

## LiquidSpring CLASS® Application Guide Ambulance/General Application

Key:  
 CAB: Reg – Regular Cab, Ext – Extended (Super) Cab, CC – Crew Cab  
 Fuel Tank Location: M – Midship, R – Rear (aft of axle)  
 OnSpot Chain System Availability: Sway bars may need to be removed (if installed). Please contact OnSpot for exact part numbers and directions.

### Ford

#### E-350/450 Cutaway (not van/wagon)

Model	Model Years	Rear Axle GAWR	Cab/WB/CA	Fuel Tank Location	LiquidSpring Kit	OnSpot Avail?	Comments
E350	2006 – Current	8500	Cutaway/158.0"/100.0"	M,R	DS85FS2	No	
			Cutaway/176.0"/118.0"				
E450	2006 – Current	9600	Cutaway/158.0"/100.0"	M,R	DS96FS2	No	
			Cutaway/176.0"/118.0"				

#### F-350 Cab Chassis (not pickup)

Model	Model Years	Rear Axle GAWR	Cab/WB/CA	Fuel Tank Location	LiquidSpring Kit	OnSpot Avail?	Comments
F350 4x2	2017 – newer	10040	Reg/169.3"/84"	M*,R	DS100F2	Yes	Requires 47A or 47L Ambulance Prep Package (requires "Wide Track" rear axle X4W)
	2011 – 2016	9750	Reg/164.8"/84"	M*,R	DS98F2	Yes	Requires 47A or 47L Ambulance Prep Package (requires "Wide Track" rear axle)
F350 4x4	2017 – newer	10040	Reg/169.3"/84"	M*,R	DS100F4	Yes	Requires 47A or 47L Ambulance Prep Package (requires "Wide Track" rear axle X4W)
	2011 – 2016	9750	Reg/164.8"/84"	M*,R	DS98F4	Yes	Requires 47A or 47L Ambulance Prep Package (requires "Wide Track" rear axle X4W)

\*DEF tank may have to be relocated when LiquidSpring system is installed on diesel with mid-ship tank.

#### F-450 Cab Chassis (not pickup)

Model	Model Years	Rear Axle GAWR	Cab/WB/CA	Fuel Tank Location	LiquidSpring Kit	OnSpot Avail?	Comments
F450 4x2, 4x4	2017 – newer	12880	Reg/169.3"/84"	M*,R	DS129FS3	Yes	CLASS system will NOT work with midship fuel tank on 84" and 108" CA.
			Reg/193.3"/108"				
			Reg/205.3"/120"				
			Ext/191.9"/84"				
			CC/203.8"/84"				
	2011 – 2016	12000	Reg/164.8"/84"	M*,R	DS137FS2	Yes	
			Reg/188.8"/108"				
			Reg/200.8"/120"				
			Ext/185.8"/84"				
	2008-2010	12000	Reg/164.8"/84"	M*,R	DS137FS2-10	Yes	
			Reg/188.8"/108"				
			Reg/200.8"/120"				
			Ext/185.8"/84"				
			CC/200.2"/84"				

\*DEF tank may have to be relocated when LiquidSpring system is installed on diesel with mid-ship tank.

F-550 Cab Chassis

Model	Model Years	Rear Axle GAWR	Cab/WB/CA	Fuel Tank Location	LiquidSpring Kit	OnSpot Avail?	Comments	
F550 4x2, 4x4 17,500 GVW	2017 - newer	13660	Reg/169.3"/84"	M*,R	DS147FS3	Yes	CLASS system will NOT work with midship fuel tank on 84" and 108" CA.	
			Reg/193.3"/108"					
			Reg/205.3"/120"					
			Ext/191.9"/84"					
	2011 - 2016	13660	Reg/164.8"/84"	M*,R	DS137FS2	Yes		
			Reg/188.8"/108"					
			Reg/200.8"/120"					
			Ext/185.8"/84"					
	2008-2010	13660	Reg/164.8"/84"	M*,R	DS137FS2-10	Yes		
			Reg/188.8"/108"					
			Reg/200.8"/120"					
			Ext/185.8"/84"					
F550 4x2, 4x4 19,500 GVW	2017 - newer	14706	Reg/169.3"/84"	M*,R	DS147FS3	Yes	CLASS system will NOT work with midship fuel tank on 84" and 108" CA.	
			Reg/193.3"/108"					
			Reg/205.3"/120"					
			Ext/191.9"/84"					
	2011 - 2016	14706	Reg/164.8"/84"	M*,R	DS147FS2	Yes		
			Reg/188.8"/108"					
			Reg/200.8"/120"					
			Ext/185.8"/84"					
				CC/203.8"/84"				
				CC/200.2"/84"				

\*DEF tank may have to be relocated when LiquidSpring system is installed on diesel with mid-ship tank.

F-650 Low Profile Cab Chassis

Model	Model Years	Rear Axle GAWR	Rear Axle Model	Cab/WB/CA	Brakes	OEM Susp.	OnSpot Avail?	LiquidSpring Kit	Comments
F650 Pro Loader Tapered Frame	2016 - Current	13500	Dana S140	Reg/158"/84"	Hyd. only	12000 Air	Yes	DS120F650LP-AH	Suspension is rated up to 12000 lbs GAWR.
				Reg/182"/108"					
				Reg/194"/120"					
				Ext/179"/84"					
				Ext/203"/108"					
				CC/194"/84"					
F650 Pro Loader Tapered Frame	2008 - 2015	13500	Dana: 17060S Meritor: MS-17	Reg/158"/84"	Hyd./ Air	12000 Air	Yes (Hyd. Brakes only)	DS135F650-A	Suspension rated up to 13500 lbs GAWR.
				Reg/182"/108"					
				Reg/194"/120"					
				Ext/179"/84"					
				Ext/203"/108"					
				CC/194"/84"					
F650 Pro Loader Tapered Frame	2008 - 2015	13500	Dana: 17060S Meritor: MS-17	Reg/158"/84"	Hyd. only	13500 Steel Leaf	Yes	DS135F650-S	Suspension rated up to 13500 lbs GAWR.
				Reg/182"/108"					
				Reg/194"/120"					
				Ext/179"/84"					
				Ext/203"/108"					
				CC/194"/84"					
			CC/218"/108"						

Please provide LiquidSpring with either vehicle specification sheet or build sheet during time of order to assure proper suspension configuration is selected.

F-650 Straight Rail Cab Chassis

Model	Model Years	Rear Axle GAWR	Rear Axle Model	Cab/WB/CA	Brakes	OEM Susp. GAWR	OnSpot Avail?	LiquidSpring Kit	Comments
F650 Straight Frame	2016 – Current	17,500*	Dana S140	Reg/158"/84"	Hyd. only	19,000*	TBD	DS135F650SR-SH	Suspension is rated up to 13,500 lbs GAWR.
				Reg/182"/108"					
				Reg/194"/120"					
				Ext/179"/84"					
				Ext/203"/108"					
				CC/194"/84"					
CC/218"/108"									

\*Note: OEM Leaf Spring is rated for 19,000 lbs and OEM Rear Axle is rated for 19,000 lbs. LiquidSpring suspension is rated to 13,500 lbs ONLY.

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## Freightliner

Model	Model Years <sup>2</sup>	Rear Axle GAWR <sup>1</sup>	Frame	Brakes	Exhaust Routing <sup>3</sup>	Fuel Tank Location	OEM Susp.	LiquidSpring Kit	OnSpot Avail?	Comments
M2 106 2WD	2012 - Current	<b>Up to 15000</b>  Meritor: MS-17-14X  Detroit: DA-RS-17.5-4 DA-RS-17.5-2 DS-RS-15.0-2 <sup>2</sup>	546-020 546-021 546-094 546-093 546-099 546-100	Hyd. Only <sup>4</sup>	Any	Any	Steel Leaf: 622-1MA 622-1MB 622-1MC 622-1MD 622-1ME 622-1MT	DS150FR-S	Yes	Volumes and power module located behind rear axle (requires minimum of 62" rear overhang).
					Any	Side-under cab		DS150FR-SS	Yes	Volumes located along side frame rails, between cab and rear axle.
				Hyd./ Air	Any	Forward (in front of rear axle)	Air Susp: 622-1CW 622-1CX 622-1CY	DS150FR-A	Yes (Hyd. Brakes only)	Volumes and power module located behind rear axle (requires minimum of 62" rear overhang).
					Driver side	Aft of Axle		DS150FR-AR	Yes	Volumes located along side frame rails, between cab and rear axle. Power Module inside frame, Passenger Side
					Passenger side	Aft of Axle		DS150FR-AREP	Yes	Volumes located along side frame rails, between cab and rear axle. Power Module inside frame, Driver Side

### Notes:

<sup>1</sup>Rear GAWR rating is based on either rear axle or rear suspension rating, whichever is less.

<sup>2</sup>With Detroit Axle DA—RS-15.0-2 rear axle, kit **11337** (for steel leaf spring conversion) or kit **11338** (for air ride conversion) MUST be ordered.

<sup>3</sup>Exhaust routing refers to location of exhaust routed from engine, not tail pipe exit.

<sup>4</sup>Steel Spring vehicles equipped with air brakes can be used, however the s-cams and s-cam brackets must be changed to locate the air chambers inboard. Contact LiquidSpring for more information.

All Freightliner kits require the following codes:

Vehicle Interface Lighting (one of the locations):	<b>353-022</b> Vehicle interface wiring with body builder connector mounted back of cab. <b>353-023</b> Vehicle interface wiring with body builder connector mounted end of frame. <b>353-026</b> Vehicle interface wiring and PDM with body builder connector, back of cab. <b>353-027</b> Vehicle interface wiring and PDM with body builder connector, end of frame.
Transmission Interface Connector (one of the locations):	<b>34C-001</b> Transmission Interface Harness at the Front Wall <b>34C-002</b> Transmission Interface Harness at Back of Cab

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## General Motors (Chevrolet/GMC)

### Express/Savana G-Series Cutaway (not van/wagon)

Model	Model Years	Rear Axle GAWR	Cab/WB/CA	Fuel Tank Location	LiquidSpring Kit	OnSpot Avail?	Comments
G3500: G33503 G33803 G33903	2013 - Current	8600	Cutaway/139"/80"	M	DS96GM2-AM	No	
			Cutaway/159"/100.0"				
			Cutaway/177"/118.0"				
			Cutaway/139"/80"	R	DS96GM2-AR	No	
			Cutaway/159"/100.0"				
Cutaway/177"/118.0"							
G4500: G33803 G33903	2013 - Current	9600	Cutaway/159"/100.0"	M	DS96GM2-AM	No	
			Cutaway/177"/118.0"	R	DS96GM2-AR	No	
			Cutaway/159"/100.0"				
			Cutaway/177"/118.0"				

### Silverado/Sierra Cab Chassis (not pickup)

Model	Model Years	Rear Axle GAWR	Cab/WB/CA	Fuel Tank Location	LiquidSpring Kit	OnSpot Avail?	Comments
C/K 3500HD C/K 36403	2014 - Current	9750	Reg/162"/84"	M,R	DS98GM	No	Requires the <b>GT</b> wide track rear axle.

## International

### TerraStar

Model	Model Years	Rear Axle GAWR	Brakes	Fuel Tank Location	OEM Susp.	LiquidSpring Kit	OnSpot Avail?	Comments
TerraStar 4x2	2008 - Current	13500	Hyd.	Rear	Steel Leaf	DS135N-A	Yes	Recommended code 12VYL
				Front (under Cab)	Steel Leaf	DS135N-AF	Yes	Recommended code 12VYL
				Front (under Cab)	IROS Air	DS135N-AA	Yes	Recommended code 12VYL
TerraStar 4x4	2008 - Current	13500	Hyd.	Rear	Steel Leaf	DS135NT4	No	Recommended code 12VYL

### DuraStar 4300 (Up to 13,500 lbs GAWR) (See note below about gearbox)

Model	Model Years	Rear Axle GAWR	Engine	Brakes	OEM Susp.	LiquidSpring Kit	OnSpot Avail?	Comments
4300 Low Profile Frame	2008 - Current	13500 Dana S130 (S14-130, S16-130)	MaxxForce	Hyd. Only <sup>1</sup>	Steel Leaf 14SAC 14SAE 14SAH	DS135ND-S130	Yes	Recommended code 12VYL
			Cummins		DS135ND-S130C	Yes		
			MaxxForce	Hyd./ Air	IROS Air 14TBL 14TBM 14TBN	DS135ND-A130	Yes (Hyd. Brakes only)	Recommended code 12VYL
			Cummins		DS135ND-A130C	Yes (Hyd. Brakes only)		

<sup>1</sup> Steel Spring vehicles equipped with air brakes can be used, however the s-cams and s-cam brackets must be changed to locate the air chambers inboard. Contact LiquidSpring for more information.

Please provide LiquidSpring with either vehicle specification sheet or build sheet during time of order to assure proper suspension configuration is selected.

DuraStar 4300 (Up to 13,500 lbs GAWR) (Continued)

Model	Model Years	Rear Axle GAWR	Engine	Brakes	OEM Susp.	LiquidSpring Kit	OnSpot	Comments
4300 Low Profile Frame	2008 - Current	13500 Dana 17060S, Dana S140 (17-140) Meritor MS-17-14X	MaxxForce	Hyd. Only	Steel Leaf 14SAC 14SAE 14SAH	DS135ND-S	Yes	Recommended code 12VYL
			Cummins			DS135ND-SC	Yes	
			MaxxForce	Hyd./ Air	IROS Air 14TBL 14TBM 14TBN	DS135ND-A	Yes (Hyd. Brakes only)	Recommended code 12VYL
			Cummins			DS135ND-AC	Yes (Hyd. Brakes only)	

Note: The LiquidSpring system requires the installation of a steering position sensor on the OEM steering gearbox. Require mounting brackets are available in the kits above for the following steering gearboxes:

TRW: TAS-40, THP-45;

Sheppard: M100, HD94\* (Sheppard HD94 requires the order of P/N 11136-007 in addition to kit).

Do not use LiquidSpring systems with TRW TAS-66 or TRW THP-60 gearboxes.

Please provide LiquidSpring with either vehicle specification sheet or build sheet during time of order to assure proper suspension configuration is selected.

DuraStar 4300 (Up to 15,500 lbs GAWR) (see note below about gearbox)

Model	Model Years	Rear Axle <sup>1</sup> GAWR	Engine	Brakes	OEM Susp.	LiquidSpring Kit	OnSpot Avail?	Comments
4300 Low Profile Frame	2008 - Current	15500 Dana 17060S, Dana S140 (17-140) Meritor MS-17-14X	MaxxForce	Hyd. Only	Steel Leaf 14SAE 14SAH	DS155NDLP-S	Yes	Recommended code 12VYL
			Cummins			DS155NDLP-SC	Yes	
			MaxxForce	Hyd./ Air	IROS Air 14TBM 14TBN	DS155NDLP-A	Yes (Hyd. Brakes only)	Recommended code 12VYL
			Cummins			DS155NDLP-AC	Yes (Hyd. Brakes only)	

<sup>1</sup>Dana S130 (S16-130) not recommended.

Note: The LiquidSpring system requires the installation of a steering position sensor on the OEM steering gearbox. Require mounting brackets are available in the kits above for the following steering gearboxes:

TRW: TAS-40, THP-45;

Sheppard: M100, HD94\* (Sheppard HD94 requires the order of P/N 11136-007 in addition to kit).

Do not use LiquidSpring systems with TRW TAS-66 or TRW THP-60 gearboxes.

Please provide LiquidSpring with either vehicle specification sheet or build sheet during time of order to assure proper suspension configuration is selected.

## Ram

### 3500 Cab Chassis (not pickup)

Model	Model Years	Rear Axle GAWR	Cab/WB/CA	Fuel Tank Location	LiquidSpring Kit	OnSpot Avail?	Comments
3500 4x2, 4x4	2014 - Current	9850	Reg/167.5"/84"	M,R	DS99R	Yes	Must include the <b>XXS</b> VSIM option.

### 4500 Cab Chassis (not pickup)

Model	Model Years	Rear Axle GAWR	Cab/WB/CA	Fuel Tank Location	LiquidSpring Kit	OnSpot Avail?	Comments
4500 4x2, 4x4	2014 - Current	12000	Reg/168.5"/84"	R	DS135RS2A	Yes	Must include the <b>XXS</b> VSIM option
			Reg/192.5"/108"				
			Reg/204.5"/120"				
			CC/197.4"/84"				
4500 4x2, 4x4	2014 - Current	12000	Reg/168.5"/84"	M, R	DS135RS2AF	Yes	Must include the <b>XXS</b> VSIM option. Volumes outboard of frame rails.
			Reg/192.5"/108"				
			Reg/204.5"/120"				
			CC/197.4"/84"				

### 5500 Cab Chassis

Model	Model Years	Rear Axle GAWR	Cab/WB/CA	Fuel Tank Location	LiquidSpring Kit	OnSpot Avail?	Comments
5500 4x2, 4x4	2014 - Current	13500	Reg/168.5"/84"	R	DS135RS2A	Yes	Must include the <b>XXS</b> VSIM option
			Reg/192.5"/108"				
			Reg/204.5"/120"				
			CC/197.4"/84"				
5500 4x2, 4x4	2014 - Current	13500	Reg/168.5"/84"	M, R	DS135RS2AF	Yes	Must include the <b>XXS</b> VSIM option. Volumes outboard of frame rails.
			Reg/192.5"/108"				
			Reg/204.5"/120"				
			CC/197.4"/84"				