


Title:	Under Basket Sensor System Installation			
Number:	PB_698	Release Date:	08/13/2024	
Revision Number:	1	Revision Date:	09/17/2024	
Chassis Type:	100' Ascendant Aerial Tower			
Component Description:	Aerial Basket Ultrasonic Distance Sensor			
Parts	Under Basket Sensor System Kit P/N 4546087 (See table below for kit breakdown)			

Purpose:

NOTE: Because of truck specific programming this kit is not available as a stock item.

The purpose of this bulletin is to educate the user on the installation of the Under Basket Sensor System:

This system uses an ultrasonic distance sensor installed on the underside of the basket. It is an operator aid and will automatically reduce the basket speed as it approaches the ground and will stop the basket when it reaches a height of 8" above the ground.

There is one sensor, therefore the presence of the ground is detected in the location directly below the sensor, not the full area under the basket. The operator must still use caution and be aware of their surroundings at all times.

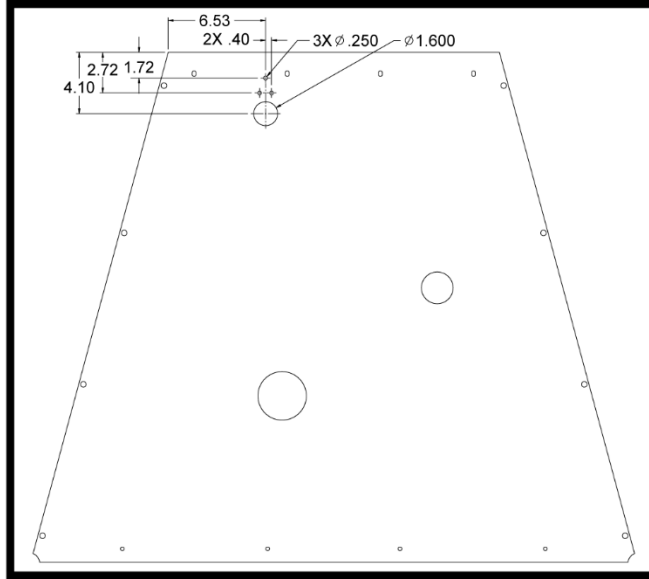
The system will be enabled upon aerial power up. The system will not interfere with aerial device bedding procedures. The system has a momentary switch in the basket and at the turntable which allows the operator to disable the system at any time.

Procedure:

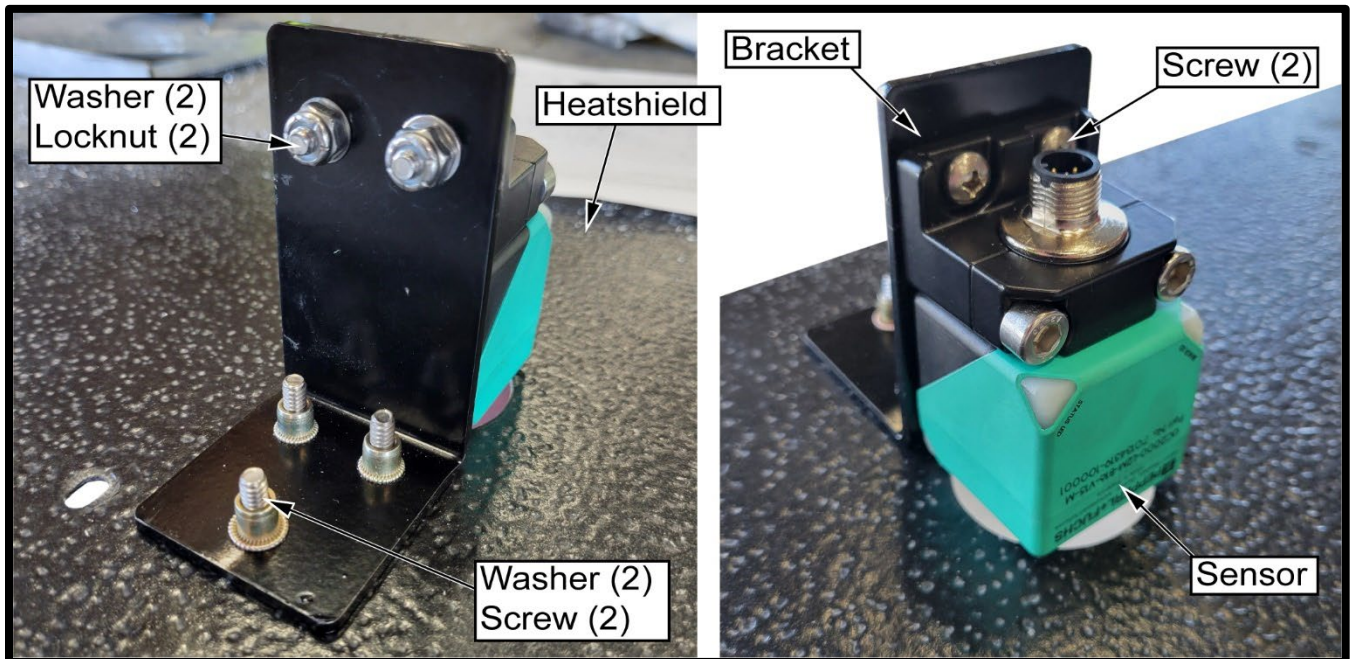
Under Basket Sensor System Kit P/N: 4546087		
Part Number	Description	Qty
4475535	SENSOR,DISTANCE,ULTRASONIC	1
4482688	BRACKET ASY, ULTRASONIC SENSOR	1
1941831	ADAPTER,M12 CONN TO DT CONN,6"	1
82-2096-0063	SCREW,#10-24NC,PH,TRUSS HD,SS	5
82-3037-0019	NUT,LOCK,NYLON INSERT,SS,NC	2
82-1030-0019	WASHER,FLAT,SS,STANDARD,18-8	5
4536536	PANEL,BASKET CONTROL,POLY,AAT	1
4534601	PANEL,TURNTBL CONTROL,POLY,AAT	1
2665739	GUARD,SWITCH,TGL,2 POS,RED	2
2665052-0004	SWITCH,TGL,SPST	2
64-4291-H001	WIRE HARN,ARL,BGMS SENSOR	1
66-5019-641A	WIRING DIA,100AAT PAP,D-SERS	1
4550026	REF,HTSHLD,BTM,CNTR,ULTRASONIC	1
N/A	AERIAL CZ PROGRAMMING	N/A

1. Park truck on a smooth, level surface.
2. Extend basket and lower toward ground to a comfortable, safe working height.
3. Turn off ignition and attach a "DO NOT START" tag to truck ignition switch.
4. Place wheel chocks in front of and behind tires to prevent movement.
5. Turn battery switch OFF (if equipped) or disconnect batteries. (See "Battery Connect/Disconnect" Group 0925-P-001 in service manual.)
6. Remove heat shield from basket. (See "Heat Shields" Group 8300-P-081 in service manual).

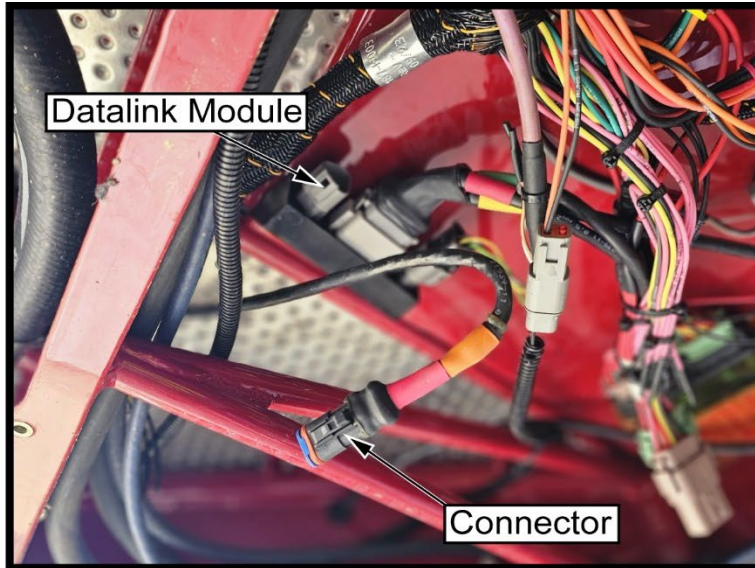
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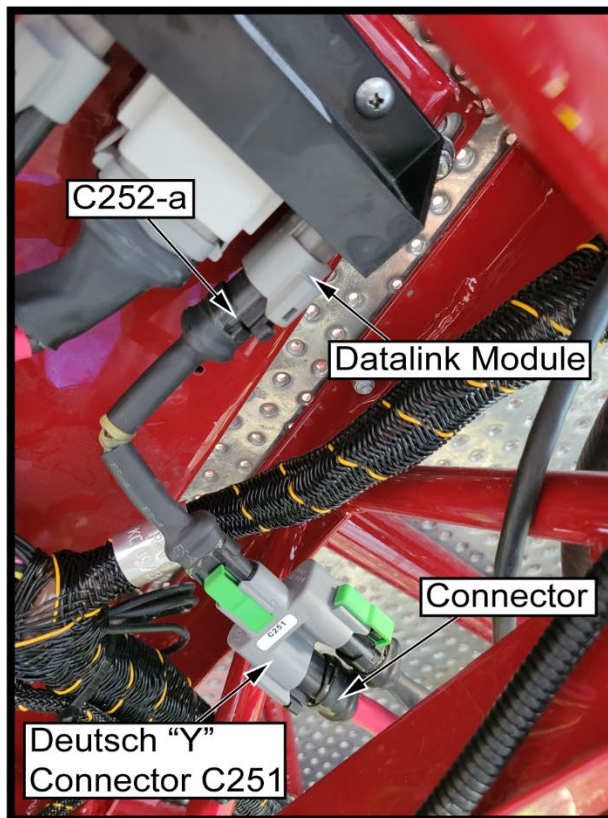
- 7. Drill holes in heat shield as per diagram above (See Ref Print 4550026).
- 8. Remove metal shavings and sharp edges from new holes in heat shield.



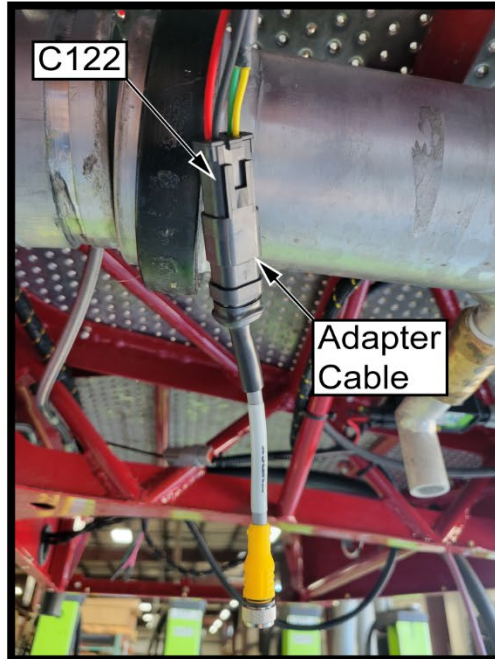
- 9. Install distance sensor (P/N 4475535) on bracket (P/N 4482688) with two screws (P/N 82-2096-0063), washers (P/N 82-1030-0019), and locknuts (P/N 82-3037-0019).
- 10. Install bracket assembly on heat shield with three washers (P/N 82-1030-0019) and screws (P/N 82-2096-0063).



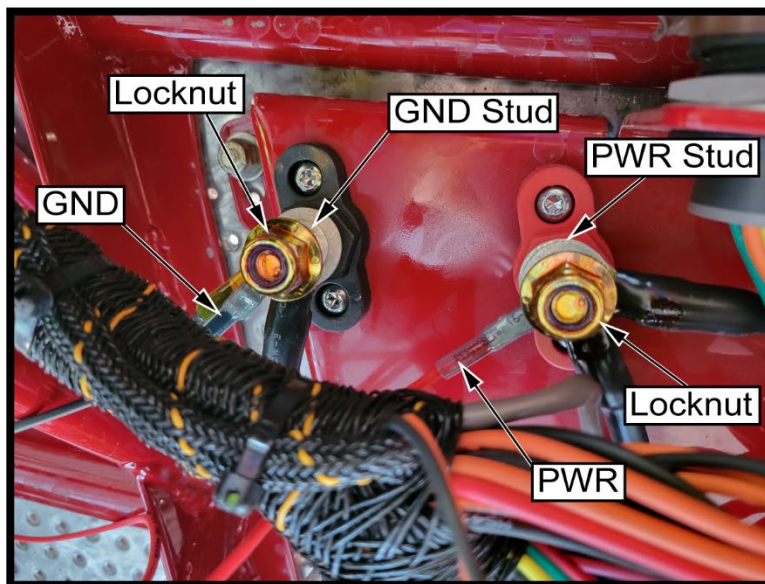
11. Disconnect connector from under basket datalink module.



- 12. Route and secure BGMS wire harness (PN: 64-4291-H001) as needed.
- 13. Connect BGMS wire harness connector C252-a to under basket datalink module.
- 14. Connect connector to BGMS wire harness Deutsch "Y" connector C251.



15. Connect adapter cable (PN: 1941831) to BGMS wire harness connector C122.



NOTE: Always use new locknuts for installation.

16. Remove locknut from under basket GND stud.
17. Install BGMS wire harness GND cable to under basket GND stud with locknut.
18. Remove locknut from under basket PWR stud.
19. Install BGMS wire harness PWR cable to under basket PWR stud with locknut.
20. Secure BGMS wire harness PWR cable fuse as needed.
21. With the aid of an assistant, connect adapter cable to distance sensor connector.



22. Install heat shield on basket. (See “Heat Shields” Group 8300-P-081 in service manual).



23. Remove four screws, washers, and turntable control panel from turntable console.

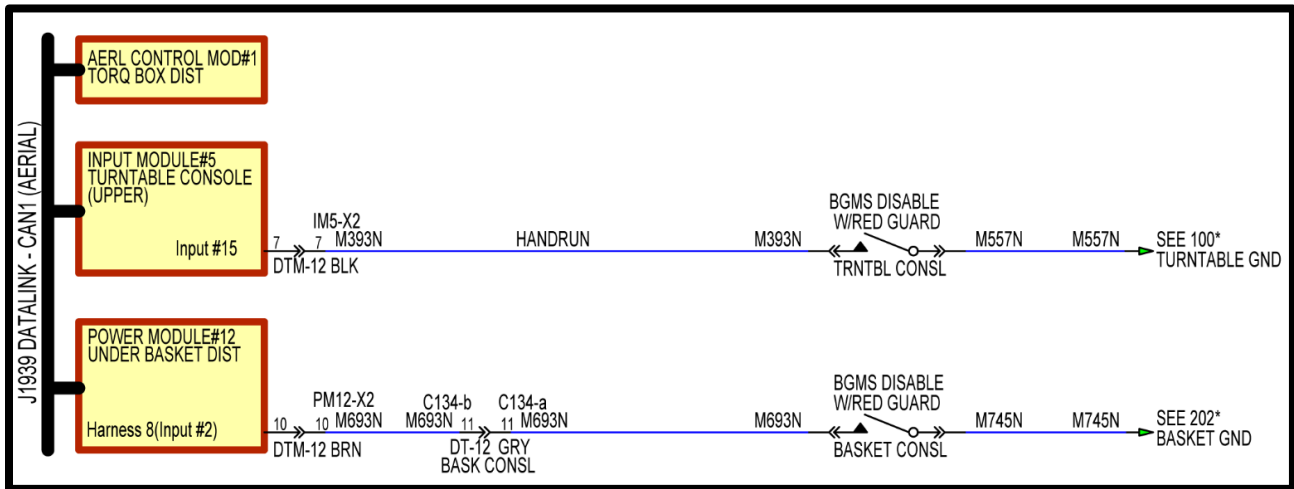
NOTE: Note position and routing of all wires, connectors, and switches prior to removal to ensure proper installation.

24. Disconnect and remove all wires, connectors, and switches from old turntable control panel.

NOTE: Route and install all wires, connectors, and switches as noted prior to removal.

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25. Install and connect all wires, connectors, and switches on new turntable control panel (PN: 4534601).
26. Install under basket sensor disable switch (PN: 2665052-0004) and switch guard (PN: 2665739) on turntable control panel.



NOTE: Inputs may vary from what is shown in the graphic above and steps below, depending on vehicle configuration. Ensure wires are connected to the correct inputs by referencing the I/O sheets provided with your order.

27. Connect wire from Input Module #5 to turntable under basket sensor disable switch as shown in diagram above.
28. Connect wire from turntable under basket sensor disable switch to turntable GND as shown in diagram above.
29. Install turntable control panel on turntable console with four washers and screws.
30. Remove four screws, washers, and basket control panel from basket console.

NOTE: Note position and routing of all wires, connectors, and switches prior to removal to ensure proper installation.

31. Disconnect and remove all wires, connectors, and switches from old basket control panel.

NOTE: Route and install all wires, connectors, and switches as noted prior to removal.

32. Install and connect all wires, connectors, and switches on new basket control panel (PN: 4536536).
33. Install under basket sensor disable switch (PN: 2665052-0004) and switch guard (PN: 2665739) on basket control panel.
34. Connect wire from Power Module #12 to under basket sensor disable switch as shown in diagram above.
35. Connect wire from basket under basket sensor disable switch to basket GND as shown in diagram above.
36. Install basket control panel on basket console with four washers and screws.
37. Install aerial CZ programming.
38. Test aerial system for functionality. When testing the Down/Extend joystick commands for the Under Basket Sensor System, place a large (>2 ft), cardboard box on the ground underneath the basket as a soft target for functions testing.
 - Ensure all joystick commands (Up/Down, Left/Right, Extend/Retract) are functioning properly with respect to new Under Basket Sensor System functions (See SB_701 Under Basket Sensor System Operations).
 - Verify that new notification messages that occur during function testing with cardboard box indicate that software updates were programmed properly.

If any additional support is needed, please open a technical support incident on Pierceparts.com.

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Revision Log		
Rev. #	Changes	Date
1	Added note about truck specific programming preventing this from being a stock item	09/16/2024