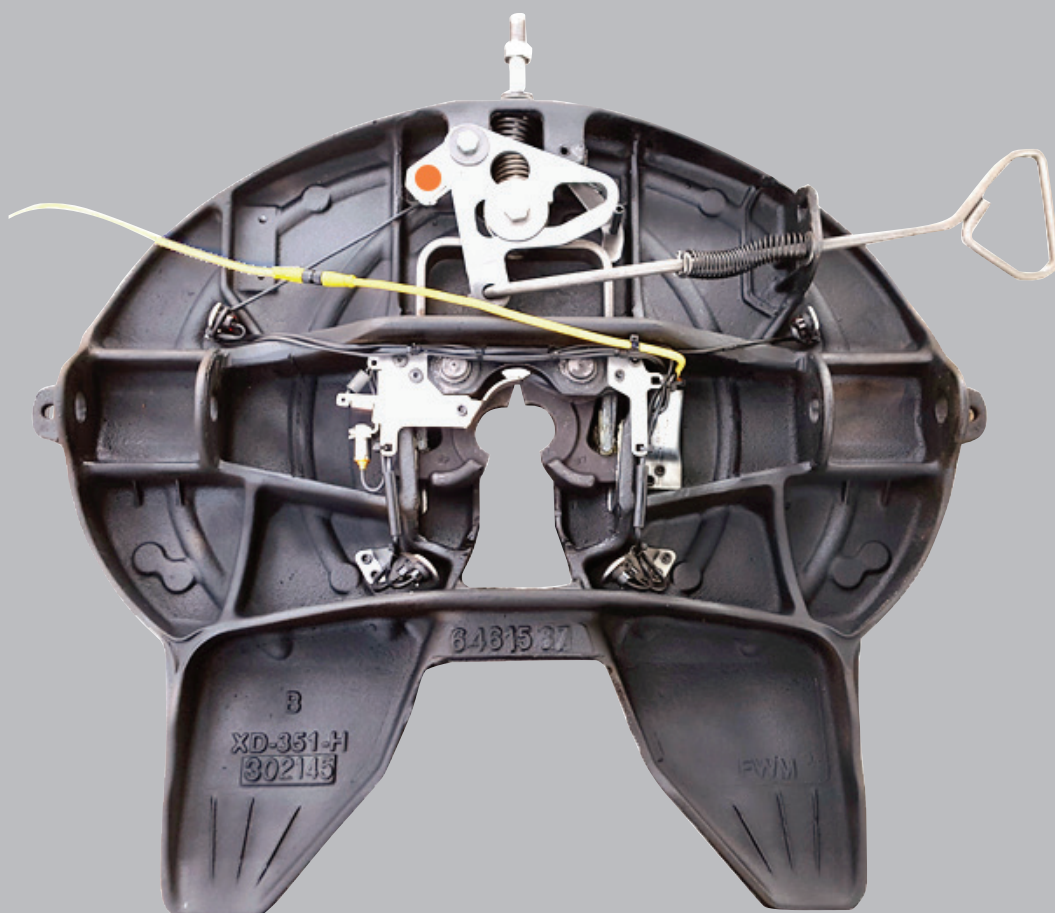


Rebuild Kit Instructions

Electronic Lock Indicator - Technology Enhanced (ELI-te™) RK-12131, RK-11964, RK-11966, RK-11971, RK-11984

- For XA-351, XA-331 and XA-311 Series
Fifth Wheel Top Plates



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Introduction

This manual provides procedures for installing the Electronic Lock Indicator - Technology Enhanced (ELI-te) coupling monitor system for HOLLAND® fifth wheels. Refer to page 3 for exact model identification.

NOTE: For HOLLAND replacement components, contact SAF-HOLLAND® Customer Service at 1-888-396-6501.

Notes, Cautions, and Warnings

Read and understand all of the procedures presented in this manual before starting work on any Electronic Lock Indicator - Technology Enhanced (ELI-te) coupling monitor system for the HOLLAND series fifth wheels.

IMPORTANT: Keep this manual in a safe location for future reference.

Proper tools must be used to perform the maintenance and repair procedures described in this manual.

NOTE: In the United States, work shop safety requirements are defined by federal and/or state Occupational Safety and Health Acts. Equivalent laws could exist in other countries. This manual is written based on the assumption that OSHA or other applicable employee safety regulations are followed by the location where work is performed.

Throughout this manual, you will notice the terms “NOTE,” “IMPORTANT,” “CAUTION,” and “WARNING” followed by useful product information. So that you may better understand the manual, those terms are defined as follows:

NOTE: Includes additional information to enable accurate and easy performance of procedures.

IMPORTANT: Includes additional information that, if not followed, could lead to hindered product performance.

CAUTION Used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, could result in property damage.

CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

1. General Safety Instructions

Read and observe all Warning and Caution hazard alert messages in this publication. The alerts provide information that can help prevent serious personal injury, damage to components, or both.

The Electronic Lock Indicator - Technology Enhanced (ELI-te) coupling monitor system installation must be performed by a trained technician using proper tools and safety procedures.

IMPORTANT: The Electronic Lock Indicator - Technology Enhanced (ELI-te) coupling monitor system is a tractor-trailer fifth wheel coupling aid and is intended as an additional safety check to assure the driver of a safe and complete coupling. It does NOT eliminate the requirement for a visual inspection of the fifth wheel. ALWAYS get out of the tractor cab and visually inspect the fifth wheel coupling before proceeding.

IMPORTANT: Thoroughly verify that the fifth wheel has been properly installed on the vehicle prior to operation of the fifth wheel.

⚠ WARNING Failure to properly install the fifth wheel could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

Refer to SAF-HOLLAND Installation Manual XL-FW10008BM-en-US (available on the Internet at www.safholland.us) for proper installation procedures.

SAF-HOLLAND highly recommends the use of only SAF-HOLLAND Original Parts.

A list of technical support locations that supply SAF-HOLLAND Original Parts can be found at www.safholland.us or contact Customer Service at 888-396-6501.

Updates to this manual will be published as necessary on the Internet at www.safholland.us.

2. Model Identification

This manual contains retrofit procedures for installing an Electronic Lock Indicator - Technology Enhanced (ELI-te) coupling monitor system on the FW35 Fifth Wheel top plate (XA-351 Series), the FW33 Low Lube Fifth Wheel top plate (XA-331 Series) manufactured after January 1, 1997, and the FW31 NoLube™ Fifth Wheel top plate (XA-311 Series) (**Figure 1**).

The ELI-te is NOT available for FW3500 Fifth Wheel top plates manufactured before December 31, 1996 (**Figure 2**).

Figure 1

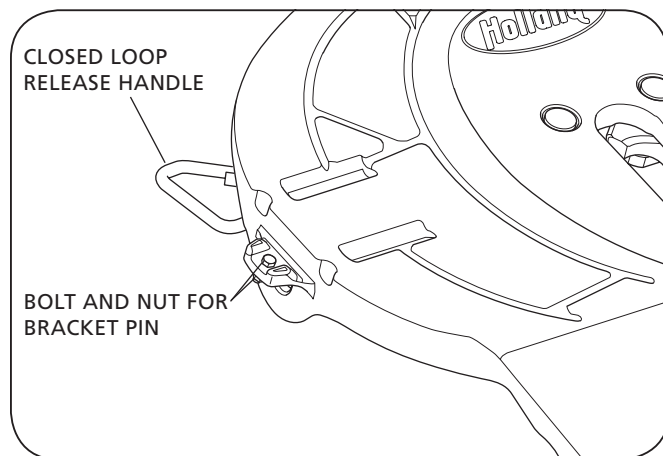
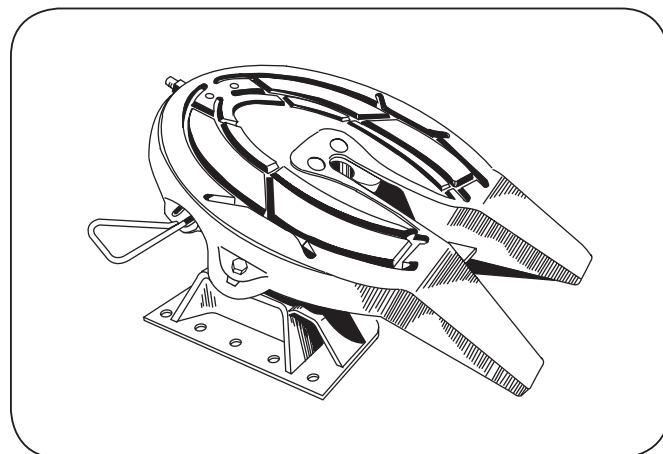
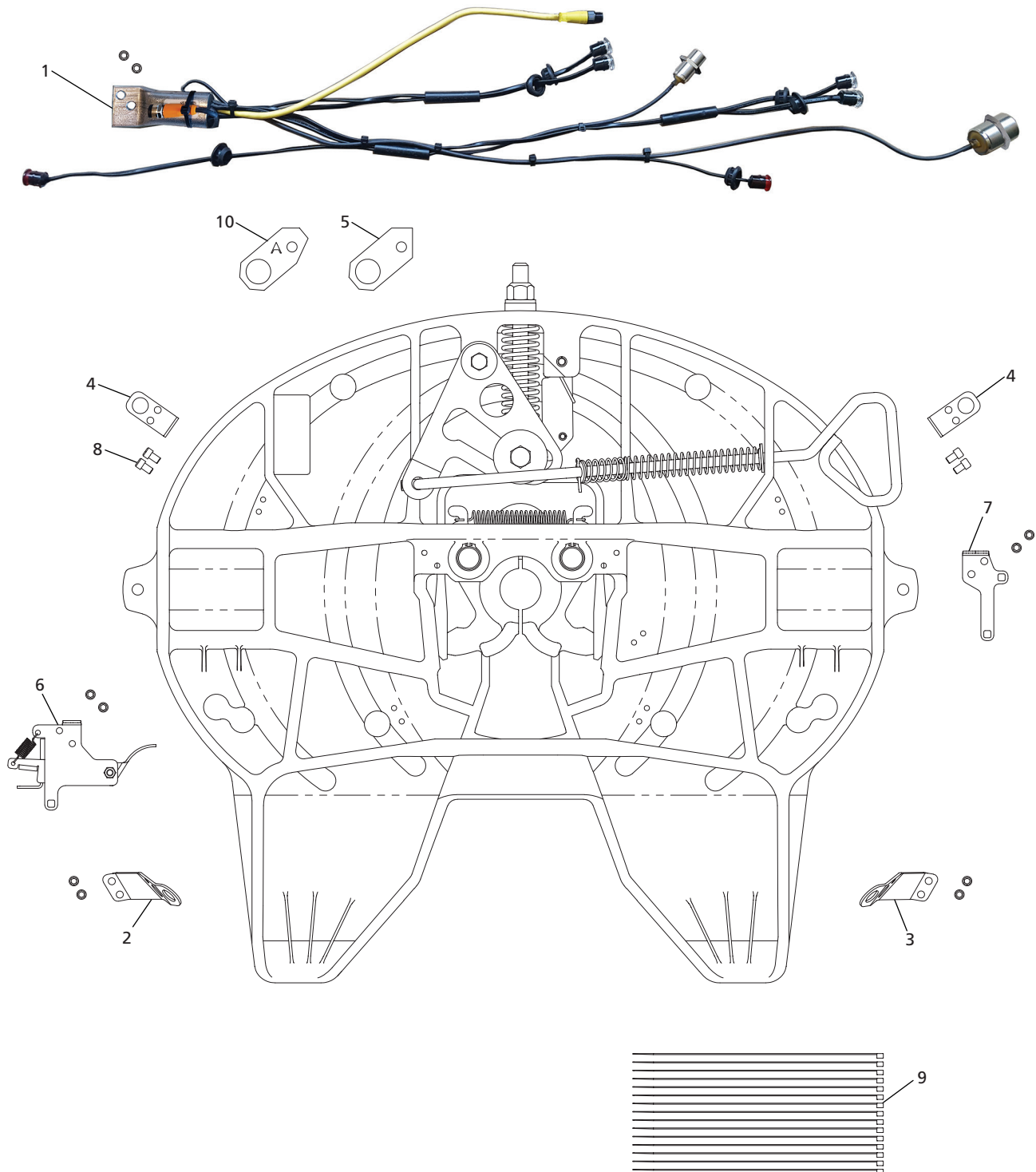


Figure 2





RK-12131 PARTS LIST (ELI-TE FULL REBUILD KIT)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
1	ELI-te Coupling Monitor Assembly	EE-11971	1
2	Inspection Light Bracket - Left	XA-11966-L-P	1
3	Inspection Light Bracket - Right	XA-11966-R-P	1
4	Indicator Light Bracket	XA-11964-P	2
5	Cam Sensor Bracket	XA-11968-P	1
6	Kingpin Sensor Assembly	XA-11984	1
7	Wire Mount Bracket	XA-11967-L-P	1
8	Socket Head Cap Screw, 5/16" -18 x 1/2"	XB-TLN-2506	16
9	Cable Tie	XB-11970	15
10	Cam Sensor Bracket, Air Release	XA-11968-AIR-P	1

RK-11964 PARTS LIST (INDICATOR LIGHT BRACKETS REPLACEMENT PARTS)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
4	Indicator Light Bracket	XA-11964-P	2
8	Socket Head Cap Screw, 5/16" -18 x 1/2"	XB-TLN-2506	4
9	Cable Tie	XB-11970	4

Note: Kits available from your local SAF-HOLLAND Distributor.

RK-11966 PARTS LIST (INSPECTION LIGHT BRACKETS REPLACEMENT PARTS)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
2	Inspection Light Bracket - Left	XA-11966-L-P	1
3	Inspection Light Bracket - Right	XA-11966-R-P	1
8	Socket Head Cap Screw, 5/16" -18 x 1/2"	XB-TLN-2506	4
9	Cable Tie	XB-11970	3

RK-11971 PARTS LIST (ELI-TE COUPLING MONITOR ASSEMBLY REPLACEMENT PARTS)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
1	ELI-te Coupling Monitor Assembly	EE-11971	1
8	Socket Head Cap Screw, 5/16" -18 x 1/2"	XB-TLN-2506	2

RK-11984 PARTS LIST (KINGPIN SENSOR ASSEMBLY REPLACEMENT PARTS)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
6	Kingpin Sensor Assembly	XA-11984	1
8	Socket Head Cap Screw, 5/16" -18 x 1/2"	XB-TLN-2506	2

3. Top Plate Removal

NOTE: Some fifth wheel assemblies have replaceable pocket inserts installed between the fifth wheel top plate and mounting base. When removing the top plate, the pocket inserts will either remain inside of the top plate pockets, on top of the mounting bracket caps, or may fall out. Take care NOT to lose the pocket inserts.

CAUTION

Failure to prevent pocket inserts from falling out of the top plate could cause a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

1. Remove the bracket pin retention bolts and nuts from both sides of the fifth wheel top plate (**Figure 3**).
2. Using a pry bar, pull the bracket pins out of the fifth wheel top plate (**Figure 3**).
3. Using a lifting device capable of lifting 500 lbs. (227 kg), remove the top plate from the mounting base. Place the fifth wheel upside down on a flat, clean working area.

NOTE: Follow the instructions published by the lifting device manufacturer for proper operation of the lifting device.

4. Locating and Cleaning Tapped Holes

1. Locate the fourteen (14) holes related to the sensor bracket installations for ELI-te as illustrated (**Figure 4**).

NOTE: These holes were drilled and tapped when the fifth wheel was originally manufactured, for the addition of ELI-te sensor components.

2. Apply a pressurized catalyzing penetrant to clean out all fourteen (14) tapped holes. If any debris remains within the holes, use a 5/16"-18 UNC-2B tap to clear the holes completely.

Figure 3

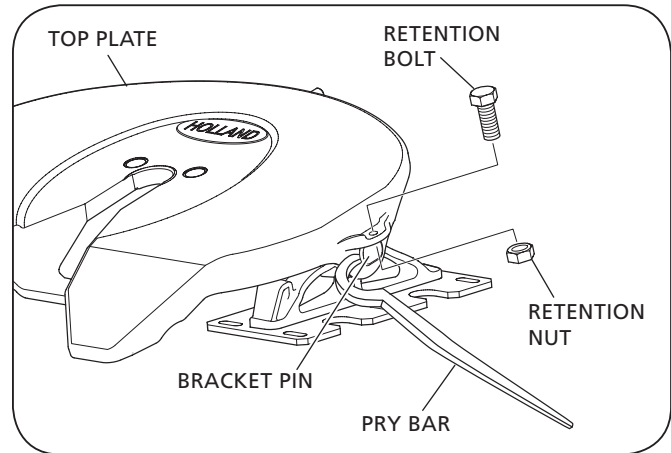
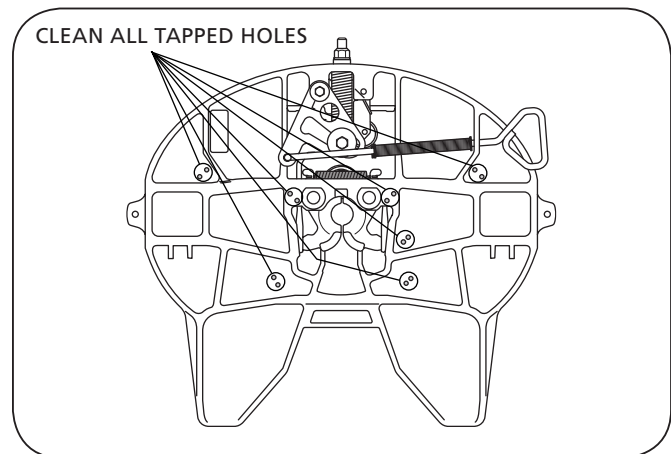


Figure 4



5. ELI-te Installation

1. Kingpin Sensor Installation: Install the kingpin sensor assembly (XA-11984) to the fifth wheel with two (2) 5/16"-18 x 1/2" socket head cap screws (XB-TLN-2506) torqued to 22 ft-lbs (**Figure 5**).
2. Warning/Indicator Light Bracket Installation: Install both indicator light brackets (XA-11964) using four (4) 5/16"-18 x 1/2" socket head cap screws (XB-TLN-2506) torqued to 22 ft-lbs (**Figure 6**).
3. Inspection Light Bracket Installation: Install the left and right inspection light brackets (XA-11966-L and XA-11966-R) using four (4) 5/16"-18 x 1/2" socket head cap screws (XB-TLN-2506) torqued to 22 ft-lbs (**Figure 7**).
4. Wire Mount Bracket Installation: Install the wire mount bracket (XA-11967-L) using two (2) 5/16"-18 x 1/2" socket head cap screws (XB-TLN-2506) torqued to 22 ft-lbs (**Figure 8**).

Figure 6

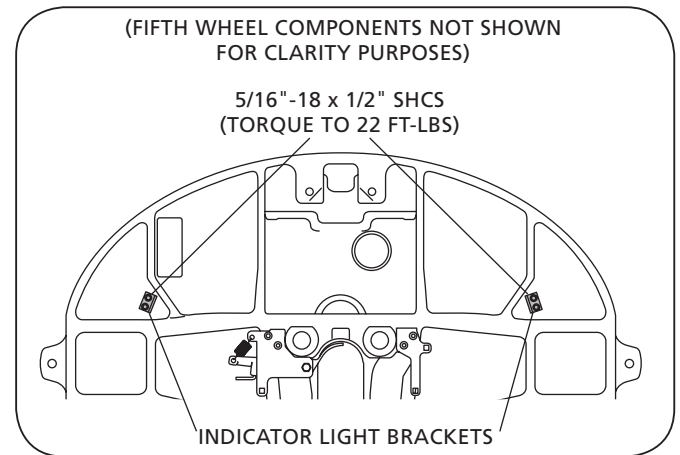


Figure 7

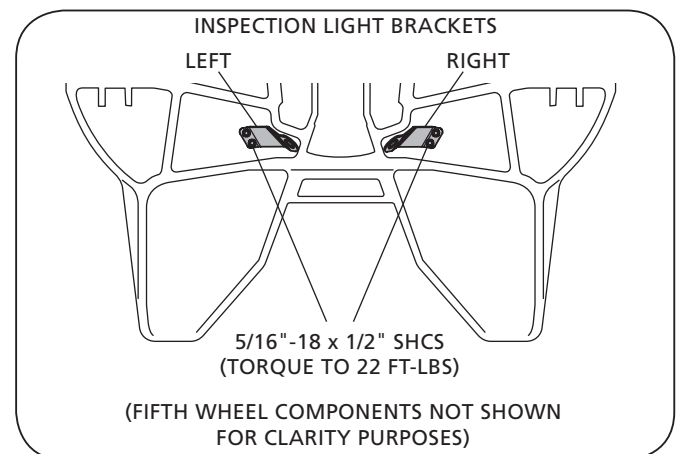


Figure 5

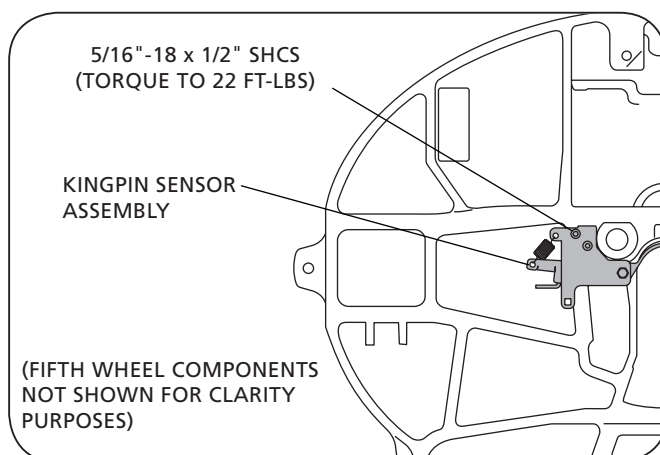
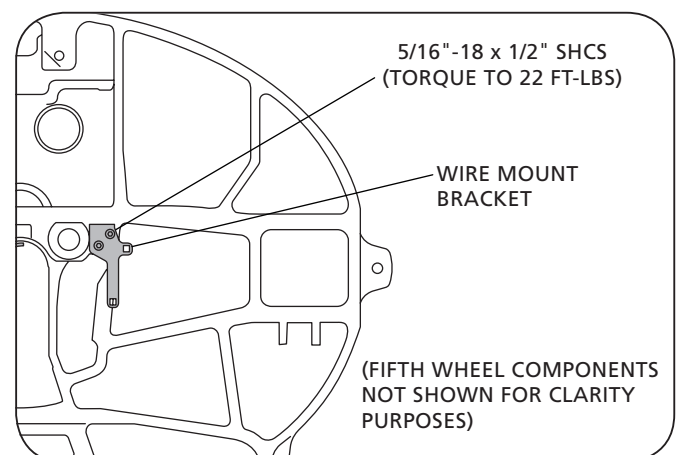


Figure 8



5. Cam Sensor Bracket Installation: Install the cam sensor bracket (XA-11968) by uninstalling and reinstalling the cam pivot bolt, taking care to reinstall the parts in the correct order (**Figure 9**). Torque to 65 ft-lbs.
6. ELI-te Coupling Monitor Assembly Installation (EE-11971): Install the logic box module using two (2) 5/16"-18 x 1/2" socket head cap screws (XB-TLN-2506) torqued to 22 ft-lbs (**Figure 10**).
7. Extend the cables away from the logic box module for ease of identification and installation.
8. Route the two (2) clear-lens inspection lights on the shorter cable to the right inspection light bracket (roadside, closest to the logic box). (Refer to **Figure 7** and the images in Section 7.)
9. To install the lights: Leaving the rubber grommets loose on each cable, feed each clear-lens light and rubber grommet through their respective bracket holes, facing the throat/kingpin area of the fifth wheel (**Figure 11**). (The rubber grommet will need to be compressed by hand in order to fit it through the bracket hole.) Feed the rubber grommet back into the hole until it fits snugly into place; then carefully pull the light back through the grommet until the light is properly secured.
10. Route and install the remaining two (2) clear-lens inspection lights (longer cable) to the left inspection light bracket (curbside). (Refer to **Figure 7** and the images in Section 7.)
11. Route the red-lens warning light (furthest from the logic box module) to the curbside indicator light bracket. (Refer to **Figures 6 and 12** and the images in Section 7.) Install with the light facing outward.
12. Route the remaining red-lens warning light to the roadside indicator light bracket and install with the light facing outward. (Refer to **Figure 6** and the images in Section 7.)

Figure 9

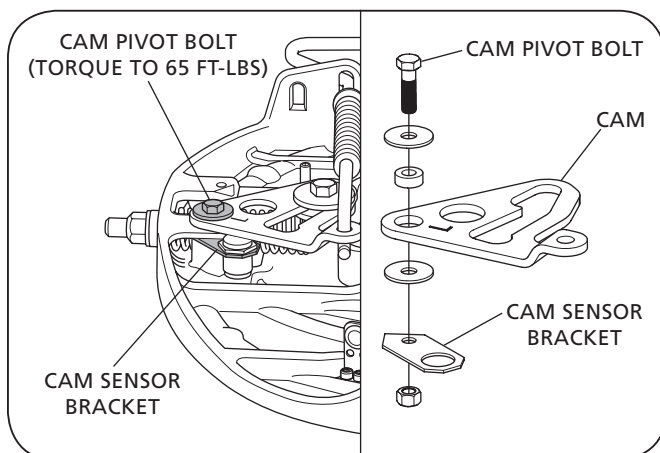


Figure 10

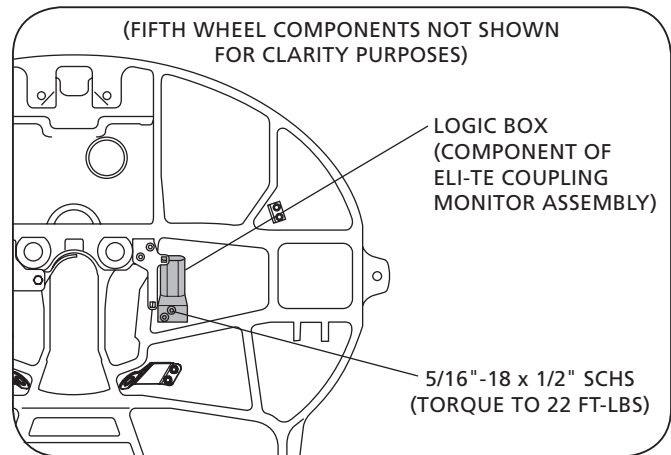


Figure 11

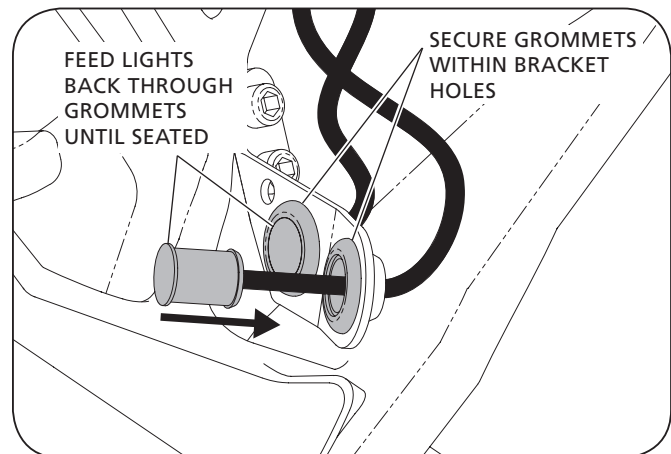
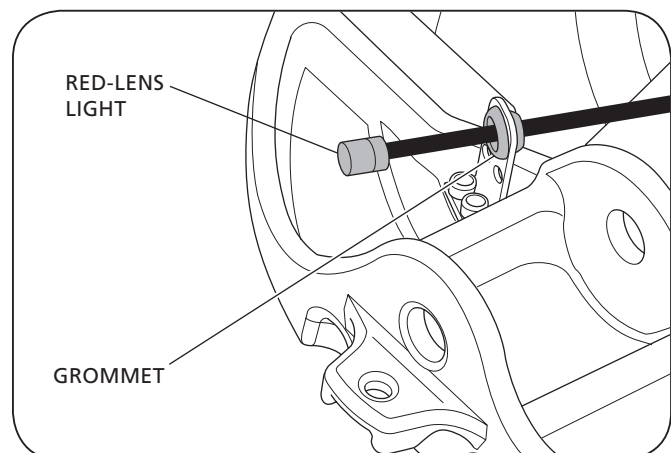


Figure 12



13. Route and install the kingpin sensor into the kingpin sensor assembly with the orange sensor facing the kingpin sensor flag. Install the nut (provided with the ELI-te coupling monitor assembly) using Loctite 243 (blue) on the threads of the sensor where the nut comes into contact, to ensure the nut is secure. Use an appropriate wrench to ensure the nut is hand-tight. (Refer to the images in Section 7.)
14. Route and install the cam sensor into the cam sensor bracket with the orange sensor facing away from the fifth wheel, toward the cam. Install the nut (provided with the ELI-te coupling monitor assembly) using Loctite 243 (blue) on the threads of the sensor where the nut comes into contact, to ensure the nut is secure. Use an appropriate wrench to ensure the nut is hand-tight. (Refer to **Figures 9 and 13**.)

NOTE: The installed cam sensor should have close contact with the cam when the locks are closed.

IMPORTANT: If the pre-installed fixed nut on either sensor comes loose, reinstall the nut into place with a threadlocker (Loctite 243 Blue or equivalent) at the location shown (**Figure 14**).

15. Secure the five (5) cables coming from the logic box as well as the cables for the roadside white inspection lights to the wire mount bracket with two (2) cable ties. (Refer to **Figure 8** and the green arrows in Section 7.)

NOTE: Keep the cable tie securing the orange cable fitting to the logic box in place.

16. Secure the cables traveling to the curb side of the fifth wheel (including the yellow power cable) with three (3) cable ties; one (1) in between the lock pins and one (1) on each outer side of the lock pins. (Refer to the green arrows in Section 7.)
17. Secure the kingpin sensor cable and the cable for the curbside white inspection lights to the kingpin sensor bracket with one (1) cable tie. (Refer to the green arrows in Section 7.)
18. Use the small holes in each of the two (2) indicator light brackets and two (2) inspection light brackets to secure the light cables with cable ties. (Refer to the green arrows in Section 7.)
19. Secure the cam sensor cable to the curbside indicator light bracket with one (1) cable tie. (Refer to the green arrows in Section 7.)

Figure 13

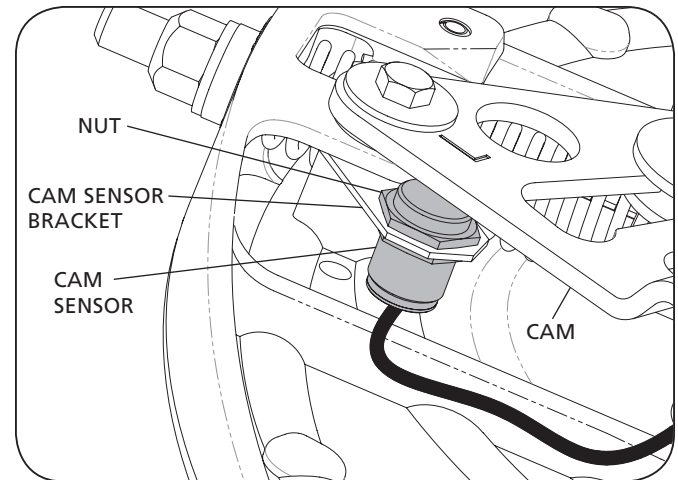
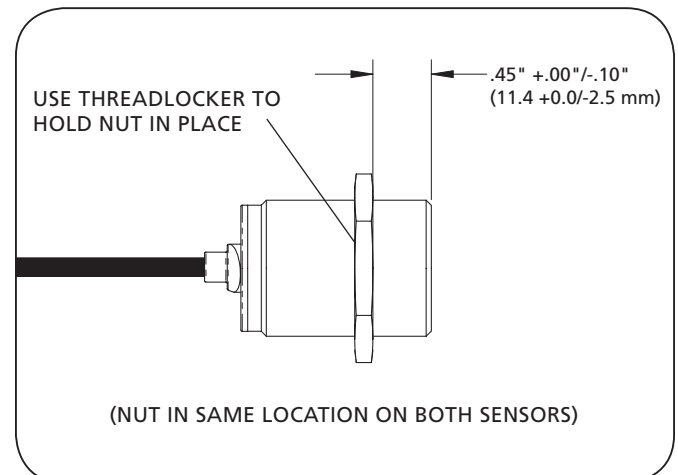
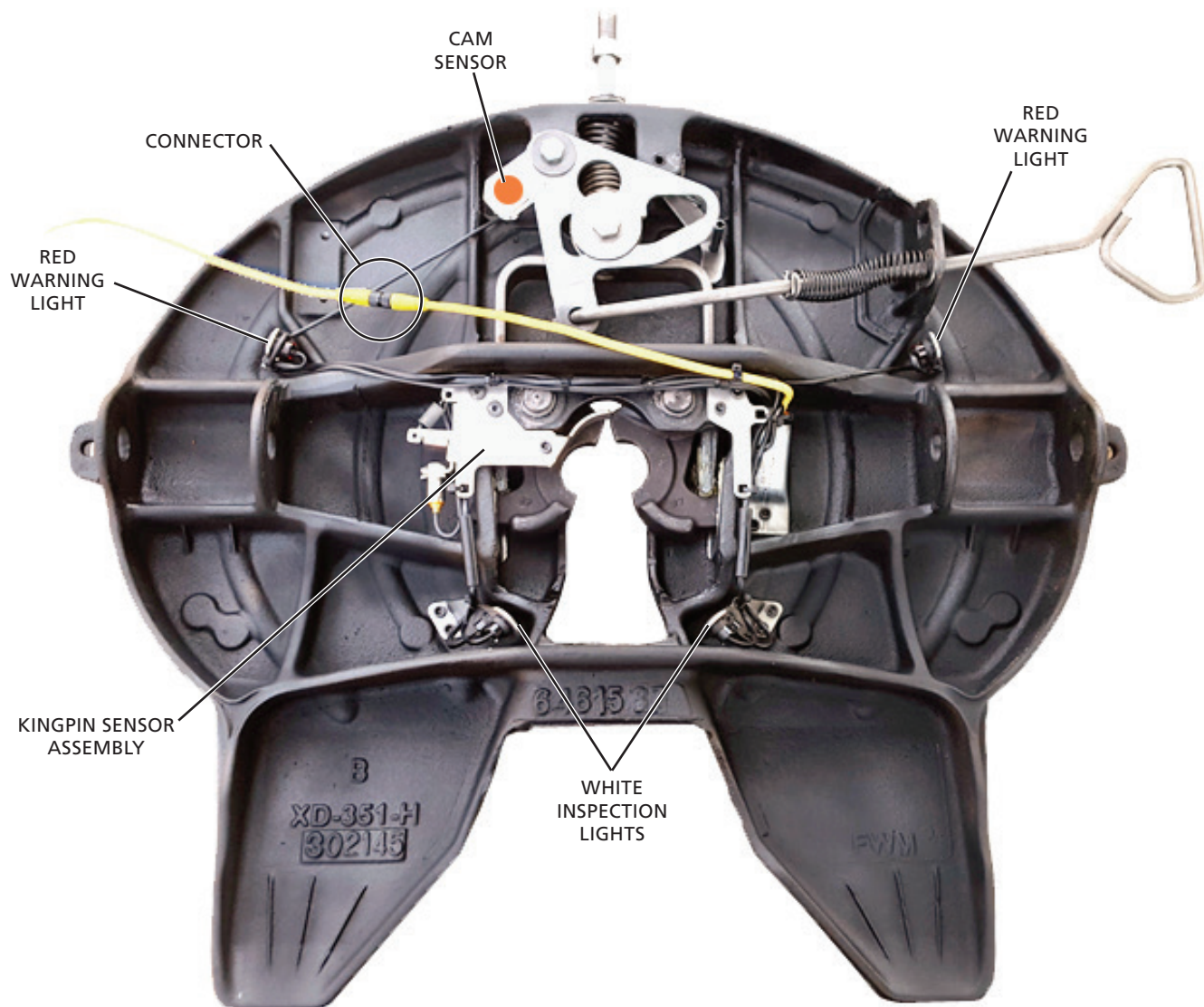


Figure 14



6. Wiring

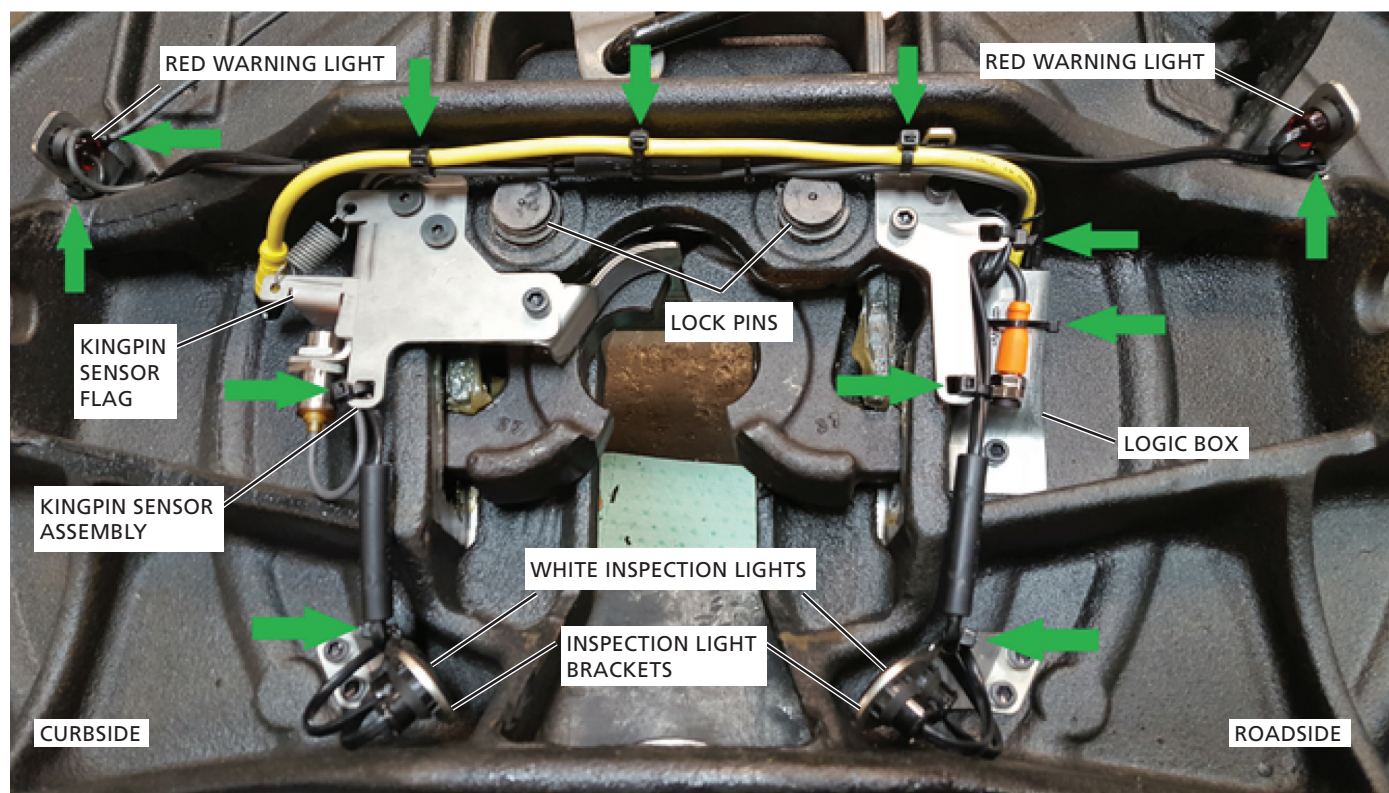
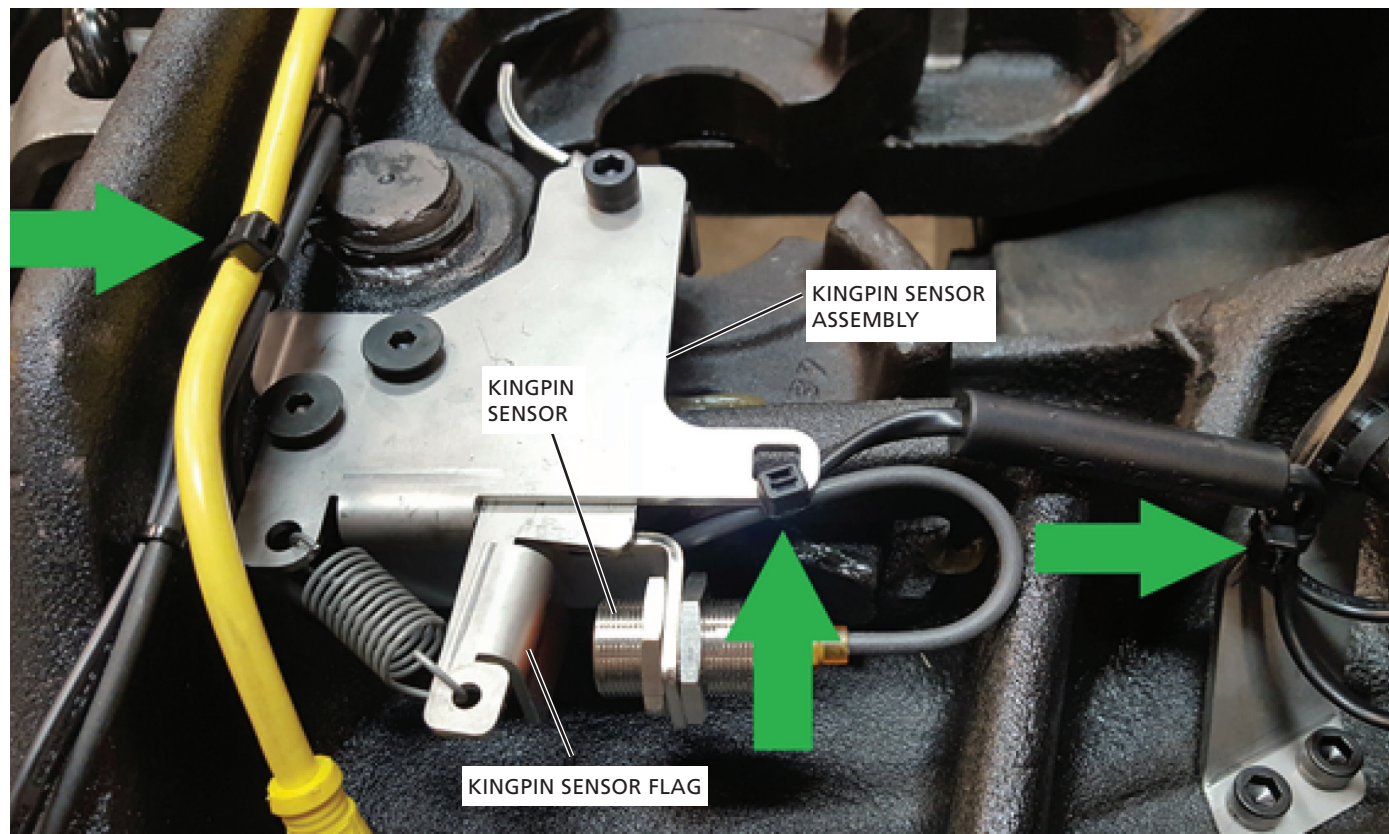
The system receives electrical power from the tractor or converter dolly to which it is mounted. Power should be from an ignition-switched circuit.

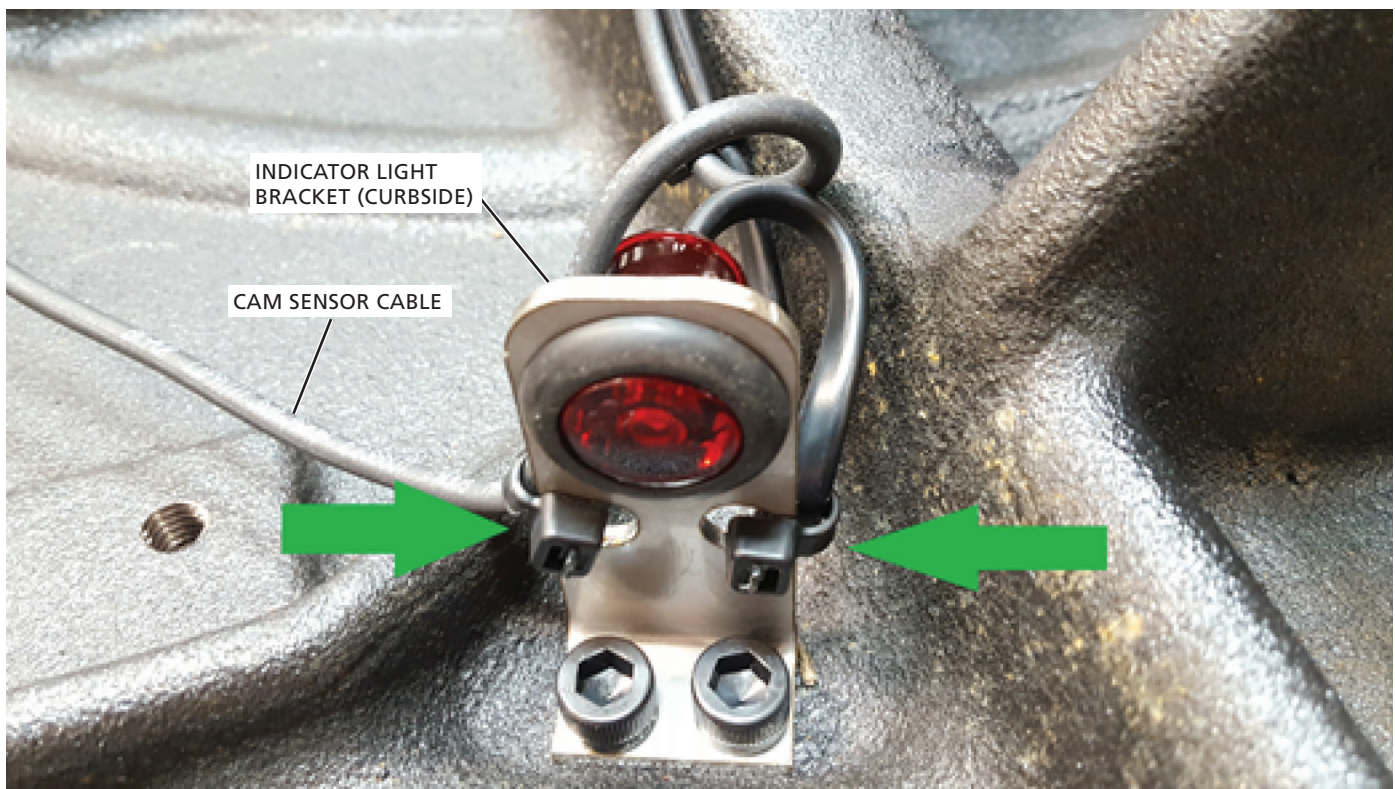
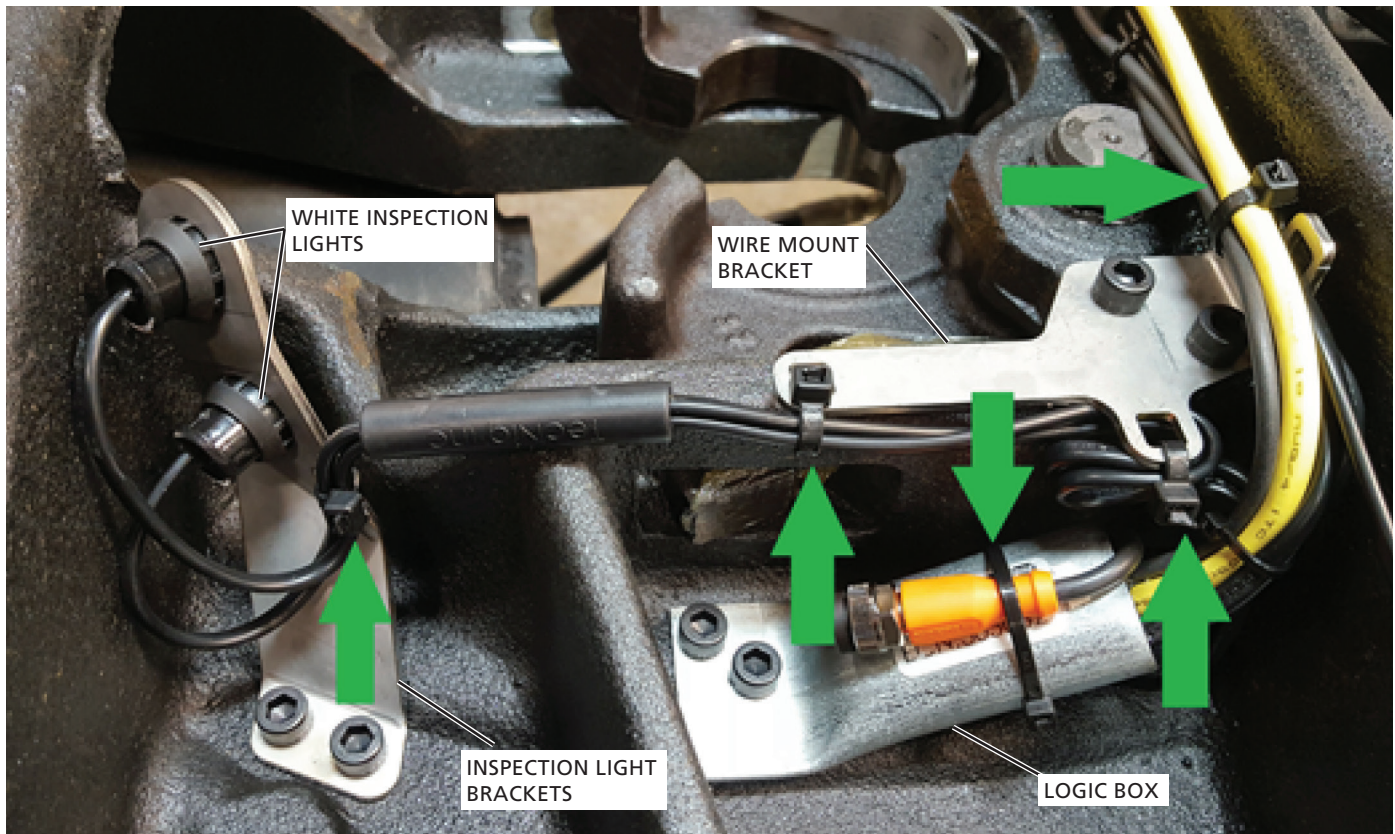


ELECTRICAL SPECIFICATIONS

PIN	CABLE WIRE COLOR	FUNCTION	SPECIFICATION
1	Brown	Ground	
2	White	Power Input	8-16 V, 2 A max, 0.5 A Active, 0.010 A standby
3	Blue	Couple Power Output	0.3 A max
4	Black	Warning Power Output	0.3 A max

7. Cable Tie Installation Locations (shown with green arrows)





8. Upshock Cushions, Pocket Inserts and Brackets Inspection

To determine if upshock cushions, pocket inserts and/or brackets require replacement, pry up on the fifth wheel top plate pivot ear using a small bar (**Figure 15**). If there is more than 1/4" (6.4 mm) free vertical movement, the top plate should be removed for further inspection. (Refer to Section 3 for top plate removal instructions.)

Upshock Cushions:

1. Standard Cushion (**Figure 16**):

Replace if:

- The hole is elongated to more than 1-3/8" (34.9 mm).
- The upshock cushions are cracked, cut or otherwise severely damaged.

2. ILS-Style Cushion (**Figure 17**):

Replace if:

- The hole is elongated to more than 1-1/2" (38.1 mm).
- The upshock cushions are cracked, cut or otherwise severely damaged.

Figure 15

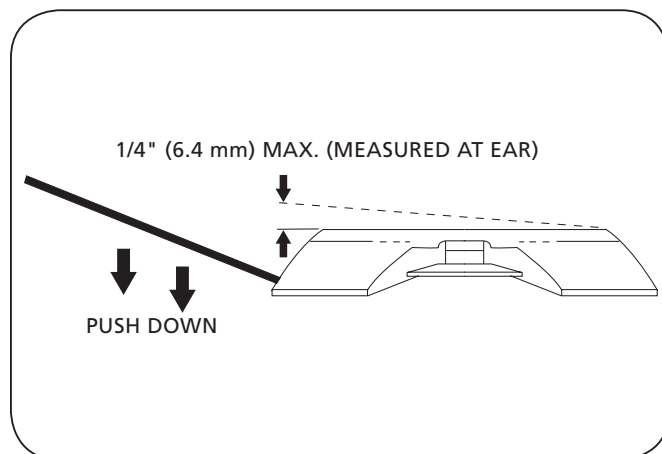


Figure 16

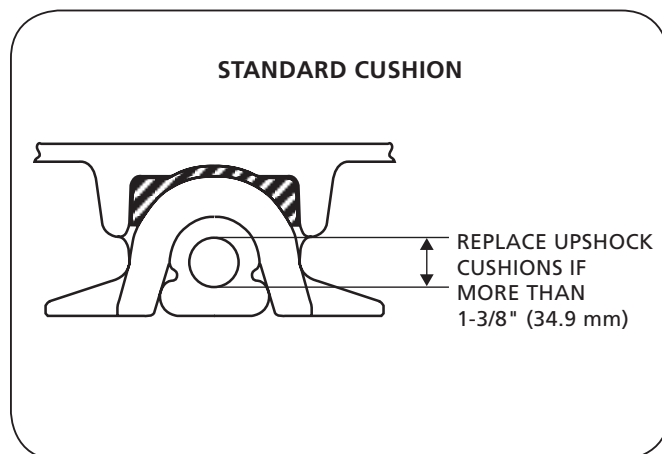
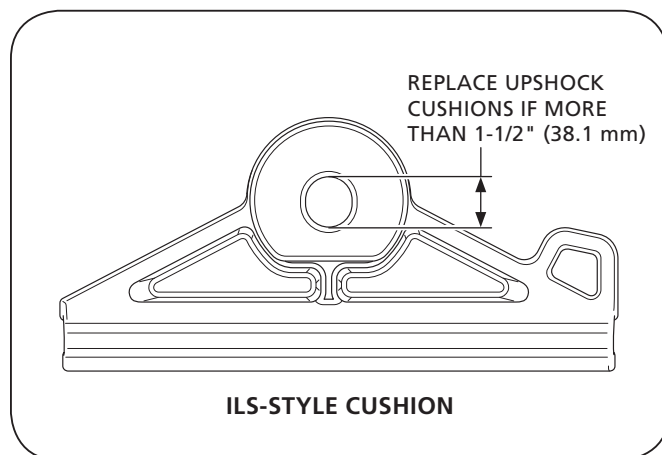


Figure 17



Pocket Inserts (**Figure 18**):

Replace if:

- The thickness of the pocket insert is 1/16" (1.6 mm) or less.
- The pocket inserts are severely chipped, cracked or gouged.

Brackets:

1. Standard Bracket (**Figure 19**) and ILS-Style Bracket (**Figure 20**):

Replace if:

- The thickness of the bracket cap at the top, measured approximately 1/4" (6.4 mm) in from the edge, is less than 3/8" (9.5 mm).
- The brackets are gouged, cracked or otherwise severely damaged.

Figure 18

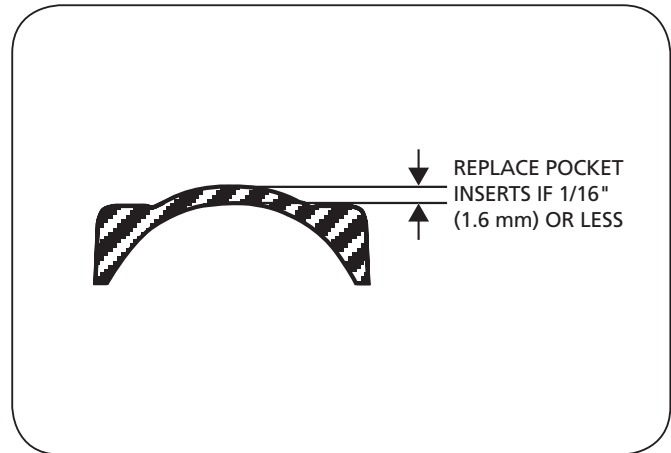


Figure 19

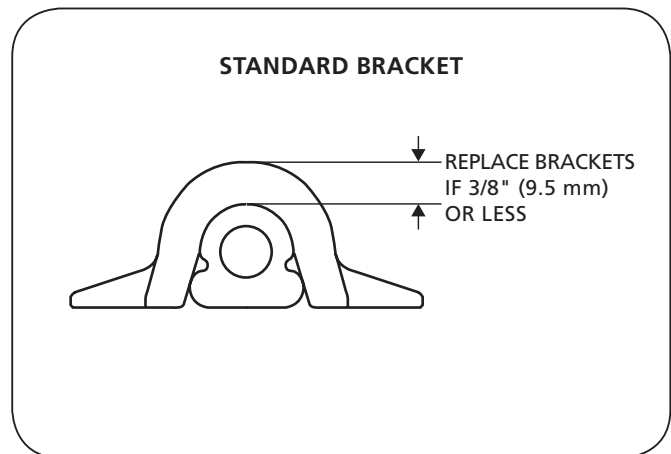
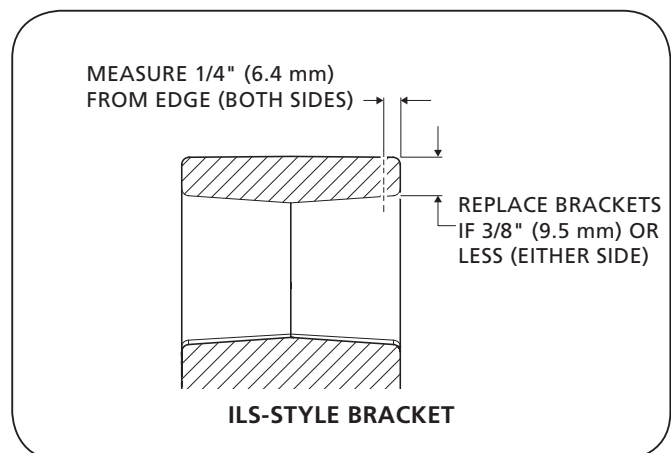


Figure 20



9. Top Plate Installation

1. If the pocket inserts are dislodged from the fifth wheel casting, clean the pocket areas of the casting and apply a strip of double-face tape into the bottom of each pocket. Install the pocket inserts by pressing them down firmly into the pocket areas (**Figure 21**).
2. Using a lifting device capable of lifting 500 lbs. (227 kg), install the fifth wheel top plate onto its mounting base.

NOTE: Follow the instructions published by the lifting device manufacturer for proper operation of the lifting device.

3. Install the bracket pins through the fifth wheel casting and mounting base and secure by installing the bracket pin retention hardware (1/2"-20 x 1-1/4" hex head cap screws and 1/2"-20 lock nuts) (**Figure 22**). Torque the hex head cap screws, NOT to exceed 50-60 ft.-lbs. (68-81 N•m).
4. Connect the yellow power cable of the ELI-te coupling monitor system to the mating connector from the tractor.

Figure 21

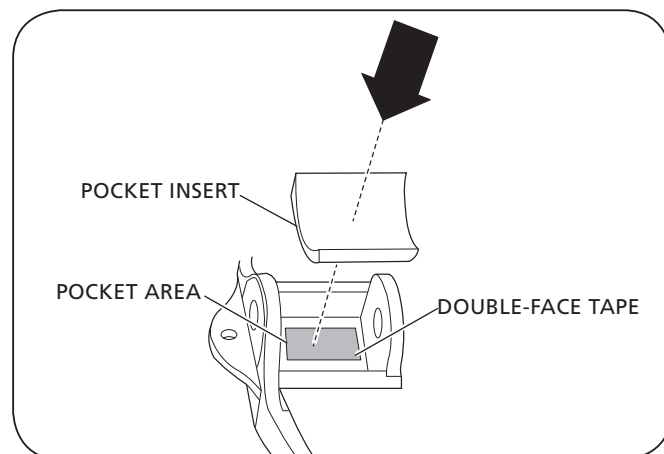
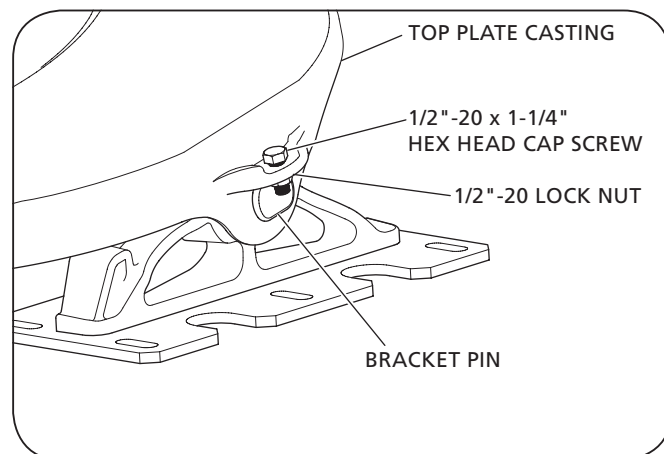


Figure 22













From fifth wheel rebuild kits to suspension bushing repair kits, SAF-HOLLAND Original Parts are the same quality components used in the original component assembly.

SAF-HOLLAND Original Parts are tested and designed to provide maximum performance and durability. Will-fits, look-alikes or, worse yet, counterfeit parts will only limit the performance potential and could possibly void SAF-HOLLAND's warranty. Always be sure to spec SAF-HOLLAND Original Parts when servicing your SAF-HOLLAND product.

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