AKTV8

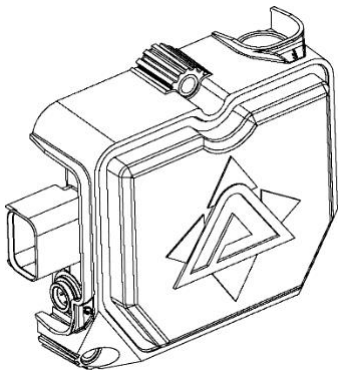
Intelligence In Motion

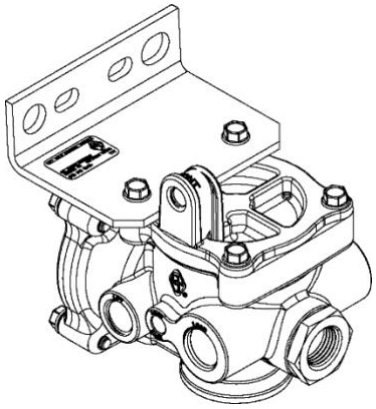
iLift

Lift Axle Control System

Truck / Trailer

Installation and Operating Instructions





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Parts Included in Kit

iLift Installation Kits

Part Number	Description	003502 Truck	003512 Trailer
		QTY	
000022	Electronic Control Unit	1	1
002361	Bracket	1	1
002397	Fitting, Tee, Reducer, 3/8" to 1/4"PTC	1	2
003601	Fitting, Union, ¼" to 3/8" PTC		1
003522	Warning Label	2	2
003486	Wiring Harness Truck	1	
003536	Installation QR Code Card	1	1

Note: See section 7.3 for accessory items

Download iLift App for Android

1 General

1.1 Intended Use

This iLift lift axle system is specifically designed for the heavy-duty truck and trailer industry to control the Lift Axle Control Module (LACM by Norgren) or other proportional relay valve-based control valves. The system consists of a smart Electronic Control Module (ECM), DOT rated T-fitting and OEM compatible wiring harness that connects to the vehicle's existing lift axle control wiring. Locally obtain any additional parts required to properly install the iLift lift axle system.

The ECM can be programmed to automatically raise and lower the lift axle under selected conditions, such as weight limits and/or when the vehicle is in reverse. This is done through an APP on an Android tablet or is part of the vehicle system.

1.2 Information About These Instructions

These instructions will enable you to safely install, set up, and operate the iLift lift axle system. These instructions are an integral part of the product and must be accessible to personnel. Personnel must carefully read through and understand these instructions before starting work of any kind on the lift axle system. Following all the safety and handling instructions contained in this manual is a fundamental requirement for safe working.

1.3 Liability and Warranty

Modification to the iLift lift axle system may only be carried out by the manufacturer's personnel. If the system requires repairs or servicing beyond the scope of the activities described in these instructions, this work may only be carried out by the manufacturer of the system or by persons who have been expressly authorized and trained by the manufacturer. Furthermore, the air system shall be free of chemical additives such as lubricants, deicers, or antifreeze products. Failure to observe the above will void the warranty. The manufacturer accepts no liability for damages incurred.

1.4 Warranty Statement

Items sold by AKTV8 are warranted to be free from defects in materials and workmanship for a period of 2 years from the date of manufacture, provided said items are used according to AKTV8's recommended usages. AKTV8's liability is limited to the repair of, refund of purchase price paid for, or replacement in kind of, at AKTV8's sole option, any items proved defective, provided the allegedly defective items are returned to AKTV8 prepaid. The warranties expressed above are in lieu of and exclusive of all other warranties. There are no other warranties, expressed or implied, except as stated herein. There are no implied warranties of merchantability or fitness for a particular purpose, which are specifically disclaimed. AKTV8's liability for breach of warranty as herein stated is the exclusive remedy, and in no event shall AKTV8 be liable or responsible for incidental or consequential damages, even if the possibility of such incidental or consequential damages has been made known to AKTV8. AKTV8 reserves the right to discontinue manufacture of any product or change product materials, design, or specification without notice. Our policy is one of continuous research and development. We therefore reserve the right to amend without notice the specifications given in this document. Customers are responsible for ensuring that the product is used only for the purpose of which it is intended. In case of doubt, AKTV8 will be pleased to advise.

2 Safety

Knowledge of the procedure to be performed and safe work habits are essential to preventing death, personal injury, or property damage. Use the following statements as a common-sense guide to proper work and tool-use habits.

2.1 Dangers of Compressed Air

DANGER:

Compressed air can cause injuries if not handled correctly. Ensure systems are depressurized before work begins. Work should be carried out by a pneumatics specialist.

2.2 Service Training

- Read and understand the instructions contained in all manuals delivered with the vehicle and iLift lift axle system.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Only trained personnel shall install, troubleshoot, or repair the iLift lift axle system.

2.3 Repair Person Qualifications

Work on the vehicle's electrical system, equipment on the chassis, and the pneumatic/brake systems may be performed only by skilled individuals who have been specially trained for such work.

2.4 Personal Protective Equipment (PPE)

Wear the following PPE while installing or maintaining the iLift lift axle system:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

In addition, before servicing or maintaining the machine:

- Tie back long hair
- Remove all jewelry (including rings)

2.5 Personal Safety Measures

- Follow the specific safety instructions in this manual.
- Block or support the vehicle and parts that may move or fall prior to performing installation or repairs.
- Engine block and muffler system become very hot during operation and require cooldown time after the vehicle is shut off. Avoid contact with hot parts.
- Never use machine parts or attachments/superstructures as a climbing aid.

2.6 Safety Symbols Found in This Manual

DANGER

This symbol and the word 'danger' indicate an immediately dangerous situation that may result in death or serious injury if not avoided.

WARNING!

This symbol and the word ‘warning’ indicate a potentially dangerous situation that may result in death or serious injury if not avoided.

CAUTION!

This combination of symbol and signal word indicates a possibly hazardous situation that may result in damage to property or environmental damage if it is not avoided.

NOTE: *Indicates tips and other useful information*

3 Installation

Prior to installation, please have the following information for set up.

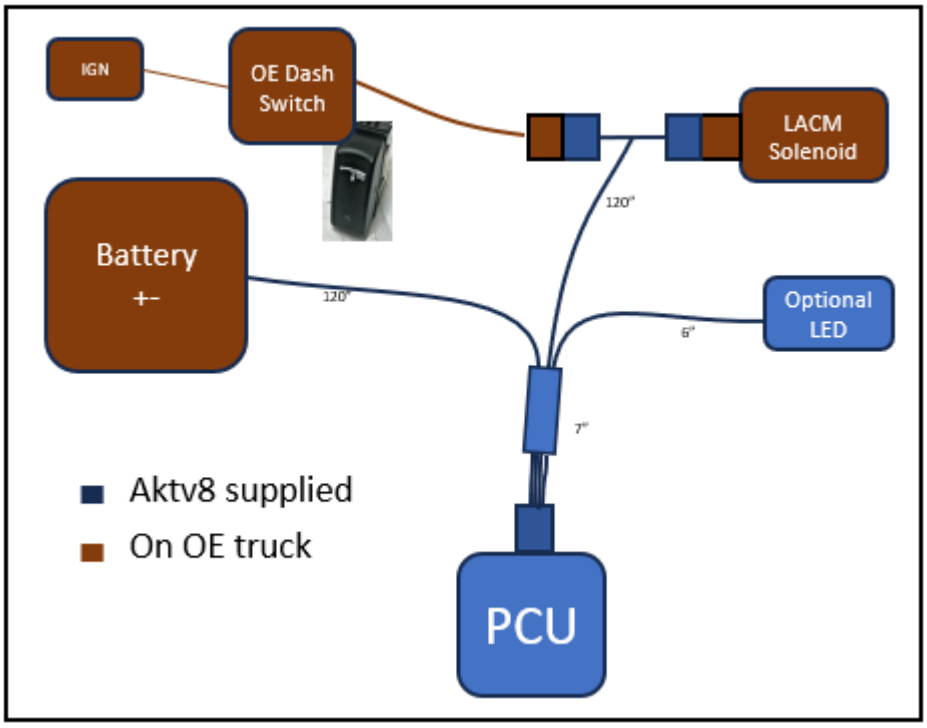
Primary Suspension Pressure at Maximum Legal	PSI	Load:
Lift Axle Maximum Pressure at Maximum Legal	PSI	Load:

Warning:

To prevent personal injury or death, do not defeat safety devices. Contact the vehicle manufacturer before making any modifications to the vehicle pneumatic brake system.

3.1 iLift Electrical Installation Overview

Truck



C1				
DESCRIPTION:		PLUG, APEX SHELL F		
CONNECTOR HOUSING:		35063643 APEX 2.8 6-WAY (alt 54200608)		
TERMINAL P/N:		10762803		
CAVITY	CIRCUIT	SIZE	COLOR	DESCRIPTION
1	AK001	16 AWG	BLACK-BLK	BATTY POWER (+)
2	AK002	16 AWG	BLUE-BU	PCM SWITCH INPUT
3	AK004	16 AWG	YELLOW	LED POWER
4				CAVITY PLUG, APEX 2.8
5				CAVITY PLUG, APEX 2.8
6	AK011	16 AWG	WHITE-WH	MOD GROUND (-)

Figure 1

Trailer

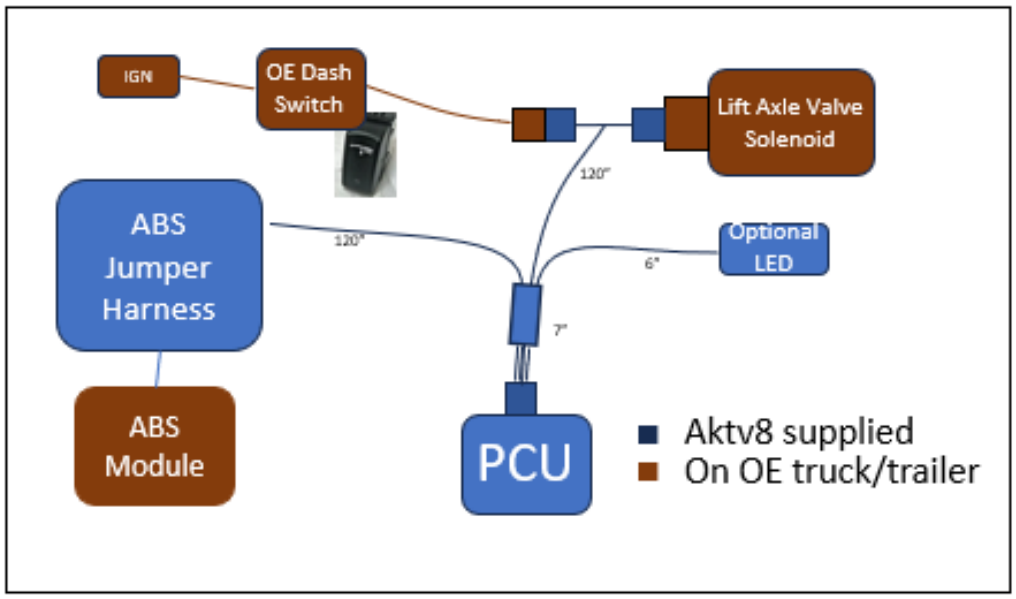
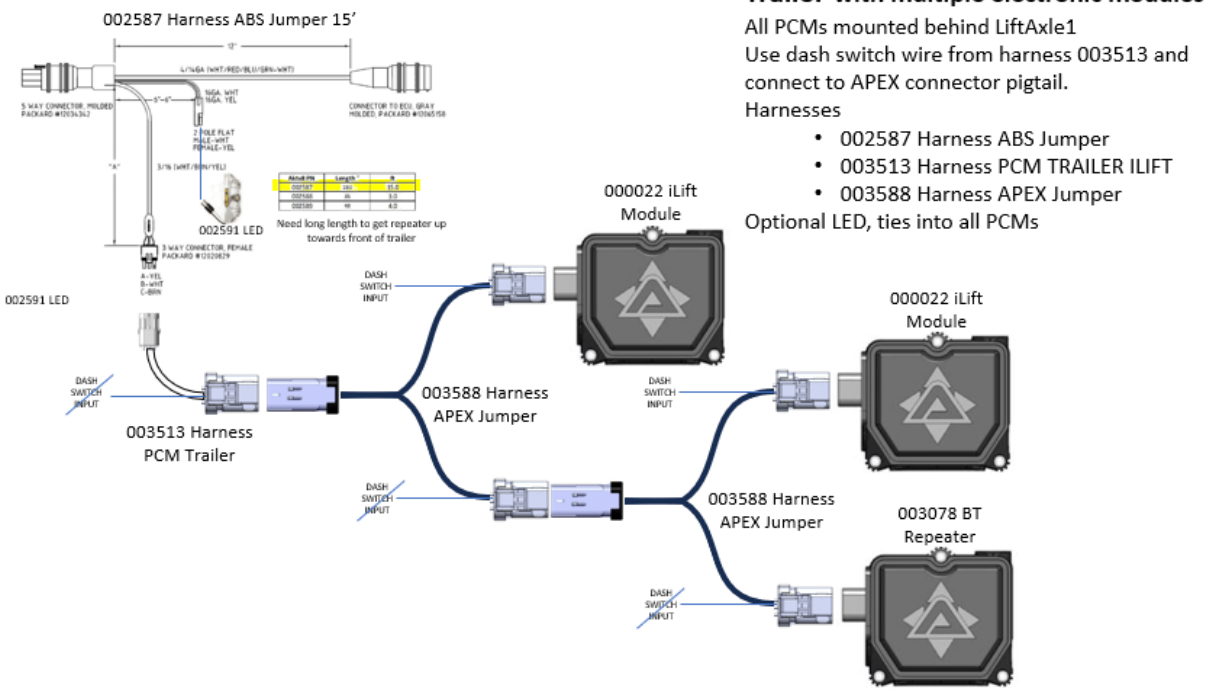


Figure 2



Trailer with multiple electronic modules

All PCMs mounted behind LiftAxle1
Use dash switch wire from harness 003513 and connect to APEX connector pigtail.
Harnesses

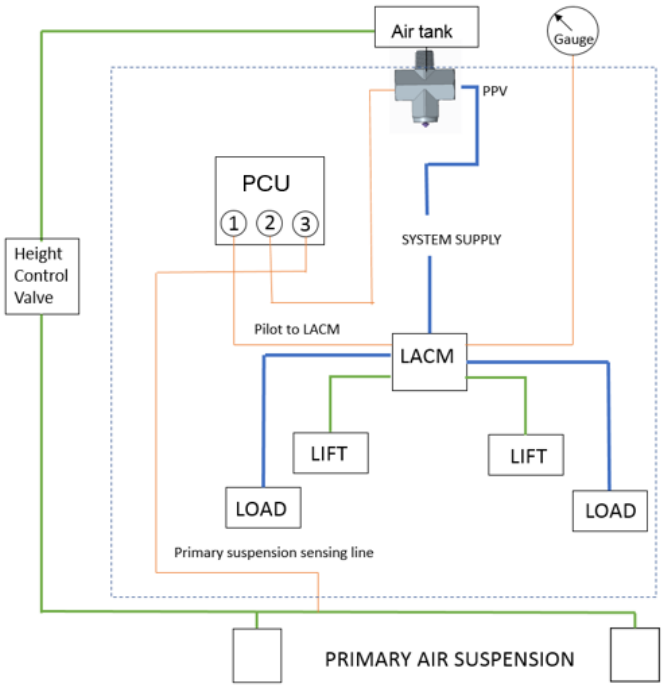
- 002587 Harness ABS Jumper
- 003513 Harness PCM TRAILER ILIFT
- 003588 Harness APEX Jumper

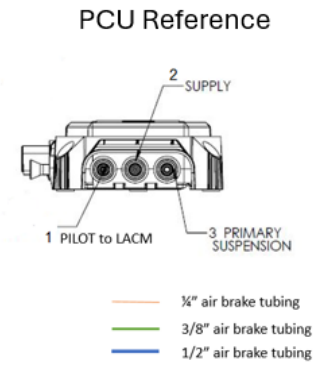
Optional LED, ties into all PCMs

Note: Optional BT Repeater 003078 is used with TPMS installation

Note: Electrical installation example of multiple modules with BT repeater for TPMS installation.

3.2 iLift Pneumatic Installation Diagram





Note: Installations on vehicles with a mechanical suspension, the sensing line to port 3 on the ECU must be teed in with the supply line to port 2.

Figure 3

3.3 iLift Installation

NOTE: All figures represent a typical iLift installation. The routing, mounting, and installation may vary depending on the vehicle make, model, and configuration.

Warning:

To prevent personal injury or death, make sure the parking brake is set, the transmission is in neutral or park, and the wheels are blocked.

1. Park vehicle on flat level surface.
2. Ensure the lift axle is in the lifted position.
3. Support lift axle with suitable blocks or stands.
4. Lower lift axle onto blocks or stands.
5. Drain air from vehicle's main suspension.
6. Drain air tanks until pressure is removed from air system.

CAUTION:

To prevent injury or damage to equipment, do not route wiring harness near heat sources, moving objects, or sharp edges.

7. Route wiring harness to vehicle battery box on trucks or ABS control module interface on trailers or trailer nose box respectively. Secure with wire ties as needed. Do not connect wiring harness to battery or re-connect trailer electrical cord at this time. Secure with wire ties as needed.

NOTE: Ensure enough slack is left in wiring harness so that wiring harness connector will reach iLift Electronic Control Unit (PCU) electrical connector.

CAUTION:

To prevent injury or damage to equipment, do not modify wiring harness without consent from AKTV8.

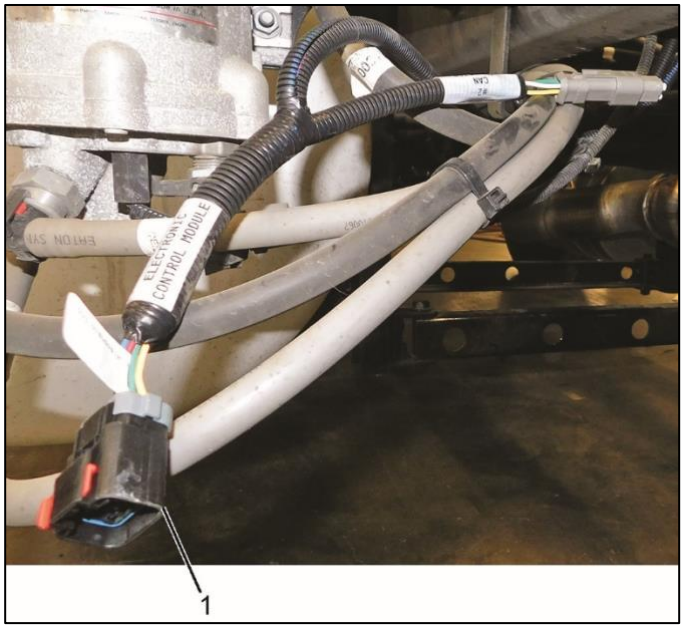


Figure 4

8. Route wiring harness (Figure 4, Item 1) along existing chassis harness or air tubing to desired iLift PCU location. Use UV-resistant zip ties at 12-inch intervals and avoid routing within 4 inches of exhaust, driveline, or steering components.

CAUTION!

! To prevent injury or damage to equipment, the iLift PCU must be mounted on a flat surface with the logo out. If mounting vertically, air lines should face down. If mounting horizontally, ensure it is positioned in a way that water will not collect around wiring harness or air lines.

Figure 5

9. Use the iLift PCU (Figure 5) on bracket as a drilling template, mark mounting bolt location for iLift PCU on flat vibration insulated surface.
10. Drill 8.5 mm holes for iLift PCU bracket

NOTE: Mounting bolts are not provided with kit. Suitable mounting nuts and bolts must be locally obtained. Always use anti-vibration washers.

11. Mount iLift PCU (Figure 5) and secure with M8 hex head nuts and bolts, grade 8.8 or better. Torque nuts to 28 Nm ± 2 Nm.
12. Connect wiring harness (Figure 4, Item 1) to iLift PCU (Figure 5).
13. Route iLift wire harness (single lead) to lift axle control valve on the vehicle (Figure 6).
14. Connect iLift wiring harness blue, single lead to OEM solenoid control of the lift axle valve (Figure 6, Item 1).

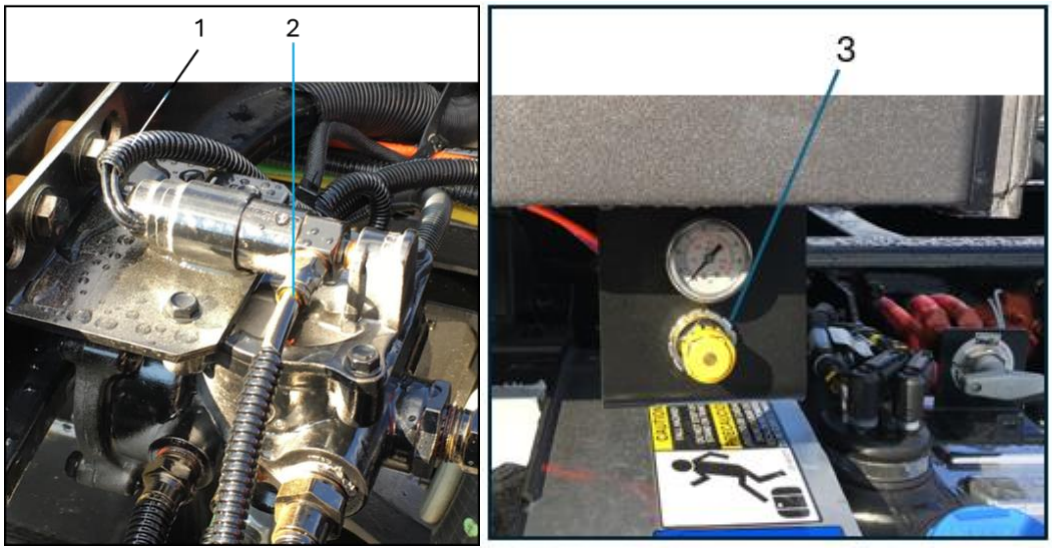


Figure 6

NOTE: The lift axle valve is equipped with a control solenoid (NC), the solenoid must be unplugged from the vehicle wiring harness (Figure 6, Item 1).

Turn vehicle ignition on and switch OEM lift axle switch to “ON, down”) position and determine the positive (+) wire on electrical plug.

15. Disconnect negative battery cable at battery or disconnect trailer electrical cord from tractor.
16. Cut the positive wire (Figure 6, item 1) on the vehicle wire harness for the LACM control solenoid. Leave enough space on either side to splice in iLift wiring harness blue wire.
17. Crimp butt connectors and heat shrink to assure water tight connection.
18. Re-connect the vehicle wiring harness to lift axle valve solenoid.
19. Disconnect regulator (see Figure 6, Item 3) output air tube on current vehicle controls, feeding the lift axle valve pilot port (input) (Figure 6, Item 2) and route to iLift PCU port 1 (Figure 7, Item 3). See air schematic Figure 3

NOTE: Remove current controls (Figure 6, Item 3) from vehicle. These controls are replaced

by the iLift PCU Figure 5.

Figure 7

20. Re-route regulator input (Figure 6, Item 3, current controls, tank air) and connect air tube (Figure 8, Item 2) to iLift PCU port 2 (Figure 8, Item 3).

Note: Measure the length of the air tube needed from LACM solenoid pilot port to iLift PCU port 1 (Figure 7, Item 3). This length will be required during PCU set up.

Figure 8

21. Connect air tube (Figure 7, Item 2) to iLift PCU port 1 (Figure 7, Item 3), and secure with wire ties as needed.

22. Using T fitting (Figure 9, Item 3) connect to vehicle air ride suspension supply tube (Figure 9, Item 1). (See vehicle pneumatic schematic for air ride supply location.)

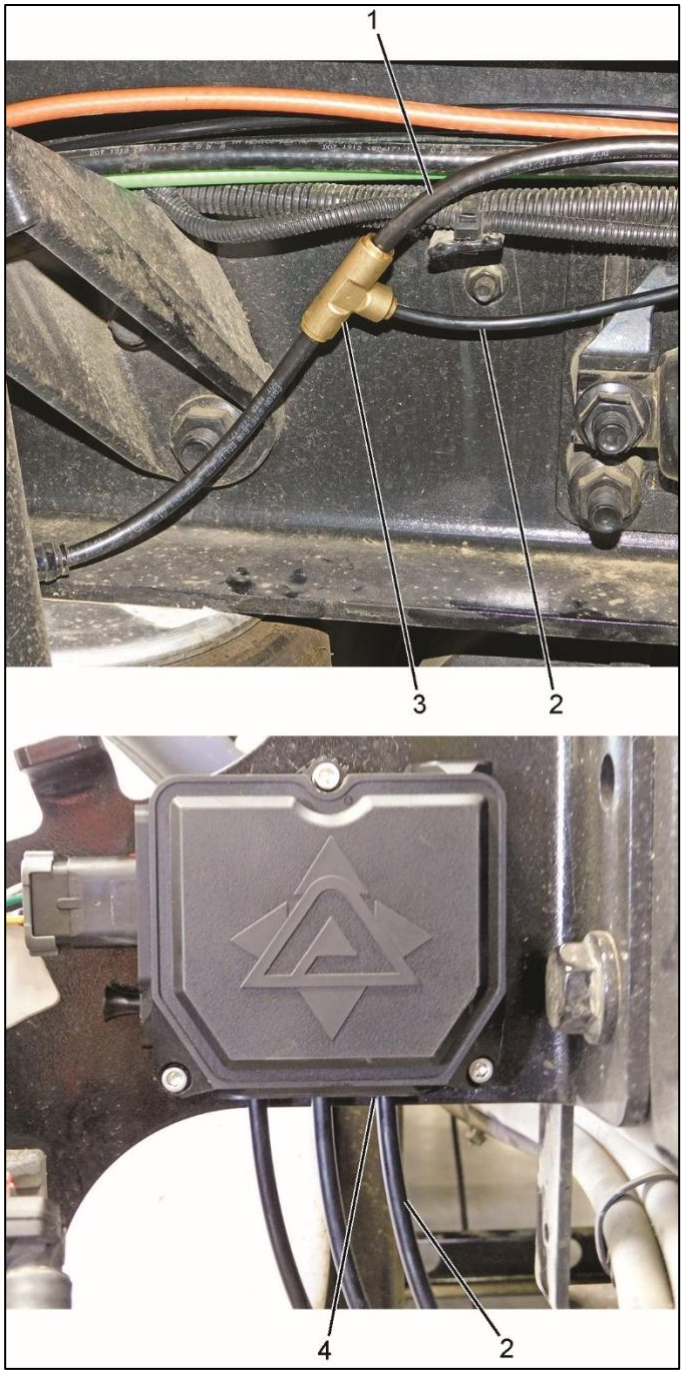


Figure 9

23. Connect air tube (Figure 9, Item 2) to T fitting (Figure 9, Item 3) and route to iLift PCU.

Note: Installations on vehicles with primary mechanical suspensions, port 3 (Figure 9, Item 4) needs to be connected to tank air (Figure 8, Item 2), ¼" PTC union T needs to be locally sourced.

24. Connect air tube (Figure 9, Item 2) to iLift PCU port 3 (Figure 9, Item 4), and secure with wire ties as needed.

Truck

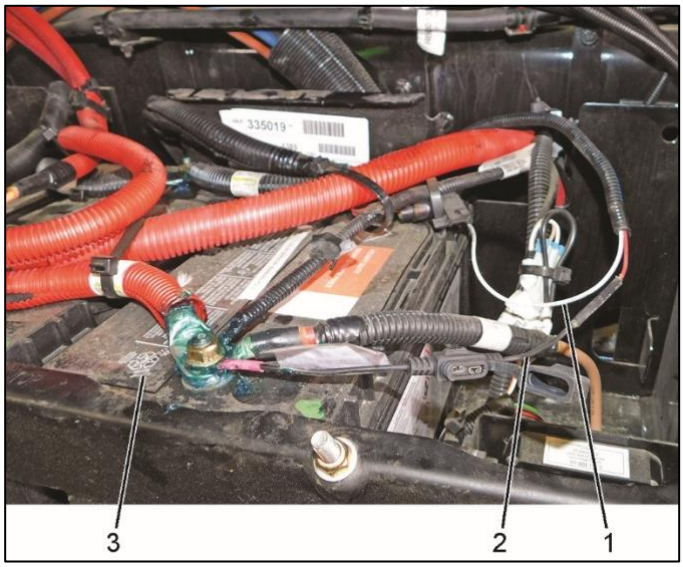


Figure 10

25. Route battery harness connection from iLift PCU to battery box and secure with wire ties as needed.
26. Connect positive wire (Figure 10, Item 2) on wiring harness to battery (Figure 10, Item 3).
27. Connect negative wire (Figure 10, Item 1) on wiring harness to battery (Figure 10, Item 3).
28. Connect ground cable to battery.

Trailer

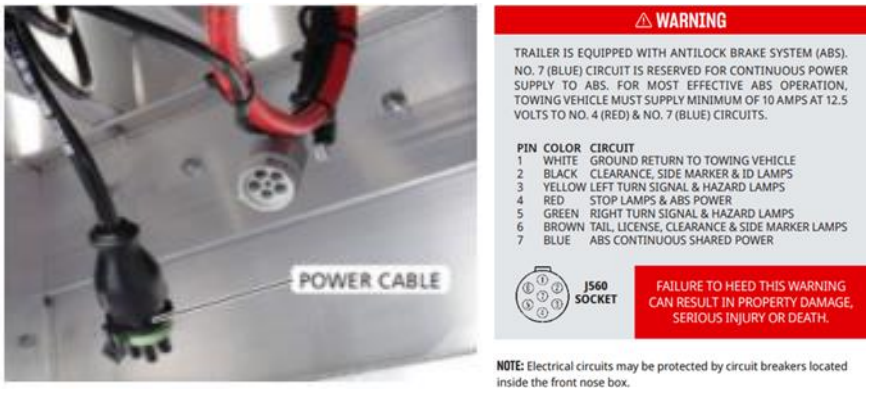


Figure 11

29. Locate the trailer's ABS module and power cable. (Figure 11), if so equipped or use 7-way harness.
30. Install ABS jumper harness and connect to vehicle harness
31. Connect trailer harness to ABS jumper harness and route to iLift PCU
32. Alternatively route the 7-way harness to the trailer nose box (Figure 9, J560 pin out) and connect to Pin 7 (Power) and Pin 1 (Ground)
33. Connect trailer harness to 7-way harness and route to iLift PCU

34. Reconnect trailer electrical cord to tractor.
35. Start vehicle and allow air pressure to build.
36. Turn off engine but keep key in ignition position.
37. Deploy the lift axle with the OEM switch for the lift axle.

Note: Lift axle will not deploy but is in automatic standby mode. A forced override down can be achieved by double cycling of the switch in rapid succession.

38. Using the iLift app, program iLift according to vehicle specs and intended use. (See Programming)

Note: Actuate the switch (Figure 12, Item 1) to the “On” position. The lift axle will be in “Auto mode” when the vehicle is in use. Only actuate switch “Off” when vehicle is in operation for axle override up if situation requires.

Example of trailer control installation

Figure 12

39. Check air tubes and fittings for leaks. Repair as needed.

40. Thoroughly clean the surface to ensure adhesion and install warning labels (Figure 13) visibly on each side of the chassis or vehicle body near the lift axle.

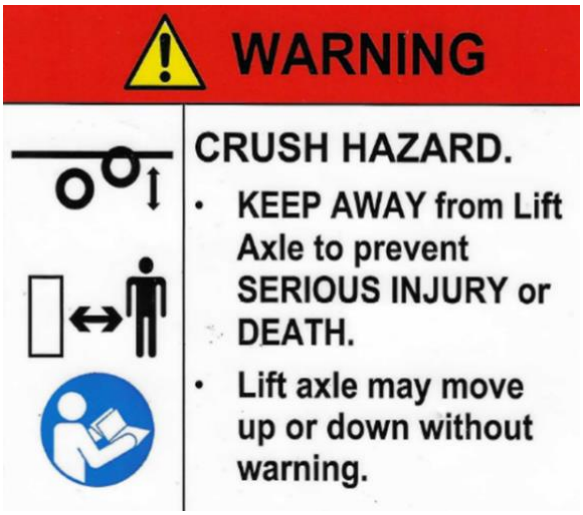


Figure 13

4 Programming iLift

4.1 Overview

The following procedure is a basic guide to program the iLift lift axle system. After the iLift is programed, the vehicle will need to be driven with a load and while the primary suspension pressures are monitored. The settings may need to be revised in real time to ensure the system operates as desired.

The iLift app defaults to “Basic” setup, where many system parameters are automatically assigned. If the “Basic” setup is inadequate, the system parameters can be adjusted by using the “Advanced Control” option.

Note: Basic set up – Primary deploy trigger is set at -3% of Primary maximum pressure
Primary lift trigger is set at -40% of Primary maximum pressure
Lift axle minimum pressure is set at -40% of Lift axle maximum pressure

The iLift lift axle system can be programed to operate the following controls, depending on the vehicle’s needs/application:

- Load Following™: best for partially loaded, driven trucks and trailers. This keeps the primary drive axles maximally loaded for optimal traction.
- Pressure Following: best for partially loaded, non-driven applications like trailers. The lift axle pressure will match the primary suspension pressure.
- Deploy to Target Pressure: best for fully-loaded-only applications, where the vehicle operates in only fully unloaded or fully loaded states.

The iLift lift axle system is also equipped with an overload warning setting. This feature can be enabled and disabled using the iLift app.

4.2 Connecting to iLift Lift Axle System

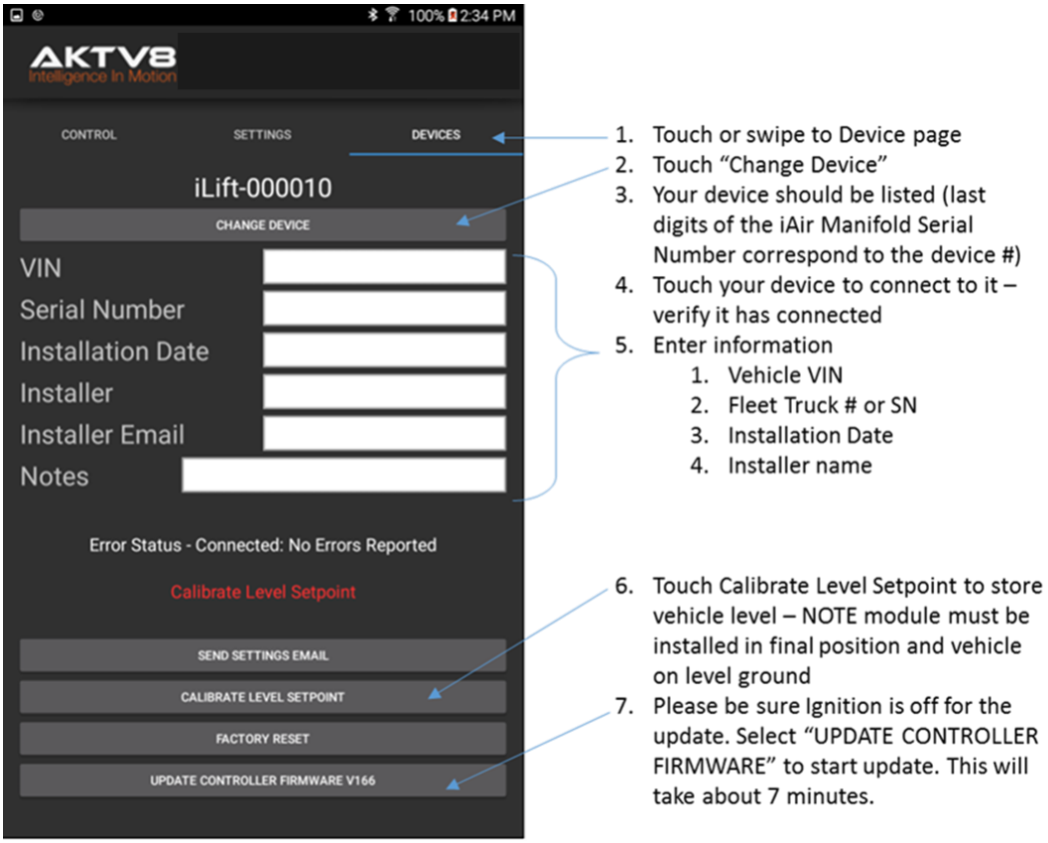


Figure 14

1. Download iLift app by going to Google Play Store – iLift Control

https://play.google.com/store/apps/details?id=com.aktv8.ilift&hl=en_US

2. Open iLift app with compatible smart phone or tablet.
3. Touch or swipe to **DEVICES** tab (Figure 14, Item 1).
4. Touch **CHANGE DEVICE** (Figure 14, Item 2).

NOTE: The last six digits of the iLift Electronic Control Unit (PCU) serial number should match the iLift device number, last digits of PCU Serial Number correspond to the device number.

5. Ensure correct device is listed.
6. Touch the device to connect to the iLift app.
7. Verify the iLift app has connected.

NOTE: To confirm the module is connected to the App, swipe to CONTROL (Figure 14, Item 1) and confirm screen looks like (Figure 17). Once confirmed go back to DEVICES (Figure 14, Item 1).

If you can't establish a Bluetooth connection out of the iLift App, go to tablet "Settings" and select "Bluetooth" and look in *Available Devices* and pair with PCM to tablet

8. Update the module to the latest software revision. Figure 14, Item 7), please be sure the OEM switch is in the Off (Up) position.
9. Enter the following information in the appropriate fields (Figure 14, Item):
   - Vehicle Identification Number (VIN)
   - Assigned fleet truck number or serial number
   - Installation date
   - Installer's name
10. Calibrate level setpoint (Figure 14, Item 6) to store vehicle level.

Note: The module (PCU) must be installed in final position, and the vehicle must be on level ground.

4.3 Basic Setup

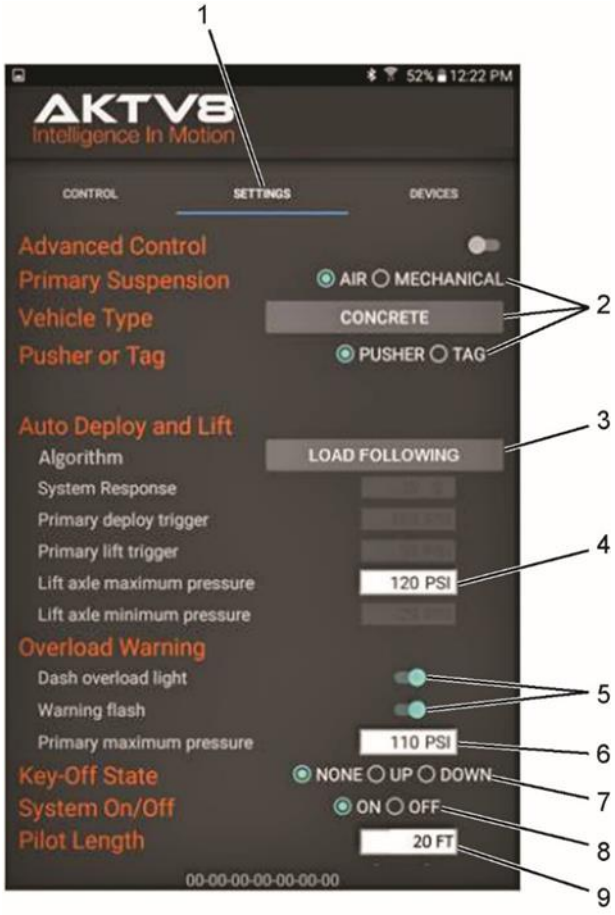


Figure 15

1. Touch or swipe to **SETTINGS** tab (Figure 15, Item 1).
2. Touch to select the features that apply to the vehicle (Figure 15, Item 2).
3. Touch **Algorithm** (Figure 15, Item 3) to select the appropriate controls. (See 4.1

Overview.)

- LOAD FOLLOWING (recommended for most applications)
- PRESSURE FOLLOWING
- DEPLOY TO TARGET PRESSURE

NOTE: It is best to set lift axle maximum pressure after gathering vehicle weight data from a scale. To determine accurate suspension weight, calibration with a certified scale is recommended.

4. Touch **Lift axle maximum pressure** window (Figure 15, Item 4) and set maximum pressure when fully loaded. Refer to lift axle manufacturer load/ pressure chart for estimated values on initial setting. Reference table below for example:

Estimated Load Per Axle	Air Spring Required PSIG
13,100 lbs	73 PSIG
12.575 lbs	70 PSIG
10,775 lbs	60 PSIG
9,125 lbs	50 PSIG
7,475 lbs	40 PSIG
5,825 lbs	30 PSIG
4,175 lbs	20 PSIG

5. Touch to toggle on/off **warning light** functions (Figure 15, Item 5) as desired. This feature only works if the optional LED light and harness is installed.

NOTE: It is best to set Primary maximum pressure after gathering vehicle weight data from a scale. To determine accurate suspension weight, calibration with a certified scale is recommended.

6. Touch **Primary maximum pressure** window (Figure 15, Item 6) and set maximum legal load pressure. Refer to axle manufacturer PSI/ load scale for estimated values on initial setting. Reference table below for example:

Required Pressure (psi)	Load Per Axle (lbs)	Load Per Axle (kg)
99	30,000	13,608
92	28,000	12,701
85	26,000	11,793
78	24,000	10,886
71	22,000	9,979
64	20,000	9,072
58	18,000	8,165
51	16,000	7,257
44	14,000	6,350
37	12,000	5,443
30	10,000	4,536

7. **Key-Off State** (Figure 15, Item 7) is not available, please set to “NONE”. When vehicle is turned off the lift axle will go to the up position.
8. Select desired **System On/Off** (Figure 15, Item 8).
9. Touch **Pilot Length** window (Figure 15, Item 9) and set estimated pilot line length.
10. Verify the following functions are working properly (see section 4.1):
    - **Override ‘Up**” - Set OEM lift axle switch to “Up” position, to override axle up.
    - Key-off state- not available- lift axle will be in the up position when the vehicle is turned off.

- **Override "Down"** – Double click OEM lift axle switch – Down – Up – Down, to override axle down.

Note: Forced Override Down – cycle the Up/Down ON/OFF electrical switch twice in rapid succession.

- **Auto deploy**- OEM lift axle switch in the "Down" position.

Note: To bring the system back to Auto deploy mode, if system is in the forced override down mode. You must first set the OEM lift axle switch back to "Up" to override axle up. Bring system back to Auto deploy mode by setting OEM lift axle switch in the "Down" position.

4.4 Advanced Setup (only necessary if you are not satisfied with operation in basic setup)

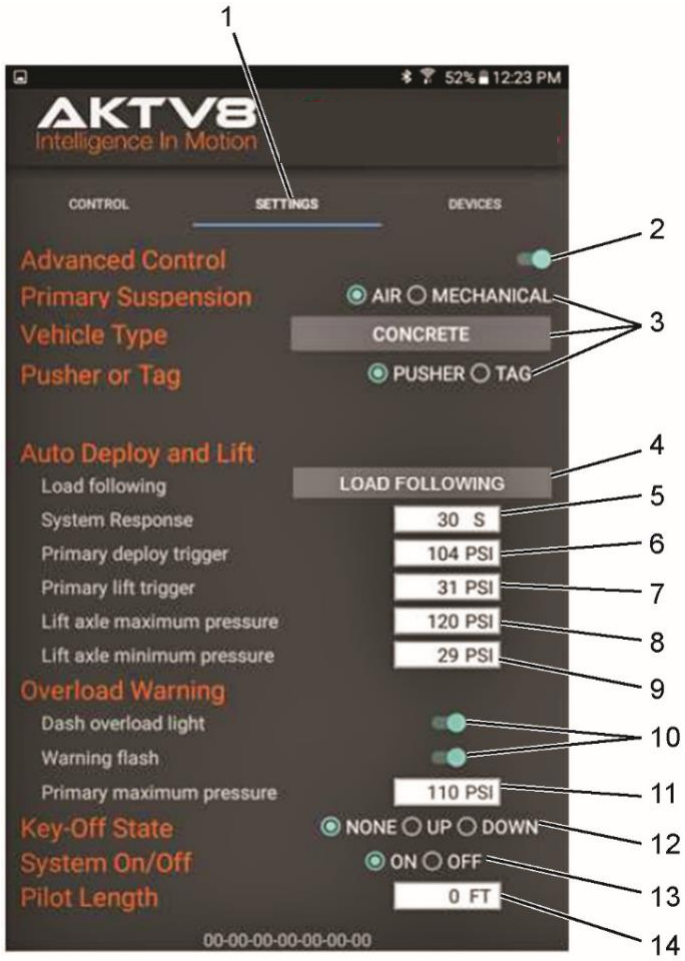


Figure 16

1. Touch or swipe to **SETTINGS** tab (Figure 16, Item 1).
2. Touch to toggle on **Advanced Control** (Figure 16, Item 2).
3. Touch to select the features (Figure 16, Item 3) that apply to the vehicle.
4. Touch to select the appropriate controls (Figure 17, Item 4):
   - LOAD FOLLOWING (recommended setting)

- PRESSURE FOLLOWING
- DEPLOY TO TARGET PRESSURE

NOTE: The system response depends on the height control valve speed.

5. Touch **System Response** window (Figure 16, Item 5) and set system response (typically 20 to 60 seconds).
6. Touch **Primary deploy trigger** window (Figure 16, Item 6) and set pressure for the primary deploy trigger. Recommendation is 2 to 5% below maximum legal primary suspension pressure.
7. Touch **Primary lift trigger** window (Figure 16, Item 7) and set pressure for the primary lift trigger. Recommended is 40 to 60% below maximum legal primary suspension pressure.

NOTE: It is best to set lift axle maximum pressure after gathering vehicle weight data from a scale. To determine accurate suspension weight, calibration with a certified scale is recommended.

8. Touch **Lift axle maximum pressure** window (Figure 16, Item 8) and set maximum pressure when fully loaded.
9. Touch **Lift axle minimum pressure** window (Figure 16, Item 9) and set minimum pressure when lift axle will deploy.
10. Touch to toggle on/off warning light functions (Figure 16, Item 10) as desired.

NOTE: It is best to set Primary maximum pressure after gathering vehicle weight data from a scale. To determine accurate suspension weight, calibration with a certified scale is recommended.

11. Touch **Primary maximum pressure** window (Figure 16, Item 11) and set maximum pressure.
12. Touch to select desired Key-Off State (Figure 16, Item 12), this function is not used.
13. Touch to select desired **System On/Off** (Figure 16, Item 13).
14. Touch **Pilot Length** window (Figure 16, Item 14) and set estimated pilot line length.

4.5 Control and Monitor

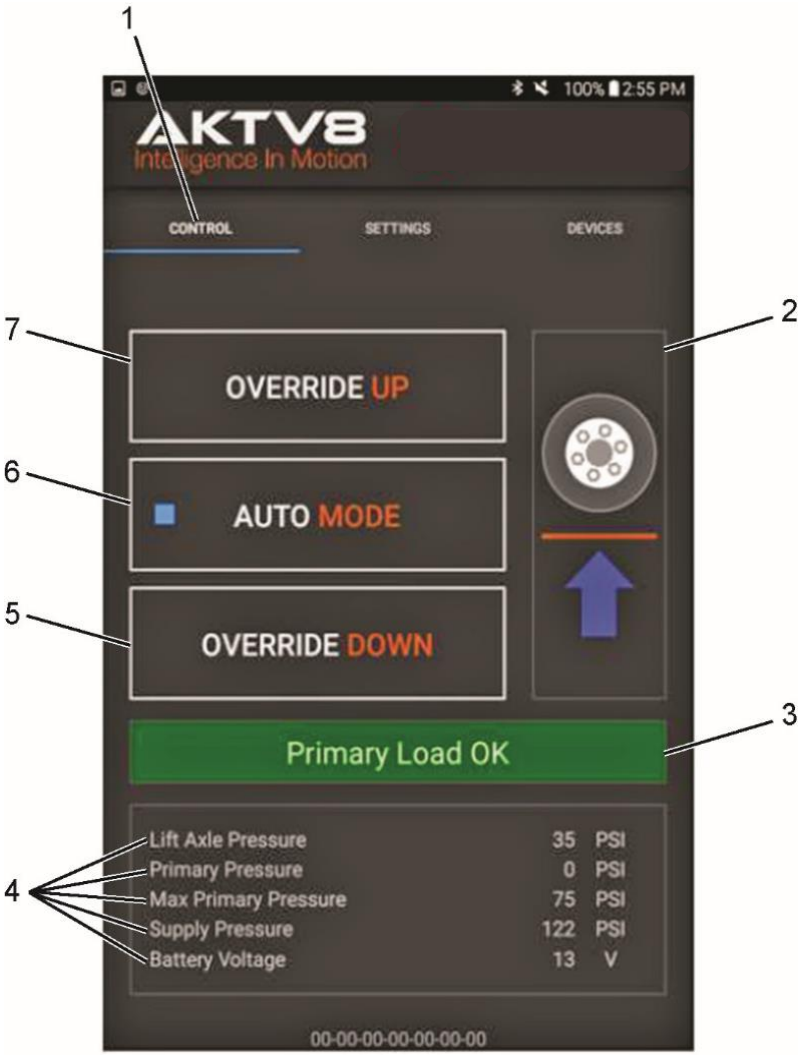


Figure 17

1. Start engine and allow air pressure to build.

Figure 18

2. Keep OEM lift axle dash switch dash switch, (Figure 18 Item 1, reference example) in the "Down" position
3. Touch or swipe to **CONTROL** tab (Figure 17, Item 1).

NOTE: The status of the lift axle is displayed using the image on the right side of the CONTROL screen (Figure 17, Item 2).

4. Touch to **OVERIDE UP** (Figure 17, Item 7) to raise axle.
5. Touch **AUTO MODE** (Figure 17, Item 6) to enable automatic control functions.
6. Touch **OVERRIDE DOWN** (Figure 17, Item 5) to deploy axle.
7. Touch **AUTO MODE**, and test override down function (see step 8).
8. Switch OEM dash switch to the "Up" position. Double engage the OEM switch ("Down" - "Up" – "Down". This forces the system into a forced override down of the axle when the vehicle is below the auto deploy threshold.
9. If reverse lift is required (steerable lift axles), place transmission in reverse. Ensure the reverse lift function is operating properly.
10. Place transmission in neutral. Ensure the lift axle deploys.
11. Turn OEM dash switch to the "Up" position to take system out of forced down. Place OEM dash switch back to "Down" position (Figure 18, Item 1) to enable automatic control functions.
12. The zone display (Figure 17, Item 3) displays the status of the vehicle's axle status as follows:
    - Primary Load OK (green)
    - Load Warning (yellow)
    - Overload (red)
13. The following data (Figure 17, Item 4) can be monitored from the CONTROL screen.
    - **Lift Axle Pressure** displays air pressure provided to the lift axle (checked every 60 seconds)
    - **Primary Pressure** displays the primary suspension pressure
    - **Max Primary Pressure** displays the pressure when the overload warning will illuminate
    - **Supply Pressure** displays air pressure in the air system
    - **Battery voltage** displays vehicle battery voltage

14. Turn off vehicle.

4.6 Log Setting Data

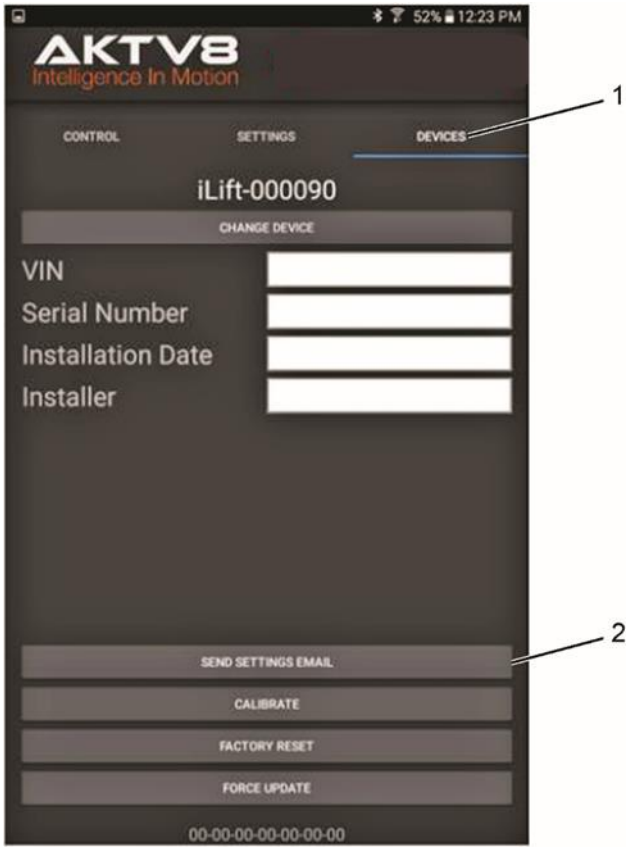


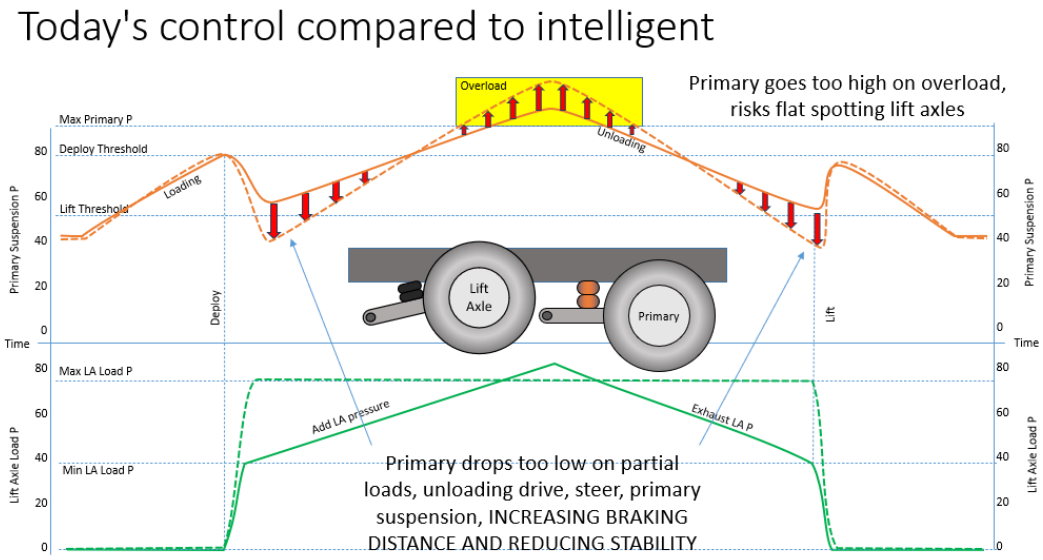
Figure 19

The following procedure is to record settings for future reference.

1. Touch or swipe to **DEVICES** tab (Figure 19, Item 1).
2. Touch **SEND SETTINGS EMAIL** (Figure 19, Item 2).

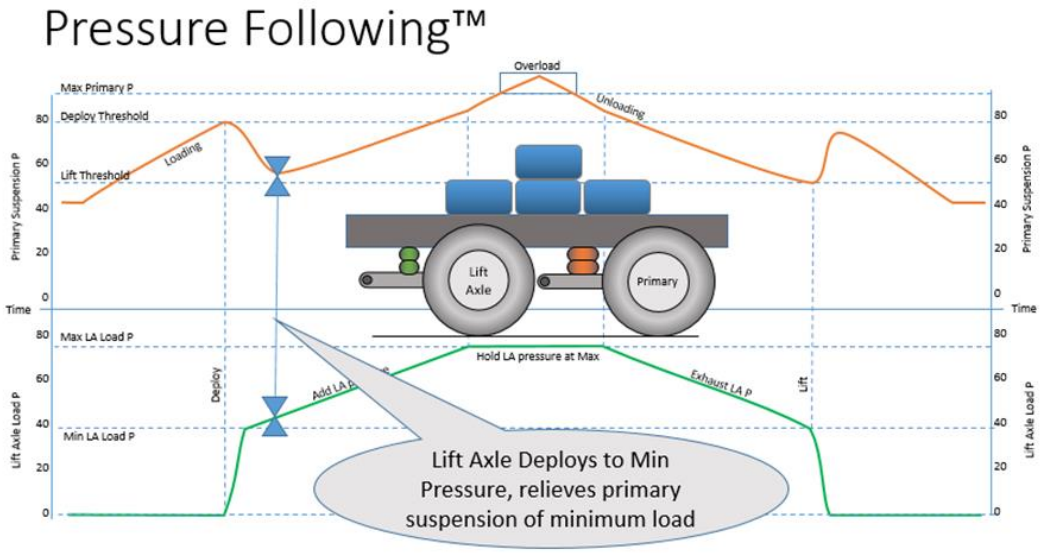
5 Operation

The iLift lift axle system is a fully automated lift axle system. The system can be operated in three modes that offer different control features depending on the vehicle's needs and/or application.

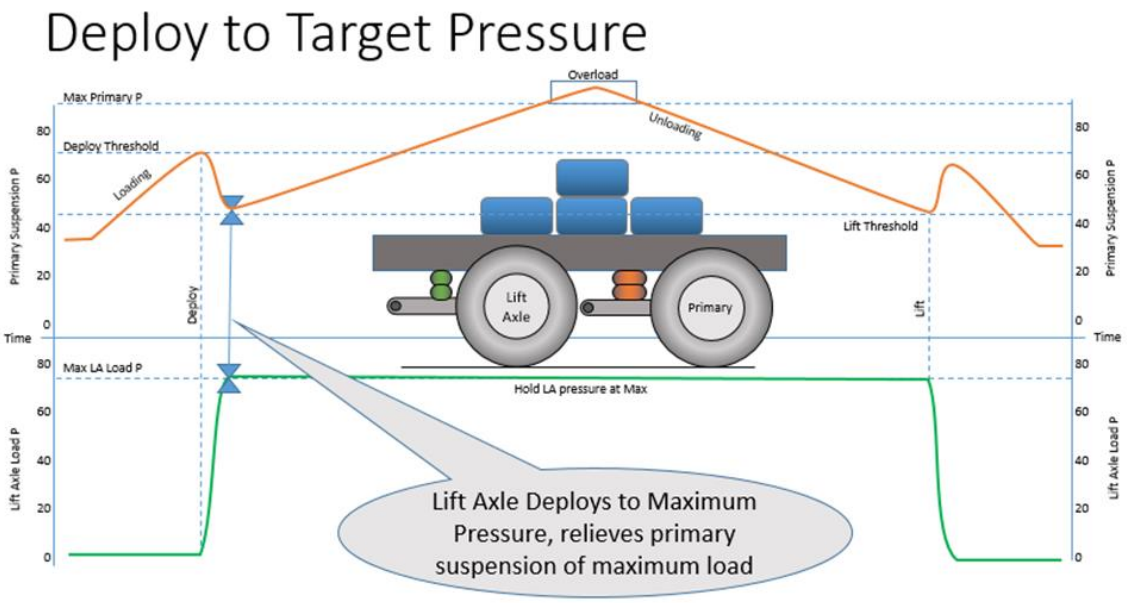


The **Load Following** mode is best used for vehicles that are frequently operated with a partial load. This feature keeps primary drive axles maximally loaded for optimal traction.

The **Pressure Following** feature is best used for trailers and other non-driven applications that frequently operate with a partial load. This feature will keep the lift axle pressure the same as the primary suspension pressure or proportional to the primary suspension setting. Can also be used on non-standard (none lift axle) trailer axle applications to achieve an offset to the primary axle load bag pressure.



The **Deploy to Target Pressure** mode is best used for vehicles that operate in fully loaded applications, such as a dump truck. This is where the vehicle operates in only fully unloaded or fully loaded states. This setting for can also be used on vehicles with mechanical suspension, at limited functionality.



The iLift lift axle system will raise the lift axle when the ignition key is in the OFF position.

The iLift lift axle system is equipped with an overload warning setting. The optional LED light and harness must be installed. This setting alerts the operator of a primary suspension overload. The feature provides primary suspension load feedback that can be monitored through a warning light in the dash switch and through the app.

The iLift lift axle system also allows the operator to override the automatic lift and deploy feature through both the app and dash switch (See Control and Monitor.)

6 Troubleshooting

6.1 iLift Lift Axle System Does Not Function

1. Verify app “System On/Off” is set to ON.
2. Check wiring:
   - Verify 12V supply.
   - Verify Switch wiring is correct
   - OEM wire to LACM solenoid has 12V when vehicle key switch is in the ON position and Lift Axle switch is in the “Down” position.
3. Ensure air system has more than 70 psi.
4. Ensure air lines are properly plumbed with no kinks, breaks, or damage.

6.2 Air Leaks

1. Ensure galley plug is properly installed and is not leaking.
2. Ensure air tubes are properly plumbed with no kinks, breaks, or damage.

6.3 Lift Axle Deploys Then Lifts Immediately

1. Ensure pilot line is properly plumbed with no kinks, breaks, or damage.
2. Ensure there are no air leaks at the lift axle ECM or LACM.

6.4 Override Down Does Not Function

1. Ensure air system has more than 70 psi.
2. Verify wiring is correct.

6.5 Auto deploy Does Not Function

1. OEM lift axle dash switch is in the down position.
2. Ensure the primary pressure is above the deploy trigger threshold (5 percent less than primary maximum pressure defined in the app). Wait the amount of time set as system response time in the app.
3. Ensure air system has more than 70 psi.
4. Verify primary suspension pressure is plumbed to port 3.
5. Plumb handpump into port 3 and manually inflate to check Auto deploy.

6.6 Override Deploy Pressure Under Target

Increase pilot line length in the app.

6.7 Override Deploy Pressure Over Target

Decrease pilot line length in the app.

6.8 Axle Lifts Then Deploys Unnecessarily

1. Ensure lift trigger pressure is not too close to deploy trigger pressure. Reduce lift trigger pressure as needed.
2. Increase system response time, to reduce system sensitivity to the main suspension height control valve fluctuations.

6.9 No Overload Warning Light

Note: Optional LED needs to be installed for this function.

1. Ensure the app’s overload warning settings are toggled ON.
2. Verify the primary suspension pressure is greater than the primary max pressure.
3. Check for faulty override switch. Replace as necessary.

6.10 App Error Codes

Error Code	Error Code Name	Description
1	Battery Low	Battery voltage below limit
2	Battery HIGH	Battery voltage above limit
3	Temperature Low	Temperature below limit
4	Temperature High	Temperature above limit
5	VCC5 Low	Internal VCC5 supply below voltage limit
6	VCC5 High	Internal VCC5 supply above voltage limit
7	VCC33 Low	Internal VCC33 supply below voltage limit
8	VCC33 High	Internal VCC33 supply above voltage limit
9	VCC33AO Low	Internal VCC33AO supply below voltage limit
10	VCC33AO High	Internal VCC33AO supply above voltage limit
11	Pressure Sensor A Calibration	Pressure sensor is not calibrated, or calibration is not valid or is corrupt
12	Pressure Sensor A Status	Pressure sensor is reporting a fault
13	Pressure Sensor B Calibration	Pressure sensor is not calibrated, or calibration is not valid or is corrupt
14	Pressure Sensor B Status	Pressure sensor is reporting a fault
15	LED Driver Stuck On	Light-Emitting Diode (LED) driver is flowing current even after it has been commanded to be off
16	LED Open	LED current is not flowing current after it has been commanded to be on
17	LED Short	LED current exceeds a current limit
18	VALVE1 Driver Stuck On	Valve driver drain voltage indicates it is still on even though it has been commanded to be off
19	VALVE1 Driver Stuck Off	Valve driver drain voltage indicates it is off after it has been commanded to be on
20	VALVE2 Driver Stuck On	Valve driver drain voltage indicates it is still on even though it has been commanded to be off
21	VALVE2 Driver Stuck Off	Valve driver drain voltage indicates it is off after it has been commanded to be on
22	VALVE3 Driver Stuck On	Valve driver drain voltage indicates it is still on even though it has been commanded to be off
23	VALVE3 Driver Stuck Off	Valve driver drain voltage indicates it is off after it has been commanded to be on
24	Valve Fail	Electrical current is detected but the valve cannot exhaust the pressure
25	Fast Leak	Supply cannot increase the pressure above 0
26	Slow Leak	Maintenance mode is having to periodically add air to keep the pressure setpoint

7 Parts

7.1 iLift Truck Installation Kit

	Truck	003502
Part Number	Description	QTY
000022	Electronic Control Unit	1
002361	Bracket	1
003486	Harness, Truck	1
003522	Warning Label	2
002397	Fitting, Tee, 3/8" to 1/4"PTC	1
003536	Installation QR Code Card	1

7.2 iLift Trailer Installation Kit

	Trailer	003512
Part Number	Description	QTY
000022	Electronic Control Unit	1
002361	Bracket	1
003522	Warning Label	2
002397	Fitting, Tee, 3/8" to 1/4"PTC	2
003601	Fitting, Union, ¼" to 3/8" PTC	1
003536	Installation QR Code Card	1

7.3 Accessory Items

Part Number	Description	QTY
003578	Harness- 7-way	X
003009	Harness PCM Trailer, Inductor	X
003588	Harness Apex Jumper	X
003513	Harness, Trailer	X
002587	Harness, ABS Jumper	X
002592	Harness, LED (21')	X
002591	LED	X
000151	Plug 1/4" PTC DOT	X

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