OWNER'S MANUAL

HLC™ Series Air Kits

SUBJECT: Installation and Operation Procedures
LIT NO: H895
DATE: June 2026 **REVISION:** A

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HLC-SSI_S1

HLC-NSI_S1

HENDRICKSON
The World Rides On Us®

SECTION 1
Introduction

This publication is intended to acquaint and assist maintenance personnel with the installation and operation of Hendrickson HLC Series Air Kits on vehicles equipped with Hendrickson Auxiliary Suspensions.

NOTE: **USE ONLY HENDRICKSON GENUINE PARTS FOR SERVICING THIS SUSPENSION SYSTEM.**

It is important to read and understand this entire publication prior to performing any installation and operation of the product. The information in this publication contains product images, safety information, product specifications, features, proper installation and service and maintenance instructions for Hendrickson HLC Series Air Kits.

Hendrickson reserves the right to make changes and improvements to its products and publications at any time. Contact Hendrickson Tech Services for information on the latest version of this manual at 1-800-660-2829 (toll-free U.S. and Canada), 1-740-929-5600 (outside U.S. and Canada), or email: liftaxle@hendrickson-intl.com.

The latest revision of this publication is also available online at www.hendrickson-intl.com.

SECTION 2
Important Safety Notice

Proper maintenance, service and repair is important for the reliable operation of the suspension. The procedures recommended by Hendrickson and described in this technical publication are methods of performing such maintenance, service and repair.

All safety-related information should be read carefully to help prevent personal injury and to assure that proper methods are used. Improper servicing may damage the vehicle, cause personal injury, render it unsafe for operation or void manufacturer's warranty.

Failure to follow the safety precautions in this manual can result in personal injury and / or property damage. Carefully read and understand all safety related information within this publication, on all decals and in all such materials provided by the vehicle manufacturer before conducting any maintenance, service or repair.

EXPLANATION OF SIGNAL WORDS

Hazard "Signal Words" (Danger-Warning-Caution) appear in various locations throughout this publication. Information accented by one of these signal words must be observed to help minimize the risk of personal injury to service personnel or the possibility of improper service methods, which may damage the vehicle or render it unsafe.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Additional Notes or Service Hints are utilized to emphasize areas of procedural importance and provide suggestions for ease of repair. The following definitions indicate the use of these signal words as they appear throughout the publication.

DANGER INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN SERIOUS INJURY OR DEATH.

WARNING INDICATES A POTENTIAL HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, CAN RESULT IN SERIOUS INJURY OR DEATH.

⚠ CAUTION INDICATES A POTENTIAL HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, MAY RESULT IN MINOR OR MODERATE INJURY.

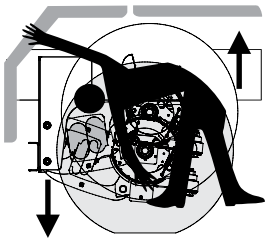
NOTE: **AN OPERATING PROCEDURE, PRACTICE, CONDITION, ETC. WHICH IS ESSENTIAL TO EMPHASIZE.**

SERVICE HINT: **A HELPFUL SUGGESTION THAT WILL MAKE THE SERVICING BEING PERFORMED A LITTLE EASIER AND / OR FASTER.**

SAFETY PRECAUTIONS

⚠ WARNING

LIFT AXLE RAPID MOVEMENT



LIFT AXLE RAPID MOVEMENT CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

IF LIFT AXLE IS OPERATED BY AN AUTOMATIC OR SEMI-AUTOMATIC LIFT AXLE CONTROL SYSTEM, SUCH SYSTEM MAY CAUSE LIFT AXLE TO AUTOMATICALLY RAISE OR LOWER UNDER DIFFERENT CONDITIONS.

LIFT AXLE ACTIVATION AND MOVEMENT MAY VARY DEPENDING ON THE BRAND, CONFIGURATION AND OPERATING CONDITION OF THE LIFT AXLE CONTROL SYSTEM AND / OR OTHER FACTORS. READ, UNDERSTAND AND COMPLY WITH ALL APPLICABLE OPERATING INSTRUCTIONS AND SAFETY INFORMATION PROVIDED BY THE LIFT AXLE CONTROL SYSTEM MANUFACTURER AND VEHICLE MANUFACTURER.

ENSURE ALL PERSONNEL ARE CLEAR OF LIFT AXLE BEFORE AND DURING VEHICLE LOADING AND LIFT AXLE ACTIVATION UP OR DOWN.

⚠ CAUTION

LIFT AXLE ACTIVATION

DO NOT LOWER LIFT AXLE WHILE THE VEHICLE IS MOVING IN REVERSE OR TRAVELING AT MORE THAN 15 MPH. FAILURE TO DO SO CAN CAUSE COMPONENT DAMAGE.

⚠ WARNING

LOAD CAPACITY

ADHERE TO THE PUBLISHED CAPACITY RATINGS FOR THE AUXILIARY AXLE. ADD-ON AXLE ATTACHMENTS (I.E. SLIDING FIFTH WHEELS) AND OTHER LOAD TRANSFERRING DEVICES CAN INCREASE THE AUXILIARY AXLE LOAD ABOVE THE RATED AND APPROVED CAPACITIES WHICH CAN RESULT IN FAILURE AND ADVERSE VEHICLE HANDLING, POSSIBLY CAUSING PERSONAL INJURY OR PROPERTY DAMAGE.

⚠ CAUTION

DAILY / PRE-TRIP OPERATOR INSPECTION

DAILY (AND BEFORE EACH TRIP) INSPECT ALL LIFT AXLE COMPONENTS FOR PROPER OPERATING CONDITION AND PROPER INSTALLATION TO THE TRUCK / TRAILER FRAME. THIS ESSENTIAL **DAILY / PRE-TRIP OPERATOR INSPECTION** MUST ALSO INCLUDE A VISUAL INSPECTION OF ALL WHEEL SEALS AND GASKETS FOR LEAKS, A VERIFICATION OF PROPER OIL LEVEL IN THE HUBS (IF APPLICABLE), INSPECTION OF ALL LIFT AND RIDE AIR-SPRINGS FOR WEAR, AND INSPECTION OF ALL TIRES FOR PROPER INFLATION AND ABNORMAL WEAR PATTERNS. IDENTIFY AND REPAIR / REPLACE ANY LOOSE, DAMAGED OR IMPROPERLY INSTALLED COMPONENTS. FOR ADDITIONAL SERVICE, REPAIR AND REBUILD INSTRUCTIONS, REFER TO THE CURRENT VERSION OF OTHER HENDRICKSON PUBLICATIONS THAT APPLY TO THE PARTICULAR LIFT AXLE SUSPENSION. SUCH PUBLICATION NUMBERS MAY INCLUDE, BUT ARE NOT LIMITED TO, OM-H754, OM-H757, TP-H633, H621 AND H817, ALL OF WHICH ARE AVAILABLE ONLINE AT www.hendrickson-intl.com.

⚠ WARNING

REPAIR AND RECONDITIONING

THE REPAIR OR RECONDITIONING OF AUXILIARY AXLE COMPONENTS THAT ARE BENT, DAMAGED OR OUT OF SPECIFICATION IS NOT ALLOWED. ANY AXLE COMPONENTS FOUND TO BE DAMAGED OR OUT OF SPECIFICATION MUST BE REPLACED. AXLE COMPONENTS CANNOT BE BENT, WELDED, HEATED OR REPAIRED WITHOUT REDUCING THE STRENGTH OR LIFE OF THE COMPONENT. FAILURE TO FOLLOW THESE GUIDELINES CAN CAUSE ADVERSE VEHICLE HANDLING, POSSIBLE PERSONAL INJURY, DEATH OR PROPERTY DAMAGE AND WILL VOID APPLICABLE WARRANTIES.

⚠ WARNING

PERSONAL PROTECTIVE EQUIPMENT

ALWAYS WEAR PROPER EYE PROTECTION AND OTHER REQUIRED PERSONAL PROTECTIVE EQUIPMENT TO HELP PREVENT PERSONAL INJURY WHEN YOU PERFORM VEHICLE MAINTENANCE, REPAIR OR SERVICE.

⚠ CAUTION

PROCEDURES AND TOOLS

A MECHANIC USING A SERVICE PROCEDURE OR TOOL THAT HAS NOT BEEN RECOMMENDED BY HENDRICKSON MUST FIRST SATISFY HIMSELF THAT NEITHER HIS NOR THE VEHICLE'S SAFETY WILL BE JEOPARDIZED BY THE METHOD OR TOOL SELECTED. INDIVIDUALS DEVIATING IN ANY MANNER FROM THE INSTRUCTIONS PROVIDED ASSUME ALL RISKS OF POTENTIAL PERSONAL INJURY OR DAMAGE TO EQUIPMENT INVOLVED.

⚠ WARNING

IMPROPER JACKING METHOD

IMPROPER JACKING METHOD CAN CAUSE STRUCTURAL DAMAGE AND RESULT IN ADVERSE VEHICLE HANDLING, SEVERE PERSONAL INJURY OR DEATH. DO NOT USE AXLE BEAM OUTBOARD OF AXLE SPRING SEATS FOR JACKING PURPOSES. REFER TO VEHICLE MANUFACTURER FOR PROPER JACKING INSTRUCTIONS.

⚠ WARNING

FASTENERS

DISCARD USED FASTENERS. ALWAYS USE NEW FASTENERS TO COMPLETE A REPAIR. FAILURE TO DO SO COULD RESULT IN FAILURE OF THE PART OR MATING COMPONENTS, ADVERSE VEHICLE HANDLING, PERSONAL INJURY OR PROPERTY DAMAGE.

LOOSE OR OVER-TORQUED FASTENERS CAN CAUSE COMPONENT DAMAGE, ADVERSE VEHICLE HANDLING, PROPERTY DAMAGE OR SEVERE PERSONAL INJURY. MAINTAIN CORRECT TORQUE VALUE AT ALL TIMES. CHECK TORQUE VALUES ON A REGULAR BASIS AS SPECIFIED, USING A REGULARLY CALIBRATED TORQUE WRENCH. TORQUE VALUES SPECIFIED IN THE RELEVANT TECHNICAL PUBLICATION ARE FOR HENDRICKSON SUPPLIED FASTENERS ONLY. IF NON-HENDRICKSON FASTENERS ARE USED, FOLLOW TORQUE SPECIFICATIONS LISTED IN THE VEHICLE MANUFACTURER'S SERVICE MANUAL.

⚠ WARNING

MODIFYING COMPONENTS

DO NOT MODIFY OR REWORK PARTS WITHOUT AUTHORIZATION FROM HENDRICKSON. DO NOT SUBSTITUTE REPLACEMENT COMPONENTS NOT AUTHORIZED BY HENDRICKSON. USE OF MODIFIED, REWORKED, SUBSTITUTE OR REPLACEMENT PARTS NOT AUTHORIZED BY HENDRICKSON MAY NOT MEET HENDRICKSON'S SPECIFICATIONS, AND CAN RESULT IN FAILURE OF THE PART, ADVERSE VEHICLE HANDLING, POSSIBLE PERSONAL INJURY, OR PROPERTY DAMAGE AND WILL VOID APPLICABLE WARRANTIES. USE ONLY HENDRICKSON-AUTHORIZED REPLACEMENT PARTS.

THE VEHICLE MANUFACTURER SHOULD BE CONSULTED BEFORE MAKING ANY CHANGES TO THE VEHICLE'S FRAME. TYPICALLY, CUTTING OR ALTERING THE VEHICLE'S FRAME OR SIDE RAIL IS NOT PERMITTED AND MAY AFFECT THE MANUFACTURER'S WARRANTY COVERAGE.

ANY INSTALLATION DEVIATIONS MUST BE APPROVED IN WRITING BY HENDRICKSON'S PRODUCT ENGINEERING DEPARTMENT. FAILURE TO COMPLY WITH ANY OF THE ABOVE WILL VOID APPLICABLE WARRANTIES.

⚠ WARNING

DAMAGED AXLE COMPONENTS

IF A VEHICLE EQUIPPED WITH A HENDRICKSON AUXILIARY AXLE IS INVOLVED IN A CRASH, A THOROUGH INSPECTION OF THE AXLE MUST BE PERFORMED NOTING THE CONDITION OF THE AXLE BEAM, KINGPINS AND KNUCKLE ASSEMBLIES, INCLUDING THE AREAS OF AXLE-TO-KINGPIN INTERFACE, FOR ANY DAMAGE, GAPS, KINGPIN MOVEMENT OR PLAY. IF ANY COMPONENT APPEARS DAMAGED, OR THE KINGPIN APPEARS TO CONTAIN ANY DAMAGE, GAPS, MOVEMENT, OR PLAY, THE COMPLETE AXLE ASSEMBLY MUST BE REPLACED.

IN ADDITION, IN THE EVENT A CRASH RESULTS IN EXCESSIVE SIDE LOAD DAMAGE TO ADJACENT PARTS, SUCH AS A BENT WHEEL, HUB OR SPINDLE, IT IS STRONGLY RECOMMENDED TO REPLACE SUCH ADJACENT PARTS AND THE COMPLETE AXLE ASSEMBLY.

CONTACT HENDRICKSON TECHNICAL SERVICES DEPARTMENT WITH ANY QUESTIONS. FAILURE TO REPLACE ANY DAMAGED COMPONENTS CAN CAUSE ADVERSE VEHICLE HANDLING, POSSIBLE PERSONAL INJURY, DEATH OR PROPERTY DAMAGE AND WILL VOID ANY APPLICABLE WARRANTIES.

⚠ CAUTION

NAVIGATING A 90 DEGREE CURVE OR TURN

TO MINIMIZE PREMATURE TIRE WEAR OR POSSIBLE DAMAGE TO NON-STEERABLE LIFT AXLE COMPONENTS (IF APPLICABLE), THE LIFT AXLE MAY BE RAISED TO THE UP POSITION PRIOR TO NAVIGATING A 90 DEGREE OR TIGHTER CURVE OR TURN. COMPLY WITH ALL FEDERAL, STATE/PROVINCIAL AND/OR LOCAL WEIGHT, DIMENSION AND CONFIGURATION REGULATIONS UNDER LOADED AND UNLOADED CONDITIONS.

⚠ WARNING

LIFT AXLE CAMBER

UNAUTHORIZED WELDING OR MODIFICATIONS CAN CAUSE CRACKS OR OTHER LIFT AXLE STRUCTURAL DAMAGE AND RESULT IN ADVERSE VEHICLE HANDLING, SEVERE PERSONAL INJURY OR DEATH. DO NOT BEND, WELD OR MODIFY AXLE WITHOUT AUTHORIZATION FROM HENDRICKSON. AXLE CAMBER IS NOT ADJUSTABLE. DO NOT CHANGE THE AXLE CAMBER ANGLE OR BEND THE AXLE BEAM. BENDING THE AXLE BEAM TO CHANGE THE CAMBER ANGLE CAN DAMAGE THE AXLE AND REDUCE AXLE STRENGTH, CAN CAUSE ADVERSE VEHICLE HANDLING, POSSIBLY CAUSING PERSONAL INJURY OR PROPERTY DAMAGE AND WILL VOID APPLICABLE WARRANTIES.

⚠ WARNING

SUPPORT THE VEHICLE PRIOR TO SERVICING

PLACE THE VEHICLE ON A LEVEL FLOOR AND CHOCK THE WHEELS TO HELP PREVENT THE VEHICLE FROM MOVING. PRIOR TO SERVICING A VEHICLE IN THE RAISED POSITION, PROPERLY SUPPORT THE VEHICLE WITH SAFETY STANDS. DO NOT WORK AROUND OR UNDER A RAISED VEHICLE SUPPORTED ONLY WITH FLOOR JACKS OR OTHER LIFTING DEVICES. FAILURE TO DO SO CAN CAUSE DEATH, PERSONAL INJURY OR DAMAGE TO COMPONENTS.

⚠ WARNING

SUPPORT THE LIFT AXLE PRIOR TO SERVICING

PLACE THE VEHICLE ON A LEVEL FLOOR AND CHOCK THE WHEELS TO HELP PREVENT THE VEHICLE FROM MOVING. PRIOR TO SERVICING A LIFT AXLE IN THE RAISED POSITION, (1) PROPERLY SUPPORT THE LIFT AXLE WITH SAFETY STANDS AND (2) RELEASE ALL AIR PRESSURE IN THE LIFT AXLE AIR SPRINGS AND RIDE SPRINGS. DO NOT WORK AROUND OR UNDER A RAISED LIFT AXLE SUPPORTED ONLY WITH FLOOR JACKS OR OTHER LIFTING DEVICES. FAILURE TO DO SO CAN CAUSE DEATH, PERSONAL INJURY OR DAMAGE TO COMPONENTS.

⚠ WARNING

AIR SPRINGS

PRIOR TO AND DURING DEFLATION AND INFLATION OF THE AIR SUSPENSION SYSTEM, ENSURE THAT ALL PERSONNEL AND EQUIPMENT ARE CLEAR FROM UNDER THE VEHICLE AND AROUND THE SERVICE AREA. FAILURE TO DO SO CAN CAUSE SEVERE PERSONAL INJURY, DEATH OR PROPERTY DAMAGE.

⚠ WARNING

AIR SPRINGS

EXHAUST ALL PRESSURE IN LIFT AXLE AIR SPRINGS AND VEHICLE AIR SYSTEM BEFORE WORKING ON OR AROUND LIFT AXLE. FAILURE TO DO SO CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

⚠ CAUTION

AIR SPRINGS

INFLATE THE SUSPENSION SLOWLY AND MAKE SURE THE RUBBER BLADDER OF THE AIR SPRING INFLATES UNIFORMLY AND IS NOT BINDING. FAILURE TO DO SO CAN CAUSE DAMAGE TO THE AIR SPRING AND/OR MOUNTING BRACKETS AND WILL VOID APPLICABLE WARRANTIES.

⚠ WARNING

AIR SPRINGS

AIR SPRING ASSEMBLIES MUST BE DEFLATED PRIOR TO LOOSENING ANY ADJACENT HARDWARE. UNRESTRICTED AIR SPRING ASSEMBLIES CAN VIOLENTLY SHIFT. DO NOT INFLATE AIR SPRING ASSEMBLIES WHEN THEY ARE UNRESTRICTED. AIR SPRING ASSEMBLIES MUST BE RESTRICTED BY SUSPENSION OR OTHER ADEQUATE STRUCTURE. DO NOT INFLATE BEYOND PRESSURES RECOMMENDED BY AIR SPRING MANUFACTURER. CONTACT HENDRICKSON TECHNICAL SERVICES FOR DETAILS. IMPROPER USE OR OVER INFLATION MAY CAUSE AIR SPRING ASSEMBLIES TO BURST, CAUSING PROPERTY DAMAGE AND / OR SEVERE PERSONAL INJURY.

⚠ WARNING

OFF ROADWAY TOWING

HENDRICKSON DOES NOT RECOMMEND TOWING A VEHICLE BY THE AUXILIARY AXLE. DOING SO WILL DAMAGE THE AXLE AND WILL VOID APPLICABLE WARRANTIES.

⚠ WARNING

PARTS CLEANING

SOLVENT CLEANERS CAN BE FLAMMABLE, POISONOUS AND CAUSE BURNS. TO HELP AVOID SERIOUS PERSONAL INJURY, CAREFULLY FOLLOW THE MANUFACTURER'S PRODUCT INSTRUCTIONS AND GUIDELINES AND THE FOLLOWING PROCEDURES:

1. WEAR PROPER EYE PROTECTION.
2. WEAR CLOTHING THAT PROTECTS YOUR SKIN.
3. WORK IN A WELL-VENTILATED AREA.

4. DO NOT USE GASOLINE OR SOLVENTS THAT CONTAIN GASOLINE. GASOLINE CAN EXPLODE.
5. HOT SOLUTION TANKS OR ALKALINE SOLUTIONS MUST BE USED CORRECTLY. FOLLOW THE MANUFACTURER'S RECOMMENDED INSTRUCTIONS AND GUIDELINES CAREFULLY TO HELP PREVENT PERSONAL ACCIDENT OR INJURY.

DO NOT USE HOT SOLUTION TANKS OR WATER AND ALKALINE SOLUTIONS TO CLEAN GROUND OR POLISHED PARTS. DOING SO WILL CAUSE DAMAGE TO THE PARTS AND VOID APPLICABLE WARRANTIES.

SECTION 3
Product Description

HLC SERIES AIR KITS are designed to accommodate a variety of lift axle applications and lift axle control requirements. One air kit is required per lift axle. Refer to Table 3-1 to review the standard lift axle kits categorized by the control mounting location and lift axle application.

TABLE 3-1

AVAILABLE MODELS

		INSIDE-MOUNTED
LIFT AXLE APPLICATION	Non-Steerable	HLC-NSI_S1
	Steerable	HLC-SSI_S1

HLC Series Air Kits designed for steerable axles include a **Solenoid Valve** that can be wired to provide lift in reverse functionality. Steerable axles must be lifted when moving in reverse or locked from turning to prevent damage to the axle/suspension. Steerable axles including a lock straight feature require additional components.

NOTE: **STATE/PROVINCIAL LAW REGULATES THE MOUNTING LOCATION FOR THE LIFT AXLE CONTROLS. REFER TO THE DEPARTMENT OF TRANSPORTATION REQUIREMENTS FOR THE STATE OR PROVINCE THAT THE VEHICLE WILL BE OPERATING IN PRIOR TO SELECTING A CONTROL.**

STANDARD COMPONENTS

All air kits come standard with one (1) control assembly, one (1) quick-exhaust valve sub kit and one (1) pressure protection valve, for a single lift axle application.

FIGURE 3-1
Inside-Mounted
Control Assembly

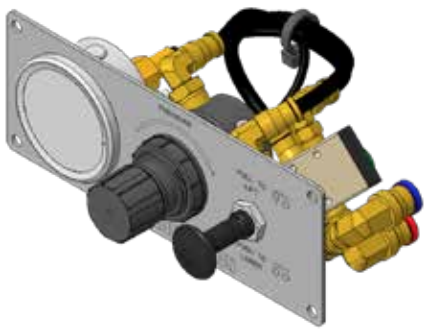


FIGURE 3-2
Quick-Exhaust Sub Kit

OPTIONAL COMPONENTS

The following options will facilitate or enhance the installation and the operation of your air kit:

- **Brake Release Valve** – A pilot valve used to allow auxiliary lift axle brakes to apply normally when the suspension is in the **DOWN** position. However, when the auxiliary lift axle is in the **UP** position, the brakes are released to eliminate hang-ups during high centering and to conserve system air pressure (see Figure 3-3).
- **Mounting Bracket** – A mounting bracket designed to accompany air kits (see Figures 3-4 to 3-6).

FIGURE 3-3
Brake Release Valve R-001994

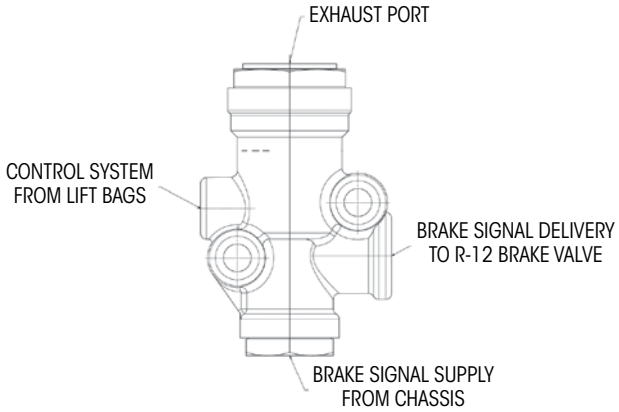


FIGURE 3-4
Single Panel Mount Bracket R-009800-1
For inside the cab

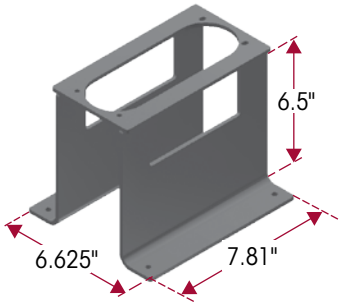


FIGURE 3-5
Double Panel Mount Bracket R-009800-2
For inside the cab

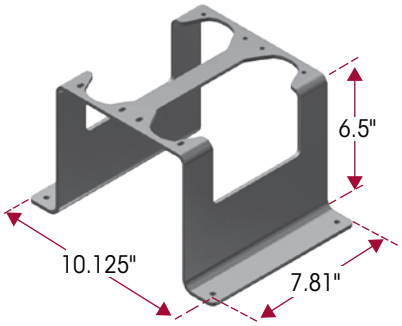


FIGURE 3-6
L-Shape Panel Mount Bracket R-005771
For mounting the control panel on the side of the center console box (Single Panel application only)

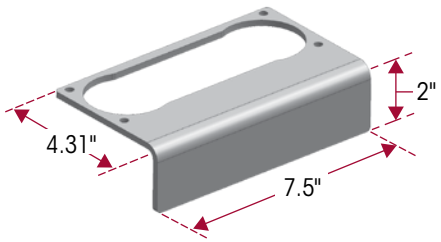


TABLE 3-2

HLC Series Air Kit Components

HAUX HLC SERIES AIR KITS:		HLC-NSI_S1	HLC-SSI_S1
	CONTROL, INSIDE MOUNTED	X	X
	QUICK-EXHAUST VALVE SUB KIT	X	X
	PRESSURE PROTECTION VALVE	X	X

SECTION 4
Installation

INSTALLATION TIPS

Use only air brake tubes that conform to S.A.E. J844 and ensure all tubing is free of kinks. Ensure that the minimum bend radii are achieved on all tubing prior to assembly.

1. Recommended minimum bend radii:
   - 1/4" Tube – 1.0"
   - 3/8" Tube – 1.5"
2. Use only dedicated tube cutters when preparing the tube ends for insertion into push-in fittings.
3. Ensure tube ends are square, free from all damage and clean.
4. Ensure tube is fully inserted into fittings (tube ends are pushed past both the grip ring and the sealing O-ring).
5. Ensure fitted panels have enough free length of tube to ensure the tube in the fittings is not under any tension.
6. Ensure there is sufficient free electrical cable to prevent wires and connections from being under tension.
7. When installing the pressure protection valve, ensure the vent hole is facing down and the label is facing up.

LIFT CONTROL INSTALL

1. Refer to Figure 5-1 in the Plumbing and Wiring Diagram section of this publication.
2. Assemble quick-exhaust valve components as shown (see Figures 4-1 and 4-2).
3. Attach quick-exhaust valve sub-assemblies to ride springs. Recommended orientation as shown (see Figure 4-3).
4. Install provided lift spring fittings (with blue ports) and quick-exhaust valve assembly to lift springs.
5. Mount control assembly in the preferred location.

FIGURE 4-1
Ride Spring Quick-Exhaust Installation

FIGURE 4-2
Lift Spring Quick-Exhaust Installation

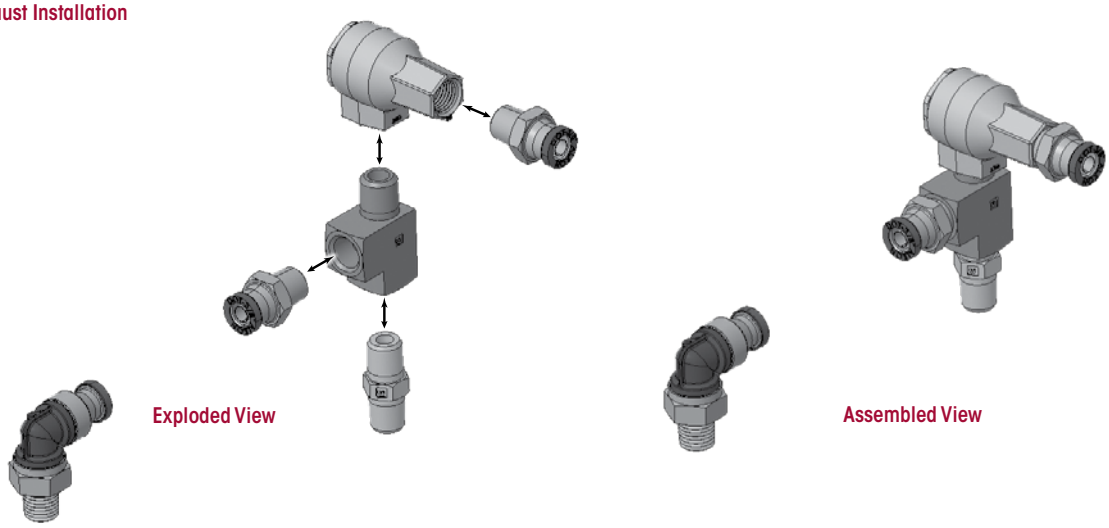
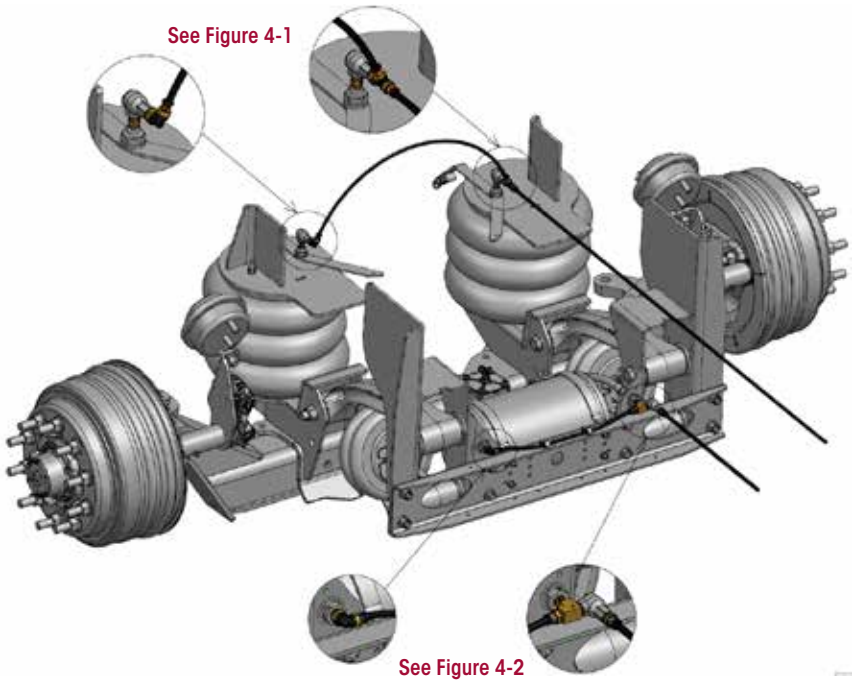


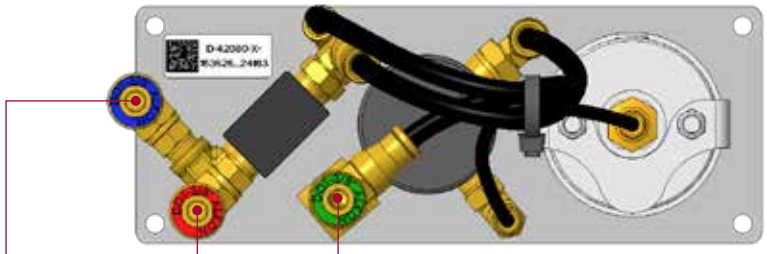
FIGURE 4-3
Quick-Exhaust Subassembly Installation to Suspension



PNEUMATIC COMPONENTS

1. Route the air lines required for all kits, see Figure 4-4 for individual port locations.
   a. Install the pressure protection valve (R-017521-13) as shown in Figure 5-1.
   b. Route an air line from the **GREEN PORT** to the lift axle supply air tank. Install the pressure protection valve and in-line air filter with the arrow pointing in the direction of flow. Install the air filter.
   c. Route an air line from the **RED PORT** to the lift axle ride springs.
   d. Route an air line from the **BLUE PORT** to the lift axle lift springs using a T-fitting as necessary. Install the quick-exhaust valve, acting as a tee to both ride springs. Mounting the quick-exhaust valve close to the tanks will improve the axle's lift time.
   e. Assemble quick-exhaust valve components as shown (see Figure 4-1 and 4-2).
   f. Install provided lift spring fittings (with **BLUE PORTS**) and quick-exhaust valve assembly to lift springs.

FIGURE 4-4
Control Options

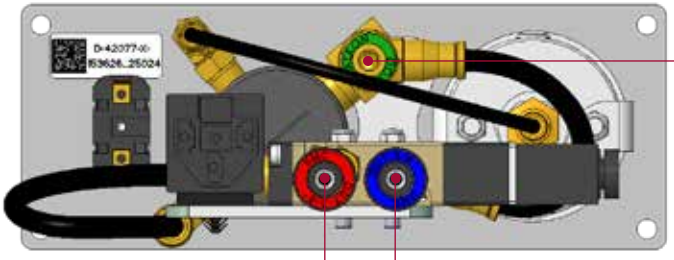


BLUE
(3/8" D.O.T. Approved)
Connect to lift air spring
Quick-Exhaust Valve

RED
(3/8" D.O.T. Approved)
Connect regulated air
to ride air spring
Quick-Exhaust Valves

GREEN
(3/8" D.O.T. Approved)
Connect to PPV then to
Supply Air Tank

Relay Wire Colors:
RED - Reverse
WHITE - Ground
BLUE - +12v DC Power



GREEN
(3/8" D.O.T. Approved)
Connect to PPV then to
Supply Air Tank

RED
(3/8" D.O.T. Approved)
Connect regulated air
to ride air spring
Quick-Exhaust Valves

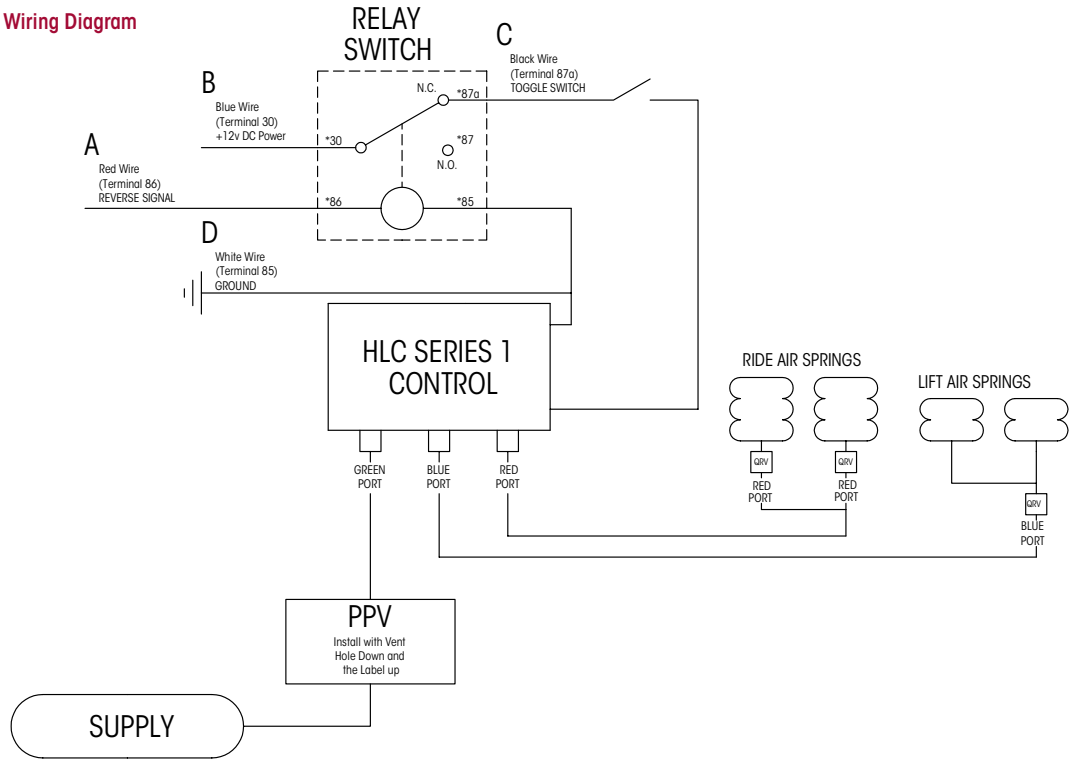
BLUE
(3/8" D.O.T. Approved)
Connect to lift air spring
Quick-Exhaust Valve

ELECTRICAL COMPONENTS

If installing HLC-SSI_S1: connect white wire to a good vehicle ground, blue wire to a working +12v DC source and red wire to a reverse wire, such as the reverse light wiring. See Figure 5-1 for more information.

SECTION 5
Plumbing & Wiring Diagram

FIGURE 5-1
Plumbing & Wiring Diagram



SECTION 6
Suspension Operation

RAISING YOUR LIFT AXLE

1. If the vehicle is already running, please proceed to Step 5.
2. Set parking brake of truck.
3. Start engine.
4. Allow the vehicle to idle until the vehicle air system pressure has reached the compressor cut-out pressure.
5. **If controls are Inside-Mounted** – Move the switch to **LIFT** position or pull the knob to immediately lift the axle.
6. Visually confirm the axle is lifting.

NOTE: **VEHICLE SYSTEM AIR PRESSURE MAY DROP DURING SUSPENSION LIFTING PROCESS.**

7. Lift axle should be completely lifted when the vehicle's air system pressure returns to the air compressor cut-out point.
8. Hendrickson requires raising the lift axle when not in use and when off-road.

LOWERING YOUR LIFT AXLE

1. If the vehicle is already running, please proceed to Step 6.

2. Set parking brake of truck.
3. Start engine.
4. Allow the vehicle to idle until the vehicle air system pressure has reached the compressor cut-out.

CAUTION

DO NOT LOWER LIFT AXLE WHILE THE VEHICLE IS MOVING IN REVERSE OR TRAVELING AT MORE THAN 15 MPH. FAILURE TO DO SO CAN CAUSE COMPONENT DAMAGE.

5. **If the controls are Inside-Mounted** – Move the switch to **LOWER** position or push the knob to immediately lower the axle.

WARNING

MAKE SURE LIFT AXLE SUSPENSION SYSTEM IS CLEAR OF OBSTACLES AND PERSONNEL BEFORE OPERATING. INJURIES MAY OCCUR IF THE PROPER PRECAUTIONS ARE NOT TAKEN.

6. Using the regulator, adjust air pressure on the gauge to the appropriate air pressure for vehicle load conditions. See air pressure load charts in the applicable Hendrickson Auxiliary Lift Axle Owner's Manuals H819 (Steerable) or H818 (Non-Steerable).

NOTE: **AIR SYSTEM PRESSURE MAY DROP DURING SUSPENSION LOWERING PROCESS.**

7. Lift axle should be completely lowered and supporting the pre-determined load when system air compressor cut-out point is reached.

SECTION 7
Replacement Parts List

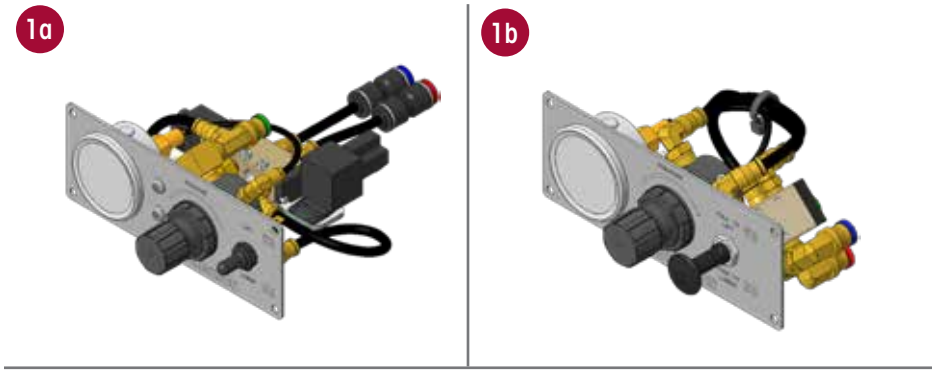


TABLE 7-1

ITEM	DESCRIPTION		PART NUMBER	QTY.
1	a	Lift Axle Control for HLC-SSI_S1	R-020941-00	1
	b	Lift Axle Control for HLC-NSI_S1	R-020940-00	1

SECTION 8
FAQ

NOTE: **ALL BRAKE PLUMBING INSTALLATIONS MUST ADHERE TO FMVSS-121 REGULATIONS. MODIFICATIONS TO A VEHICLE'S PNEUMATIC SYSTEM MAY ALTER ITS COMPLIANCE TO FMVSS-121 REGULATIONS.**

TABLE 8-1

	QUESTION	RESPONSE
1	**Where do I install my Hendrickson air kit?**	The Hendrickson air kit product line is available for Inside-Mounting. Your particular application will be dictated by regulations in your State(s) or Province of operation.
2	**At what pressure should the regulator be set?**	Typically 70-120 psi. All new lift axle and air control installations should be verified at a certified scale to determine correct pressures for vehicle loading. Improper vehicle loading can cause handling irregularities and component damage.
3	**How do I identify my air kit?**	The identification tag is located on the back of the control panel.
4	**Why do steerable suspensions require auto lift in reverse?**	Due to the positive caster angle built into Hendrickson steerable lift axles, they are designed to track with the vehicle in forward motion. Moving in reverse, the wheels will lock sideways and scrub the tires imparting high stress on the axle and leading to potential damage.
5	**Why does my pressure gauge show ride pressure when axle is raised?**	The gauge will show a constant value for pressure dialed into the regulator. This makes technicians and operators aware of both ride pressure and stored pressure which can cause severe personal injury and component damage.

SECTION 9
Troubleshooting

TABLE 9-1

HLC SERIES AIR KITS

TROUBLESHOOTING GUIDE		
PROBLEM	**POSSIBLE CAUSE**	**CORRECTION**
Automatic or manual lift does not function	Non-functioning push/pull valve	Replace with Part Number R-020940-00
	Non-functioning electric toggle switch	Replace with Part Number R-020941-00
	Non-functioning solenoid valve	Replace with Part Number R-020941-00
	Non-functioning relay	Replace with Part Number R-020941-00
	Solenoid on control is not being energized	Connect one white wire to vehicle ground, red wire to backup light power and blue wire to +12v DC (Excluding HLC-NSI_S1)
	Kinked, pinched, or broken air line	Replace air line
	Supply air pressure insufficient to operate lift mechanism	Verify that you are receiving 100 psi minimum at the control. Use calibrated gauge at supply line inlet
	Non-functioning Quick-Exhaust Valve	Replace Quick-Exhaust Valve
	Exhaust port(s) are plugged	Remove obstruction
	Air kit not properly plumbed	Confirm that air kit is plumbed per Figure 5-1, Plumbing & Wiring Diagram in this publication
	Non-functioning control	Contact Hendrickson Warranty Department
Does not lower	Non-functioning push/pull valve	Replace with Part Number R-020940-00
	Non-functioning electric toggle switch	Replace with Part Number R-020941-00
	Non-functioning relay	Replace with Part Number R-020941-00
	Kinked, pinched, or broken air line	Replace air line
	Supply air pressure insufficient to operate lift mechanism	Verify that you are receiving 100 psi minimum at the control; Use calibrated gauge at supply line inlet
	Non-functioning Quick-Exhaust Valve	Replace Quick-Exhaust Valve
	Exhaust port(s) are plugged	Remove obstruction
	Air kit not properly plumbed	Confirm that air kit is plumbed per Figure 5-1, Plumbing & Wiring Diagram in this publication
	Non-functioning control	Contact Hendrickson Warranty Department
	Regulator turned down too low	Increase air pressure at regulator until desired load is carried at wheels
	Truck in reverse gear	Place transmission in forward gear or neutral
	Solenoid valve is de-energized	Place transmission in forward gear or neutral and confirm toggle switch is in **LOWER** mode (HLC-SSI_S1)
Slow lift or lower times	Insufficient air flow or volume being delivered to control	Confirm supply line size is ⅜" OD. Increase air reservoir capacity
	Insufficient air flow or volume being delivered to the air springs	Confirm air line size is ⅜" going to air spring air lines
Suspension does not carry rated load	Insufficient air pressure in ride springs	Increase pressure in ride springs by increasing regulator setting. Check pressure in ride springs at air spring inlet.
	Supply air pressure insufficient to operate lift mechanism	Verify that you are receiving 100 psi minimum at the control. Use calibrated gauge at supply line inlet.
	Kinked, pinched or broken air line	Replace air line
	Non-functioning air kit control panel	Contact Hendrickson Warranty Department
	Incorrect lift axle ride height	Contact Hendrickson Technical Service Department

Actual product performance may vary depending upon vehicle configuration, operation, service and other factors.
All applications must comply with applicable Hendrickson specifications and must be approved by the respective vehicle manufacturer with the vehicle in its original, as-built configuration.
Contact Hendrickson for additional details regarding specifications, applications, capacities, operation, service and maintenance instructions.

*Call Hendrickson at **800.660.2829** or **800.668.5360** in Canada for additional information.*

HENDRICKSON

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