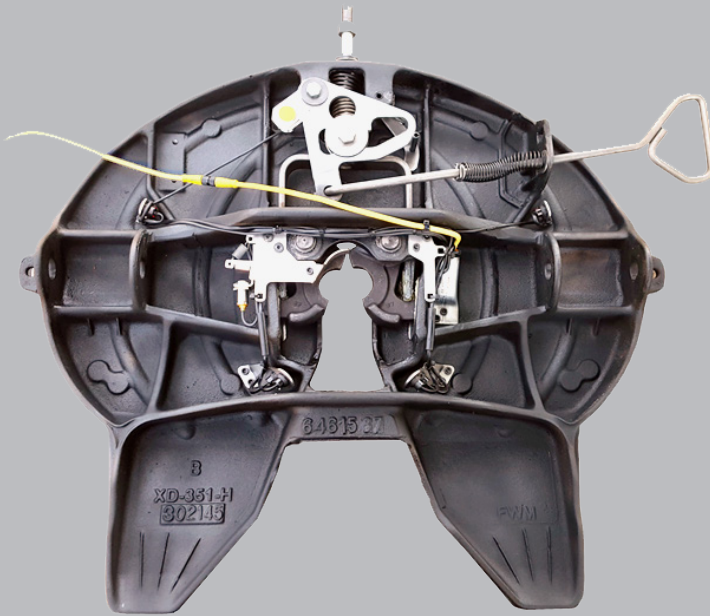


Owner's Manual

Electronic Lock Indicator - Technology Enhanced System

(ELI-te[®]) for FW351 & FW331
Series Fifth Wheels

Operation and Maintenance Procedures



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Introduction

HOLLAND® ELI-te provides automatic illumination of a kingpin within the fifth wheel jaws and produces a visual warning to alert drivers if an incomplete couple occurs.

Drivers are required to verify with a pull test and visual inspection that trailers are properly coupled. The ELI-te shall not be used as exclusive indication of coupling.

NOTE: For HOLLAND® replacement components contact SAF-HOLLAND® Customer Service: 1300 131 613

Notes, Cautions, and Warnings

You must read and understand all of the procedures presented in this manual before operating or starting work on any Electronic Lock Indicator System - Technology Enhanced (ELI-te) HOLLAND® FW351 & FW331 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: This manual is written based on the assumption that applicable 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, may result in property damage.

CAUTION Indicates a potentially hazardous situation which, if not avoided, may 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

Read and observe all warning and caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

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

IMPORTANT: The Electronic Lock Indicator - Technology Enhanced (ELI-te) system is a fifth wheel - trailer coupling aid and is specified for use only as tool to assist drivers in performing visual inspection of the fifth wheel and to provide electronic status indicators that shall not be used for safety-critical processes. 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: Prior to operation of the fifth wheel, you MUST be thoroughly satisfied that the fifth wheel has been properly installed on the vehicle.

⚠ 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 SH-20 RevD. Available on the internet at www.safholland.com.au for proper fifth wheel installation procedures.

⚠ WARNING Failure to follow all the operating procedures contained in these instructions may result in a hazardous condition which, if not avoided, could result in death or serious injury.

These instructions apply to the proper operation of your fifth wheel only. There are other important checks, inspections, and procedures listed in the Owner's Manuals for your tractor and trailer that are necessary, prudent, and/or required by law.

Only SAF-HOLLAND® Original Parts should be used.

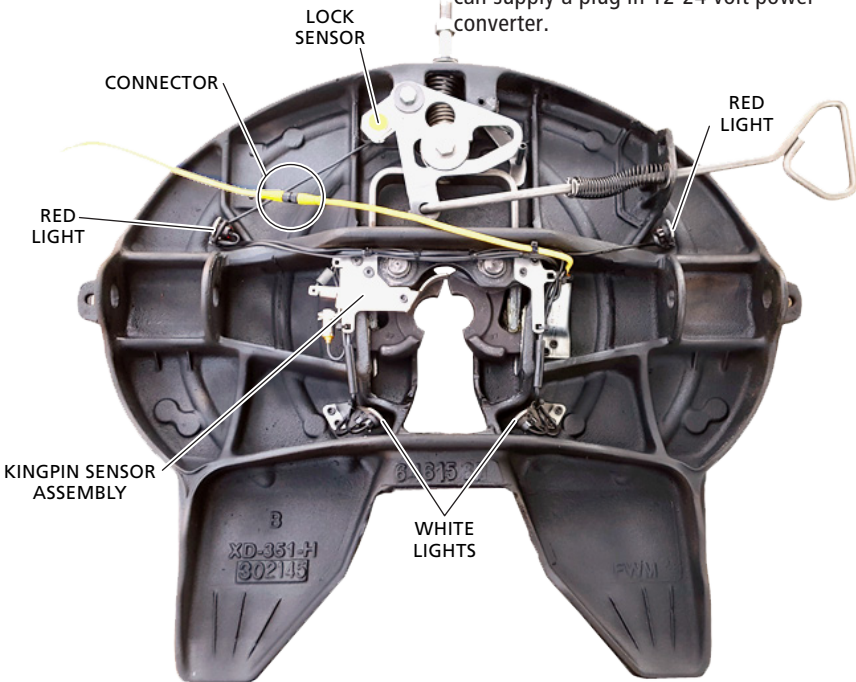
A list of SAF-HOLLAND® technical support locations to supply SAF-HOLLAND® Original Parts can be found at www.safholland.com.au or contact our customer service group at 1300 131 613.

2. Components

This system is part of the fifth wheel top plate. It includes a control module, a kingpin sensor, a lock sensor, four bright white inspection lights located near the throat of the fifth wheel, and two red warning lights which shine outward from near the release handle and the opposite side. The system also provides electrical outputs to transmit couple and warning information.

The system receives electrical power from the tractor or converter dolly to which it is mounted. Power should be from a 12- volt fixed ignition-switched circuit. A 2- metre power extension cable with bare wires at one end is supplied with every system.

The kingpin sensor assembly consists of a flag lever that is held by a return spring and operated by the kingpin. The flag lever activates the kingpin sensor and allows it to be located away from the kingpin. If a 12- volt power supply is unavailable, SAF-HOLLAND can supply a plug in 12-24 volt power converter.



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

3. Operation

Systems installed on tractors should be connected to an ignition-switched power source. Systems installed on converter dollies should be wired to a similar power source. When power is applied, the warning lights may briefly flicker and then the system will activate all the lights for about two (2) seconds to indicate system functionality. If no kingpin is present and the fifth wheel is not closed, all the lights will go off and the system will be waiting to couple.

If a trailer is properly coupled while power is applied, the inspection lights will activate for about five (5) minutes and automatically go off. The couple output signal will remain activated while the trailer is properly coupled (**Figure 1**).

If a kingpin enters the fifth wheel and the wheel mechanism does not lock within about ten (10) seconds, the red warning lights will flash and the warning output will pulse until the kingpin or power is removed (**Figure 2**).

If the fifth wheel mechanism is locked without a kingpin fully inserted into the lock jaws, the red warning lights will flash and the warning output will pulse until the fifth wheel lock is released or power is removed (**Figure 3**).

When a kingpin is coupled in the fifth wheel, if the fifth wheel lock is released, the red warning lights will flash until the kingpin is removed. If the kingpin is not removed within about one minute, the warning output will also pulse until the kingpin or power is removed. After five (5) minutes, the system re-tests the coupling condition.

NOTE: If the fifth wheel release handle is incompletely pulled, the red warning lights may begin flashing even if the fifth wheel is not unlocked.

Figure 1

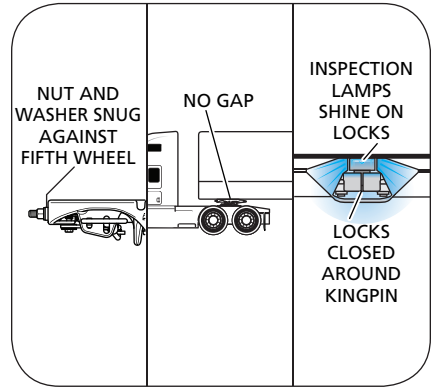


Figure 2

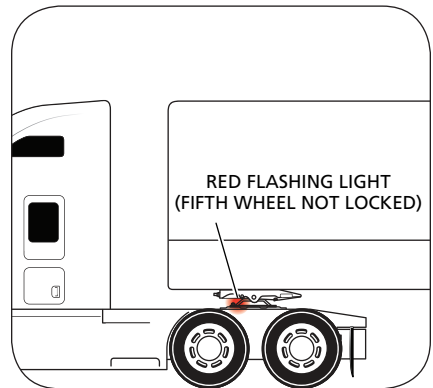
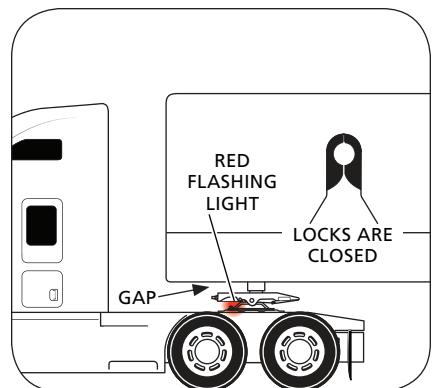


Figure 3



4. Maintenance

For proper operation and maintenance of HOLLAND® FW351 & FW331 series fifth wheels please refer to SH-20 RevD.

Proper fifth wheel maintenance instructions can be found in the Owner's Manual that came with your fifth wheel.

The Electronic Lock Indicator - Technology Enhanced (ELI-te) requires the following procedures at each fifth wheel preventative maintenance interval:

1. If the fifth wheel top plate is to be removed from the vehicle, first disconnect the ELI-te power cable by unscrewing and separating the M12 circular connector pair. Use caution to prevent damage of the cables or contamination of the exposed electrical terminals.
2. Clean the front surface of the lamps and sensors with soap and water. Do not use strong solvents. Keep the sensors clean of excess grease and debris.
3. Ensure that the kingpin sensor flag operates freely and is held in place by the return spring.
3. Check cables for chafing, tears, or damage.
4. Make sure the cable connections are secure.
5. For repair or replacement, contact SAF-HOLLAND® Customer Service 1300 131 613.

5. Verification of ELI-te Function

ELI-te operation can be verified using standard fifth wheel test procedures.

1. Ensure the fifth wheel is unlocked and without a kingpin.
2. Apply power to tractor-mounted fifth wheels by turning on the ignition, and to dolly-mounted fifth wheels through the auxiliary/ABS circuit using a standard lamp tester. Ensure that the red lamps flicker for 1-5 seconds and all lamps turn on for 2 seconds, then off.
3. Use a HOLLAND lock tester TF-TLN-5001 to engage a kingpin into the fifth wheel. Ensure that only the white lamps activate.
4. Hold the kingpin in the forward position with the lever of the test tool and pull the fifth wheel release handle. Ensure that the red lamps flash.

NOTE: When the fifth wheel is unlocked, the red lamps will stop flashing when the kingpin moves back away from the locked position.

6. Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
Lamps do not illuminate at startup	Lamps obscured by foil masking, paint, or dirt	Ensure lamps are clean.
	Power supply absent or below 8 volts	Ensure ignition switch is on and cables are connected. Test voltage at fifth wheel connector. Repair or replace faulty wiring and fuses as needed.
	Power supply voltage above 18 volts.	Connect ELI-te to 12V system.
	With Power Connected, place metal near lock or kingpin sensor face and look for indicator lamp on cable-entry end of sensor.	If sensor indicator lamps operate, ELI-te module has malfunctioned. Contact SAF-HOLLAND.
Warning lamps stay on steadily or flicker for more than 20 seconds at startup	Module has malfunctioned.	Contact SAF-HOLLAND.
Warning lamps continuously flash while fifth wheel is empty and unlocked	Metal particles stuck to kingpin sensor or cam sensor face.	Clean grease and metallic debris off of plastic sensor faces.
	Stuck kingpin flag or missing spring	Repair or replace mechanism as needed.
	Crushed and shorted sensor cable	Repair or replace faulty wiring as needed.
Warning Lamps continuously flash while fifth wheel is securely coupled	Lock sensor activated late because of slow lock mechanism. Flashing stops after 5 minutes.	Service in accordance with the procedure in the Fifth Wheel Owner's Manual.
	Warning lamps continuously flash after tractor pulls forward.	Inspect kingpin flag assembly for damaged flag that does not fully activate sensor. Repair or replace mechanism as needed. Contact SAF-HOLLAND.
	Kingpin sensor indicator lamp does not activate when kingpin present.	Inspect kingpin flag assembly for damaged flag, loose sensor, or missing spring. Repair or replace mechanism as needed. Contact SAF-HOLLAND.
	With power connected, place metal near lock and kingpin sensor face and look for indicator lamp on cable-entry end of sensor.	If either sensor indicator lamps do not operate, repair or replace faulty wiring as needed.
One of the lamps does not operate	Inspect cables on fifth wheel for damage.	Repair or replace faulty wiring as needed.



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-a likes 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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