

## **LITE-CHECK LLC**

"DIAGNOSTIC TECHNOLOGY FOR VEHICLE SAFETY"

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## **LITE-CHECK 912**

**VEHICLE CERTIFICATION TESTER**

# LITE-CHECK LLC

*“Diagnostic Technology For Vehicle Safety”*

➤ **WHO IS LITE-CHECK?**

Headquartered in Spokane, WA, and founded in 1986, LITE-CHECK is a leader in providing tools for trucking industry safety diagnosis. The company designs, manufactures and markets a range of testers, which are used to test and diagnose the braking and lighting systems of heavy-duty trucks and trailers.

More than 3,000 LITE-CHECK products from over 700 customers are being used today, providing these users with a totally integrated solution to diagnose brakes, lights, air and electrical operations. Customers include trucking industry leaders from the United States, Canada and Mexico. This impressive customer base encompasses: truck and trailer manufacturers, trailer fleets, truck and trailer maintenance shops, Government agencies, and the United States Military.

➤ **WHY LITE-CHECK PRODUCTS?**

As governmental mandates continue to emerge, the requirement for scheduled safety analysis and record keeping has created urgency for LITE-CHECK products. LITE-CHECK patented innovative products benefit the operator in more ways than merely providing an integrated diagnostic tool. LITE-CHECK products aid vehicle inspectors with speed, ease and accuracy of the diagnosis. With a LITE-CHECK tester a documented record can be provided to enhance and assist in warranty and liability resolutions.

In addition to requirements for safety analysis, vehicle technology is continuing to emerge and change. Anti-lock brakes are mandated today; electronic brakes are not far behind. The future will hold new technology. These new technological advances manufactured into these vehicles can no longer be tested with “home grown” methods. LITE-CHECK products meet and exceed all of TECHNOLOGY AND MAINTENANCE COUNCIL’s (TMC) published criteria for vehicle maintenance tools and practices. LITE-CHECK employees are dedicated to enabling their products to become universal for all brake manufacturers.

LITE-CHECK products are the answer to the needs in the trucking industry:

- Simple easy to use.....means.....No extensive training is needed.
- One person operation.....means.....Cost savings, accelerated payback.
- Accurate results .....means.....Correct malfunction is detected.
- Documented record .....means..... Liability claims will be reduced.
- Easily upgradeable .....means ..... No product obsolescence.

# **LITE-CHECK 912 CERTIFICATION TESTER FOR HEAVY DUTY VEHICLES**

The LITE-CHECK 912 vehicle certification tester has been designed for today's trailer manufacturing requirements for 'end of the line testing'.

## FEDERAL MANDATES:

- FMVSS 121 brake timing
- Air system leak down test
- PLC test with ABS
- Certified record for each vehicle

## CUSTOMER REQUIREMENTS:

- Verify electrical system operation
- Verify brake operation
- Verify PLC/ABS operation

## MANUFACTURING REQUIREMENTS:

- Quality Assurance
- Accurate complete record keeping
- Warranty tracking
- Liability protection

The LITE-CHECK 912 tester will perform the above requirements within 10 minutes including hook-up, test, record, and disengage.

The LITE-CHECK software controls the operation eliminating operator errors and guaranteeing a consistent reliable test of the braking, electrical, and electronic systems.

# **LITE-CHECK 912 CERTIFICATION TESTER WITH COMPUTER OPERATION**



## **THE COMPLETE TRAILER END-OF-THE-LINE TESTER**

**ELECTRICAL TEST**

**AIR OPERATION**

**LEAK DOWN TEST**

**ABS CONFIGURATION**

**121 BRAKE RESPONSE TIMING**

**AIR DIFFERENTIAL TEST**

**EMERGENCY AIR RELEASE TEST**

**WITH**

**AUTOMATIC COMPUTER OPERATION AND REPORT PRINT**

**REMOTE CONTROL OPERATION**

**AUTOMATIC SENSOR CALIBRATION**

# LITE-CHECK 912 TEST FEATURES

## Testing electrical circuits

1. Constant display of circuit voltage and amperage
2. Automatic fault detection with display description and alarm
3. Verify vehicle wiring installation with remote control
4. Perform TMC 141 electrical load test for trailer
5. Record system data

## Testing air systems

1. Visual inspection of brake operation with remote control
2. Automatic air leak detection with display information and alarm
3. Perform FMVSS '121' brake timing test
4. Air differential test for towing vehicles
5. Emergency brake set
6. Record system data

## Configure and test ABS

1. Configure ECU with NOREGON PLC ADAPTOR
2. Verify ABS operation
3. Perform end-of-the-line test for air and electrical hook-up
4. Record ABS data

## LITE-CHECK computer program

1. Controls and monitors test process
2. Automatic alarms for system failures
3. Reduces operator error
4. Records secured test data
5. Automatic report print

## LITE-CHECK reports

1. Automatic time/date
2. Includes test station serial number with software revisions
3. Identifies operator
4. Saves to Vin number
5. Fields for customer, vehicle specifications
6. Includes manual and automatic test data

## LITE-CHECK self-test

1. Software controlled
2. Automatic air sensor calibration
3. Self-test routines for system certification

**LITE-CHECK LLC.**  
**"DIAGNOSTIC TECHNOLOGY FOR VEHICLE SAFETY"**  
**SAMPLE TRAILER TEST REPORT**

LITE-CHECK 912 GUI REV. 2.1 TESTER REPORT FEBRUARY 1, 2005 09:54 PASS# 1

VIN NUMBER	TRAILER NUMBER
CUSTOMER	CUSTOMER
OPERATOR	NAME
ORDER NUMBER	WORK ORDER
USER 1	to be assigned - (trailer specifications)
USER 2	to be assigned
USER 3	to be assigned
USER 4	to be assigned
USER 5	to be assigned
USER 6	to be assigned
TESTER SN#	60011
TESTER REV	3.0                      HUB REV 2.00

ELECTRICAL CONDITION		VOLTS	AMPS	TEST MODE	STATUS
2-BRAKE	GOOD	12.89	2.32	AUTO	PASS
3-MARKER	GOOD	13.05	2.18	AUTO	PASS
4-AUXIL.	GOOD	12.89	2.37	AUTO	PASS
5-LEFT	GOOD	13.02	2.18	AUTO	PASS
6-TAIL	GOOD	13.42	2.25	AUTO	PASS
7-RIGHT	GOOD	13.34	2.24	AUTO	PASS
2-BRAKE	GOOD	13.82	2.32	MANUAL	PASS
3-MARKER	GOOD	13.33	2.22	MANUAL	PASS
4-AUXIL.	GOOD	13.33	2.42	MANUAL	PASS
5-LEFT	GOOD	13.34	2.22	MANUAL	PASS
6-TAIL	GOOD	13.39	2.25	MANUAL	PASS
7-RIGHT	GOOD	13.39	2.23	MANUAL	PASS

AIR SYSTEM	STARTPSI	ENDPSI	LOSS	TEST MODE	STATUS
EMERGENCY	100	100	0	AUTOMATIC	PASS
SERVICE	95	95	0	AUTOMATIC	PASS

CHAN	SENSOR	LOCATION	EMER.SET	121 SET	121 REL
5	AIRSENS	CURB 2		0.501	1.101
6	AIRSENS	ROADSIDE 2		0.509	1.010
7	AIRSENS	EMER 4	0.901		

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ABS DETECTED.                      PASS

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AIR DIFFERENTIAL                      PASS

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EMERGENCY SET                      PASS

The ABS report is printed on second page.  
 Air differential data is saved with file.

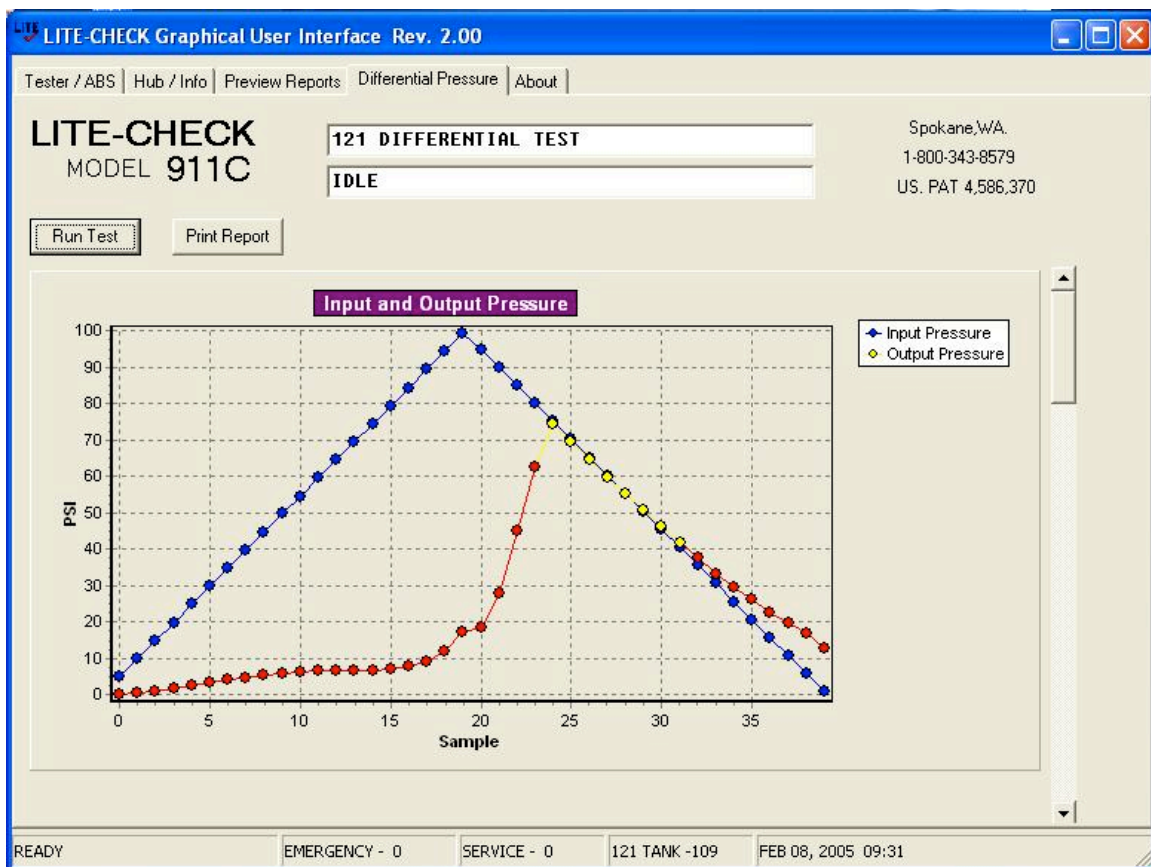
# DIFFERENTIAL TEST

LITE-CHECK CERTIFICATION TESTER performing a towing vehicle differential test.

This is an active online graph of an air differential test by the LITE-CHECK certification tester showing:

1. Blue line is the input pressure.
2. Yellow line (between 23 – 31 psi on the down side) output pressure is within specification.
3. Red line is the output pressure outside of specification.

A restriction was placed in the output line to create the fail condition.



The test data is saved with the Certification Test file.

# FLEET SURVEY

## LITE-CHECK 912 CERTIFICATION TESTER

page 1 of 3

COMPANY: \_\_\_\_\_ DATE: \_\_\_\_\_

COMPLETED BY: \_\_\_\_\_

The following questions are to identify the set-up requirements for the LITE-CHECK.

### **TYPE OF BUSINESS**

\_\_\_\_\_ VEHICLE MANUFACTURING

\_\_\_\_\_ FLEET SERVICE

\_\_\_\_\_ FLEET DOT INSPECTIONS

\_\_\_\_\_ ACCIDENT INVESTIGATION

**VEHICLE DESCRIPTIONS:** \_\_\_\_\_

\_\_\_\_\_

### **VEHICLE CONFIGURATION**

\_\_\_\_\_ Single trailer with \_\_\_\_\_ axles

\_\_\_\_\_ Multiple (\_\_\_\_) trailers with \_\_\_\_\_ axle sets

\_\_\_\_\_ Tractor trailer combination with \_\_\_\_\_ axle sets

\_\_\_\_\_ Single truck with \_\_\_\_\_ axles

### **TEST EQUIPMENT MOUNTING**

\_\_\_\_\_ Fixed position for bay operation

\_\_\_\_\_ Mounted on wheeled cart for in shop use

\_\_\_\_\_ Mounted in service truck for site use

### **OUTPUT**

\_\_\_\_\_ Tester display

\_\_\_\_\_ Printed report

\_\_\_\_\_ Store information on electronic file- computer, disk, server

\_\_\_\_\_ Computer link with \_\_\_\_\_ sites (download to corporate mainframe)

### **PURPOSE**

\_\_\_\_\_ Customer document

\_\_\_\_\_ DOT inspection

\_\_\_\_\_ Certification

\_\_\_\_\_ Liability

\_\_\_\_\_ Quality control analysis

\_\_\_\_\_ Vendor warranty history

\_\_\_\_\_ DOT 121 vehicle compliance



**SURVEY**  
**LITE-CHECK 912 CERTIFICATION TESTER**

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COMPANY: \_\_\_\_\_ DATE: \_\_\_\_\_  
COMPLETED BY: \_\_\_\_\_

**ELECTRICAL SPECIFICATIONS**

\_\_\_\_\_ **12volt**, standard 7w connections with any of the following  
\_\_\_\_\_ 4w, \_\_\_\_\_ 5w, \_\_\_\_\_ 6w, \_\_\_\_\_ ISO, \_\_\_\_\_ 13w, \_\_\_\_\_ other  
\_\_\_\_\_ 24volt, \_\_\_\_\_ connection

**AIR BRAKE SPECIFICATIONS**

\_\_\_\_\_ Emergency air pressure (110psi with 3 psi/min loss)  
\_\_\_\_\_ Service air pressure ( 90psi with 2 psi/min loss)

**IDENTIFY TYPE OF TESTS AND INFORMATION NEEDED**

**ELECTRICAL**

\_\_\_\_\_ Voltage, amperage, and condition of vehicle electrical circuits  
\_\_\_\_\_ Verify system wiring (walk around with remote control)

**AIR BRAKE**

\_\_\_\_\_ Visual brake operation- slack adjustment (walk around with remote control)  
\_\_\_\_\_ Air leak test of brake system  
\_\_\_\_\_ S121 mini tractor testing with \_\_\_\_\_ transducers  
\_\_\_\_\_ Air differential test  
\_\_\_\_\_ Emergency brake set

**ABS TESTING (with NOREGON PLC ADAPTOR)**

\_\_\_\_\_ ECU configuration  
\_\_\_\_\_ Verify operation, read codes  
\_\_\_\_\_ End of line test (verify ABS hook-up)

**ABS MANUFACTURER**

\_\_\_\_\_ WABCO  
\_\_\_\_\_ HALDEX  
\_\_\_\_\_ BENDIX - PLC

# SURVEY

## LITE-CHECK 912 CERTIFICATION TESTER

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COMPANY: \_\_\_\_\_ DATE: \_\_\_\_\_  
COMPLETED BY: \_\_\_\_\_

**COMPUTER OPERATION-** The LITE-CHECK 912 tester is computer driven to perform the tests and collect the information.

**CUSTOM SOFTWARE** (to be supplied by LITE-CHECK)

- \_\_\_\_\_ Your heading
- \_\_\_\_\_ Printed report with vehicle specifications
- \_\_\_\_\_ Component information- manufacturer, model, serial #, etc.
- \_\_\_\_\_ Your process with pass/fail conditions

## SAMPLE TEST PROCEDURE

1. CONNECT LITE-CHECK TO VEHICLE
  - a. Operator enters VIN and his employee number/name
  - b. Load vehicle information
  - c. Create computer file
  
2. CONFIGURE ABS
  - a. Select ABS software on computer
  - b. Perform configuration routine
  - c. Auto save data
  
3. WALK AROUND VEHICLE FOR VISUAL OPERATION with Remote Control
  - a. All lamps are operating
  - b. Circuit wiring is correct
  - c. Brake slack adjusters are in adjustment
  - d. Manual Air leak test
  - e. Auto save data
  
4. AIR DIFFERENTIAL TEST (if required)
  - a. Install manifold and 50 cc canister
  - b. Automatic test by computer
  - c. Auto save data
  - d. Remove manifold and 50 cc canister
  
5. COMPUTER OPERATION
  - a. Initiate test
  - b. Cycles through electrical circuits to measure and identify conditions
  - c. Apply emergency and service air to measure air loss
  - d. Perform 121 timing test
  - e. Auto save test data
  - f. Auto print report
  
4. DISCONNECT TESTER FROM VEHICLE

**ALARM SOUNDS WHENEVER TEST RESULTS INDICATE FAILURE.**