

CAGE CODE 14213

SS-R42351
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— ARNING
BONNER
(SSR42351.DOC)

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9613 *BB*
2882 *BB* 7/2/94

SAND--95-2498

FUNCTIONAL TEST PROCEDURE, FIFTH WHEEL (U)

CHANGE HISTORY

<u>CONTROL NUMBER</u>	<u>ISSUE</u>	<u>RELEASE/CHANGE NO.</u>	<u>DATE</u>
SS-R42351-000	A	CER 931411SA	10/18/93
	B	FCO 940373SA	4/94
	C	FCO 940736SA	7/94
	D	FCO 940373 941031 \$ A	

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Classification changed to "Unclassified" by authority of Bruce D. Green, Class. Analyst, and R. B. Craner, Class. Officer, Dept. 13214, by Carmela M. Gallegos: 11/28/94 (13214 NA 94/807).

Verification Witness: *Teddie C. Bruce*, 11/28/94
Teddie C. Bruce, 13214

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4. EQUIPMENT

The following equipment is required for initial assembly/maintenance and inspection/resetting of the Fifth Wheel System.

- Training Tester Kit (Dwg R24985)
- N₂ Gas Bottle
 1. For training configuration, use N₂ gas bottle per Dwg R08664.
 2. For testing, use N₂ gas bottle of any size with minimum pressure of 1200 psig.
 3. For fleet operation, use N₂ Eager-Pac #1812-102-06.
- Shorting Plug (Dwg R35887)
- Pigtail, FW Tester, Gas Bottle (R37747)
- Wrist Strap
 - Verification of wrist strap prior to use.
 - Use of a wrist strap is mandatory when working with the compressed gas bottle.
 - Use of the wrist strap shall be verified by the user prior to performing the procedure. Ensure that the instrument used for measuring resistance is calibrated as per your site requirements. Resistance between the wrist band and the alligator clip shall be between 800,000 Ω and 1,200,000 Ω.
 - Ensure the alligator clip is insulated and no bare metal is exposed. Contact with the metal clip and your fingers defeats the purpose of the high resistance wrist strap.
 - Simpson Model 260 Voltmeter or equivalent (use on Test 4, Page 13; Step 7.19)
 - Valhalla 4314A Digital Igniter Tester (use on Test 3, Page 13, Step 7.41 or Step 6.5)
 - Weight measuring scale (certified to ±1 gram accuracy)

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6. Initial Assembly/Maintenance Inspection Procedures

License Number _____ Date of Test _____

6.1 Ignition switch in "OFF" position. _____

6.2 Remove gas bottle cover. _____

CAUTION

- Bonding required during Steps 6.3 through 6.5
- Verify that wrist strap has continuity (see Para. 4)

6.3 Attach wrist strap to wrist and the clip end to fill valve of Eager-Pac gas bottle. _____

6.4 Disconnect J4 electrical connector from Eager-Pac gas bottle. _____

6.5 At this point do the following:
a. Install pigtail (R37747) on Eager-Pac valve.
b. Measure bridgewire resistance on Eager-Pac valve and record on Eager-Pac Data Sheet.
(Test #3, Page 13, use Valhalla tester.)
• Limits: 0.9 to 1.2 Ω (Use 1.5 mA setting.)
c. Remove pigtail (R37747). Install shorting plug (Tooling #R35887) on Eager-Pac valve. _____

6.6 Remove wrist strap. _____

6.7 Disconnect manifold hose from Eager-Pac gas bottle, and remove air line fitting from Eager-Pac bottle and store for future use. _____

CAUTION

Place the compressed gas bottle on a non-conducting surface (i.e., wood) when the bottle is removed from the vehicle for testing.

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6. Initial Assembly/Maintenance Inspection Procedures (continued)

License Number _____ Date of Test _____

6.18 Pull access cover from valve panel

- Turn on Command key.
- Break seal on Command switch.
- "CMD 1-2" light "ON."

6.19 Activate "CMD 1-2" switch to both positions.

- "CMD 1-2" light goes "OFF."
- "REVERSE" light comes "ON."

CAUTION

"TRACTOR PARKING BRAKE" must be set before shifting into reverse. "SERVICE BRAKES" are inoperative during Steps 6.21 and 6.22.

6.20 Set "Tractor Parking Brake."

6.21 Move shift lever to "Reverse."

- "REVERSE" light goes "OFF."
- "VALVE" light comes "ON."
- Brake system reverses (see Para 5.5).

6.22 Move valve handle (V1) "DOWN."

- Piston on fifth wheel extends.
- "VALVE" light goes "OFF."
- Fifth wheel locks open.
- "SHIFT & GO" light comes "ON."
- "FIRED" light comes "ON."
- "FIRED BUZZER" comes "ON."
- Brake system returns.
- While piston is extended, oil the exposed piston shaft rod using 15W40 oil.

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7. Reset System/Eager-Pac Installation

License Number _____ Date of Test _____

- 7.1 Turn ignition switch to "ON" position.
(Do not start engine.)
 - "Fired" light comes "ON."
 - Valve handle (V1) must be in UP position._____
- 7.2 Remove cap from front of gas manifold
(Dwg S97581, Item 30).

- 7.3 Reset pressure switch (S7) (Dwg S97581, Item 1).
 - "FIRED" light goes "OFF."_____
- 7.4 Install cap on gas manifold (Dwg S97581, Item 30).

- 7.5 Press reset switch (S5) (Dwg S97581, Item 25).
 - "CMD 1-2" light comes "ON."_____
- 7.6 Close valve on N₂ cylinder.

- 7.7 Disconnect Fifth Wheel training valve, air hose, and air regulator, and remove training valve.
Disconnect J4 connector.

- 7.8 Install cover over valve (V1).
 - "CMD 1-2" light goes "OFF."_____
- 7.9 Turn ignition switch to "OFF" position.

- 7.10 Install seal on valve cover and "CMD 1-2" switch.

CAUTION

Do not remove shorting plug when weighing
Eager-Pac gas bottle.

- 7.11 Weigh Eager-Pac gas bottle and record weight on
Eager-Pac Data Sheet (Page 13). (New or Yearly)
 - If the weight of the Eager-Pac gas bottle has
decreased by more than 40 grams (from original
weight marked on the bottle) the bottle shall
be replaced._____

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7. Reset System/Eager-Pac Installation (continued)

License Number _____ Date of Test _____

7.18 Connect air line from manifold to Eager-Pac gas bottle. _____

7.19 Perform a pin to pin and a pin to ground "STRAY VOLTAGE CHECK" on P4 cable and record on Eager-Pac Data Sheet. (Test #4, Page 13.)

- Limits: 0 to 0.10 V. (Use Simpson meter or equivalent.) _____

CAUTION

- Before connecting J4 electrical connector to Eager-Pac gas bottle, verify that Step 7.19 has been performed.
- Bonding required during Steps 7.20 through 7.22.
- Verify that wrist strap has continuity. (see Para 4).

7.20 Attach wrist strap to wrist and clip end to fill valve of Eager-Pac gas bottle. _____

7.21 Remove shorting plug (Part #R35887) from Eager-Pac valve. _____

7.22 Connect J4 electrical connector to Eager-Pac valve.

- Remove wrist strap. _____

7.23 Install cover over gas bottle. _____

7.24 Install witness wire on Fifth Wheel Assembly. _____

7.25 Start tractor and test "SERVICE BRAKES." _____

7.26 Open Fifth Wheel jaws manually. _____

7.27 Complete Data Sheet on Page 13. _____

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EAGER-PAC DATA SHEET

TRACTOR LICENSE _____ DATE OF TEST _____

1. Eager-Pac Serial Number _____

Original Bottle Weight _____ Grams

minus _____ Grams

(Total Weight) _____ (Shorting Plug) _____

WEIGHT LOSS _____ Grams

Weight Scale Serial No. _____ Calibration Exp. Date: _____

Weight Number (if used) _____ Calibration Exp. Date: _____

2. New Bottle Required? YES _____ NO _____

New Bottle Serial No. (if applicable) _____

New Bottle Weight _____ Grams

minus _____ Grams

(Total Weight) _____ (Shorting Plug) _____

WEIGHT LOSS _____ Grams

3. Bridgewire Resistance Check: (Valhalla 4314A Digital Igniter Tester)

Ohms Limits: 0.90 to 1.20 Ω Resistance Reading _____ Ω

Tester Serial No. _____ Tester Model _____

Calibration Exp. Date: _____

4. Stray Voltage Check: (Limit 0 to 0.10 V) (Simpson meter, Model 260 or equiv.)

Pin to Pin Voltge Reading _____ Volts

Pin to Ground Voltage Reading _____ Volts

Tester Serial No. _____ Tester Model _____

Calibration Exp. Date _____

Technician Signature

Technician Signature

Supervisor Signature

Date

Facility Location

Copy to: Sandia National Laboratories/NM, MS 0790, Org 9613, Attn: Charles Arning

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