



CORPORATE ADDRESS:

202 Plaza Drive, Manchester, PA 17345  
Ph. 717-266-8762, Fax 717-266-7803

Web site: penntexusa.com  
E-mail: tech@penntexusa.com

SHIPPING/ MANUFACTURING ADDRESS:

7620 Flagstone Drive, Fort Worth, TX 76118  
Ph. 817-590-2818, Fax 817-590-0505  
Warranty Toll-Free Line: 877-590-7366  
Warranty Fax Line: 817-590-0398

## SERVICE WARRANTY PROCEDURE

### 2009-Up Ford Applications utilizing the PX-7000 Regulator

In order to validate the PennTex warranty, PennTex Industries, Inc. must be contacted before doing any charging system repair or diagnosis. PennTex understand that the vehicle owner/end user wants to get their vehicle fixed as soon as possible. To help you do this, PennTex Industries, Inc. has a six-step plan for you to follow. (More detailed information on a PennTex warranty can be found at [www.penntexusa.com](http://www.penntexusa.com).)

**STEP ONE: Complete Charging System Test.** PennTex charging systems utilize external voltage regulators that are usually mounted inside the vehicle on the passenger side. They can be located in areas just under the dash, or in the unused air-bag compartment, or even in the floor area behind the kick panel.

**\*VERY IMPORTANT\*:** Testing the Ford '09-up charging systems must be done with a digital voltmeter at the regulator, with the regulator plugged in, on the Red, Orange, Blue wire terminals. Voltage readings taken at the alternator connectors may be different and do not apply in this test. Wire color codes are Red: Battery Voltage; Orange: Stator Voltage; Blue: Rotor Field Voltage. (*Please see attached testing procedures*)

The test is to take place four times: First: Ignition off (key off)  
Second: Ignition on (key on, engine not running)  
Third: Engine on (key on, engine idle)  
Fourth: Key on Engine on, High Idle (approximately 1000 rpm + -)

All accessories should be OFF during these tests. Record your results in the table attached and then **fax the results to the Warranty Fax Line (817-590-0398)** to have your readings reviewed. List a phone number and Contact Person so we can call you back. We will need the model number and serial number from the alternator ID tag on the front housing of the alternator. (*The alternator model number and serial number will be required to ship replacement parts.*)

**STEP TWO: PennTex will review the readings** with you and help diagnose the problem to determine if the problem is with the alternator, regulator, harness/connections, batteries, or a possible combination of failures. Warranty coverage will be determined at that time. If your charging system problem is determined to be covered by PennTex warranty, we will ask you to fill out the PennTex Warranty Claim Form as completely as possible and fax it back to 817-590-0398. **All Italicized areas on the Warranty Claim Form are REQUIRED information. We must have that information to ship a replacement alternator.**

**STEP THREE: Parts Shipment.** We will ship the replacement part(s) to you or we will arrange for a local distributor to ship or replace the defective part(s) promptly. PennTex Industries, Inc. will pay for UPS Ground shipment of these replacement parts from the Fort Worth, Texas plant. You can upgrade to UPS Red/Blue air service but you are responsible for paying the extra charge. That extra amount will be deducted from any labor claim. PennTex will assist with labor charges based on the attached flat rate time allowance schedule.

**STEP FOUR: We want the old parts back.** We will issue a Returned Goods Authorization (RGA) number to authorize the return of the defective part(s). This RGA number is very important as it allows PennTex to identify your defective parts when they have been returned to PennTex. Use the provided UPS Return Label for parts return or send the parts and paperwork by ground shipment back to the PennTex Ft. Worth, Texas address only. Parts returned to the Pennsylvania address will be refused and shipped back to you. (*Note your return shipping costs on the claim form on non-return label shipments*) Return parts shipping cost reimbursement is based on UPS Ground shipping rates. Please do not ship parts back by any type of airfreight or the costs will be deducted from any labor reimbursement.

**STEP FIVE: Return your paperwork.** Place a completed copy of the Warranty Claim Form and a completed copy of your Repair or Service Invoice in the box with the defective part(s) being returned. We must have your repair invoice to pay you.

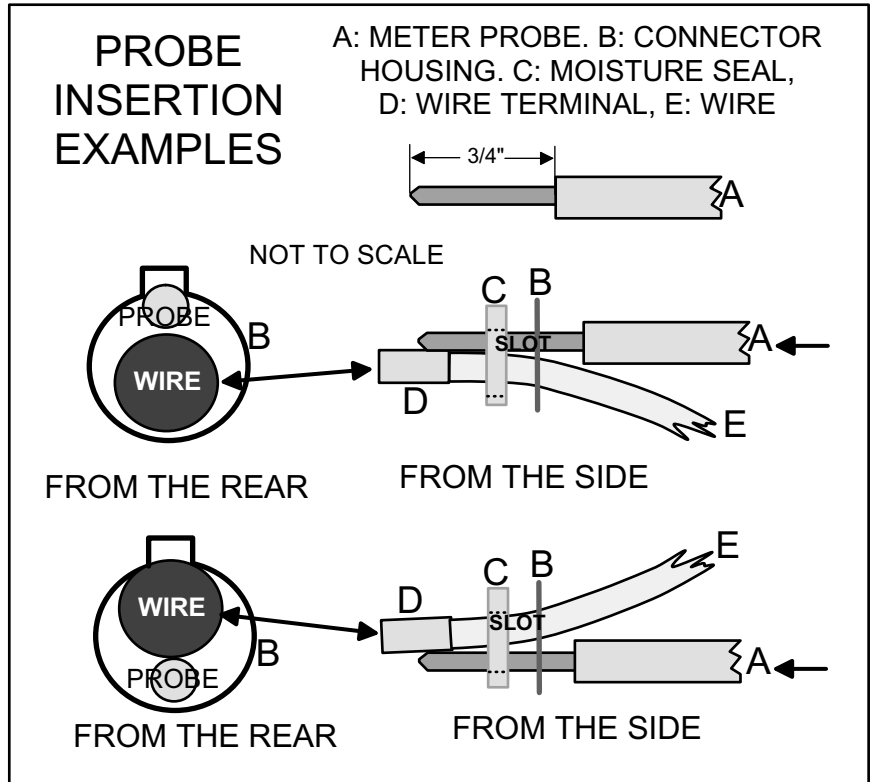
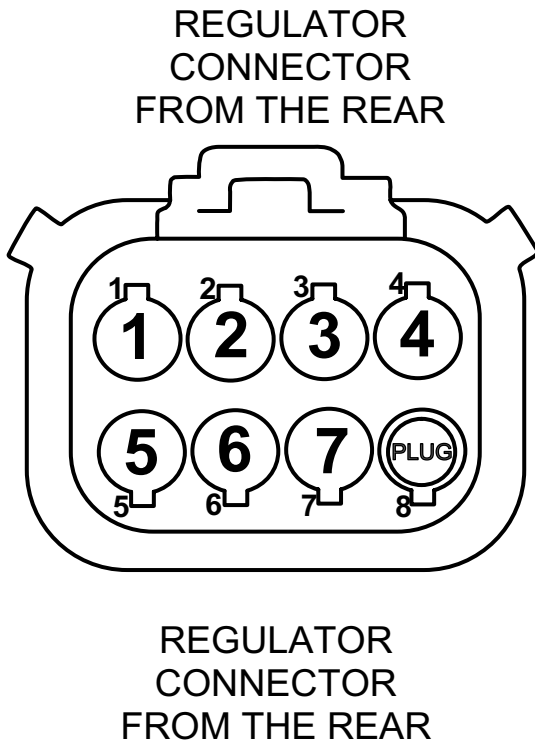
**STEP SIX: Credits and labor payments.** Only after the factory has received the defective parts, Warranty Claim Form, and your Repair or Service Invoice (labor bill) can any credits or labor claims be processed.

### WARRANTY COVERAGE EXCEPTIONS

Burned or broken output posts, worn brushes, belts, batteries, and towing are not covered. Alternators that have been painted, sandblasted, rebuilt without prior PennTex authorization or repaired by using non-PennTex parts are automatically excluded from any warranty coverage. See the PennTex Manufacturers Limited Warranty at [www.penntexusa.com](http://www.penntexusa.com) for a full explanation of warranty coverage.

# TESTING A PENNTEX CHARGING SYSTEM WITH A PX-7000 VOLTAGE REGULATOR

The standard PennTex 4-Step Voltage Test has been revised for PX-7000 voltage regulators. The regulator may have to be taken loose from the vehicle for access to the regulator connector. Voltage readings for the tests can be taken by firmly inserting a digital voltmeter positive probe into the wire holes in the back of the regulator connector. There is a moisture seal inside the connector that each wire passes through before coming out of the back of the connector. If the meter probe is inserted through the same hole that the wire passes through the seal will not be damaged.



The connector moisture seal is the same shape as the rear of the connector housing. It has eight holes and is about 1/8" thick. Inserting a meter probe will stretch the seal hole but it will regain its previous shape. There are 3 steps to getting good probe/wire terminal contact: **1)** Have the regulator where the connector is accessible. **2)** Line the positive meter probe (A) up with the wire. **3)** Slide the probe firmly through the connector (B) along the wire until about 1/2" of the probe is inside the connector. You may have to move the probe in and out just a little to get probe/wire terminal contact. The best wire to get a feel for how this works is wire #1 (large Red). Have the meter turned on with a good ground for the negative probe, and the meter set to DC Volts. There should be voltage on wire #1 all of the time. Follow this 3-step procedure to get a meter reading and it will be easier to do the other wires.

## PX-7000 WIRE CONNECTOR COLORS AND LOCATIONS

- |              |                         |
|--------------|-------------------------|
| 1: Large Red | 5: Small Red            |
| 2: Orange    | 6: Blue with Red Stripe |
| 3: Blue      | 7: Purple               |
| 4: Black     | 8: Plug/no wire         |

**PennTex**  
**INDUSTRIES, INC.**  
 FT. WORTH, TX    MANCHESTER, PA  
 TOLL FREE:                      WEB SITE:  
 877-590-7366                      www.penntexusa.com  
 DRAWING BY DMc                      UPDATED 12-10-08

# CHARGING SYSTEM TEST FOR VEHICLES WITH A PX-7000 REGULATOR

Your Company Name: \_\_\_\_\_

Testers Name: \_\_\_\_\_

Phone: \_\_\_\_\_ Ext: \_\_\_\_\_

Alternator Model Number: \_\_\_\_\_

Alternator Serial Number: \_\_\_\_\_

PX-7000 Serial Number: \_\_\_\_\_

Vehicle Mileage: \_\_\_\_\_

Vehicle Year: \_\_\_\_\_ Make: \_\_\_\_\_ Engine: \_\_\_\_\_



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877-590-7366                      www.penntexusa.com

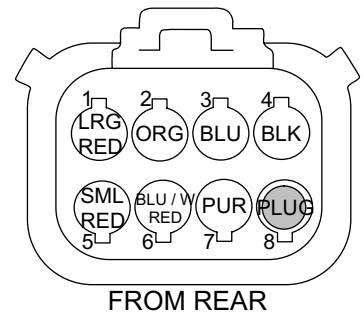
Warranty Flat Rate Schedule  
(If Warranty Verified)  
-Test Charging System using this form: 1/2 (.5) Hour  
-R&R Alternator: 1.0 Hour  
-R&R Regulator: 1/2 (.5) Hour  
-Any additional time is not payable by PennTex Industries, Inc.

Your Shop Hourly Labor Rate:  
\$ \_\_\_\_\_

Locate the external voltage regulator, make sure that everything is properly connected and that the charging system harness has a good ground.  
Complete the following chart using a digital volt meter set on the DC Volts scale.

VOLTAGE READINGS

Regulator Terminals ↓	Test # 1 Ignition Off Engine Off	Test # 2 Ignition On Engine Off	Test # 3 Ignition On Engine On	Test # 4 Ignition On High Idle
Field Terminal (Blue Wire) # 3				
Stator Terminal (Orange) # 2				
Power Terminal (Large Red) #1				
Voltage At The Battery				



**PX-7000  
CONNECTOR  
WIRE COLORS  
AND LOCATIONS:**

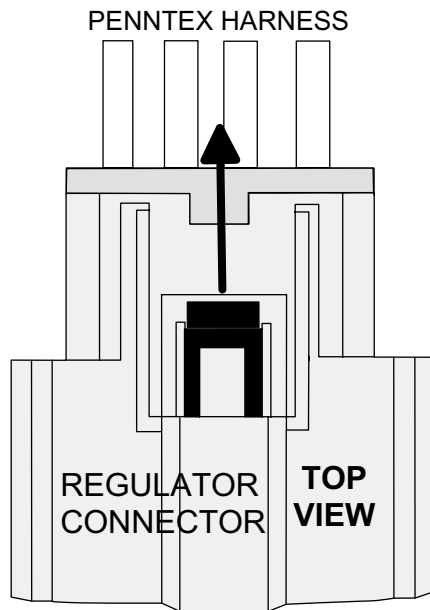
- 1: Large Red
- 2: Orange
- 3: Blue
- 4: Black
- 5: Small Red
- 6: Blue with Red Stripe
- 7: Purple
- 8: Plug/no wire

When this test is completed fax it and the Full-Field Test to 817-590-0398.  
We will review it and contact you.

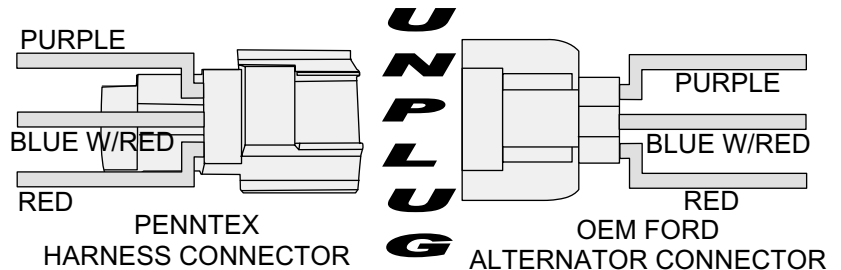
# Penntex INDUSTRIES, INC.

## PX-7000 REGULATOR FULL-FIELD TEST

IF YOU ARE TESTING A PX-4000, PX-5000, OR PX-6000 CONTACT PENNTEX FOR A DIFFERENT TEST



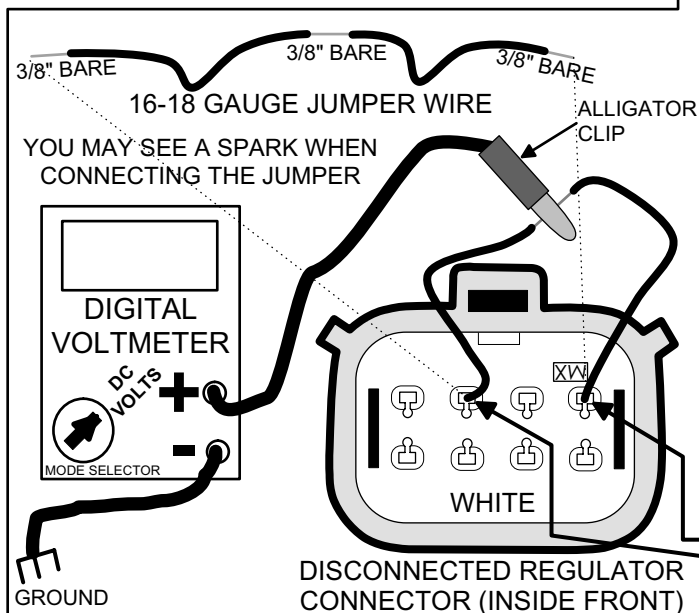
**IMPORTANT!!!!**  
**THE PENNTEX HARNESS USES THE 3-WIRE CONNECTOR THAT ORIGINALLY WAS PLUGGED INTO THE OEM ALTERNATOR. UNPLUG THAT CONNECTOR BEFORE DOING THE FULL-FIELD TEST**



TO REMOVE CONNECTOR FROM REGULATOR  
 PUSH BLACK TAB DOWN AND PULL  
 CONNECTOR AWAY FROM REGULATOR

### FULL-FIELD PROCEDURE:

- 1) TURN OFF ALL ACCESSORIES.
- 2) DISCONNECT THE PENNTEX HARNESS 3-WIRE CONNECTOR AT THE OEM ALTERNATOR PLUG. **DO NOT OMIT THIS STEP!!**
- 3) LOCATE & DISCONNECT THE VOLTAGE REGULATOR.
- 4) USING A 16-18 GA. WIRE, JUMP THE SOLID BLUE AND LARGE RED WIRE TERMINALS AS SHOWN TO THE LEFT.
- 4) START THE VEHICLE; RUN AT IDLE.
- 5) AFTER IT RUNS FOR 15 SECONDS, CHECK THE VOLTAGE AT THE JUMPER WIRE.
- 6) THAT VOLTAGE IS: \_\_\_\_\_.
- 7) RAISE ENGINE RPM TO 1000 RPM.
- 8) CHECK THE VOLTAGE AT THE JUMPER WIRE.
- 9) THAT VOLTAGE IS NOW: \_\_\_\_\_.
- 10) SHUT THE ENGINE OFF.
- 11) REMOVE THE JUMPER WIRE.
- NOTE: DO NOT RUN THE ENGINE MORE THAN 30 SECONDS IN FULL-FIELD MODE. DAMAGE TO THE VEHICLE ELECTRICAL SYSTEM COULD RESULT.
- 12) RECONNECT THE 3-WIRE CONNECTORS FROM STEP 2.



LARGE RED WIRE LOCATION  
 SOLID BLUE WIRE LOCATION

WHEN WAS THE LAST TIME YOU REPLACED YOUR VOLTMETER BATTERIES?

A VERSION OF THIS TEST WITH PHOTOS IS ON OUR WEB SITE: [www.penntexusa.com](http://www.penntexusa.com).

A FULL-FIELD TEST DETERMINES IF AN ALTERNATOR WILL CHARGE WITH THE REGULATOR BYPASSED. AFTER COMPLETING THIS TEST AND THE FOUR-STEP VOLTAGE TEST, FAX THEM TO OUR TECHNICAL DEPARTMENT AT 817-590-0398. WE WILL CONTACT YOU WITH THE RESULTS.

12-23-08

PENNTEX INDUSTRIES, INC. TECH LINE: 877-590-7366 FAX: 817-590-0398

SCALE: NONE

[tech@penntexusa.com](mailto:tech@penntexusa.com)



# PennTex INDUSTRIES, INC.

CORPORATE OFFICE:  
202 Plaza Dr., Manchester, PA 17345  
Ph: 717-266-8762; Fax: 717-266-7803

Web site: www.penntexusa.com  
email: sales@penntexusa.com

MANUFACTURING PLANT:  
7620 Flagstone Dr., Ft. Worth, TX 76118  
Service/ Tech Toll-Free Line: 877-590-7366  
Service/ Tech Fax Line: 817-590-0398

May 2010

## ---WARRANTY CLAIM FORM FOR SYSTEMS WITH A PX-7000 REGULATOR---

\*\*\*\*\* Note: **BOLD-ITALICIZED** areas are required fields for proper warranty evaluation. \*\*\*\*\*

**CLAIM DATE:** \_\_\_\_\_

<b>Alternator Model #: PX-</b> _____	<b>SERIAL #:</b> _____
<b>PX-7000 Regulator:</b>	<b>Serial #:</b> _____

**SHOP NAME:** \_\_\_\_\_ **PHONE #:** \_\_\_\_\_

**CONTACT:** \_\_\_\_\_ **ADDRESS:** \_\_\_\_\_

**CITY:** \_\_\_\_\_ **STATE:** \_\_\_\_\_ **ZIP:** \_\_\_\_\_ **FAX#:** \_\_\_\_\_

YOUR REPAIR ORDER # \_\_\_\_\_

YOUR SHOP FLAT RATE: \$ \_\_\_\_\_ PER HOUR

Note: FOR US TO COMPLETE YOUR WARRANTY PAPERWORK, THIS FORM AND A FINAL COPY OF YOUR REPAIR INVOICE NEED TO BE RETURNED WITH YOUR OLD PARTS. REIMBURSEMENT FOR COVERED LABOR REQUIRES A NUMBERED INVOICE BECAUSE YOU ARE NOT REIMBURSED FROM THIS WARRANTY FORM ALONE.

VEHICLE OWNER (END USER) DATA: **VEHICLE OWNER:** \_\_\_\_\_

**CONTACT:** \_\_\_\_\_ **PHONE NUMBER:** \_\_\_\_\_

VEHICLE DATA: Bus #: \_\_\_\_\_

**OEM MANUFACTURER:** \_\_\_\_\_ **YEAR:** \_\_\_\_\_ **MODEL:** \_\_\_\_\_ **ENGINE:** \_\_\_\_\_

**VIN #** \_\_\_\_\_ **MILEAGE:** \_\_\_\_\_ **BUILD DATE:** \_\_\_\_\_

**BODY MANUFACTURER:** \_\_\_\_\_ **VEHICLE IN-SERVICE DATE:** \_\_\_\_\_

PennTex pays UPS Ground freight charges. If you want faster shipping the difference in costs between Ground and Air will be deducted from your labor payment. Circle the appropriate shipping below: If nothing is circled then UPS Ground is used.

**UPS Ground**    **UPS 3 Day**    **UPS 2 Day**    **UPS Next Day**    **UPS Next Day (Saturday)**

ACTION TAKEN: (Note: ALTERNATORS WITH BURNED OUTPUT POSTS ARE NOT COVERED BY WARRANTY. ALTERNATORS THAT HAVE BEEN PAINTED, SANDBLASTED, OR REBUILT USING NON-PENNTTEX PARTS ARE AUTOMATICALLY EXCLUDED FROM ANY WARRANTY COVERAGE.)

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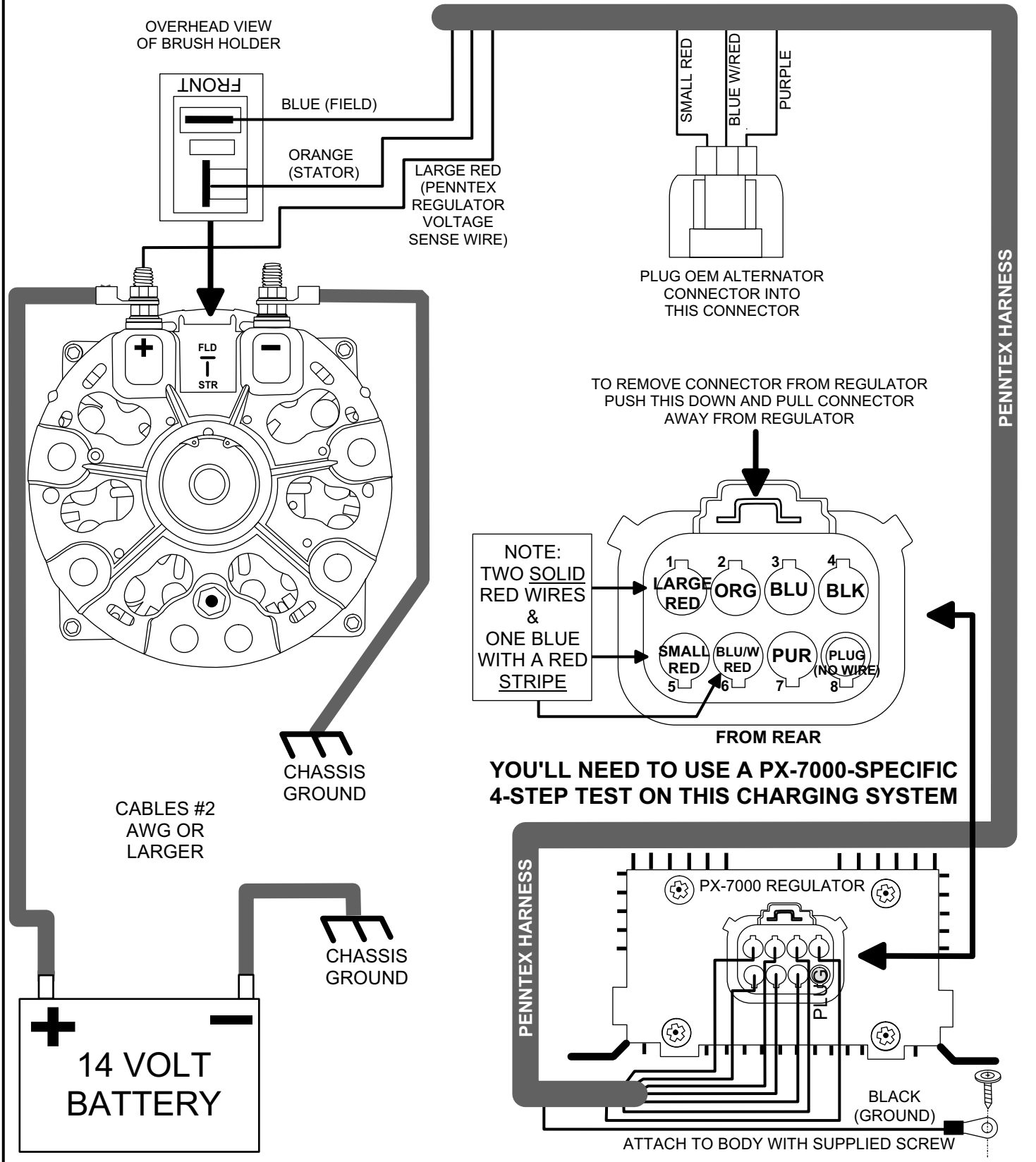
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YOUR TOTAL LABOR: \$ \_\_\_\_\_

**Note: BOLD-ITALICIZED** areas are required fields for proper warranty evaluation.

RETURN A COPY OF THIS COMPLETED FORM, YOUR FINAL INVOICE, AND THE DEFECTIVE PARTS BY UPS GROUND SHIPMENT TO THE FT. WORTH, TX ADDRESS ONLY. YOU WILL BE BILLED FOR ANY PARTS NOT RETURNED. PROCESSING STARTS WHEN THE PARTS AND PAPERWORK ARE RETURNED. WE CAN NOT PROCESS ANY LABOR CLAIM OR INVOICE SENT IN MORE THAN 90 DAYS FROM ORIGINAL WARRANTY REQUEST.

# PX-220RC-A & PX220RC-T ALTERNATORS

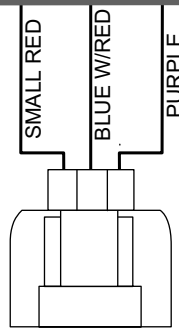
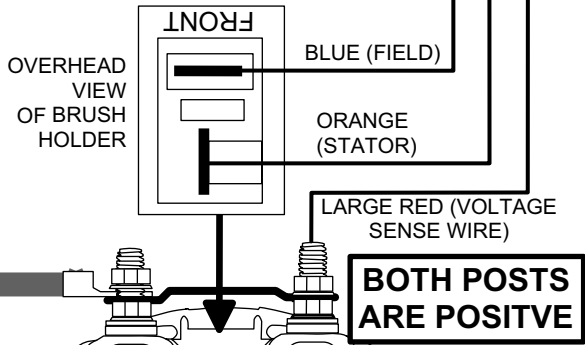
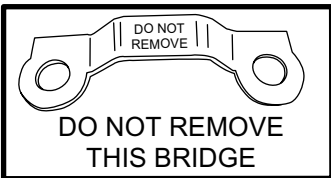


**NOTES:** THIS IS A GENERIC WIRING SCHEMATIC FOR THE PX-220RC-A AND PX-220RC-T ALTERNATORS WITH A PX-7000 REGULATOR. THIS IS NOT SPECIFIC TO ANY CERTAIN MAKE, MODEL, OR ENGINE.  
CHARGING CABLE SIZE: MINIMUM #2 AWG OR LARGER

**Penntex INDUSTRIES, INC.**  
 FT. WORTH, TX MANCHESTER, PA  
 877-590-7366 www.penntexusa.com

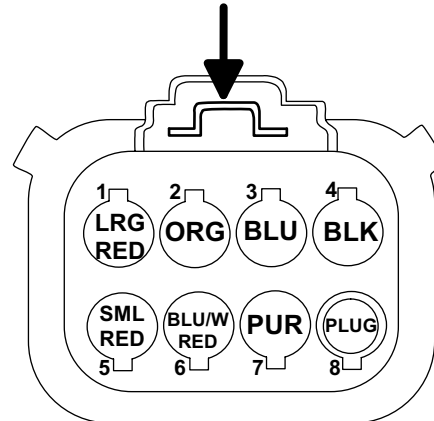
TITLE/DESC. GENERIC WIRING DIAGRAM FOR PX-220RC-A or 220RC-T ALTERNATOR WITH PX-7000 REGULATOR		
DATE: 09-16-08	DRAWING NUMBER:	
DRAWN BY: DMc	REVISION:	CHECKED BY:
SCALE: NONE		PAGE: 1 OF 1

**PX-520RDC & PX525RDC ALTERNATORS**



PLUG OEM ALTERNATOR CONNECTOR INTO THIS CONNECTOR

TO REMOVE CONNECTOR FROM REGULATOR PUSH THIS DOWN AND PULL CONNECTOR AWAY FROM REGULATOR



FROM REAR

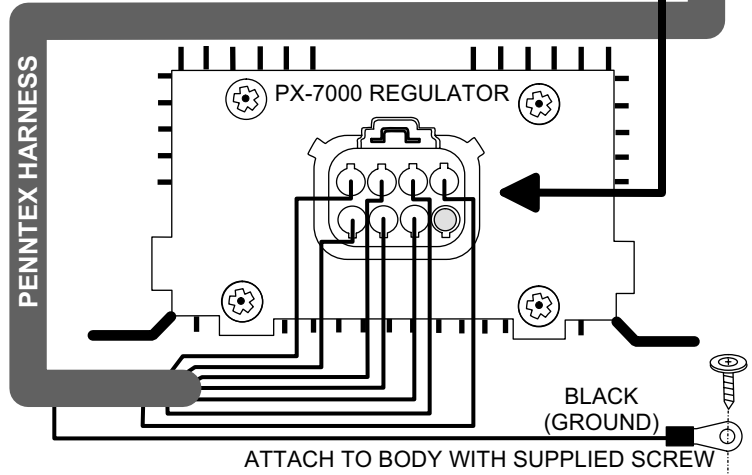
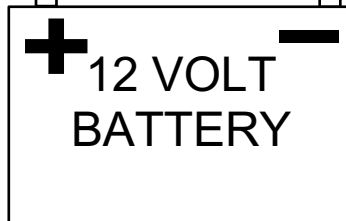
**USE A "PX-7000 4-STEP TEST" ON THIS REGULATOR**

**NOTE:**  
CONNECT ALTERNATOR GROUND CABLE TO ALTERNATOR MOUNTING BOLT OR GOOD ENGINE GROUND.  
CABLES #2 AWG OR LARGER



CABLES #2 AWG OR LARGER

CHASSIS GROUND



PENNTEx HARNESS

PENNTEx HARNESS

**NOTES:** THIS IS A GENERIC WIRING SCHEMATIC FOR THE PX-520RDC AND PX-525RDC ALTERNATORS WITH A PX-7000 REGULATOR. THIS IS NOT SPECIFIC TO ANY CERTAIN MAKE, MODEL, OR ENGINE.  
CHARGING CABLE SIZE: MINIMUM #2 AWG OR LARGER

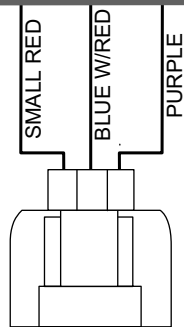
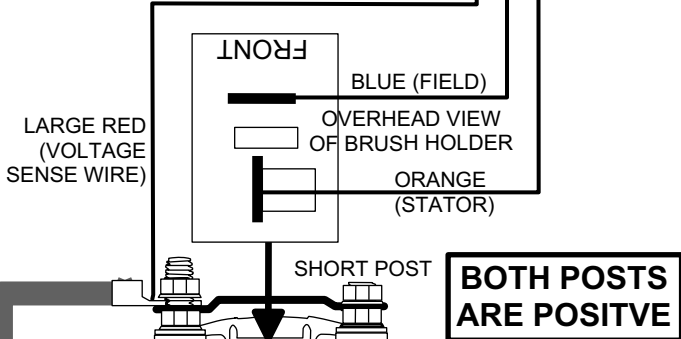
**Penntex INDUSTRIES, INC.**

FT. WORTH, TX MANCHESTER, PA

877-590-7366 www.penntexusa.com

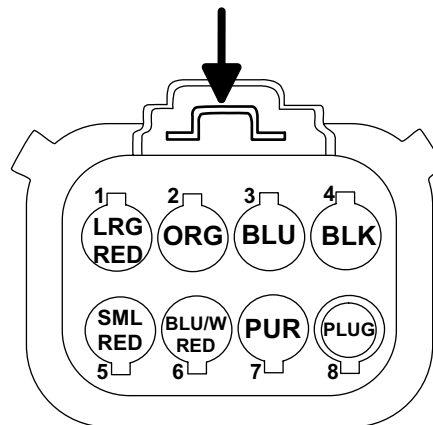
TITLE/DESC. GENERIC WIRING DIAGRAM FOR 2009-UP FORD PX-520-RDC or 525RDC ALTERNATOR WITH PX-7000 REGULATOR	
DATE: 03-11-09	DRAWING NUMBER:
DRAWN BY: DMc	REVISION:
	CHECKED BY:
SCALE: NONE	PAGE: 1 OF 1

**PX-723RDC & PX-725RDC  
ALTERNATORS**



PLUG OEM ALTERNATOR  
CONNECTOR INTO  
THIS CONNECTOR

TO REMOVE CONNECTOR FROM REGULATOR  
PUSH THIS DOWN AND PULL CONNECTOR  
AWAY FROM REGULATOR



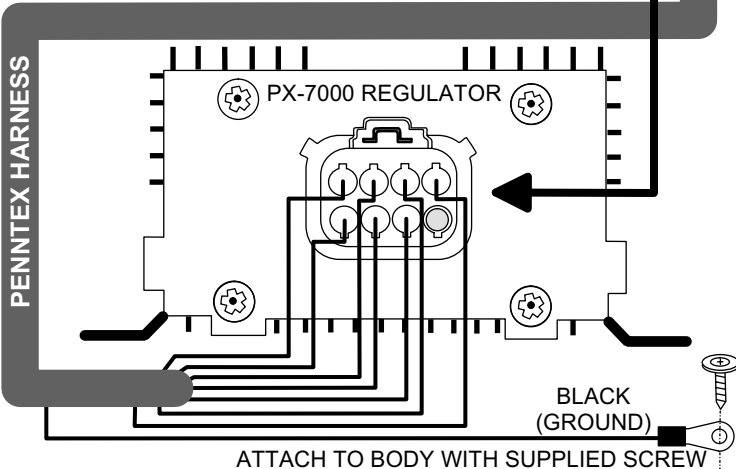
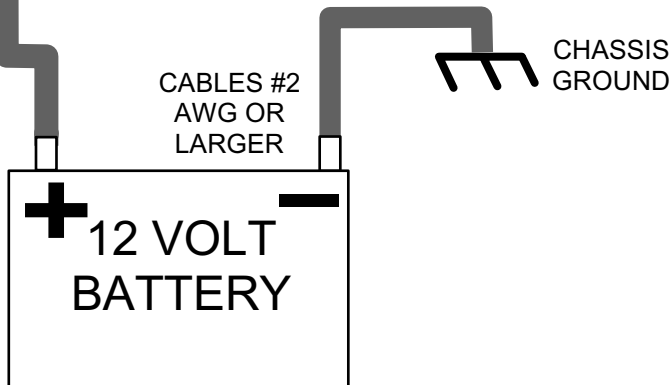
FROM REAR

**USE A "PX-7000 4-STEP TEST"  
ON THIS REGULATOR**

**NOTE:**  
CONNECT ALTERNATOR  
GROUND CABLE TO  
ALTERNATOR MOUNTING  
BOLT OR GOOD  
ENGINE GROUND.



CABLES #2 AWG OR LARGER



PENNTEX HARNESS

PENNTEX HARNESS

**NOTES:** THIS IS A GENERIC WIRING SCHEMATIC FOR THE PX-723RDC AND PX-725RDC ALTERNATORS WITH A PX-7000 REGULATOR. THIS IS NOT SPECIFIC TO ANY CERTAIN MAKE, MODEL, OR ENGINE.  
CHARGING CABLE SIZE:  
MINIMUM #2 AWG OR LARGER

**Penntex  
INDUSTRIES, INC.**

FT. WORTH, TX MANCHESTER, PA  
877-590-7366 www.penntexusa.com

TITLE/DESC. GENERIC WIRING DIAGRAM  
FOR 2009-UP FORD PX-723-RDC or 725RDC  
ALTERNATOR WITH PX-7000 REGULATOR

DATE: 07-07-10	DRAWING NUMBER:	
DRAWN BY: DMc	REVISION:	CHECKED BY:

SCALE: NONE

PAGE:  
1 OF 1