

# TECHNICAL PROCEDURE

## UNIVERSAL LOAD SCALE KITS

**SUBJECT:** AKLS1005/1006 & AKLS2005/2006  
Operator's Guide

**LIT NO:** L1158

**DATE:** December 2015

**REVISION:** D

### UNIVERSAL LOAD SCALE KIT DESCRIPTION

Universal load scale kits provide an economical and accurate way to determine axle load. A 2½-inch diameter gauge face provides consistently accurate axle load readings and is available in both dry and liquid-filled models. Model numbers and features are listed in [Table 1](#). Available load scale kits are listed in [Table 3](#) on [page 4](#) and at [www.hendrickson-intl.com/Parts](http://www.hendrickson-intl.com/Parts), Hendrickson literature number [L1182 Controls Parts Catalog](#).

MODEL	WITH DUMP	ENCLOSURE TYPE		IMAGE
		Polycarbonate	Stainless Steel	
AKLS1005		✓		Figure 1
AKLS1006	✓	✓		
AKLS2005			✓	
AKLS2006	✓		✓	Figure 2

<sup>1</sup> Polycarbonate enclosures have an integral hinge and latch.  
<sup>2</sup> Stainless steel enclosures include a rubber strap latch. The box comes pre-drilled for fittings with two plugs for unused holes.

Table 1: Model number and features

**IMPORTANT:** For maximum accuracy, a **dry gauge must be properly calibrated** before it can be expected to deliver a reliable indication of axle load. To calibrate, continue with the following procedure.

**A liquid-filled gauge is pre-calibrated to display pressure (psi and kPa) only.**

### CALIBRATION PROCEDURE (DRY GAUGES ONLY)

Dry gauges must be calibrated to display the correct load (LBS and KGS) specific to the trailer. **For liquid-filled gauges, the OE must create a table or graph** to equate pressure and load specific to the trailer.

### PREPARE TRAILER FOR CALIBRATION

1. **Load trailer** to its maximum legal load (or as close as possible).
2. **Locate** a drive-on scale that gives reliable weight measurements. **Position the trailer on scale.**
3. During calibration, **maintain proper air pressure** in the trailer air reservoir.
4. **Ensure trailer is at designed ride height.**

### DRY GAUGE CALIBRATION

The dry gauge reads the pressure in the air springs controlled by the height control valve (HCV). The gauge dial is then calibrated to reflect the average load for each axle in the group. **Any axle not controlled by the HCV group is not included in the calibration process.**

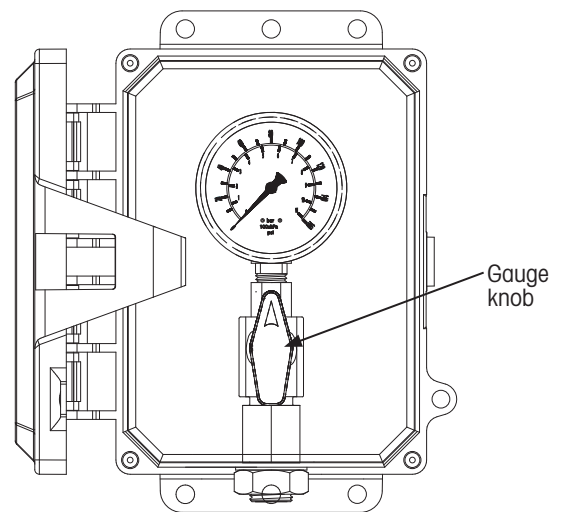


Figure 1: Gauge in ON position  
(AKLS1005 shown)

1. **Weigh load at each axle:**
  - A. If the **scale can support all axles** in the group, divide total weight by the number of axles to obtain the average axle load.
  - B. If the **scale can only weigh one axle** at a time, weigh each axle, add the weights for each, then divide total weight by number of axles to obtain average axle load.
2. **Rotate gauge knob** (located below the gauge as shown in Figure 1) counterclockwise to the **GAUGE ON** position (knob pointing up towards gauge).
3. **Read and record** the load displayed on the gauge dial. If the value displayed on the gauge is the same value calculated in Step 1, calibration is complete. **If not**, continue to Step 4.
4. **Remove** the gauge cover by rotating it counterclockwise.

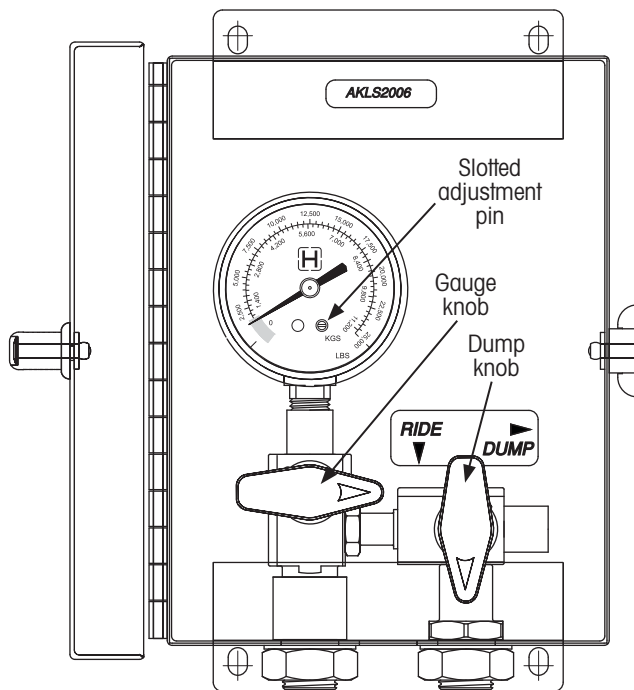


Figure 2: Gauge in OFF and dump valve in RIDE position (AKLS2006 shown)

5. **Locate** slotted adjustment pin at bottom of gauge face (Figure 2).
6. Using a small screwdriver, **rotate** adjustment pin until the gauge agrees with the average weight per axle calculated in Step 1.
7. **Replace and firmly secure** cover by rotating it clockwise on the gauge.
8. **Rotate** the gauge knob clockwise to the **GAUGE OFF** position shown in Figure 2.

## UNIVERSAL LOAD SCALE OPERATION

### DRY GAUGE OPERATION

A dry gauge reads the pressure in the air springs controlled by the height control valve (HCV). The gauge dial reflects the average load for each axle in the HCV group. **Any axle not controlled by the HCV group is not included in determining load.**

**NOTICE: Unless performing a calibration or measuring axle load, THE GAUGE KNOB SHOULD ALWAYS BE IN THE OFF POSITION. If left in the ON position, sudden changes in air line pressure (e.g. going over bumps, trailer loading) can damage the gauge.**

1. **Ensure** trailer is at designed ride height.
2. **Rotate** gauge knob (located below gauge, Figure 1) counterclockwise to the **ON** position (knob pointing up towards gauge).
3. **Read** gauge dial. The gauge indicates **per-axle load**. Multiply this per-axle load by the number of equalized trailer axles to get the total trailer load.

**IMPORTANT: DO NOT** include axles that are lifted. Hendrickson does not recommend the use of regulated axles with load scales.

4. **Rotate** gauge knob clockwise to **GAUGE OFF** position (Figure 2).

### LIQUID-FILLED GAUGE OPERATION

**Liquid-filled models** indicate psi and kPa. To determine the axle load for a given pressure, read from the gauge and use a pressure versus load conversion table.

**NOTE:** When using a liquid-filled gauge with a Hendrickson suspension, suspension-specific conversion table decals are available from Hendrickson ([www.Hendrickson-intl.com/TrailerLit](http://www.Hendrickson-intl.com/TrailerLit)). A blank decal, Hendrickson literature number L1133, is also available for users to write their own conversion table. For non-Hendrickson suspensions, the trailer OE may provide the conversion table for the trailer. If none are available, use a certified scale to determine axle/trailer load as in DRY GAUGE CALIBRATION, Step 1.



### OPERATING MANUAL DUMP FEATURE AKLS1006 AND AKLS2006

#### DUMPING THE SUSPENSION

Rotate dump knob counterclockwise to **DUMP** position shown in Figure 3.

**IMPORTANT:** Air will immediately exhaust from air springs and cause suspension to lower and rest on air spring internal bumpers.

#### RETURNING SUSPENSION TO RIDE HEIGHT

Rotate the dump valve clockwise to the **RIDE** position shown in Figure 2. Allow the air system to fully charge to ride height before moving trailer.

**NOTICE:** Moving the trailer with beams resting on air spring bumpers (no air cushion) will create a hammering effect that can damage both cargo and vehicle.

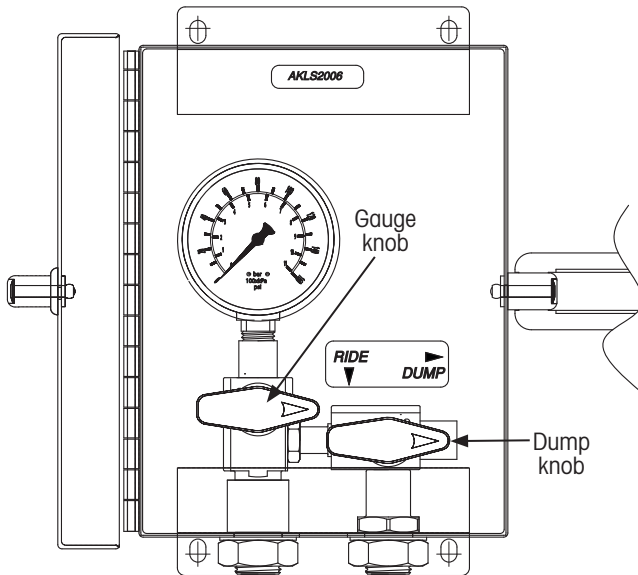


Figure 3: Gauge OFF and dump valve in DUMP position (AKLS2006 shown)

#### INSTALLATION

The installation includes plumbing and mounting of the enclosure.

#### PLUMBING

This document and the applicable plumbing diagram is shipped with each load scale kit. If not available, contact Hendrickson to request a copy.

#### ENCLOSURE

Two enclosure types are available and mounted differently (Table 2).

MODEL #	ENCLOSURE TYPE	ENCLOSURE PART #	MOUNTING HOLES
AKLS1005	Polycarbonate	VS-31845-3	Figure 4
AKLS1006		VS-31845-2	
AKLS2005	Stainless Steel	VS-32312	Figure 5
AKLS2006			

Table 2: Enclosure replacement part numbers

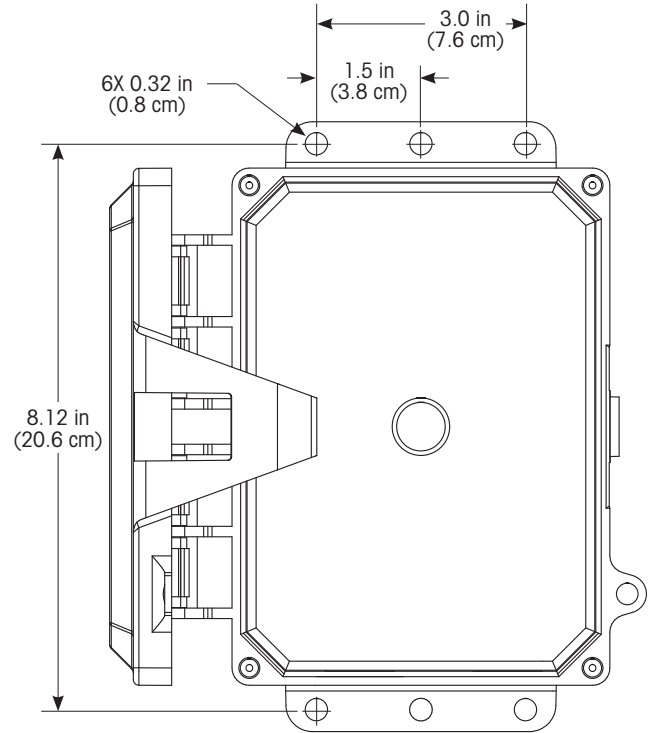


Figure 4: Mounting pattern, AKLS1005 & AKLS1006

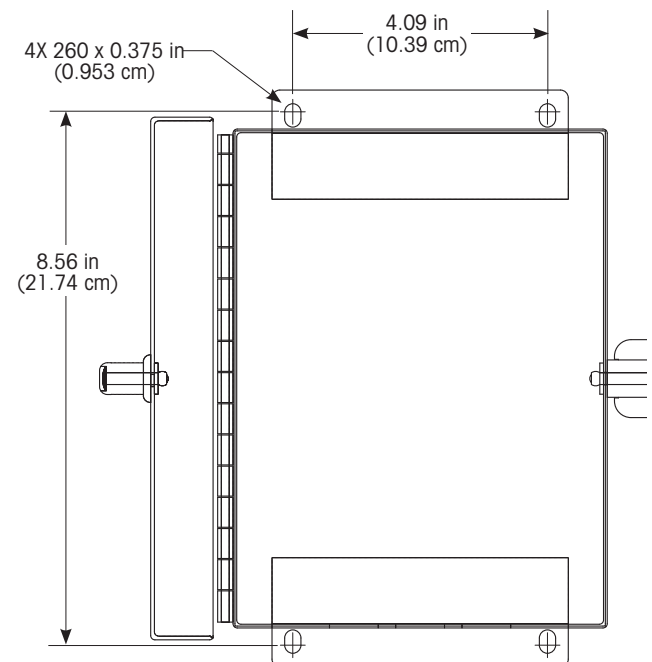


Figure 5: Mounting pattern, AKLS2005 & AKLS2006

PRODUCT FAMILY	SUSPENSION MODEL	TYPE	RANGE	WITHOUT DUMP		WITH DUMP	
				Poly-carbonate	Stainless Steel	Poly-carbonate	Stainless Steel
				AKLS1005	AKLS2005	AKLS1006	AKLS2006
INTRAAX®	AANLS 20K	Dry	0 - 25,000			-4	
	AAL, AAT, AANL, AANT 23K (Standard Air Spring)	Dry	0 - 23,000			-3	
	AAL, AAT, AANL, AANT 23K (Low Pressure Air Spring)	Dry	0 - 25,000			-4	
	AAL 25K, AAT 25K	Dry	0 - 25,000			-4	
	AAL 30K, AAT 30K	Dry	0 - 30,000			-6	
	AAEDL 30K, AAEDT 30K	Dry	0 - 30,000			-6	
INTRAAX®-SP	AAZNT 23K, AAZNT 46K, AAZNT 69K	Dry	0 - 23,000			-3	
	AAZL 23K, AAZL 46K	Dry	0 - 23,000			-3	
HK™ SERIES	HK190T	Dry	0 - 23,000			-3	
	HK230T	Dry	0 - 23,000			-3	
VANTRAAX®	HKANT 23K, HKANT 46K	Dry	0 - 23,000			-3	
	HKANT 40K	Dry	0 - 20,000			-2	
	HKAT 50K, HKAT 69K25	Dry	0 - 25,000			-4	
	HKANT 69K23, HKAT 69K23	Dry	0 - 23,000			-3	
	HKARL46K	Dry	0 - 23,000			-3	
	HKANL23K	Dry	0 - 23,000			-3	
	HKAL 46K	Dry	0 - 23,000			-3	
	ULTRAA-K® UTKNT 40K	Dry	0 - 20,000			-2	
HT™ SERIES	HCHKR	Dry	0 - 23,000			-3	
	HT190T	Dry	0 - 20,000			-2	
	HT190U	Dry	0 - 23,000			-3	
	HT230T	Dry	0 - 23,000			-3	
	HT250T	Dry	0 - 25,000			-4	
	HT250U (Air Spring C-20124)	Dry	0 - 25,000			-4	
	HT250U (Air Spring C-20127)	Dry	0 - 30,000			-6	
	HT250U (Air Spring C-13122, 9" Ride Height)	Dry	0 - 30,000			-6	
	HT250U (Air Spring C-13122, 15" Ride Height)	Dry	0 - 27,000			-5	
	HT250US (Air Spring C-20124)	Dry	0 - 25,000			-4	
	HT250US (Air Spring C-20127)	Dry	0 - 30,000			-6	
	HT300T	Dry	0 - 30,000			-6	
	HT300U	Dry	0 - 30,000			-6	
HT300US	Dry	0 - 30,000			-6		
T SERIES	T-6-068	Dry	0 - 25,000			-4	
	T-6-252	Dry	0 - 27,000			-5	
	T-RL	Dry	0 - 30,000			-6	
All	All Models	Liquid	0 - 160 psi			-1	

Table 3: Gauge specifications by suspension type, gauge and model

For any questions, contact **Hendrickson Trailer Technical Services**, in the United States and Canada at 866-RIDEAIR (743-3247) or email [HTTS@Hendrickson-intl.com](mailto:HTTS@Hendrickson-intl.com).

Call Hendrickson at **866.RIDEAIR (743.3247)** for additional information.



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