



# **UNIVERSAL SCALE MOUNTS**

**for**

**1 DB, 1-7/8 DB, 2-1/8 DB &  
2-1/8 DB-Neck Down**

**Instructions  
And  
Repair Parts**

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## **INTRODUCTION**

Universal mounts provide for simple and effective implementation of Digi-Star scales in custom applications. Universal mounts simply bolt into position and provide for all structural and accuracy requirements.

For information on ordering repair parts, refer to the Service Parts section at the back of this manual.

You are urged to study this manual and follow instructions carefully. Your efforts will be repaid in better operation and service as well as savings in time and repair expense: if you do not understand instructions in the manual, contact your Dealer or Digi-Star in Fort Atkinson, WI 53538..

This supersedes all previous published instructions.

## OPERATION

See Indicator Owner's Manual enclosed with Electronics Pack

## MAINTENANCE

Refer to Electronic Owner's Manual for guidance when trouble shooting the indicator, load cells and junction box components. Typical mechanical load cell trouble shooting procedures follow.

## TROUBLE SHOOTING

TROUBLE	PROBABLE CAUSE	CORRECTIVE ACTION
Unit weighs too low.	Debris collected around mounts or under scale structure.	Clean mounts and scale under structure.
Corners of scale do not read the same weight within 1 count increment or $\pm 1/2\%$ tolerance; whichever is greater.	Debris collected under mounts or under scale structure.	Clean mounts and scale under structure.
	Corners of scale are not level.	Adjust corners of scale with leveling pins built into the 1 DB mounts or by shimming 1-7/8 & 2-1/8 DB mounts. Each mount must equally share the load.

## **STATIONARY BIN SITE WORK AND PLANNING**

Universal scale mounts must be installed on a flat, level, well drained surface. Concrete is preferred. Be sure to provide footing matched to the application. Figure 1 shows a typical stationary bin application.

The junction box must be located and cables routed so as to protect them from physical damage. Cables can be routed through conduit if necessary. Careful planning is required so that cables can be routed so that the purchased lengths will reach (16 ft is typical).



**Important!**

### **CHARGING BATTERY AND WELDING**

Disconnect all cables from the weighing indicator before charging the battery or welding on the machine. If cables are left connected, the weighing indicator and connected load cells could be damaged.

**Important:** Do not weld near indicator, load cells or cables; remove from area to be welded. Place ground close to area to be welded to prevent current from passing through electronic parts.

#### **IMPORTANT GUIDELINES:**

- DO NOT SPLICE OR CUT weigh beam or junction box cables.
- Do not overload the mounts. Refer to specifications (page 14) for load capacity of each mount.
- Charging battery and welding with the weigh beam installed may cause damage to it. Do not allow welding current to pass through the weigh beam.
- Do not exceed the eight load cells per indicator.

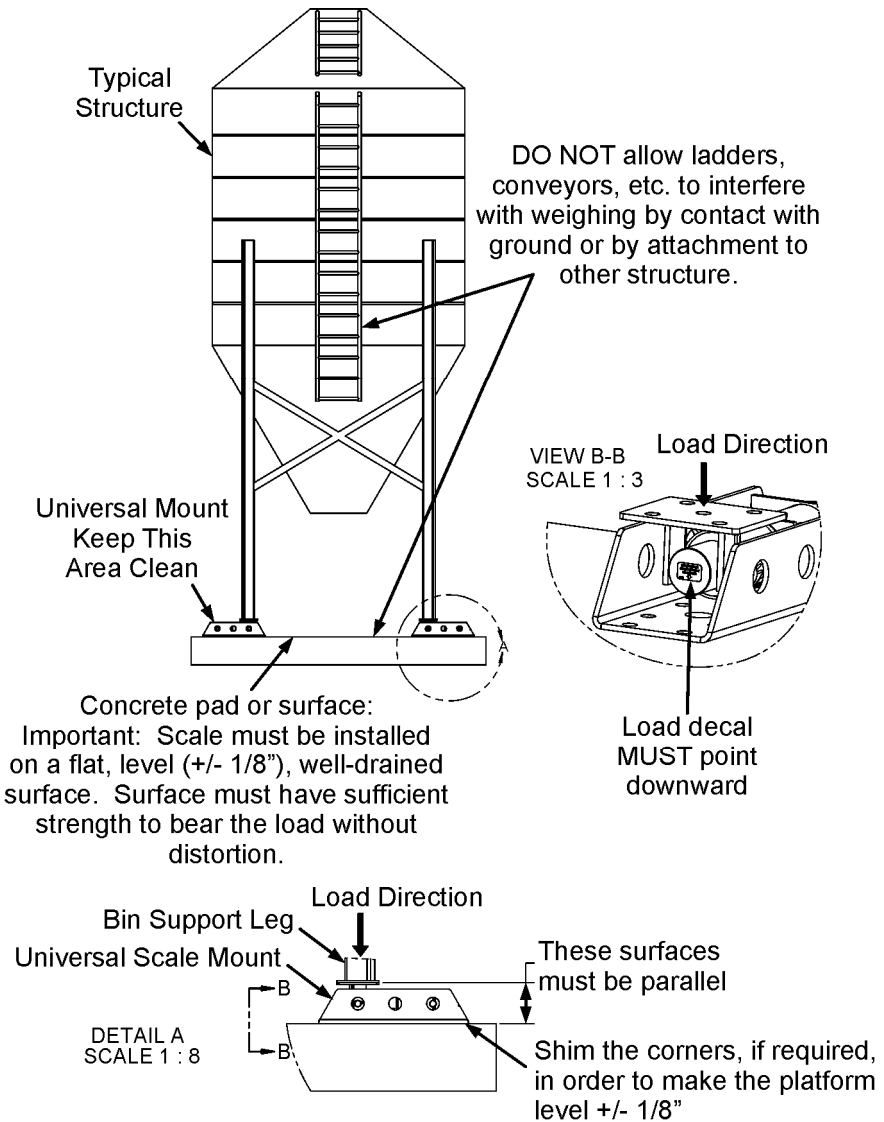
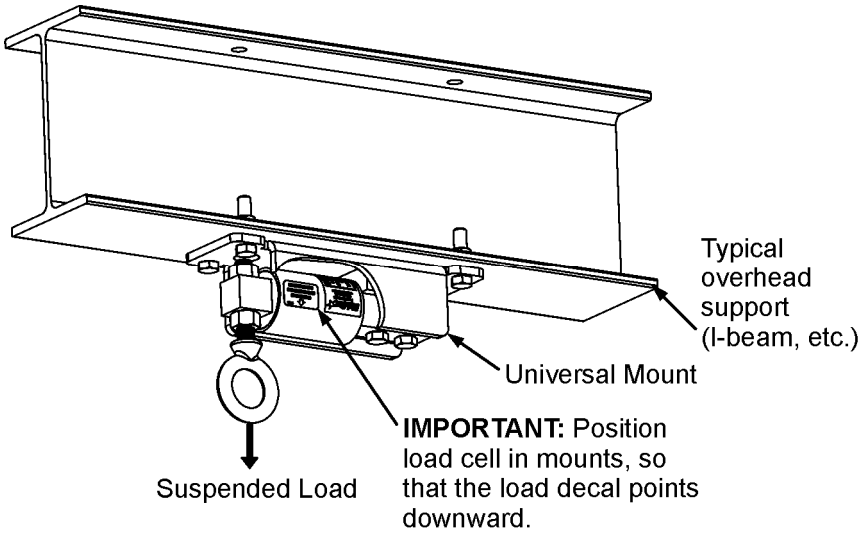


Figure 1  
Typical Installation

In addition to the typical bin-weighing installation, universal mounts may also be mounted in an overhead load application (see Figure 2).



**Figure 2. Typical Overhead Load Installation**

# INSTALLATION

## 1 DB MOUNT

1. Attach the Lower Mount base to the foundation with 3/8 cement anchor bolts (not included). Attach the Top Level Pad to the structure. Holes are provided for attaching the Top Mount to the structure. Field drill to suit. If the Top Level Pad will be welded to the structure, do so before installing the Load Cell in the Mount to avoid damage to the Load Cell.
2. Assemble a Load Cell to each Mount using 3/8 x 1 1/2 Hex Head Cap screws (tighten to 35 ft-lbs).
3. Be careful to install the Load Cell properly. A load decal is affixed to the Load Cell. Use this decal to install Load Cell in such a manner that the Arrow on the decal points the same direction the Load Cell will be deflected when under load. For most universal mount applications this arrow will point "downward" when properly installed. Reference Figure 1 and Figure 2.
4. Screw the Leveling Pin into the nut welded on each Top Leveling Pad. Screw in equally on each Mount.
5. Install the Leveling Pin into the clearance hole on the Load Cell and secure with "E"-Rings.
6. Level each corner using the wrench flats provided on each Leveling Pin. When the Scale is empty each Mount must equally share the load.

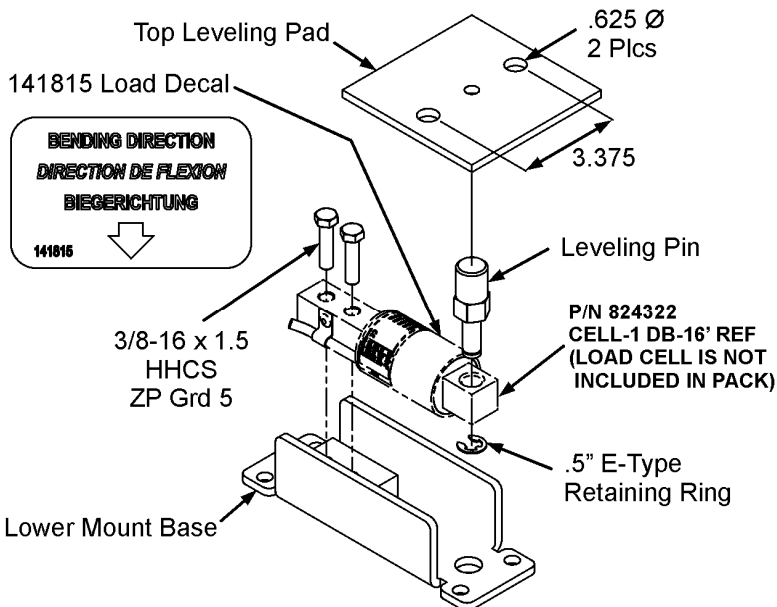


Figure 3. 1 DB Assembly



1-7/8 & 2-1/8 DB MOUNT

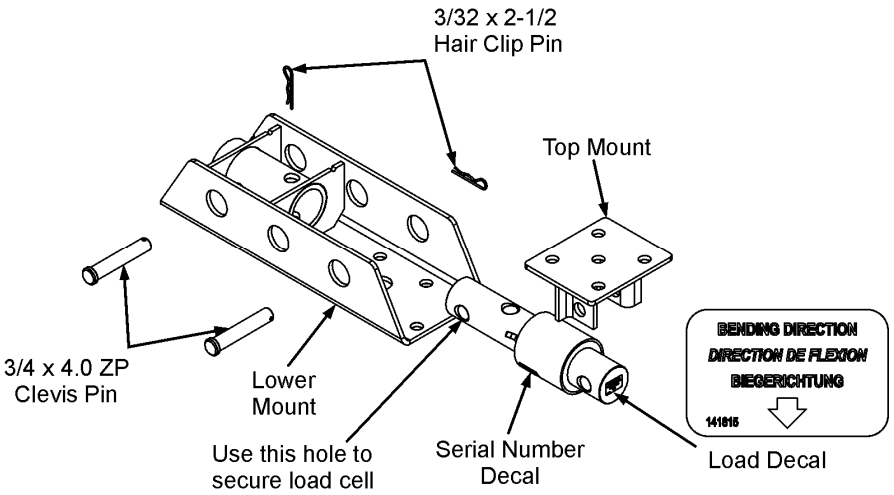


Figure 4. 1-7/8 & 2-1/8 DB Assembly

The following steps are general steps for mounting scales underneath a stationary bin application (see Figure 1).

1. Lubricate the long end of the load cell and Lower mount tube with grease or the provided Never-Seize. Insert the long end of the load cell into the lower mounting tube and secure with 3/4" clevis pin & hair pin. **IMPORTANT:** The arrow on the load decal should be point downward. The load decal arrow should point in the same direction that the load cell will deflect under load. For most universal scale mount applications, this arrow will point "downward" when properly installed. (For more detail see Figure 1 and Figure 2.)
2. Connect the Top mount to the load cell with 3/4" clevis pin & hair pin.
3. Route the cable through one of the lower mount 1.5" side holes.
4. Lift the structure and slide the universal mount assembly into place and secure the top mount to the structure with 1/2 bolts supplied by others. **IMPORTANT:** If welding is required to secure the top mount, then disassemble the top mount from the load cell. This is required to avoid damaging the load cells.
5. Once the structure is supported by universal DB scale mounts. Secure the lower base mount to the foundation with 5/8 Red Head cement anchors. There should be enough room to drill and install the cement anchors with a full assembled mount.
6. Level each corner by shimming between the top mount and the structure. When the scale is empty each mount must equally hare the load.

2-1/8 DB NECK DOWN MOUNT

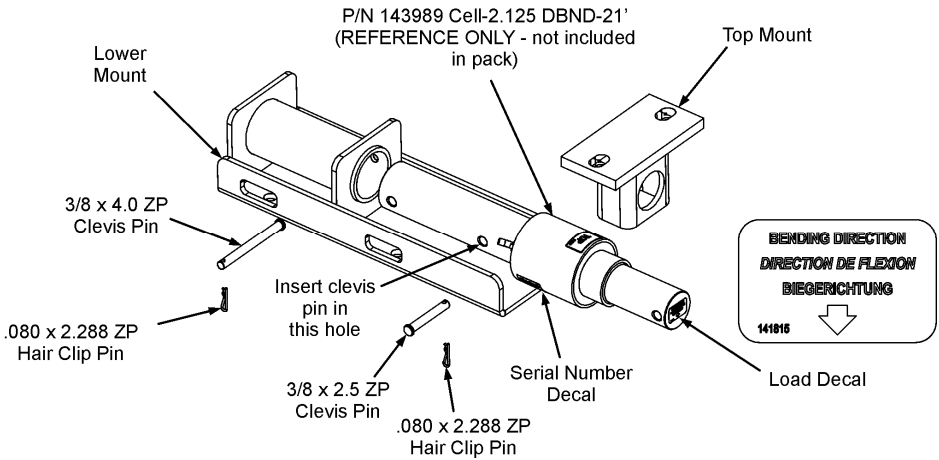


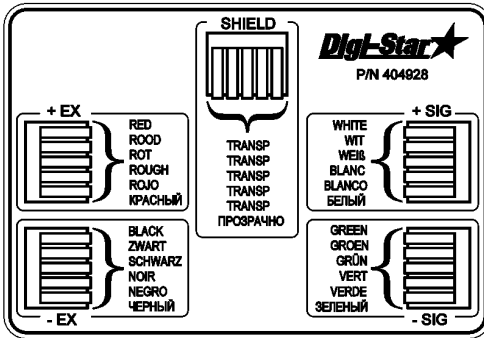
Figure 5. 2-1/8 DB Neck Down Assembly

1. Lubricate the long end of the load cell and lower mount tube with grease or Never-Seize. Insert the long end of the load cell into the lower mounting tube and secure with 3/8" X 4.0" clevis pin & hair pin. **IMPORTANT:** The arrow on the load decal should point downward. The load decal arrow should point in the same direction that the load cell will deflect under load. For most universal scale mount applications, this arrow will point "downward" when properly installed. (For more detail see Figure 1 and Figure 2.)
2. Slide the top mount on the 1.75" diameter load cell end and secure with 3/8" x 2.5" clevis pin & hair pin.
3. Lift the structure and slide the universal mount assembly into place and secure the top mount to the structure with 5/8" bolts supplied by others. **IMPORTANT:** If welding is required to secure the top mount, then disassemble the top mount from the load cell. This is required to avoid damaging the load cells.
4. Once the structure is supported by universal DB-neck-down mounts, mark the location of the lower mount mounting holes. It will be necessary to remove the load cell and base from the top mount to gain access to drill the holes to the foundation or support structure. Reassemble the mount and secure the lower mount.

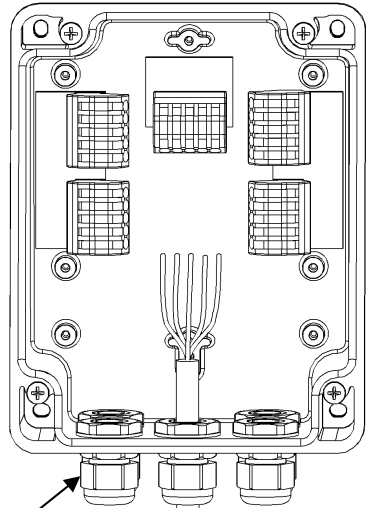
**NOTE:** The lower mount has side slots in the formed channel for wrench access area.

**J-BOX INSTALLATION**

Option 1 [Lever-Nut Version]



Decal – Lever Nut Wiring Instructions



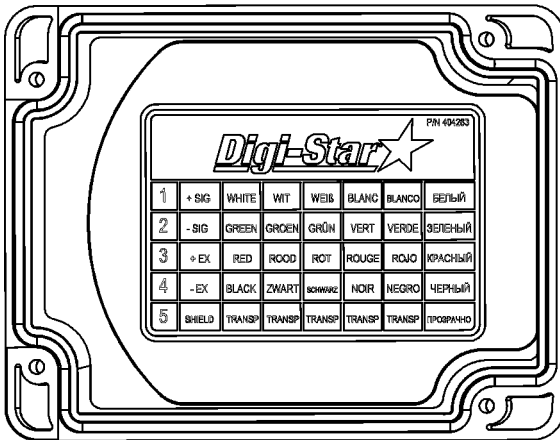
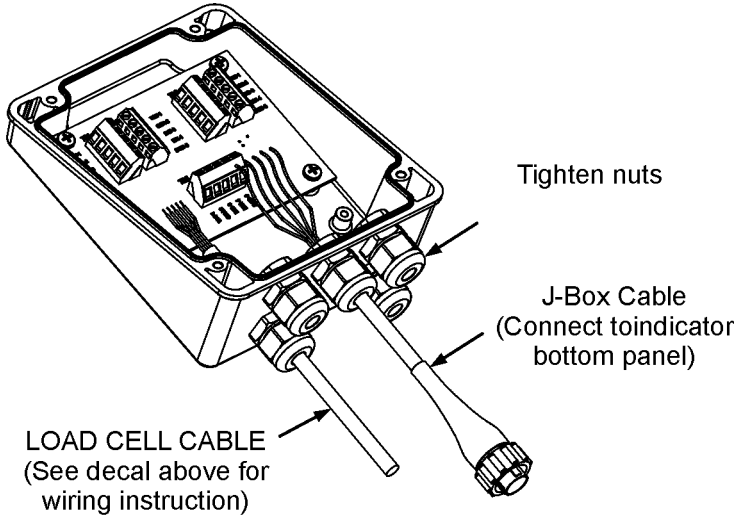
Tighten nuts

Load cell cable  
See Decal Above For  
Wiring InstructionsJ-Box Cable  
Connect to Indicator  
bottom panel.

**IMPORTANT:** Do Not weld to load cells with load cell cables connected to the indicator. If you must weld with load cells connected, locate welder ground so that current will not flow through the load cell.

The Junction Box is water resistant, not water proof. It should be mounted to avoid submersion during wet weather and to avoid physical abuse (examples; at least 12' high on nearby post, on a grain bin leg, or nearby wall).

Option 2 [Terminal Block Version]



DECAL - J-BOX TERMINAL BLOCK WIRING INSTRUCTION

## **CONNECT ELECTRICAL CABLES**

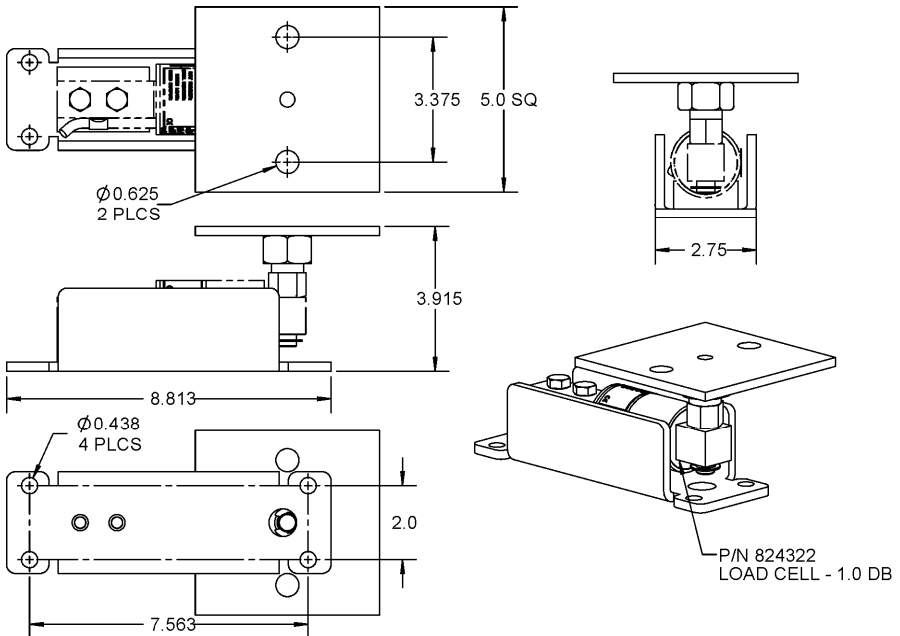
1. Attach each Load Cell Cable to the J-Box (Junction Box). There are two types of J-Boxes. Option #1 is lever-nut version as shown in page 10. Option #2 is terminal block version. Use labels on printed circuit board as a guide.
2. Care should be taken to insure that all Cables are loosely routed between Scale and Junction Box.
3. Install J-Box cable and route to the bottom of the indicator. The Power Cord is connected to a 12VDC source and the Indicator. The red wire is the +12VDC and the white wire is the ground. Refer to the Indicator manual for the purpose and connection of other power cord wires.
4. See the Electronics Manual for detailed instructions for all electronics components.

**SPECIFICATIONS**

Description	Figure	Cable Length	Mount Load Capacity (lbs)		Mount Load Capacity (kg)	
			Static	Mobile	Static	Mobile
1 DB Mount	6	16'	1,500	1,000	680.39	453.59
1-7/8 DB Mount	7	16' with cable guard	6,250	4,500	2834.95	2041.17
2-1/8 DB Mount	7	16'	12,500	6,000	5669.90	2721.55
2-1/8 DB Neck Down	8	21'	10,000	6,000	4535.92	2721.55

**NOTE:** Mount capacity is valid only for the load cell and mount combinations listed in Figure 6, Figure 7 and Figure 8.

**Approximate Dimensions**



**Figure 6. Dimensions for 1 DB Universal Mount**

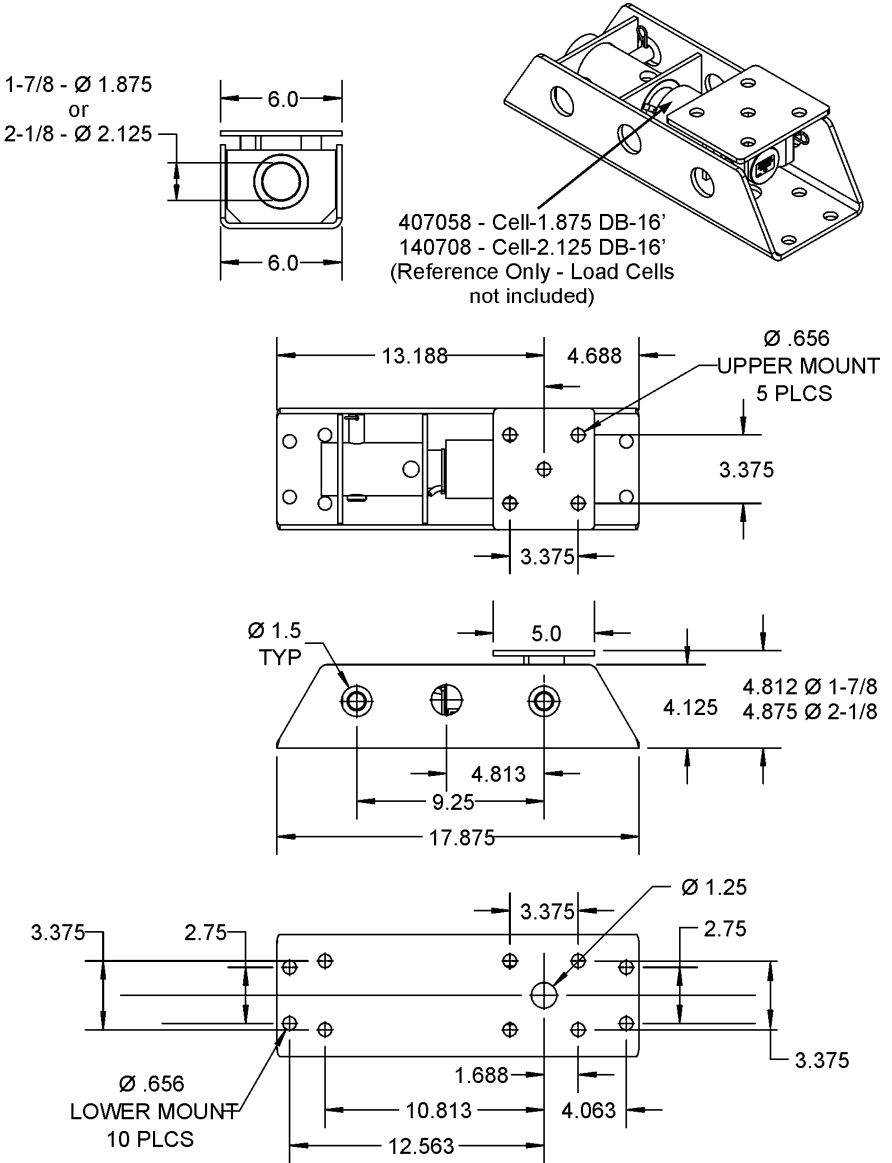


Figure 7. Dimensions – for 1-7/8 & 2-1/8 Diameter Mount

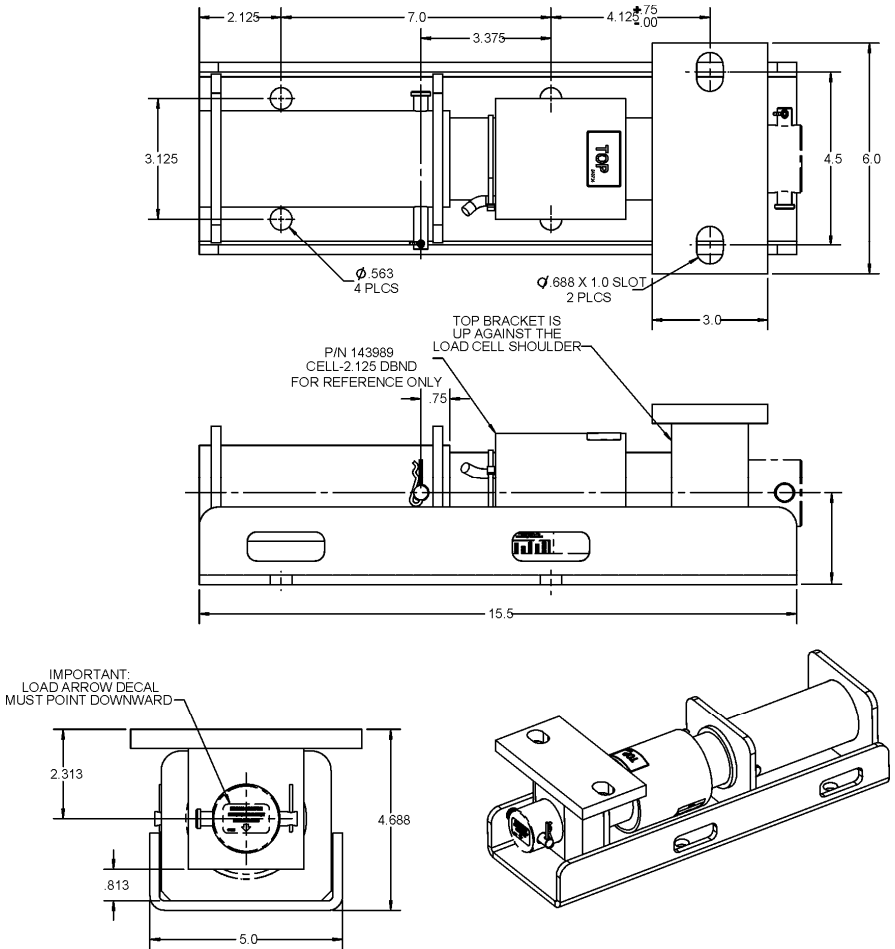
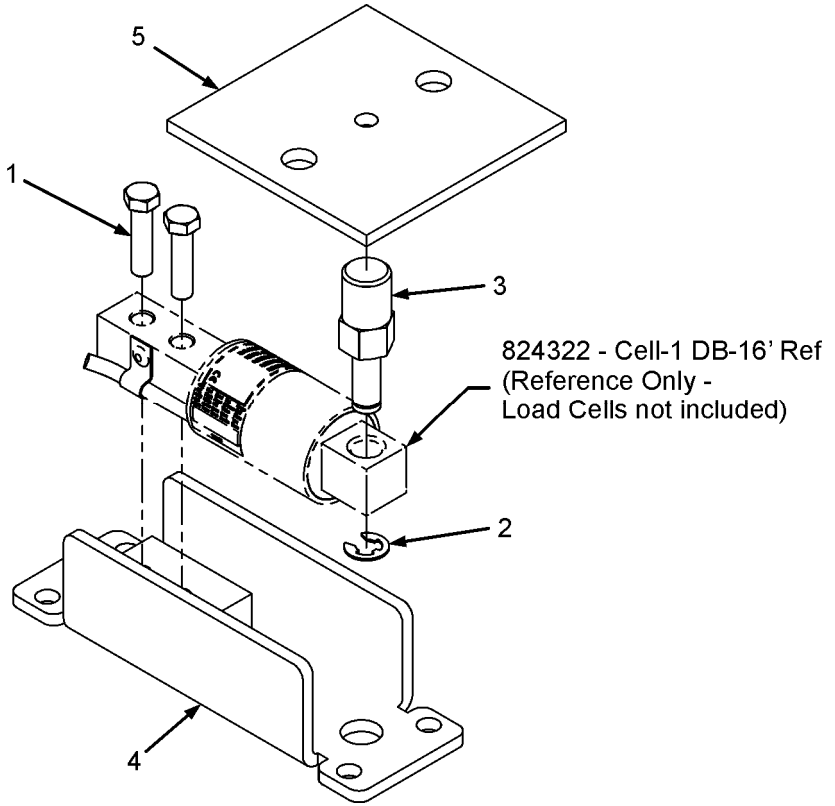


Figure 8. Dimensions – for 2-1/8 Neck Down Mount



# REPAIR PARTS

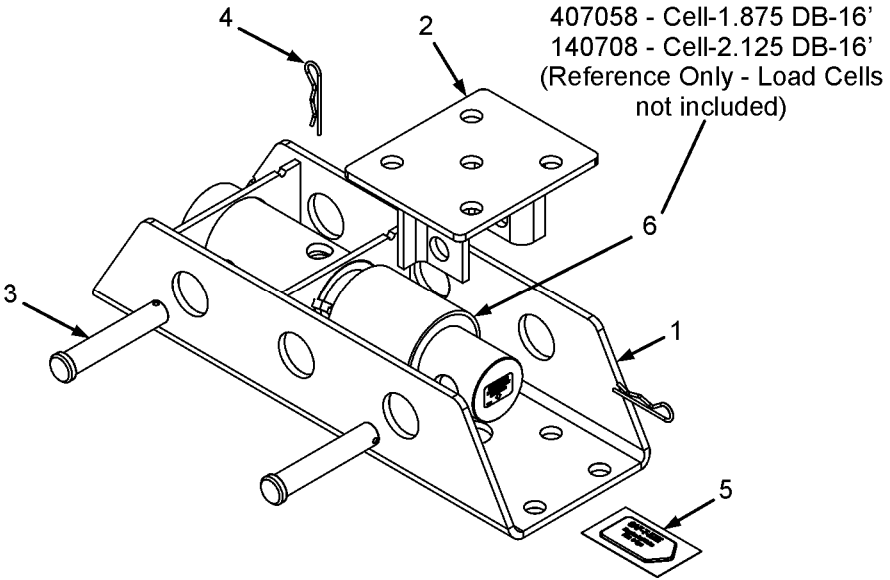
P/N 141630 Pack – 1 DB Universal Mount



Key	Qty.	Part No.	Description
1	2	406401	SCR - 3/8-16 X 1.5 HHCS ZP GRD 5
2	1	141629	RING - RETAINING .5" E-TYPE
3	1	840699	PIN - LEVELING
4	1	140775	WELD - UNIV MOUNT 1DB
5	1	141631	WELD-PAD LEVELING

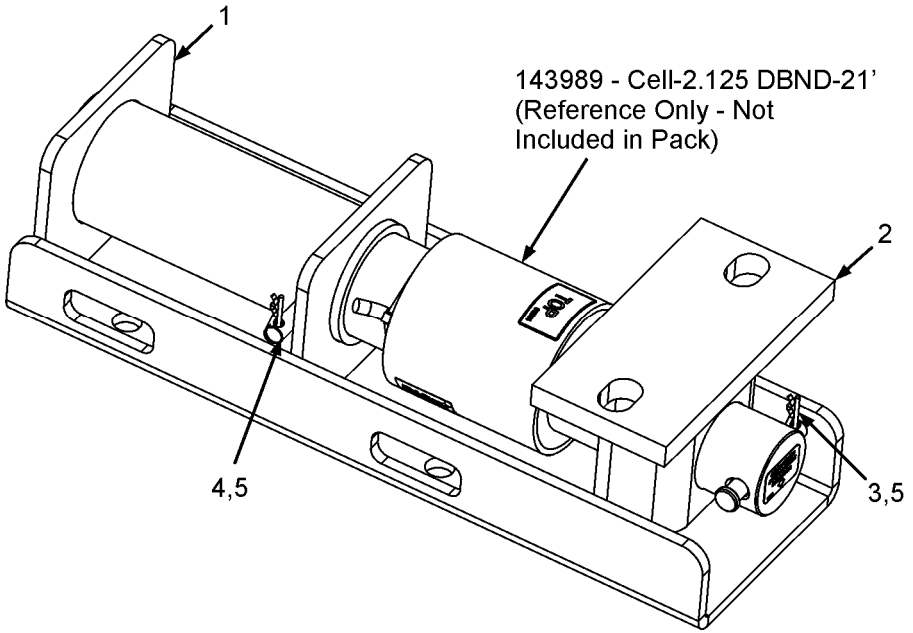
**P/N 143980 Pack-25K – 1-7/8 DB Universal Mount**

**P/N 141806 Pack-50K – 2-1/8 DB Universal Mount**



Key	1-7/8 DB Qty.	2-1/8 DB Qty.	Part No.	Description
1	1	-	143982	WELD-DB MOUNT 1-7/8
	-	1	141807	WELD-DB MOUNT 2-1/8
2	1	-	143981	BRACKET-TOP MOUNT
	-	1	141243	BRACKET-TOP MOUNT
3	2	2	406148	PIN-CLEVIS 3/4 X 4.0 ZP
4	2	2	405094	PIN-HAIR CLIP 3/32 X 2-1/2
5	2	2	405654	SEALANT-ANTI SEIZE (REG) 1 GRAM

**P/N 408140 Pack – 2-1/8 DB Neck Down Universal Mount**



Key	Qty.	Part No.	Description
1	1	408128	WELD-LOWER MNT 2.125 DBND
2	1	408132	WELD-TOP MNT 1.75
3	1	405861	PIN-CLEVIS 3/8 X 2.5 ZP
4	1	408214	PIN-CLEVIS 3/8 X 4.0 ZP
5	2	407293	PIN-HAIR CLIP .080 X 1.188 ZP