

# DSP700T Series Truck Wheel Alignment Sensors





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# 1. Getting Started

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## 1.1 About This Manual

This manual contains important operation, maintenance, and safety information for the DSP700T Series Sensors. It is supplemented by the alignment system console operation manual. Read and become familiar with the contents of these publications.

A calibrated set of DSP700T series sensors can be used with any Hunter aligner using WinAlignHD<sup>®</sup> software, version 14.2 or greater.


**NOTE:** Due to the charging system, only cabinet style aligners may be used. Wall/column mounted aligners are not supported.


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## 1.2 For Your Safety

### Hazard Definitions

Watch for these symbols:

 **CAUTION:** Hazards or unsafe practices that could result in minor personal injury or product or property damage.

 **WARNING:** Hazards or unsafe practices that could result in severe personal injury or death.

 **DANGER:** Immediate hazards that will result in severe personal injury or death.

These symbols identify situations that could be detrimental to your safety and/or cause equipment damage.

# IMPORTANT SAFETY INSTRUCTIONS

Read all instructions.

Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged until it has been examined by a qualified service representative.

Do not let cord hang over edge of table, bench, or counter or come in contact with hot manifolds or moving fan blades.

If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.

Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.

To reduce the risk of fire, do not operate equipment near open containers of flammable liquids (gasoline).

Keep hair, loose clothing, neckties, jewelry, fingers, and all parts of body away from all moving parts.

To reduce the risk of electrical shock, do not use on wet surfaces or expose to rain.

Use only as described in this manual. Use only the manufacturer's recommended attachments.

ALWAYS WEAR OSHA APPROVED SAFETY GLASSES. Eyeglasses that only have impact resistant lenses are NOT safety glasses.

Do not replace batteries within 18 inches of garage floor level as that zone is a classified location from which arcing/sparking parts are to be removed.

## SAVE THESE INSTRUCTIONS

Read and follow all caution and warning labels affixed to equipment and tools.

Use caution when jacking the vehicle up or down.


Misusing this equipment can shorten the life of the equipment. To prevent accidents and/or damage to the sensors, use only Hunter recommended accessories.

Remove the sensors from the wheels before moving the vehicle. When sensors are not in use, store and charge them on the sensor cabinet.


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### 1.3 Care and Cleaning of the Sensors

When cleaning the sensors, use a mild window cleaning solution to wipe off the sensors and adaptors.

 **CAUTION:** Do not hose down or submerge the sensors in water. Do not spray cleaner on the sensor. This could damage the electrical system and optical components.

Keep wheel adaptor rods cleaned and lubricated. Lubricate as needed with a coating of light lubricant such as WD-40.

 **CAUTION:** Do not lubricate the center screw shaft of the wheel adaptor.

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## 1.4 XF Pod

The DSP700T Series Sensors communicate with the aligner console using Extra High Frequency (XF). Radio waves are transmitted and received from the sensors and the XF Pod.

Occasionally the XF Pod may receive interference from electronic devices in the area (microwaves). The DSP700T Series Sensors and XF Pod may be configured to use different radio frequencies to minimize interference.

The XF system transceiver generates radio waves in the range of 2.4 GHz. Radio waves at these frequencies reflect off most objects, resulting in an indoor and outdoor range of approximately 100 feet (30 meters).

Interference has occurred when the XF Pod does not receive the radio waves. If this happens, move the mobile cabinet and/or XF Pod approximately 2 or 3 inches (50 to 80 mm) in any direction.

### Precautions for Systems Equipped with XF Cordless Sensors

The following precautions apply to the XF transceivers installed in the aligner console and the alignment sensors as part of the XF cordless sensor option.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.



**WARNING:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. Operation is subject to the following two conditions: (1) This device may not cause harmful interference; and (2) This device must accept any interference received, including interference that may cause undesired operation.



**WARNING:** Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

**Important radio compliance information for products that contain Hunter 45-1281 XF radio module:**

**FCC Listing Number:** FCC ID: LS3-45-1281

**Industry Canada Listing Number:** IC: 2938A-451281

	<p><b>IMPORTANT NOTICE:</b> <b>This product contains a low power transceiver intended for commercial use in all EU and EFTA member states</b></p>
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#### **CE Marking & European Union Compliance**

Products intended for sale within the European Union are marked with the CE Mark which indicates compliance to applicable Directives and European Normes (EN), as follows. Amendments to these Directives or Ens are included: Normes (EN), as follows.

#### **Reference Standards:**

- EN 60950: Safety of information technology equipment.
- EN 301 489: Electromagnetic Compatibility (EMC) standard for radio equipment and services.
- EN 300 328 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2.4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.

**Note:** Operating frequency range: 2405 - 2475 MHz .5mW eirp.

**Hereby, Hunter Engineering Company, declares that this Hunter 45-1281 low power transceiver is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.**



## 1.5 Sensor Battery Packs

Each sensor contains a 3.6 VDC 5.2 Amp hour sealed NiMH rechargeable battery pack. To get the maximum life out of the battery packs, follow these three rules:

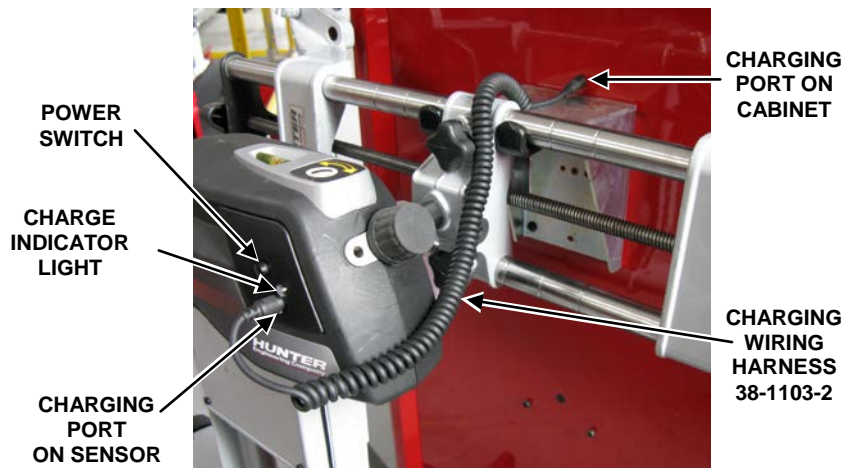
1. If the sensors are not in use, charge them.
2. Switch sensors "OFF" during charging.
3. Charge for eleven to thirteen hours, and/or provide an extended charge time (24 hours or longer) at least once a week.

**NOTE:** Make sure the main power switch at the rear of the console is left "ON" and the outlet that supplies power to the aligner is on.

To prevent premature degradation of battery performance, the charger has to replace 125% of the energy that was removed from the battery. It is not necessary to fully discharge the battery packs before charging. However, ***it is important they be charged fully.***

### Charging information:

To recharge the battery packs when the sensors are not in use, place the wheel adaptor sensor assemblies on the cabinet storage hanger and leave the main aligner power on. Connect the charging wire harness, 38-1103-2, to the charging port(s) on the sensor(s).



Front Sensor Stored and Charging on Side of Aligner Cabinet

Any time battery packs are being charged, the charge indicator light on the sensor will be illuminated.

Use supplied 10-foot extensions, 38-1106-2, in combinations with charging wire harness, 38-1103-2, to supply power to sensor while in use during an alignment.

The charge indicator light turning from red to green is an indication that the charging mode has switched from fast charge mode into a “trickle” charge mode and the battery is 100% charged and ready to use.

You should expect at least 8 hours of continuous use from a fully charged battery pack. If you are not getting this amount of usage time, the most likely cause is inadequate charging time.

Battery packs that are consistently subjected to partial charging rather than full charge cycles **will permanently lose capacity.**

Charging time for a fully discharged battery pack with the sensor power switch turned “OFF” is 11 to 13 hours. Three or four times this interval would be required if the sensors were left “ON” during the charge cycle. **It is very important that the sensors be turned “OFF” during charging.** The sensors power switch is located on the front face of the sensor, above the charging port and indicator light.

Charging overnight with the sensors’ power switches set to “OFF” will provide a proper charge.

**The charging system cannot over-charge the battery packs. If you’re not using the sensors, charge them!**

### **In a shop with extended service hours, there are some things that can be done to prolong battery pack life:**

When the sensors are not being used to perform alignments, they should be stored with sensor power switched off. At a minimum, turn the sensors “OFF” between alignments. Any charging accomplished throughout the day helps maintain the batteries at peak performance, and helps extend their life.

One day out of the week when alignments are not performed, let the sensors charge continuously for 24 hours or longer. This should “undo” the effects of any undercharging that occurred during the previous week. This sort of prolonged charging will only be effective at restoring full capacity to the batteries if performed regularly. Once a week is the recommended minimum.

### **When is it time to replace the battery packs?**

If after a full charge the battery pack does not last for the expected 8 hours, it should be put through one or two sessions of extended charge time (24 hours or longer). If the battery pack does not recover and start giving satisfactory cycle time, it should be replaced. The sooner the battery pack losing capacity is detected, the more likely an extended charge time will restore the battery pack to normal capacity. If the battery pack discharge time is only three or four hours, it is unlikely, that extended charge time will help significantly.

### **Extension Cables**

DSP700T Series Sensors are supplied with four 38-1106-2 extension cables. These extension cables can be used if battery power for the sensors is low. Simply connect one end of the extension cables to the charging cables on the aligner and the other end to the charging port on the sensor. Proceed with the alignment.

### Additional information:

Any sensor that is powered up after being off for a while will initially indicate 100% capacity on the aligner screen. This is not an accurate indication of the charge state of the battery pack. The battery pack has a “surface charge” which dissipates quickly and within 5 minutes of operation the on-screen battery level indicator will settle at its true value. The individual wheels on the screen indicate the actual battery pack condition and are color-coded. The following is an indication of battery charging condition:

Green = fully charged or partially charged

Yellow = battery running low and will require charge soon

Red (with battery recharging icon) = requires charging

The charging circuit has been “fine tuned” to work specifically with Hunter battery pack, part number 194-27-1. Substituting different batteries is not recommended.

A sensor that is being used, and has a low battery pack, can retain its measurement data if a “hot swap” battery pack replacement is made. Hot swapping the battery pack simply requires the user to replace the battery pack. The sensor settings will be restored and the alignment process can proceed. *Refer to 1.7 Hot Swap Battery Pack Replacement Instructions for more information.*



Battery Pack - Hunter 194-27-1

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## 1.6 DSP700T Series Sensors Battery Pack Replacement Instructions

This procedure provides instructions for replacing the battery pack in DSP700 series sensors.

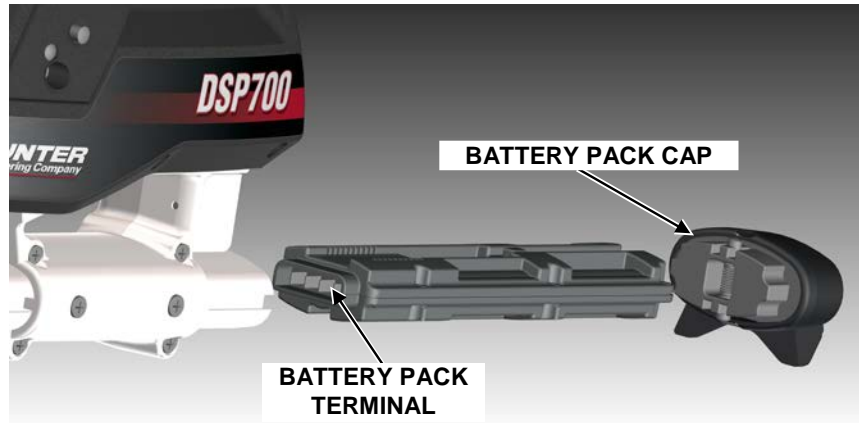
Remove the battery pack as follows:

1. Depress the upper and lower release buttons on the battery pack cover and remove.
2. Tilt sensor back and remove battery pack.

Replace the battery pack as follows:

<b>NOTE:</b>	The battery pack end caps have a different weight front to rear in order to correctly level the sensors. The heavier end cap belongs with the short toe arm sensors. Do not mix when replacing battery packs.
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1. Insert the battery pack with the factory label on top.
2. Replace the battery pack cover.



Battery Removal (Rear / Mid Sensor Shown)

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## 1.7 Hot Swap Battery Pack Replacement Instructions

This procedure provides instructions for hot swapping the battery pack in DSP700T Series Sensors during an alignment procedure. Hot swapping the battery will recall/retain the information in the sensor if the alignment procedure is still in progress.

If the sensor was compensated prior to swapping the battery, the sensor will indicate it by illuminating the middle compensation indicator while flashing the two outer compensation indicators.

1. Remove and replace the battery as described above.
2. Restore the sensor to its original position.

The hot swap procedure should be completed in the time period of approximately 1 minute.

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## 1.8 User Battery Replacement:

The batteries in the battery pack may be replaced. When replacing, use six rechargeable 2700 mAh AA NiMH batteries. Replace all batteries in the battery pack at the same time, with the same type of battery.

**⚠ CAUTION:** Be sure to check the battery placement, as reversing polarity may cause irreparable damage to the battery pack.

**⚠ CAUTION:** RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO INSTRUCTIONS.

**⚠ CAUTION:** INCORRECT BATTERY PLACEMENT CAN RESULT IN ARCS/SPARKS.

Remove the six screws securing the assembly. Remove the battery pack top. Replace individual batteries and reassemble.



The battery pack must be fully recharged before use.

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## 1.9 Vehicle Preparation

Drive the vehicle into the alignment bay. If rolling compensation is to be performed, position the front axle approximately 22 inches (56 mm) from the center of turnplates.

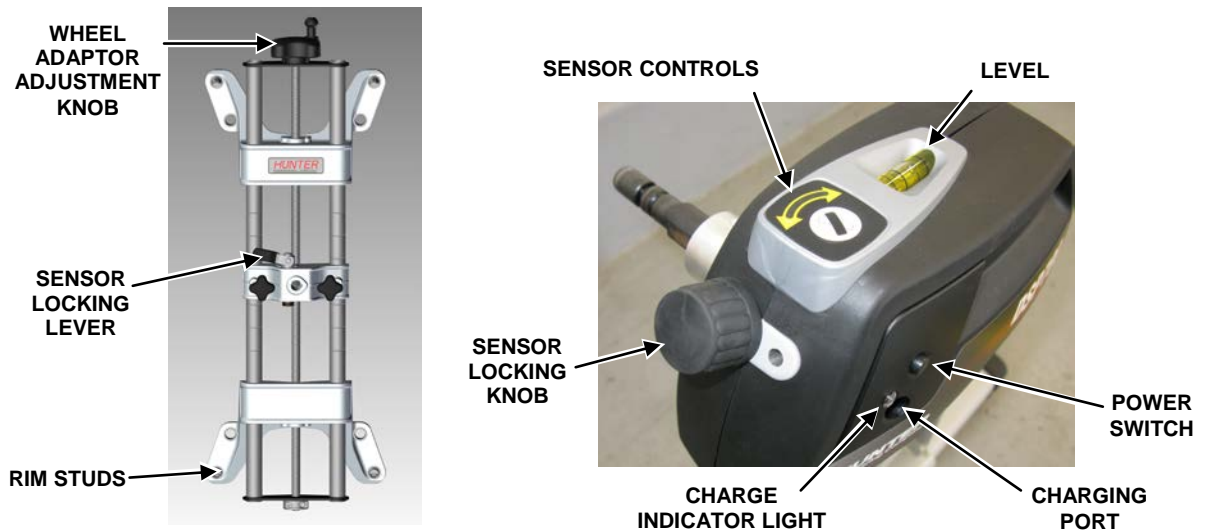
Install wheel chocks to prevent the vehicle from rolling.

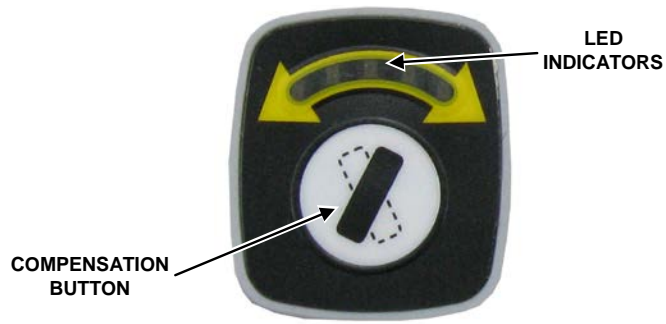
Check and adjust the tire pressure, inspect for unevenly worn or mismatched tires.

Inspect all suspension and steering linkage components for wear or damage. A thorough inspection is important.

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## 1.10 Equipment Components and Controls





**DSP700T  
SENSOR CONTROLS**



**DSP700T Sensors**

## 2. Mounting Sensors

### 2.1 Mounting Wheel adaptors onto Wheels

Mount the appropriate wheel adaptor at rear, mid (DSP760T only), and front locations.

On rear wheel, use the standard HD adaptors, 175-377-1, with one central sensor mounting hole.

On mid wheels (DSP760T only), use the unique wheel adaptors, 175-431-1, with the two offset sensor mount holes.

On front wheel, mount the standard HD adaptors, 175-377-1, or optional wheel adaptors, 175-284-1, that mounts to wheel's center bore.



**Rear and Mid Wheel Adaptors and Sensors Installed**

Sensors may be mounted on the wheel adaptors before mounting the wheel adaptors on the vehicle. In some cases, it may be easier to mount the wheel adaptor first and then mount the sensor onto the adaptor. Either method may be used.

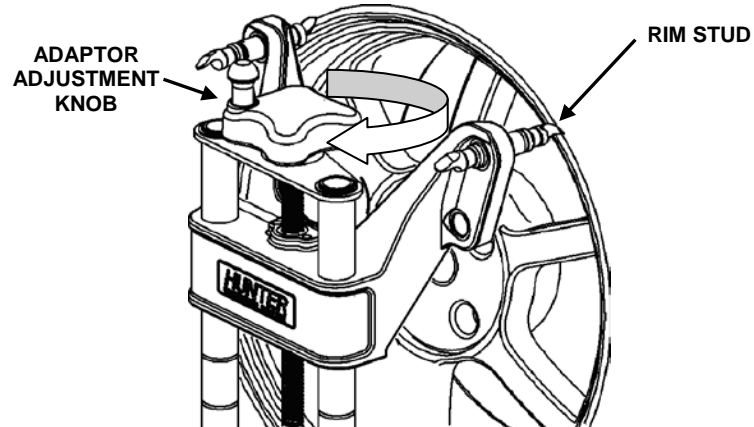
## Typical Installation (Grasping the Outside of Rim Lip)

**NOTE:** Rim studs are reversible. Use the spade end that best fits the rim. The two wheel adaptors on the front wheels or back wheels need to be uniform with same end of the rim studs engaged onto the rim.

Position the wheel adaptor with the two upper external rim studs on the outside of the wheel rim.

Align the two lower external rim studs on the outside of the wheel rim and check that all four rim studs will engage the outside of the wheel rim.

Turn the adaptor adjustment knob clockwise to firmly attach the adaptor to the wheel.



Test the security of the installation by lightly tugging on the wheel adaptor.

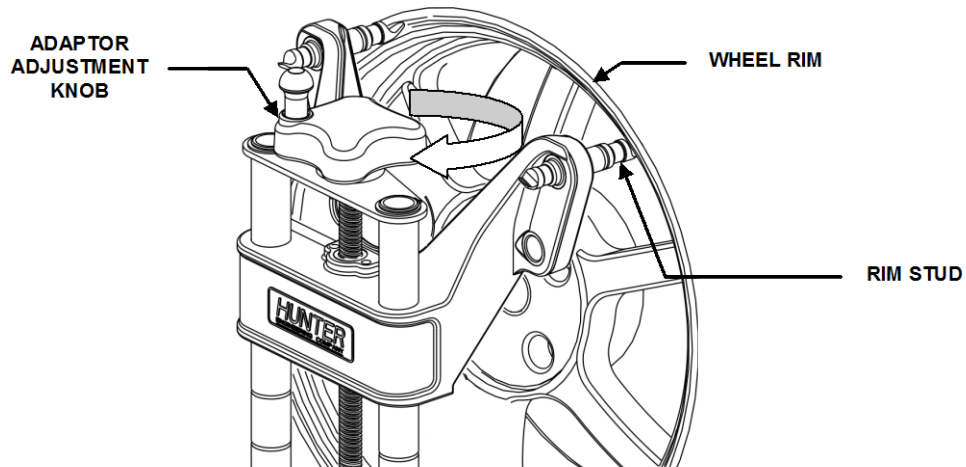
**CAUTION:** Do not allow the rim studs to slip on the wheel. Runout compensation and alignment accuracy will be adversely affected if the wheel adaptor is allowed to slip on the wheel.

## Attaching to Inner Rim Lip

Position the wheel adaptor with the two lower rim studs engaging the inside of the lower wheel rim lip.

Align the two upper rim studs with the inside of the upper wheel rim lip and check that all four studs will engage the inner portion of the rim lip.

Turn the adaptor adjustment knob clockwise to firmly attach the adaptor to the wheel.



Test the security of the installation by tugging on the wheel adaptor.



**⚠ CAUTION:** Do not use rim studs on alloy or clear coat wheels. Rim studs can damage these wheels.

**⚠ CAUTION:** Do not allow the rim studs to slip on the wheel. Runout compensation and alignment accuracy will be adversely affected if the wheel adaptor is allowed to slip on the wheel.

### **Mid Wheel Adaptor (Unique DSP760T Wheel Adaptors 175-431-1)**

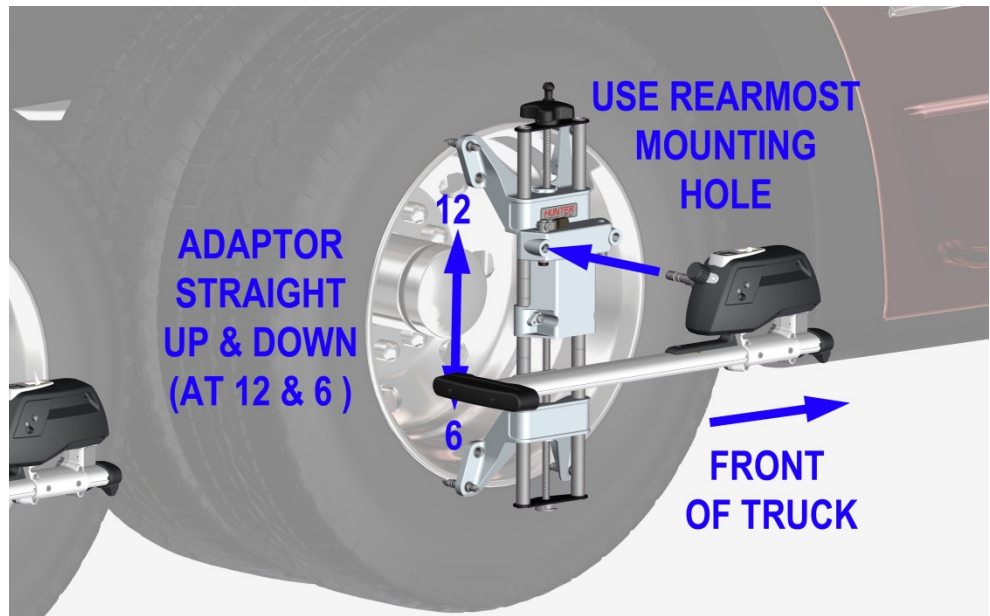
For DSP760T Sensors, wheel adaptor, 175-431-1, must be used to mount mid sensor.

A few guidelines must be followed when mounting mid sensor.

The unique wheel adaptors with an oversized center casting containing two offset sensor mount holes must be used only at the middle sensor location.

The wheel adaptor must be mounted straight up and down (at 6 and 12 o' clock) with the adaptor upright (offset mount holes near top).

Always use the rearmost mounting hole to mount middle sensor.



**Mid Wheel Adaptor and Mid Sensor Mounting Details**

## Attaching to Center Bore (Optional Front Wheel Adaptor 175-284-1)

Position the wheel adaptor with the two lower rim studs engaging the inside of the center bore.

Align the two upper rim studs with the inside of the center bore and check that all four studs will engage the inner portion of the rim lip.

Turn the adaptor adjustment knob clockwise to firmly attach the adaptor to the wheel.



Optional Front Wheel Adaptor, 175-284-1, Mounted to Center Bore

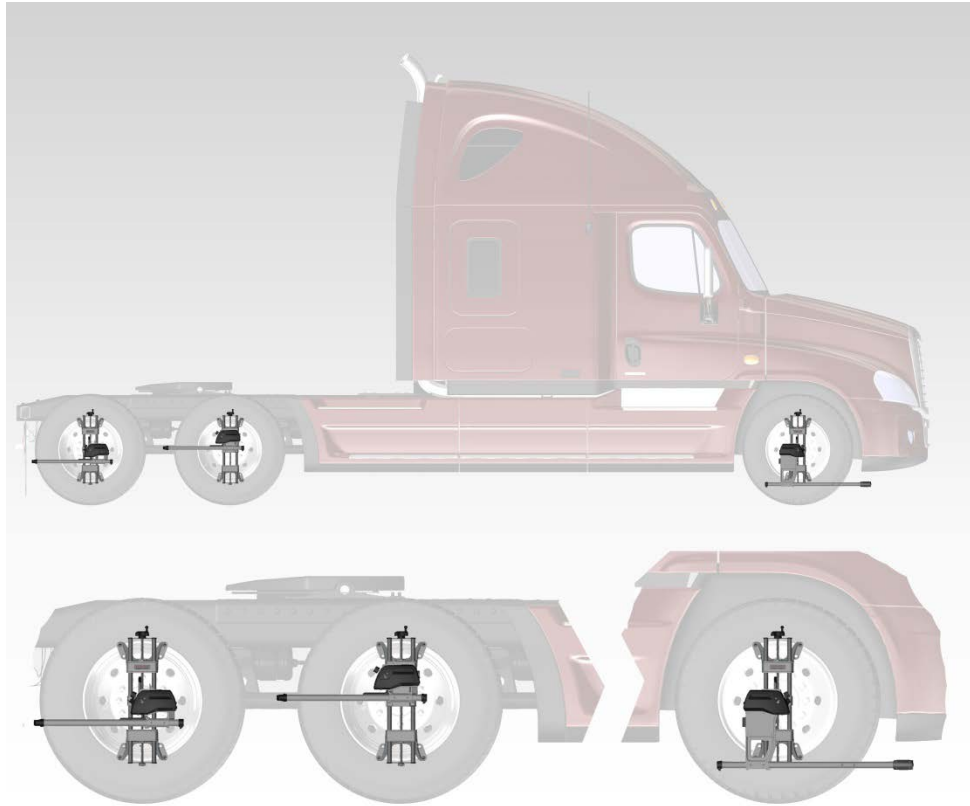
Test the security of the installation by tugging on the wheel adaptor.

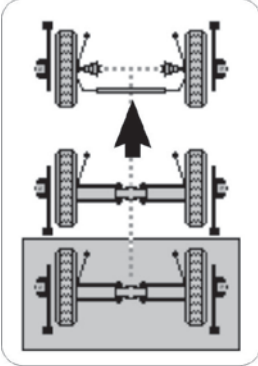
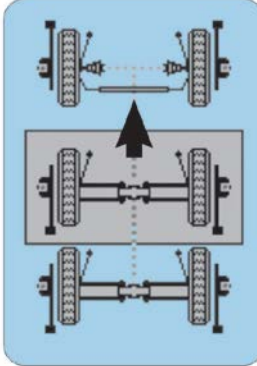
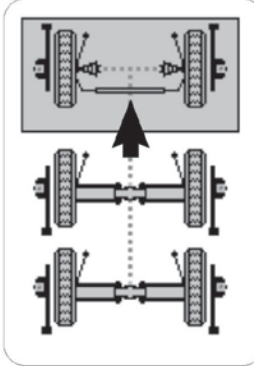
**⚠ CAUTION:** Do not allow the rim studs to slip on the wheel. Runout compensation and alignment accuracy will be adversely affected if the wheel adaptor is allowed to slip on the wheel.

## 2.2 Mounting Sensors onto Wheel Adaptors

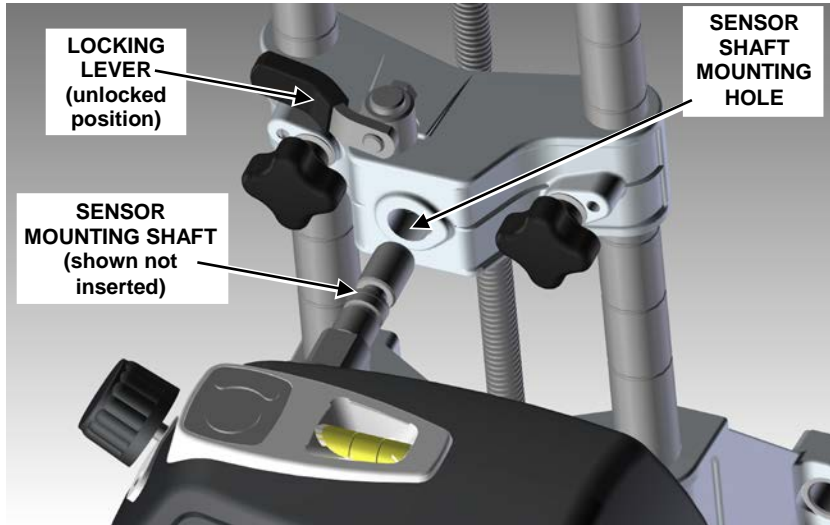
Front sensors mount with extruded bar directed forward. Rear and mid sensors mount with extruded bars directed rearward.

Sensor location is identified by a decal on the extruded aluminum section of each sensor.



	<b>Rear Sensors</b>	<b>Middle Sensors</b>	<b>Front Sensors</b>
Sensor Series	DSP740T or DSP760T	only DSP760T	DSP740T or DSP760T
Appropriate Wheel Adaptor	standard HD adaptors, 175-377-1	unique wheel adaptors, 175-431-1	standard, 175-377-1, or optional, 175-284-1
Sensor ID Label			
Additional References	Refer to "Typical Installation (Grasping the Outside of Rim Lip)" on page 14.	Refer to "Mid Wheel Adaptor (Unique DSP760T Wheel Adaptors 175-431-1)" on page 15.	Refer to "Attaching to Center Bore (Optional Front Wheel Adaptor 175-284-1)" on page 16.

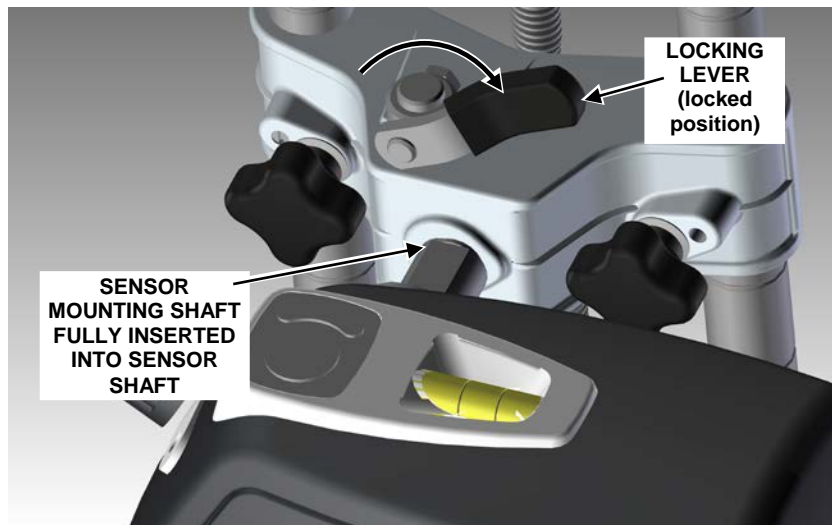
The sensor attaches to the wheel adaptor by inserting the sensor mounting shaft into the sensor shaft mounting hole in the middle of the center casting (for front and rear adaptors) or into the rearmost sensor shaft mounting hole (for mid wheel adaptor).



**Sensor Shaft Aligned with Standard HD Adaptor's Mounting Hole**

**NOTE:** The sensor mounting shaft must be fully inserted into the sensor shaft mounting hole.

When the sensor is mounted, the sensor locking lever should be rotated clockwise using firm hand pressure. Tools should not be used to force the locking lever.



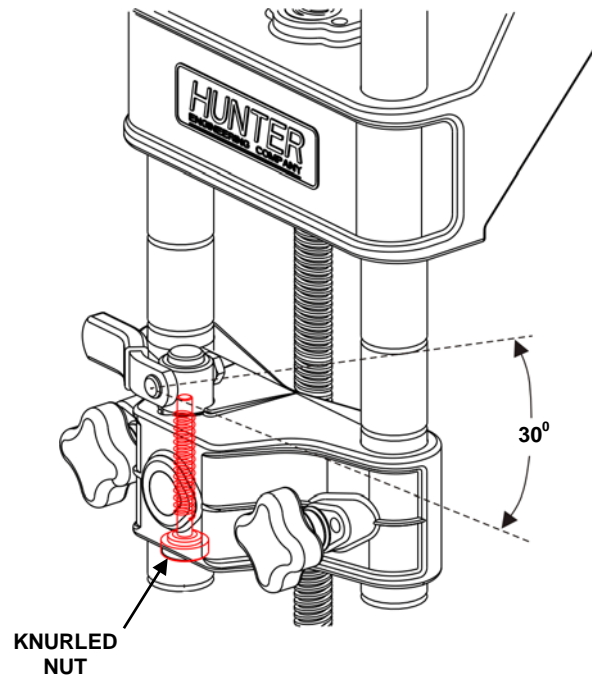
**Sensor Shaft Fully Seated and Locked onto Standard HD Adaptor**

If the lever is rotated to the point of contacting the casting and the sensor is still not fully locked, then adjust locking lever per following instructions.

## Adjusting Locking Lever

The wheel adaptor lock lever should not contact the wheel adaptor center casting before the sensor shaft is tightly secured. An adjustment can be made to the lock lever assembly to restore its full tightening capability.

Turn the adjusting thumbscrew to adjust the lock lever adjustment screw as illustrated below (do not remove the assembly). With the sensor fully seated in the adaptor and firm hand force applied to the lock lever, adjust the lock lever screw from the bottom side of the center casting so the lever will stop approximately 30° short of contacting the center casting.



**NOTE:** Normal manufacturing variations will allow the clearance between the lever and casting to change if different sensors are mounted to a given adaptor. This variation is acceptable if the lever has enough travel to fully tighten the lock onto the shaft.



# 3. Compensating Sensors

## 3.1 General Compensation

The sensors must be compensated to eliminate errors in angle measurements caused by runout of the wheel, wheel adaptor, and sensor shaft.

The sensors must be "ON" to compensate.

Do not disturb the sensor until the two outer LED's respond.

Sensors may be compensated in any order; however, these precautions must be followed:

If a sensor is removed from a wheel, that sensor must be re-compensated when reinstalled. The other sensors do not need re-compensation.

During compensation and normal operation, be certain no obstructions are blocking the infrared beams between the sensors. When compensating sensors that are mounted to the vehicle drive wheels, place the transmission in NEUTRAL.

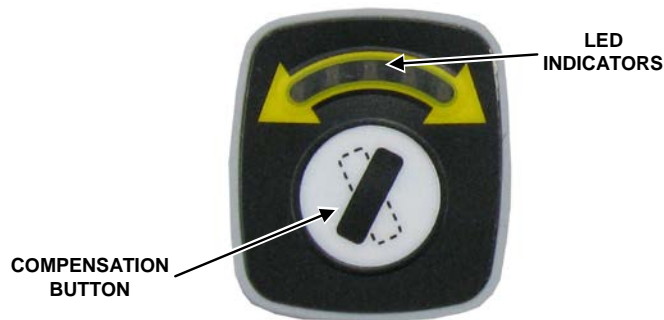
## 3.2 Three-Point Compensation

All sensors need not be mounted before starting compensation.

Raise either the front or rear axles, or both, while remembering to use the safety on all jacks.

**⚠ WARNING:** If only one axle is to be raised, chock wheels on the axle that is not being raised (before raising), to prevent the vehicle from rolling.

Turn sensors on and select any one of the sensors for compensation. The starting position of the wheel adaptor does not matter. The middle LED will be on.



Hand-tighten the sensor lock knob.

Rotate the wheel until the sensor is level (as indicated by the spirit level on top of the sensor).

Press the compensate button. Do not disturb the sensor until the two outer LED's begin to blink and the middle LED turns off, indicating that the measurements have been stored.

Loosen the sensor lock knob and rotate the wheel 120°, clockwise or counter clockwise, until the middle LED turns on. Hand tighten the sensor lock knob and rotate the wheel to level the sensor.

**NOTE:** It is recommended that the front wheels of front wheel drive vehicles be rotated in the forward direction to reduce disturbing the sensor on the opposite front wheel.

With the middle compensate LED on, press the compensate button. Do not disturb the sensor until the two outer LEDs begin to blink faster and the middle compensate LED turns off to indicate that the measurements have been stored.

Loosen the sensor lock knob and rotate the wheel 120° more, until the middle LED turns on. Hand-tighten the sensor lock knob and rotate the wheel to level the sensor.

With the middle LED on, press the compensate button. Do not disturb the sensor. Wait for the sensor to save the measurement. The two outer LED's and the middle LED will stay on.

Loosen the sensor lock knob.

The sensor is now compensated. Repeat this procedure for the remaining sensor(s).

After three-point compensation, the front and rear wheels may be rotated to any position without affecting the alignment measurements. The middle wheel must end with the adaptor in the 12 o'clock position to ensure line-of-sight.

**NOTE:** All sensors should be level, but unlocked to minimize tilt of the sensors. Avoid rapid steering motion that may cause sensors to swing vertically, which can cause them to come into contact with the rack, or even dislodged from the wheel.

Remove the lock pins from the turning angle gauges and rear slip plates.

Apply the parking brake and place the transmission in park if applicable.


Lower the vehicle.

Continue the alignment procedure.

For three-point compensation, if a previously compensated sensor should require re-compensation, pressing the sensor compensate button twice within four seconds will restart the compensation procedure and retake the first reading for that sensor at this position.

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### 3.3 Rolling Compensation

 **DANGER:** Always make sure wheel chocks are in place before starting rolling compensation. Serious injury or death can result if chocks are not used to limit the movement of the truck.

**Note:** Wheel chocks should be placed approximately 22" in front of the first drive axle so that the truck is centered on the turnplates following the compensation procedure.

Proceed to the Rolling Compensation screen in WinAlign®.

Put the lock pins in the turning angle gauges and rear slip plates. Raise the turn plate bridges.

All sensors must be mounted before starting rolling compensation.

Turn sensors on. The starting position of the front and rear wheel adaptors is not important. The middle wheel adaptor, however, **MUST** be installed at the 12 o'clock position with the sensor in the rearmost hole to ensure proper line-of-sight throughout the rolling compensation procedure. The middle LED will be on.

Be sure to unlock the sensor lock knob on each sensor.

Position the truck with the front tires centered on and approximately 22" from the turnplates.

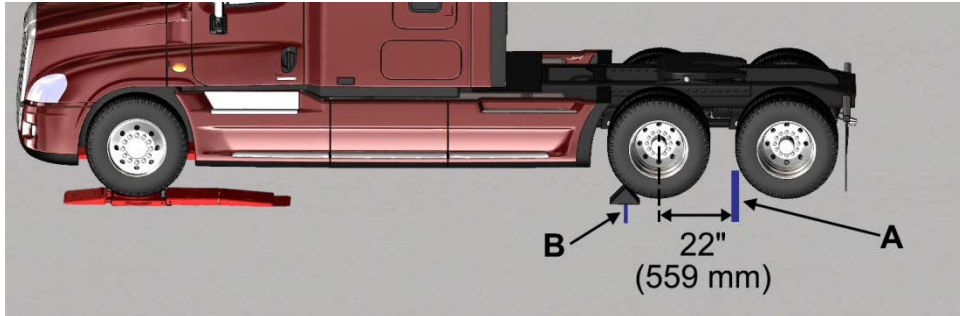
Gently roll the truck until the front drive axle rests on the previously placed front chock. Place the second chock behind the front drive axle so that the truck cannot roll in either direction.



**NOTE:** Chock the side of the truck that allows viewing of the console screen.

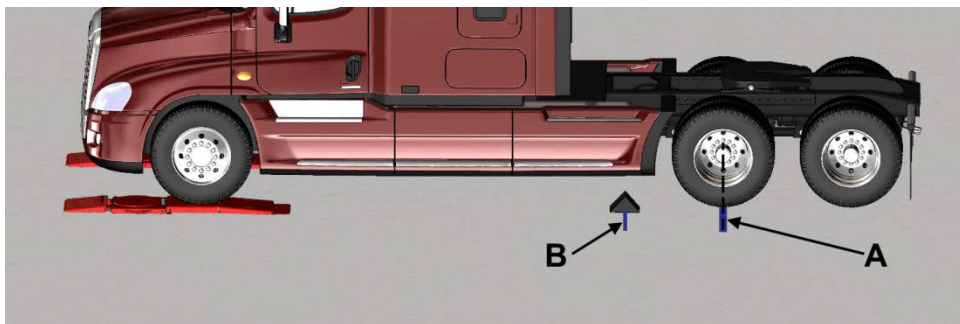
Measure 22 ( $\pm 1$ ) inches rearward from the center of the first drive axle and mark the location on the floor or rack (position "A" shown below).

Mark the position of the wheel chock (position "B" shown below).



Position the truck such that the center of the first drive axle lines up with the mark.

**NOTE:** If using floor turnplates, ensure the front tires are on the flat portion of the plates.





**Always make sure wheel chocks are in place before starting rolling compensation.**

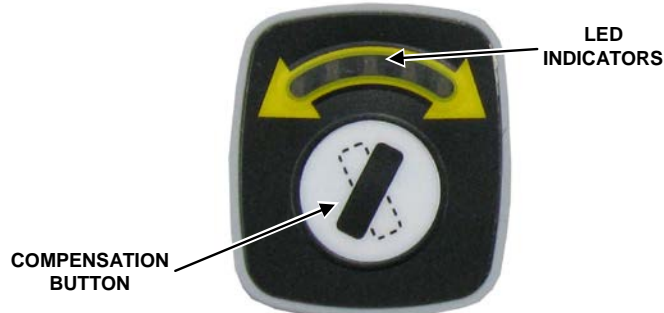


Steer the vehicle ahead.

Make sure the wheel chock has not moved.

When directed by the aligner, manually roll (do not drive) the vehicle forward into the wheel chocks to center all bar graphs in the green. Do not disturb the sensors. Wait for the aligner to save the measurements, which is indicated by the bar graphs disappearing.

Rolling compensation is complete. The middle LED and two outer LEDs on each compensated sensor will be on.



Apply the parking brake and place the transmission in park if applicable.

After rolling compensation, the wheel may be rotated to any position without affecting the alignment measurements.

Continue the alignment procedure.

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### 3.4 Jacked Rolling Compensation

Proceed to the Rolling Compensation screen in the aligner. Press the “Use Jacking Compensation” softkey.

All sensors must be mounted before starting compensation.

Turn sensors on. The starting position of the wheel adaptor does not matter. The middle LED will be on.

Unlock the sensor lock knob on each sensor.

Jack up the wheels to be compensated.

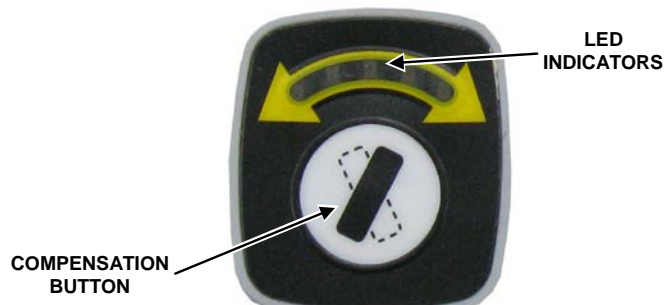
Steer the vehicle ahead.

The rotation steps below may be performed one sensor at a time or on any combination of them at once.

When directed by the aligner, rotate each wheel toward the rear to center its bar graph in the green. Once centered in the green, do not disturb the sensor. Wait for the aligner to save the measurement, which is indicated by the bar graph changing to indicate rotation forward.

When the bar graph indicates rotation forward for a wheel, rotate that wheel forward to center its bar graph in the green. Once centered in the green, do not disturb the sensor. Wait for the aligner to save the measurement, which is indicated by the bar graph disappearing.

Jacked rolling compensation is complete. The middle LED and two outer LEDs on each compensated sensor will be on.



Lower the vehicle.

Apply the parking brake and place the transmission in park if applicable.

After jacked rolling compensation, the wheel may be rotated to any position without affecting the alignment measurements.

Continue the alignment procedure.

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### **3.5 Compensation Recall Mode**

If sensor power is temporarily interrupted after compensation, a short-term backup memory on the sensor may hold compensation values until power is restored. When power is restored, the sensor will indicate that it has valid compensation values by illuminating the middle compensation indicator while flashing the two outer compensation indicators. If the sensor has not been dismantled from the vehicle wheel, the compensation procedure does not have to be repeated. Afterwards, restore the sensor to its original position. Refer to the compensation section for complete compensation procedure.

# 4. Operation Information

## 4.1 Sensor Level Check Procedure

To achieve an accurate alignment, it is important that the sensors hang level when the sensor lock knob is loosened. A sensor must be balanced correctly to hang level.

To check the balance of a sensor:

Mount the sensor on a wheel adaptor.

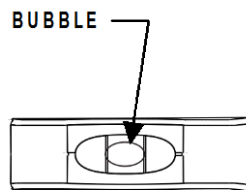
Mount the wheel adaptor onto a wheel without connecting the sensor charging cable.

With the sensor lock knob loosened, wait until the sensor does not rock on the wheel adaptor.

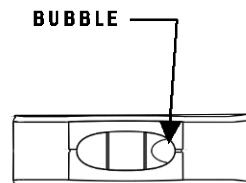
Observe the level in the sensor.

If the bubble is in the center of the level, as shown below, the sensor is balanced.

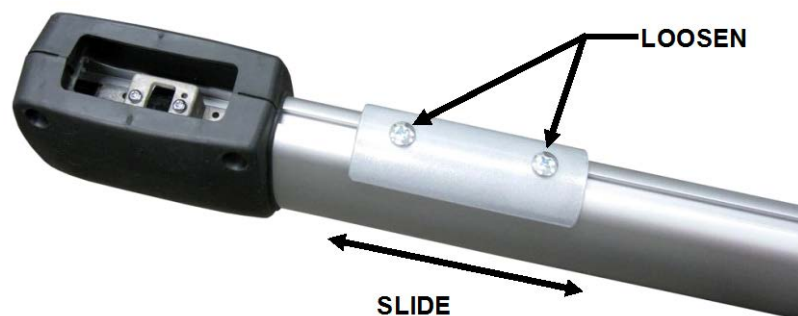
**NOTE:** A level reminder icon will appear on the vehicle plan view indicator when a sensor is severely out of level.



If the bubble is off to one side of the level, as shown below, the sensor must be adjusted to restore the sensor to level.



To balance sensors, loosen the screws securing the weight to the toe arm. Slide the weight in the proper direction to center the bubble in the level.



Contact your local Hunter Service Representative if you need assistance with balancing adjustments.