

PRODUCT APPLICATION

Specifying SMARTLIFT™ on VANTRAAX™
Integrated Air Slider Systems

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OVERVIEW

The following document describes guidelines and considerations for specifying a SMARTLIFT™ liftable slider for automatic weight-sensing lift systems. SMARTLIFT is the combination of Hendrickson's VANTRAAX™ suspension system and UBL™ UNDER BEAM LIFT™ mechanism for automatic lift controls that are programmable to automatically raise or lower the front axle based on the axle load. Specifically, this document outlines guidelines for specifying SMARTLIFT on VANTRAAX integrated air slider systems.

GENERAL SMARTLIFT NOTES

- The suspension installer should review the suspension travels for each spec'ing option to ensure that adequate trailer-to-tire clearance is provided.
- Additionally, the amount of axle lift should always be verified to ensure acceptable ground clearance for the specific application.
- The controls used to automatically raise and lower the liftable suspension must be purchased separately by the suspension installer. A list of components required for each spec'ing option is provided in this document.
- Hendrickson requires the lifted axle to be automatically lowered when the trailer parking brakes are engaged.
- The service brakes must be disengaged on the lift axle when it is raised.
- The clearance between the lifted tire and the ground will vary depending on the tire deflection that can occur on the non-lifted axle.
- The axle should only be lifted when the load carried by the non-lift axle(s) does not exceed the rated axle capacity.



OPTION 1 - HENDRICKSON-INSTALLED UBL BRACKETS

For this option, Hendrickson installs the UBL™ UNDER BEAM LIFT™ axle lift brackets onto a VANTRAAX™ slider system. This VANTRAAX system includes shorter air springs and taller air spring pedestals on the front suspension. This combination of components on the front axle increases the front suspension’s up travel, which provides an increase in the clearance under the tire when the axle is lifted. The rear suspension’s travel remains the same.

SPECIFICATION GUIDELINES:

- Available on HKANT models: 40K HD, 46K, 46K wide spread and 69K23
- 16-inch or 17.5-inch ride heights only
- Not available with ZMD® Zero Maintenance Damping® air springs
- All other VANTRAAX options may be specified
- Front axle only may be lifted

SUSPENSION LIFT	MAX. TIRE DIAMETER	RIDE HEIGHT	LIFTED GROUND CLEARANCE
Standard	40.2"	16"	3.2"
		17.5"	4.7"
Limited	41.3"	16"	2.6"
		17.5"	4.1"

OPTION NOTES:

- The clearance under the lifted tire will be less than the axle lift due to tire deflection.
- Lifted ground clearance assumes a tire compression of .6".
- Reduced tire clearance above the lifted tire is approved by Hendrickson for this application.
- Refer to the installation drawing for additional suspension travel information.

OPTION 2 - OEM-INSTALLED UBL BRACKETS

The UBL lift kit can be installed by the trailer OEM on any VANTRAAX slider model. In order to increase the amount of axle lift, Hendrickson recommends raising the suspension ride height to the published maximum allowable adjustment (see L388, Ride Height Settings). However, the overall trailer height must be considered when increasing the suspension ride height.

SUSPENSION TRAVELS:

Refer to slider installation drawings and L388, Ride Height Settings, which are available on www.hendrickson-intl.com.

OPTION NOTES:

- Hendrickson does not recommend that a lift be installed onto the rear axle when SURELOK® is included.
- Raising the ride height to increase lift is not recommended in combination with Hendrickson's ZMD Zero Maintenance Damping option.

VANTRAAX™ MODEL	UBL KIT	INSTALLATION DRAWING
HKANL	UBL-005	D-27517
HKANT	UBL-004	D-28623
HKAL	UBL-002	D-27517
HKARL	UBL-002	D-24657
HKAT	UBL-001	D-25961



SUGGESTED CONTROLS BILL OF MATERIALS CHART — WABCO ABS

PART NUMBER	QUANTITY	VENDOR	DESCRIPTION	NOTES
ABS Electronic Control Unit				
400 500 105 0	1	WABCO	InfoLink ECU/Valve Assembly (2S/2M-4S/3M)	Trailer ABS ECU must be InfoLink equipped. Lift axle function must also be activated using Meritor WABCO TOOLBOX software. Reference WABCO TP-08103 Technical Bulletin for programming information.**
OR				
400 500 106 0	1	WABCO	InfoLink ECU/Valve Assembly (2S/1M)	
Lift Axle Control Components				
400 850 821 0	1	WABCO	Lift Axle Control Kit	Reference WABCO TP-08103 Technical Bulletin for installation information.
Kit includes:			463 084 050 0 Lift Axle Control Valve	
			449 518 030 0 3-meter Solenoid Valve Cable	
			449 442 010 0 Multiple Generic I/O Cable	
			449 428 030 0 12-volt Analog Input Cable	
			441 044 106 0 Pressure Sensor	
			TP-09174 Label	
Parked Auto-Deploy Components (Required by Hendrickson)				
8000	1	Sealco	Pressure Switch	The 449 428 030 0 cable included with the WABCO Lift Axle Control Option Kit allows the installation of a non-WABCO pressure switch. The pressure switch should be plumbed into the Emergency/Supply glad hand circuit.
Service Brake Isolation Components				
780215	2	Sealco	Free Wheel Control Valve	Reference Sealco's product documentation for plumbing schematics. The pilot circuit of the free wheel control valve should be plumbed to the lift bag circuit.
Optional Components				
Multiple	1	Peterson	Light	Peterson Manufacturing stocks a wide variety of light options. Alternatively, the light can be purchased from any trailer lighting supplier.
449 711 120 0	1	WABCO	12m Light Cable	

** Customers who currently use Meritor WABCO 2S/1M ECU/valve that is non-InfoLink equipped can remove existing ECU and replace with a new InfoLink 2S/1M ECU only (part number S446 108 206 0). For all other non-2S/1M systems, the ECU and Valve assembly must be replaced.



SUGGESTED CONTROLS BILL OF MATERIALS CHART — BENDIX ABS

OEM PART NUMBER	AFTERMARKET PART NUMBER	QUANTITY	VENDOR	DESCRIPTION	NOTES
TABS-6 Advanced					
K102325	K102326		Bendix	TABS-6 advanced Pigtail Harness	9" Power pigtail with 9" auxiliary 6-pin pigtail (all 6 pins included) with 9" 4-pin J1939 diagnostic connector
K099802	K099803	1	Bendix	Lift Axle Harness with Park Brake Override via Lift Lower (LL) Feature	6-pin DTM auxiliary connector to Lift Axle Control (LAC) solenoid 8 ft. with 2-pin AMP connector; Lift Lower (LL) override pigtail 5 ft with 2 pin DT connector
Lift Axle Service Brake Override					
109001	65476	1	Bendix	Relay Valve R12-P	Pivot relay valve; tank mounted
109424	65476	1	Bendix	Relay Valve R12-P	Pivot relay valve; bracket mounted (optional)
101450	101450N	1	Bendix	TR-3 Inversion Valve	
Park Brake Disable					
K101876	K101877	1	Bendix	Pressure Switch	Normally closed 60 PSI cut in; 40 PSI cut out
Hendrickson Lift Axle					
AKAD0012		1	Hendrickson	Lift Valve	
Label					
K101839	K101840	1	Bendix	Warning Label	Warning vehicle equipped with automatic lift axle control

Call your trailer dealer or Hendrickson at **330.489.0045** or **866.RIDEAIR (743.3247)** for additional information.



www.hendrickson-intl.com

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