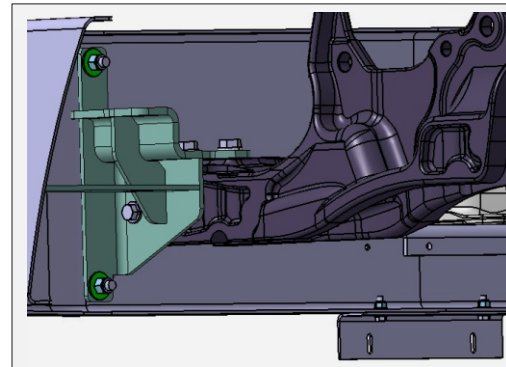
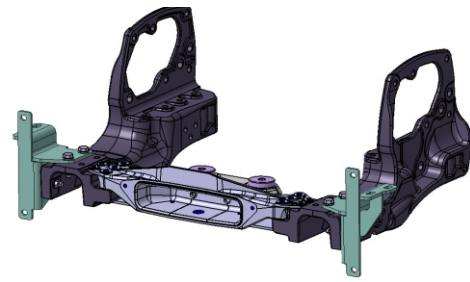
4700SF
With Brackets



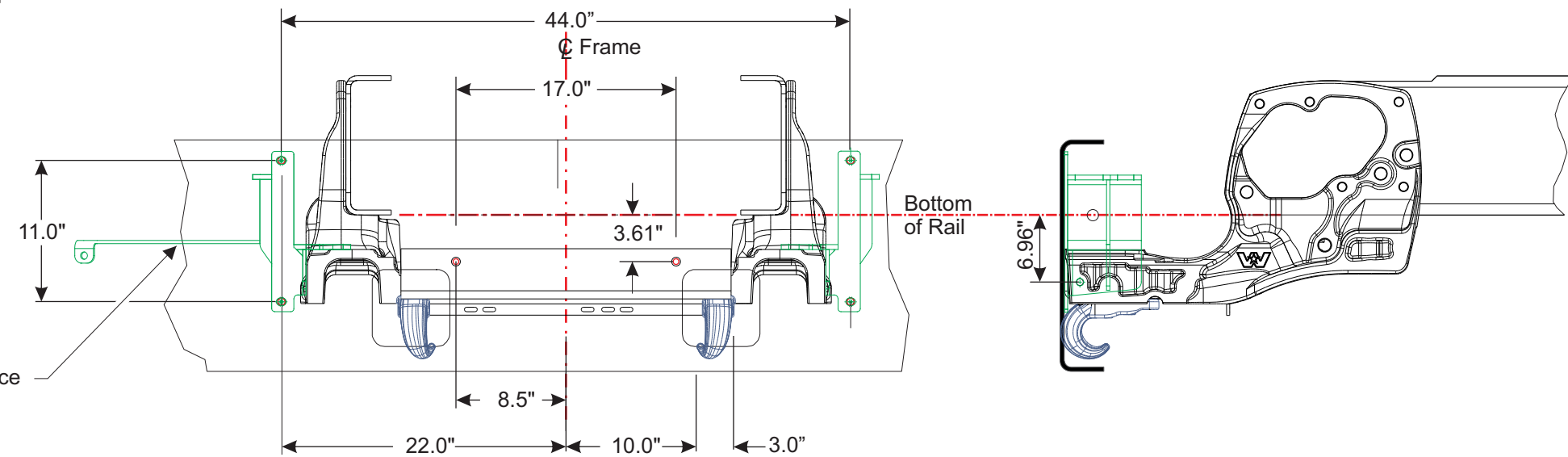
4700SB
No Brackets



SF/SB Drop Frame Non Logger



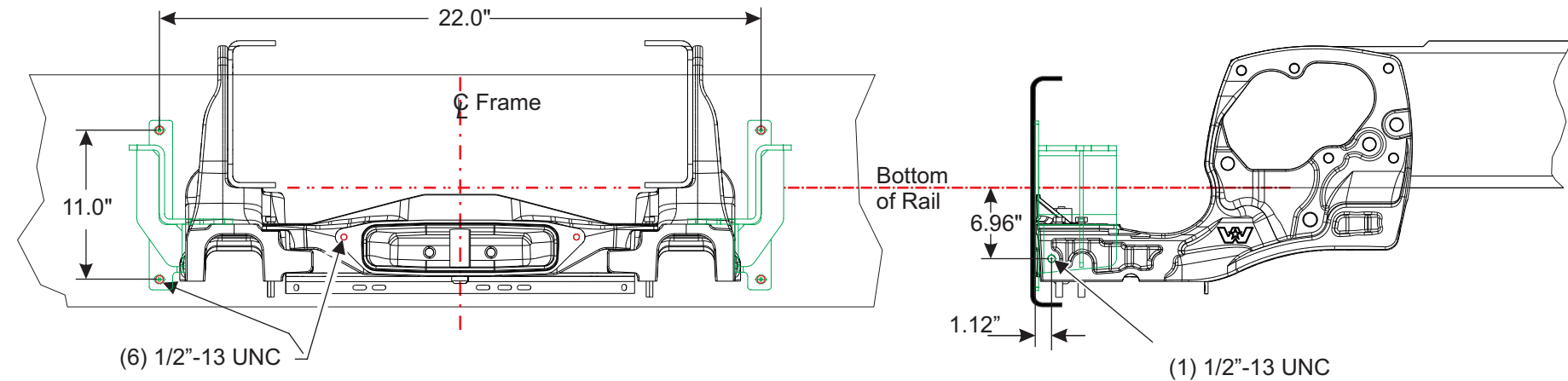
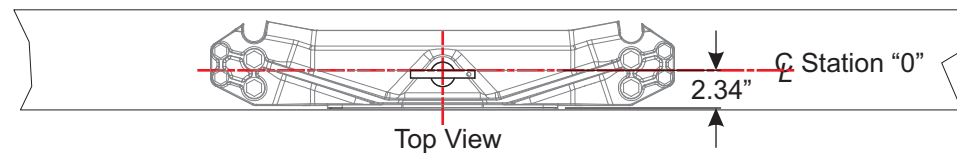
Swept Back Brace



Drop Cast Front Frame with or without Tow Hooks

558-998 No Front Tow Hooks

558-031 Front Tow Hooks - Flange Mounted



Drop Cast with std Bumper and tow pin
558-026 Non Removable Centered Front Tow Pin

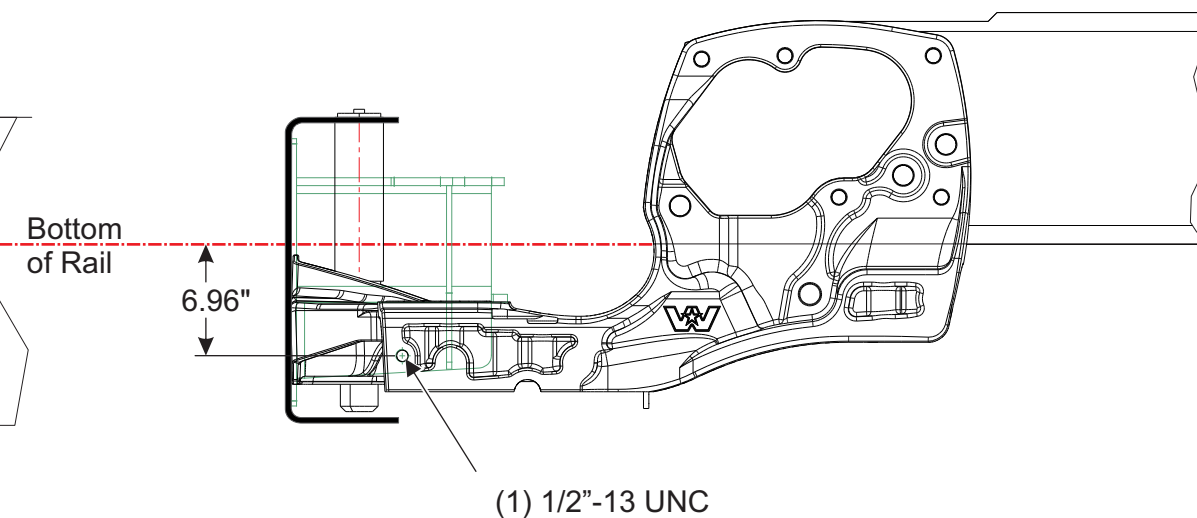
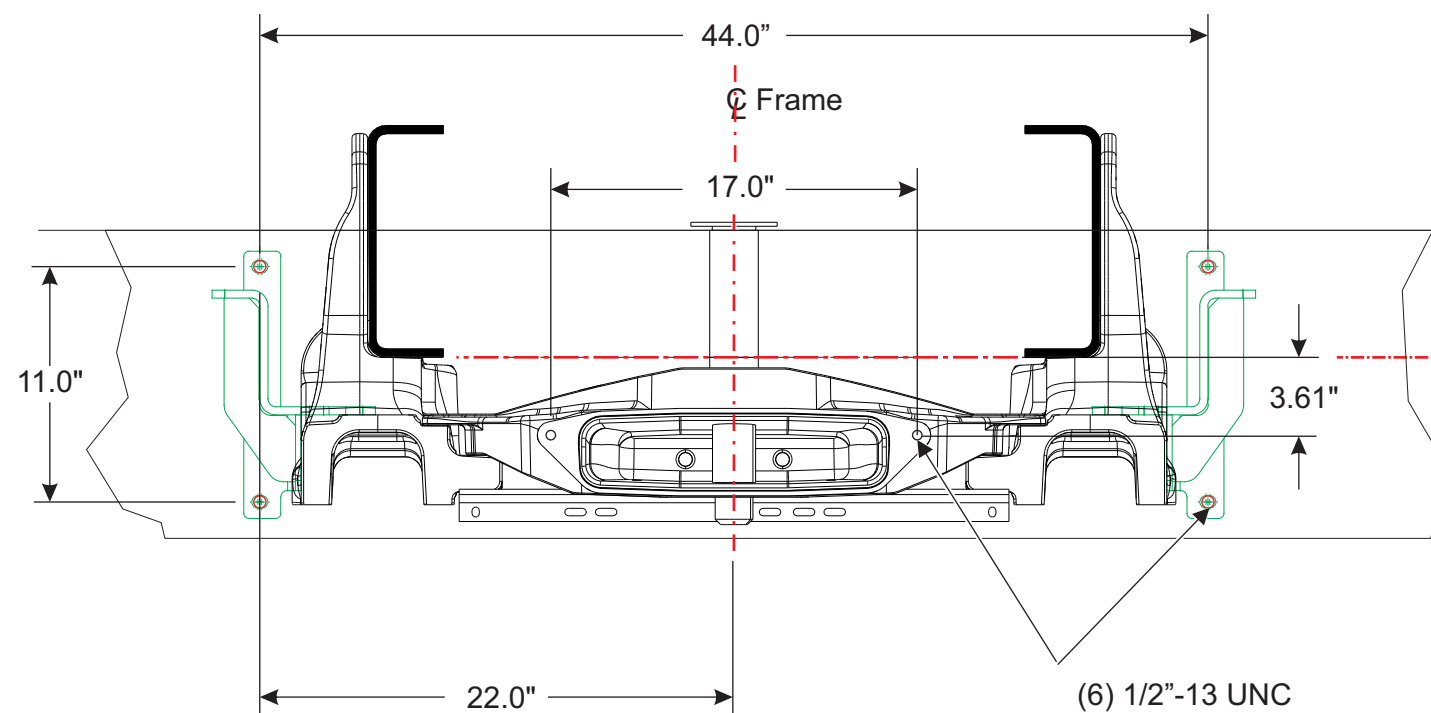
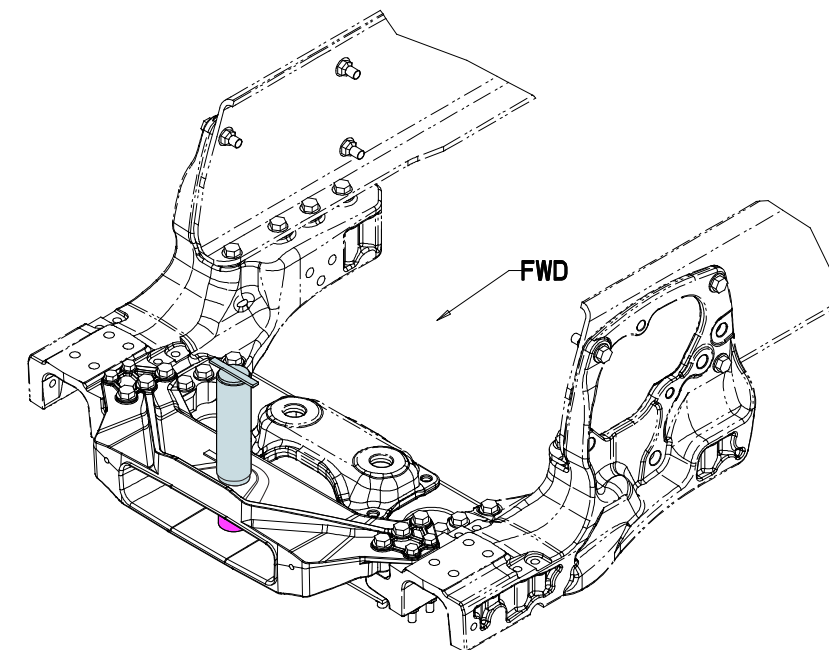
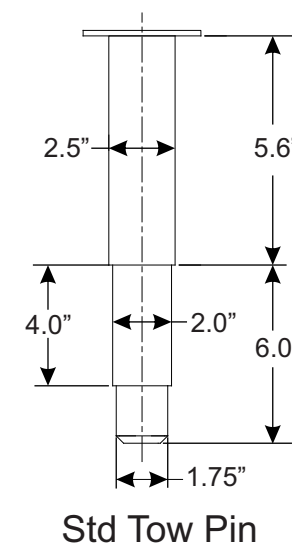
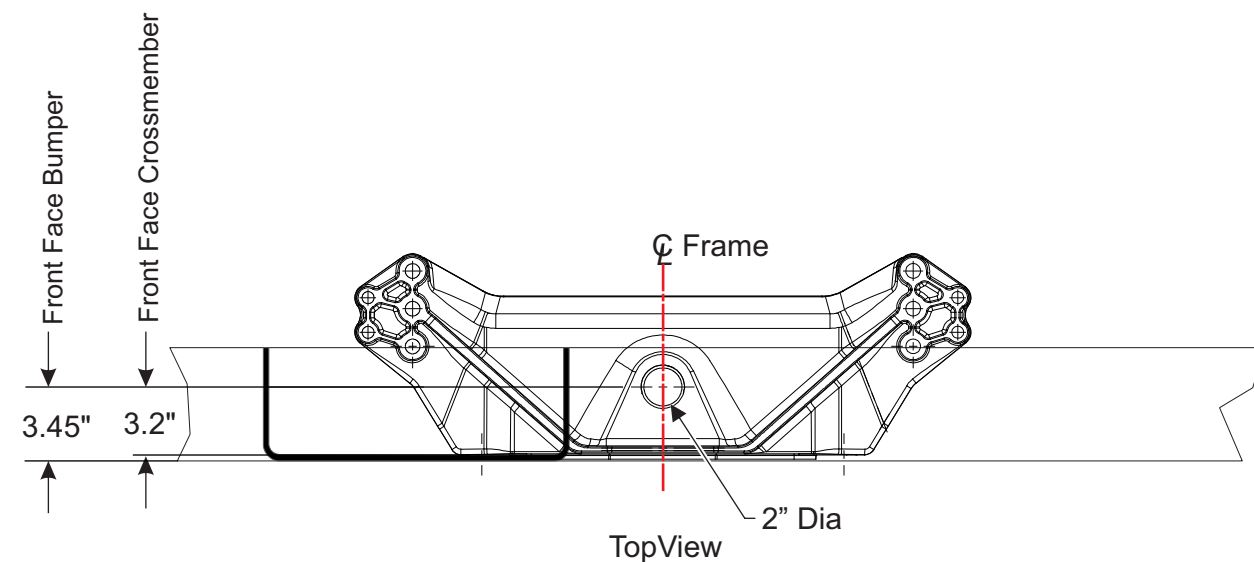
Front Crossmember Mounting Points

- Additional mount for swept back Mounting

Western Star Bodybuilder Book: Revision 3.1

4800/4900/6900 Front Frame Options

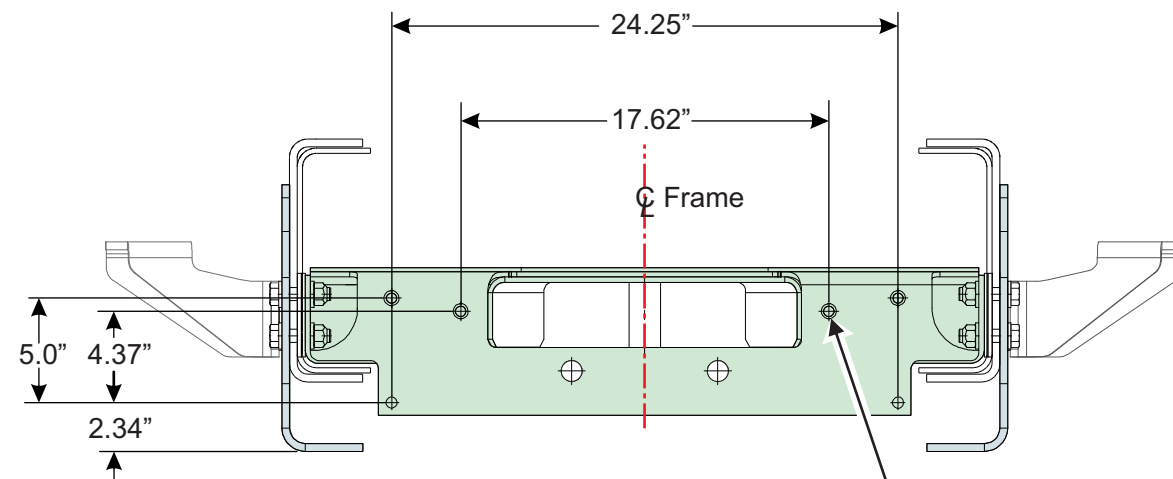
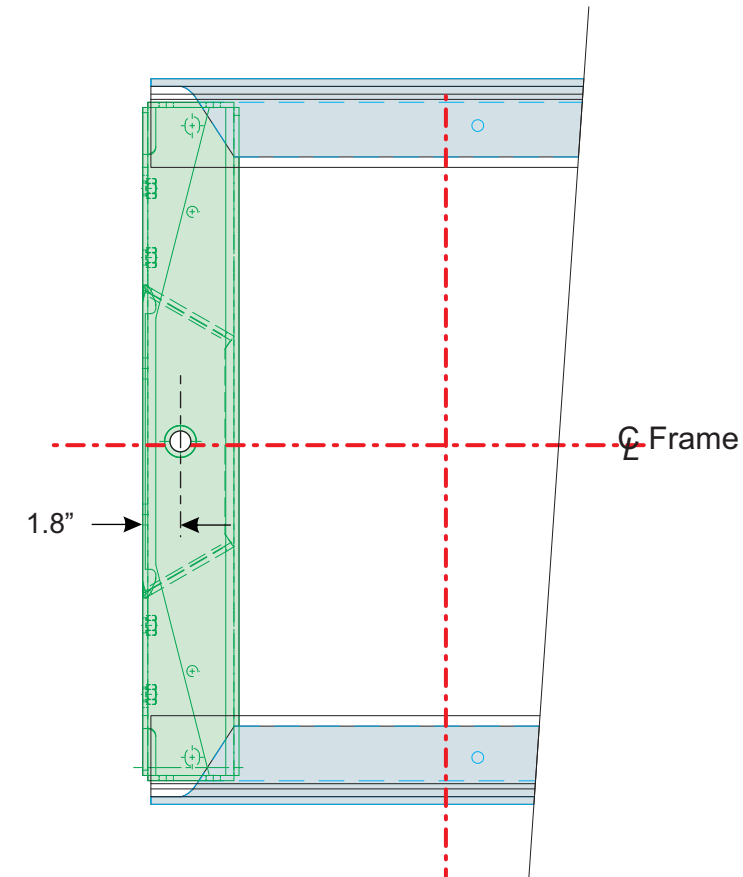
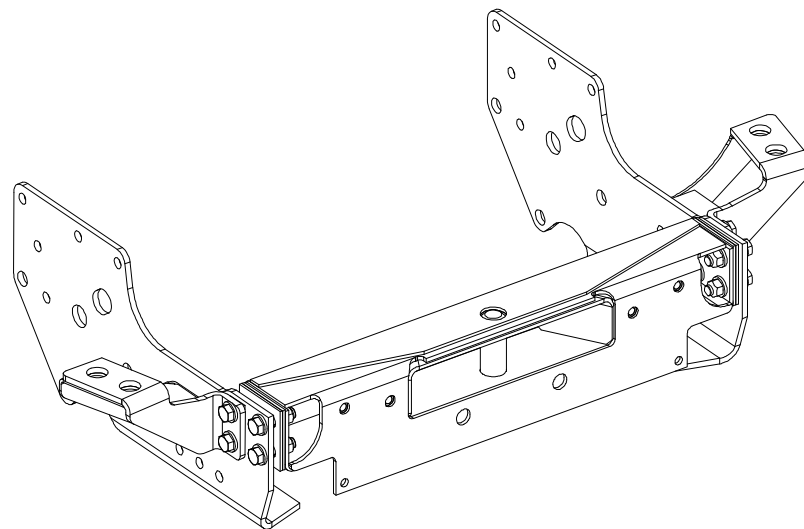
4800/4900 SF/SB - Drop Cast Logger Bumper & Flush Mount Tow Pin



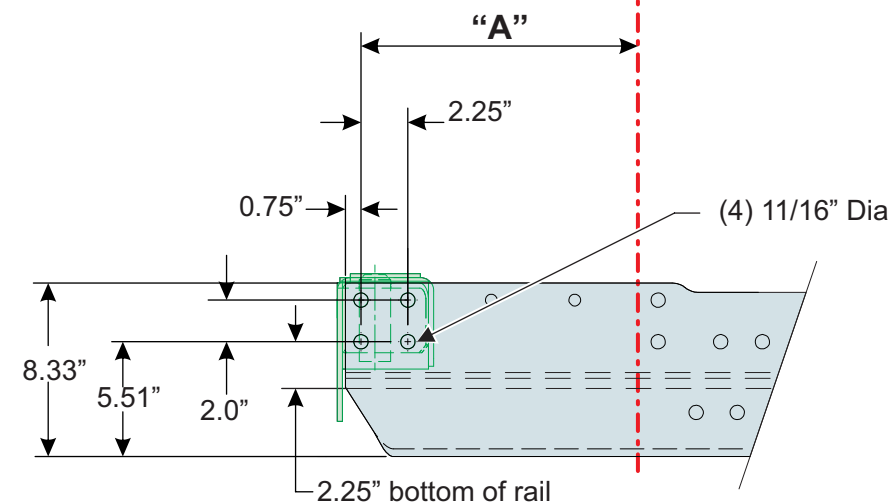


4800/4900 Non Logger Front Frame Extensions

Frame Extensions 12" and Under



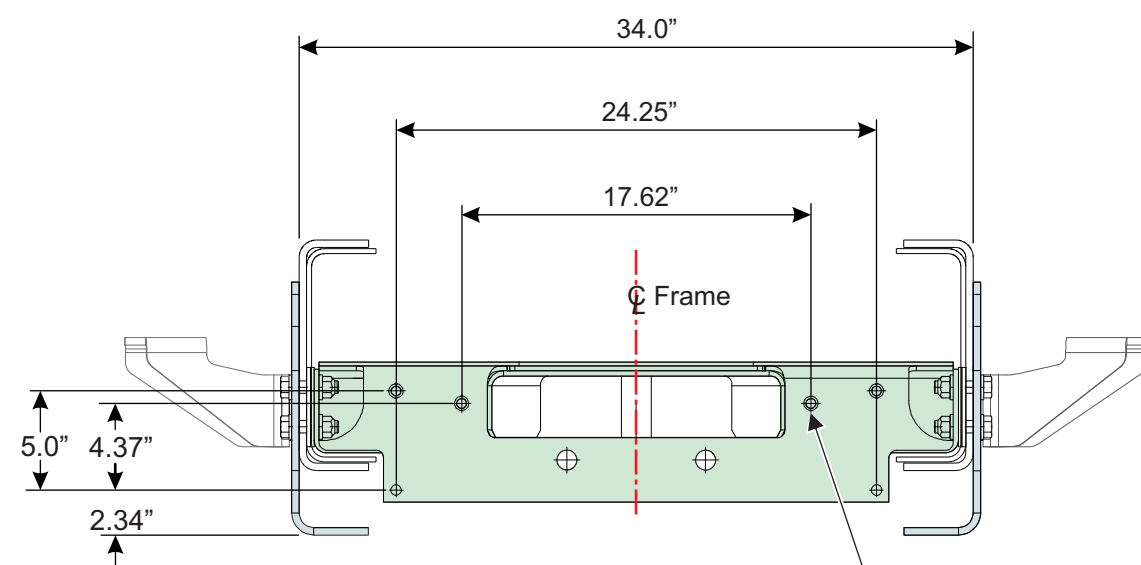
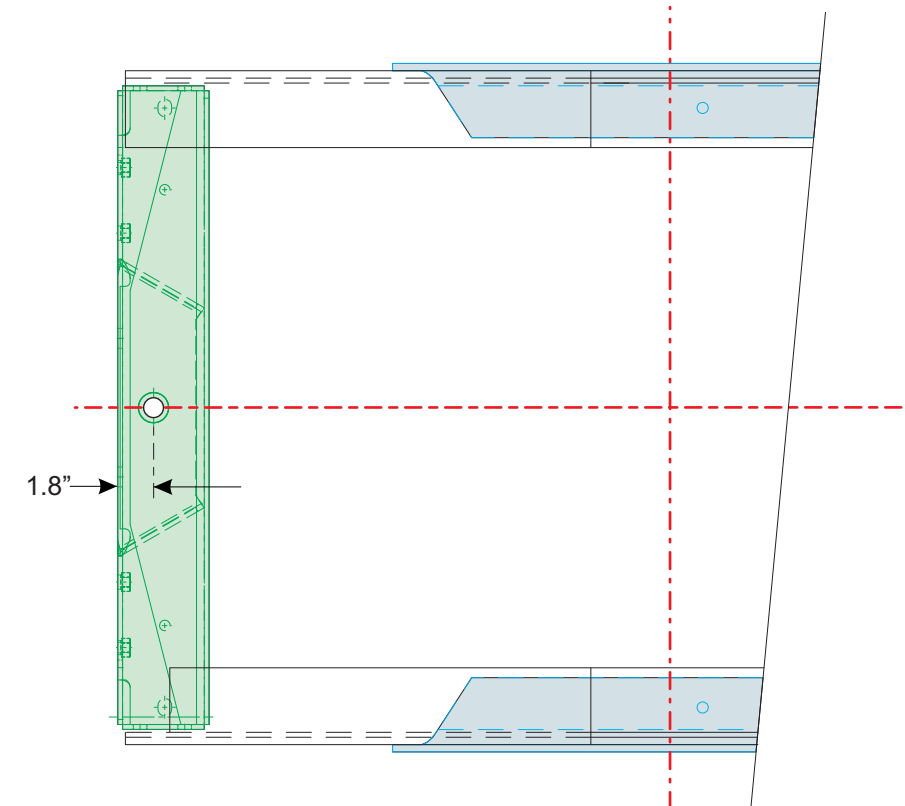
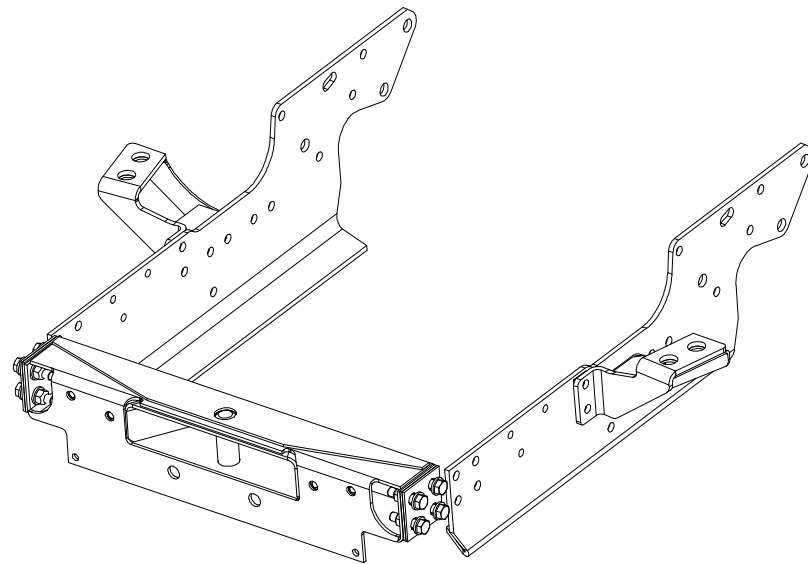
(6) 1/2"-13 UNC



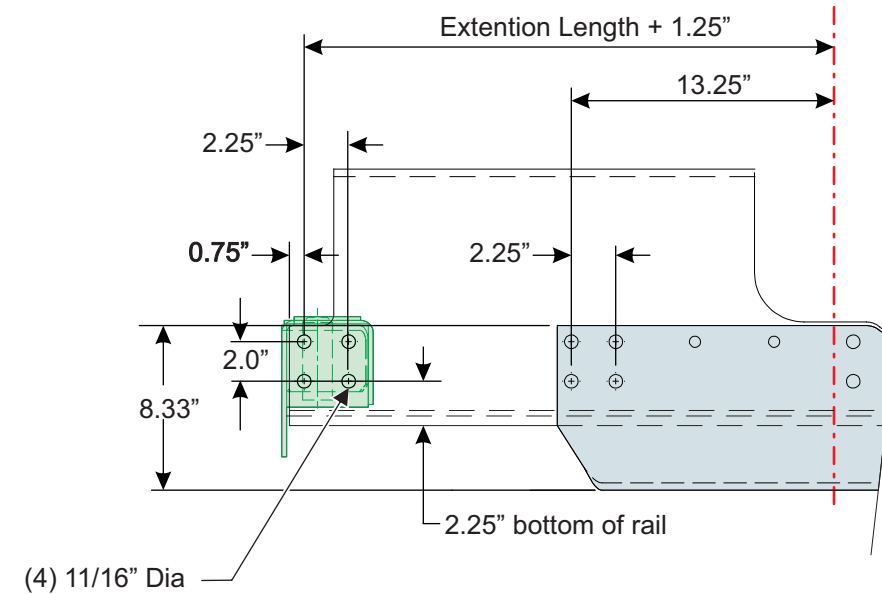
Mod 549 Extension	"A"
Std 2" Ext	13.25"
8" Ext	9.25"
12" Ext	1.25"

4800/4900 Non Logger Front Frame Extensions

Frame Extensions Over 12"



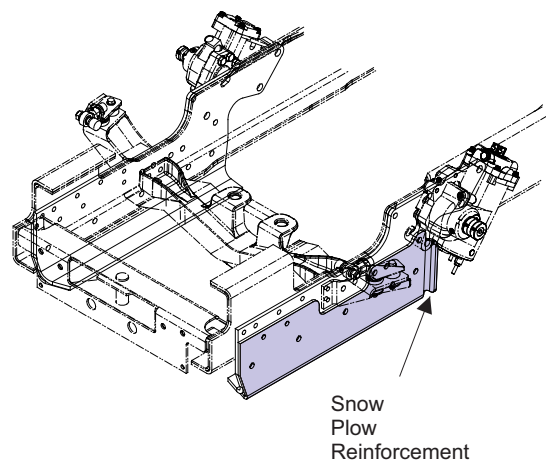
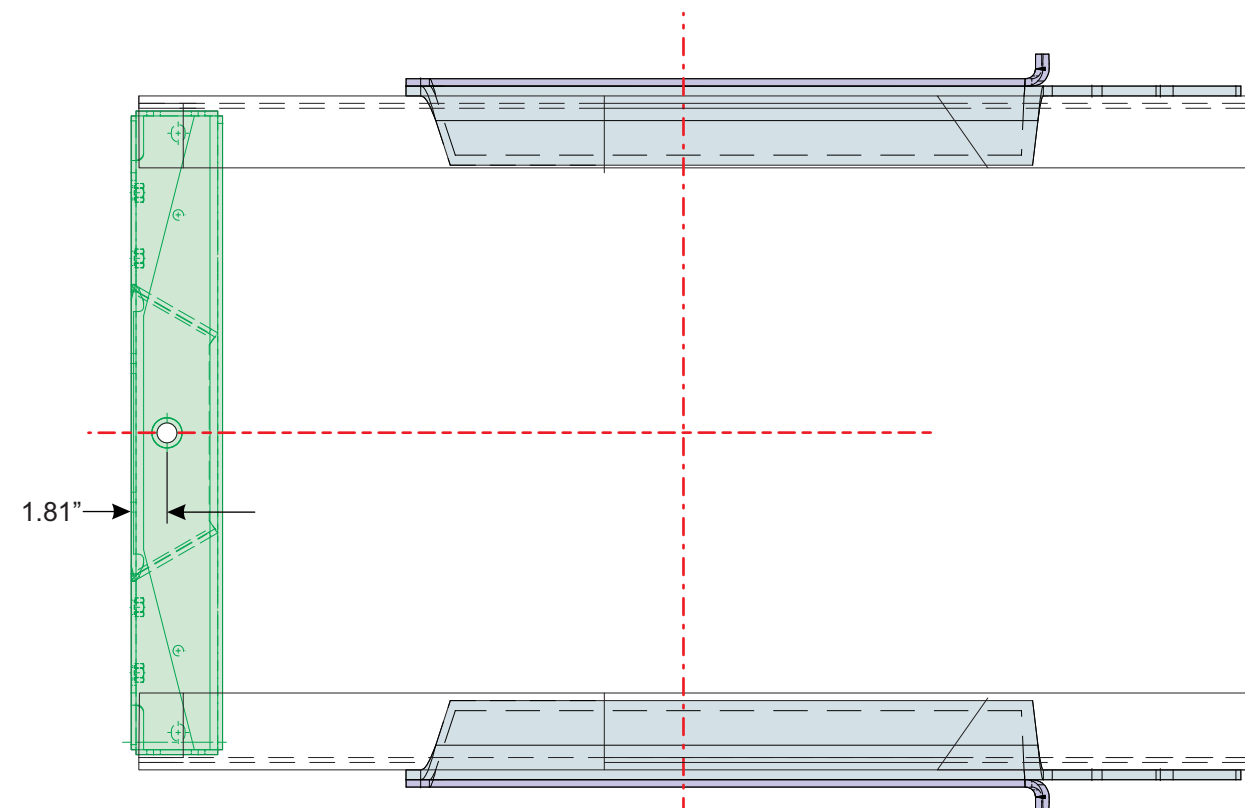
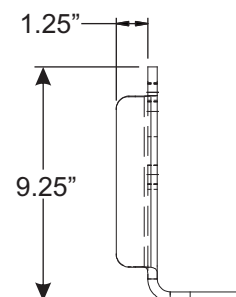
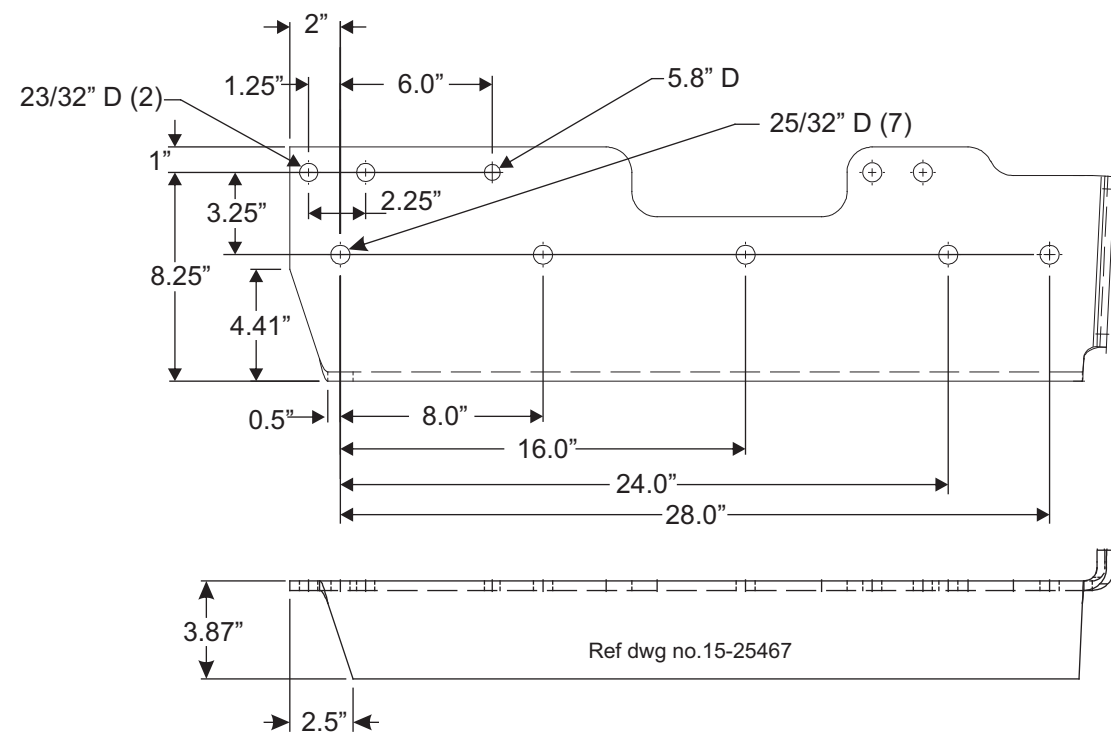
(6) 1/2"-13 UNC



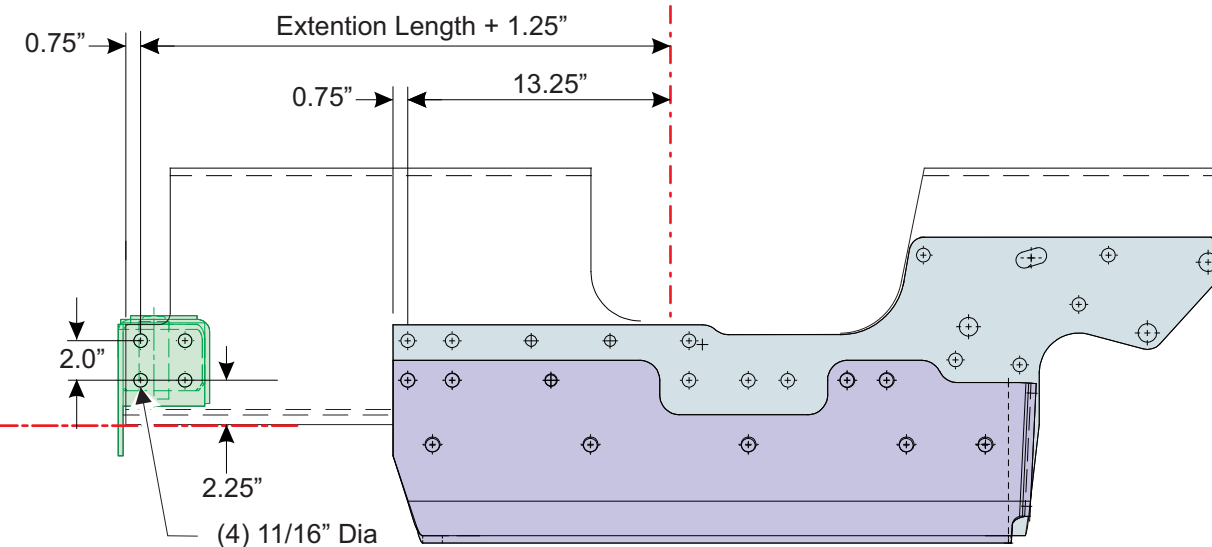
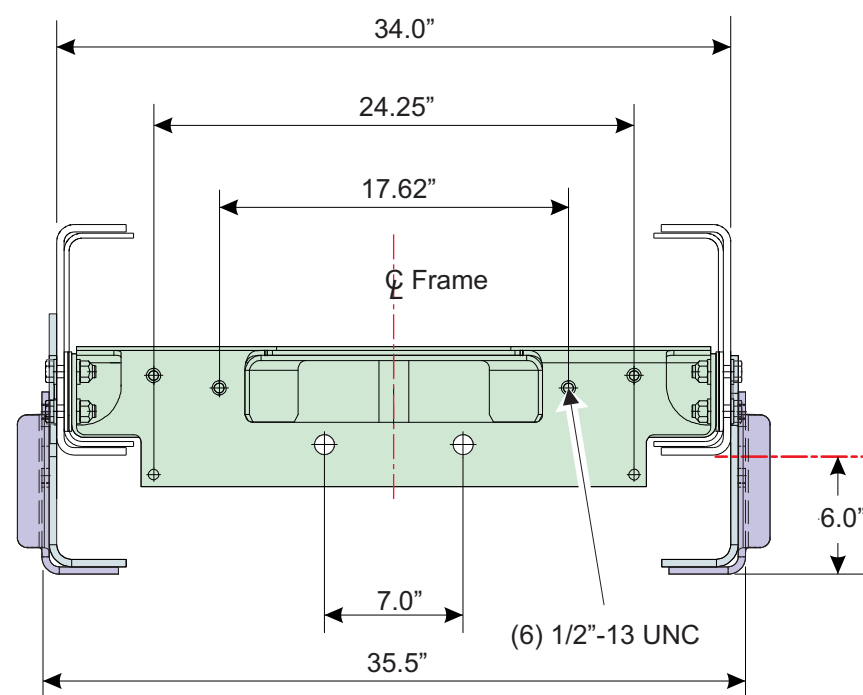
(4) 11/16" Dia



48/4900 SB Snow Plow Reinforcement 605-043



Snow Plow Reinforcement

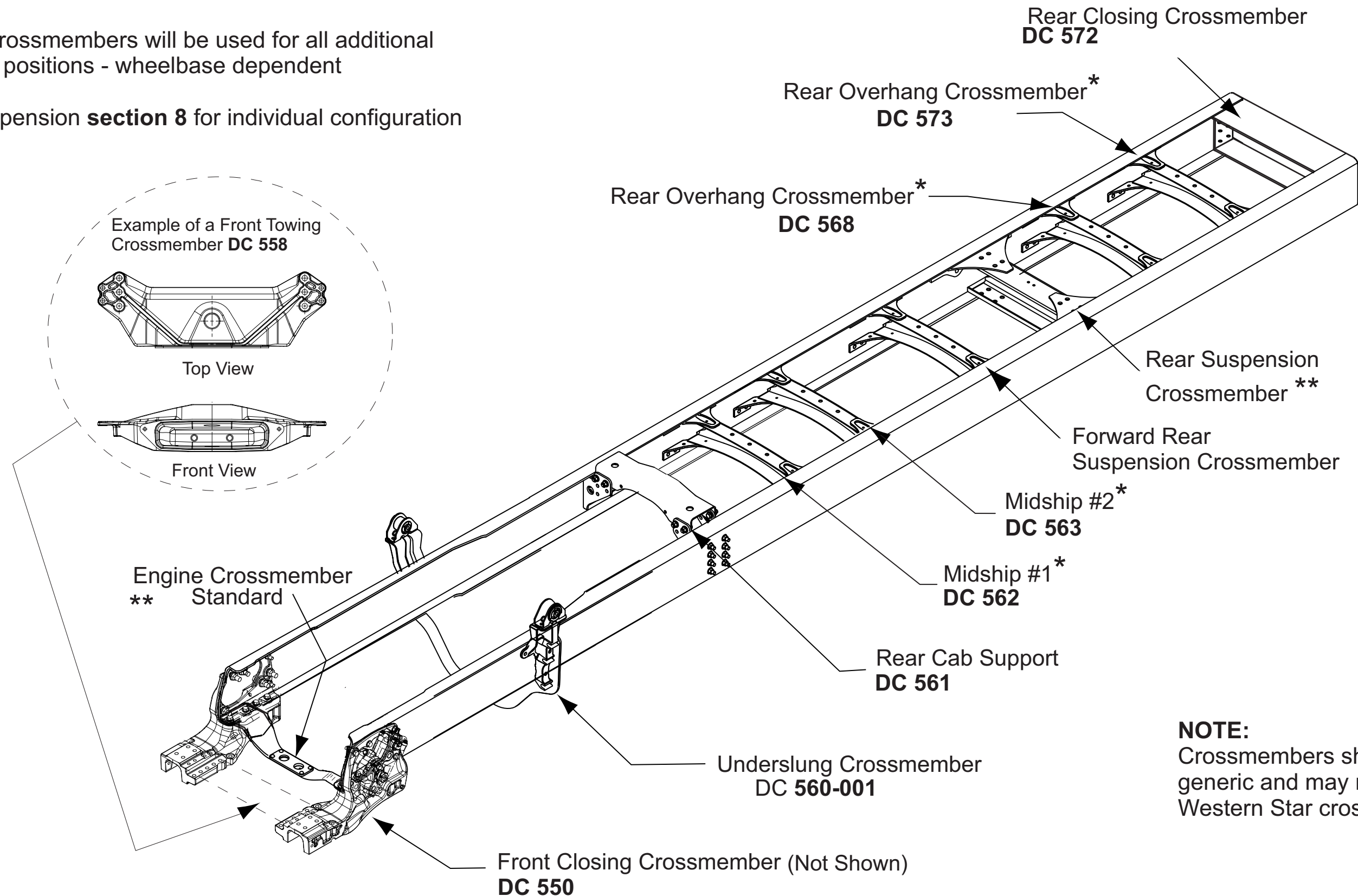


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All Models Basic Crossmember Layout

* Same crossmembers will be used for all additional Midship positions - wheelbase dependent

** See suspension **section 8** for individual configuration



NOTE:
Crossmembers shown are generic and may not represent Western Star crossmembers.



Western Star Bodybuilder Book: Revision 3.1

Midship Crossmembers

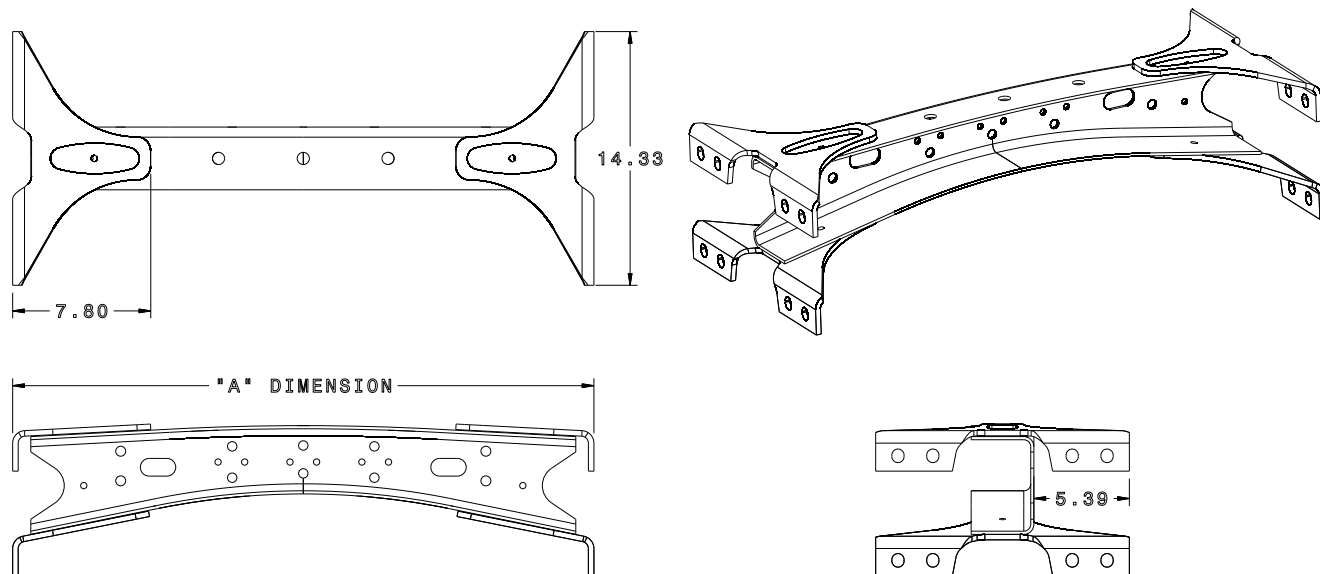
3

P. 3-22

4700 SF/SB

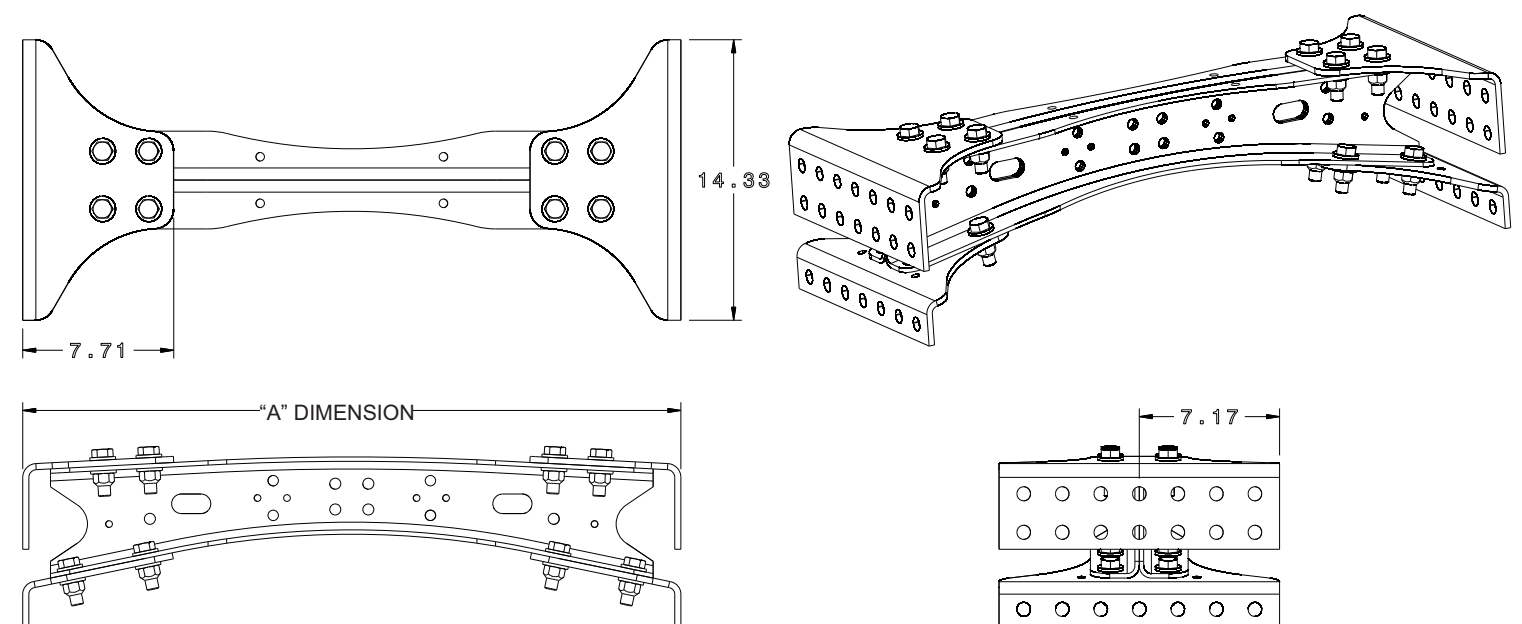
Crossmember ordered using 562-*** sales code will be used for all chassis midship crossmembers (562, 563, 568, 573). See page 3-12 for reference.

"A" Dimension dependant on frame rail configuration. See "Frame Rail Combination Chart" on page 3-10 for crossmember width.

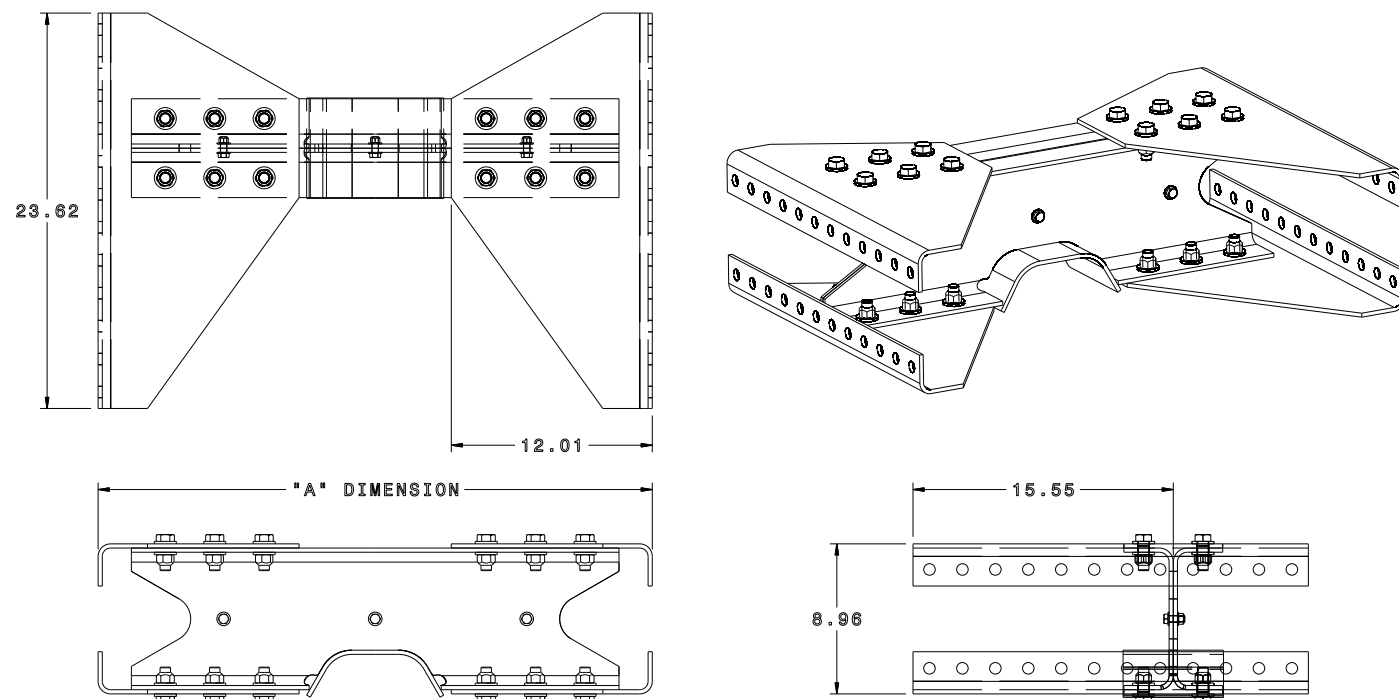


562-001 STANDARD MIDSHIP CROSSMEMBER

562-053 STANDARD MIDSHIP CROSSMEMBER, NO CROSSMEMBERS FROM BACK OF CAB TO 42 INCHES BACK OF CAB



562-041 HEAVY DUTY STEEL 6 PIECE BOLTED CONSTRUCTION MIDSHIP CROSSMEMBER



562-004 SNOWPLOW STEEL C-CHANNEL MIDSHIP CROSSMEMBER



Western Star Bodybuilder Book: Revision 3.1

Midship Crossmembers

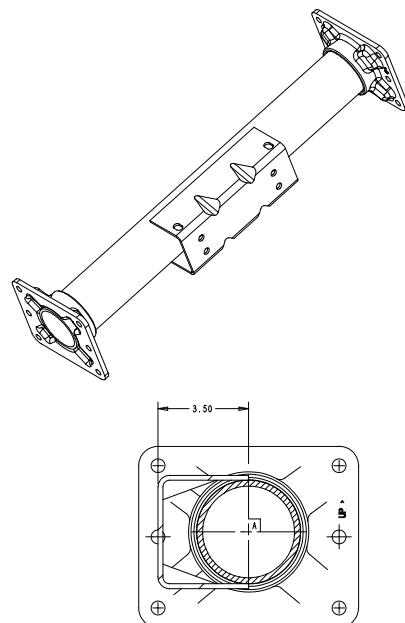
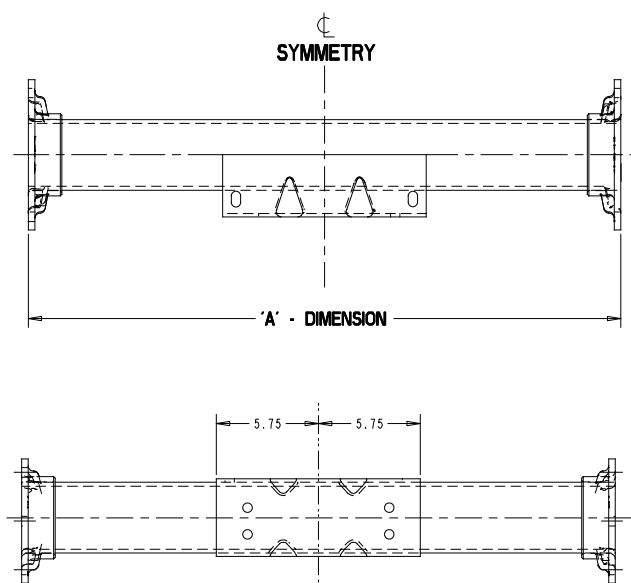
3

P. 3-23

4800/4900/6900 SF/SB

Crossmember ordered using 562-*** sales code will be used for all chassis midship crossmembers (562, 563, 568, 573). See page 3-12 for reference.

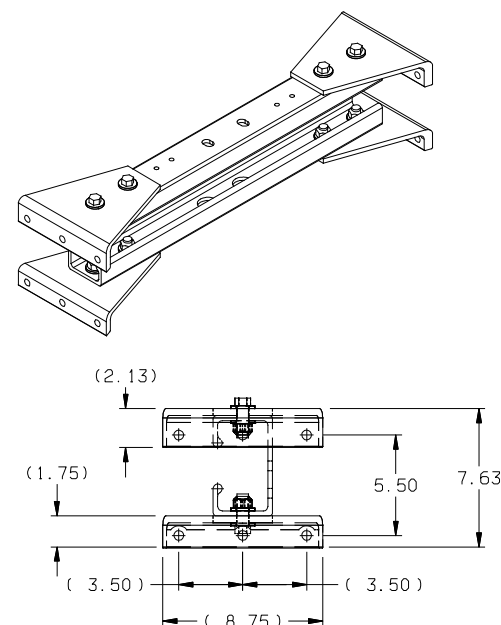
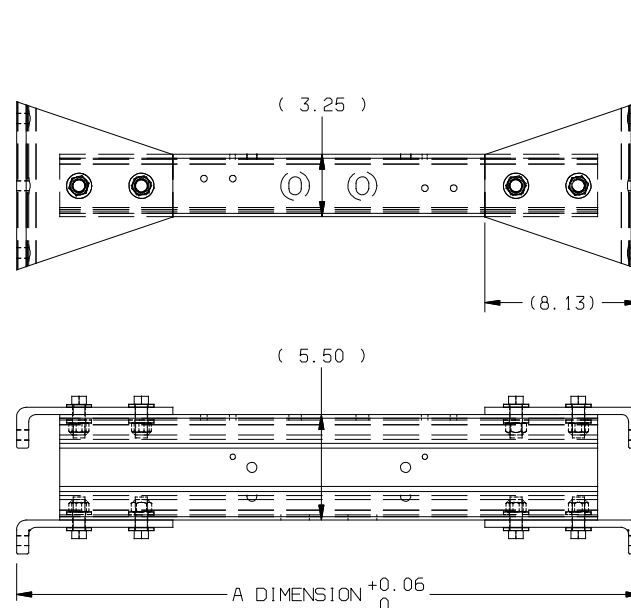
"A" Dimension dependant on frame rail configuration. See "Frame Rail Combination Chart" on page 3-10 for crossmember width.



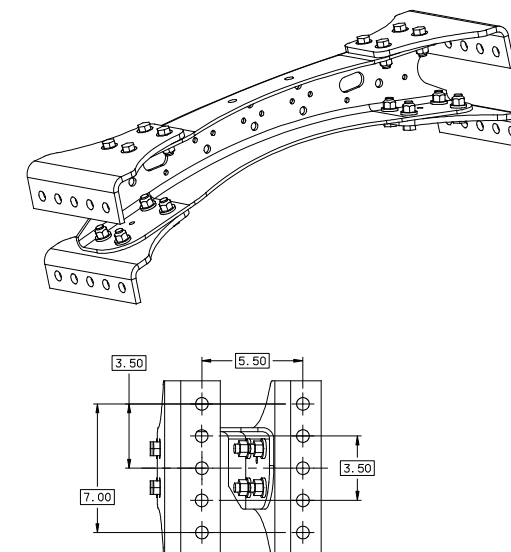
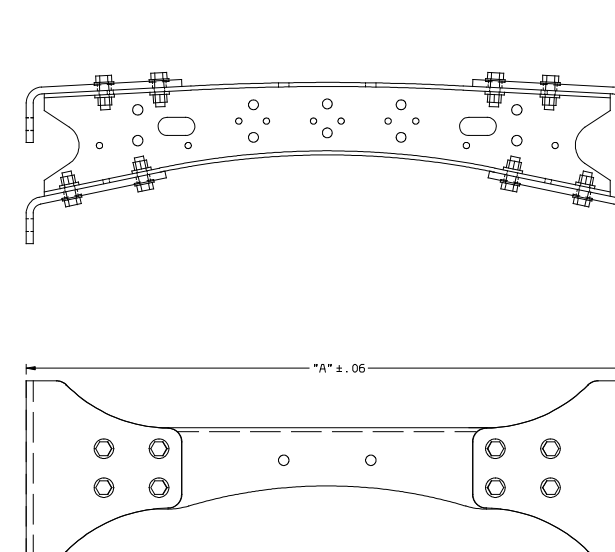
562-008 TUBULAR MIDSHIP CROSSMEMBER

562-014 HEAVY DUTY TUBULAR STEEL MIDSHIP CROSSMEMBER

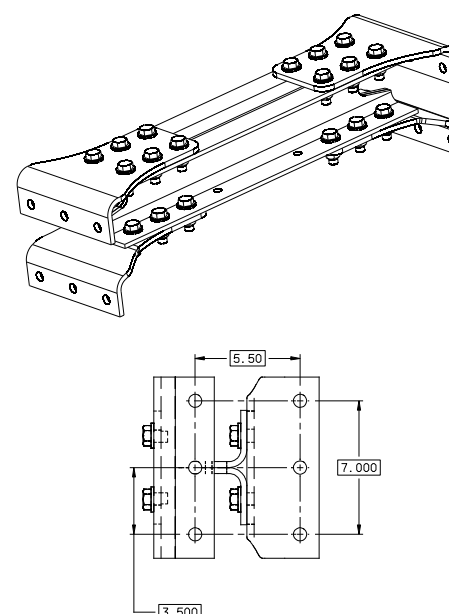
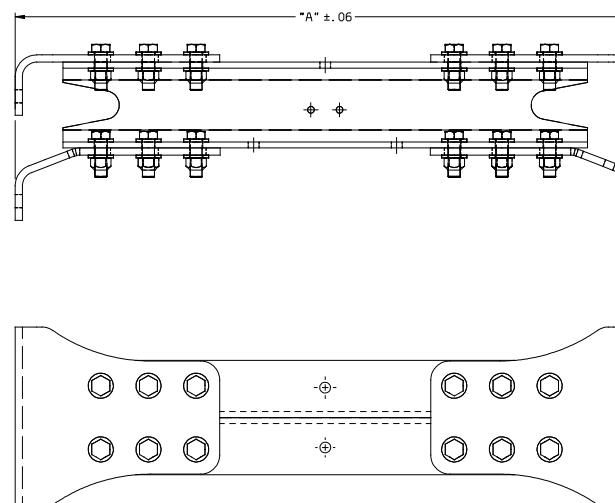
562-017 EXTRA HEAVY DUTY TUBULAR STEEL MIDSHIP CROSSMEMBER



562-013 EXTRUDED ALUMINUM MIDSHIP CROSSMEMBER



562-022 EXTRA HEAVY DUTY STEEL C-CHANNEL BOLTED CONSTRUCTION MIDSHIP CROSSMEMBER



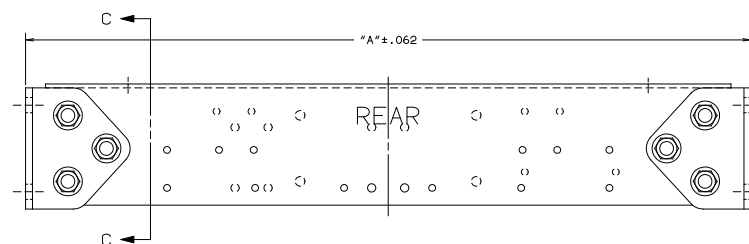
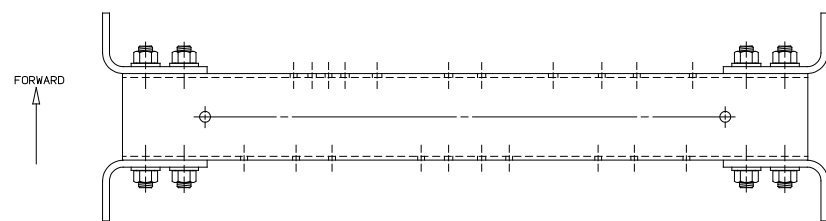
562-025 EXTREME DUTY STEEL C-CHANNEL BOLTED CONSTRUCTION MIDSHIP CROSSMEMBER

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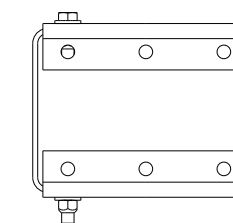
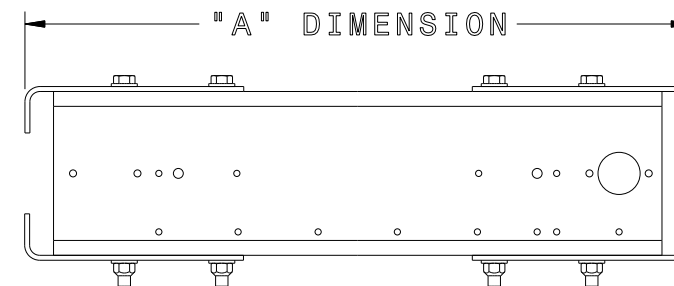
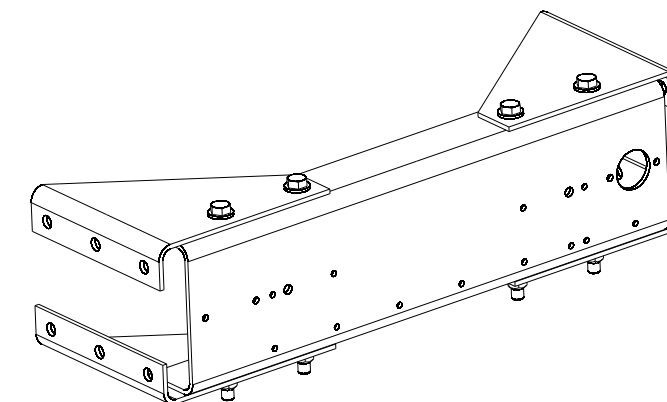
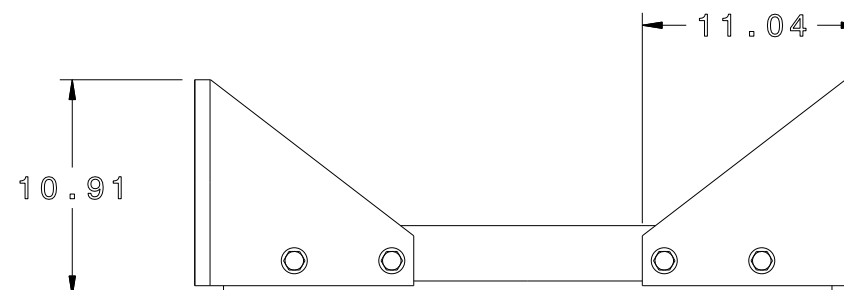
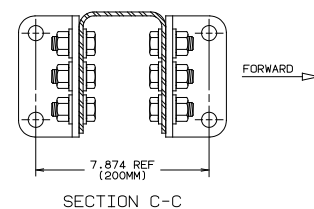
End of Frame Crossmembers

4700 SF/SB Standard Rear Crossmembers

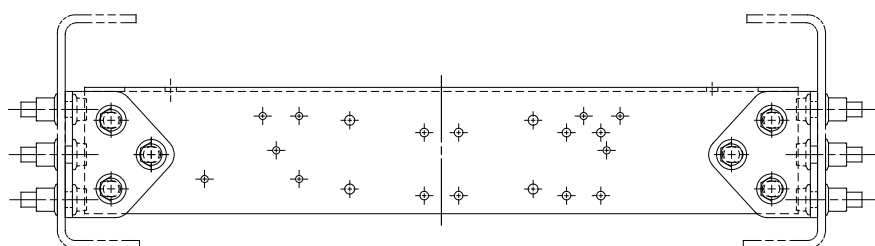
"A" Dimension dependant on frame rail configuration. See "Frame Rail Combination Chart" on page 3-10 for crossmember width.



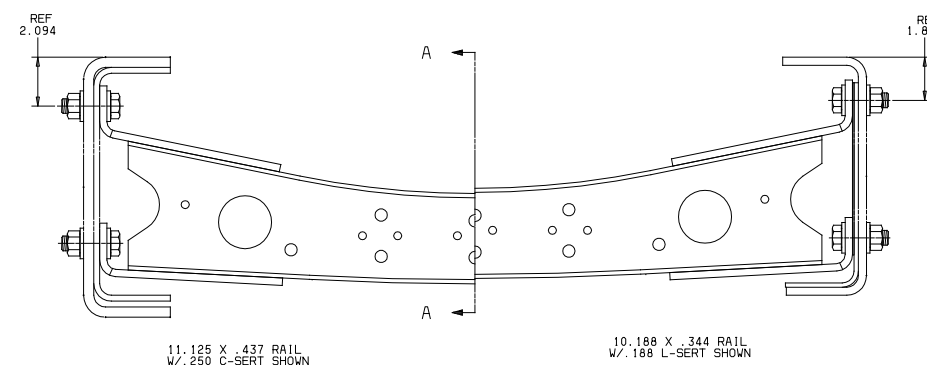
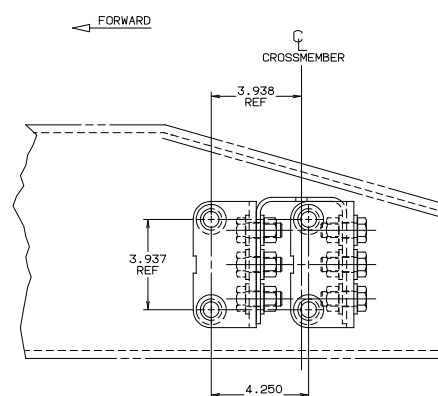
572-001 STANDARD REARMOST CROSSMEMBER



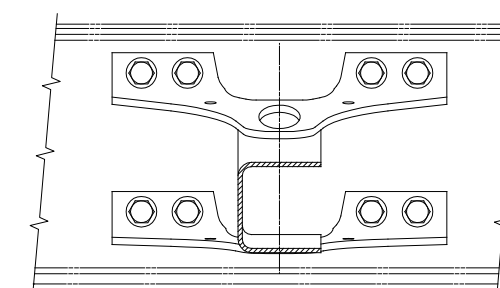
572-010 5/16 INCH STEEL CROSSMEMBER WITHOUT A-FRAME, NON-TOWING



572-020 INVERTED U TRACTOR CROSSMEMBER



572-057 INVERTED MOUNTED REAR CLOSING CROSSMEMBER
572-065 INVERTED MOUNTED REAR CLOSING CROSSMEMBER AFT 82
INCHES FROM REAR SUSPENSION CENTERLINE



SECTION A-A
 FORWARD



Western Star Bodybuilder Book: Revision 3.1

End of Frame Crossmembers

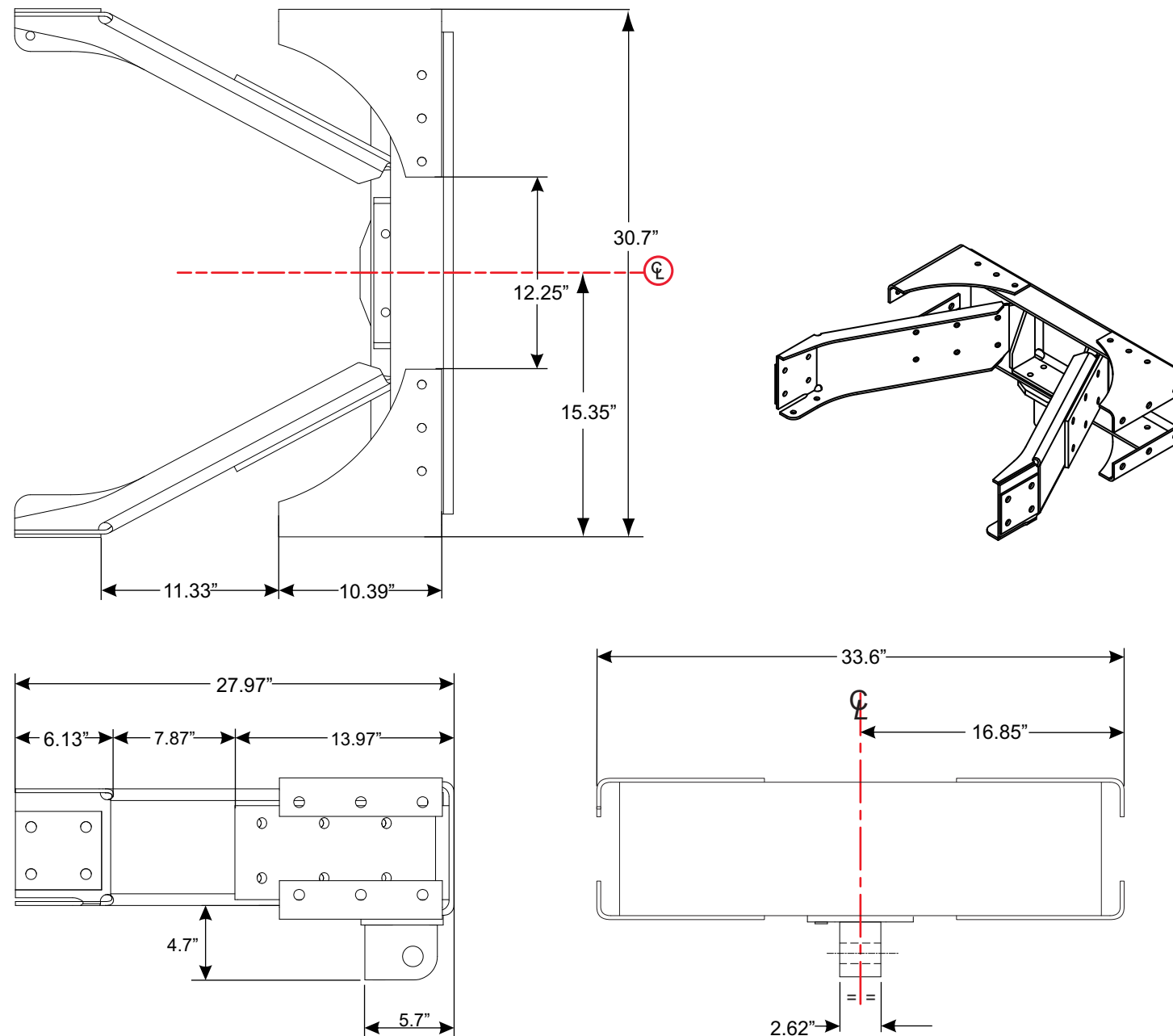
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P. 3-25

4700 SF/SB Clevis Tow Crossmembers

"A" Dimension dependant on frame rail configuration. See "Frame Rail Combination Chart" on page 3-10 for crossmember width.

572-009 5/16 INCH STEEL TOWING CROSSMEMBER AND A-FRAME
WITH CLEVIS AND PIN ATTACHMENT - 40,000# CAPACITY



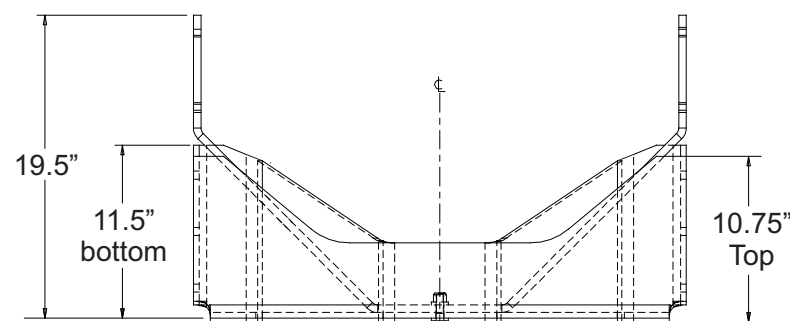
Western Star Bodybuilder Book: Revision 3.1

End of Frame Crossmembers

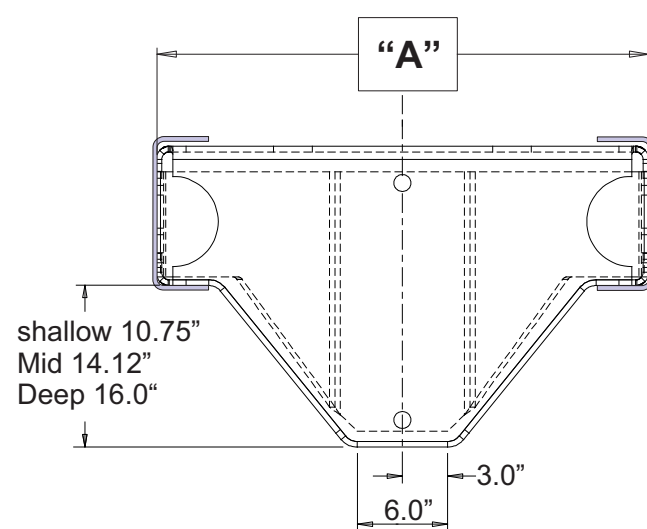
4700 SF/SB Drop Centre Towing Crossmembers

"A" Dimension dependant on frame rail configuration. See "Frame Rail Combination Chart" on page 3-10 for crossmember width.

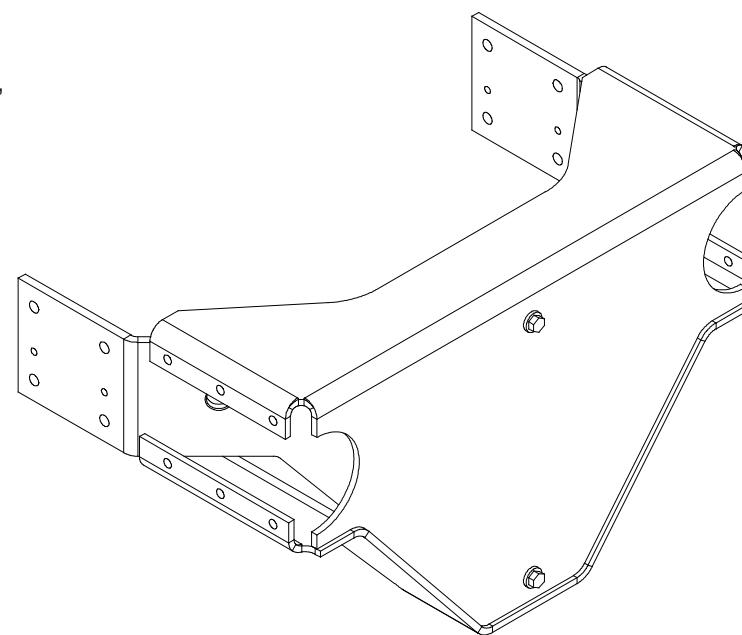
572-002 DROP CENTER TOWING CROSSMEMBER WITH U-BOLT ATTACHMENT - 40,000# CAPACITY



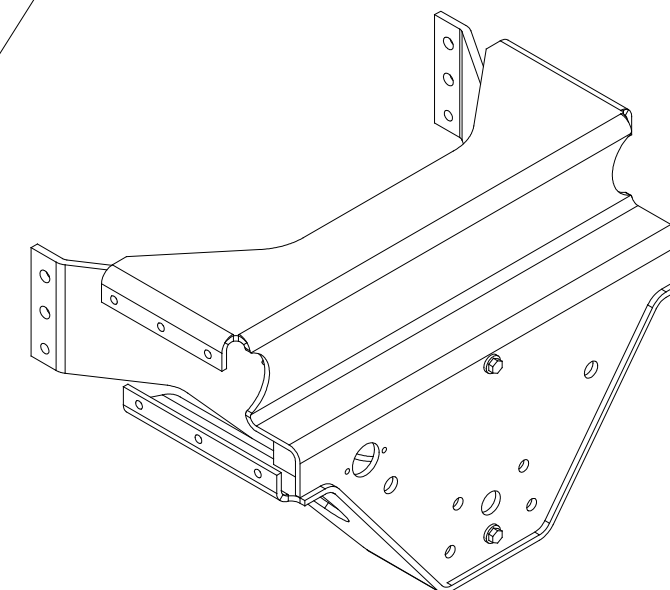
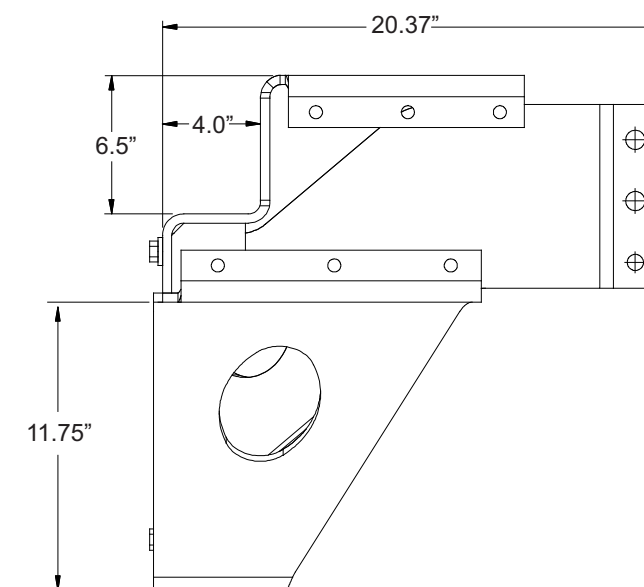
Top View



End View



Crossmember "A" Dimention	
Frame Stack up	"A" Dim
3/8x3/8 1/4 TC	32.00
3/8x1/4x1/4 TC	32.25
3/8x3/8 DC	32.50
3/8x1/4 DC	32.75
5/16x1/4 DC	32.88
1/4x1/4DC	33.00
3/8 SC	33.25
5/16 SC	33.38
1/4 SC	-33.50



572-051 DROP CENTER TOWING CROSSMEMBER WITH 4 INCH X 6.5 INCH NOTCH FOR DUMP BOX HINGE, 40,000# CAPACITY

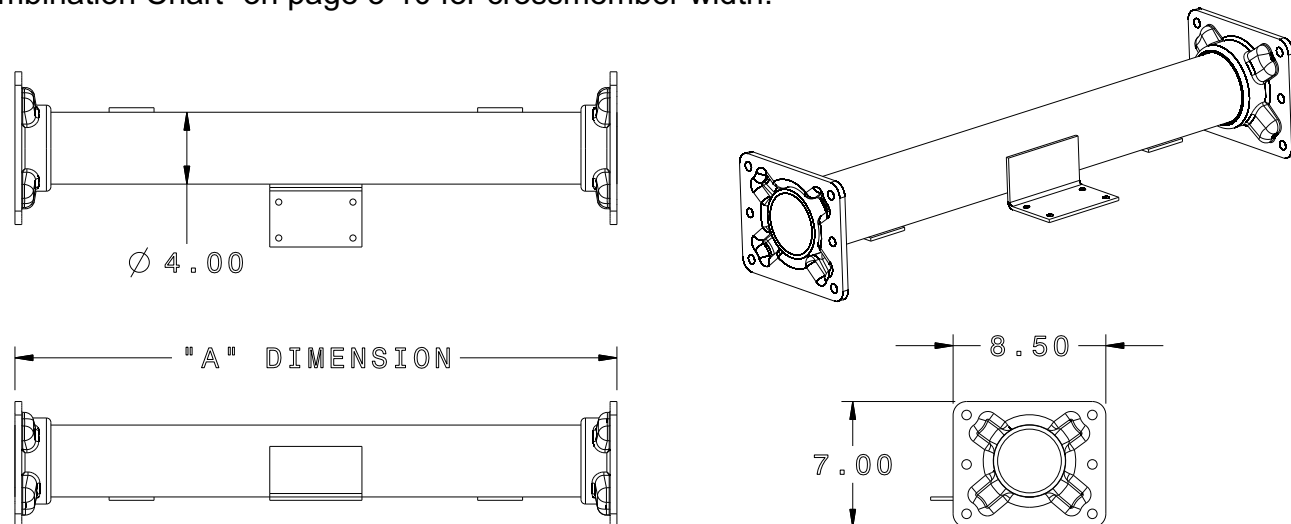
EOF Crossmember	Tow Hook/Pintel Hitch	Tow Hitch Height
572-002 DROP CENTER TOWING CM W/U-BOLT	587-014 PREMIER #690 MECHANICAL PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH
	587-016 PREMIER #370 AIR PINTLE HITCH	588-022 TOW HITCH VERTICAL REF: PLUS 1.31 INCH
	587-035 PREMIER #2400 AIR PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH 588-015 TOW HITCH VERTICAL REF: MINUS 3.75 INCH 588-022 TOW HITCH VERTICAL REF: PLUS 1.31 INCH
	587-038 PREMIER #2200 AIR PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH
572-051 DROP CENTER TOWING CM W/4" X 6.5" NOTCH	587-016 PREMIER #370 AIR PINTLE HITCH	588-016 TOW HITCH VERTICAL REF: MINUS 6.50 INCH
		588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH

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End of Frame Crossmembers

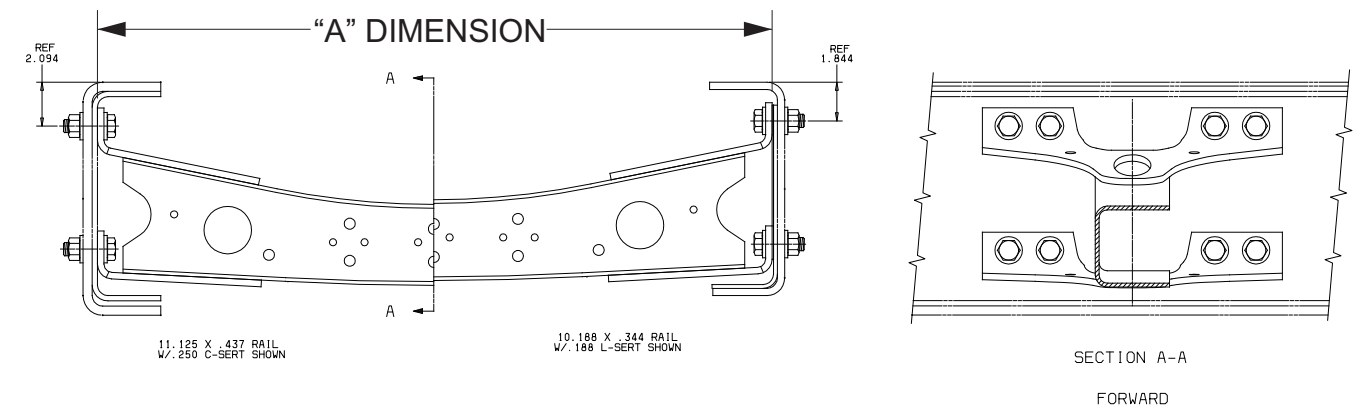
4800/4900/6900 SF/SB Standard Rear Crossmembers

"A" Dimension dependant on frame rail configuration. See "Frame Rail Combination Chart" on page 3-10 for crossmember width.



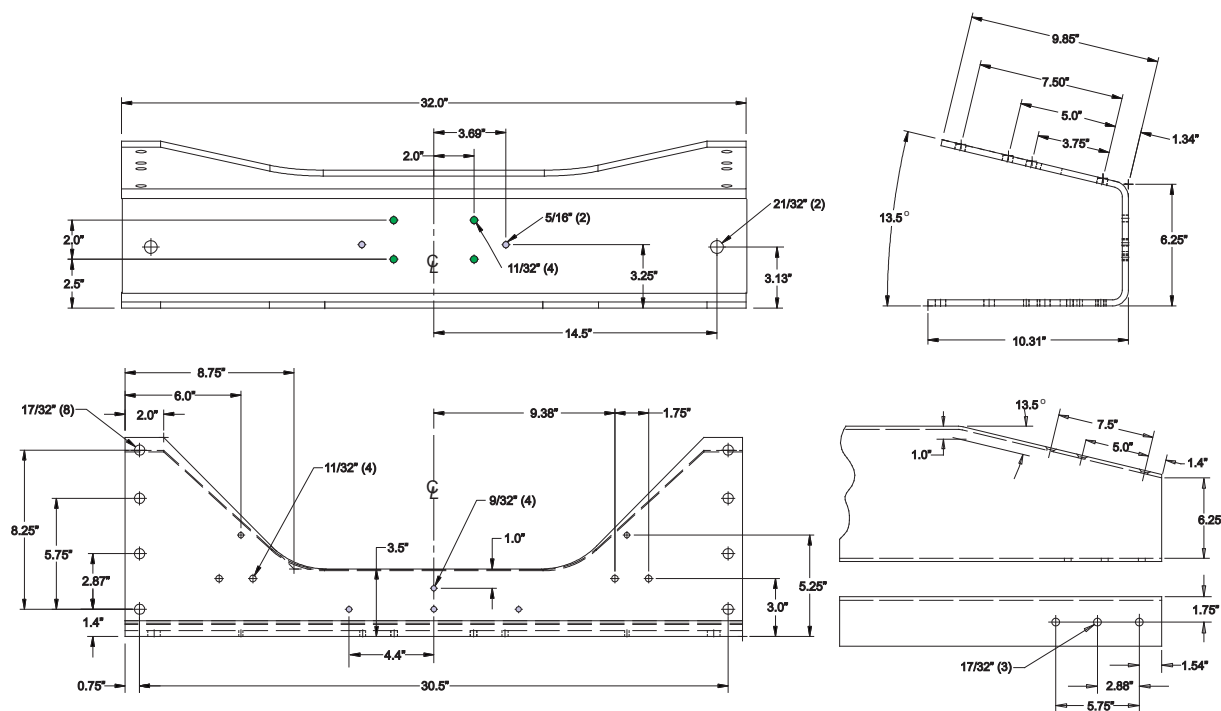
572-034 TUBULAR STEEL REARMOST CROSSMEMBER

572-041 HEAVY DUTY TUBULAR STEEL REARMOST CROSSMEMBER



572-057 INVERTED MOUNTED REAR CLOSING CROSSMEMBER

572-065 INVERTED MOUNTED REAR CLOSING CROSSMEMBER AFT 82 INCHES FROM REAR SUSPENSION CENTERLINE



572-001 - STANDARD REARMOST TAPERED CROSSMEMBER

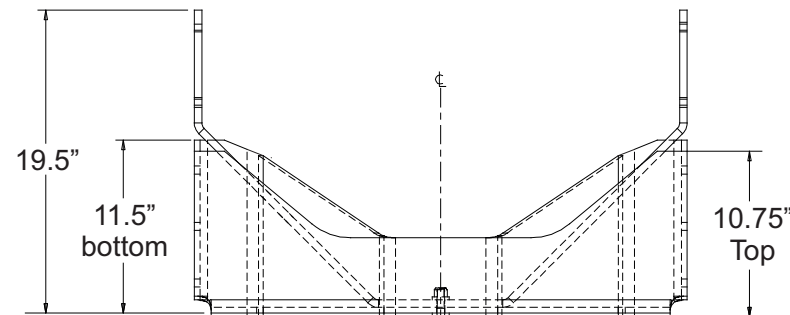
572-036 - HEAVY DUTY REAR CROSSMEMBER

572-037 - 5/16 INCH STEEL TAPERED WITH INTEGRAL TUBULAR CROSSMEMBER

4800/4900/6900 SF/SB Drop Centre Towing Crossmembers

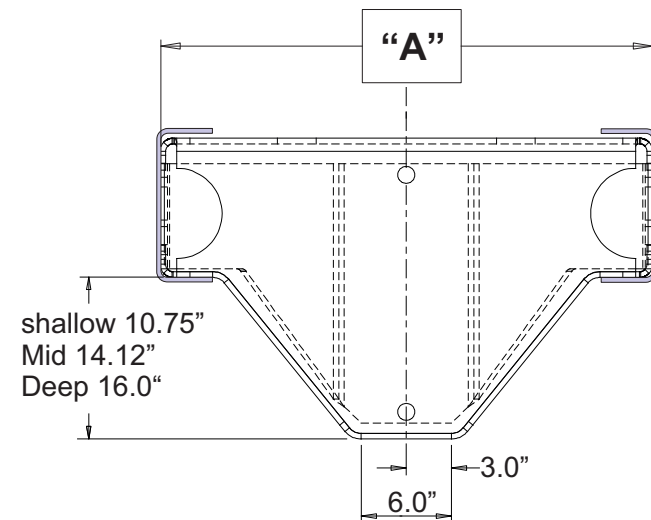
“A” Dimension dependant on frame rail configuration. See “Frame Rail Combination Chart” on page 3-10 for crossmember width.

572-002 DROP CENTER TOWING CROSSMEMBER WITH U-BOLT ATTACHMENT - 40,000# CAPACITY

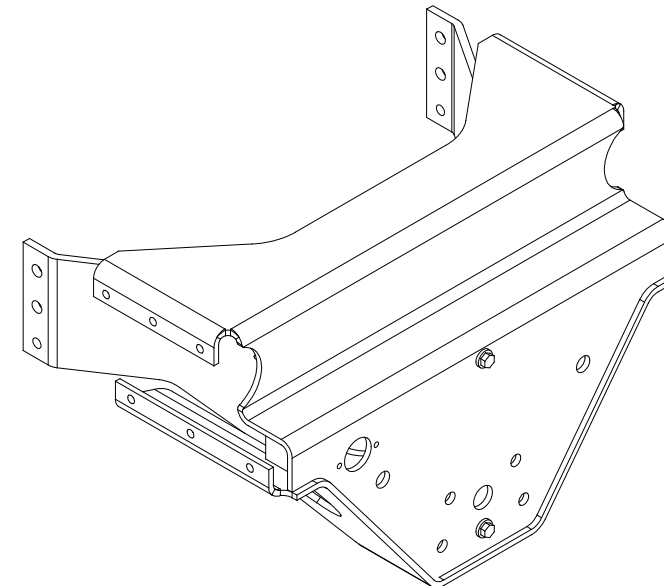
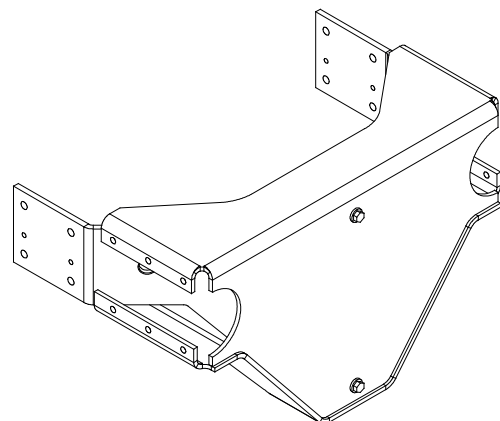


Top View

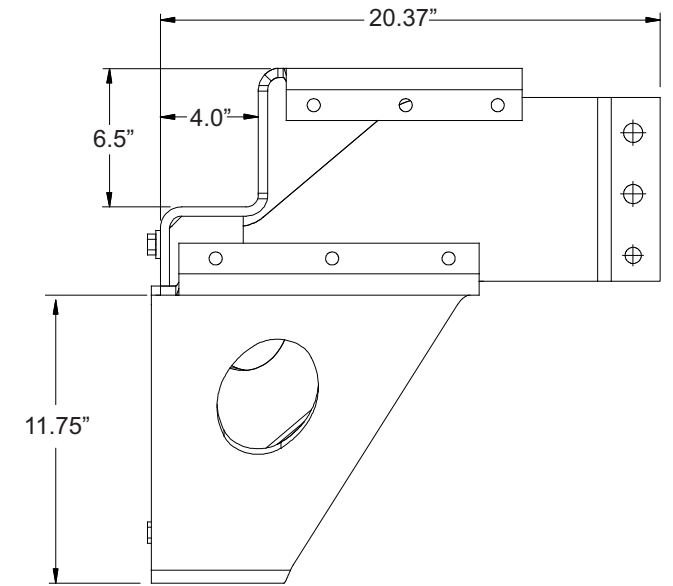
Crossmember “A” Dimention	
Frame Stack up	“A” Dim
3/8x3/8 1/4 TC	32.00
3/8x1/4x1/4 TC	32.25
3/8x3/8 DC	32.50
3/8x1/4 DC	32.75
5/16x1/4 DC	32.88
1/4x1/4DC	33.00
3/8 SC	33.25
5/16 SC	33.38
1/4 SC	-33.50



End View



572-051 DROP CENTER TOWING CROSSMEMBER WITH 4 INCH X 6.5 INCH NOTCH FOR DUMP BOX HINGE, 40,000# CAPACITY



EOF Crossmember	Tow Hook/Pintel Hitch	Tow Hitch Height
572-002 DROP CENTER TOWING CM W/U-BOLT	587-016 PREMIER #370 AIR PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH 588-015 TOW HITCH VERTICAL REF: MINUS 3.75 INCH 588-027 TOW HITCH VERTICAL REF: MINUS 4.75 INCH 588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-033 CUSTOMER FURNISHED AND INSTALLED PRE 370 AIR PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH 588-027 TOW HITCH VERTICAL REF: MINUS 4.75 INCH 588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-035 PREMIER #2400 AIR PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH 588-027 TOW HITCH VERTICAL REF: MINUS 4.75 INCH 588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-039 PREMIER #2300 AIR PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH 588-027 TOW HITCH VERTICAL REF: MINUS 4.75 INCH 588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-066 PREP FOR CUSTOMER FURNISHED AND INSTALLED PREMIER #2300 AIR PINTLE HITCH	588-027 TOW HITCH VERTICAL REF: MINUS 4.75 INCH 588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
572-051 DROP CENTER TOWING CM W/4" X 6.5" NOTCH	587-005 PREMIER #270 AIR PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH
	587-016 PREMIER #370 AIR PINTLE HITCH	588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-033 CUSTOMER FURNISHED AND INSTALLED PRE 370 AIR PINTLE HITCH	588-027 TOW HITCH VERTICAL REF: MINUS 4.75 INCH
	587-038 PREMIER #2200 AIR PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH 588-027 TOW HITCH VERTICAL REF: MINUS 4.75 INCH 588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-039 PREMIER #2300 AIR PINTLE HITCH	588-011 TOW HITCH VERTICAL REF: MINUS 1.25 INCH 588-027 TOW HITCH VERTICAL REF: MINUS 4.75 INCH 588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-066 PREP FOR CUSTOMER FURNISHED AND INSTALLED PREMIER #2300 AIR PINTLE HITCH	588-027 TOW HITCH VERTICAL REF: MINUS 4.75 INCH

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End of Frame Crossmembers

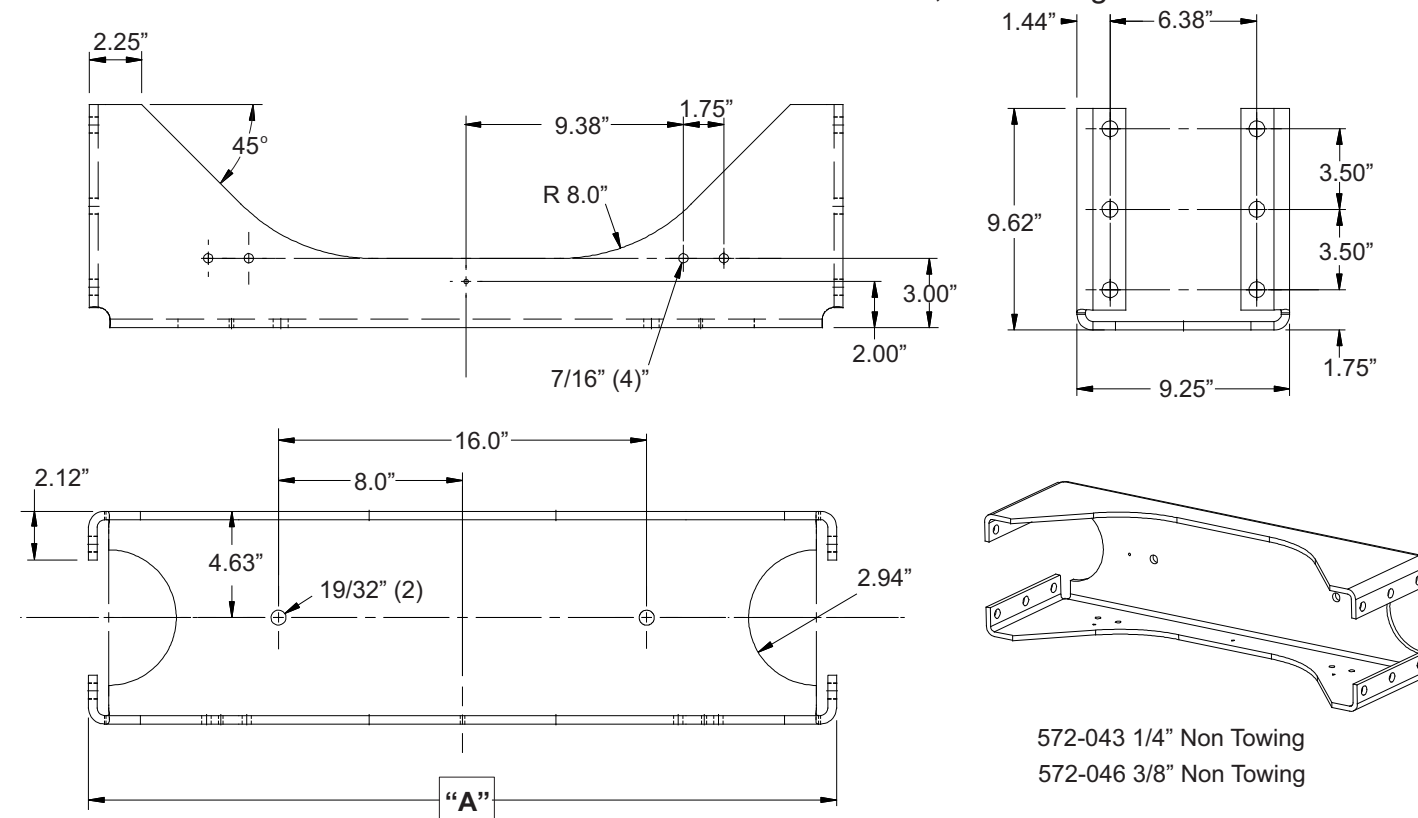
4800/4900/6900 SF/SB C-Channel Crossmembers

"A" Dimension dependant on frame rail configuration. See "Frame Rail Combination Chart" on page 3-10 for crossmember width.

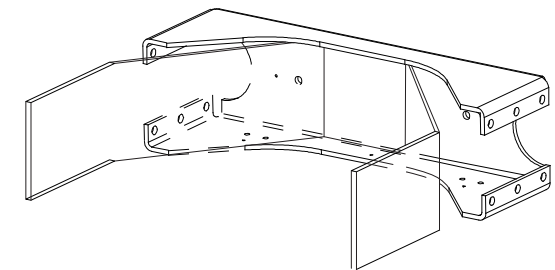
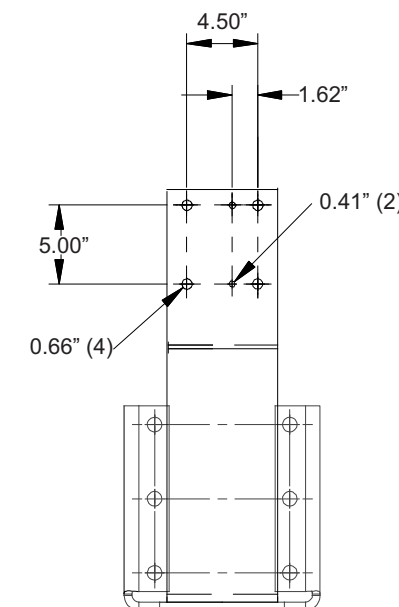
572-043 - 1/4 inch steel c-channel crossmember without a-frame, non-towing

572-046 - 3/8 inch steel c-channel crossmember without a-frame, non-towing

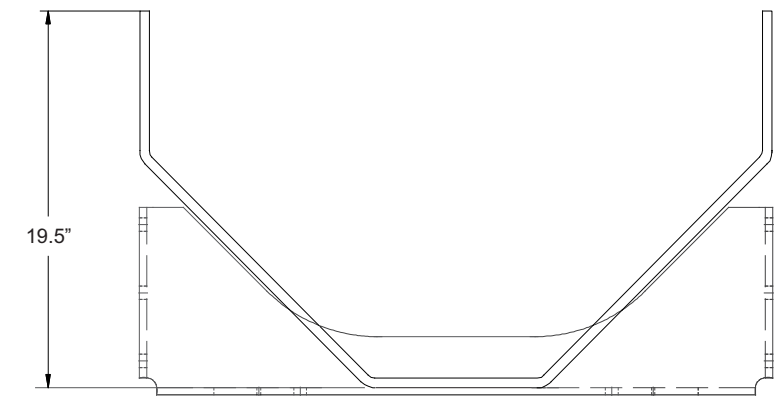
572-045 - 3/8 inch steel c-channel rear towing crossmember with a-frame, 40,000# capacity



572-043 1/4" Non Towing
572-046 3/8" Non Towing



572-045 3/8" With Towing V-Brace



EOF Crossmember	Tow Hook/Pintle Hitch	Tow Hitch Height
572-043 1/4 INCH STEEL C-CHANNEL CROSSMEMBER WITHOUT A-FRAME, NON-TOWING	587-003 REAR TOW HOOKS	588-998 NO REAR TOW DEVICE HEIGHT
572-045 3/8 INCH STEEL C-CHANNEL REAR TOWING CROSSMEMBER WITH A-FRAME, 40,000# CAPACITY	587-005 PREMIER #270 AIR PINTLE HITCH	588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-016 PREMIER #370 AIR PINTLE HITCH	588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-025 CUSTOMER FURNISHED AND INSTALLED PRE 270 TOW HITCH	588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-033 CUSTOMER FURNISHED AND INSTALLED PRE 370 AIR PINTLE HITCH	588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-038 PREMIER #2200 AIR PINTLE HITCH	588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-039 PREMIER #2300 AIR PINTLE HITCH	588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-066 PREP FOR CUSTOMER FURNISHED AND INSTALLED PREMIER #2300 AIR PINTLE HITCH	588-038 TOW HITCH VERTICAL REF: PLUS 5.19 INCH
	587-998 NO REAR TOWING DEVICE	588-998 NO REAR TOW DEVICE HEIGHT
572-046 3/8 INCH STEEL C-CHANNEL CROSSMEMBER WITHOUT A-FRAME, NON-TOWING	587-003 REAR TOW HOOKS	588-998 NO REAR TOW DEVICE HEIGHT

