

TM 9-2330-334-13&P

CHAPTER 3

TROUBLESHOOTING PROCEDURES

OPERATIONAL CHECKOUT AND TROUBLESHOOTING PROCEDURES 0013 00

THIS WORK PACKAGE COVERS:

Operational checkout and troubleshooting for the Load Handling System Trailer (LHST).

INITIAL SETUP:

Maintenance Level

Operator

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

NOTE

This work package does not supercede Preventative Maintenance Checks and Service (PMCS). After you have determined that your LHST is fully functional, perform scheduled PMCS (WP 0052 00).

OPERATIONAL CHECKOUT AND TROUBLESHOOTING PROCEDURES**-Continued****0013 00****OPERATIONAL CHECKOUT AND TROUBLESHOOTING - Continued****Table 1. Operational Checkout and Troubleshooting Procedures**

STEP	INDICATION/CONDITION	CORRECTIVE ACTION
1. Check if lights illuminate.	Lights do not illuminate when activated in towing vehicle.	Check towing vehicle to ensure light controls are in correct mode. Check connector points at each light not working. If fault still exists, notify field maintenance.
2. Check if drawbar will raise/lower.	Drawbar does not raise and/or lower.	Check for kinks or leaks in pneumatic hoses. If fault still exists, notify field maintenance.
3. Check if flatrack locks will lock/release.	Flatrack locks will not lock and/or release.	Check for kinks or leaks in pneumatic hoses. If fault still exists, notify field maintenance.
4. Check if front suspension will raise/lower using height actuation valve.	Front suspension will not raise and/or lower.	Check for kinks or leaks in pneumatic hoses. If fault still exists, notify field maintenance.
5. Check if ABS Diagnostic Tool is operating.	ABS Diagnostic Tool does not operate	Notify field maintenance.
6. Check if flatrack rail will raise/lower.	Flatrack rail will not raise and/or lower	Check for debris/rust in path. If fault still exists, notify field maintenance.
7. Check if shuttle will operate.	Shuttle will not roll forward and/or backward.	Check for debris/rust in path. If fault still exists, notify field maintenance.

END OF WORK PACKAGE

FRONT MARKER LIGHTS DO NOT ILLUMINATE

0014 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Electrical 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

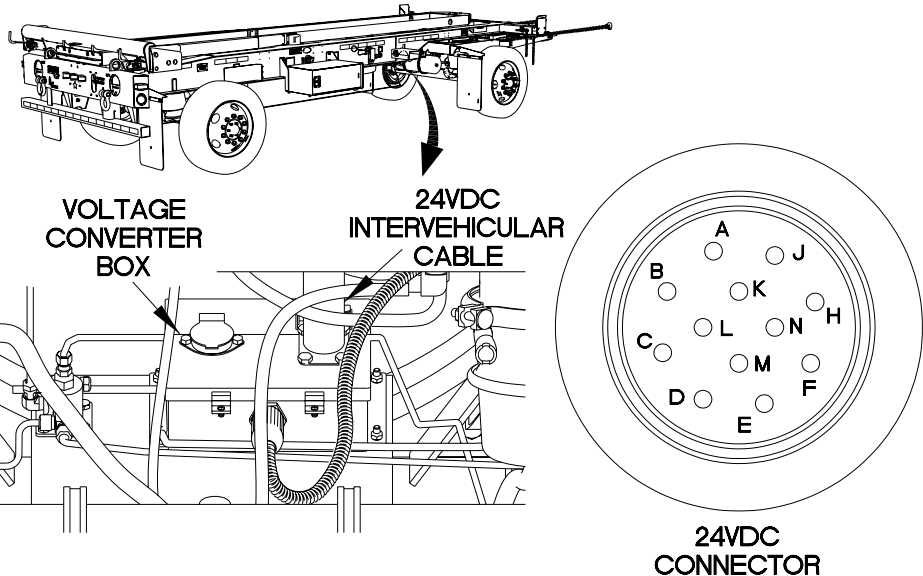
NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

FRONT MARKER LIGHTS DO NOT ILLUMINATE-Continued**0014 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Front Marker Lights Do Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 18-30 VDC present at intervehicular cable pin E?	<p>No. Replace intervehicular cable (WP 0062 00).</p> <p>Yes. Go to (Indication/Condition 2).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Disconnect intervehicular cable connector from voltage converter box. 3. Position main light switch to SER DRIVE on towing vehicle. 4. Connect positive (+) probe of multimeter to intervehicular cable pin E. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.



The diagram illustrates the electrical connection between a vehicle's voltage converter box and an intervehicular cable. The top part shows a side view of a vehicle chassis with the voltage converter box and the intervehicular cable. An arrow points from the cable to a detailed view of the 24VDC connector. The connector is a circular plug with 12 pins labeled A through L. Pin E is located at the bottom center of the connector.

VOLTAGE CONVERTER BOX

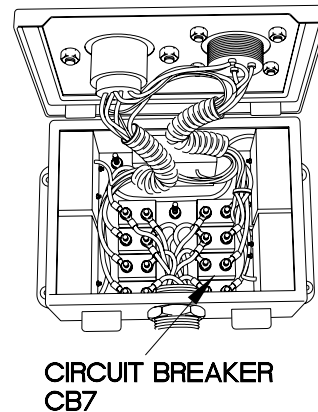
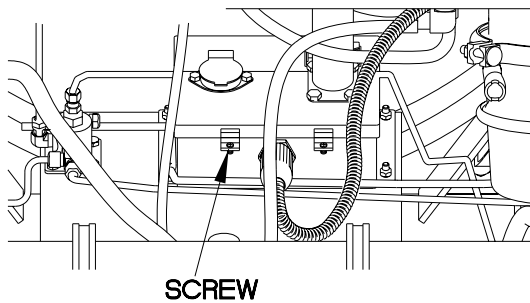
24VDC INTERVEHICULAR CABLE

24VDC CONNECTOR

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FRONT MARKER LIGHTS DO NOT ILLUMINATE-Continued**0014 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Front Marker Lights Do Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is continuity present across circuit breaker CB7?	<p>No. Replace circuit breaker CB7 (WP 0057 00).</p> <p>Yes. Go to (Indication/Condition 3).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Remove two screws and open voltage converter box. 3. Connect positive (+) probe of multimeter to one terminal on circuit breaker CB7. 4. Connect negative (-) probe of multimeter to other terminal on circuit breaker CB7 and note reading on multimeter.



CC014R02

FRONT MARKER LIGHTS DO NOT ILLUMINATE-Continued**0014 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Front Marker Lights Do Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is continuity present from TL260 to a known good ground?	<p>No. Repair wire 105 or replace main electrical harness (WP 0066 00).</p> <p>Yes. Replace main electrical harness (WP 0066 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Connect positive (+) probe of multimeter to TL260. 3. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.

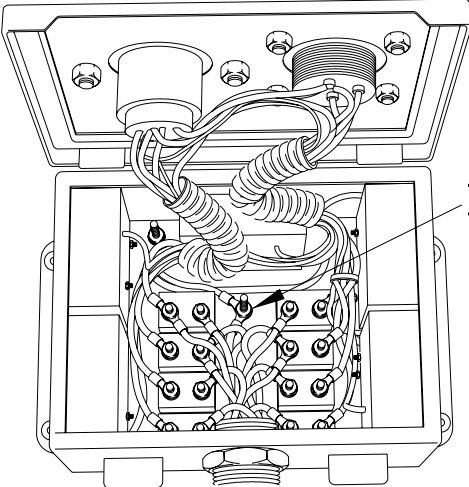


Diagram illustrating the internal wiring of the front marker light assembly. The diagram shows the terminal lug TL260 connected to the main electrical harness. The label 'TERMINAL LUG TL260' points to the specific connection point.

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END OF WORK PACKAGE

RIGHT FRONT MARKER LIGHT DOES NOT ILLUMINATE

0015 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Electrical 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

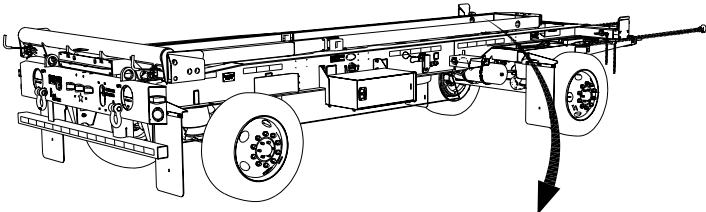
NOTE

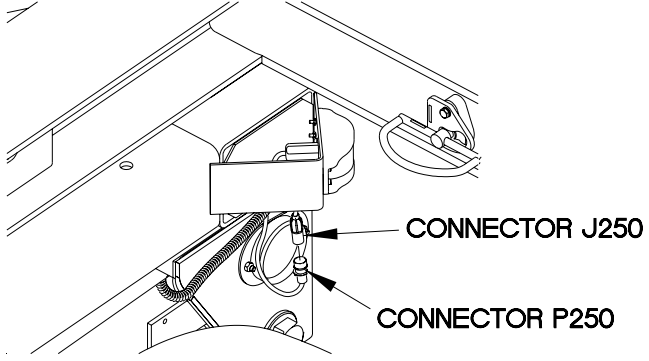
Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

RIGHT FRONT MARKER LIGHT DOES NOT ILLUMINATE-Continued**0015 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Right Front Marker Light Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-16 VDC present at connector J250?	<p>No. Repair wire 107B (EM 0195) or replace main electrical harness (WP 0066 00).</p> <p>Yes. Replace right front marker light (WP 0061 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Disconnect connector J250 from right front marker light connector P250. 3. Position main light switch to SER DRIVE on towing vehicle. 4. Connect positive (+) probe of multimeter to connector J250. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.





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END OF WORK PACKAGE

LEFT FRONT MARKER LIGHT DOES NOT ILLUMINATE

0016 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1)**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Electrical 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

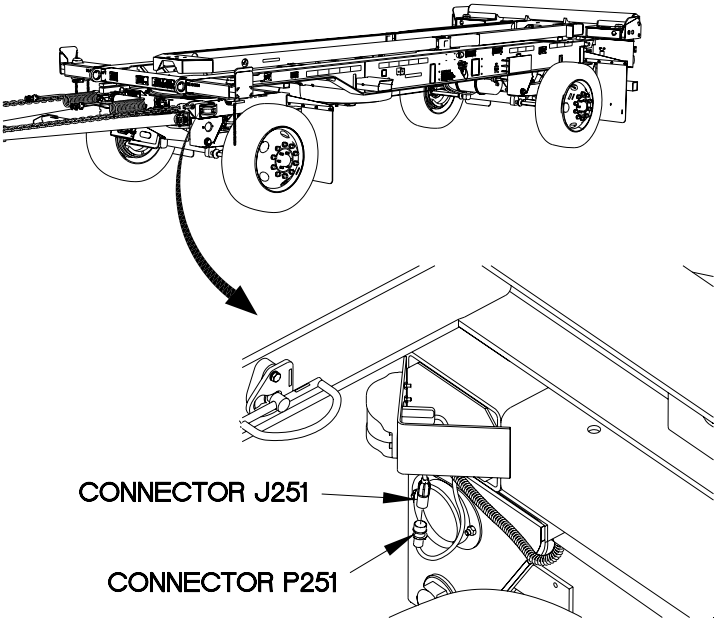
NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

LEFT FRONT MARKER LIGHT DOES NOT ILLUMINATE-Continued**0016 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Left Front Marker Light Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-16 VDC present at connector J251?	<p>No. Repair wire 107C (EM 0195) or replace main electrical harness (WP 0066 00).</p> <p>Yes. Replace left front marker light (WP 0061 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Disconnect connector J251 from left front marker light. 3. Position main light switch to SER DRIVE on towing vehicle. 4. Connect positive (+) probe of multimeter to connector J251. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.



CONNECTOR J251

CONNECTOR P251

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END OF WORK PACKAGE

SIDE REAR MARKER LIGHTS DO NOT ILLUMINATE

0017 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Electrical 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

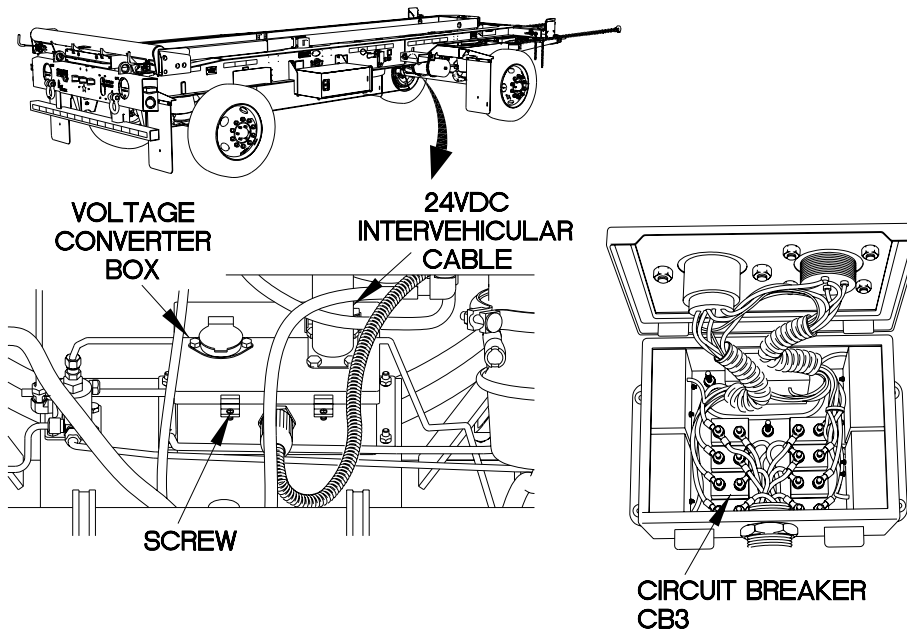
NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

SIDE REAR MARKER LIGHTS DO NOT ILLUMINATE-Continued**0017 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Side Rear Marker Lights Do Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is continuity present across circuit breaker CB3?	<p>No. Replace circuit breaker CB3 (WP 0057 00).</p> <p>Yes. Go to (Indication/Condition 2).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Disconnect 24 VDC intervehicular cable connector from voltage converter box on trailer. 3. Remove two screws and raise lid on voltage converter box. 4. Connect positive (+) probe of multimeter to one terminal on CB3. 5. Connect negative (-) probe of multimeter to other terminal on CB3 and note reading on multimeter.



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SIDE REAR MARKER LIGHTS DO NOT ILLUMINATE-Continued**0017 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Side Rear Marker Lights Do Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is 18-30 VDC present at 24 VDC intervehicular cable connector pin E?	<p>No. Replace 24 VDC intervehicular cable (WP 0062 00).</p> <p>Yes. Replace voltage converter box (WP 0058 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Connect positive (+) probe of button probe to 24 VDC intervehicular connector pin E. 3. Connect negative (-) probe of button probe to a known good ground. 4. Position master power switch to on (TM 9-2320-392-10). 5. Position main light switch to SER DRIVE and note reading on multimeter.

**24VDC
CONNECTOR**

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END OF WORK PACKAGE

LEFT REAR MARKER LIGHT DOES NOT ILLUMINATE

0018 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Electrical 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

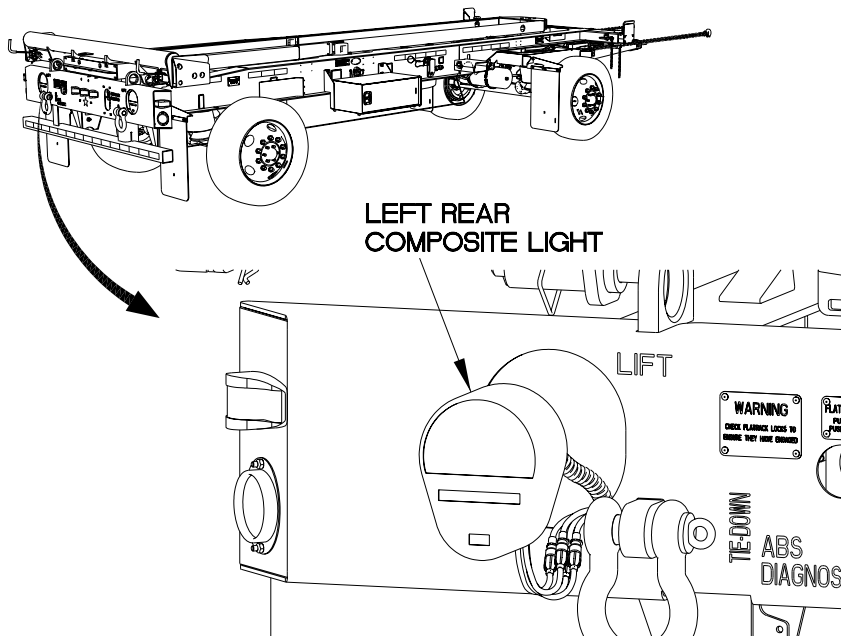
NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

LEFT REAR MARKER LIGHT DOES NOT ILLUMINATE-Continued**0018 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Left Rear Marker Light Does Not Illuminate**

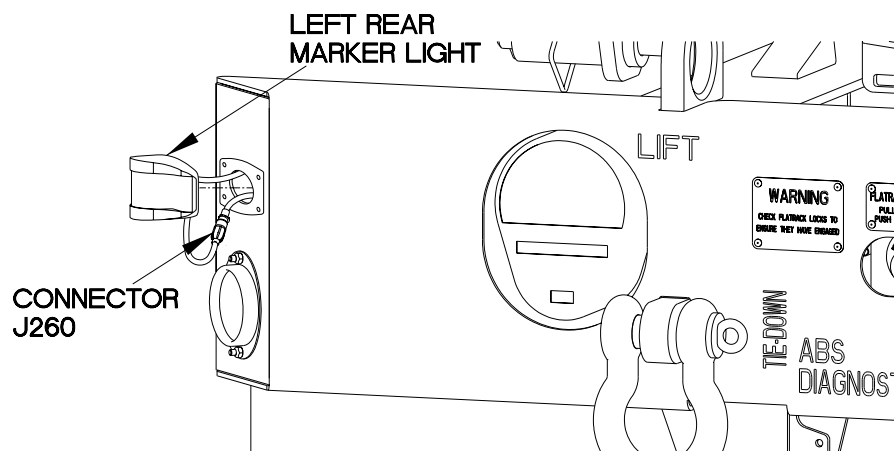
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-16 VDC present at connector J260?	<p>No. Repair wire 118B (EM 0195) or replace left rear electrical harness (WP 0064 00).</p> <p>Yes. Replace left rear marker light (WP 0061 00).</p>	<p>1. Set multimeter to VDC.</p> <p>2. Remove left rear composite light from trailer for access (WP 0060 00).</p>



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LEFT REAR MARKER LIGHT DOES NOT ILLUMINATE-Continued**0018 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Left Rear Marker Light Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-16 VDC present at connector J260? (Cont)	<p>No. Repair wire 118B (EM 0195) or replace left rear electrical harness (WP 0064 00).</p> <p>Yes. Replace left rear marker light (WP 0061 00).</p>	<p>3. Remove left rear marker light for access (WP 0061 00).</p> <p>4. Disconnect connector J260 from left rear marker light.</p> <p>5. Connect positive (+) probe of multimeter to connector J260.</p> <p>6. Connect negative (-) probe of multimeter to a known good ground.</p> <p>7. Position main light switch to SER DRIVE on towing vehicle and note reading on multimeter.</p>



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END OF WORK PACKAGE**0018 00-3/4-Blank**

RIGHT REAR MARKER LIGHT DOES NOT ILLUMINATE

0019 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1)**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

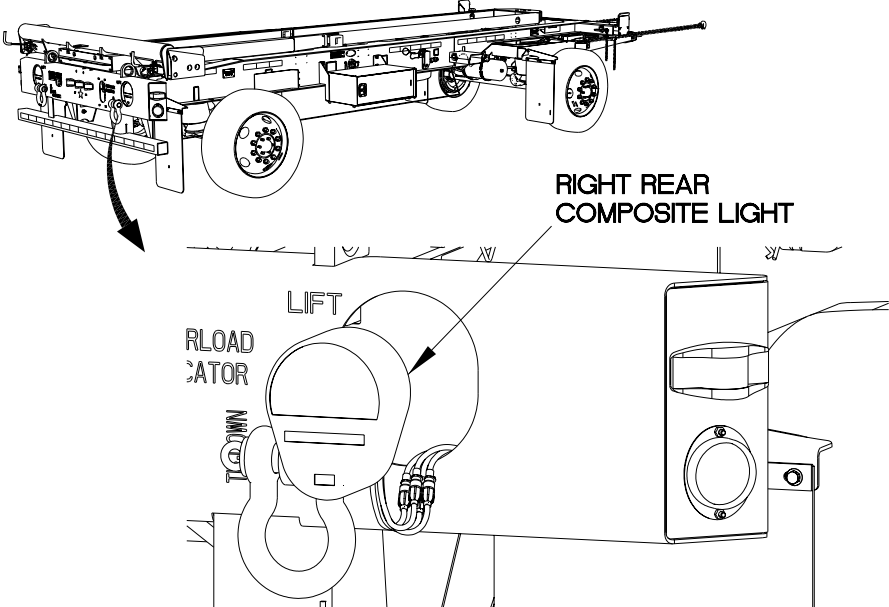
NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

RIGHT REAR MARKER LIGHT DOES NOT ILLUMINATE-Continued**0019 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Right Rear Marker Light Does Not Illuminate**

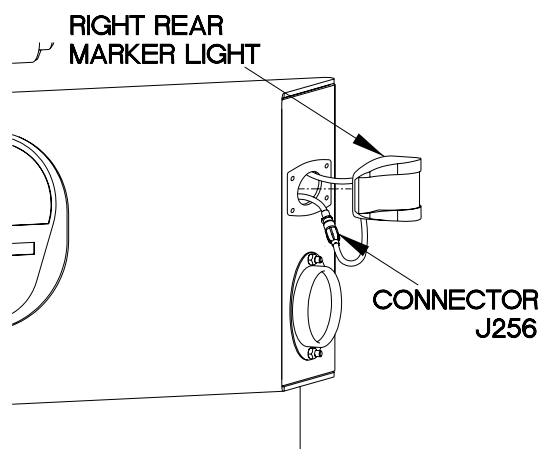
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-16 VDC present at connector J256?	<p>No. Repair wire 113A (EM 0195) or replace right rear electrical harness (WP 0063 00).</p> <p>Yes. Replace right rear marker light (WP 0061 00).</p>	<p>1. Set multimeter to VDC.</p> <p>2. Remove right rear composite light from trailer for access (WP 0060 00).</p>



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RIGHT REAR MARKER LIGHT DOES NOT ILLUMINATE-Continued**0019 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Right Rear Marker Light Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-16 VDC present at connector J256? (Cont)	<p>No. Repair wire 113A (EM 0195) or replace right rear electrical harness (WP 0063 00).</p> <p>Yes. Replace right rear marker light (WP 0061 00).</p>	<p>3. Remove right rear marker light for access (WP 0061 00).</p> <p>4. Disconnect connector J256 from right rear marker light.</p> <p>5. Connect positive (+) probe of multimeter to connector J256.</p> <p>6. Connect negative (-) probe of multimeter to a known good ground.</p> <p>7. Position main light switch to SER DRIVE on towing vehicle and note reading on multimeter.</p>



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END OF WORK PACKAGE

CENTER REAR MARKER LIGHTS DO NOT ILLUMINATE

0020 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

CENTER REAR MARKER LIGHTS DO NOT ILLUMINATE-Continued**0020 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Center Rear Marker Lights Do Not Illuminate**

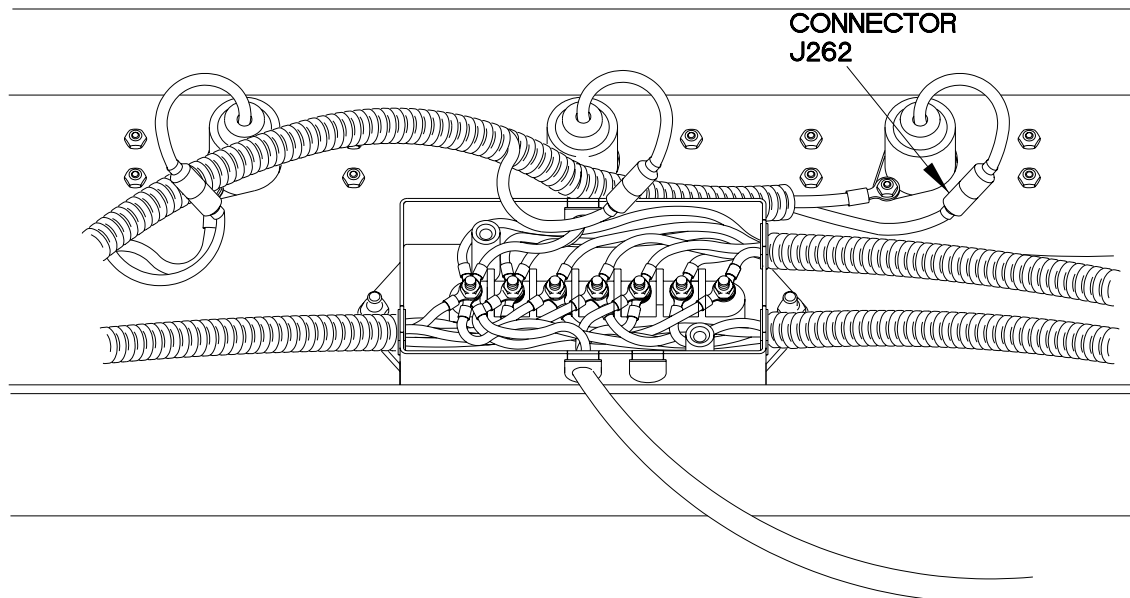
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Which center rear marker light does not illuminate?	<p>Left Go to (Indication/Condition 2).</p> <p>Right Go to (Indication/Condition 3).</p> <p>Middle Go to (Indication/Condition 4).</p> <p>All Repair wire 124 (EM 0195) or replace rear electrical harness (WP 0065 00).</p>	<p>1. Position main light switch to SER DRIVE.</p> <p>2. Note which center rear marker light does not illuminate.</p>

The diagram illustrates the location of the center rear marker lights on a vehicle. It includes a side view of the chassis with an arrow pointing to the rear, and a rear view of the vehicle. In the rear view, three marker lights are shown, labeled LEFT, MIDDLE, and RIGHT. A star is positioned below the MIDDLE light. A warning label is visible on the left side of the rear view, and a 'TIE-DOWN ABS DIAGNOSTIC' label is on the right side.

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CENTER REAR MARKER LIGHTS DO NOT ILLUMINATE-Continued**0020 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Center Rear Marker Lights Do Not Illuminate**

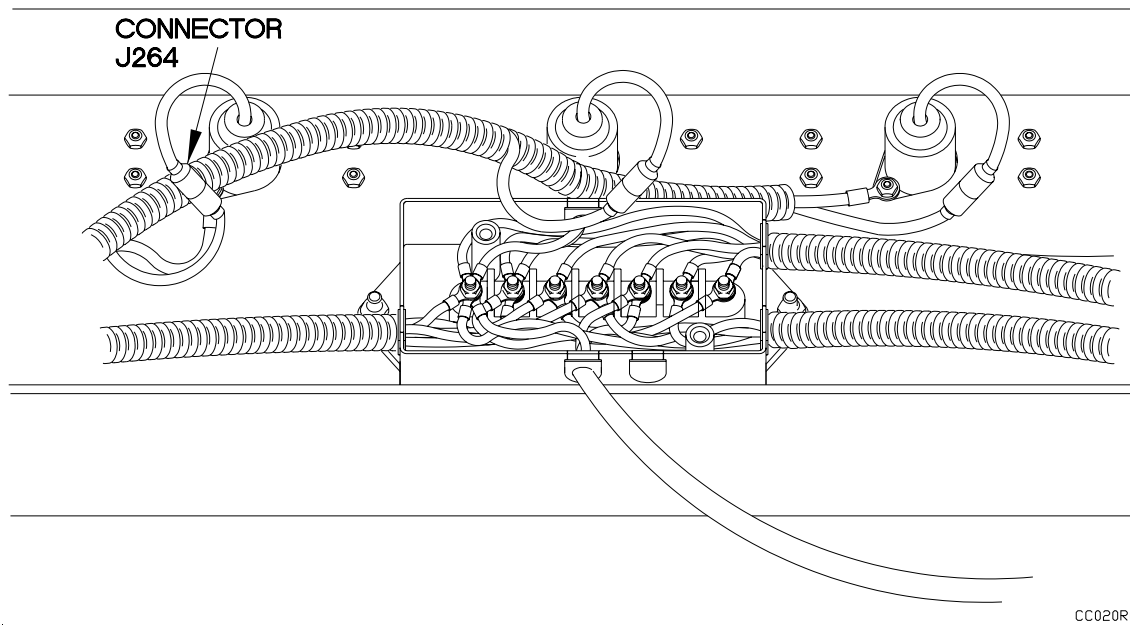
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is 8-14 VDC present at connector J262?	<p>No. Repair wire 121 (EM 0195) or replace rear electrical harness (WP 0065 00).</p> <p>Yes. Replace center left marker light (WP 0061).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Disconnect connector J262 from center left marker light connector. 3. Connect positive (+) probe of multimeter to connector J262. 4. Connect negative (-) probe of multimeter to a known good ground. 5. Position main light switch on towing vehicle to SER DRIVE and note reading on multimeter.



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CENTER REAR MARKER LIGHTS DO NOT ILLUMINATE-Continued**0020 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Center Rear Marker Lights Do Not Illuminate**

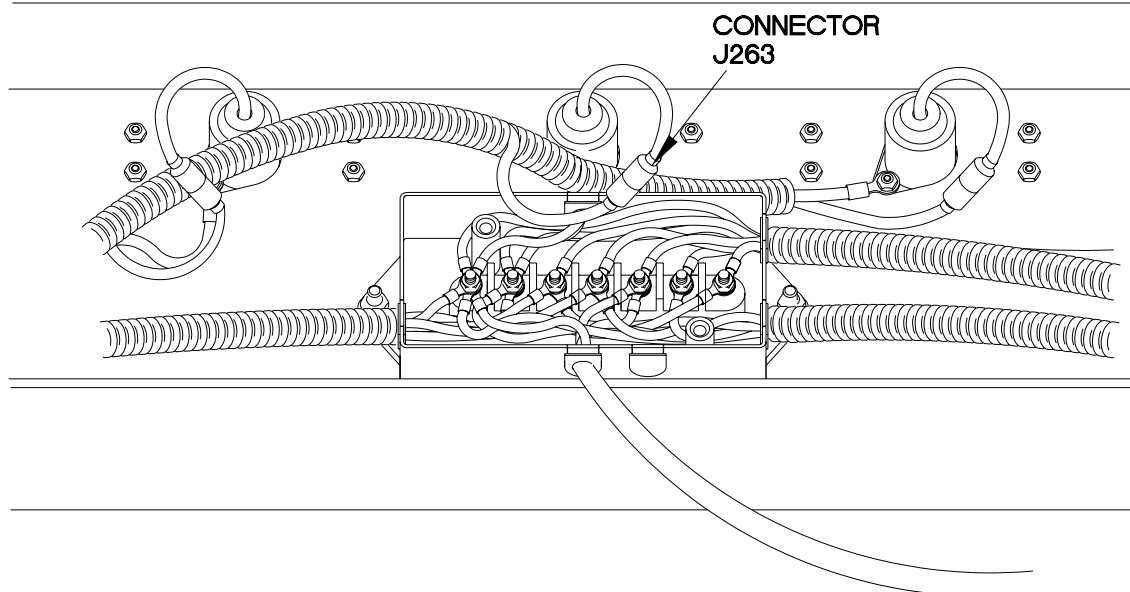
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is 8-14 VDC present at connector J264?	<p>No. Repair wire 123 or replace rear electrical harness (WP 0065 00).</p> <p>Yes. Replace center right marker light (WP 0061 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Disconnect connector J264 from center right marker light connector. 3. Connect positive (+) probe of multimeter to connector J264. 4. Connect negative (-) probe of multimeter to a known good ground. 5. Position main light switch on towing vehicle to SER DRIVE and note reading on multimeter.



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CENTER REAR MARKER LIGHTS DO NOT ILLUMINATE-Continued**0020 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Center Rear Marker Lights Do Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is 8-14 VDC present at connector J263?	<p>No. Repair wire 122 or replace rear electrical harness (WP 0065 00).</p> <p>Yes. Replace center middle marker light (WP 0061 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Disconnect connector J263 from center middle marker light connector. 3. Connect positive (+) probe of multimeter to connector J263. 4. Connect negative (-) probe of multimeter to a known good ground. 5. Position main light switch on towing vehicle to SER DRIVE and note reading on multimeter.



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END OF WORK PACKAGE

RIGHT TAILLIGHT DOES NOT ILLUMINATE

0021 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

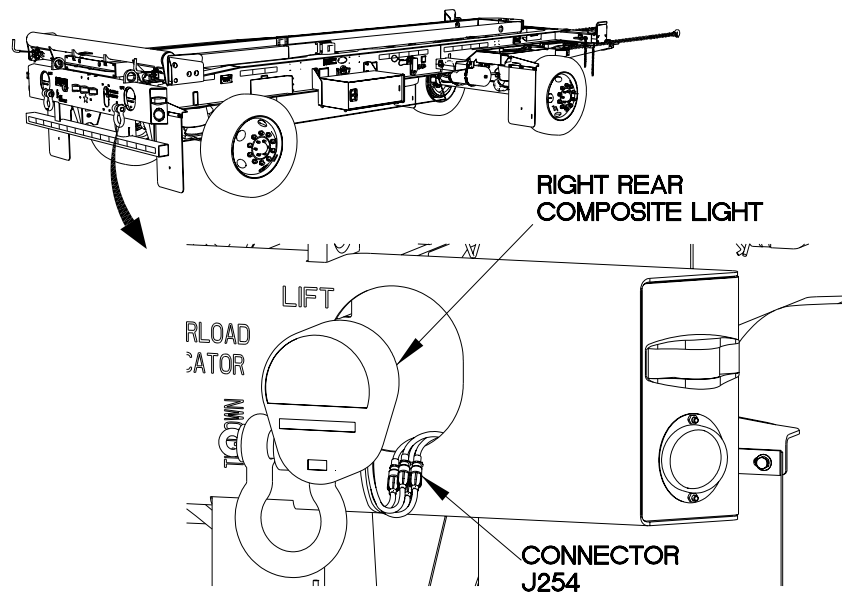
Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

RIGHT TAILLIGHT DOES NOT ILLUMINATE-Continued**0021 00****THIS WORK PACKAGE COVERS:**

Electrical System Troubleshooting

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-16 VDC present at connector J254?	<p>No. Repair wire 113B (EM 0195) or replace right rear electrical harness (WP 0063 00).</p> <p>Yes. Replace right rear composite taillight (WP 0060 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove right rear composite light from trailer for access (WP 0060 00). 3. Disconnect connector J254 from right rear composite taillight. 4. Connect positive (+) probe of multimeter to connector J254. 5. Connect negative (-) probe of multimeter to a known good ground. 6. Position main light switch to SER DRIVE on towing vehicle and note reading on multimeter.



CC021R01

END OF WORK PACKAGE

RIGHT STOPLIGHT DOES NOT ILLUMINATE

0022 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

RIGHT STOPLIGHT DOES NOT ILLUMINATE-Continued**0022 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Right Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 18-30 VDC present at intervehicular cable pin B?	No. Replace intervehicular cable (WP 0062 00). Yes. Go to (Indication/Condition 2).	1. Set multimeter to VDC. 2. Disconnect intervehicular cable connector from voltage converter box. 3. Position main light switch to STOP LIGHT on towing vehicle and depress brake peddle. 4. Connect positive (+) probe of multimeter to intervehicular cable pin B. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.

VOLTAGE CONVERTER BOX

24VDC INTERVEHICULAR CABLE

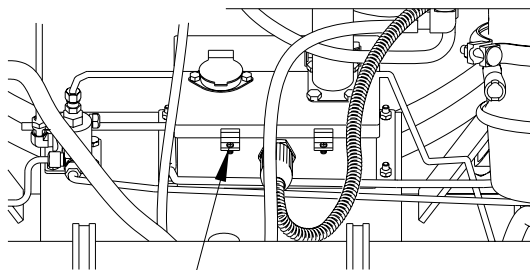
24VDC CONNECTOR

CC022R01

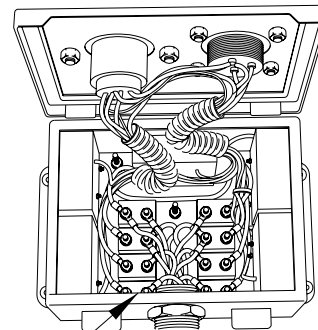
6. Position main light switch to ALL OFF.

RIGHT STOPLIGHT DOES NOT ILLUMINATE-Continued**0022 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Right Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is continuity present across circuit breaker CB4?	<p>No. Replace circuit breaker CB4 (WP 0057 00).</p> <p>Yes. Go to (Indication/Condition 3).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Loosen two screws and open voltage converter box. 3. Connect positive (+) probe of multimeter to one terminal on circuit breaker CB4. 4. Connect negative (-) probe of multimeter to other terminal on circuit breaker CB4 and note reading on multimeter.

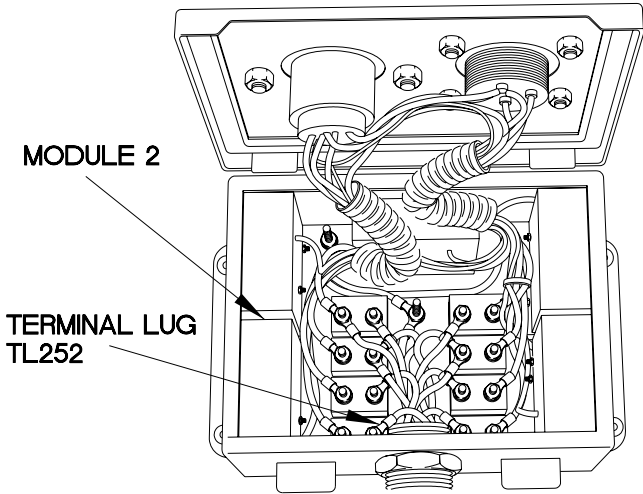


SCREW

CIRCUIT BREAKER
CB4

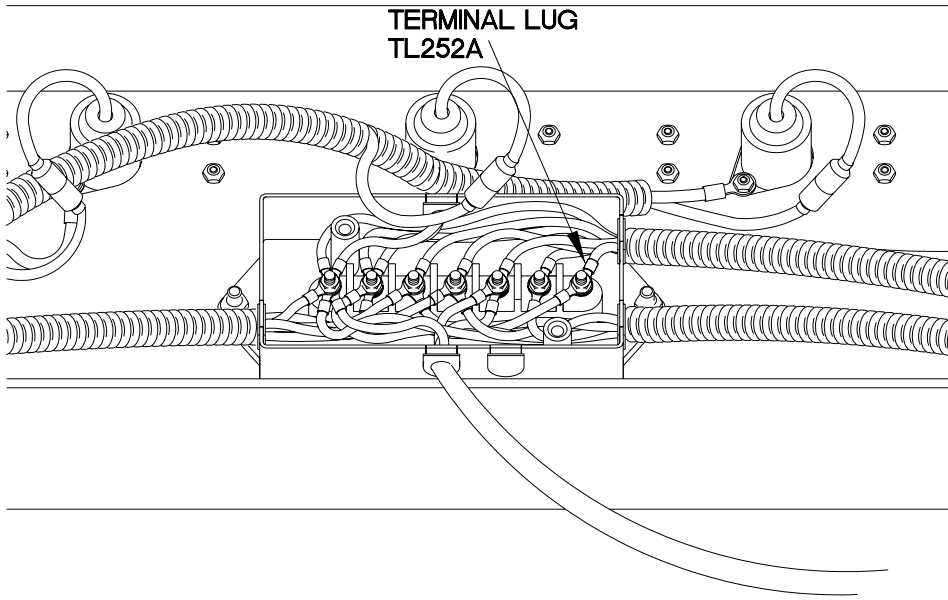
CC022R02

RIGHT STOPLIGHT DOES NOT ILLUMINATE-Continued**0022 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Right Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is 8-16 VDC present at TL252?	No. Replace module 2 (WP 0057 00). Yes. Go to (Indication/Condition 4).	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Connect intervehicular cable connector to voltage converter box. 3. Position main light switch to STOP LIGHT on towing vehicle and depress brake pedal. 4. Connect positive (+) probe of multimeter to TL252. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.
		<ol style="list-style-type: none"> 6. Position main light switch to ALL OFF.

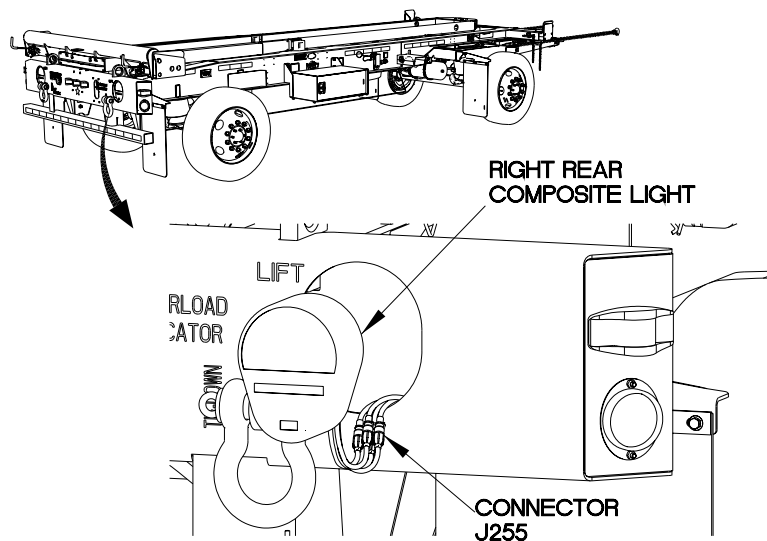
CC022R03

RIGHT STOPLIGHT DOES NOT ILLUMINATE-Continued**0022 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Right Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is 8-14 VDC present at terminal lug TL252A?	<p>No. Repair wire 110 (EM 0195) or replace main electrical harness (WP 0066 00).</p> <p>Yes. Go to (Indication/Condition 5).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove two screws and cover from junction box. 3. Connect positive (+) probe of multimeter to terminal lug TL252A 4. Connect negative (-) probe of multimeter to a known good ground. 5. Position main light switch on towing vehicle to STOP LIGHT. 6. Depress brake pedal and note reading on multimeter.
 <p>The diagram shows a top-down view of an electrical junction box. A label 'TERMINAL LUG TL252A' with an arrow points to a specific terminal on the right side of the box. Several wires are connected to the terminals, and a cable with a connector is plugged into the bottom of the box. The box is mounted on a surface with screws.</p> <p style="text-align: right;">CC022R04</p>		<ol style="list-style-type: none"> 7. Position main light switch to ALL OFF.

RIGHT STOPLIGHT DOES NOT ILLUMINATE-Continued**0022 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Right Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Is 8-16 VDC present at connector J255?	<p>No. Repair wire 114 (EM 0195) or replace right rear electrical harness (WP 0063 00).</p> <p>Yes. Go to (Indication/Condition 6).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove right rear composite light from trailer for access (WP 0060 00). 3. Disconnect connector J255 from right rear composite taillight. 4. Connect positive (+) probe of multimeter to connector J255. 5. Connect negative (-) probe of multimeter to a known good ground. 6. Position main light switch to STOP LIGHT on towing vehicle, depress brake pedal, and note reading on multimeter.



CC022R05

RIGHT STOPLIGHT DOES NOT ILLUMINATE-Continued**0022 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Right Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Is continuity present from terminal lug TL269 to a known good ground?	<p>No. Repair wire 115B (EM 0195) or replace right rear electrical harness (WP 0063 00).</p> <p>Yes. Replace right rear composite taillight (WP 0060 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Connect positive (+) probe of multimeter to terminal lug TL269. 3. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.

TERMINAL LUG TL269

LIFT

LOAD MOTOR

TO MOTOR

CC022R07

END OF WORK PACKAGE

LEFT TAILLIGHT DOES NOT ILLUMINATE

0023 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

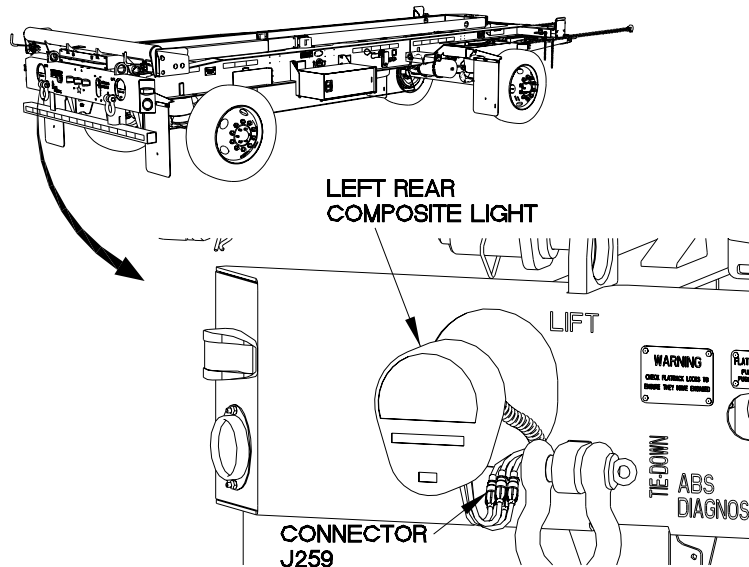
LEFT TAILLIGHT DOES NOT ILLUMINATE-Continued

0023 00

THIS WORK PACKAGE COVERS:
Electrical System Troubleshooting

Table 1: Left Taillight Does Not Illuminate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-16 VDC present at connector J259?	<p>No. Repair wire 118A (EM 0195) or replace left rear electrical harness (WP 0064 00).</p> <p>Yes. Replace left rear composite taillight (WP 0060 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove left rear composite light from trailer for access (WP 0060 00). 3. Disconnect connector J259 from left rear composite taillight. 4. Connect positive (+) probe of multimeter to connector J259. 5. Connect negative (-) probe of multimeter to a known good ground. 6. Position main light switch to SER DRIVE on towing vehicle and note reading on multimeter.



CC023R01

END OF WORK PACKAGE

LEFT STOPLIGHT DOES NOT ILLUMINATE

0024 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

LEFT STOPLIGHT DOES NOT ILLUMINATE-Continued**0024 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Left Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 18-30 VDC present at intervehicular cable pin B?	No. Replace intervehicular cable (WP 0062 00). Yes. Go to (Indication/Condition 2).	1. Set multimeter to VDC. 2. Disconnect intervehicular cable connector from voltage converter box. 3. Position main light switch to STOP LIGHT on towing vehicle and depress brake peddle. 4. Connect positive (+) probe of multimeter to intervehicular cable pin B. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.

VOLTAGE CONVERTER BOX

24VDC INTERVEHICULAR CABLE

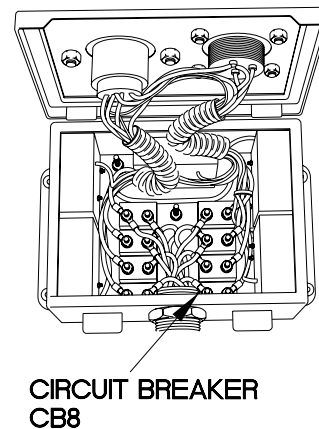
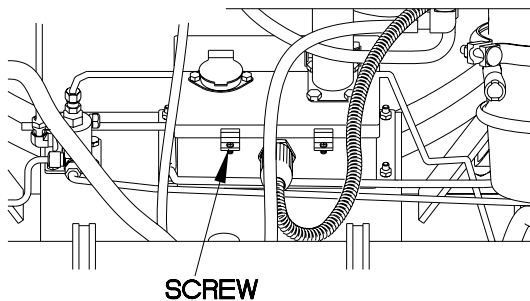
24VDC CONNECTOR

CC024R01

6. Position main light switch to ALL OFF.

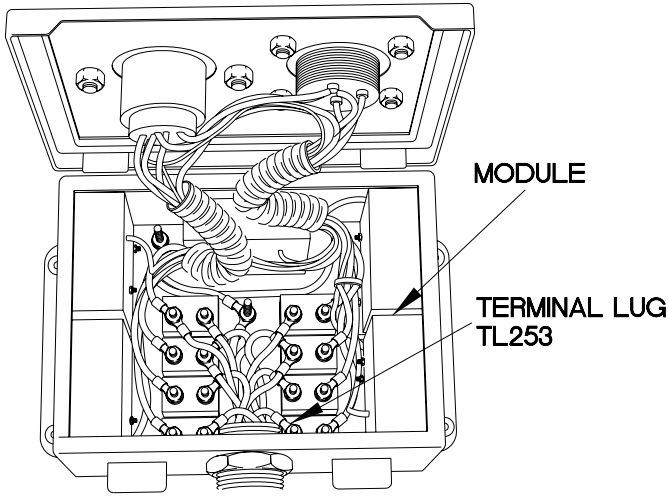
LEFT STOPLIGHT DOES NOT ILLUMINATE-Continued**0024 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Left Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is continuity present across circuit breaker CB8?	<p>No. Replace circuit breaker CB8 (WP 0057 00).</p> <p>Yes. Go to (Indication/Condition 3).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Remove two screws and open voltage converter box. 3. Connect positive (+) probe of multimeter to one terminal on circuit breaker CB8. 4. Connect negative (-) probe of multimeter to other terminal on circuit breaker CB8 and note reading on multimeter.



CC024R02

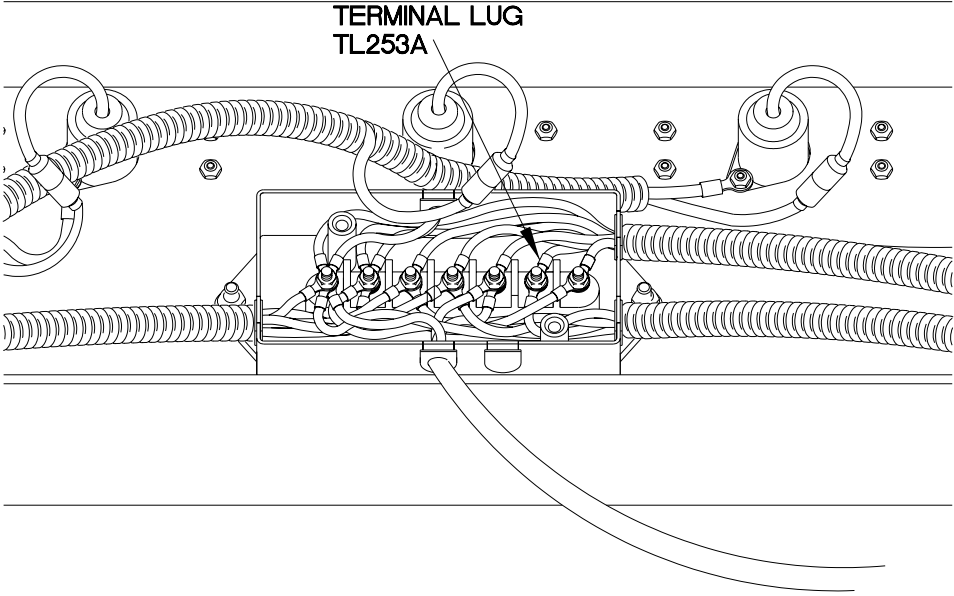
LEFT STOPLIGHT DOES NOT ILLUMINATE-Continued**0024 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Left Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is 8-16 VDC present at TL253?	No. Replace module 4 (WP 0057 00). Yes. Go to (Indication/Condition 4).	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Connect intervehicular cable connector from voltage converter box. 3. Position main light switch to STOP LIGHT on towing vehicle and depress brake pedal. 4. Connect positive (+) probe of multimeter to TL253. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.
 <p>The diagram shows a top-down view of the left stoplight assembly. It features a rectangular housing with a lid that is open, revealing internal components. A coiled cable enters from the top. Inside, there is a terminal block with several lugs. One lug is specifically labeled 'TERMINAL LUG TL253' with an arrow pointing to it. Another component is labeled 'MODULE' with an arrow pointing to it. The wiring is organized and secured within the housing.</p>		
		<ol style="list-style-type: none"> 6. Position main light switch to ALL OFF.

CC024R03

LEFT STOPLIGHT DOES NOT ILLUMINATE-Continued**0024 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Left Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is 8-14 VDC present at terminal lug TL253A?	<p>No. Repair wire 109 (EM 0195) or replace main electrical harness (WP 0066 00).</p> <p>Yes. Go to (Indication/Condition 5).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove cover of junction box (WP 0059 00). 3. Connect positive (+) probe of multimeter to terminal lug TL253A. 4. Connect negative (-) probe of multimeter to a known good ground. 5. Position main light switch on towing vehicle to STOP LIGHT. 6. Depress brake pedal and note reading on multimeter.



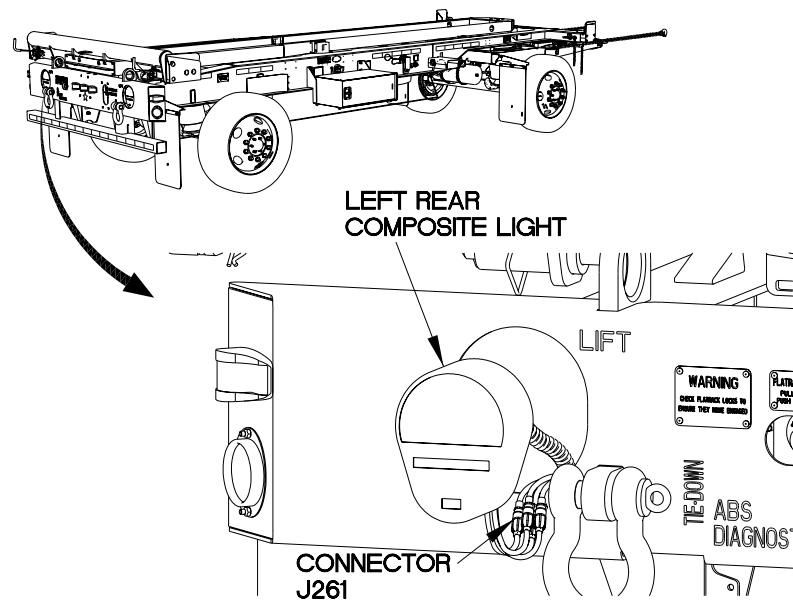
TERMINAL LUG TL253A

CC024R04

		6. Position main light switch to ALL OFF.
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LEFT STOPLIGHT DOES NOT ILLUMINATE-Continued**0024 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Left Stoplight Does Not Illuminate**

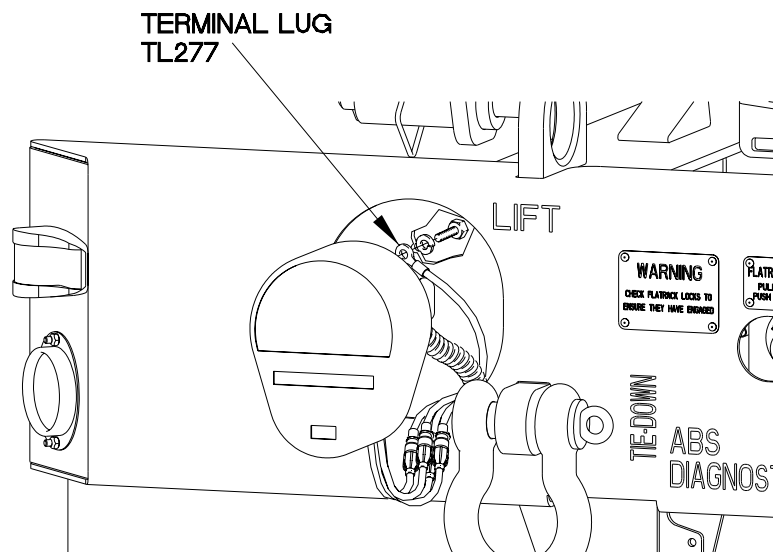
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Is 8-16 VDC present at connector J261?	<p>No. Repair wire 119 (EM 0195) or replace left rear electrical harness (WP 0064 00).</p> <p>Yes. Go to (Indication/Condition 6).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove left rear composite light from trailer for access (WP 0060 00). 3. Disconnect connector J261 from left rear composite taillight. 4. Connect positive (+) probe of multimeter to connector J261. 5. Connect negative (-) probe of multimeter to a known good ground. 6. Position main light switch to STOP LIGHT on towing vehicle, depress brake pedal, and note reading on multimeter.



CC024R05

LEFT STOPLIGHT DOES NOT ILLUMINATE-Continued**0024 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Left Stoplight Does Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Is continuity present from terminal lug TL277 to a known good ground?	<p>No. Repair wire 120B (EM 0195) or replace left rear electrical harness (WP 0064 00).</p> <p>Yes. Replace left rear composite taillight (WP 0060 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Connect positive (+) probe of multimeter to terminal lug TL277. 3. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.



CC024R07

END OF WORK PACKAGE

RIGHT BLACKOUT TAILLIGHT DOES NOT ILLUMINATE

0025 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

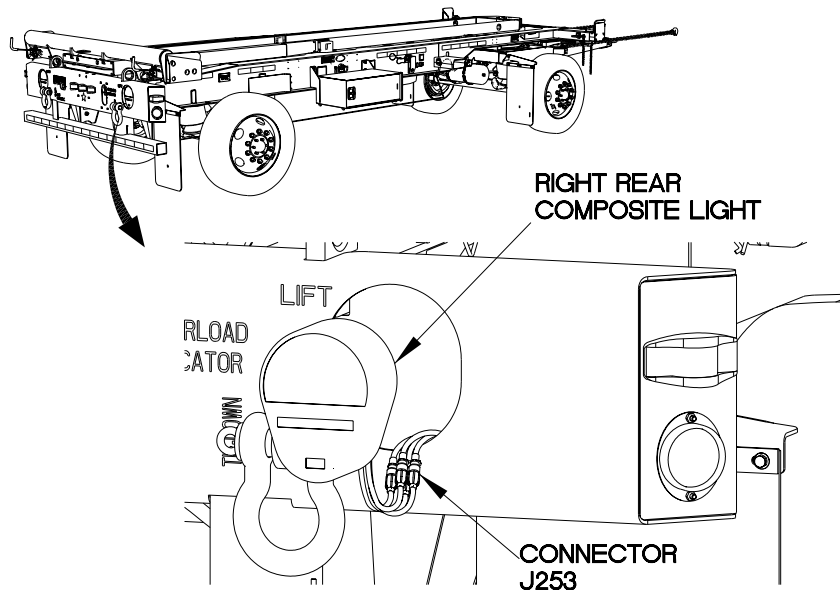
Refer to Electrical Schematic at the end of this chapter as required.

RIGHT BLACKOUT TAILLIGHT DOES NOT ILLUMINATE-Continued**0025 00****THIS WORK PACKAGE COVERS:**

Electrical System Troubleshooting

Table 1: Right Blackout Taillight Does Not Illuminate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 18-30 VDC present at connector J253?	<p>No. Repair wire 112 (EM 0195) or replace right rear electrical harness (WP 0063 00).</p> <p>Yes. Replace right rear composite taillight (WP 0060 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove right rear composite light from trailer for access (WP 0060 00). 3. Disconnect connector J253 from right rear composite taillight. 4. Connect positive (+) probe of multimeter to connector J253. 5. Connect negative (-) probe of multimeter to a known good ground. 6. Position main light switch to B.O. MARKER on towing vehicle and note reading on multimeter.



CC025R01

END OF WORK PACKAGE**0025 00-2**

RIGHT BLACKOUT STOPLIGHT DOES NOT ILLUMINATE

0026 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

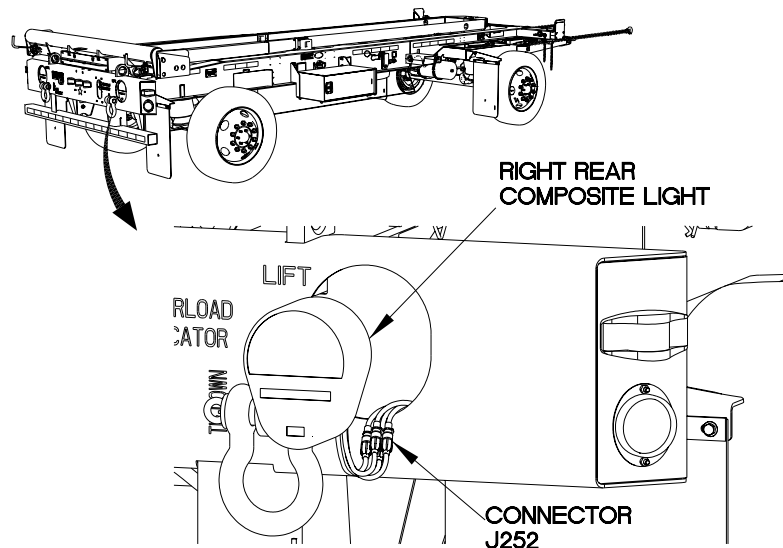
Refer to Electrical Schematic at the end of this chapter as required.

RIGHT BLACKOUT STOPLIGHT DOES NOT ILLUMINATE-Continued**0026 00****THIS WORK PACKAGE COVERS:**

Electrical System Troubleshooting

Table 1: Right Blackout Stoplight Does Not Illuminate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 18-30 VDC present at connector J252?	<p>No. Repair wire 111 (EM 0195) or replace right rear electrical harness (WP 0063 00).</p> <p>Yes. Replace right rear composite taillight (WP 0060 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove right rear composite light from trailer for access (WP 0060 00). 3. Disconnect connector J252 from right rear composite taillight. 4. Connect positive (+) probe of multimeter to connector J252. 5. Connect negative (-) probe of multimeter to a known good ground. 6. Position main light switch to B.O. DRIVE on towing vehicle, depress brake pedal, and note reading on multimeter.



CC026R01

END OF WORK PACKAGE

LEFT BLACKOUT TAILLIGHT DOES NOT ILLUMINATE

0027 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

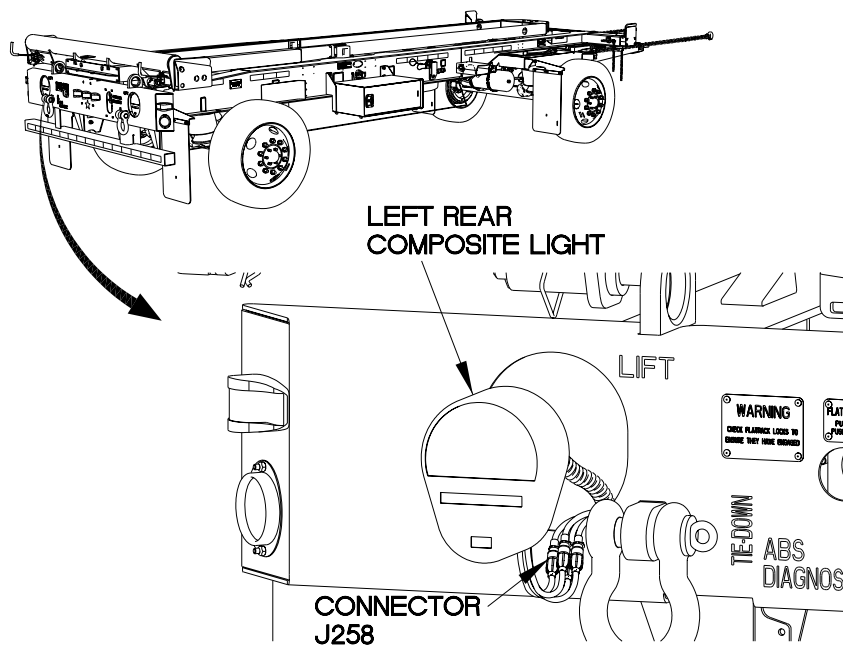
LEFT BLACKOUT TAILLIGHT DOES NOT ILLUMINATE-Continued

0027 00

THIS WORK PACKAGE COVERS:
Electrical System Troubleshooting

Table 1: Left Blackout Taillight Does Not Illuminate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 18-30 VDC present at connector J258?	<p>No. Repair wire 117 (EM 0195) or replace left rear electrical harness (WP 0064 00).</p> <p>Yes. Replace left rear composite taillight (WP 0060 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove left rear composite light from trailer for access (WP 0060 00). 3. Disconnect connector J258 from left rear composite taillight. 4. Connect positive (+) probe of multimeter to connector J258. 5. Connect negative (-) probe of multimeter to a known good ground. 6. Position main light switch to B.O. MARKER on towing vehicle and note reading on multimeter.



END OF WORK PACKAGE

0027 00-2

LEFT BLACKOUT STOPLIGHT DOES NOT ILLUMINATE

0028 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

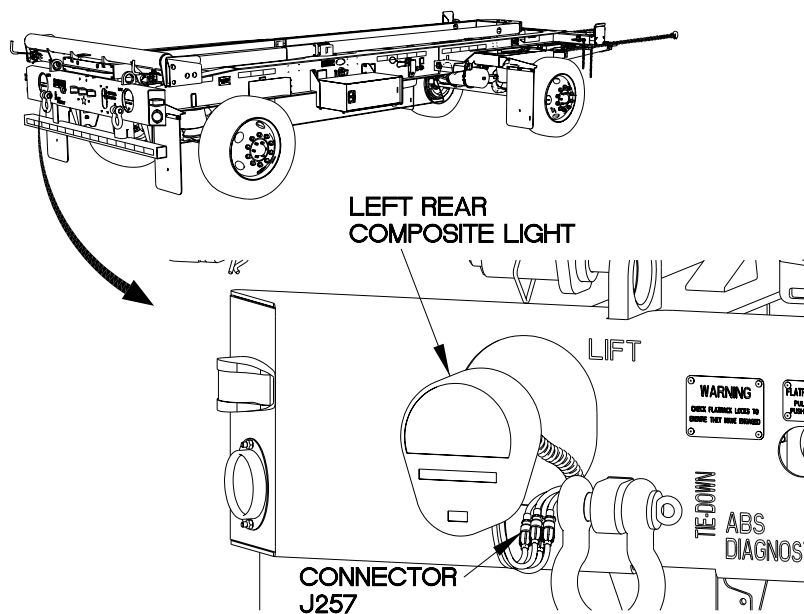
Refer to Electrical Schematic at the end of this chapter as required.

LEFT BLACKOUT STOPLIGHT DOES NOT ILLUMINATE-Continued**0028 00****THIS WORK PACKAGE COVERS:**

Electrical System Troubleshooting

Table 1: Left Blackout Stoplight Does Not Illuminate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 18-30 VDC present at connector J257?	<p>No. Repair wire 116 (EM 0195) or replace left rear electrical harness (WP 0064 00).</p> <p>Yes. Replace left rear composite taillight (WP 0060 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove left rear composite light from trailer for access (WP 0060 00). 3. Disconnect connector J257 from left rear composite taillight. 4. Connect positive (+) probe of multimeter to connector J257. 5. Connect negative (-) probe of multimeter to a known good ground. 6. Position main light switch to B.O. DRIVE on towing vehicle, depress brake pedal, and note reading on multimeter.



CC028R01

END OF WORK PACKAGE**0028 00-2**

BOTH BLACKOUT STOPLIGHTS DO NOT ILLUMINATE

0029 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

BOTH BLACKOUT STOPLIGHTS DO NOT ILLUMINATE-Continued**0029 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Both Blackout Stoplights Do Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 18-30 VDC present at intervehicular cable pin F?	No. Replace intervehicular cable (WP 0062 00). Yes. Go to (Indication/Condition 2).	1. Set multimeter to VDC. 2. Disconnect intervehicular cable connector from voltage converter box. 3. Position main light switch to B.O. DRIVE on towing vehicle and depress brake peddle. 4. Connect positive (+) probe of multimeter to intervehicular cable pin F. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.

VOLTAGE CONVERTER BOX

24VDC INTERVEHICULAR CABLE

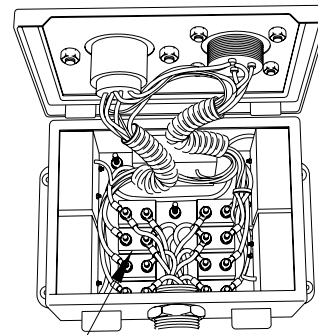
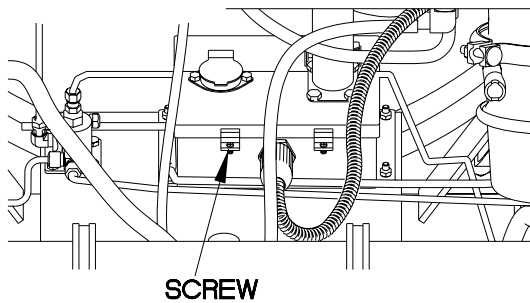
24VDC CONNECTOR

CC029R01

6. Position main light switch to ALL OFF.

BOTH BLACKOUT STOPLIGHTS DO NOT ILLUMINATE-Continued**0029 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Both Blackout Stoplights Do Not Illuminate**

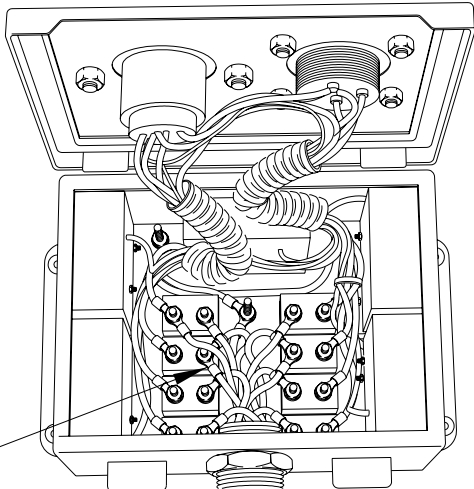
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is continuity present across circuit breaker CB2?	<p>No. Replace circuit breaker CB2 (WP 0057 00).</p> <p>Yes. Go to (Indication/Condition 3).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Remove two screws and open voltage converter box. 3. Connect positive (+) probe of multimeter to one terminal on circuit breaker CB2. 4. Connect negative (-) probe of multimeter to other terminal on circuit breaker CB2 and note reading on multimeter.

CIRCUIT BREAKER
CB2

CC029R02

BOTH BLACKOUT STOPLIGHTS DO NOT ILLUMINATE-Continued**0029 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. Both Blackout Stoplights Do Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is 18-30 VDC present at TL257?	<p>No. Repair wire or replace voltage converter box (WP 0058 00).</p> <p>Yes. Repair wire 104 (EM 0195) or replace main electrical harness (WP 0066 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Connect intervehicular cable connector to voltage converter box. 3. Position main light switch to B.O. DRIVE on towing vehicle and depress brake pedal. 4. Connect positive (+) probe of multimeter to TL257. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.



TERMINAL LUG
TL257

CC029R03

END OF WORK PACKAGE

ALL LIGHTS DO NOT ILLUMINATE

0030 00**THIS WORK PACKAGE COVERS:**Electrical System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1)

Towing vehicle main light switch set to off
(TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

Remove plastic cable ties as required.

ALL LIGHTS DO NOT ILLUMINATE-Continued**0030 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1. All Lights Do Not Illuminate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 18-30 VDC present at intervehicular cable pin E?	No. Replace intervehicular cable (WP 0062 00). Yes. Replace voltage converter box (WP 0058 00).	1. Set multimeter to VDC. 2. Disconnect intervehicular cable connector from voltage converter box. 3. Connect positive (+) probe of multimeter to intervehicular cable pin E. 4. Connect negative (-) probe of multimeter to a known good ground. 5. Position main light switch to SER DRIVE on towing vehicle and note reading on multimeter.

VOLTAGE CONVERTER BOX

24VDC INTERVEHICULAR CABLE

24VDC CONNECTOR

CC030R01

END OF WORK PACKAGE

**ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC
LIGHT DOES NOT OPERATE**

0031 00**THIS WORK PACKAGE COVERS:**Brakes System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions24 VDC intervehicular cable connected to
towing vehicle (TM 9-2320-392-10-1).**Materials/Parts**

Ties, Cable, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Refer to Electrical Schematic at the end of this chapter as required.

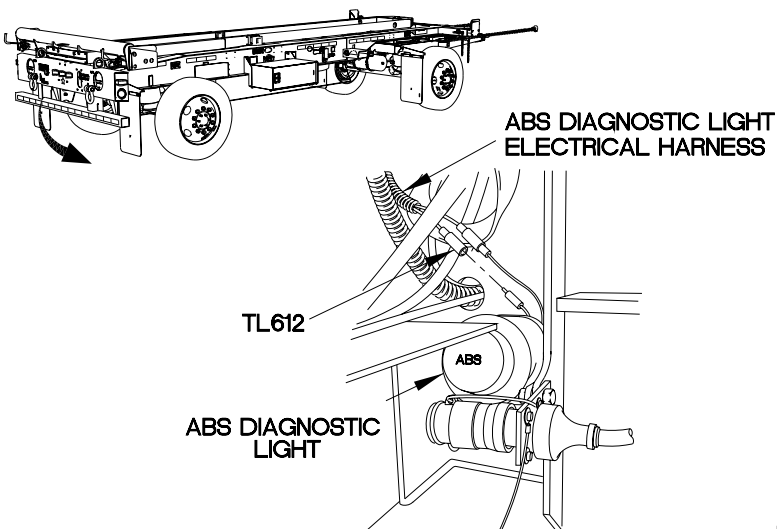
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-16 VDC present at terminal lug TL612 of ABS diagnostic light electrical harness?	<p>No. Go to (Indication/Condition 3).</p> <p>Yes. Go to (Indication/Condition 2).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Disconnect terminal lug TL612 from ABS diagnostic light lead. 3. Connect positive (+) probe of multimeter to terminal lug TL612. 4. Connect negative (-) probe of multimeter to a known good ground. 5. Position towing vehicle master power switch to on and note reading on multimeter.



The diagram illustrates the location of the ABS diagnostic light electrical harness and terminal lug TL612 on a vehicle chassis. It shows the harness running along the side of the chassis, with terminal lug TL612 connected to the ABS diagnostic light. The ABS diagnostic light is shown as a cylindrical component mounted on the chassis. The diagram is labeled with 'ABS DIAGNOSTIC LIGHT ELECTRICAL HARNESS', 'TL612', and 'ABS DIAGNOSTIC LIGHT'.

CC031R11

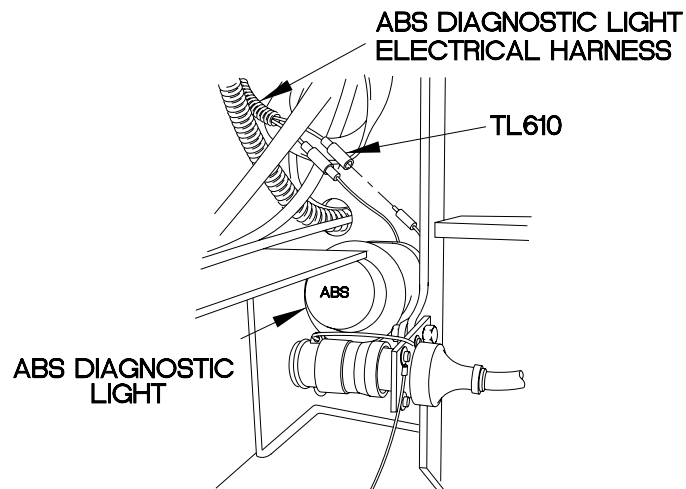
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is continuity present between terminal lug TL610 and a known good ground?	<p>No. Go to (Indication/Condition 4).</p> <p>Yes. Replace ABS diagnostic light (WP 0074 00).</p>	<ol style="list-style-type: none"> 1. Position towing vehicle master power switch to off. 2. Set multimeter to ohms. 3. Disconnect terminal lug TL610 from ABS diagnostic light lead. 4. Connect positive (+) probe of multimeter to terminal lug TL610. 5. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.

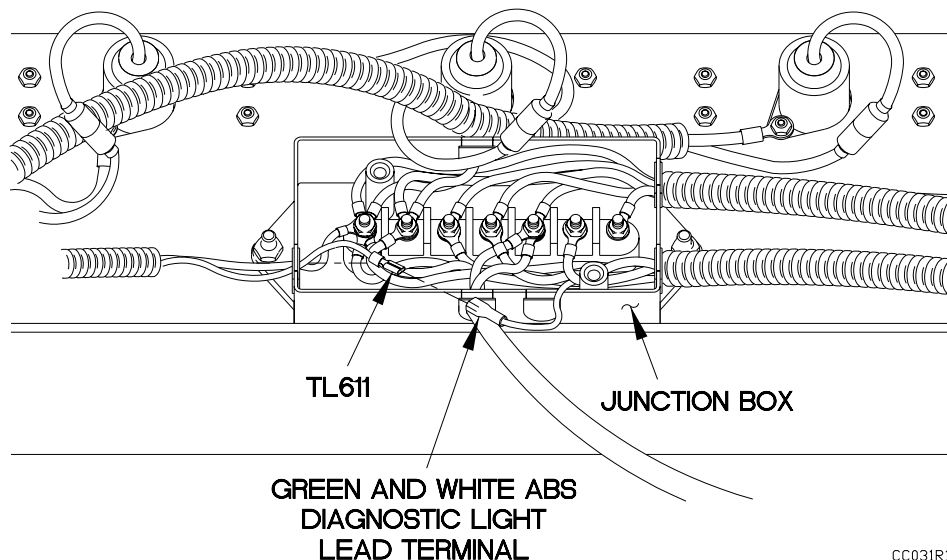


CC031R12

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00**BRAKE SYSTEM TROUBLESHOOTING - Continued****Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is 8-16 VDC present at green and white ABS diagnostic light lead terminal lug?	<p>No. Go to (Indication/Condition 5).</p> <p>Yes. Replace ABS diagnostic light harness (WP 0077 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Remove junction box cover for access (WP 0059 00). 3. Disconnect green and white ABS diagnostic light lead terminal lug from terminal lug TL611. 4. Connect positive (+) probe of multimeter to green and white ABS diagnostic light terminal lug. 5. Connect negative (-) probe of multimeter to a known good ground. 6. Position towing vehicle master power switch to on and note reading on multimeter.



CC031R13

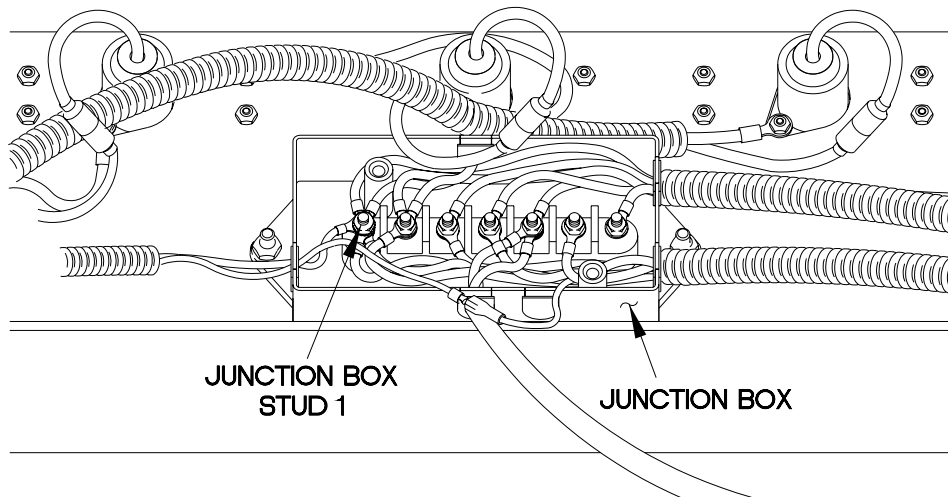
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is continuity present between junction box stud 1 and a known good ground?	<p>No. Replace junction box (WP 0059 00).</p> <p>Yes. Replace ABS diagnostic light harness (WP 0077 00).</p>	<ol style="list-style-type: none"> 1. Position towing vehicle master power switch to off. 2. Set multimeter to ohms. 3. Connect positive (+) probe of multimeter to junction box stud 1. 4. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.



CC031R14

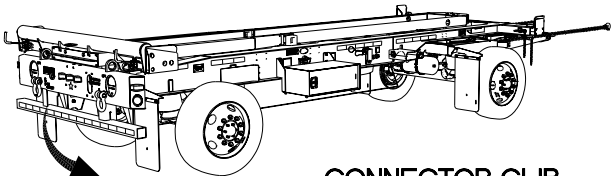
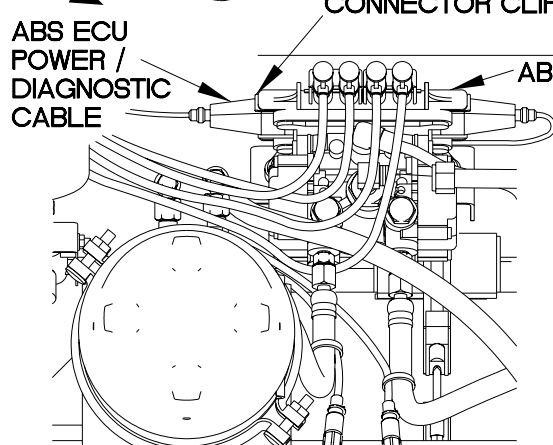
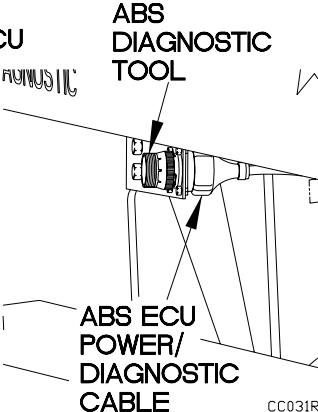
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Is continuity present from ABS diagnostic tool connector pin A to ABS ECU Power/Diagnostic Cable Pin 8?	<p>No. Replace ABS ECU Power/Diagnostic Cable (WP 0074 00).</p> <p>Yes. Go to (Indication/Condition 6).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Disconnect ABS diagnostic tool connector from ABS diagnostic tool. 3. Lift up on connector clip on ABS ECU Power/Diagnostic cable connector.

CC031R01

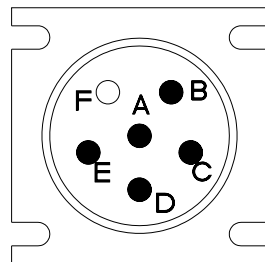
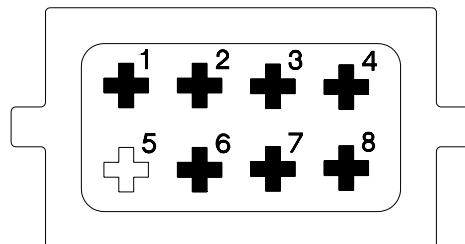
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Is continuity present from ABS diagnostic tool connector pin A to ABS ECU Power/Diagnostic Cable Pin 8? (Cont)	No. Replace ABS ECU Power/Diagnostic Cable (WP 0074 00). Yes. Go to (Indication/Condition 6).	4. Disconnect ABS ECU Power/Diagnostic cable from ABS ECU. 5. Connect positive (+) probe of multimeter to ABS Diagnostic Tool connector pin A. 6. Connect negative (-) probe of multimeter to ABS ECU Power/Diagnostic cable pin 8 and note reading on multimeter.


**ABS DIAGNOSTIC
TOOL CONNECTOR**

**ABS ECU
POWER CABLE
CONNECTOR**

CC031R02

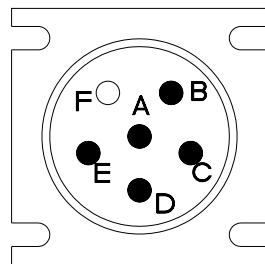
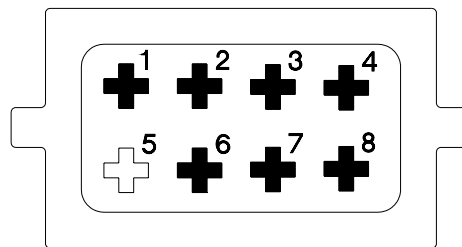
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Is continuity present from ABS diagnostic tool connector pin B to ABS ECU Power/Diagnostic Cable Pin 7?	No. Replace ABS ECU Power/Diagnostic Cable (WP 0074 00). Yes. Go to (Indication/Condition 7).	1. Connect positive (+) probe of multimeter to ABS Diagnostic Tool connector pin B. 2. Connect negative (-) probe of multimeter to ABS ECU Power/Diagnostic cable pin 7 and note reading on multimeter.


**ABS DIAGNOSTIC
TOOL CONNECTOR**

**ABS ECU
POWER CABLE
CONNECTOR**

CC031R03

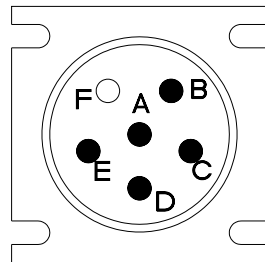
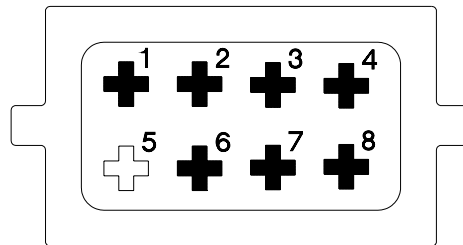
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
7. Is continuity present from ABS diagnostic tool connector pin C to ABS ECU Power/Diagnostic Cable Pin 6?	No. Replace ABS ECU Power/Diagnostic Cable (WP 0074 00). Yes. Go to (Indication/Condition 8).	1. Connect positive (+) probe of multimeter to ABS Diagnostic Tool connector pin C. 2. Connect negative (-) probe of multimeter to ABS ECU Power/Diagnostic cable pin 6 and note reading on multimeter.


**ABS DIAGNOSTIC
TOOL CONNECTOR**

**ABS ECU
POWER CABLE
CONNECTOR**

CC031R04

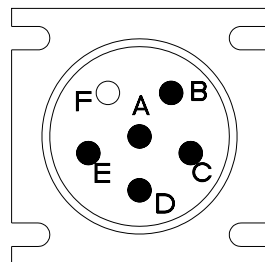
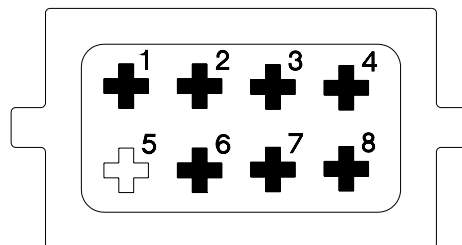
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
8. Is continuity present from ABS diagnostic tool connector pin D to ABS ECU Power/Diagnostic Cable Pin 1?	No. Replace ABS ECU Power/Diagnostic Cable (WP 0074 00). Yes. Go to (Indication/Condition 9).	1. Connect positive (+) probe of multimeter to ABS Diagnostic Tool connector pin D. 2. Connect negative (-) probe of multimeter to ABS ECU Power/Diagnostic cable pin 1 and note reading on multimeter.


**ABS DIAGNOSTIC
TOOL CONNECTOR**

**ABS ECU
POWER CABLE
CONNECTOR**

CC031R05

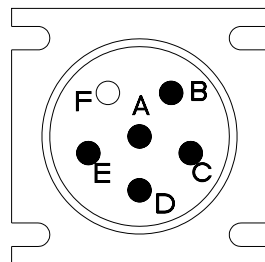
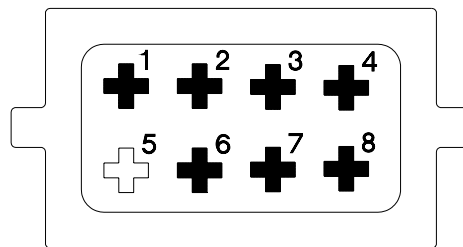
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
9. Is continuity present from ABS diagnostic tool connector pin E to ABS ECU Power/Diagnostic Cable Pin 4?	No. Replace ABS ECU Power/Diagnostic Cable (WP 0074 00). Yes. Go to (Indication/Condition 10).	1. Connect positive (+) probe of multimeter to ABS Diagnostic Tool connector pin E. 2. Connect negative (-) probe of multimeter to ABS ECU Power/Diagnostic cable pin 4 and note reading on multimeter.


**ABS DIAGNOSTIC
TOOL CONNECTOR**

**ABS ECU
POWER CABLE
CONNECTOR**

CC031R06

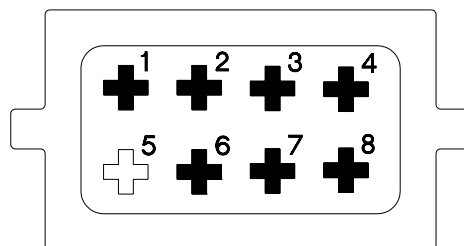
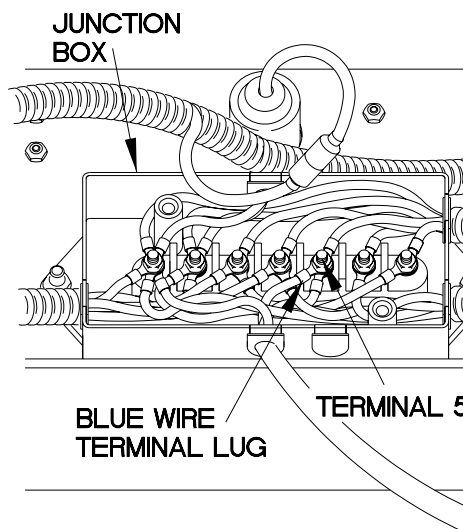
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
10. Is continuity present from ABS Power/Diagnostic cable blue wire to ABS ECU Power/Diagnostic Cable pin 3?	No. Replace ABS ECU Power/Diagnostic Cable (WP 0074 00). Yes. Go to (Indication/Condition 11).	<ol style="list-style-type: none"> 1. Remove cover on junction box for access (WP 0059 00). 2. Connect positive (+) probe of multimeter to ABS Power/Diagnostic cable blue wire terminal lug (located on terminal 5 of junction box). 3. Connect negative (-) probe of multimeter to ABS ECU Power/Diagnostic cable pin 3 and note reading on multimeter.


**ABS ECU
POWER CABLE
CONNECTOR**


CC031R07

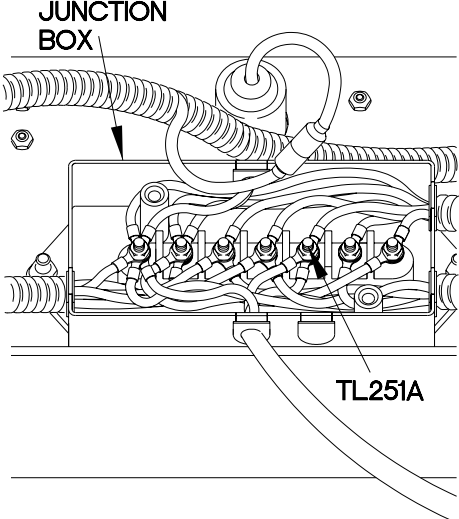
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

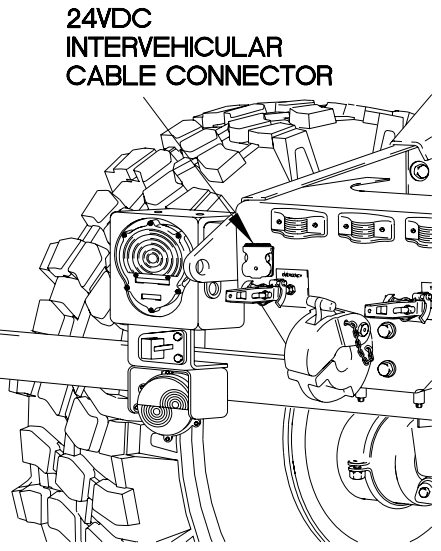
Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
11. Is 8-16 VDC present at terminal lug TL251A?	No. Go to (Indication/Condition 12). Yes. Replace ABS ECU (WP 0071 00).	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Connect positive (+) probe of multimeter to terminal lug TL 251A (located on terminal 5 in junction box). 3. Connect negative (-) probe of multimeter to a known good ground. 4. Position master power switch to on and note reading on multimeter.



JUNCTION BOX

TL251A



24VDC
INTERVEHICULAR
CABLE CONNECTOR

CC031R08

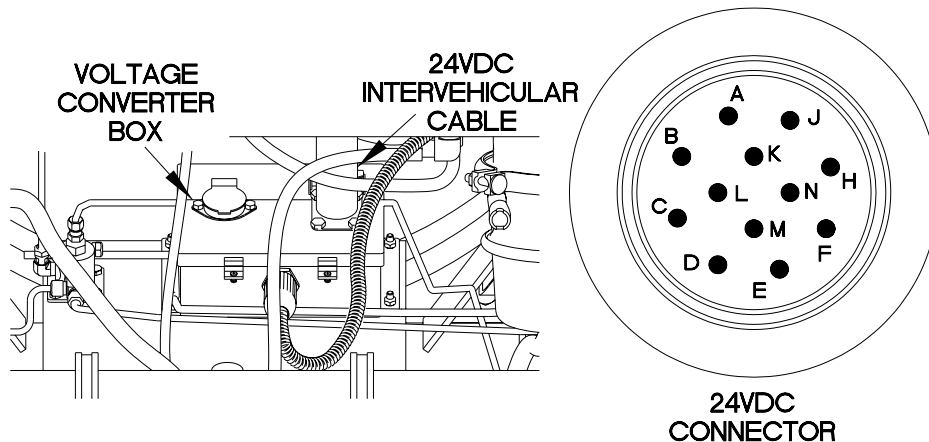
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
12. Is 18-30 VDC present at 24 VDC intervehicular cable pin K?	<p>No. Replace 24 VDC intervehicular cable (WP 0062 00).</p> <p>Yes. Go to (Indication/Condition 13).</p>	<ol style="list-style-type: none"> 1. Position towing vehicle master power switch to off. 2. Disconnect 24 VDC intervehicular cable from voltage converter box. 3. Connect positive (+) probe of multimeter to 24 VDC intervehicular cable pin K. 4. Connect negative (-) probe of multimeter to a known good ground. 5. Position master power switch to on and note reading on multimeter.



CC031R09

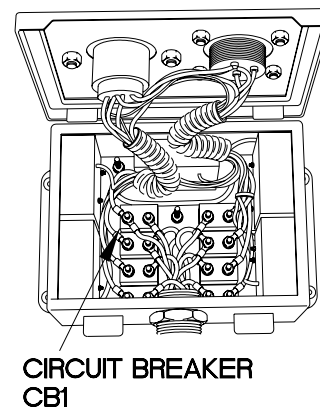
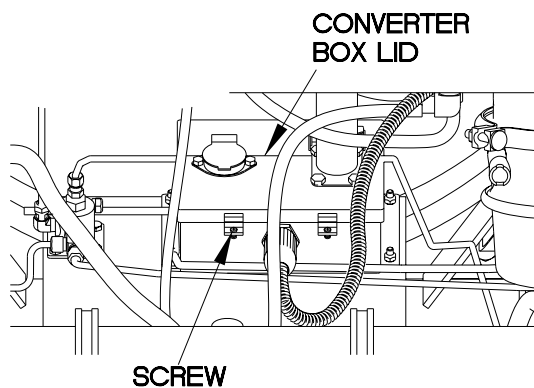
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT DOES NOT OPERATE-Continued

0031 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1. Anti-Lock Brake System (ABS) Diagnostic Light Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
13. Is continuity present across circuit breaker CB1?	<p>No. Replace circuit breaker CB1 (WP 0057 00).</p> <p>Yes. Replace module 5 (WP 0057 00).</p>	<ol style="list-style-type: none"> 1. Position towing vehicle master power switch to off. 2. Set multimeter to ohms. 3. Loosen two screws and open lid of voltage converter box. 4. Connect positive (+) probe of multimeter to one terminal of circuit breaker CB1. 5. Connect negative (-) probe of multimeter to other terminal of circuit breaker CB1 and note reading on multimeter.



CC031R10

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS THREE TIMES

0032 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

Do not pry or push ABS wheel speed sensor with sharp objects. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

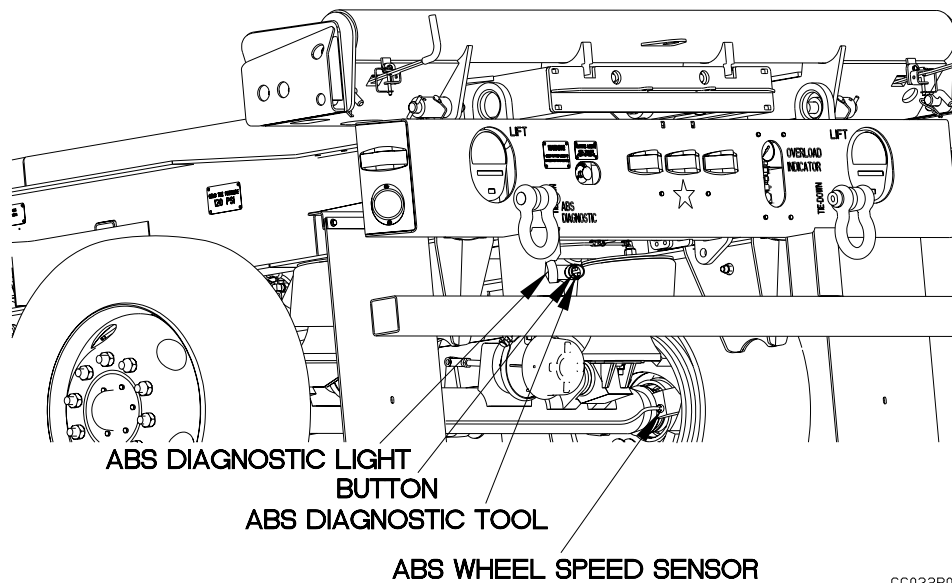
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS THREE TIMES-Continued

0032 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Three Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is blink code still present after right rear ABS wheel speed sensor position is reset?	No. Fault corrected. Yes. Go to (Indication/Condition 2).	1. Push right rear ABS wheel speed sensor in until it contacts tooth wheel. 2. Start engine of towing vehicle.
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Trailer must be operated more than 4 mph (6 km/h) during road test.</p>		
		3. Road test trailer. 4. Park towing vehicle. 5. Press button on ABS diagnostic tool for 1 second. 6. Check to see if ABS diagnostic tool and ABS diagnostic light blink.



CC032R01

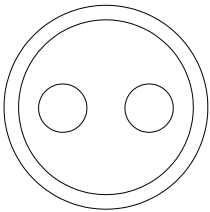
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS THREE TIMES-Continued

0032 00

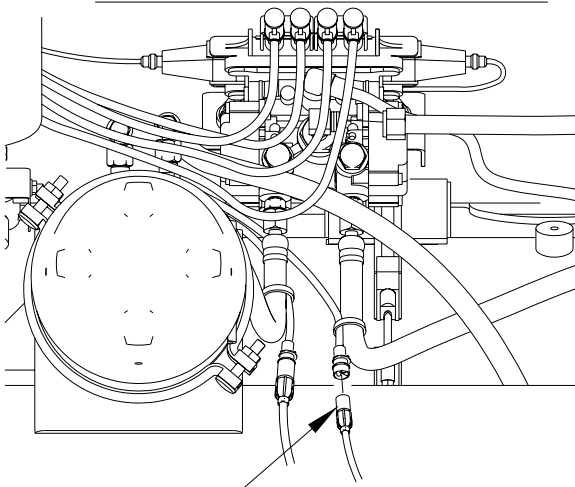
BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Three Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is 700-3000 ohms of resistance is present across right rear ABS wheel speed sensor.	<p>No. Replace right rear ABS wheel speed sensor (WP 0070 00).</p> <p>Yes. Go to (Indication/Condition 3).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Disconnect right rear ABS wheel speed sensor harness connector from ABS wheel speed sensor. 3. Connect positive (+) probe of multimeter to one socket of ABS wheel speed sensor connector. 4. Connect negative (-) probe of multimeter to other socket of ABS wheel speed sensor connector and note reading on multimeter.



ABS WHEEL
SPEED SENSOR
HARNESS
CONNECTOR



ABS WHEEL SPEED
SENSOR HARNESS CONNECTOR

CC032R02

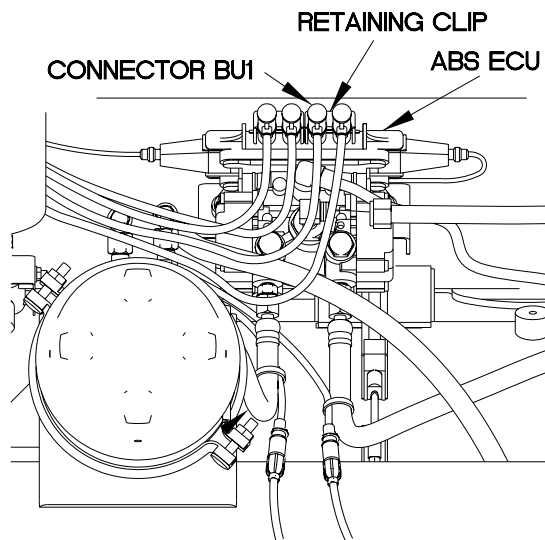
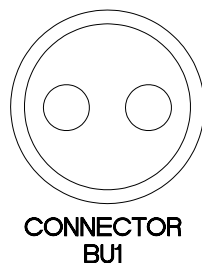
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS THREE TIMES-Continued

0032 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Three Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is continuity present across right rear ABS control sensor harness connector with jumper wire across connector BU1?	<p>No. Replace ABS control sensor harness (WP 0073 00).</p> <p>Yes. Replace ABS ECU (WP 0071 00).</p>	<ol style="list-style-type: none"> 1. Loosen retaining clip on connector BU1. 2. Disconnect connector BU1 from ABS ECU. 3. Install jumper wire across connector BU1. 4. Connect positive (+) probe of multimeter to one pin of ABS control sensor harness connector. 5. Connect negative (-) probe of multimeter to other pin of ABS control sensor harness connector and note reading on multimeter.



CC032R03

END OF WORK PACKAGE

**ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC
LIGHT BLINKS FOUR TIMES**

0033 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Materials/Parts

Ties, Cable, Plastic (Item 22, WP 0165 00)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

Do not pry or push ABS wheel speed sensor with sharp objects. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

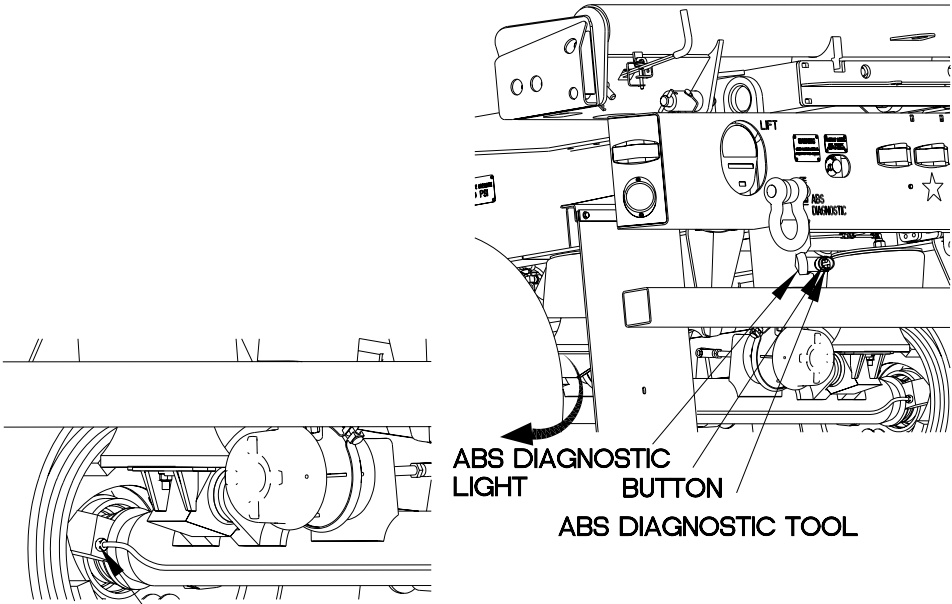
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOUR TIMES-Continued

0033 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Four Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is blink code still present after left rear ABS wheel speed sensor position is reset?	<p>No. Fault corrected.</p> <p>Yes. Go to (Indication/Condition 2).</p>	<p>1. Push left rear ABS wheel speed sensor in until it contacts tooth wheel.</p> <p>2. Start engine of towing vehicle.</p>
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Trailer must be operated more than 4 mph (6 km/h) during road test.</p>		
		<p>3. Road test trailer.</p> <p>4. Park towing vehicle.</p> <p>5. Press button on ABS diagnostic tool for 1 second.</p> <p>6. Check to see if ABS diagnostic tool and ABS diagnostic light blink.</p>



The diagram consists of two parts. The top part is a side-view schematic of a vehicle's rear section, showing the ABS diagnostic light and button on the rear panel. An arrow points from the 'ABS DIAGNOSTIC TOOL' label to the button. The bottom part is a close-up view of the ABS wheel speed sensor, with an arrow pointing to it from the 'ABS WHEEL SPEED SENSOR' label.

CC033R01

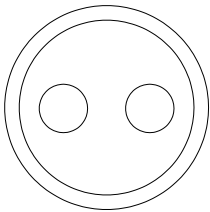
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOUR TIMES-Continued

0033 00

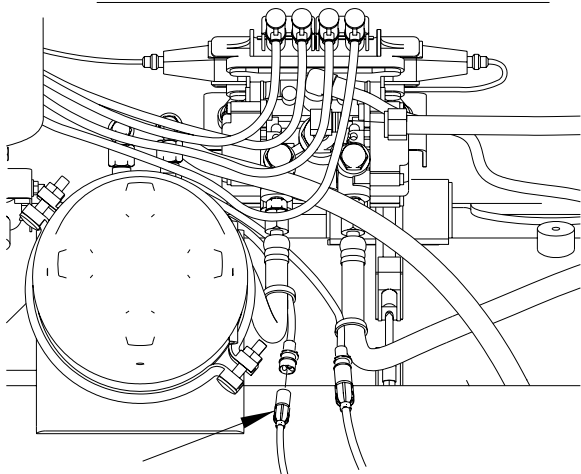
BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Four Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is 700-3000 ohms of resistance is present across left rear ABS wheel speed sensor.	<p>No. Replace left rear ABS wheel speed sensor (WP 0070 00).</p> <p>Yes. Go to (Indication/Condition 3).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Disconnect left rear ABS wheel speed sensor harness connector from ABS wheel speed sensor. 3. Connect positive (+) probe of multimeter to one socket of ABS wheel speed sensor connector. 4. Connect negative (-) probe of multimeter to other socket of ABS wheel speed sensor connector and note reading on multimeter.



ABS WHEEL
SPEED SENSOR
HARNESS
CONNECTOR



ABS WHEEL SPEED
SENSOR HARNESS CONNECTOR

CC033R02

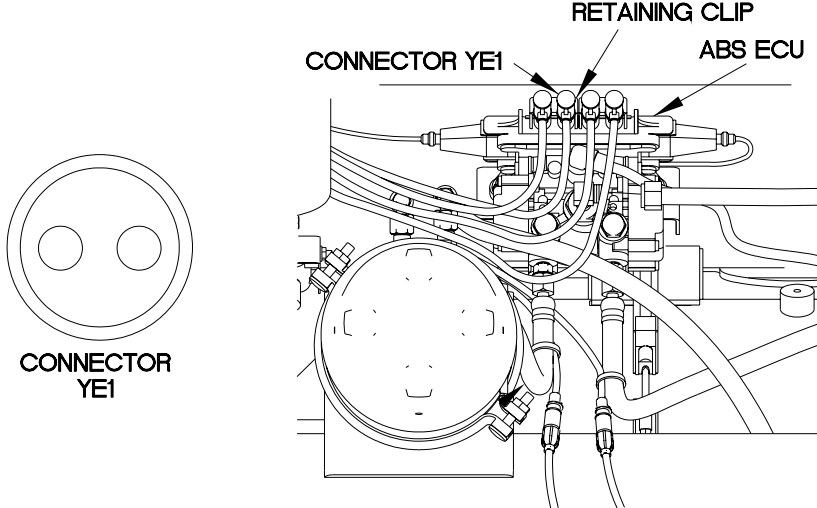
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOUR TIMES-Continued

0033 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Four Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is continuity present across left rear ABS control sensor harness connector with jumper wire across connector YE1?	<p>No. Replace ABS control sensor harness (WP 0073 00).</p> <p>Yes. Replace ABS ECU (WP 0071 00).</p>	<ol style="list-style-type: none"> Loosen retaining clip on connector YE1. Disconnect connector YE1 from ABS ECU. Install jumper wire across connector YE1. Connect positive (+) probe of multimeter to one pin of ABS control sensor harness connector. Connect negative (-) probe of multimeter to other pin of ABS control sensor harness connector and note reading on multimeter.



CONNECTOR YE1

RETAINING CLIP

CONNECTOR YE1

ABS ECU

CC033R03

END OF WORK PACKAGE

**ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC
LIGHT BLINKS FIVE TIMES**

0034 00**THIS WORK PACKAGE COVERS:**Brake System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Materials/PartsTies, Cable, Plastic (Item 20, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

Do not pry or push ABS wheel speed sensor with sharp objects. Failure to comply may result in damage to equipment.

NOTE

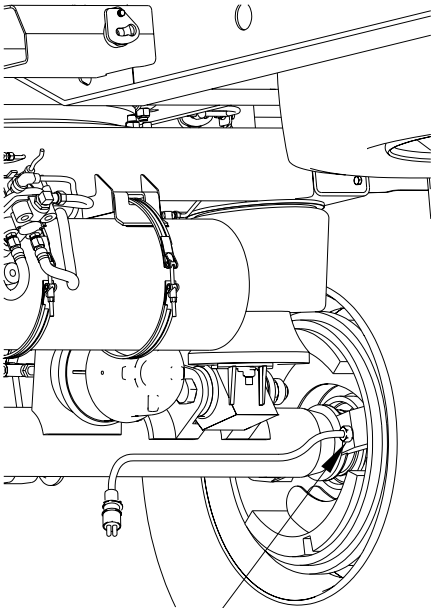
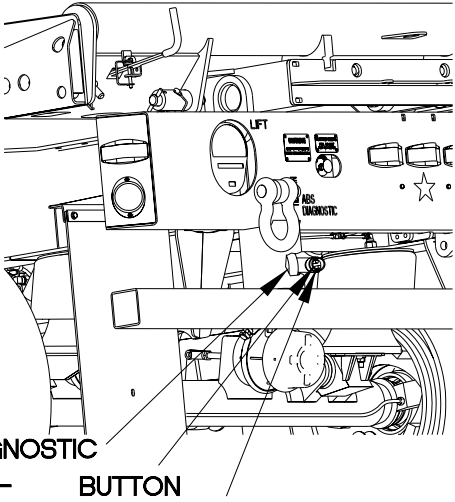
Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FIVE TIMES-Continued

0034 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Five Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is blink code still present after right front ABS wheel speed sensor position is reset?	<p>No. Fault corrected.</p> <p>Yes. Go to (Indication/Condition 2).</p>	<p>1. Push right front ABS wheel speed sensor in until it contacts tooth wheel.</p> <p>2. Start engine of towing vehicle.</p>
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Trailer must be operated more than 4 mph (6 km/h) during road test.</p>		
		<p>3. Road test trailer.</p> <p>4. Park towing vehicle.</p> <p>5. Press button on ABS diagnostic tool for 1 second.</p> <p>6. Check to see if ABS diagnostic tool and ABS diagnostic light blink.</p>
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CC034R01

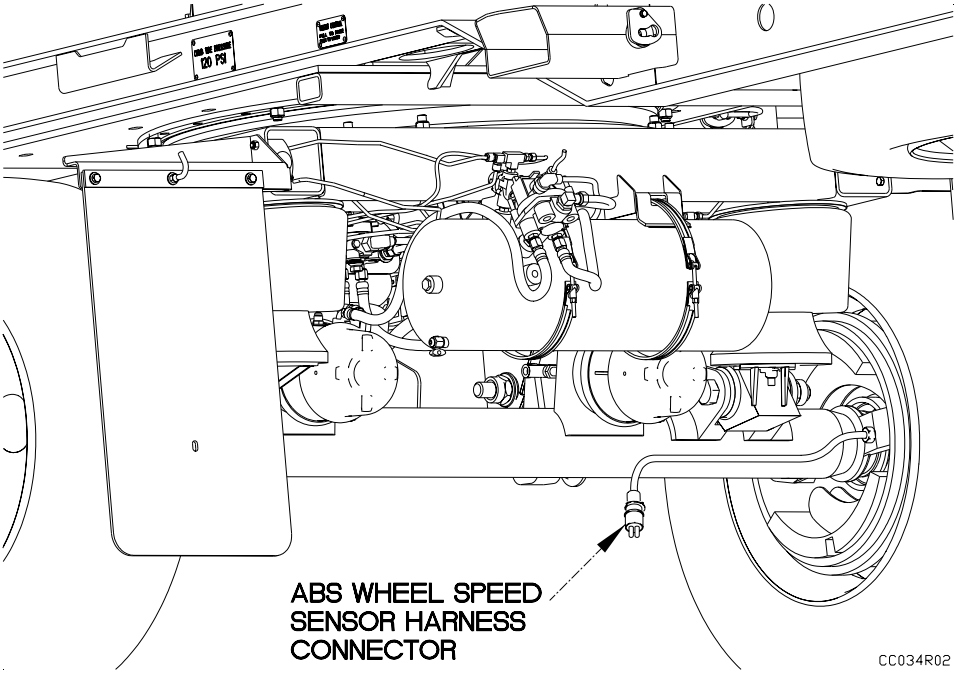
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FIVE TIMES-Continued

0034 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Five Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is 700-3000 ohms of resistance is present across right front ABS wheel speed sensor.	<p>No. Replace right front ABS wheel speed sensor (WP 0070 00).</p> <p>Yes. Go to (Indication/Condition 3).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Disconnect right front ABS wheel speed sensor harness connector from ABS wheel speed sensor. 3. Connect positive (+) probe of multimeter to one socket of ABS wheel speed sensor connector. 4. Connect negative (-) probe of multimeter to other socket of ABS wheel speed sensor connector and note reading on multimeter.



ABS WHEEL SPEED SENSOR HARNESS CONNECTOR

CC034R02

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FIVE TIMES-Continued

0034 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Five Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is continuity present across right front ABS control sensor harness connector with jumper wire across connector BU2?	<p>No. Replace ABS control sensor harness (WP 0073 00).</p> <p>Yes. Replace ABS ECU (WP 0071 00).</p>	<ol style="list-style-type: none"> Loosen retaining clip on connector BU2. Disconnect connector BU2 from ABS ECU. Install jumper wire across connector BU2. Connect positive (+) probe of multimeter to one pin of ABS control sensor harness connector. Connect negative (-) probe of multimeter to other pin of ABS control sensor harness connector and note reading on multimeter.

CONNECTOR BU2

RETAINING CLIP

CONNECTOR BU2

ABS ECU

CONNECTOR BU2

CC034R03

END OF WORK PACKAGE

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS SIX TIMES

0035 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

Do not pry or push ABS wheel speed sensor with sharp objects. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

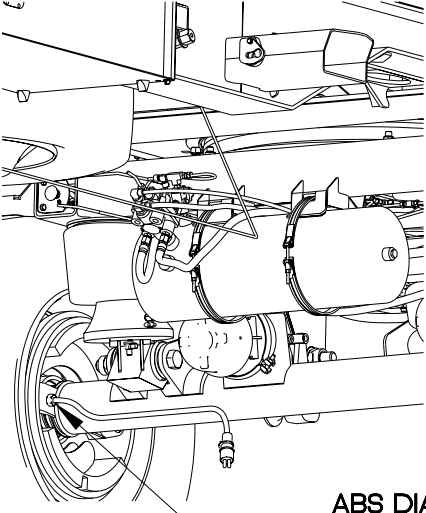
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS SIX TIMES-Continued

0035 00

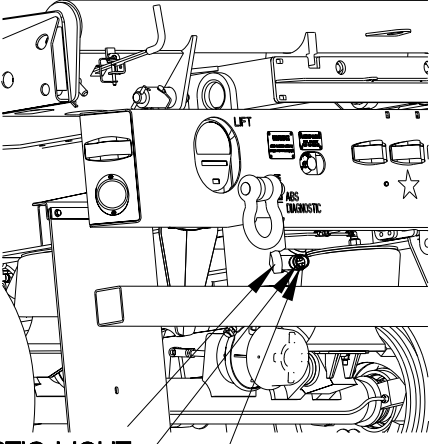
BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Six Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is blink code still present after left front ABS wheel speed sensor position is reset?	<p>No. Fault corrected.</p> <p>Yes. Go to (Indication/Condition 2).</p>	<p>1. Push left front ABS wheel speed sensor in until it contacts tooth wheel.</p> <p>2. Start engine of towing vehicle.</p>
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Trailer must be operated more than 4 mph (6 km/h) during road test.</p>		
		<p>3. Road test trailer.</p> <p>4. Park towing vehicle.</p> <p>5. Press button on ABS diagnostic tool for 1 second.</p> <p>6. Check to see if ABS diagnostic tool and ABS diagnostic light blink.</p>



ABS WHEEL
SPEED SENSOR



ABS DIAGNOSTIC LIGHT
BUTTON

ABS DIAGNOSTIC TOOL

CC035R01

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS SIX TIMES-Continued

0035 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Six Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is 700-3000 ohms of resistance is present across left front ABS wheel speed sensor.	<p>No. Replace left front ABS wheel speed sensor (WP 0070 00).</p> <p>Yes. Go to (Indication/Condition 3).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Disconnect left front ABS wheel speed sensor harness connector from ABS wheel speed sensor. 3. Connect positive (+) probe of multimeter to one socket of ABS wheel speed sensor connector. 4. Connect negative (-) probe of multimeter to other socket of ABS wheel speed sensor connector and note reading on multimeter.

ABS WHEEL SPEED SENSOR HARNESS CONNECTOR

CC035R02

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS SIX TIMES-Continued

0035 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Six Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is continuity present across left front ABS control sensor harness connector with jumper wire across connector YE2?	<p>No. Replace ABS control sensor harness (WP 0073 00).</p> <p>Yes. Replace ABS ECU (WP 0071 00).</p>	<ol style="list-style-type: none"> 1. Loosen retaining clip on connector YE2. 2. Disconnect connector YE2 from ABS ECU. 3. Install jumper wire across connector YE2. 4. Connect positive (+) probe of multimeter to one pin of ABS control sensor harness connector. 5. Connect negative (-) probe of multimeter to other pin of ABS control sensor harness connector and note reading on multimeter.

CONNECTOR YE2

RETAINING CLIP

ABS ECU

CONNECTOR YE2

CC035R03

END OF WORK PACKAGE

**ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC
LIGHT BLINKS SEVEN TIMES**

0036 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Materials/Parts

Cable Ties, Plastic (Item 20, WP 0165 00)

Wire, Elect, 50 ft (Item 22, WP 0165 00)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

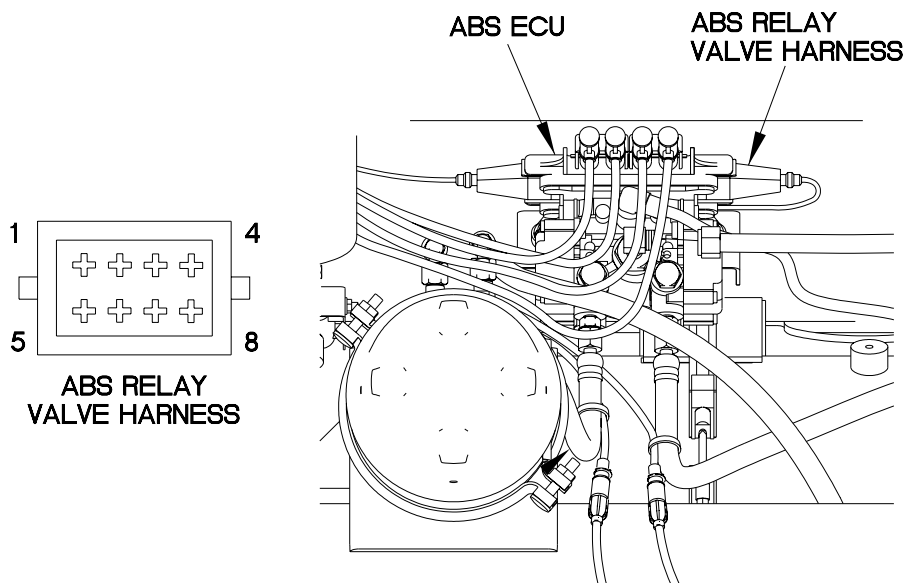
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS SEVEN TIMES-Continued

0036 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Seven Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 4-8 ohms of resistance present across ABS relay valve harness pin 5 to pin 6?	No. Replace ABS relay valve (WP 0075 00). Yes. Go to (Indication/Condition 2).	1. Set multimeter to ohms. 2. Disconnect ABS relay valve harness from ABS ECU valve. 3. Connect positive (+) probe of multimeter to ABS relay valve harness pin 5. 4. Connect negative (-) probe of multimeter to ABS relay valve harness pin 6 and note reading on multimeter.



CC036R01

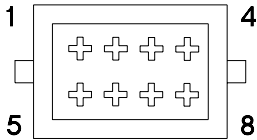
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS SEVEN TIMES-Continued

0036 00

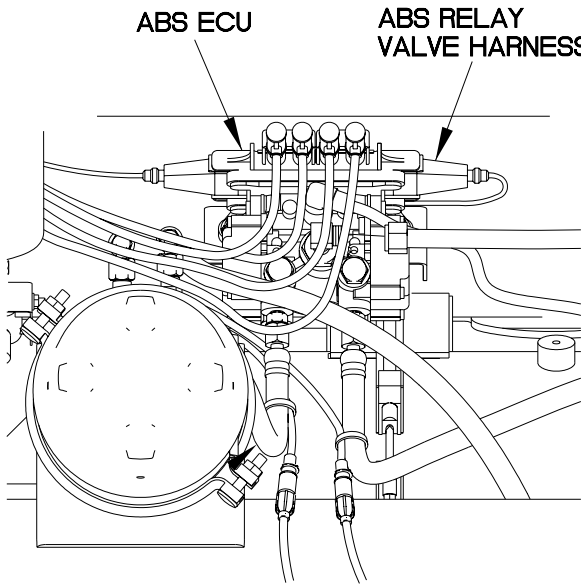
BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Seven Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is 4-8 ohms of resistance present across ABS relay valve harness pin 5 to pin 7?	No. Replace ABS relay valve (WP 0075 00). Yes. Go to (Indication/Condition 3).	1. Connect positive (+) probe of multimeter to ABS relay valve harness pin 5. 2. Connect negative (-) probe of multimeter to ABS relay valve harness pin 7 and note reading on multimeter.



**ABS RELAY
VALVE HARNESS**



ABS ECU **ABS RELAY
VALVE HARNESS**

CC036R02

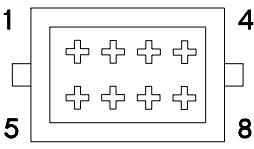
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS SEVEN TIMES-Continued

0036 00

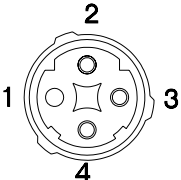
BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Seven Times

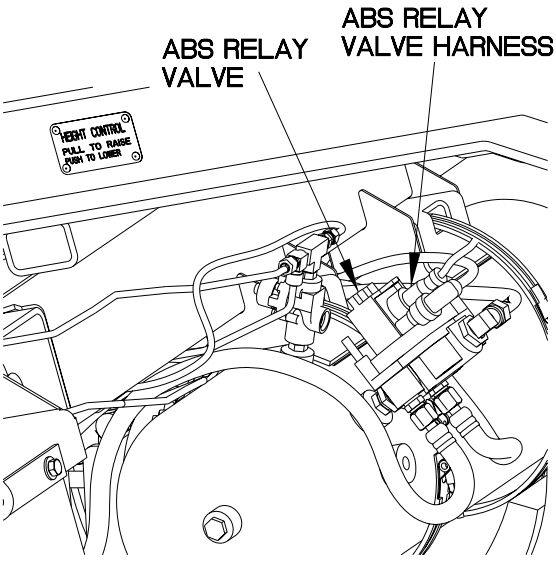
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is continuity present from ABS ECU cable connector pin 5 to ABS relay valve connector pin 2?	<p>No. Replace ABS relay valve harness (WP 0072 00).</p> <p>Yes. Go to (Indication/Condition 4).</p>	<ol style="list-style-type: none"> 1. Disconnect ABS relay harness connector from ABS relay valve. 2. Connect positive (+) probe of multimeter to ABS relay harness connector pin 2. 3. Connect negative (-) probe of multimeter to ABS ECU connector pin 5 and note reading on multimeter.



ABS RELAY VALVE HARNESS



**CONNECTOR
ABS RELAY VALVE HARNESS**



CC036R03

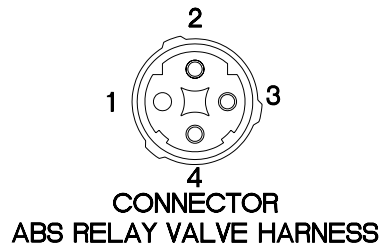
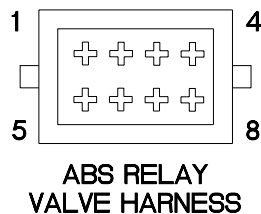
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS SEVEN TIMES-Continued

0036 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Seven Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is continuity present from ABS ECU cable connector pin 6 to ABS relay valve connector pin 4?	No. Replace ABS relay valve harness (WP 0072 00). Yes. Go to (Indication/Condition 5).	1. Connect positive (+) probe of multimeter to ABS relay harness connector pin 4. 2. Connect negative (-) probe of multimeter to ABS ECU connector pin 6 and note reading on multimeter.
5. Is continuity present from ABS ECU cable connector pin 7 to ABS relay valve connector pin 3?	No. Replace ABS relay valve harness (WP 0072 00). Yes. Replace ABS ECU (WP 0071 00).	1. Connect positive (+) probe of multimeter to ABS relay harness connector pin 3. 2. Connect negative (-) probe of multimeter to ABS ECU connector pin 7 and note reading on multimeter.



CC036R04

END OF WORK PACKAGE

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS NINE TIMES

0037 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Materials/Parts

Cable Ties, Plastic (Item 20, WP 0165 00)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Wear appropriate eye protection when working under trailer due to possibility of falling debris and to protect from release of high pressure air. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Remove plastic cable ties as required.

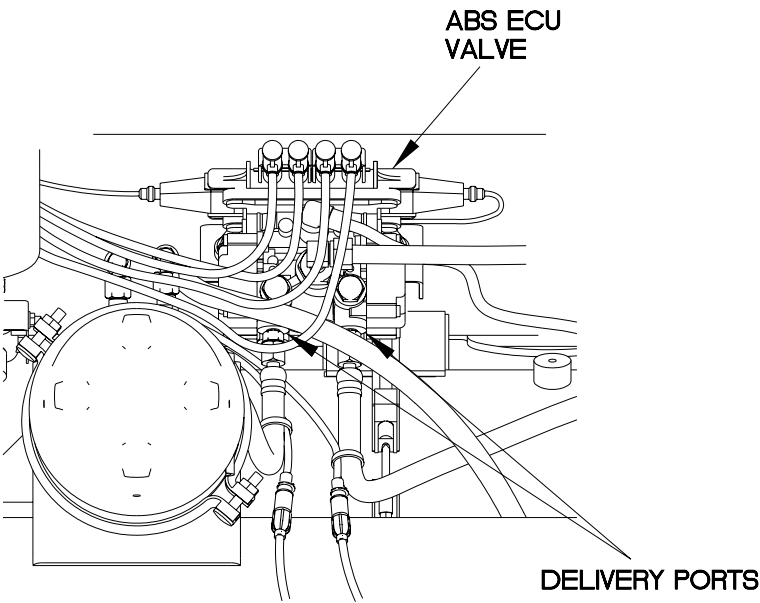
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS NINE TIMES-Continued

0037 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Nine Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is air present at two delivery ports on ABS ECU valve?	No. Replace ABS ECU valve (WP 0071 00). Yes. Go to (Indication/Condition 2).	1. Loosen air hoses of two delivery ports of ABS ECU. 2. Start towing vehicle engine. 3. Depress brakes. 4. Check for presence of air at two delivery ports of ABS ECU valve. 5. Shut off towing vehicle engine. 6. Tighten hoses to ABS ECU delivery ports.



The diagram shows a cross-section of the ABS ECU valve assembly. It features a central cylindrical component with multiple ports. Two specific ports are highlighted with arrows and labeled 'DELIVERY PORTS'. Above the main assembly, a label 'ABS ECU VALVE' points to the top section of the unit. The diagram illustrates the internal structure and the location of the delivery ports for air inspection.

CC037R01

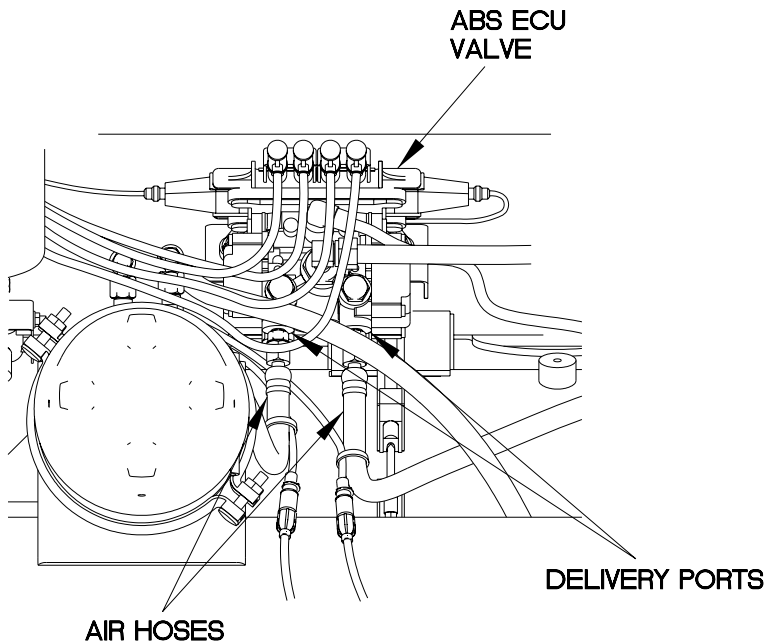
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS NINE TIMES-Continued

0037 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Nine Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Does either delivery air hose have any kinks, leaks, or holes?	<p>No. Replace ABS ECU valve (WP 0071 00).</p> <p>Yes. Replace air hoses from ABS ECU valve delivery ports.</p>	<ol style="list-style-type: none"> 1. Apply soapy water solution to air hoses and fittings. 2. Check air hoses between ABS ECU valve and rear brake air chambers for bubbles indicating holes or leaks. 3. Check fittings for bubbles indicating leaks.



The diagram shows a top-down view of the ABS ECU valve assembly. It features a central valve body with multiple ports. Several air hoses are connected to these ports. Labels with arrows point to the 'ABS ECU VALVE' at the top, 'AIR HOSES' at the bottom left, and 'DELIVERY PORTS' at the bottom right. The hoses are shown running from the valve down towards the rear brake air chambers.

CC037R02

END OF WORK PACKAGE

**ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC
LIGHT BLINKS TEN TIMES**

0038 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Materials/Parts

Cable Ties, Plastic (Item 20, WP 0165 00)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Wear appropriate eye protection when working under trailer due to possibility of falling debris and to protect from release of high pressure air. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Remove plastic cable ties as required.

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS TEN TIMES

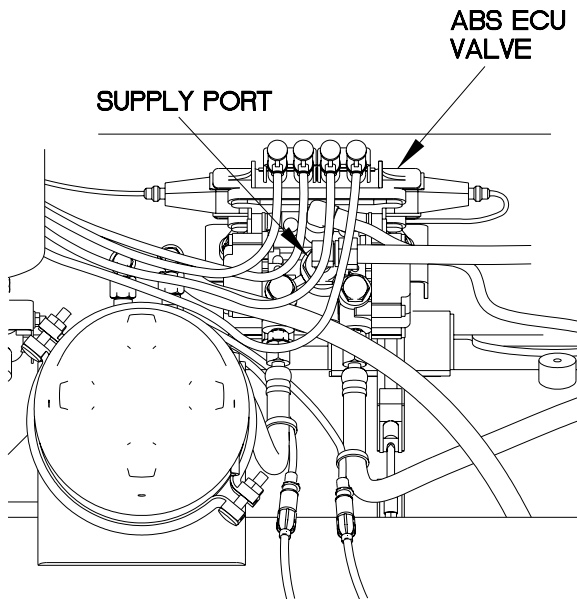
0038 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Ten Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is air present at supply port of ABS ECU valve?	<p>No. Replace ABS ECU valve (WP 0071 00).</p> <p>Yes. Go to (Indication/Condition 2).</p>	<ol style="list-style-type: none"> Loosen air hose of supply port of ABS ECU. Start towing vehicle engine. Depress brakes. Release brakes. Check for presence of air at exhaust port of ABS ECU valve. Shut off towing vehicle engine.



The diagram shows a cross-section of the ABS ECU valve assembly. A label 'SUPPLY PORT' points to a port on the left side of the valve. Another label 'ABS ECU VALVE' points to the main body of the valve. Various hoses and wires are connected to the assembly.

CC038R01

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS TEN TIMES

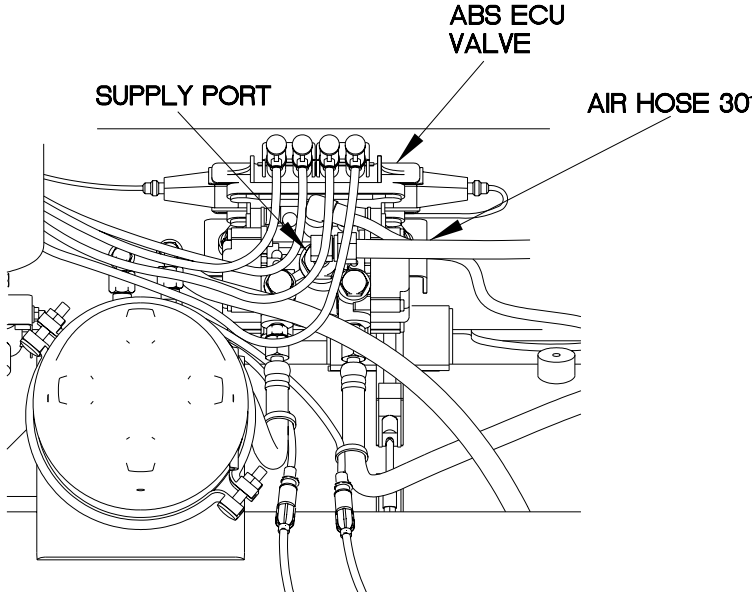
0038 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Ten Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Does supply air hose 301 have any kinks, leaks, or holes?	<p>No. Replace ABS ECU valve (WP 0071 00).</p> <p>Yes. Replace air hose 301.</p>	<ol style="list-style-type: none"> 1. Apply soapy water solution to air hose 301 and fittings of supply port. 2. Check air hoses between ABS ECU valve and air tank for bubbles indicating holes or leaks. 3. Check fittings for bubbles indicating leaks.



The diagram illustrates the ABS ECU valve assembly. It shows a central valve body with multiple ports. A 'SUPPLY PORT' is labeled on the left side. The 'ABS ECU VALVE' is labeled at the top center. An 'AIR HOSE 301' is shown connected to the right side of the valve assembly. The diagram also shows various other hoses and electrical connections to the valve body.

CC038R02

END OF WORK PACKAGE

**ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC
LIGHT BLINKS ELEVEN TIMES**

0039 00**THIS WORK PACKAGE COVERS:**Brake System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Materials/Parts

Cable Ties, Plastic (Item 20, WP 0165 00)

Soap, Laundry (Item 16, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Wear appropriate eye protection when working under trailer due to possibility of falling debris and to protect from release of high pressure air. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Remove plastic cable ties as required.

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS ELEVEN TIMES

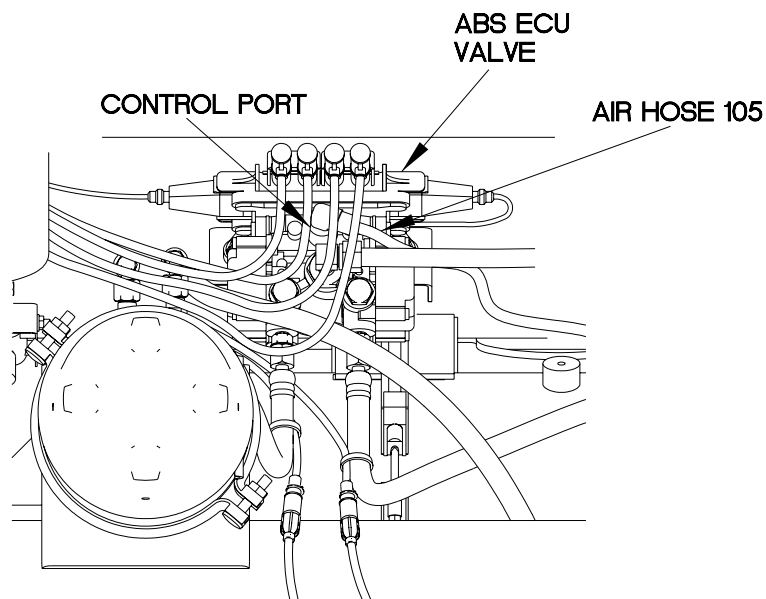
0039 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Eleven Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is air present at control port on ABS ECU valve?	<p>No. Go to (Indication/Condition 2).</p> <p>Yes. Replace ABS ECU valve (WP 0071 00).</p>	<ol style="list-style-type: none"> 1. Start towing vehicle engine. 2. Loosen connection of air hose 105 at control port of ABS ECU. 3. Depress brakes. 4. Check for presence of air at control port of ABS ECU valve. 5. Release brakes. 6. Shut off towing vehicle engine. 7. Tighten air hose 105 to ABS ECU valve control port.



CC039R01

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS ELEVEN TIMES

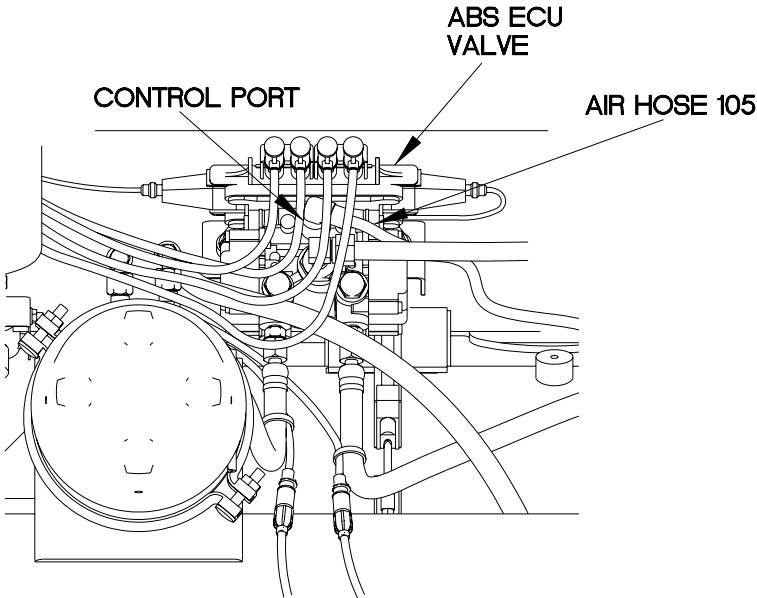
0039 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Eleven Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Does air hose 105 have any kinks, leaks or holes?	<p>No. Go to Air System Loses Pressure During Operation/Slow Air Pressure Buildup (WP 0042 00).</p> <p>Yes. Replace air hose 105.</p>	<ol style="list-style-type: none"> 1. Apply soapy water solution to air hose 105 and fittings of control port. 2. Start towing vehicle engine. 3. Depress brakes. 4. Check air hose 105 between ABS ECU and rear four port task valve for bubbles indicating holes or leaks.



The diagram illustrates the ABS ECU valve assembly. It features a central valve body with multiple ports. A 'CONTROL PORT' is labeled on the left side. An 'ABS ECU VALVE' is labeled at the top center. An 'AIR HOSE 105' is shown connected to the right side of the valve assembly. The diagram also shows various other hoses and components connected to the valve body.

CC039R01

END OF WORK PACKAGE

**ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC
LIGHT BLINKS FOURTEEN TIMES**

0040 00

THIS WORK PACKAGE COVERS:

Brake System Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

Materials/Parts

Cable Ties, Plastic (Item 20, WP 0165 00)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

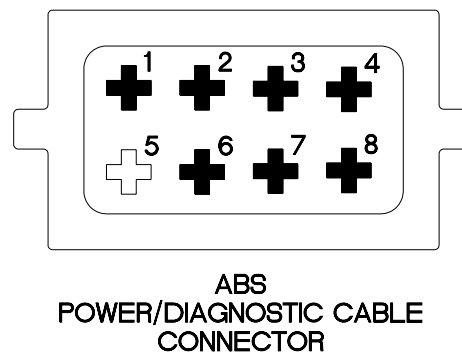
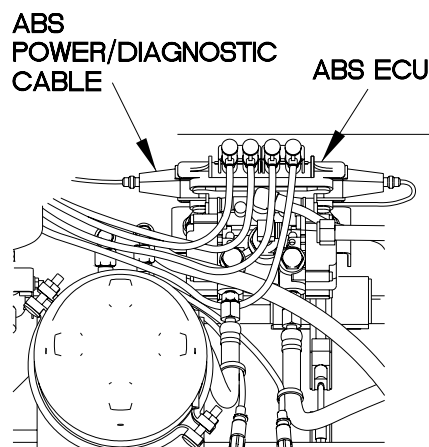
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOURTEEN TIMES-Continued

0040 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Fourteen Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is 8-14 VDC present at ABS ECU power/diagnostic cable connector pin 3?	No. Go to (Indication/Condition 3). Yes. Go to (Indication/Condition 2).	1. Set multimeter to VDC. 2. Disconnect ABS ECU power/diagnostic cable connector from ABS ECU. 3. Connect positive (+) probe of multimeter to ABS ECU power/diagnostic cable connector pin 3. 4. Connect negative (-) probe of multimeter to a known good ground. 5. Start engine on towing vehicle and note reading on multimeter.



CC040B01

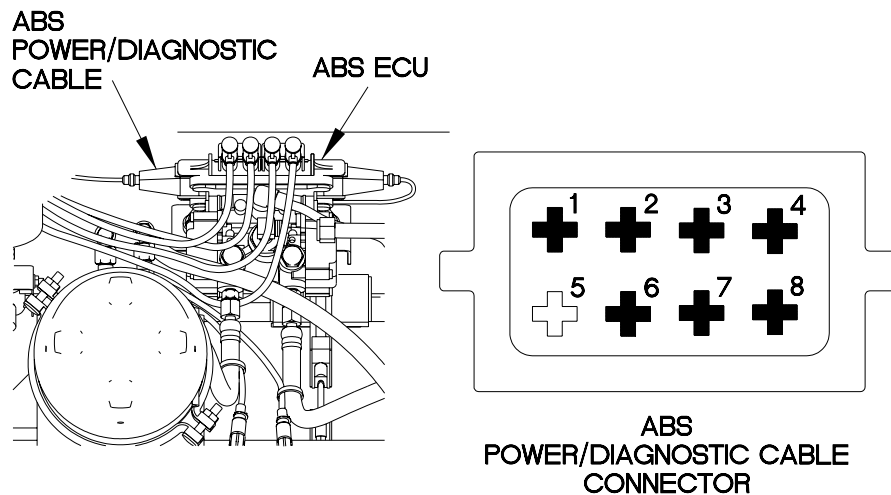
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOURTEEN TIMES-Continued

0040 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Fourteen Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is continuity present from ABS ECU Power/Diagnostic cable connector pin 4 to a known good ground?	<p>No. Go to (Indication/Condition 7).</p> <p>Yes. Replace ABS ECU (WP 0071 00).</p>	<p>1. Set multimeter to ohms.</p> <p>2. Connect positive (+) probe of multimeter to ABS ECU Power/Diagnostic cable connector pin 4.</p> <p>3. Connect negative (-) probe of multimeter to a known good ground and note reading on multimeter.</p>



CC040B01

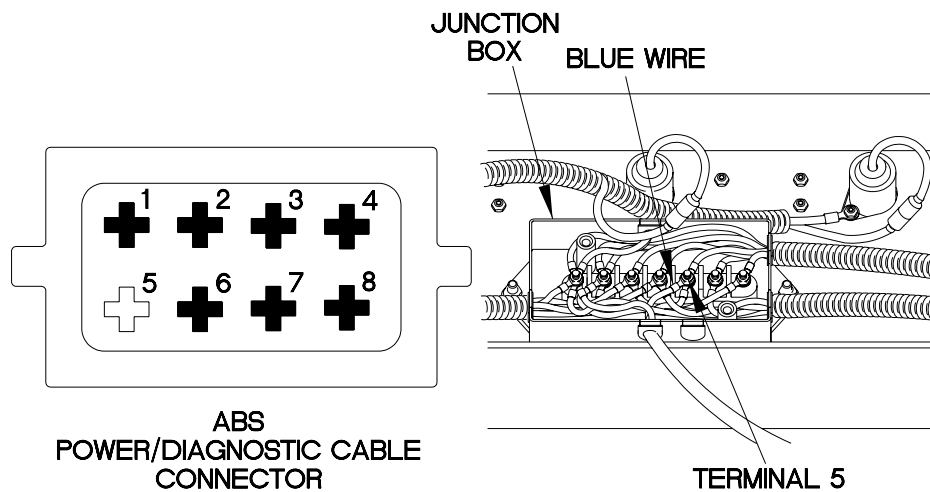
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOURTEEN TIMES-Continued

0040 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Fourteen Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is continuity present from ABS Power/Diagnostic cable connector pin 3 to blue wire on terminal 5 of Junction box?	<p>No. Replace ABS ECU Power/Diagnostic control harness (WP 0074 00).</p> <p>Yes. Go to (Indication/Condition 4).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Remove cover from junction box (WP 0059 00). 3. Connect positive (+) probe of multimeter to ABS Power/Diagnostic cable connector pin 3. 4. Connect negative (-) probe of multimeter to blue wire on terminal 5 of Junction box and note reading on multimeter.



CC040B02

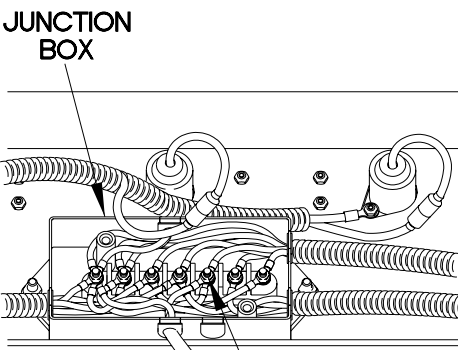
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOURTEEN TIMES-Continued

0040 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

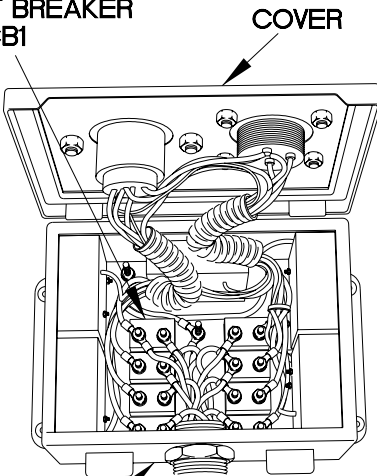
Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Fourteen Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is continuity present from terminal lug TL251A to right side of circuit breaker CB1?	<p>No. Repair wire 108 or replace main electrical harness (WP 0066 00).</p> <p>Yes. Go to (Indication/Condition 5).</p>	<ol style="list-style-type: none"> 1. Open cover on voltage converter box (WP 0058 00). 2. Connect positive (+) probe of multimeter to terminal lug TL251A. 3. Connect negative (-) probe of multimeter to right side of circuit breaker CB1 and note reading on multimeter.



JUNCTION BOX

TERMINAL LUG TL251A



CIRCUIT BREAKER CB1

COVER

VOLTAGE CONVERTER BOX

CC040B03

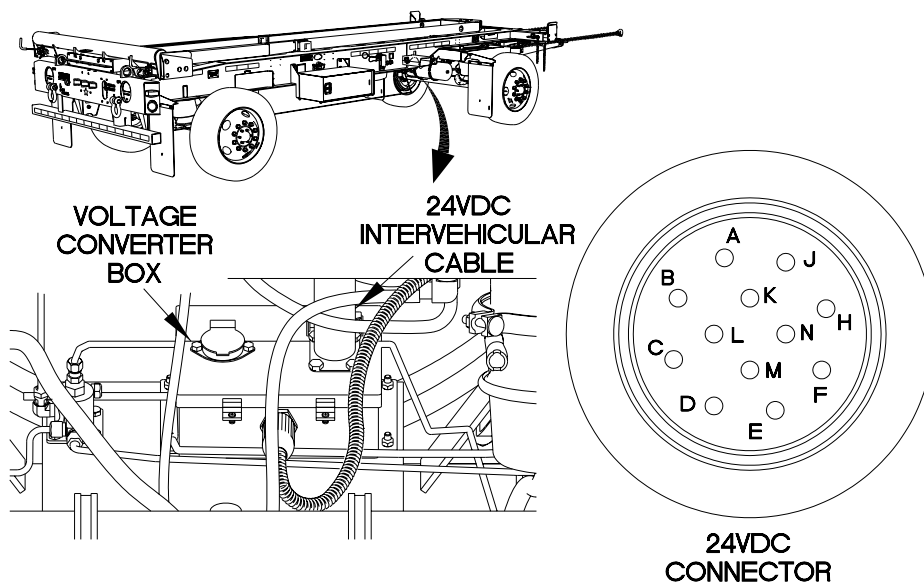
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOURTEEN TIMES-Continued

0040 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Fourteen Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Is 18-30 VDC present at 24 VDC Intervehicular cable connector pin K?	No. Replace 24 VDC Intervehicular Cable (WP 0062 00). Yes. Go to (Indication/Condition 6).	<ol style="list-style-type: none"> 1. Set multimeter to VDC. 2. Disconnect intervehicular cable from voltage converter box. 3. Connect positive (+) probe of multimeter to 24 VDC Intervehicular cable connector pin K. 4. Connect negative (-) probe of multimeter to a known good ground. 5. Start engine of towing vehicle and note reading on multimeter.



CC040B04

ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOURTEEN TIMES-Continued

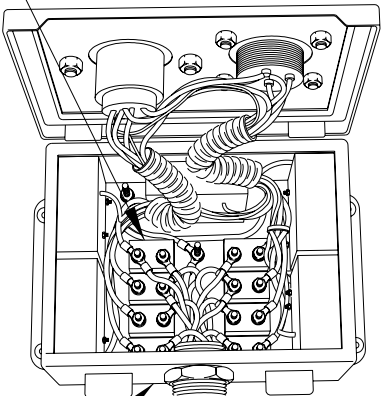
0040 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Fourteen Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Is continuity present across circuit breaker CB1?	<p>No. Replace circuit breaker CB1 (WP 0057 00).</p> <p>Yes. Replace voltage converter box (WP 0058 00).</p>	<ol style="list-style-type: none"> 1. Set multimeter to ohms. 2. Connect positive (+) probe of multimeter to one terminal of circuit breaker CB1. 3. Connect negative (-) probe of multimeter to other terminal of circuit breaker CB1 and note reading on multimeter.

CIRCUIT BREAKER
CB1



VOLTAGE
CONVERTER BOX

CC040B05

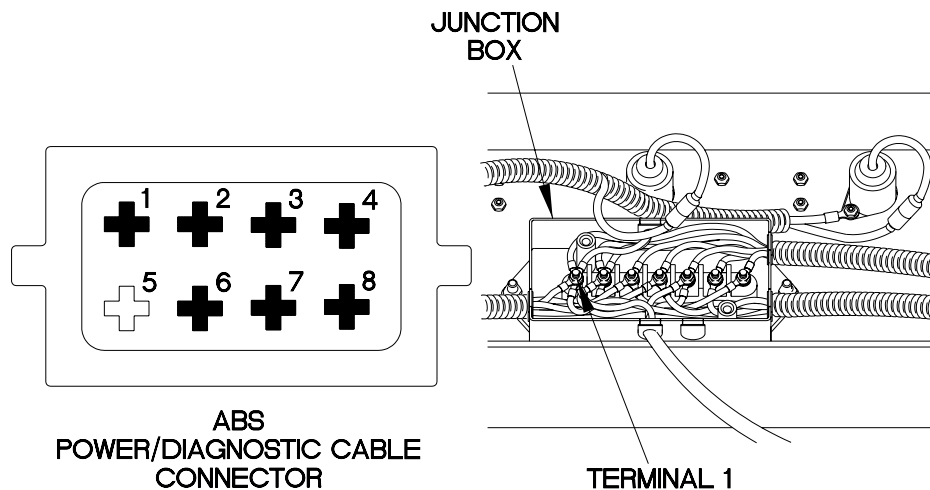
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOURTEEN TIMES-Continued

0040 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Fourteen Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
7. Is continuity present from ABS Power connector pin 4 to ABS ground terminal lug (unmarked) on terminal 1 on Junction box?	No. Replace ABS Power/Diagnostic cable (WP 0074 00). Yes. Go to (Indication/Condition 8).	1. Remove cover on junction box (WP 0059 00). 2. Connect positive (+) probe of multimeter to ABS power/diagnostic connector pin 4. 3. Connect negative (-) probe of multimeter to ABS ground terminal lug (unmarked) on terminal 1 of junction box and note reading on multimeter.



CC040B06

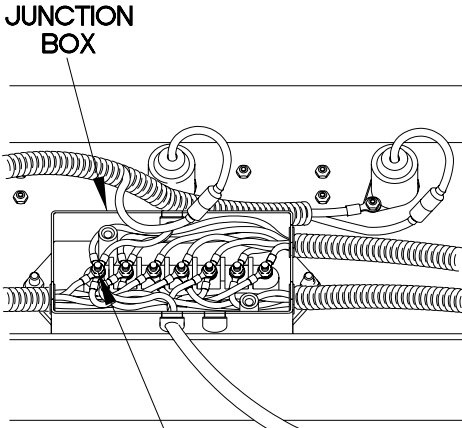
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FOURTEEN TIMES-Continued

0040 00

BRAKE SYSTEM TROUBLESHOOTING - Continued

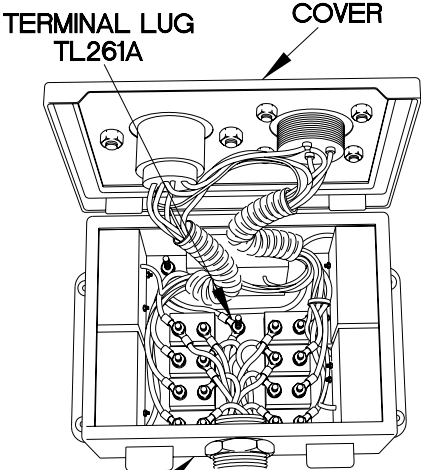
Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Fourteen Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
8. Is continuity present from terminal lug TL261A to terminal lug TL261?	<p>No. Replace main electrical harness (WP 0066 00).</p> <p>Yes. Replace voltage converter box (WP 0058 00).</p>	<ol style="list-style-type: none"> 1. Open cover on voltage converter box (WP 0058 00). 2. Connect positive (+) probe of multimeter to terminal lug TL261A. 3. Connect negative (-) probe of multimeter to terminal lug TL261 and note reading on multimeter.



JUNCTION BOX

TERMINAL LUG TL261



TERMINAL LUG TL261A

COVER

VOLTAGE CONVERTER BOX

CC040B07

END OF WORK PACKAGE

**ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC
LIGHT BLINKS FIFTEEN TIMES**

0041 00

THIS WORK PACKAGE COVERS:

Brakes System Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer coupled (TM 9-2320-392-10-1).

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

CAUTION

Use care when testing electrical connectors. Do not damage connector pins or sockets with multimeter probes. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

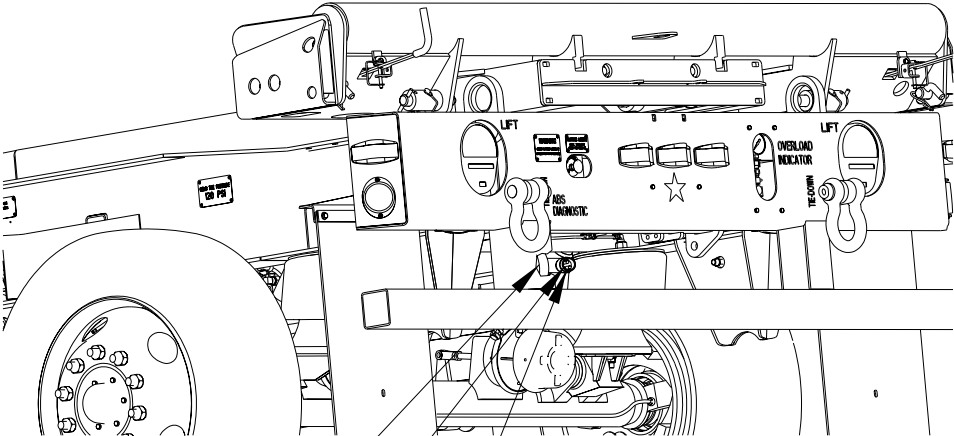
ANTI-LOCK BRAKE SYSTEM (ABS) DIAGNOSTIC LIGHT BLINKS FIFTEEN TIMES-Continued

0041 00

BRAKES SYSTEM TROUBLESHOOTING - Continued

Table 1: Anti-Lock Brake System (ABS) Diagnostic Light Blinks Fifteen Times

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is blink code still present after trailer is given road test?	<p>No. Fault corrected.</p> <p>Yes. Replace ABS ECU (WP 0071 00).</p>	<p>1. Start engine of towing vehicle.</p> <p>2. Road test trailer.</p>
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Trailer must be operated more than 4 mph (6 km/h) during road test.</p>		
		<p>3. Park towing vehicle.</p> <p>4. Press button on ABS diagnostic tool for 1 second and release.</p> <p>5. Check to see if ABS diagnostic tool and ABS diagnostic light blink.</p>



ABS DIAGNOSTIC LIGHT
BUTTON

ABS DIAGNOSTIC TOOL

CC041R01

END OF WORK PACKAGE

AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

THIS WORK PACKAGE COVERS:

Air System Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

References

Towing vehicle operators manual

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

Soap, Laundry (Item 16, WP 0165 00)

Equipment Conditions

Air system charged (TM 9-2320-392-10-1)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Wear appropriate eye protection when working under trailer due to possibility of falling debris and to protect from release of high pressure air. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Tag hoses and connection points prior to disconnecting.

Remove plastic cable ties as required.

Reference pneumatic schematic at end of chapter as required.

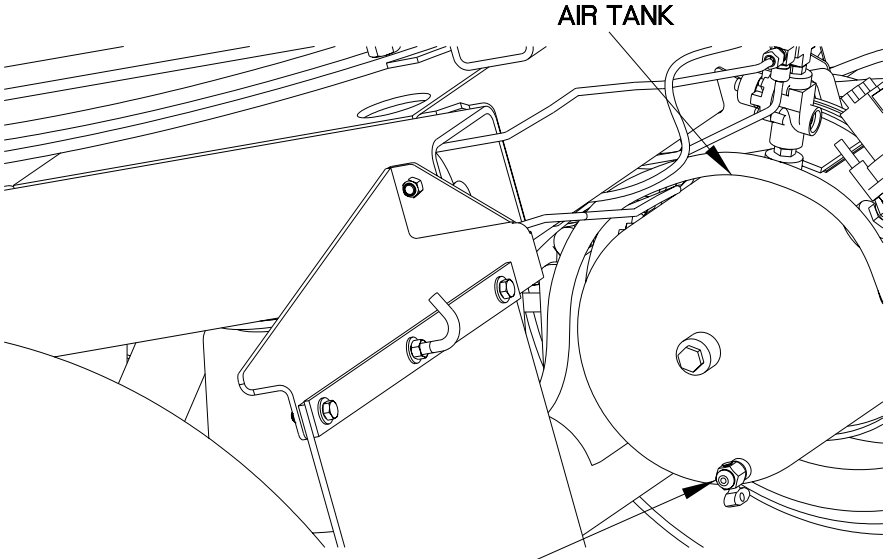
AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

AIR SYSTEM TROUBLESHOOTING - Continued

Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is air tank drain valve open or leaking?	<p>No Go to (Indication/Condition 2).</p> <p>Yes Replace air tank drain valve (WP 0078 00).</p>	<p>1. Ensure air tank drain valve is closed.</p> <p>2. Feel for air escaping from air tank drain valve.</p>



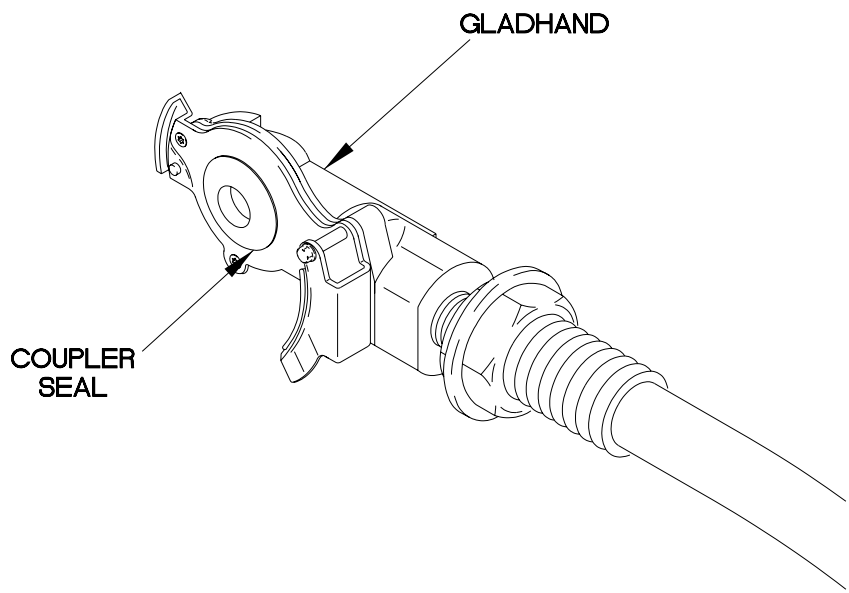
CC042R01

AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

AIR SYSTEM TROUBLESHOOTING - Continued

Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Are coupler seals on gladhands damaged or missing?	<p>No Go to (Indication/Condition 3).</p> <p>Yes Replace gladhand coupler seal (WP 0079 00).</p>	1. Check for missing or damaged coupler seal on both service and emergency gladhands.
 <p style="text-align: right;">CC042R02</p>		
3. Do trailer service brakes operate properly?	<p>No Proceed to Service Brakes Do Not Apply (WP 0043 00).</p> <p>Yes Go to (Indication/Condition 4).</p>	<p>1. Start towing vehicle engine.</p> <p>2. Depress brake pedal.</p> <p>3. Check to see if trailer brakes operate.</p> <p>4. Shut off towing vehicle engine.</p>

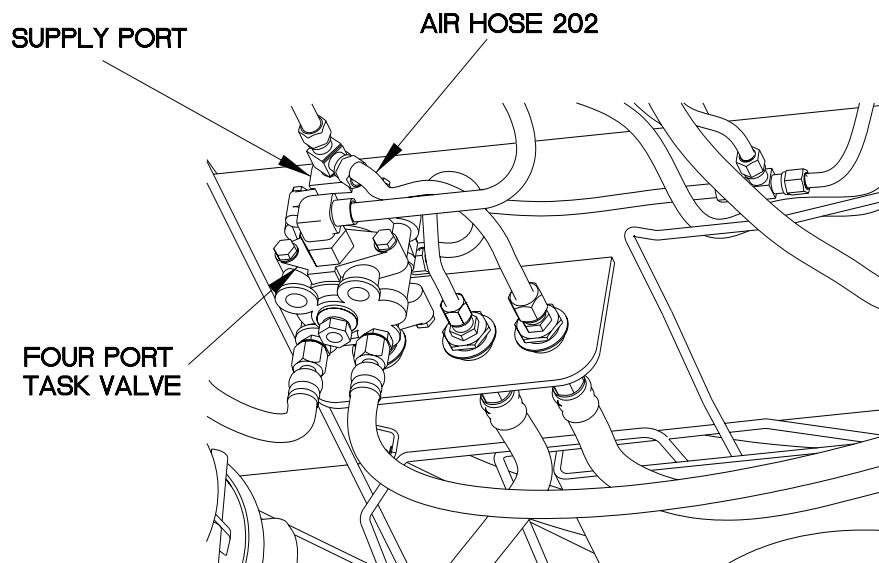
AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

AIR SYSTEM TROUBLESHOOTING - Continued

Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is air present at supply port of front four port task valve?	<p>No Replace air hose 202.</p> <p>Yes Go to (Indication/Condition 5).</p>	<ol style="list-style-type: none"> Loosen air hoses at front four port task valve supply port. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hoses to four port task valve supply port.



CC042R03

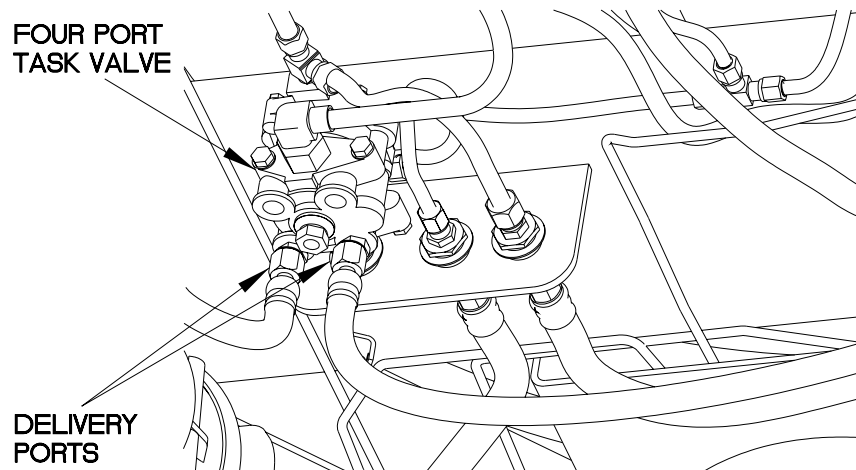
AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

AIR SYSTEM TROUBLESHOOTING - Continued

Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Is air present at delivery ports of front four port task valve?	<p>No Replace front four port task valve (WP 0109 00).</p> <p>Yes Go to (Indication/Condition 6).</p>	<ol style="list-style-type: none"> Loosen air hoses at front four port task valve delivery port. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hoses to front four port task valve supply port.



CC042R04

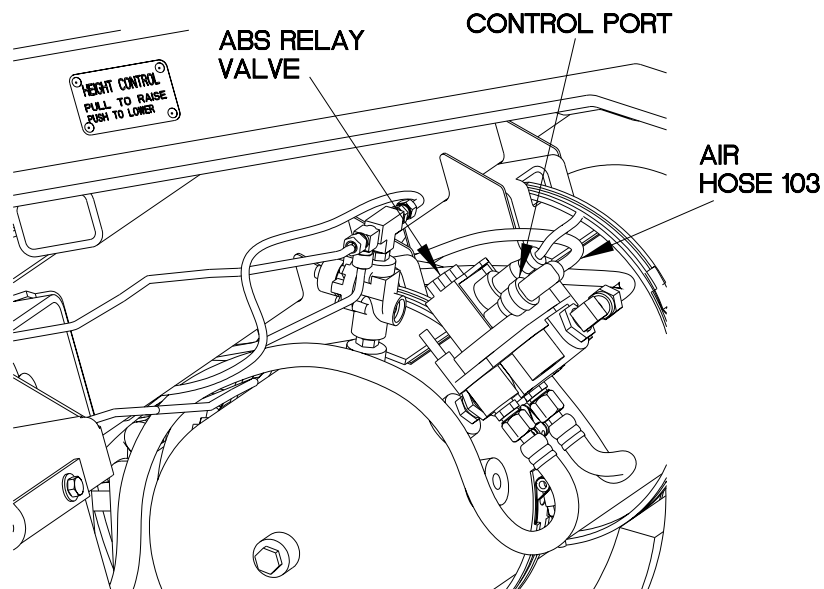
AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

AIR SYSTEM TROUBLESHOOTING - Continued

Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Is air present at control port of ABS relay valve?	<p>No Replace air hose 103.</p> <p>Yes Go to (Indication/Condition 7).</p>	<ol style="list-style-type: none"> Loosen air hoses at ABS relay valve control port. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hoses to ABS relay valve control port.



CC042R05

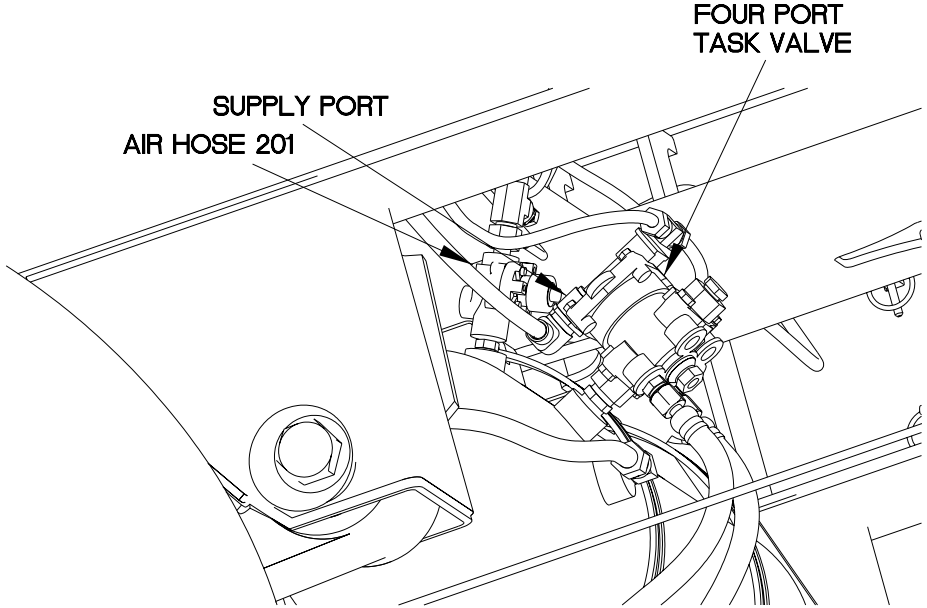
AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

AIR SYSTEM TROUBLESHOOTING - Continued

Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
7. Is air present at supply port of rear four port task valve?	<p>No Replace air hose 201.</p> <p>Yes Go to (Indication/Condition 8).</p>	<ol style="list-style-type: none"> 1. Loosen air hoses at rear four port task valve supply port. 2. Start towing vehicle engine. 3. Depress towing vehicle brake pedal. 4. Check for presence of air. 5. Shut down towing vehicle engine. 6. Tighten air hoses to rear four port valve supply port.



The diagram shows a technical drawing of a vehicle's rear four port task valve assembly. A line points from the text 'SUPPLY PORT AIR HOSE 201' to a specific hose connection on the valve. Another line points from the text 'FOUR PORT TASK VALVE' to the main valve body. The drawing includes various mechanical components, hoses, and a circular port on the left side.

CC042R06

AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

AIR SYSTEM TROUBLESHOOTING - Continued

Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
8. Is air present at control port of ABS ECU?	<p>No Go to (Indication/Condition 9).</p> <p>Yes Go to (Indication/Condition 10).</p>	<ol style="list-style-type: none"> Loosen air hoses at ABS ECU valve control port. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hoses to ABS ECU valve control port.

The diagram shows a technical drawing of an ABS ECU valve assembly. It features a circular component on the left, likely the brake master cylinder, connected to a complex valve assembly. Several air lines and hoses are connected to the top of the valve assembly. Two labels with arrows point to specific parts: 'ABS ECU VALVE' points to a valve on the left side of the assembly, and 'CONTROL PORT' points to a port on the right side of the assembly.

CC042R07

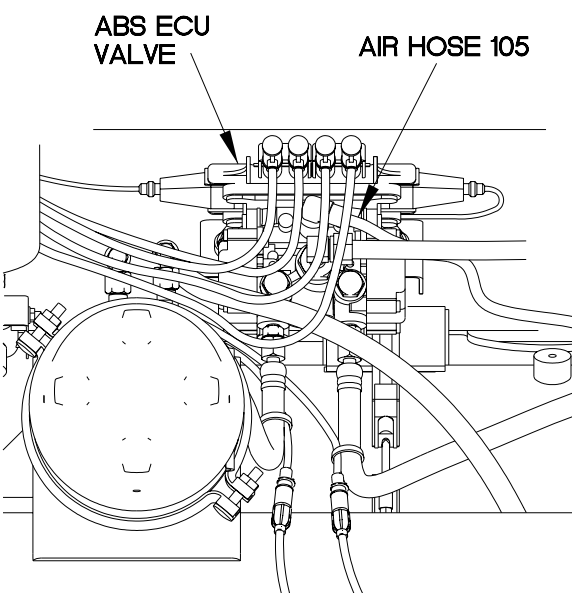
AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

AIR SYSTEM TROUBLESHOOTING - Continued

Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
9. Does air hose 105 have any kinks, leaks or holes?	No Replace rear four port task valve (WP 0109 00). Yes Replace air hose 105.	<ol style="list-style-type: none"> 1. Apply soapy water solution to air hose 105 and fittings. 2. Check air hose 105 between ABS ECU valve and four port task valve for bubbles indicating holes or leaks. 3. Check fittings for bubbles indicating leaks.



The diagram illustrates the connection between the ABS ECU valve and air hose 105. The ABS ECU valve is shown as a circular component with four ports. Air hose 105 is connected to one of these ports. Labels with arrows point to the 'ABS ECU VALVE' and 'AIR HOSE 105'.

CC042R08

AIR SYSTEM LOSES PRESSURE DURING OPERATION/SLOW AIR PRESSURE BUILDUP

0042 00

AIR SYSTEM TROUBLESHOOTING - Continued

Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup

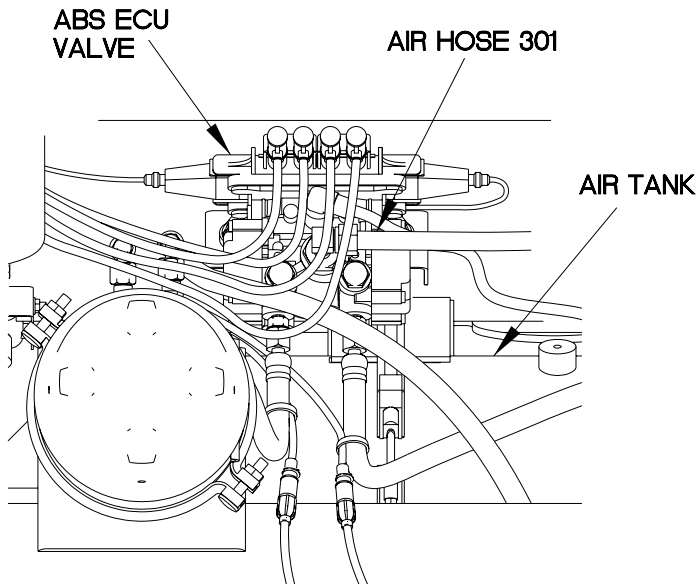
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
10. Is air present at supply port of ABS ECU valve?	<p>No Go to (Indication/Condition 11).</p> <p>Yes Replace air tank (WP 0078 00).</p>	<ol style="list-style-type: none"> Loosen air hose at ABS ECU valve supply port. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hose to ABS ECU valve supply port.

The diagram shows a top-down view of the ABS ECU valve assembly. A large circular component on the left is the air tank. To its right is the valve body with several ports. A line points from the text 'SUPPLY PORT' to a specific port on the valve body. Another line points from the text 'ABS ECU VALVE' to the main valve body assembly.

CC042R09

AIR SYSTEM LOSES PRESSURE DURING**OPERATION/SLOW AIR PRESSURE BUILDUP****0042 00****AIR SYSTEM TROUBLESHOOTING - Continued****Table 1: Air System Loses Pressure During Operation/Slow Air Pressure Buildup**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
11. Does air hose 301 have any kinks, leaks or holes?	No Replace ABS ECU valve (WP 0071 00). Yes Replace air hose 301.	<ol style="list-style-type: none"> 1. Apply soapy water solution to air hose 301 and fittings. 2. Check air hose 301 between ABS ECU valve and air tank for bubbles indicating holes or leaks. 3. Check fittings for bubbles indicating leaks.



The diagram illustrates the air system components. It shows the ABS ECU valve at the top, connected to air hose 301. The air hose 301 runs from the valve down to the air tank. The air tank is a large cylindrical component at the bottom. Arrows point from the labels 'ABS ECU VALVE', 'AIR HOSE 301', and 'AIR TANK' to their respective parts in the diagram.

CC042R10

END OF WORK PACKAGE

SERVICE BRAKES DO NOT APPLY

0043 00**THIS WORK PACKAGE COVERS:**Brakes Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

References

Towing vehicle operators manual

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

Soap, Laundry (Item 16, WP 0165 00)

Equipment ConditionsAir system charged (TM 9-2320-392-10-1)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Wear appropriate eye protection when working under trailer due to possibility of falling debris and to protect from release of high pressure air. Failure to comply may result in injury to personnel.

NOTE

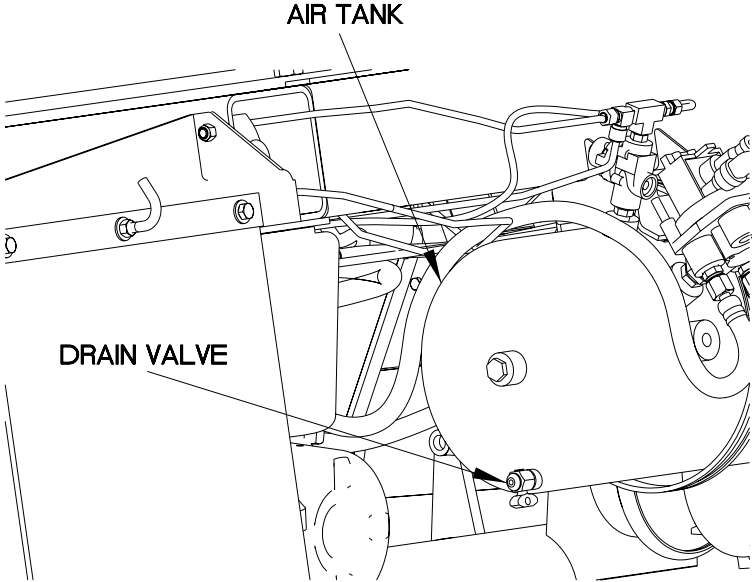
Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Remove plastic cable ties as required.

Reference pneumatic schematic at end of chapter as required.

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

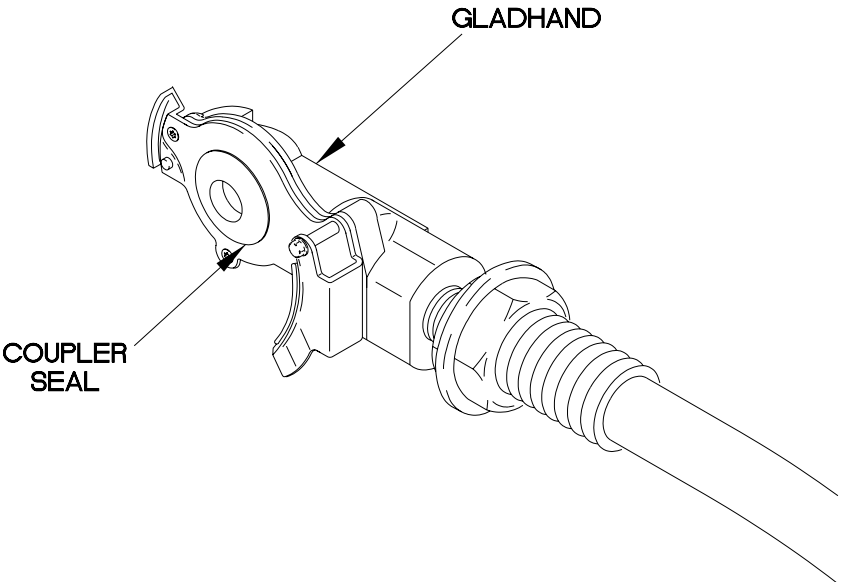
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is air tank drain valve open or leaking?	No Go to (Indication/Condition 2). Yes Replace air tank drain valve (WP 0078 00).	1. Ensure air tank drain valve is closed. 2. Feel for air escaping from air tank drain valve.



CC043R01

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

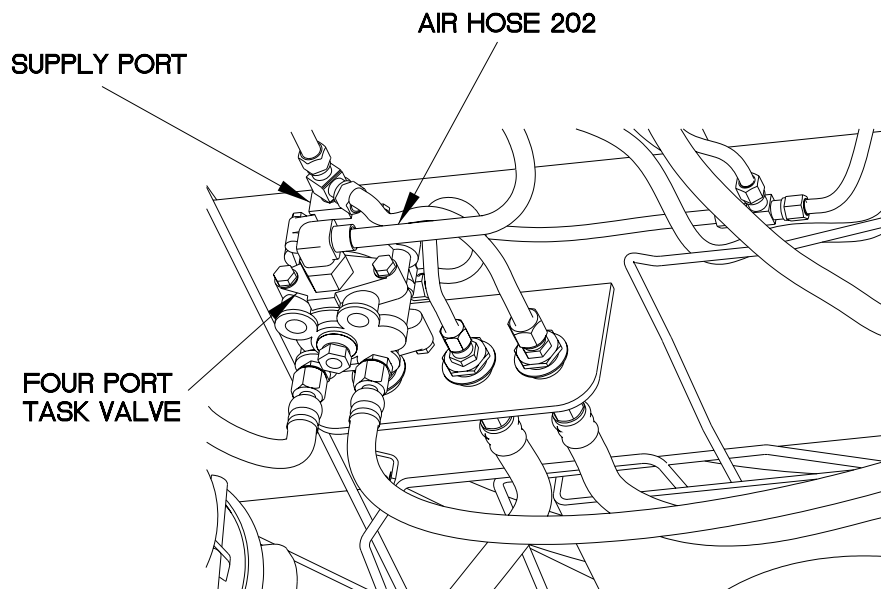
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Are coupler seals on gladhands damaged or missing?	No Go to (Indication/Condition 3). Yes Replace gladhand coupler seal (WP 0079 00).	1. Check for missing or damaged coupler seal on both service and emergency gladhands.



CC043R02

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

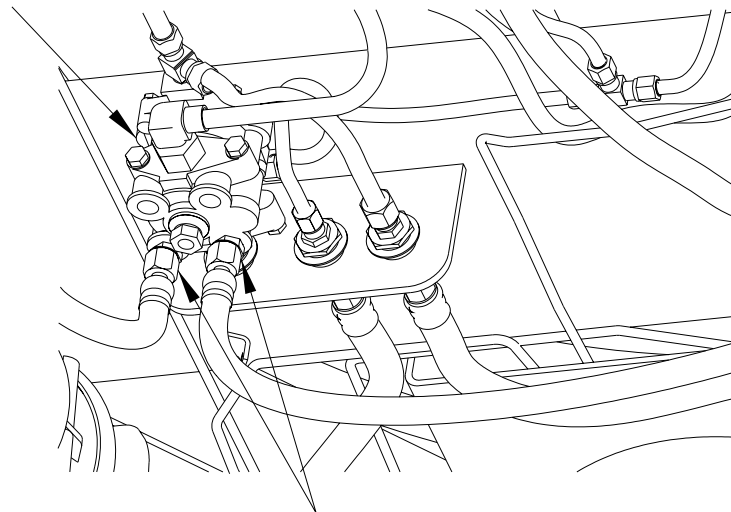
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is air present at supply port of front four port task valve?	No Replace air hose 202. Yes Go to (Indication/Condition 4).	<ol style="list-style-type: none"> Loosen air hose 202 from supply port on four port task valve. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hose 202 to four port task valve supply port.



CC043R03

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is air present at delivery ports of front four port task valve?	No Replace front four port task valve (WP 0109 00). Yes Go to (Indication/Condition 5).	<ol style="list-style-type: none"> 1. Loosen air hoses at front four port task valve delivery ports. 2. Start towing vehicle engine. 3. Depress towing vehicle brake pedal. 4. Check for presence of air. 5. Shut down towing vehicle engine. 6. Tighten air hoses to four port task valve delivery ports.

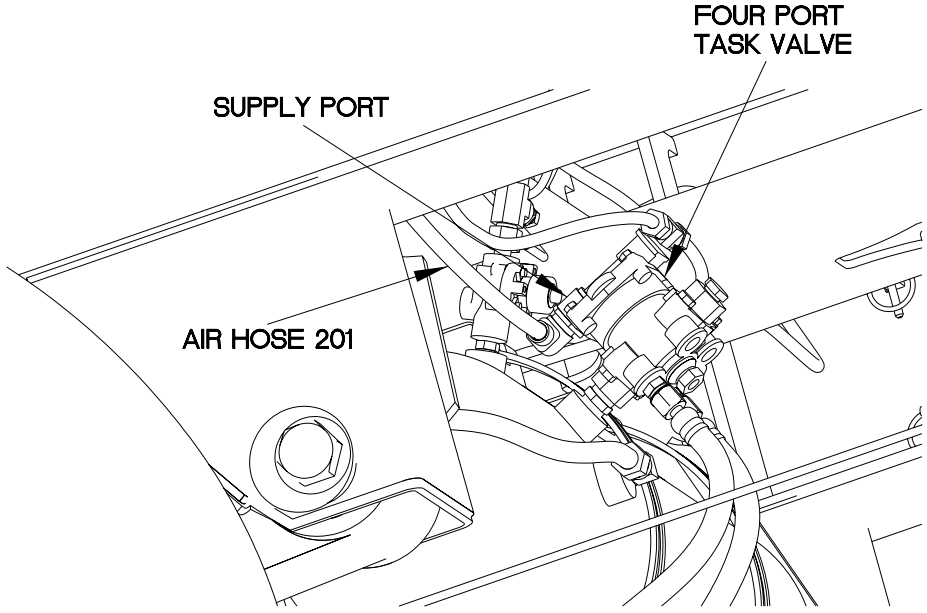
FOUR PORT
TASK VALVE

DELIVERY PORTS

CC043R04

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Is air present at supply port of rear four port task valve?	No Replace air hose 201. Yes Go to (Indication/Condition 6).	<ol style="list-style-type: none"> Loosen air hose 201 at rear four port task valve supply port. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hose 201 to rear four port task valve supply port.

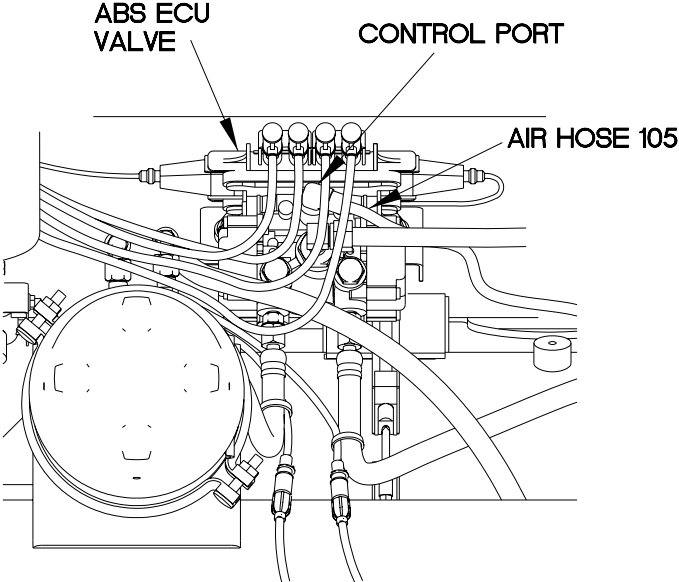


The diagram shows a technical drawing of a vehicle's rear four port task valve assembly. A line points from the text 'SUPPLY PORT' to a specific port on the valve. Another line points from 'AIR HOSE 201' to the hose connected to that port. A third line points from 'FOUR PORT TASK VALVE' to the main valve body. The drawing is a perspective view showing the valve, hoses, and surrounding vehicle structure.

CC043R05

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Is air present at control port of ABS ECU?	No Go to (Indication/Condition 7). Yes Go to (Indication/Condition 8).	<ol style="list-style-type: none"> Loosen air hose 105 at ABS ECU valve control port. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hose 105 to ABS ECU valve control port.

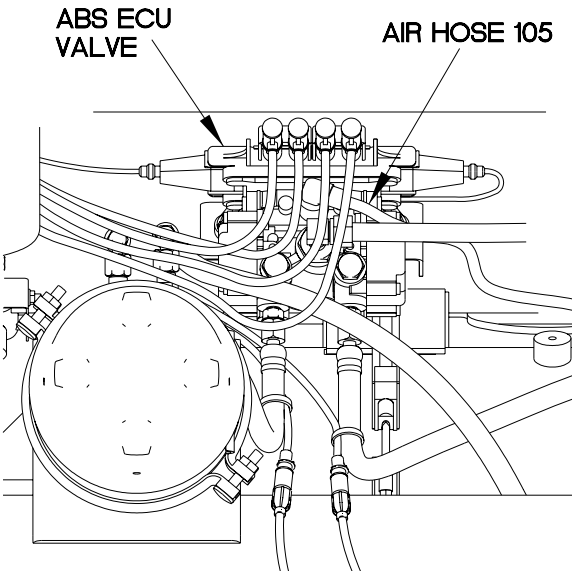


The diagram shows a top-down view of the ABS ECU valve assembly. A large circular component is on the left. To its right is a complex assembly of pipes and valves. Two labels with arrows point to specific parts: 'ABS ECU VALVE' points to a valve on the left side of the assembly, and 'CONTROL PORT' points to a port on the right side. A label 'AIR HOSE 105' points to a hose connected to the control port.

CC043R06

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

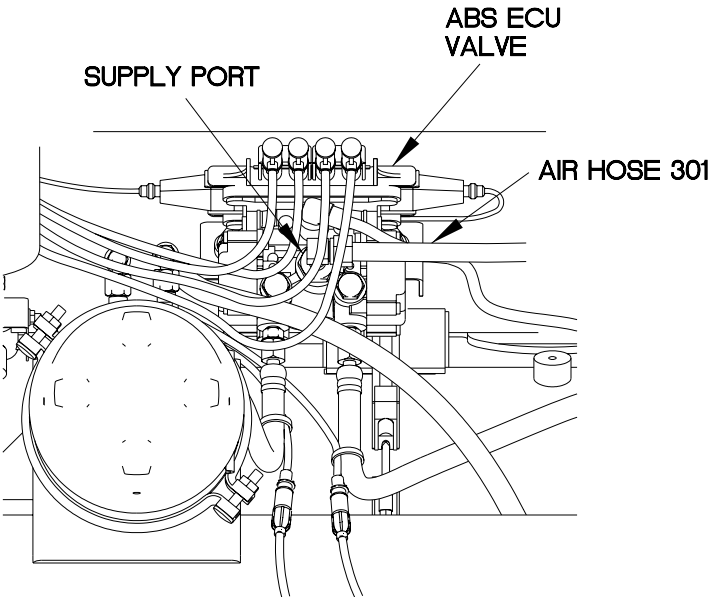
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
7. Does air hose 105 have any kinks, leaks, or holes?	No Replace rear four port task valve (WP 0109 00). Yes Replace air hose 105.	<ol style="list-style-type: none"> 1. Apply soapy water solution to air hose 105 and fittings. 2. Check air hose 105 between ABS ECU valve and rear four port task valve for bubbles indicating holes or leaks. 3. Check fittings for bubbles indicating leaks.



CC043R07

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
8. Is air present at supply port of ABS ECU?	No Go to (Indication/Condition 9). Yes Go to (Indication/Condition 10).	<ol style="list-style-type: none"> Loosen air hose 301 at ABS ECU valve supply port. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hose 301 to ABS ECU valve supply port.



The diagram illustrates the ABS ECU valve assembly. A large circular component on the left is the ABS ECU. To its right is the ABS ECU valve, which has several ports. One port is labeled 'SUPPLY PORT' and is connected to 'AIR HOSE 301'. The hose is shown entering the valve assembly from the right and connecting to the supply port. Other hoses and components are visible in the background.

CC043R08

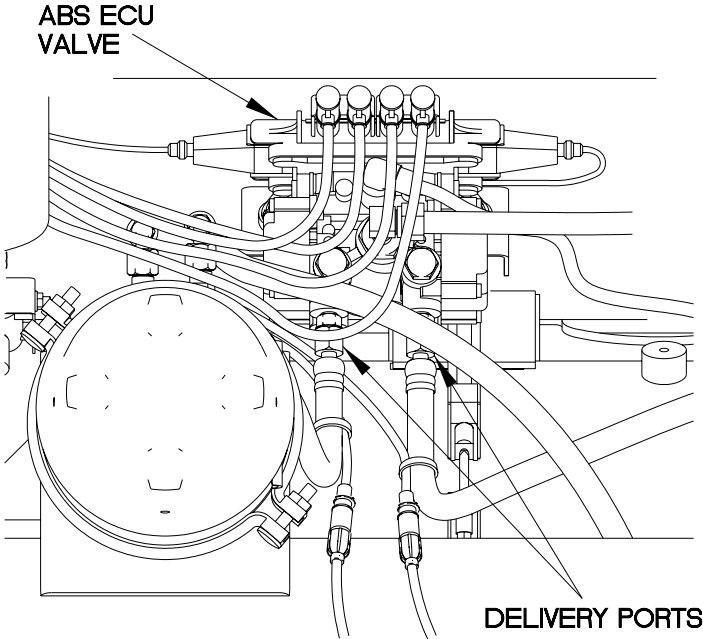
SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
9. Does air hose 301 have any kinks, leaks or holes?	No Replace rear four port task valve (WP 0109 00). Yes Replace air hose 301.	<ol style="list-style-type: none"> 1. Apply soapy water solution to air hose 301 and fittings. 2. Check air hose 301 between ABS ECU valve and air tank for bubbles indicating holes or leaks. 3. Check fittings for bubbles indicating leaks.

CC043R09

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
10. Is air present at two delivery ports of ABS ECU valve?	<p>No Replace ABS ECU valve (WP 0071 00).</p> <p>Yes Go to (Indication/Condition 11).</p>	<ol style="list-style-type: none"> 1. Loosen air hoses at ABS ECU valve delivery ports. 2. Start towing vehicle engine. 3. Depress towing vehicle brake pedal. 4. Check for presence of air. 5. Shut down towing vehicle engine. 6. Tighten air hoses to ABS ECU valve delivery ports.

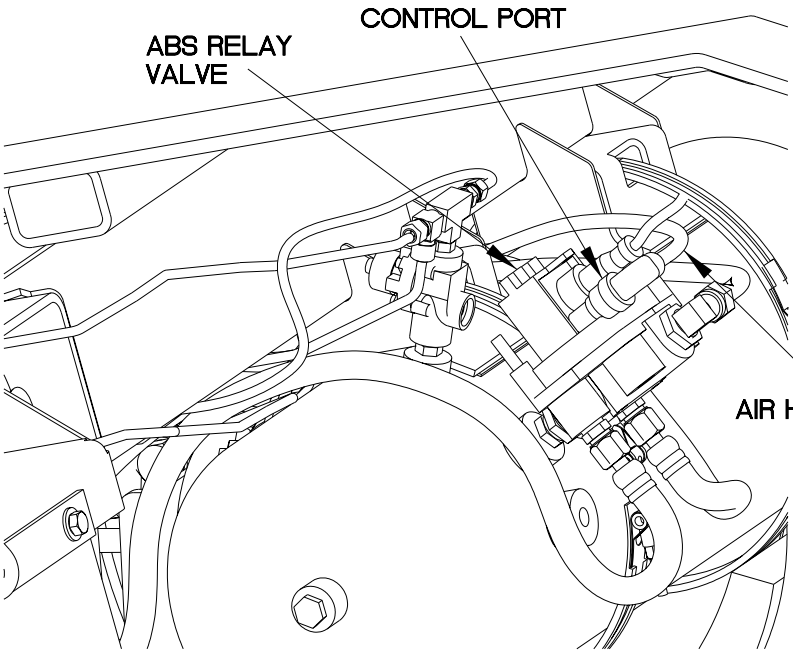


The diagram shows a top-down view of the ABS ECU valve assembly. It features a central circular component with several ports around its perimeter. Two specific ports are highlighted with arrows and labeled 'DELIVERY PORTS'. A line points to the main assembly, labeled 'ABS ECU VALVE'.

CC043R10

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
11. Is air present at control port of ABS relay valve?	No Replace air hose 103. Yes Go to (Indication/Condition 12).	<ol style="list-style-type: none"> Loosen air hose 103 at ABS relay valve control port. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hose 103 to ABS relay valve control port.

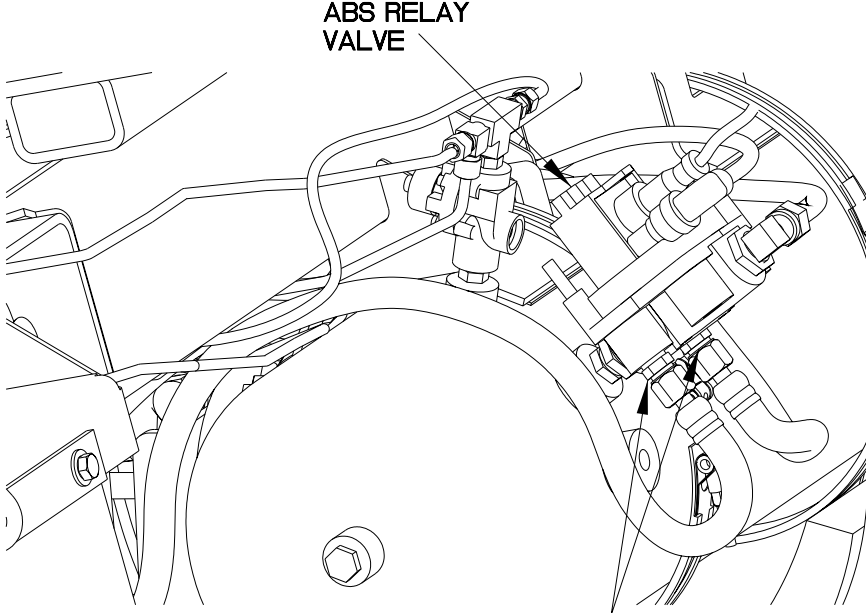


The diagram illustrates the ABS relay valve assembly. It shows the ABS RELAY VALVE, the CONTROL PORT, and AIR HOSE 103. Arrows point from the labels to the corresponding parts in the assembly. The air hose 103 is shown connected to the control port of the ABS relay valve.

CC043R11

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
12. Is air present at two delivery port of ABS relay valve?	No Replace ABS relay valve (WP 0075 00). Yes Go to (Indication/Condition 13).	<ol style="list-style-type: none"> Loosen air hoses at ABS relay valve delivery ports. Start towing vehicle engine. Depress towing vehicle brake pedal. Check for presence of air. Shut down towing vehicle engine. Tighten air hoses to ABS relay valve delivery ports.



The diagram shows a mechanical assembly of the ABS relay valve. A label 'ABS RELAY VALVE' points to the main valve body. Two arrows point to the 'DELIVERY PORTS' at the bottom of the assembly. A hex nut is shown separately below the main assembly.

CC043R12

SERVICE BRAKES DO NOT APPLY-Continued**0043 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Service Brakes Do Not Apply**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
13. Is air present at service port of brake air chambers?	<p>No Replace service brake air supply hoses.</p> <p>Yes Replace brake air chambers (WP 0081 00).</p>	<ol style="list-style-type: none"> 1. Loosen air hoses at service ports of brake air chambers. 2. Start towing vehicle engine. 3. Depress towing vehicle brake pedal. 4. Check for presence of air. 5. Shut down towing vehicle engine. 6. Tighten air hoses to service ports of brake air chambers.

END OF WORK PACKAGE

TRAILER BRAKES UNEVENLY OR BRAKES

PULL TO ONE SIDE OR GRAB

0044 00

THIS WORK PACKAGE COVERS:

Brakes Troubleshooting

INITIAL SETUP:

Maintenance Level

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)
Jack, Dolly Type, Hydraulic (Item 10, WP 0167 00)

References

Towing vehicle operators manual

Equipment Conditions

Air system charged (TM 9-2320-392-10-1)

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Wear appropriate eye protection when working under trailer due to possibility of falling debris and to protect from release of high pressure air. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

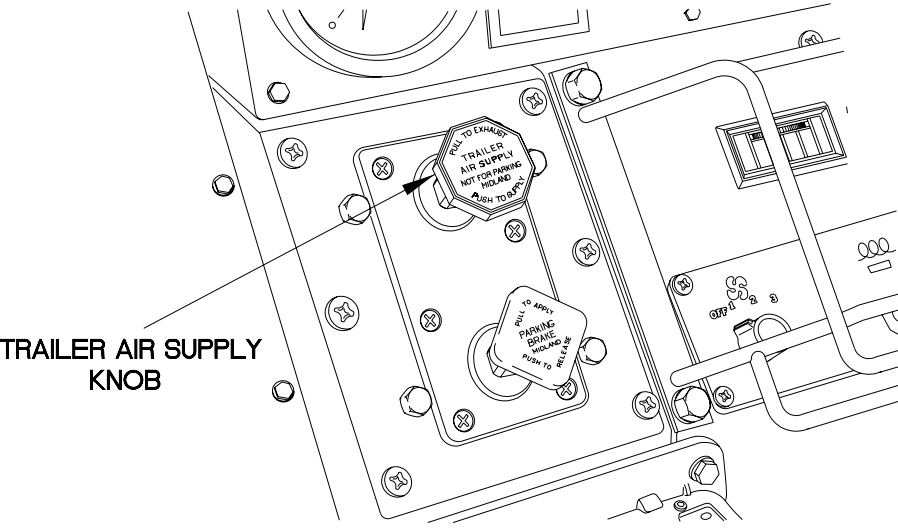
Tag hoses and connection points prior to disconnecting.

Remove plastic cable ties as required.

Reference pneumatic schematic at end of chapter as required.

TRAILER BRAKES UNEVENLY OR BRAKES**PULL TO ONE SIDE OR GRAB -Continued****0044 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Trailer Brakes Unevenly Or Brakes Pull To One Side Or Grab**

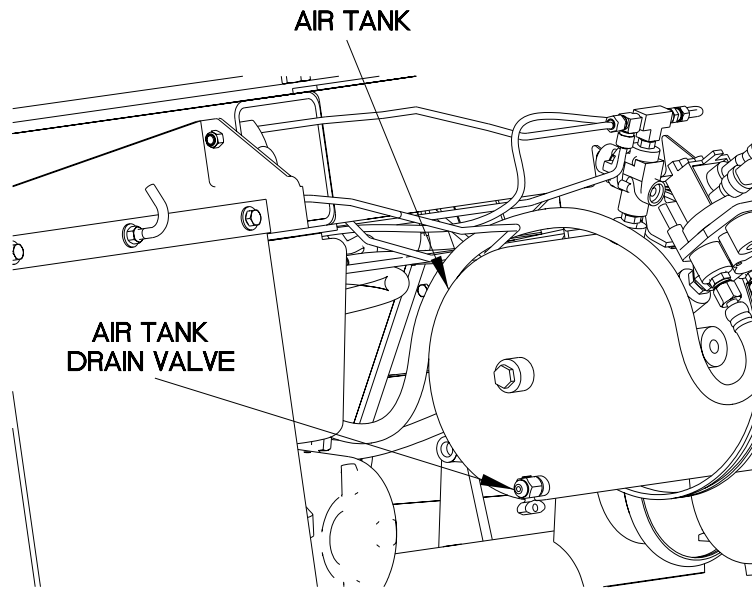
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is the TRAILER AIR SUPPLY knob on the towing vehicle pulled out?	<p>No Go to (Indication/Condition 2).</p> <p>Yes Push TRAILER AIR SUPPLY knob of towing vehicle to supply air (TM 9-2320-392-10-1).</p>	1. Check TRAILER AIR SUPPLY knob in cab to see if it is engaged.



CC044B01

TRAILER BRAKES UNEVENLY OR BRAKES**PULL TO ONE SIDE OR GRAB -Continued****0044 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Trailer Brakes Unevenly Or Brakes Pull To One Side Or Grab**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is air tank drain valve leaking?	No Go to (Indication/Condition 3). Yes Replace air reservoir tank (WP 0078 00).	1. Ensure air tank drain valve is closed. 2. Feel for air escaping from air tank drain valve.

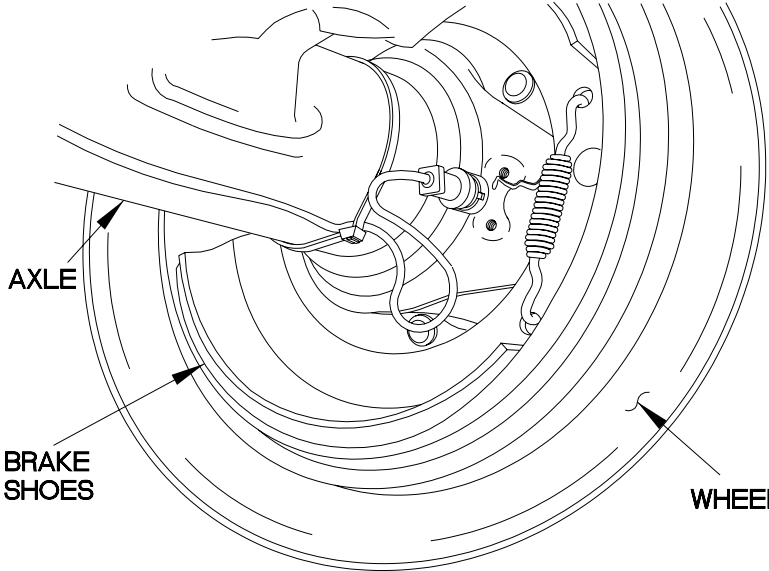


The diagram shows a side view of a cylindrical air tank mounted on a vehicle frame. A line points from the label 'AIR TANK' to the top of the tank. Another line points from the label 'AIR TANK DRAIN VALVE' to a small valve located at the bottom of the tank. Various hoses and mechanical components are visible around the tank.

CC044B02

TRAILER BRAKES UNEVENLY OR BRAKES**PULL TO ONE SIDE OR GRAB -Continued****0044 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Trailer Brakes Unevenly Or Brakes Pull To One Side Or Grab**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Are brake shoes free from contamination, oil, and grease?	No Replace wheel bearing seals (WP 0085 00). Yes Go to (Indication/Condition 4).	1. Jack up axle of each affected wheel/brake. 2. Support axle assembly on trestles. 3. Rotate wheel and check for contamination of brake shoe linings from leaking oil, grease or debris.



CC044B03

TRAILER BRAKES UNEVENLY OR BRAKES**PULL TO ONE SIDE OR GRAB -Continued****0044 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Trailer Brakes Unevenly Or Brakes Pull To One Side Or Grab**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Do individual wheels/brakes lockup or drag while applying brakes and manually spinning wheel?	<p>No Go to (Indication/Condition 5).</p> <p>Yes Adjust brake shoe clearance (WP 0069 00).</p>	<ol style="list-style-type: none"> 1. Start towing vehicle engine (EM 0195). 2. Allow brake air pressure to fully charge. 3. Depress brake pedal. 4. Have assistant spin wheels, one at a time. 5. Shut down towing vehicle engine.

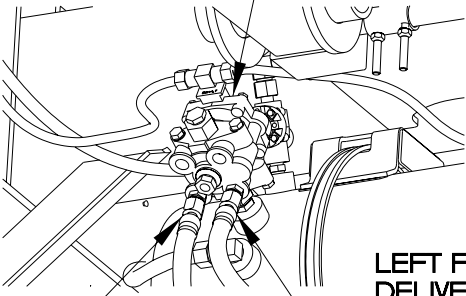
WHEEL

CC044B04

TRAILER BRAKES UNEVENLY OR BRAKES**PULL TO ONE SIDE OR GRAB -Continued****0044 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Trailer Brakes Unevenly Or Brakes Pull To One Side Or Grab**

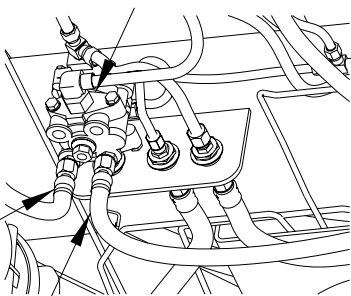
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Is air present at four port task valve delivery port to affected wheel(s)/brake(s) when brakes are applied?	<p>No Replace four port task valve (WP 0109 00).</p> <p>Yes Go to (Indication/Condition 6).</p>	<ol style="list-style-type: none"> 1. Remove trestles from axle assembly. 2. Lower jack to place trailer on ground. 3. Loosen air delivery hoses to spring brakes at delivery ports of four port task valve. 4. Start towing vehicle engine. 5. Allow brake air pressure to fully charge. 6. Depress brake pedal and have assistant check for presence of air escaping at delivery port of four port task valve and air hoses. 7. Shut down towing vehicle engine.

FOUR PORT TASK VALVE



RIGHT REAR DELIVERY HOSE **LEFT REAR DELIVERY HOSE**

FOUR PORT TASK VALVE

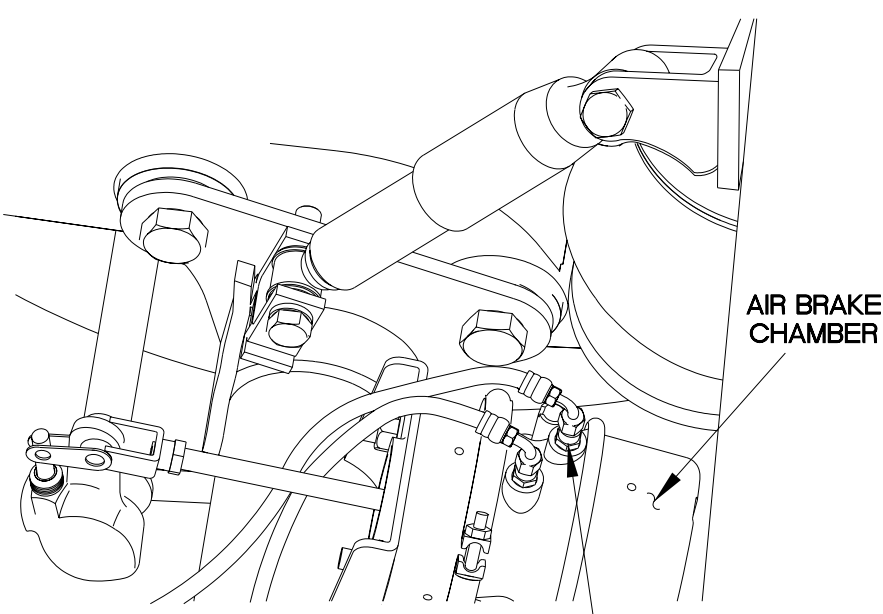


LEFT FRONT DELIVERY HOSE **RIGHT FRONT DELIVERY HOSE**

CC044B05

TRAILER BRAKES UNEVENLY OR BRAKES**PULL TO ONE SIDE OR GRAB -Continued****0044 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Trailer Brakes Unevenly Or Brakes Pull To One Side Or Grab**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Is air present at emergency port of brake air chamber of affected wheel(s)/brake(s) when brakes are applied?	<p>No Replace damaged or blocked air hoses.</p> <p>Yes Go to (Indication/Condition 7).</p>	<ol style="list-style-type: none"> 1. Tighten hoses at delivery ports of four port task valve. 2. Loosen hoses at emergency port of brake air chamber of affected wheel(s)/brake(s). 3. Start towing vehicle engine. 4. Allow brake air pressure to fully charge. 5. Depress brake pedal and have assistant check for presence of air escaping at emergency port of air brake chambers and air hoses. 6. Shut down towing vehicle engine.



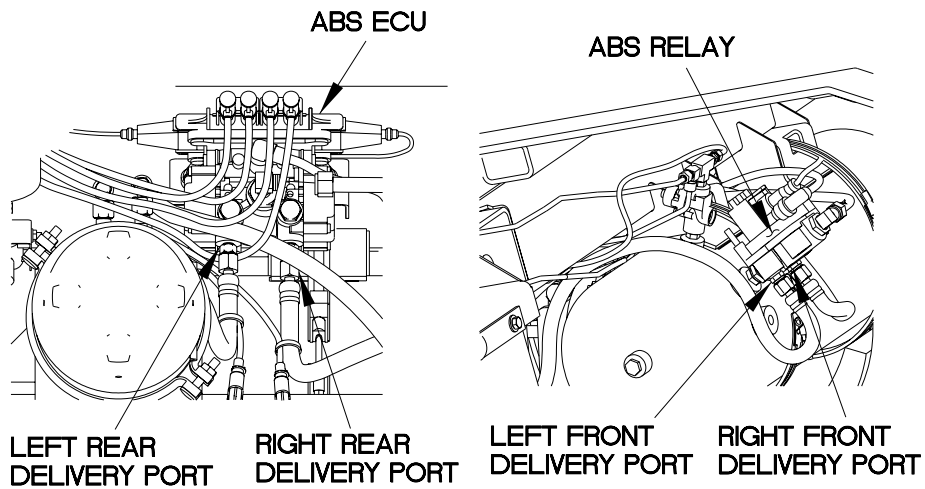
AIR BRAKE CHAMBER

EMERGENCY PORT

CC044B06

TRAILER BRAKES UNEVENLY OR BRAKES**PULL TO ONE SIDE OR GRAB -Continued****0044 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Trailer Brakes Unevenly Or Brakes Pull To One Side Or Grab**

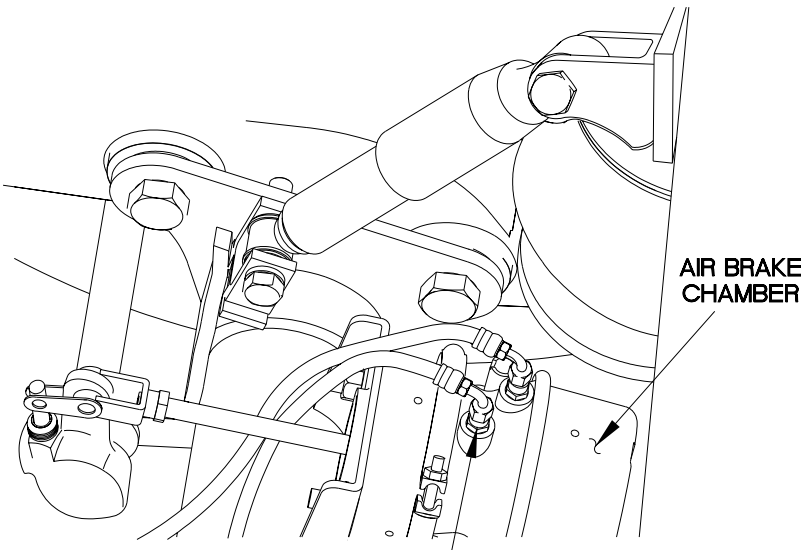
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
7. Is air present at relay valve delivery port(s) (front) or ABS ECU valve port(s) (rear) to affected wheel(s)/brakes?	<p>No Replace ABS relay valve (front) (WP 0075 00) or ABS ECU valve (rear) (WP 0071 00).</p> <p>Yes Go to (Indication/Condition 8).</p>	<ol style="list-style-type: none"> 1. Tighten air hoses at emergency ports of brake air chambers. 2. Loosen air delivery hoses to spring brakes at delivery ports of ABS relay valve (front) or ABS ECU valve (rear). 3. Start towing vehicle engine. 4. Allow brake air pressure to fully charge. 5. Depress brake pedal and have assistant check for presence of air escaping at delivery port of ABS relay valve (front) or ABS ECU valve (rear) and air hoses. 6. Shut down towing vehicle engine.



CC044B07

TRAILER BRAKES UNEVENLY OR BRAKES**PULL TO ONE SIDE OR GRAB -Continued****0044 00****BRAKES TROUBLESHOOTING - Continued****Table 1: Trailer Brakes Unevenly Or Brakes Pull To One Side Or Grab**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
8. Is air present at service port of brake air chamber of affected wheel(s)/brake(s) while brakes are applied?	<p>No Replace damaged or blocked air hoses.</p> <p>Yes Replace spring brake chamber (WP 0081 00).</p>	<ol style="list-style-type: none"> 1. Tighten hoses at delivery ports of ABS relay valve (front) or ABS ECU valve (rear). 2. Loosen hoses at service port of brake air chamber of affected wheel(s)/brake(s). 3. Start towing vehicle engine. 4. Allow brake air pressure to fully charge. 5. Depress brake pedal and have assistant check for presence of air escaping at service port of air brake chambers and air hoses. 6. Shut down towing vehicle engine.



CC044B08

END OF WORK PACKAGE

SUSPENSION SYSTEM SITS UNEVEN

0045 00**THIS WORK PACKAGE COVERS:**

Pneumatic System troubleshooting.

INITIAL SETUP:**Maintenance Level**

Field

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

Soap, Laundry (Item 16, WP 0165 00)

Bushing, Pipe (Item 4, WP 0165 00)

Tools/Special Tools

Gage, Pressure, 0-150 psi. (Item 5, WP 0167 00)

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Goggles, Industrial (Item 8, WP 0167 00)

Personnel Required

Two

Equipment Conditions

Trailer air system charged (TM 9-2320-392-10-1)

PROCEDURE

WARNING

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Tag hoses and connection points prior to disconnecting.

Remove plastic cable ties as required.

Select the appropriate fault to determine where troubleshooting continues:

1. One air spring does not inflate (Table 1, Indication/Condition 1).
2. Rear air springs do not inflate (Table 1, Indication/Condition 2).
3. Front Suspension Does Not Raise/Lower (WP 0047 00).

SUSPENSION SYSTEM SITS UNEVEN-Continued**0045 00****PNEUMATIC SYSTEM TROUBLESHOOTING - Continued****Table 1. Uneven Suspension System**

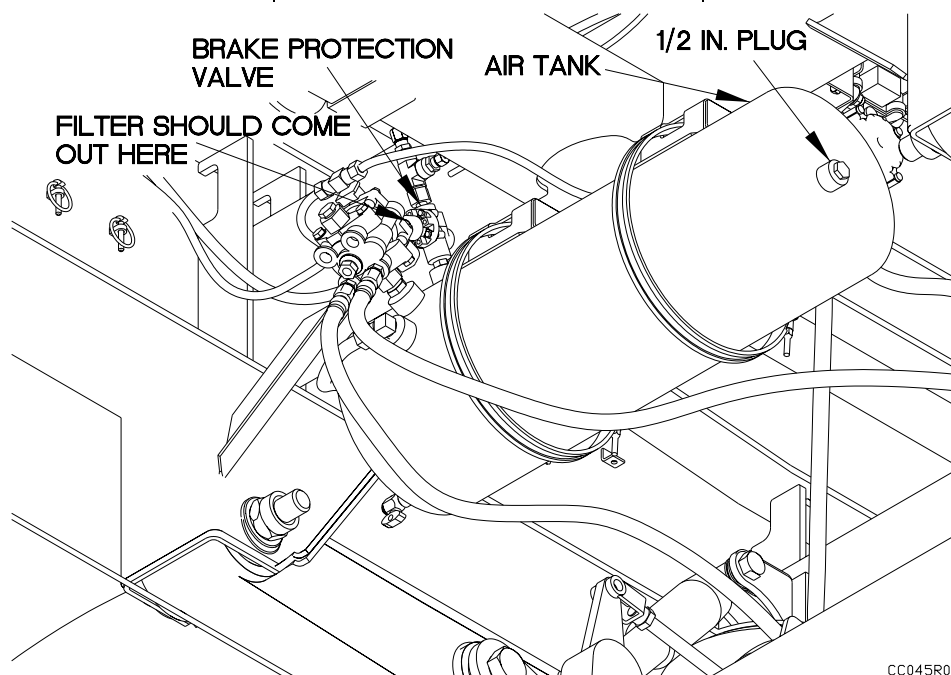
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is air present at affected air spring?	No. Replace air hose from air spring to tee fitting. Yes. Replace air bladder (WP 0096 00).	1. Drain air tanks (WP 0004 00) 2. Disconnect air hose from 90-degree fitting. 3. Charge air system (EM 0195). 4. Check for the presents of air from open air hose.

The diagram illustrates the rear suspension system of a vehicle, specifically focusing on the air spring assembly. A large, rectangular air bladder is mounted on the suspension frame. An air hose is connected to the bladder and runs along the frame. The hose is secured by a 90-degree fitting and a tee fitting. The diagram is labeled with 'AIR BLADDER', '90 DEGREE FITTING', 'AIR HOSE', and 'TEE FITTING'.

CC045R01

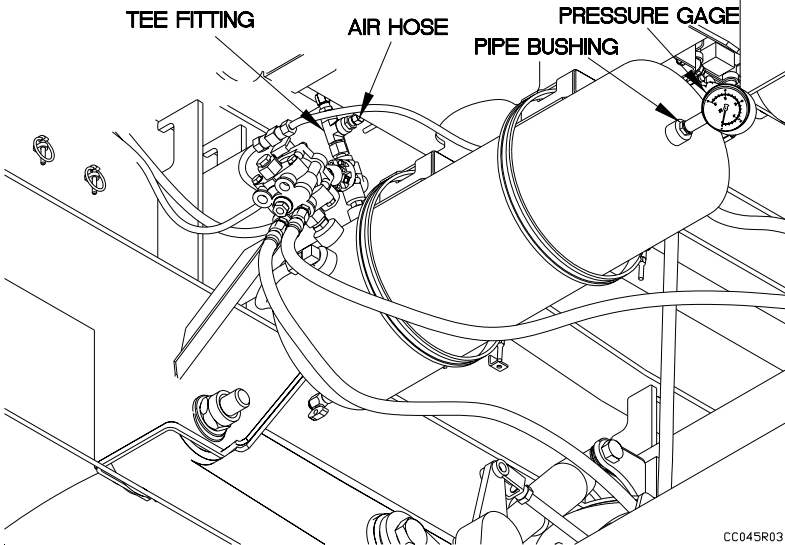
SUSPENSION SYSTEM SITS UNEVEN-Continued**0045 00****PNEUMATIC SYSTEM TROUBLESHOOTING - Continued****Table 1. Uneven Suspension System**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Does rear air hoses or fittings have air leaks?	No. Go to (Indication/Condition 3). Yes. Replace leaking hose(s) and/or fittings.	1. With the use of a soapy water solution check for bubbles indicating air leaks.
3. Is brake protection valve filter free from damage or obstructions?	No. Clean or replace brake protection valve filter (WP 0075 00). Yes. Go to (Indication/Condition 4).	1. Remove filter from brake protection valve (WP 0075 00) and check for damage or obstructions.
4. Does brake protection valve operate properly?	No. Replace brake protection valve (WP 0075 00). Yes. Go to (Indication/Condition 5).	1. Drain rear air tank. 2. Remove 1/2 in. plug from rear air tank. 3. Install pipe bushing and pressure gage in air tank.



CC045R02

SUSPENSION SYSTEM SITS UNEVEN-Continued**0045 00****PNEUMATIC SYSTEM TROUBLESHOOTING - Continued****Table 1. Uneven Suspension System**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Does brake protection valve operate properly? (Cont)	No. Replace brake protection valve (WP 0075 00). Yes. Go to (Indication/Condition 5).	4. Disconnect air hose from tee fitting. 5. Begin pressurizing air system and note if brake protection valve opens at 70-75 psi. indicating proper operation. 6. Drain air tank and note if brake protection valve closes at 60-65 psi. indicating proper operation. 7. Connect air hose to tee fitting.
5. Does height control valve operate properly?	No. Replace height control valve (WP 0084 00). Yes. Properly adjust linkage (WP 0084 00).	 <p>CC045R03</p> 8. Remove pressure gage and pipe bushing from air tank. 9. Install 1/2 inch plug in air tank.
		1. Check height control valve for proper installation and operation (WP 0084 00).

END OF WORK PACKAGE

SUSPENSION SYSTEM DOES NOT SUPPORT TRAILER LOAD

0046 00**THIS WORK PACKAGE COVERS:**Pneumatic Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer air system charged (TM 9-2320-392-10-1)

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

Soap, Laundry (Item 16, WP 0165 00).

PROCEDURE

WARNING

Wear appropriate eye protection when working under trailer due to possibility of falling debris and to protect from release of high pressure air. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

1. Perform WP 0042 00 before proceeding to step 2.
2. Replace shock absorber(s) (WP 0095 00).

END OF WORK PACKAGE

FRONT SUSPENSION DOES NOT RAISE/LOWER

0047 00**THIS WORK PACKAGE COVERS:**Pneumatic Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer air system charged (TM 9-2320-392-10)

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

Soap, Laundry (Item 16, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Wear appropriate eye protection when working under trailer due to possibility of falling debris and to protect from release of high pressure air. Failure to comply may result in injury to personnel.

Wear protective goggles to protect against possible injury from release of high pressure air. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Tag hoses and connection points prior to disconnecting.

Remove plastic cable ties as required.

FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Does front suspension fail to raise or lower?	Raise Go to (Indication/Condition 6). Lower Go to (Indication/Condition 2).	1. Charge air system and note if front suspension will raise. 2. Push in height actuation valve handle and note if front suspension will lower.

HEIGHT ACTUATION VALVE HANDLE

CC047R01

FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

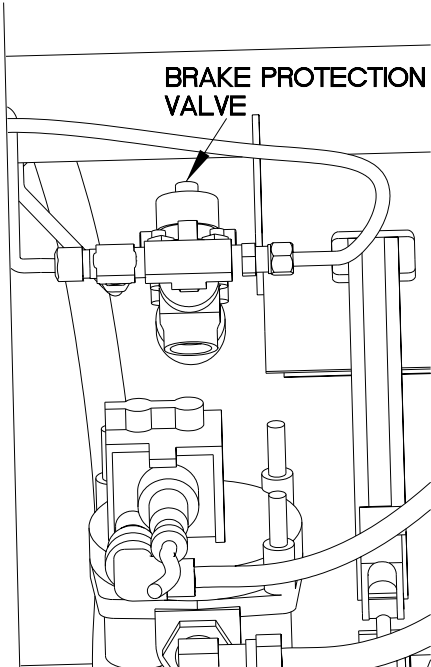
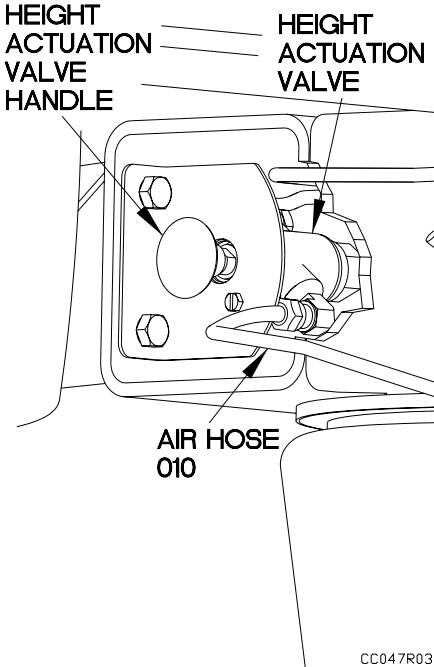
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is air present at hose 007 connection point on air ride control valve?	No Go to (Indication/Condition 3). Yes Go to (Indication/Condition 4).	1. Disconnect hose 007 from air ride control valve. 2. Push height actuation valve handle in and feel for air escaping from end of hose 007.

The diagram illustrates the connection point for Air Hose 007 on the Air Ride Control Valve. The hose is shown entering the valve from the left. The valve is mounted on a bracket. Other components like the air ride control valve handle and other hoses are also visible.

CC047R02

FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

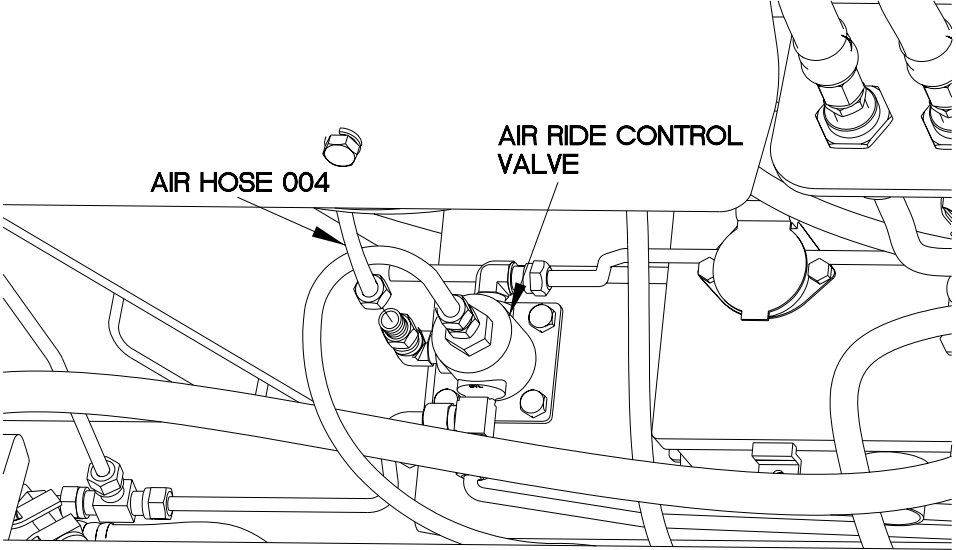
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Does air hose 010 have any kinks, leaks, or holes?	No Replace height actuation valve (WP 0110 00). Yes Replace hose 010.	<ol style="list-style-type: none"> 1. Apply soapy water solution to air hose 010 and fittings. 2. Push in handle on height actuation valve and check air hose 010 between brake protection valve and height actuation valve for bubbles indicating holes or leaks. 3. Check hose 010 for kinks.

CC047R03

FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

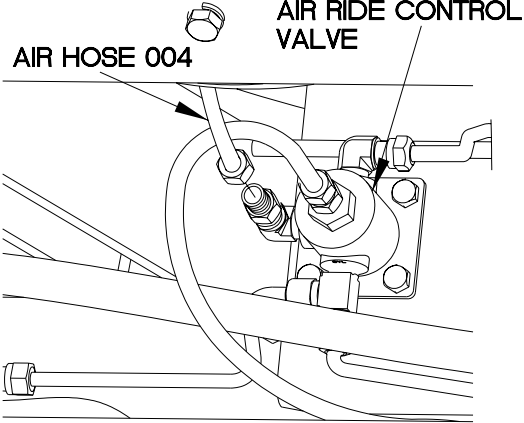
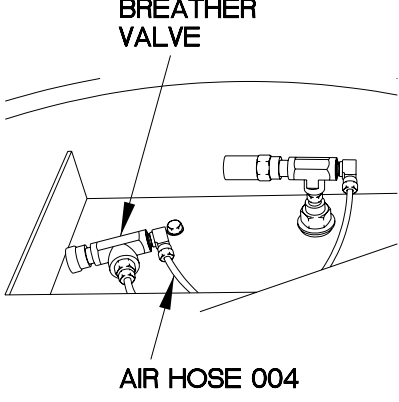
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is air present at air ride control valve connection air hose 004?	No Replace air ride control valve (WP 0080 00). Yes Go to (Indication/Condition 5).	1. Disconnect air hose 004 at connection point on air ride control valve. 2. Push height actuation valve handle in and feel for air escaping from connection point on air ride control valve.



CC047R04

FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Does air hose 004 have any kinks?	<p>No Replace breather valve (WP 0082 00).</p> <p>Yes Replace air hose 004.</p>	<ol style="list-style-type: none"> 1. Connect air hose 004 at connection point on air ride control valve. 2. Lift turntable from frame for access (WP 0099 00). 3. Follow path of air hose 004 from air ride control valve to breather valve to check for any kinks in air hose.

CC047R05

FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Is the height control valve linkage functioning properly?	<p>No Replace height control linkage (WP 0084 00).</p> <p>Yes Go to (Indication/Condition 7).</p>	1. Visually inspect height control linkage, connection points, and rod to ensure it is not damaged or malfunctioning.

CC047R06

FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

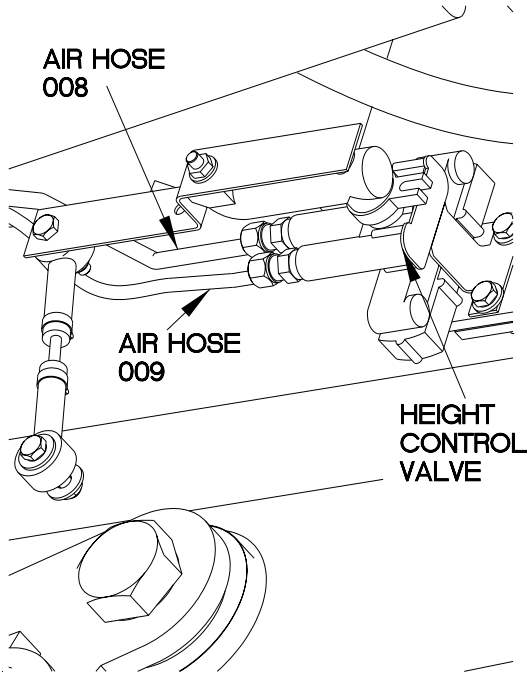
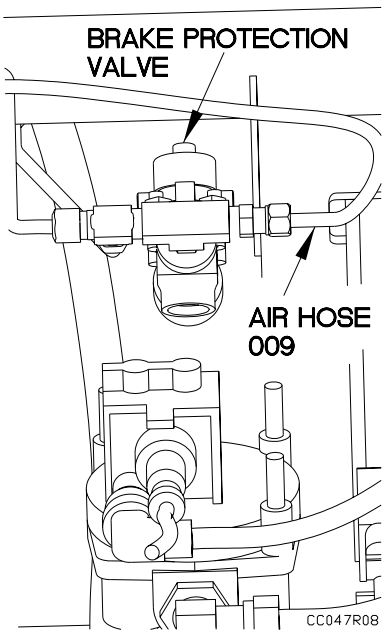
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
7. Is air present at outlet port of height control valve?	<p>No Go to (Indication/Condition 8).</p> <p>Yes Go to (Indication/Condition 9).</p>	<ol style="list-style-type: none"> 1. Disconnect air hose 008 from outlet port of height control valve. 2. Attempt to charge air system (TM 9-2320-392-10). 3. Listen and feel for air discharging from outlet port on height control valve.

The diagram illustrates the pneumatic system for the front suspension. It shows a cross-section of the vehicle's chassis and suspension components. A label 'AIR HOSE 008' points to a hose connected to a 'HEIGHT CONTROL VALVE'. Another label 'OUTLET VALVE' points to a valve on the suspension assembly. The diagram shows the hose connected to the outlet valve, which is part of the height control valve assembly. The diagram is a technical line drawing showing the mechanical components and their connections.

CC047R07

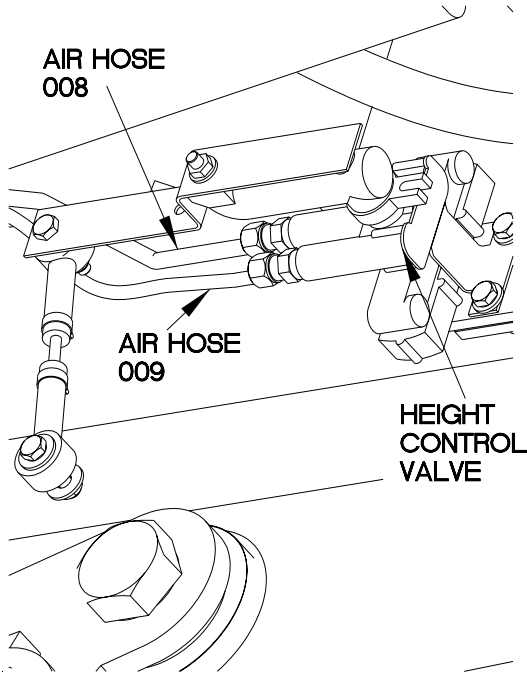
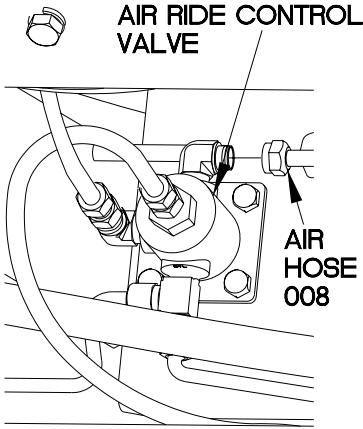
FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
8. Does air hose 009 have any kinks, leaks or holes?	<p>No Replace height control valve (WP 0084 00).</p> <p>Yes Replace air hose 009.</p>	<ol style="list-style-type: none"> 1. Connect air hose 008 to outlet port of height control valve. 2. Apply soapy water solution to air hose 009 and fittings. 3. Attempt to charge air system (TM 9-2320-392-10). 4. Check air hose 009 from height control valve to brake protection valve for any bubbles indicating leaks or holes.

FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
9. Does air hose 008 have any kinks, leaks or holes?	<p>No Go to (Indication/Condition 10).</p> <p>Yes Replace air hose 008.</p>	<ol style="list-style-type: none"> 1. Connect air hose 008 to outlet port of height control valve. 2. Apply soapy water solution to air hose 008 and fittings. 3. Attempt to charge air system (TM 9-2320-392-10). 4. Check air hose 008 from height control valve to air ride control valve for any bubbles indicating leaks or holes.

CC047R09

FRONT SUSPENSION DOES NOT RAISE/LOWER -Continued**0047 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Front Suspension Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
10. Is air present at outlet port of air ride control valve?	<p>No Replace air ride control valve (WP 0080 00).</p> <p>Yes Replace air hose 005.</p>	<ol style="list-style-type: none"> 1. Disconnect air hose 005 and air hose 006 from outlet port on air ride control valve. 2. Attempt to charge air system (TM 9-2320-392-10). 3. Listen and feel for air discharging from outlet port on air ride control valve.

AIR HOSE 005

AIR RIDE CONTROL VALVE

AIR HOSE 006

CC047R10

END OF WORK PACKAGE

RAIL ASSEMBLY DOES NOT RAISE/LOWER

0048 00**THIS WORK PACKAGE COVERS:**Rail Assembly Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Rail lock pin removed (WP 0005 00)

Rail lift jack handle installed (WP 0005 00)

Materials/PartsTies, Cable, Plastic (Item 20, WP 0165 00)

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Ensure rail assembly is in a secure position and cannot fall or shift onto personnel. Failure to comply may result in injury to personnel.

CAUTION

Ensure no corrosion, debris or any obstruction is present in rail guide tracks that would prevent rail assembly from operating properly. Failure to comply may result in damage to equipment.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

RAIL ASSEMBLY DOES NOT RAISE/LOWER -Continued**0048 00****RAIL ASSEMBLY TROUBLESHOOTING - Continued****Table 1: Rail Assembly Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is rail lift jack spinning freely?	<p>No. Replace rail assembly (WP 0089 00).</p> <p>Yes. Replace rail lift jack (WP 0102 00).</p>	<p>1. Remove shuttle lock pins.</p> <p>2. Push knob of flatrack lock control to release flatrack locks.</p> <p>3. Turn rail lift jack handle.</p> <p>4. Check to see if handle will spin freely.</p>

RAIL LIFT JACK HANDLE

CAUTION
OPEN FLATRACK LOCKS
AND HIDE SHUTTLE LOCK
PINNAGE BEFORE Raising OR
Lowering THE ASSEMBLY

UP
DOWN

CC048R01

END OF WORK PACKAGE

FLATRACK LOCKS DO NOT RELEASE/LOCK

0049 00**THIS WORK PACKAGE COVERS:**Pneumatic Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Air system charged (TM 9-2320-392-10)

Trailer unloaded (TM 9-2320-392-10)

Rail assembly raised (WP 0005 00)

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

Soap, Laundry (Item 16, WP 0165 00)

ReferencesTM 9-2320-392-10

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Wear appropriate eye protection when working under trailer due to possibility of falling debris. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

Tag hoses and connection points prior to disconnecting.

Remove plastic cable ties as required.

FLATRACK LOCKS DO NOT RELEASE/LOCK -Continued**0049 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Flatrack Locks Do Not Release/Engage**

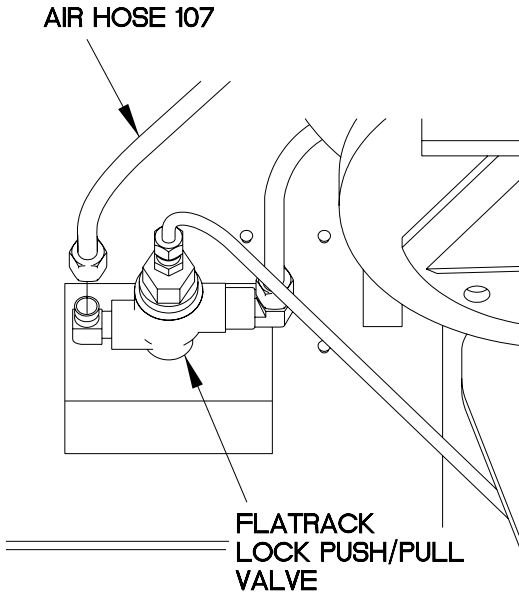
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Do flatrack locks not release or lock?	Lock. Go to (Indication/Condition 2). Release. Go to (Indication/Condition 5).	1. Disengage DIN blocking plates from flatrack locks. 2. Push or pull handle of flatrack lock control push/pull valve to test function of flatrack locks.

FLATRACK LOCK PUSH/PULL VALVE HANDLE

CC049R01

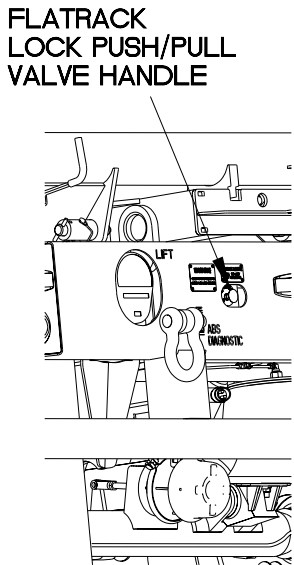
FLATRACK LOCKS DO NOT RELEASE/LOCK -Continued**0049 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Flatrack Locks Do Not Release/Engage**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Is air pressure present at outlet port of flatrack lock push/pull valve?	No. Go to (Indication/Condition 3). Yes. Go to (Indication/Condition 4).	1. Disconnect air hose 107 from flatrack lock push/pull valve. 2. Pull handle of flatrack lock push/pull valve out and feel for air escaping from outlet port.



AIR HOSE 107

FLATRACK LOCK PUSH/PULL VALVE

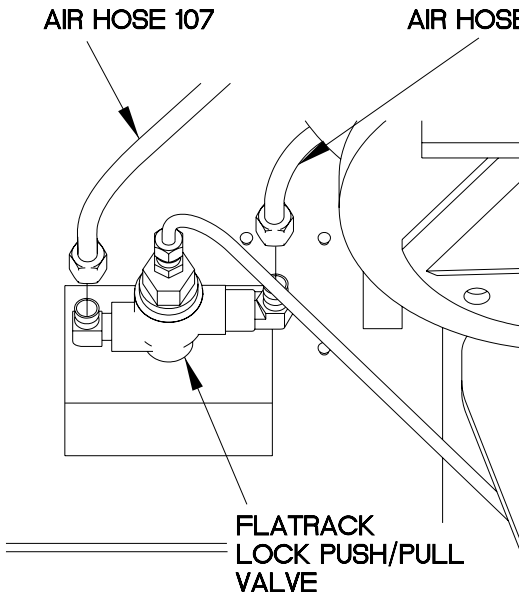


FLATRACK LOCK PUSH/PULL VALVE HANDLE

CC049R02

FLATRACK LOCKS DO NOT RELEASE/LOCK -Continued**0049 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Flatrack Locks Do Not Release/Engage**

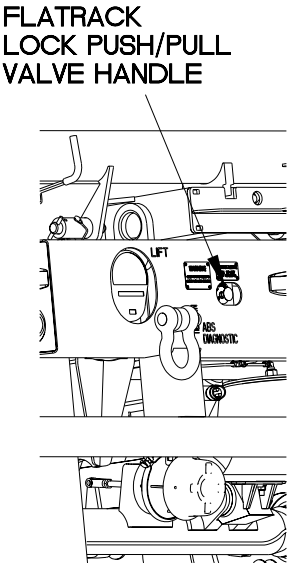
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Does air hose 106 have any kinks, leaks, or holes?	<p>No. Replace flatrack lock push/pull valve (WP 0108 00).</p> <p>Yes. Replace air hose 106.</p>	<ol style="list-style-type: none"> 1. Connect air hose 107 to flatrack lock push/pull valve. 2. Apply soapy water to air hose 106 and connection points. 3. Pull handle of flatrack lock push/pull valve out. 4. Look for bubbles escaping from hose indicating leaks and examine hose for kinks.



AIR HOSE 107

AIR HOSE 106

FLATRACK LOCK PUSH/PULL VALVE

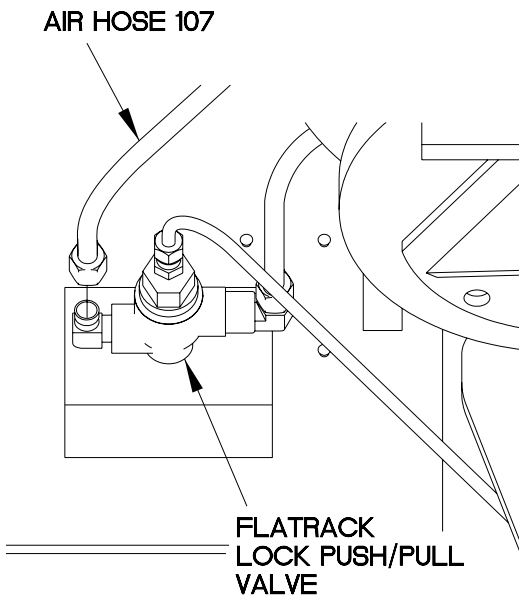


FLATRACK LOCK PUSH/PULL VALVE HANDLE

CC049R03

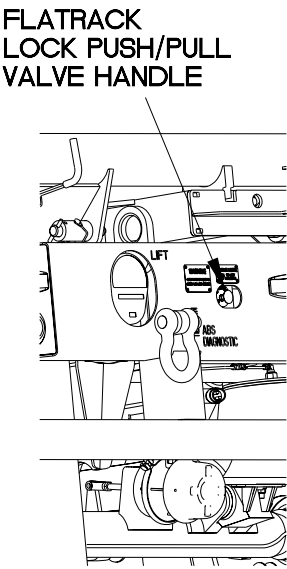
FLATRACK LOCKS DO NOT RELEASE/LOCK -Continued**0049 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Flatrack Locks Do Not Release/Engage**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Does air hose 107 have any kinks, leaks, or holes?	No. Replace flatrack air chamber (WP 0107 00). Yes. Replace air hose 107.	<ol style="list-style-type: none"> 1. Connect air hose 107 to flatrack lock push/pull valve. 2. Apply soapy water to air hose 107 and connection points. 3. Pull handle of flatrack lock push/pull valve out. 4. Look for bubbles escaping from hose indicating leaks and examine hose for kinks.



AIR HOSE 107

FLATRACK LOCK PUSH/PULL VALVE



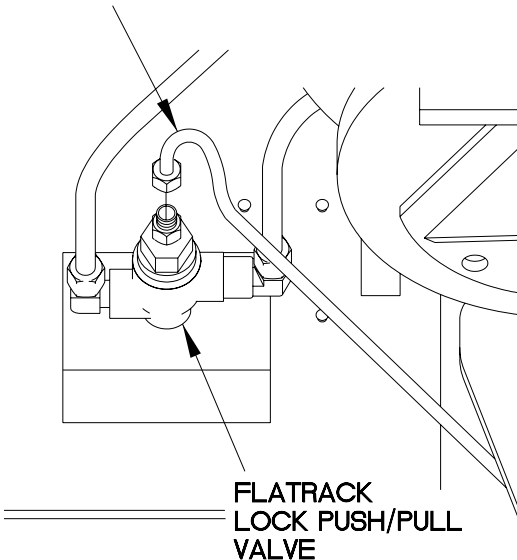
FLATRACK LOCK PUSH/PULL VALVE HANDLE

CC049R02

FLATRACK LOCKS DO NOT RELEASE/LOCK -Continued**0049 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Flatrack Locks Do Not Release/Engage**

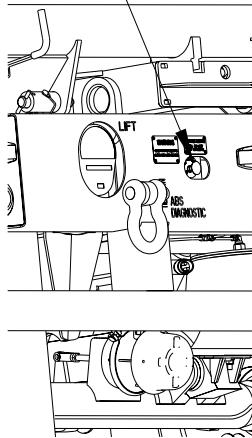
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Is air pressure present at port on flatrack push/pull valve at hose 013 connection?	<p>No. Go to (Indication/Condition 6).</p> <p>Yes. Go to (Indication/Condition 7).</p>	<p>1. Disconnect air hose 013 from flatrack lock push/pull valve.</p> <p>2. Push handle of flatrack lock push/pull valve in.</p> <p>3. Feel for air escaping from open port on flatrack lock push/pull valve.</p>

AIR HOSE 013



FLATRACK LOCK PUSH/PULL VALVE

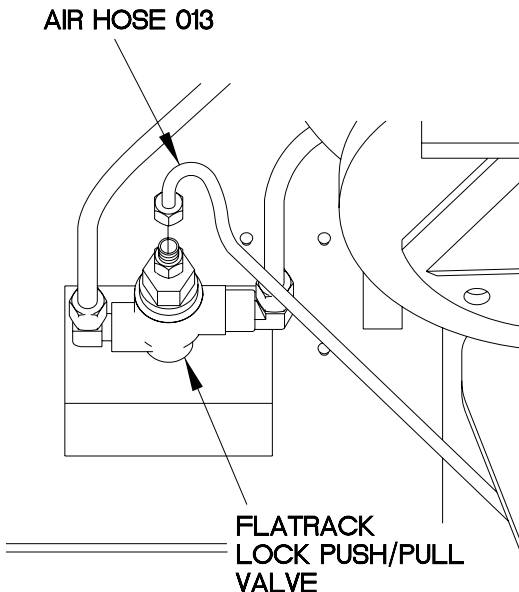
FLATRACK LOCK PUSH/PULL VALVE HANDLE



CC049R04

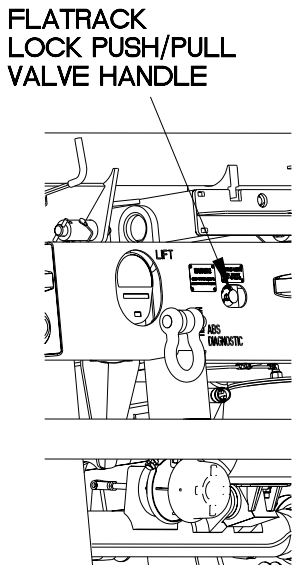
FLATRACK LOCKS DO NOT RELEASE/LOCK -Continued**0049 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Flatrack Locks Do Not Release/Engage**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Does air hose 013 have any kinks, leaks, or holes?	<p>No. Replace flatrack lock push/pull valve (WP 0108 00).</p> <p>Yes. Replace air hose 013.</p>	<ol style="list-style-type: none"> 1. Connect air hose 013 to flatrack lock push/pull valve. 2. Apply soapy water to air hose 013 and connection points. 3. Push handle of flatrack lock push/pull valve in and look for air bubbles indication leaks and check hose for kinks.



AIR HOSE 013

FLATRACK LOCK PUSH/PULL VALVE

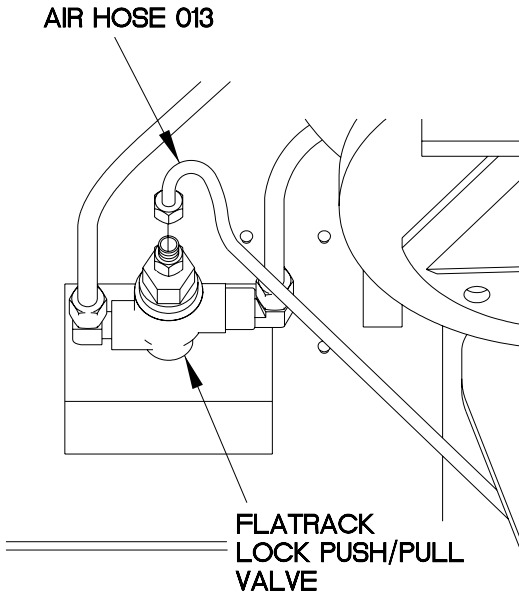


FLATRACK LOCK PUSH/PULL VALVE HANDLE

CC049R04

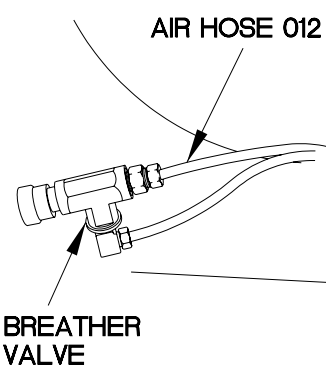
FLATRACK LOCKS DO NOT RELEASE/LOCK -Continued**0049 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Flatrack Locks Do Not Release/Engage**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
7. Is air pressure present at end of air hose 012 at connection on breather valve?	<p>No. Go to (Indication/Condition 8).</p> <p>Yes. Replace breather valve (WP 0082 00).</p>	<ol style="list-style-type: none"> 1. Connect air hose 013 to flatrack lock push/pull valve. 2. Remove LH composite taillight for access to breather valve. 3. Disconnect air hose 012 from breather valve. 4. Push handle of flatrack lock push/pull valve in and feel for air escaping from air hose 012.



AIR HOSE 013

FLATRACK LOCK PUSH/PULL VALVE



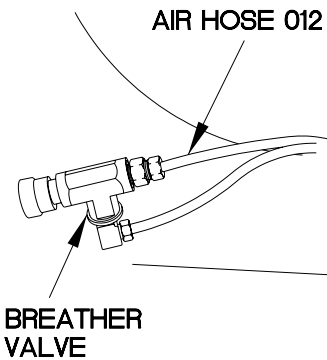
AIR HOSE 012

BREATHER VALVE

CC049R05

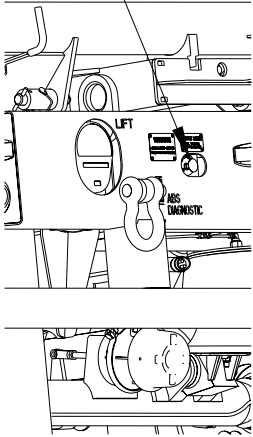
FLATRACK LOCKS DO NOT RELEASE/LOCK -Continued**0049 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Flatrack Locks Do Not Release/Engage**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
8. Does air hose 012 have any kinks, leaks, or holes?	No. Replace flatrack air chamber (WP 0107 00). Yes. Replace air hose 012.	<ol style="list-style-type: none"> 1. Connect air hose 012 to breather valve. 2. Apply soapy water to air hose 012 and connection points. 3. Push handle of flatrack lock push/pull valve in. 4. Look for bubbles on air hose 012 indication air escaping from air hose 012.



AIR HOSE 012

BREATHING VALVE



FLATRACK LOCK PUSH/PULL VALVE HANDLE

CC049R06

END OF WORK PACKAGE

DRAWBAR DOES NOT RAISE/LOWER

0050 00**THIS WORK PACKAGE COVERS:**Pneumatic Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Air tanks charged (TM 9-2320-392-10)

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

Soap, Laundry (Item 16, WP 0165 00)

ReferencesTM 9-2320-392-10

PROCEDURE

WARNING

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

WARNING

Wear appropriate eye protection when working under trailer due to possibility of falling debris. Failure to comply may result in injury to personnel.

NOTE

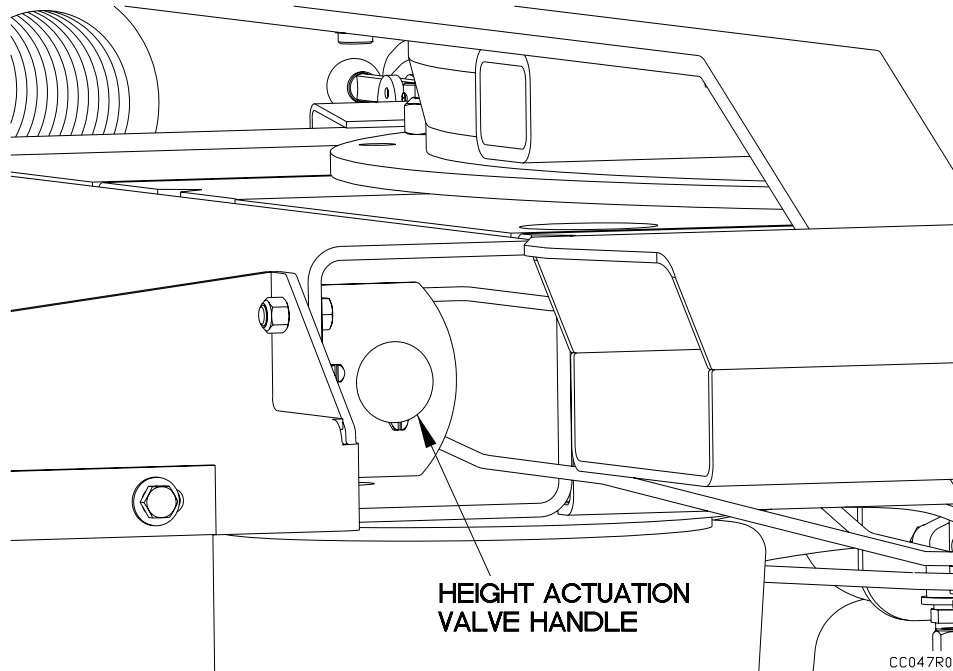
Return vehicle to mission capable condition and perform (Operational Checkout Work Package WP 0013 00) after a corrective action has been performed.

Tag hoses and connection points prior to disconnecting.

Remove plastic cable ties as required.

DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Does front suspension raise and lower?	<p>No Proceed to Suspension System Sits Uneven (WP 0045 00).</p> <p>Yes Go to (Indication/Condition 2).</p>	<p>1. Push in height control valve knob.</p> <p>2. Look to see if front suspension will lower.</p> <p>3. Pull out height control knob.</p> <p>4. Look to see if front suspension will raise.</p>



DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

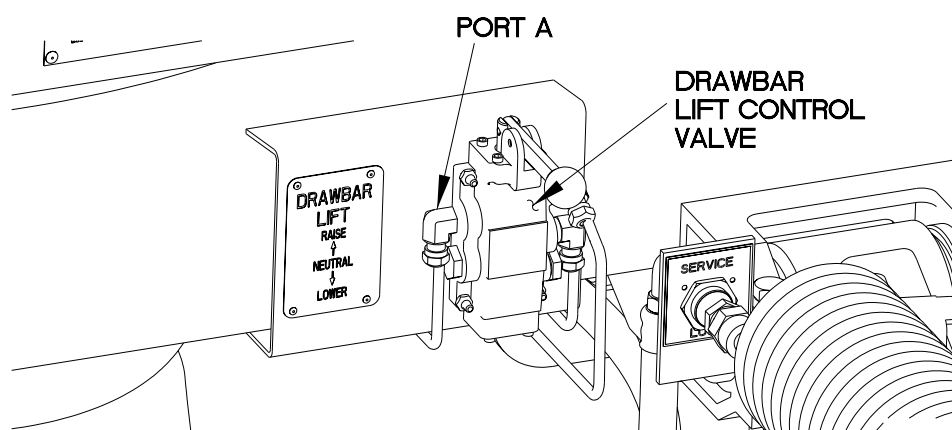
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
2. Does the drawbar not raise or lower?	<p>Won't Raise Go to (Indication/Condition 3).</p> <p>Won't Lower Go to (Indication/Condition 4).</p>	<ol style="list-style-type: none"> 1. Raise drawbar lift control handle up to see if drawbar will raise. 2. Lower drawbar lift control handle down to see if drawbar will lower.

The diagram illustrates the drawbar lift control system. It shows a side view of a vehicle chassis with the drawbar assembly. A curved arrow indicates the drawbar's movement. Below, a close-up of the control handle is shown, labeled 'DRAWBAR LIFT CONTROL HANDLE'. The handle has a 'SERVICE' label and a 'DRAWBAR LIFT' label with 'RAISE', 'NEUTRAL', and 'LOWER' positions. A 'SERVICE' label is also visible on the handle's base.

CC050R01

DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

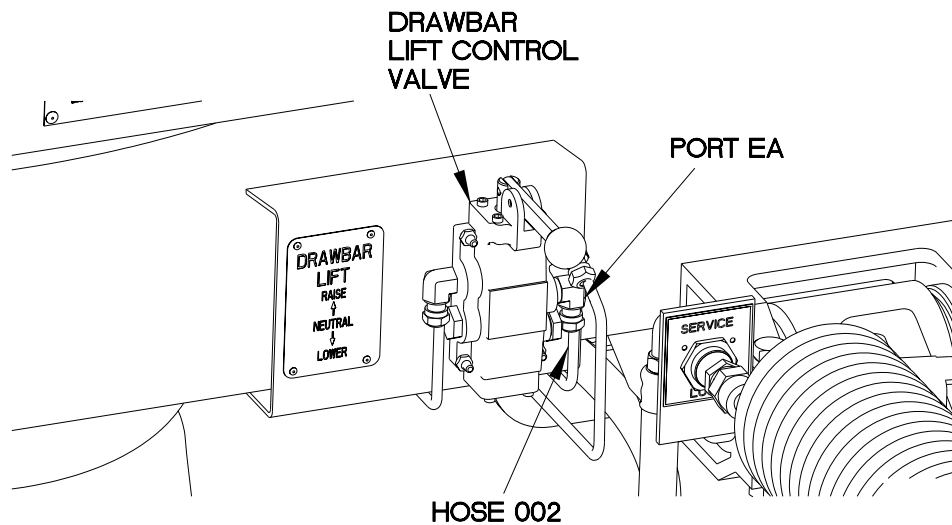
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
3. Is air pressure present at drawbar lift control port A?	No Go to (Indication/Condition 5). Yes Go to (Indication/Condition 6).	1. Disconnect connector on port A from drawbar lift control valve. 2. Lift handle on drawbar lift control valve. 3. Listen and feel for air escaping from port A.



CC050R02

DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

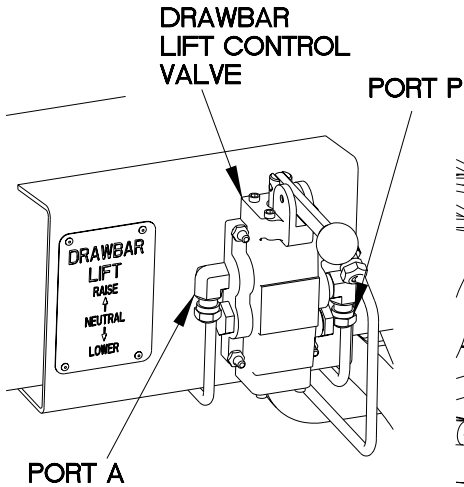
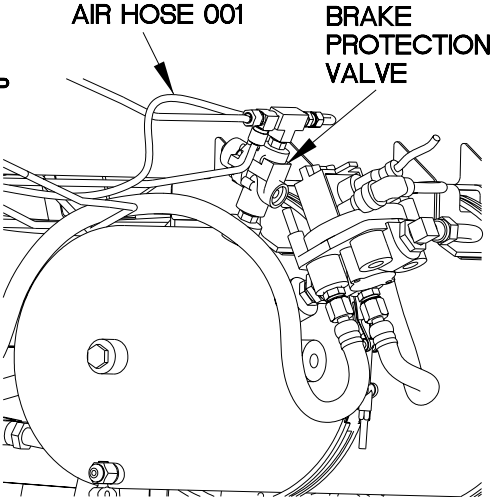
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
4. Is air pressure present at port EA of drawbar lift control valve?	No Replace drawbar lift control valve (WP 0094 00). Yes Replace breather valve (WP 0082 00).	<ol style="list-style-type: none"> 1. Disconnect hose 002 from port EA on drawbar lift control valve. 2. Lower handle on drawbar lift control valve. 3. Listen and feel for air escaping from port EA on drawbar lift control valve. 4. Release handle of drawbar lift control valve.



CC050R03

DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

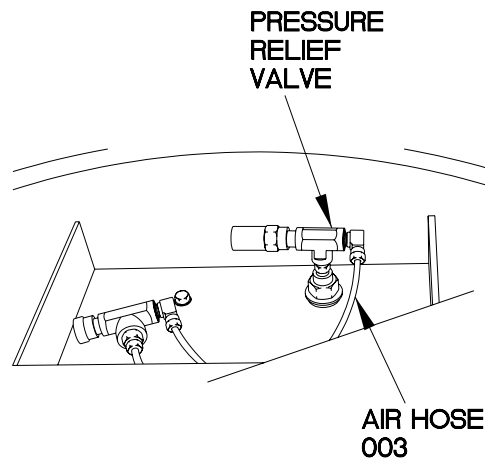
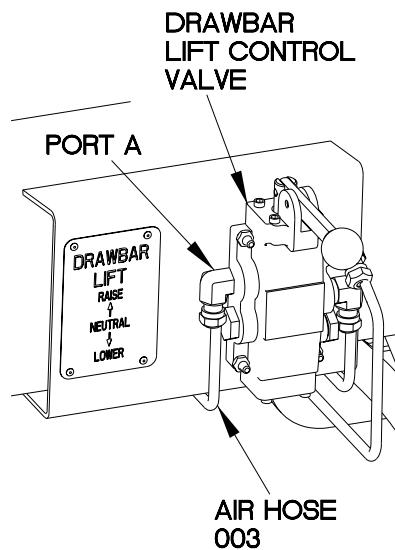
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
5. Does air hose 001 have any kinks, holes, leaks?	<p>No Replace brake protection valve (WP 0075 00).</p> <p>Yes Replace air hose 001.</p>	<ol style="list-style-type: none"> 1. Connect hose 003 to drawbar lift control valve port A. 2. Apply soapy water solution to air hose 001, fittings, and port P. 3. Check air hose 001 between drawbar lift control valve and brake protection valve for bubbles indicating holes or leaks. 4. Check fittings for bubbles indicating leaks.

CC050R04

DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
6. Does air hose 003 have any kinks, holes, leaks?	<p>No Go to (Indication/Condition 7).</p> <p>Yes Replace air hose 003.</p>	<ol style="list-style-type: none"> 1. Connect air hose 003 to port A on drawbar lift control valve. 2. Lift turntable from frame for access (WP 0099 00). 3. Apply soapy water solution to air hose 003, fittings, and connector A on drawbar lift control valve. 4. Raise handle on drawbar lift control valve. 5. Check air hose 003 and fittings between drawbar lift control valve and pressure relief valve for bubbles indicating holes or leaks.

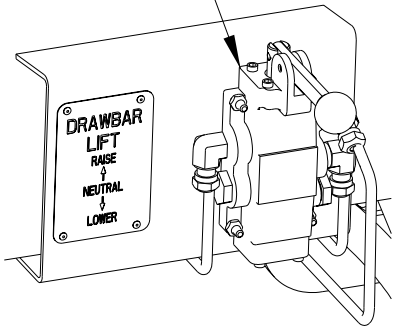


CC050R05

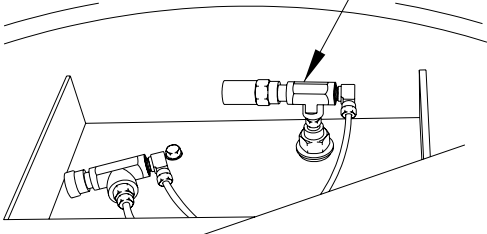
DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
7. Is air escaping from pressure relief valve?	No Go to (Indication/Condition 8). Yes Replace pressure relief valve (WP 0068 00).	<ol style="list-style-type: none"> 1. Charge trailer air system (TM 9-2320-392-10). 2. Raise handle on drawbar lift control valve. 3. Listen and feel for air escaping from pressure relief valve. 4. Release drawbar lift control handle.

**DRAWBAR
LIFT CONTROL
VALVE**



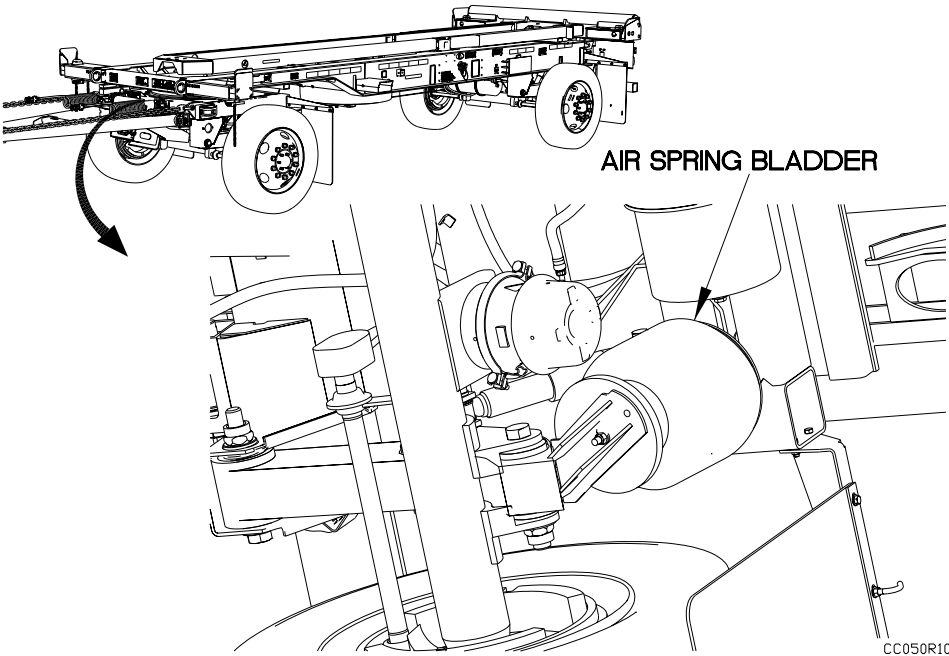
**PRESSURE
RELIEF VALVE**



CC050R06

DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

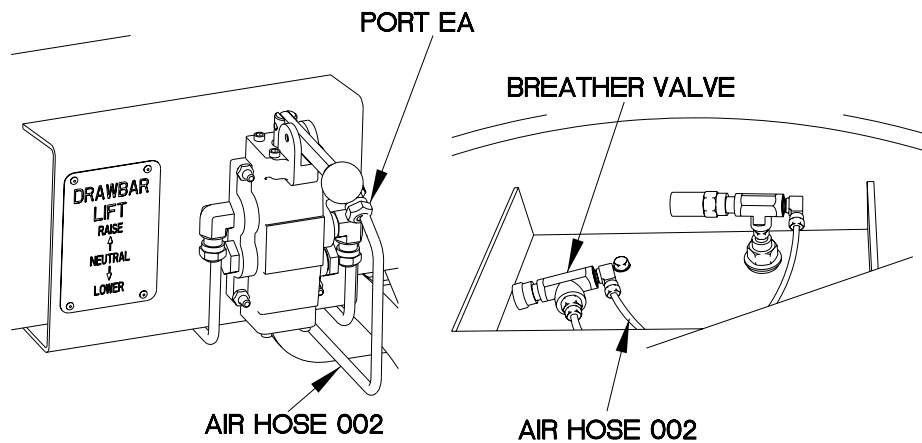
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
8. Is air escaping from air spring bladder?	No Go to (Indication/Condition 9). Yes Replace air spring bladder (WP 0096 00).	<ol style="list-style-type: none"> 1. Charge trailer air system (TM 9-2320-392-10). 2. Raise handle on drawbar lift control valve. 3. Apply soapy water solution to air spring bladder. 4. Look for bubbles to show air escaping from air spring bladder. 5. Release drawbar lift control handle.



CC050R10

DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****PNEUMATIC TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

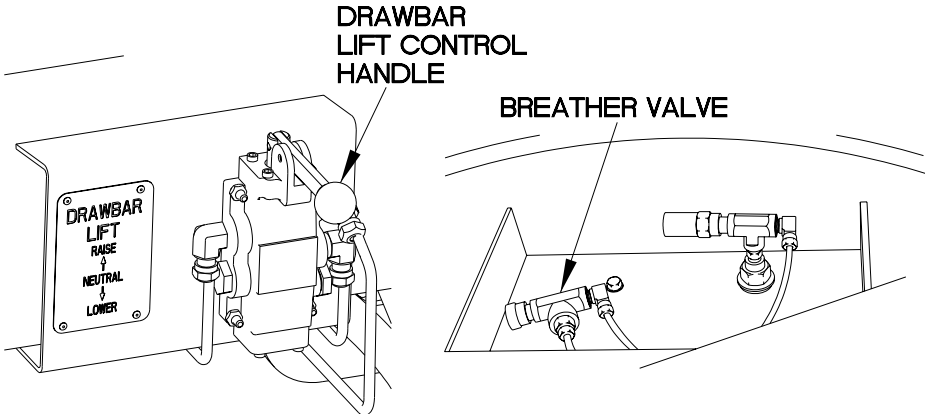
INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
9. Does air hose 002 have any kinks, holes, or leaks?	<p>No Go to (Indication/Condition 10).</p> <p>Yes Replace air hose 002.</p>	<ol style="list-style-type: none"> 1. Apply soapy water solution to air hose 002, fittings, and connector EA on drawbar lift control valve. 2. Raise drawbar lift control valve handle. 3. Check air hose 002 between drawbar lift control valve and breather valve for bubbles indicating holes or leaks. 4. Check fittings for bubbles indicating leaks. 5. Release handle on drawbar lift control valve.



CC050R07

DRAWBAR DOES NOT RAISE/LOWER -Continued**0050 00****ELECTRICAL SYSTEM TROUBLESHOOTING - Continued****Table 1: Drawbar Does Not Raise/Lower**

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
10. Is air escaping from breather valve?	No Replace drawbar lift control valve (WP 0094 00). Yes Replace breather valve (WP 0082 00).	<ol style="list-style-type: none"> 1. Charge trailer air system (TM 9-2320-392-10). 2. Raise handle on drawbar lift control valve. 3. Listen and feel for air escaping from breather valve. 4. Release drawbar lift control handle.



The diagram consists of two line drawings. The left drawing shows a mechanical assembly with a handle. A label 'DRAWBAR LIFT CONTROL HANDLE' with an arrow points to the handle. To the left of the handle is a rectangular plate with the text 'DRAWBAR LIFT', 'RAISE', 'NEUTRAL', and 'LOWER' with arrows indicating the handle's movement. The right drawing shows a close-up of a valve assembly. A label 'BREATHER VALVE' with an arrow points to a small valve on the side of the main assembly.

CC050R08

END OF WORK PACKAGE

OVERLOAD INDICATOR DOES NOT OPERATE

0051 00**THIS WORK PACKAGE COVERS:**Pneumatic System Troubleshooting

INITIAL SETUP:**Maintenance Level**

Field

Personnel Required

Two

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Air system charged (TM 9-2320-392-10)

Materials/Parts

Ties, Cable, Plastic (Item 20, WP 0165 00)

Soap, Laundry (Item 16, WP 0165 00)

ReferencesTM 9-2320-392-10

PROCEDURE**WARNING**

Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Failure to comply may result in injury to personnel.

Wear appropriate eye protection when working under trailer due to possibility of falling debris. Failure to comply may result in injury to personnel.

NOTE

Return vehicle to mission capable condition and perform (Operational Checkout and Troubleshooting Procedures WP 0013 00) after a corrective action has been performed.

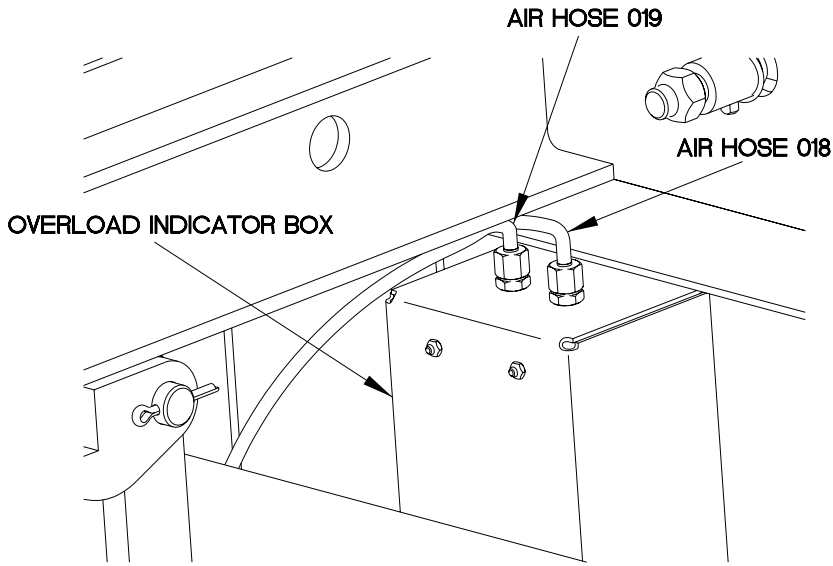
Tag hoses and connection points prior to disconnecting.

Remove plastic cable ties as required.

OVERLOAD INDICATOR DOES NOT OPERATE-Continued**0051 00****THIS WORK PACKAGE COVERS:**

Pneumatic System Troubleshooting

Table 1: Overload Indicator Does Not Operate

INDICATION/CONDITION	DECISION (NO/YES)	PROCEDURAL STEPS
1. Is air present at connection points to gauge at air hoses 018 and 019?	No. Go to (Indication/Condition 2). Yes. Replace Overload Indicator (WP 0106 00).	1. Loosen air hoses 018 and 019 from overload indicator connection points. 2. Charge air system. 3. Check to see if air escapes at connection points of air hoses. 4. Tighten air hose connections at overload indicator.
		
2. Do air hoses 018 or 019 have any kinks, leaks or holes in them?	No. Proceed to Suspension System Sits Uneven (WP 0045 00). Yes. Replace air hoses 018 and/or 019.	1. Apply soapy water solution to air hoses 018 and 019 and fittings. 2. Check air hoses 018 and 019 between overload indicator for bubbles indicating holes or leaks. 3. Check hoses 018 and 019 for kinks.

END OF WORK PACKAGE