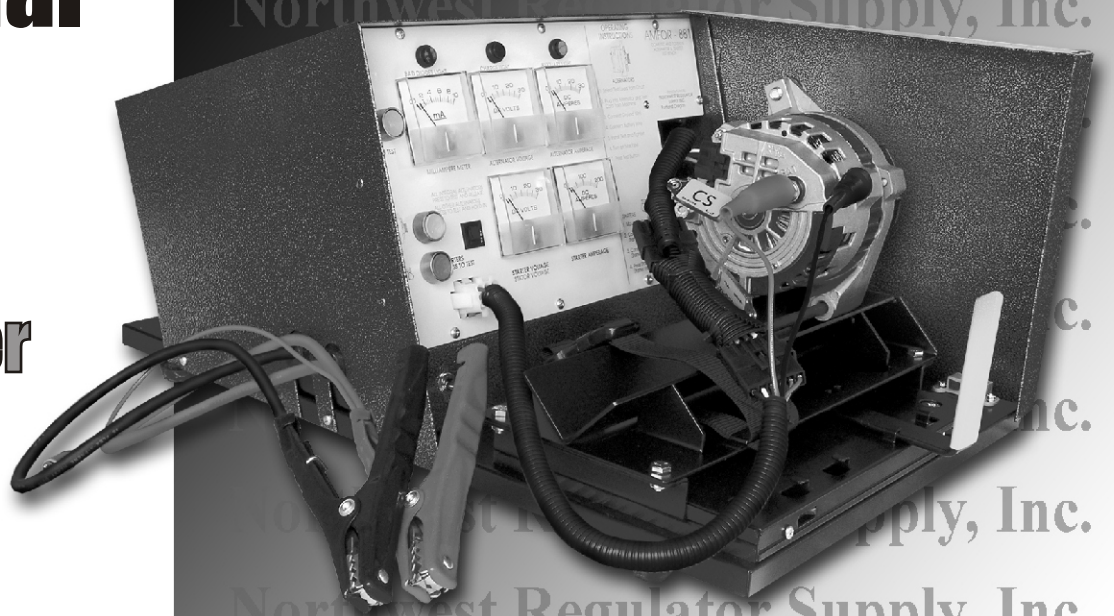
AmFor ELECTRONICS

Operator's Manual

881

Alternator and Starter Test Bench



July 2008

Starter Testing Instructions

Testing starters on the ***AM-FOR 881*** requires a good 12 volt battery fully charged with side terminal connections. Connect the red machine battery cable in the rear of the test bench to the positive connection on the battery. Then place the black machine battery cable to the negative connection of the battery.

BATTERY TEST: Make sure that nothing is touching the red and black starter test cables. Press the red starter test button and read the voltage on the starter voltage meter. The minimum acceptable voltage is 12.6 volts DC. Some starters (e.g. Ford external solenoid, diesel) may require a fully charged battery - 12.6 volts DC minimum. If there is no voltage reading on the meter, refer to the *Troubleshooting Section* in the back of the manual.

Before testing, make sure that the machine adapter cord, battery test lead clip, and ground test lead clip are free of the machine.

STARTER TEST:

1. Mount the starter in the starter test cradle and tighten the starter holder strap securely (if possible insert the starter in the alternator mounting pin to help hold it).
2. Connect the black starter test cable to a mounting ear clear of the starter. If there is paint, dirt or oil on the mounting ear, scrape or sand it off.
3. If the starter does not have a solenoid, connect the red starter test cable to the starter battery terminal.
4. If the starter has a solenoid, connect the large red starter test cable to the solenoid battery terminal. Connect the small “S” solenoid clip to the solenoid switch terminal (S, 50). On some starters the solenoid switch terminal may be a harness and terminal hanging from the solenoid. For solenoids with an “R” terminal (e.g. four terminal Delco-Remy), connect test lead “R” to the machine adapter cord. Then connect the clip from test lead “R” to the “R” terminal on the solenoid. During starter testing, while connected to the “R” terminal, the auxiliary light on the tester panel should be lit. If the auxiliary light is not lit, the starter should be repaired or replaced.

Starter Testing Instructions

Check the Starter Chart on the following page for starter amperage and voltage readings. **This chart is for reference only. Some new starters may read higher, due to tight bushings, while some may read lower due to loose or worn bushings. The best way to judge a starter is by sound. If the sound of the starter is even and fairly quiet and reads close to the chart readings, it should be considered good.**

5. Be sure that the starter is securely strapped down. Do not hold on to the starter with your hands. Press the red Starter "**Press To Test"** button for a short period of time, at least three but no more than five seconds. If the starter barely turns, just clicks but does not run freely, or the the drive gear does not extend, the starter needs to be repaired or replaced.

6. Read the starter amperage meter while the red button is depressed. If the meter pegs for more than a moment, release the red button immediately. The starter has a short and should be replaced. Normal amperage readings are between 50 and 175 amps, depending upon the horsepower rating of the starter. Refer to the charts on the following page.

7. If the starter voltage reads less than 9 volts while testing there is most likely a problem either with the battery, the cables, or the solenoid inside the AmFor 881. Load test the battery, check and clean all cable connections, and run solenoid diagnostics from the troubleshooting guide at the back of the manual. Replace the solenoid or switch if defective.

8. The final test for passing a starter as good is the starter drive test. After disconnecting test clamps you should be able to turn the starter drive gear by hand **one way only.** If there is movement both ways on the starter drive, it is defective and the starter should be replaced.

9. After testing starters, it is recommended that the battery be charged with a battery maintenance/charger until it reads at least 12.6 volts DC.

AmFor ELECTRONICS

881 Alternator and Starter Test Bench

Starter Reference Guide

MANUFACTURER	VOLTS	Not to exceed AMPS
ACURA	11-Sep	110
ALFA ROMEO	11-Sep	100
AUDI	11-Sep	100
AUDI DIESEL	11-Sep	125
BMW	11-Sep	100
BMW DIESEL	11-Sep	125
CHRYSLER	11-Sep	130
CHRYSLER DSL.	11-Sep	175
CHRYSLER IMP.	11-Sep	100
CHRYS. DSL. IMP.	11-Sep	125
DAIHATSU	11-Sep	90
FIAT	11-Sep	90
FORD 4”	11-Sep	120
FORD 4 1/2”	11-Sep	130
FORD DIESEL	11-Sep	175
FORD IMPORT	11-Sep	100
GM 4 CYL.	11-Sep	120
GM 6 CYL.	11-Sep	135
GM 8 CYL.	11-Sep	145
GM DIESEL	11-Sep	175
GM IMPORT	11-Sep	100
GM IMPORT DSL.	11-Sep	125
GEO	11-Sep	90
HONDA	11-Sep	100
HYUNDAI	11-Sep	90
ISUZU	11-Sep	90
ISUZU DIESEL	11-Sep	125
JAGUAR	11-Sep	110

MANUFACTURER	VOLTS	Not to exceed AMPS
JEEP / EAGLE	11-Sep	135
MG	11-Sep	100
MAZDA	11-Sep	90
MAZDA RX7	11-Sep	125
MAZDA DIESEL	11-Sep	125
MERCEDES	11-Sep	100
MERCEDES DIESEL	11-Sep	125
MITSUBISHI	11-Sep	90
MITSUBISHI DIESEL	11-Sep	125
NISSAN	11-Sep	100
NISSAN DIESEL	11-Sep	125
PEUGEOT	11-Sep	100
PEUGEOT DIESEL	11-Sep	140
PORSCHE	11-Sep	110
RENAULT	11-Sep	125
SAAB	11-Sep	100
STERLING	11-Sep	100
SUBARU	11-Sep	100
SUZUKI	11-Sep	100
TOYOTA	11-Sep	100
TOYOTA DIESEL	11-Sep	140
TRIUMPH	11-Sep	90
VOLKSWAGEN	11-Sep	100
VOLKSWAGEN DSL.	11-Sep	140
VOLVO	11-Sep	100
VOLVO DSL.	11-Sep	120
YUGO	11-Sep	90

Before Testing

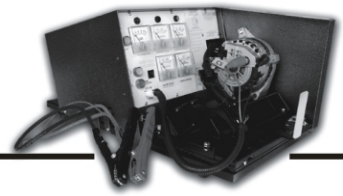
CHECK BATTERY, CABLES AND CONNECTIONS. A worn out battery cannot produce enough power to properly start the engine. Replace all frayed wires and battery cables. Be sure that the battery cables are large enough to carry the current needed to start the engine and meet OEM specs. Be sure that all the terminals and connections are tight and free from corrosion. If the starter tests good and the vehicle is still experiencing problems on an external solenoid system (e.g. Ford) it is recommended that the solenoid be tested and replaced if needed.

Testing Ford Rear Terminal Starters

When testing Ford rear terminal starters off the vehicle, it is important to remember that the terminal consists of two parts: a copper strap that connects to the field coils internally and a bracket that is made of steel which is attached to, but insulated from, the rear cover plate. It is also important to notice that the battery clamp of the **AM-FOR 881** test bench used for testing starters consists of two jaws: one which is used for pressure and one to which the hot wire of the test bench is attached to. The second jaw will be referred to as the ***power connection.*** It is vital to proper testing that the ***power connection*** be in contact with the copper strap of the rear starter terminal. If the power connection is attached to the steel bracket, the current may meet with high resistance from rust, paint or other coatings used on the starter to resist corrosion or rust. Attempting to pass power through these films may be possible, but can cause smoking or complete failure of the testing procedure.

Since many Ford starters can draw 300-400 amps of current in order for the moveable pole shoe to be pulled in, some electronic power supplies that are used in other brands may be to weak to supply this kind of current. This can also be found true when testing many high torque starters. That is why the AM-FOR 881 uses a 12 volt DC battery as its power supply. For this reason it is very important that the battery being used with the **AM-FOR 881** must be kept in a strong state of charge. This can be achieved by using a maintenance charger. It is recommended that the battery voltage be 12.6 volts or above when testing any type of starter.

Starter Testing Instructions



Chrysler Types

Many Chrysler starter drives can be damaged because of distributor cross fire to more than one spark plug. The slowdown or reversal of the engine while the drive is engaged can damage the drive or break the drive end housing.

When a Chrysler vehicle is hard starting, check the distributor cap, inside and out, for dirt, moisture or carbon tracking. Clean the cap thoroughly and blow out with compressed air. If the cap is cracked or shows any carbon tracking, replace it with a new cap.

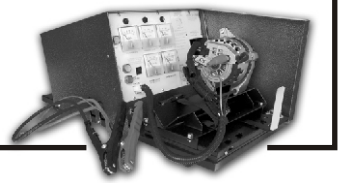
Delco Types

General Motors uses shims on many of their original applications involving the pad mount starters (e.g. 3510, 3664). When installing an aftermarket or rebuilt starter, it is sometimes necessary to reuse the original shims or possibly to remove or add additional shims. If the starter grinds, install shim across both mounting holes. If the starter sounds high pitched, cut shim in half and install on outside mounting hole, away from the engine block. If the problem persists, consult your Delco dealer.

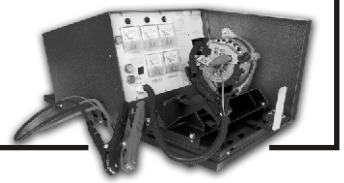
Bosch Types

Some Bosch starters will require the use of an external nose cone housing for testing. Do not attempt to test these units without the nose cone housing securely attached.

Table of Contents



Important Safety Instructions

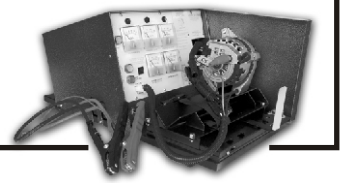


When using your testing equipment, basic safety precautions should always be followed, including the following:

1. Read all instructions.
2. Care must be taken as burns can occur from touching hot parts.
3. Do not operate equipment with a damaged cord or if the equipment has been dropped and/or damaged – until it has been examined by a qualified serviceman.
4. If an extension cord is necessary, a cord with a current rating for 15 amps or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
5. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
6. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids or gas appliances.
7. Adequate ventilation should be provided when working in operating internal combustion engines.
8. Keep hair, loose clothing, fingers, and all parts of your body away from moving parts.
9. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
10. Use only as described in this manual. Use only manufacturer's recommended attachments.
11. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are **NOT** safety glasses.

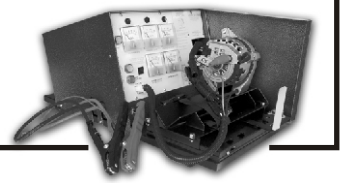
SAVE THESE INSTRUCTIONS

Notice of Disclaimer



Every effort has been made to ensure that the information contained within this publication is as complete and accurate as possible. However, there may be mistakes both typographical and in content. Northwest Regulator Supply, Inc. assumes no responsibility for errors.

Warranty



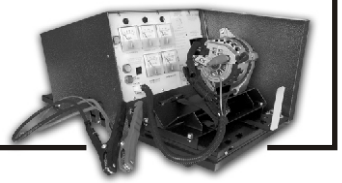
The AM-FOR 881 is warranted by the manufacturer, **NORTHWEST REGULATOR SUPPLY, INC.**, against defects in workmanship or materials under normal use for a period of six months following the date of purchase. This warranty extends to the final purchaser who uses the equipment in normal use for commercial purposes only. The AmFor 881 is not intended for personal and/or household use, and no warranty of any type is extended for such use. The warranty is further limited as follows:

Our obligation on any claim is limited to replacement or repair of the defective part or material, f.o.b. our plant in Portland, Oregon. Except as is expressly stated in this warranty, we will not be responsible for any loss, injury or damages incurred by any person or property resulting from the failure or defective operation of any equipment furnished under this warranty, or for delay in performance of this agreement, nor will we be liable for direct, indirect, special or consequential damages of any kind sustained by the purchaser from any cause. This warranty does not apply to damages resulting from misuse, abuse, accident, or which results from customer alterations, or attempted repairs, nor to damage incurred while the equipment is in transit.

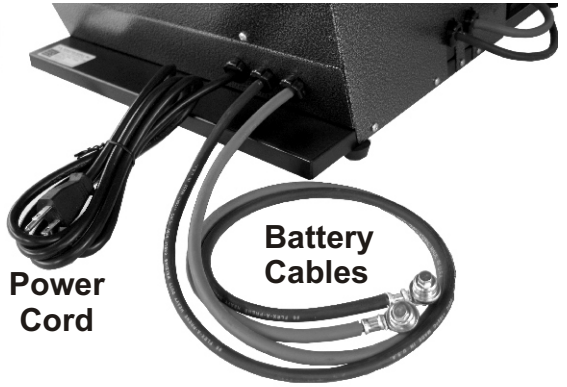
To obtain service under this warranty, call the **NORTHWEST REGULATOR SUPPLY, INC.** customer service department at 503-235-1038 (or by faxing request to 503-239-9996) to obtain a return authorization number. Many problems can be diagnosed by telephone and a replacement part furnished. If the problem requires return of a unit or of a component part, the customer must ship the defective item prepaid to the plant in Portland, Oregon.

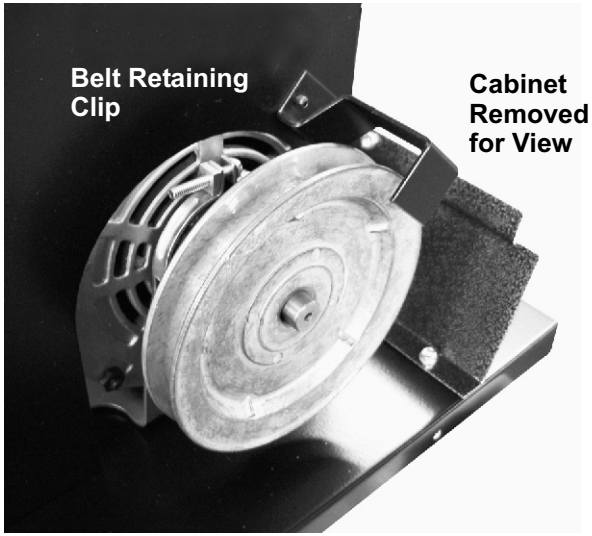
This warranty expresses the entire agreement between **NORTHWEST REGULATOR SUPPLY, INC.** and the customer and no other agreement, statement or representation is binding unless it is reduced to writing, and signed by an authorized officer of **NORTHWEST REGULATOR SUPPLY, INC.**

Installation Procedures

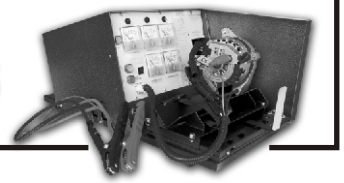


1. Place 881 Alternator Starter Test Bench on flat surface near electrical outlet (110 VAC). Do not plug in.
2. Install the leg and wheel for the alternator test lead holder (optional) if included in your order, per instructions included in test lead kit box, or see page 12. If you did not order a test lead holder and would like to purchase one call Customer Service at 800-242-6367 M-F 7:30-4:30 PST for more details.
3. Connect side terminal battery to battery cables in rear of tester. Connect the red test bench battery cable in the rear of the tester to the positive connection on the battery. Then place the black test bench battery cable to the negative connection of the battery. The battery is used for starter testing only and should be a minimum of 12.6 VDC. To check voltage, press the red Starter "Press to Test" button on the front panel and read the voltage on the starter/stator voltage meter. We recommend that the battery be connected to a battery maintenance charger.
4. Plug power cord in rear of tester into a grounded wall socket (110 VAC 10 amp minimum). Flip the motor on/off switch located at the bottom left corner of the front panel to the "on" position for a few seconds to verify motor operation then flip to the "off" position. If the motor does not turn, check voltage at the wall socket, then call factory.
5. Place the 35" V belt included in the test lead kit box on the pulley in the tester. Make sure you place the belt under the belt retaining clip that is located just over the pulley on the inside of the cabinet.



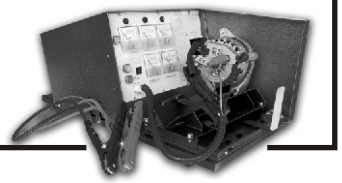


Operational Features/Precautions



1. AC Volt power cord must be plugged into a grounded outlet. Warranty is void if ground on the power cord is missing, see page 2.
2. Keep battery charged to 12.6 volts. We recommend that a regulated battery charger/maintainer be connected to achieve this.
3. Starter testing uses the battery.
4. Close belt guard and keep hands, fingers and loose clothing away from pulleys, fans and belt.
5. Place alternator on mounting pin to hold securely, and tighten belt by sliding handle sideways and secure in latch hook.
6. Green Button: hold in for a maximum of ten seconds for externally regulated alternators, three seconds for internally regulated alternators.
7. Blue Button: hold in for three seconds maximum.
8. Red Button: hold in for three seconds, five seconds maximum. If starter smokes, release immediately.
9. Starter hold down strap should be tight before testing starters.
10. Before performing any repairs, unplug the AC power cord from the outlet and disconnect the battery cables from the battery.
11. Machine adapter cord allows for easy, quick and accurate connections.

Symbol Identification

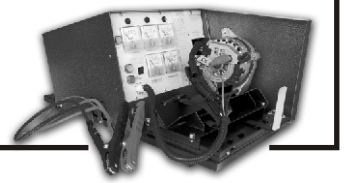


Import Alternator - European

	BOSCH	DUCEL	LUCAS	MARELLI	MOTOROLA/ MARCHAL	PARIS RHONE
FIELD / EXC	DF	EXC, +R	F	67	DF / EXC	EXC, +
BATTERY	B+	+	B+	30	B+	+ / B+
SENSE			S			
STATOR	W				W	
GROUND	D-				 / D-	 / M
LIGHT	D+ / 61	IND	IND / +	D+ *	D+ / 61	L *

***Indicator light may be operated by relay**

Symbol Identification



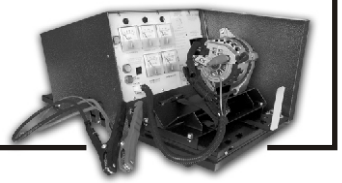
Import Alternator - Japanese

	HITACHI		NIPPONDENSO		MITSUBISHI	
	EXTERNAL REGULATOR	INTERNAL REGULATOR	EXTERNAL REGULATOR	INTERNAL REGULATOR	EXTERNAL REGULATOR	INTERNAL REGULATOR
FIELD – EXC – IGN	F	IG	F	IG, R	F	R / IG, I
BATTERY OUTPUT	B / BAT	B	B	B	B	B
BATTERY SENSE		S		S		S, A
GROUND	/ E	/ E	/ E	/ E	/ E	/ E
INDICATOR LIGHT	L *	L	L	L	L	L **
STATOR	N	P	N,P	N	N	P, S
COMPUTER		C		C, FR		C, FR

*** Indicator light may be run by relay**

**** On some Chrysler, Mitsubishi and Isuzu products, L runs a fan relay**

Symbol Identification



Import Voltage Regulator - European

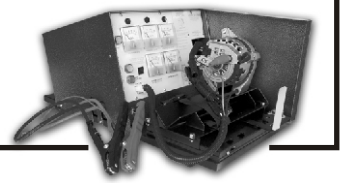
	DUCEL	FEMSA ISKRA	LUCAS	FIAT MARELLI	MOTOR OLA	PARIS RHONE	SEV MARHAL
FIELD	EXC	DF	F	67	EX	EXC	DF / EXC
BATTERY	+	B+	+	30	+	B+ / +	B+
GROUND	mh	D-	-	/ E	EARTH	/ M	mh / D-
LIGHT	IND	D+ / 61	IND	D+ *	D+	L	D+ / 61

Import Voltage Regulator - Japanese

	HITACHI	MITSUBISHI	NIPPONDENSO
FIELD	F	F	F
BATTERY	B / BAT	B	B
GROUND	/ E	/ E	/ E
LIGHT	N ALT L *	N ALT L *	N ALT L *

***Indicator light may be operated by relay**

Notes to User



- **Some alternators may turn on without any of the buttons being pressed. This condition does not indicate a bad alternator. Some aftermarket regulators will cause this by sensing internally and it will not affect the operation of the alternator in the vehicle.**

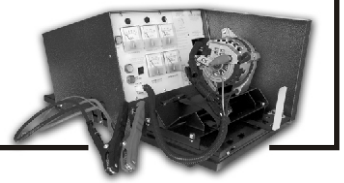
- **The pictures indicated in the test lead instruction sheets are only representative of the alternators that use that particular test lead. There may be differences in physical appearance, but the electrical connection should be the same.**

- **Readings for a good alternator are indicated in the drawings of the meter panel, on the left side of the test lead instruction page. These readings are the median and there may be a slight difference in the meter readings. Use the meters as a guide only.**

- **On each page of the test lead manual section, there is a reference to the circuit breaker and resetting it. If resetting the circuit breaker does not solve the problem, refer to the Troubleshooting Section of the manual (orange pages) and follow these procedures before calling the factory.**

- **REMEMBER - IF YOU HAVE ANY QUESTIONS, FEEL FREE TO CALL OUR TECHNICAL HOTLINE AT 1-800-242-6367 ext. 2, 7:30 a.m. - 4:30 p.m. Pacific Standard Time, Monday thru Friday. Message available 24 hours a day, 7 days a week.**

Optional Parts



Mounting Adapter Brackets

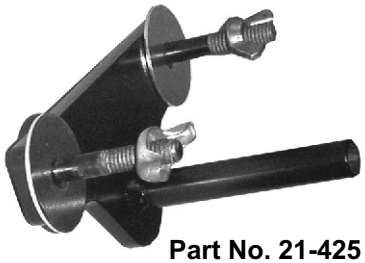
Test bench mounting adapter brackets are available for testing the new style of Ford and other pad or tangential mount alternators for model years 1989-2005. This bracket slides into the alternator allowing it to fit your alternator tester.

When using the 21-4236, you may need to switch to a 33" belt. The Dayco part number is 15033. This will insure proper belt tension.

When installing the new belt make sure you have installed the belt on the motor pulley and that it is under the belt retainer, refer to page 5.

After you are done testing with this bracket, remember to remove the bracket and reinstall the 35" belt back on the tester, making sure the belt is on the motor pulley and that it is under the belt retainer.

Test bench mounting adapter bracket part number 21-425 is available for Ford "A" frame mount alternators for model years 1996-2005.



Part No. 21-425

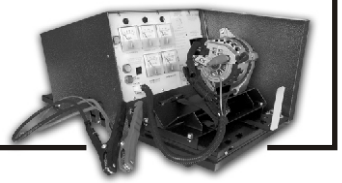
Part #	Pin center to center	Description	Color
21-424*	56mm	4G **	Red
21-425	A Frame		Black
21-429	109mm	HD	Purple
21-430	129mm	HD	Yellow
21-431		Saturn	Blue
21-432		ND	Orange
21-4236*	75mm	3G& 6G	Grey

If you have any questions please feel free to call us at 800-242-6367

Part No. 21-4236 application

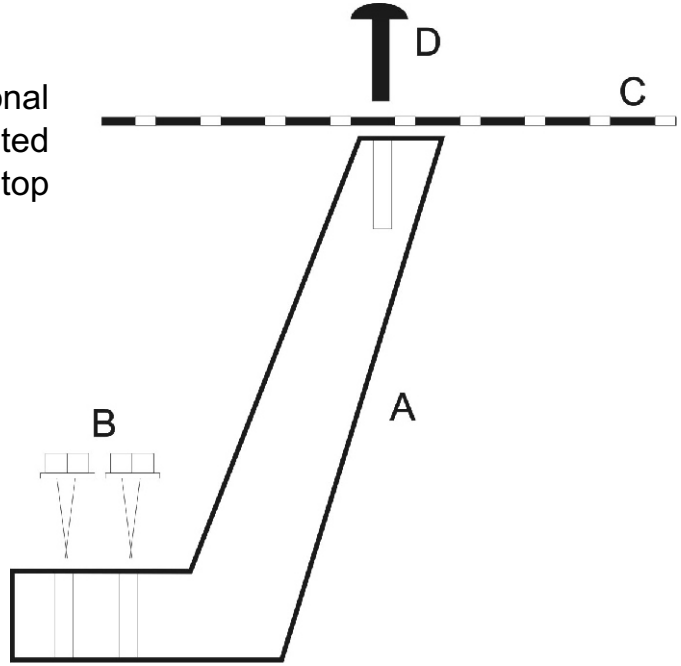
Part No. 21-424

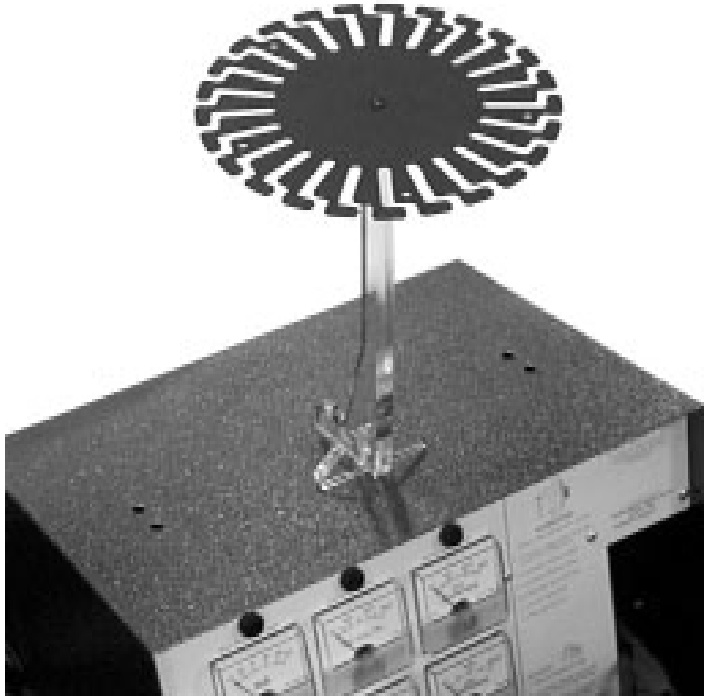
Optional Parts



Alternator Test Lead Holder

AmFor offers an easy way to store and hold all of your test leads with the optional Test Lead Holder, part number **433-1287**. The holding wheel comes powder coated in textured black and mounts to a clear acrylic stand that is easily attached to the top of your 881 Alternator Starter Test Bench with two screws.

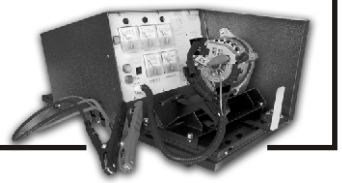




Installation Instructions:

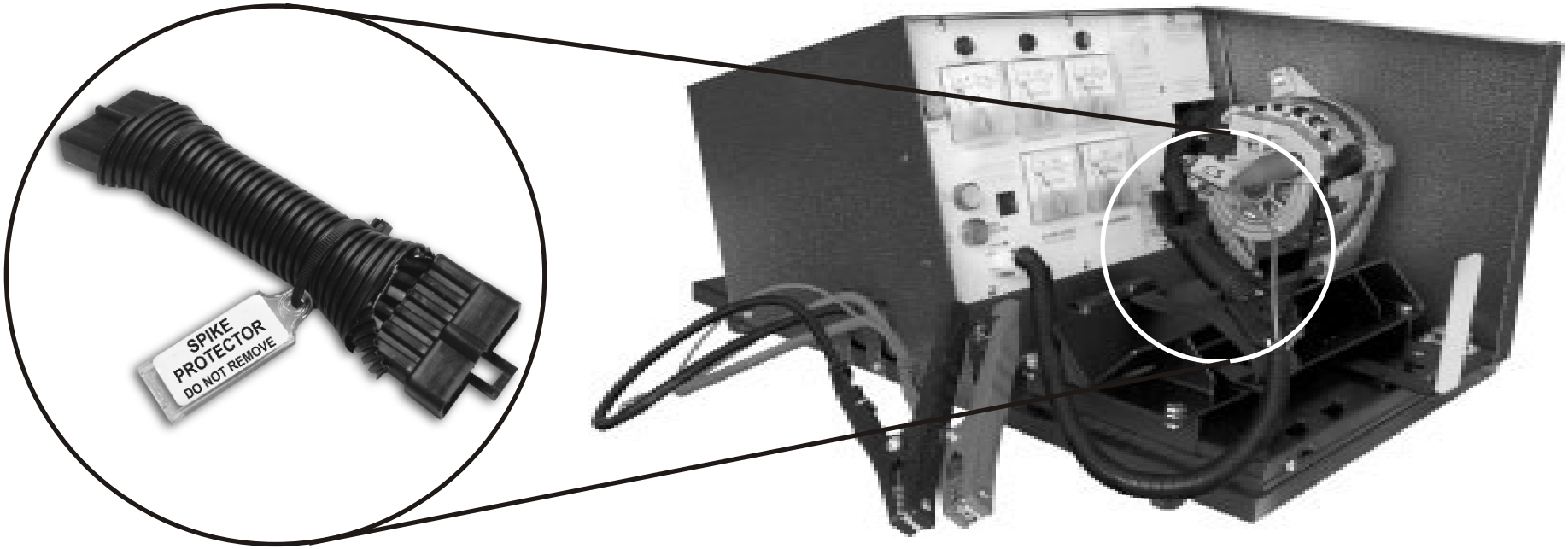
Step 1: For one leg assembly, remove black push rivets from two center holes on top. For two leg assemblies, remove black push rivets from the four outer holes.
Step 2: Install Test Lead Stand (A) with flat bar facing the front of tester and secure with sheet metal screws (B) provided.
Step 3: Attach Test Lead Holder Wheel (C) to the top of test lead stand with black plastic allen head screw provided (D) and tighten, allow wheel to spin freely.
Step 4: Remove protective paper coating from acrylic stand.

Optional Parts



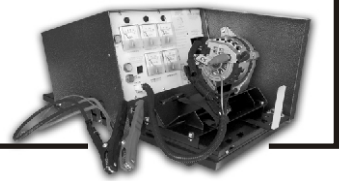
Spike Protector

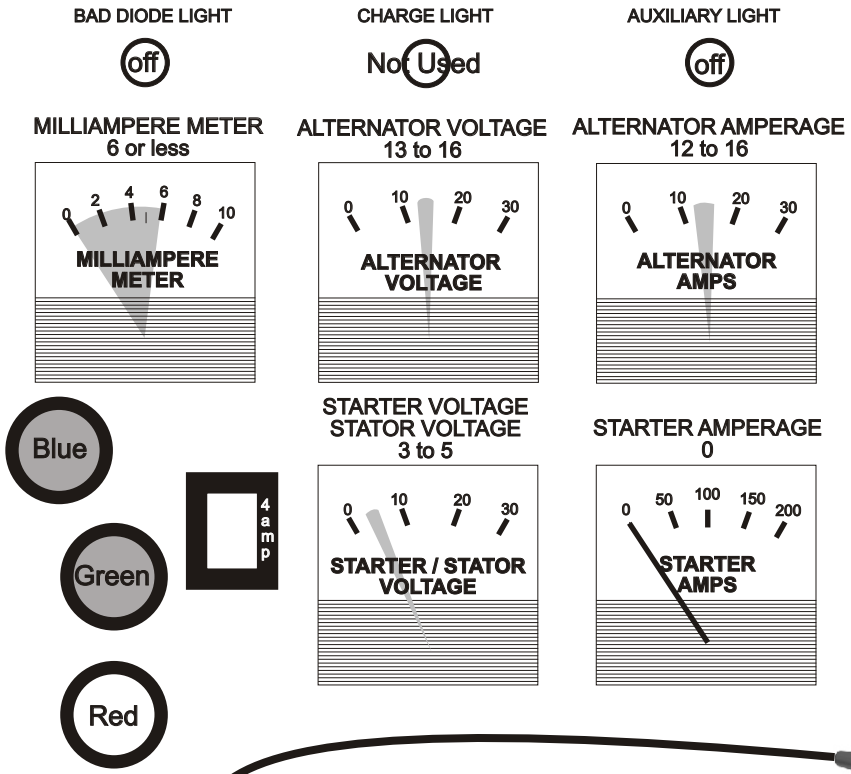
AmFor offers a harness extension to protect against voltage spikes during testing, part number **50-03842**. The AmFor spike protector easily attaches between the existing machine adapter cord (main harness) and the test lead required. The AmFor spike protector is designed to absorb voltage spikes that can cause an alternator to fail during testing. This extension needs to be attached and remain in place for testing all 12 Volt alternators. The AmFor 881 is designed to test 12 volts only and is not recommended for higher voltages. This component **MUST** be removed if you intend to test for 24 Volt or higher.



881 Alternator and Starter Test Bench

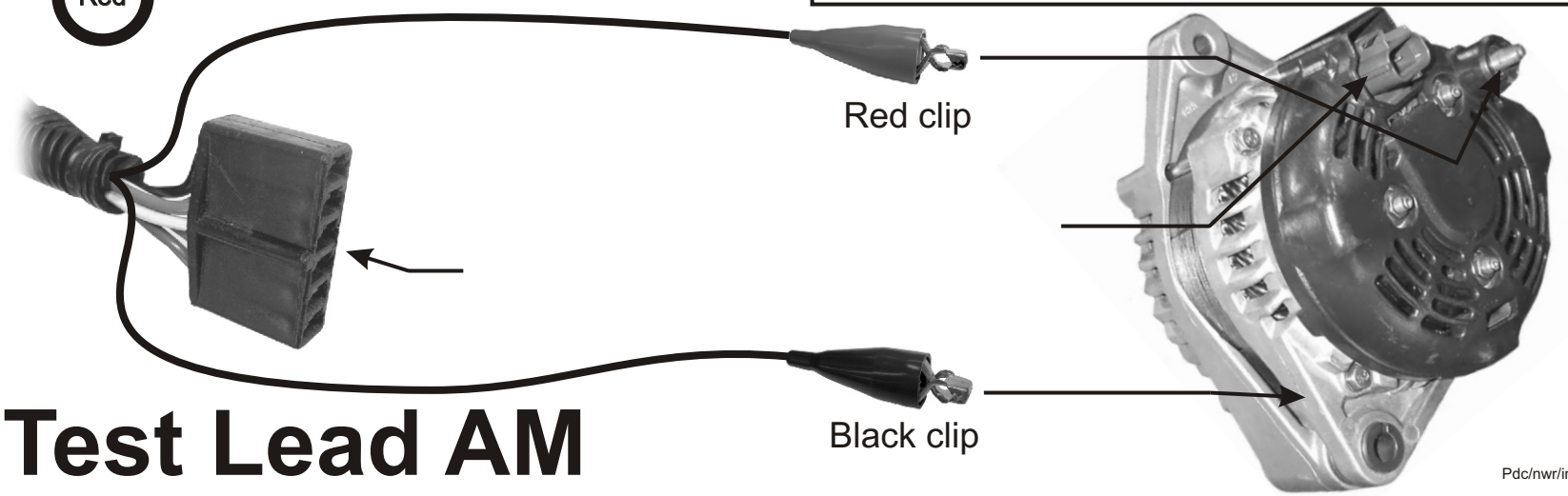
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

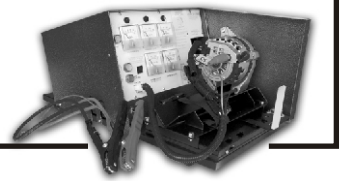
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, turn off motor switch. Check and reset the circuit breaker on the front panel.
5. Press the BLUE and GREEN test button MOMENTARILY and RELEASE the BLUE button only. *The GREEN button MUST remain depressed for the entire test.* After releasing the BLUE button, observe meters for proper readings. Hold BLUE button for no more than 3 seconds.

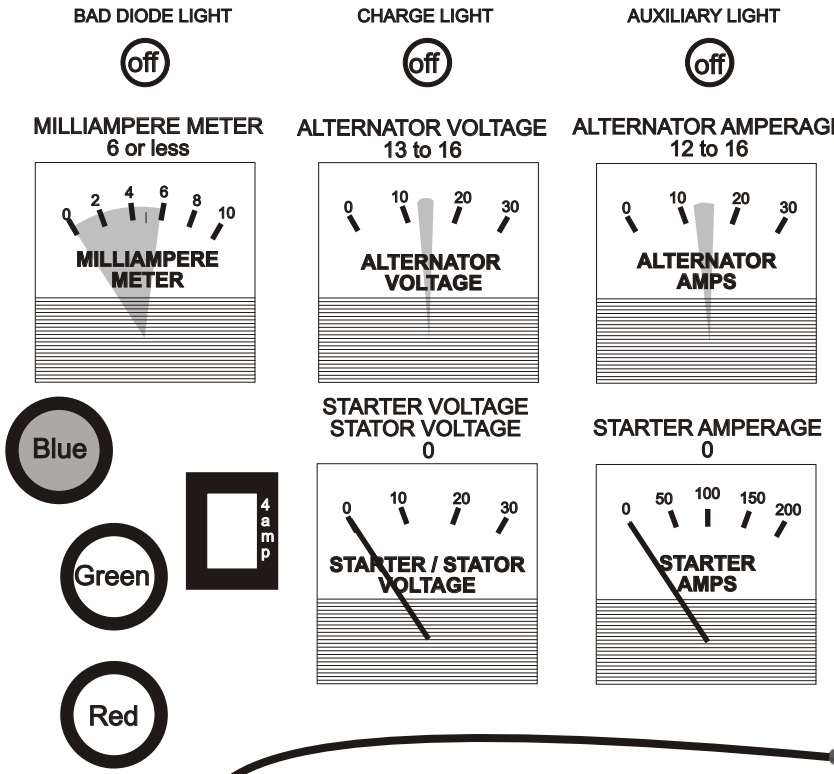


Test Lead AM

881 Alternator and Starter Test Bench

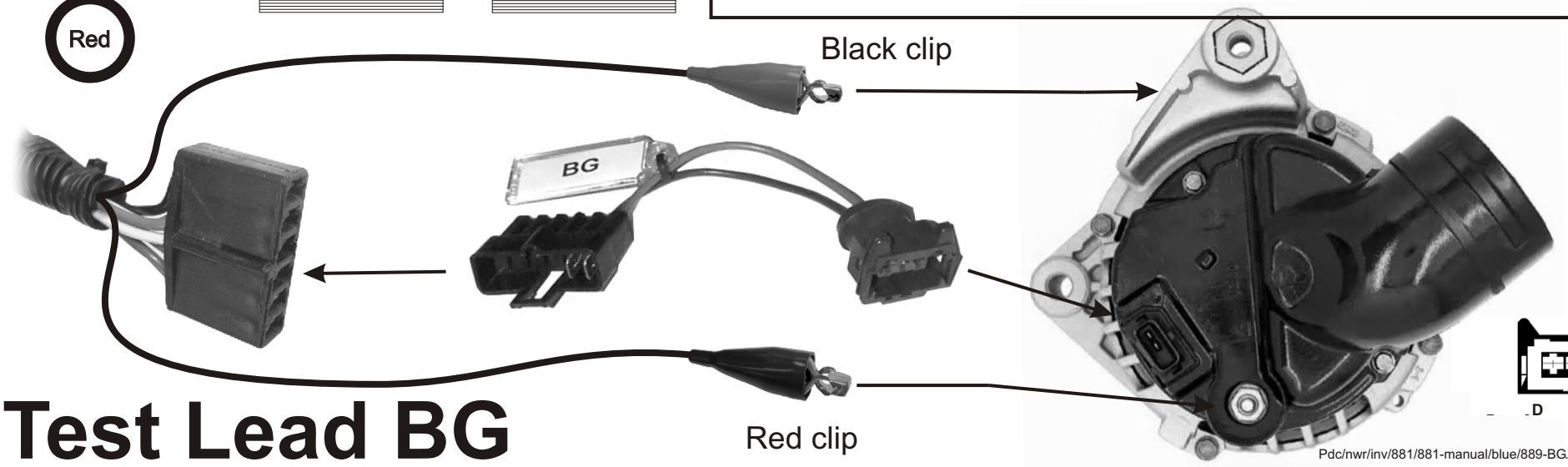
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE test button MOMENTARILY and RELEASE. Observe meters for proper readings. Hold for no more than 3 seconds.

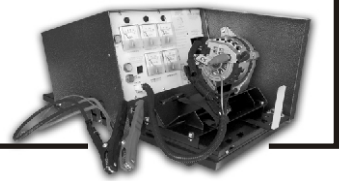


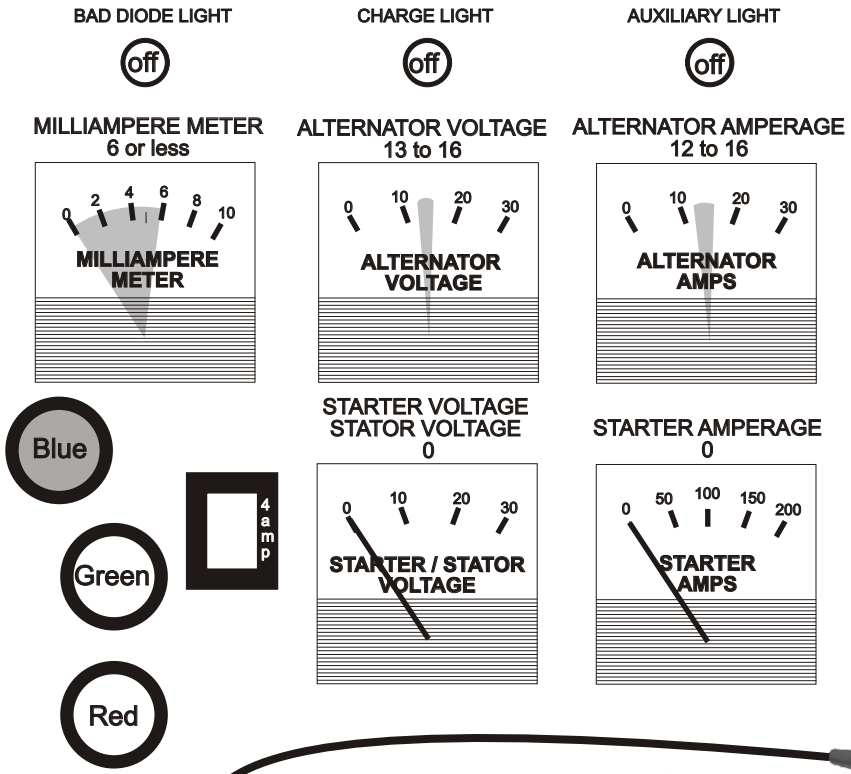
Test Lead BG

Pdc/nwr/inv/881/881-manual/blue/889-BG.cdr

881 Alternator and Starter Test Bench

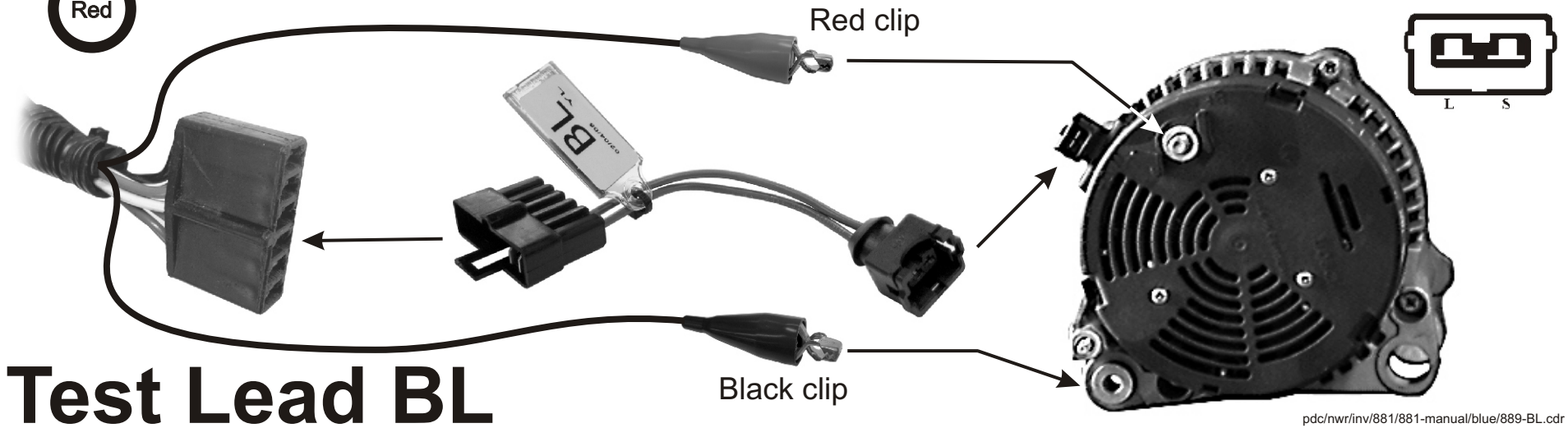
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE test button MOMENTARILY and RELEASE. Observe meters for proper readings. Hold for no more than 3 seconds.

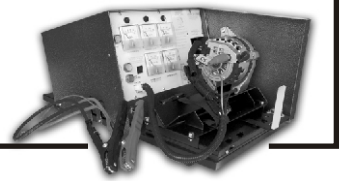


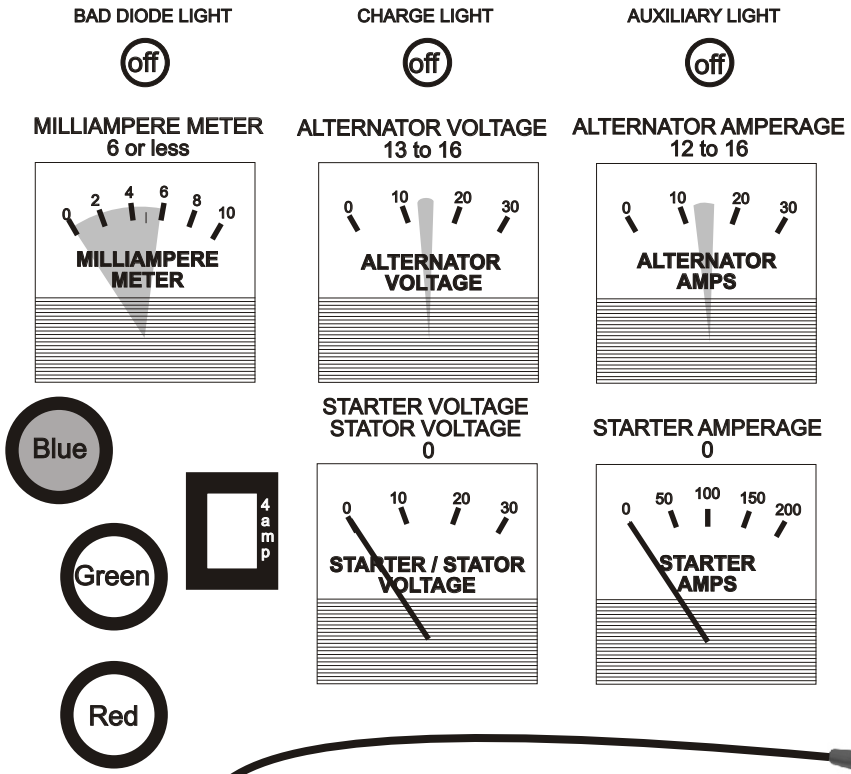
Test Lead BL

pdc/nwr/inv/881/881-manual/blue/889-BL.cdr

881 Alternator and Starter Test Bench

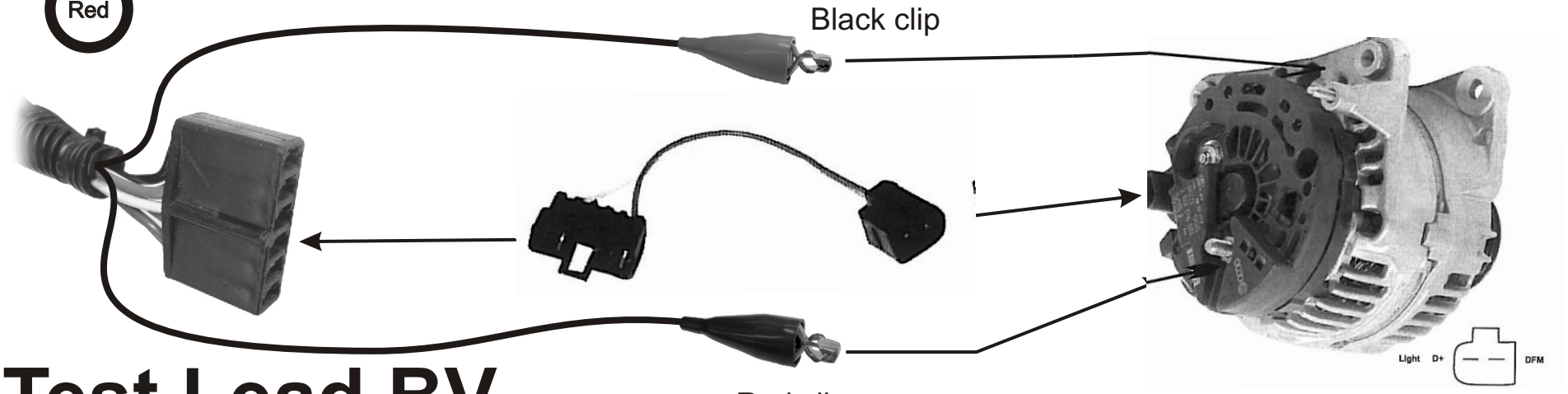
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

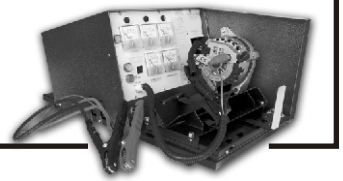
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE test button MOMENTARILY and RELEASE. Observe meters for proper readings. Hold for no more than 3 seconds.

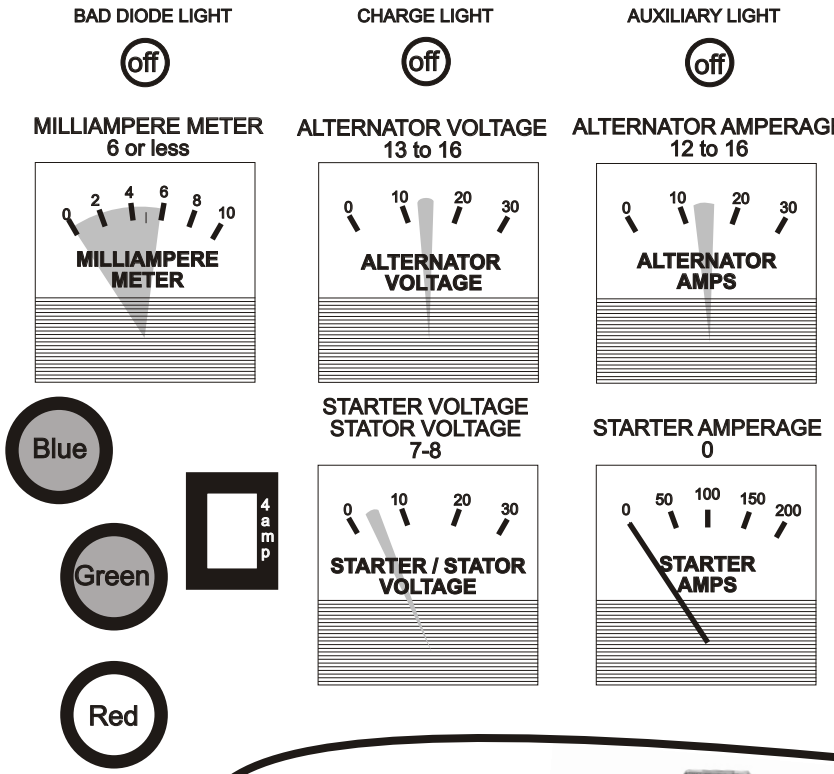


Test Lead BV

881 Alternator and Starter Test Bench

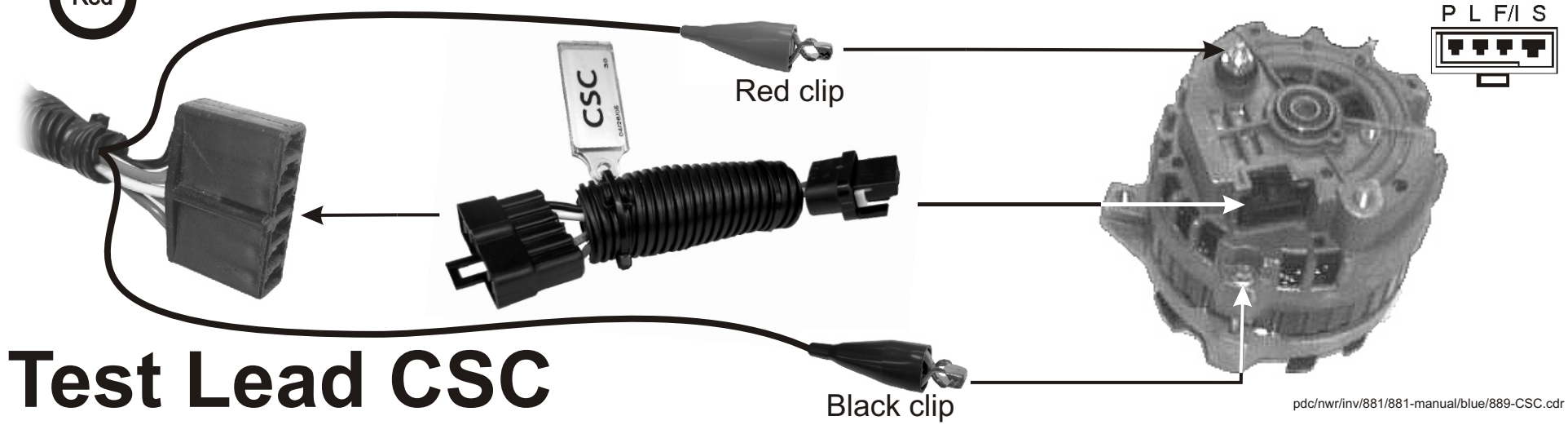
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

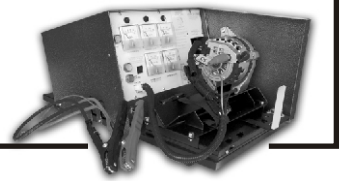
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE and GREEN test buttons MOMENTARILY and RELEASE the BLUE button only. *The GREEN button MUST remain depressed for the entire test.* After releasing the BLUE button, observe meters for proper readings. Hold BLUE button for no more than 3 seconds.

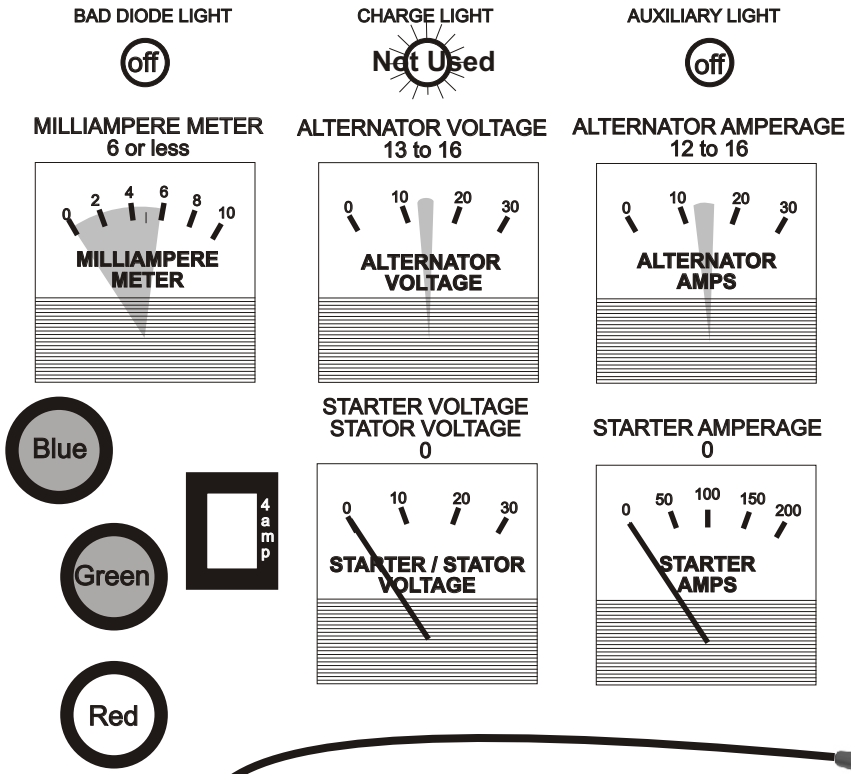


Test Lead CSC

881 Alternator and Starter Test Bench

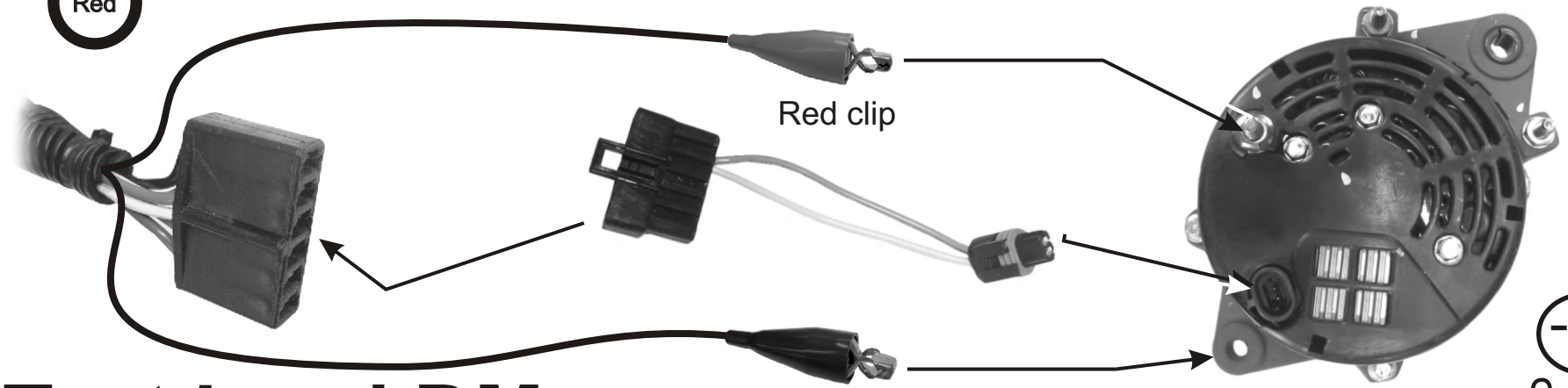
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE test button MOMENTARILY and RELEASE. Observe meters for proper readings. Hold for no more than 3 seconds.

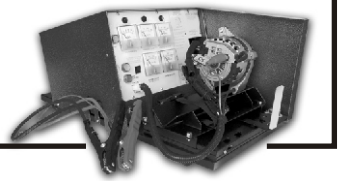


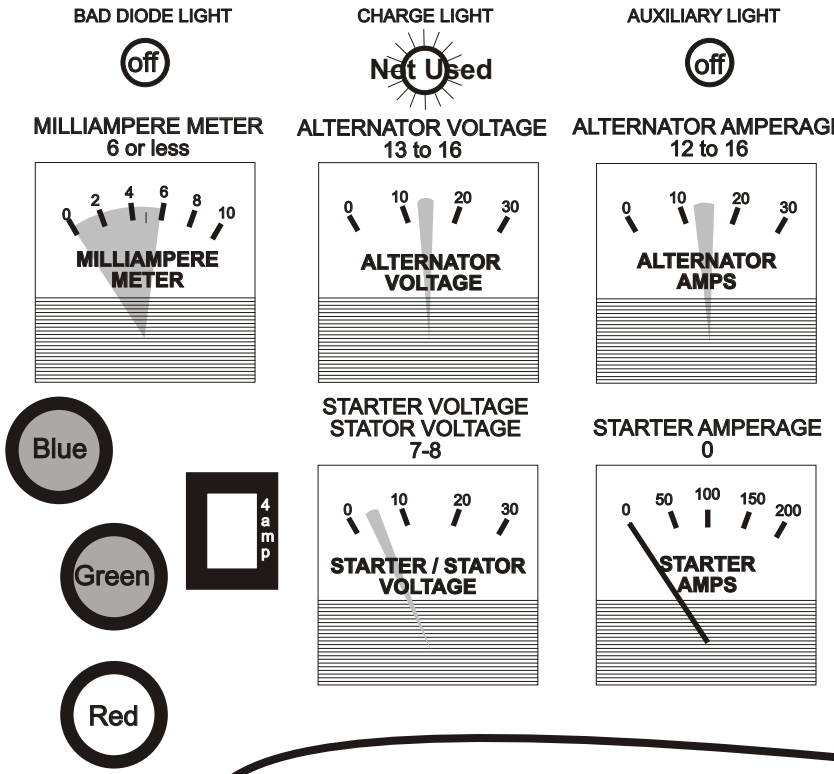
Test Lead DM

S IG

881 Alternator and Starter Test Bench

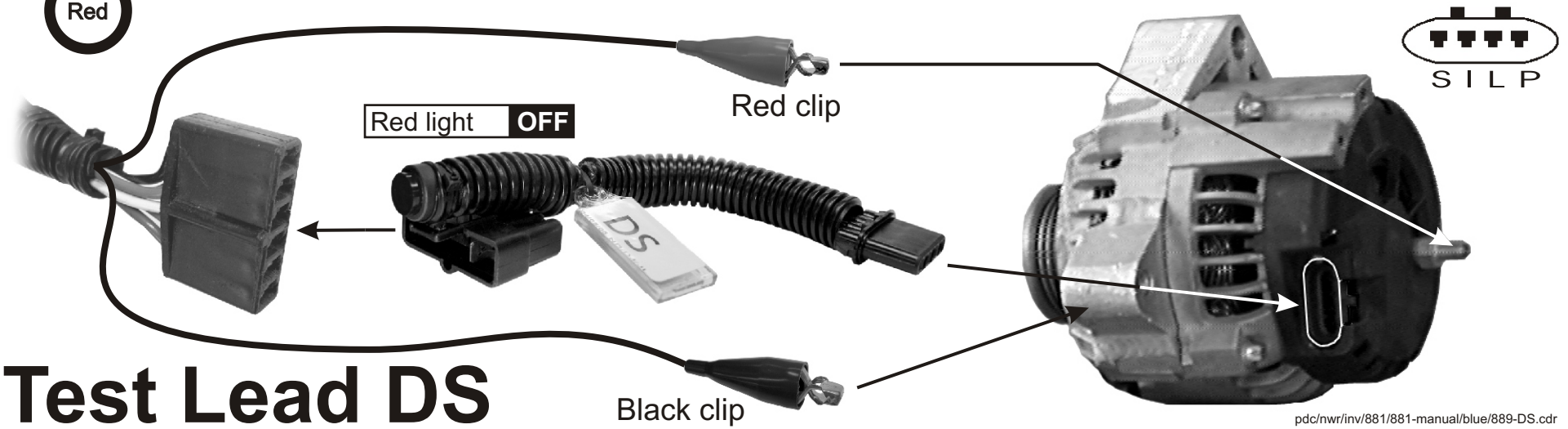
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

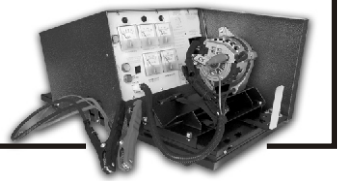
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** and **GREEN** test buttons at the same time for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the **BLUE** button, observe meters for the proper readings. Hold **BLUE** button for no more than 3 seconds.

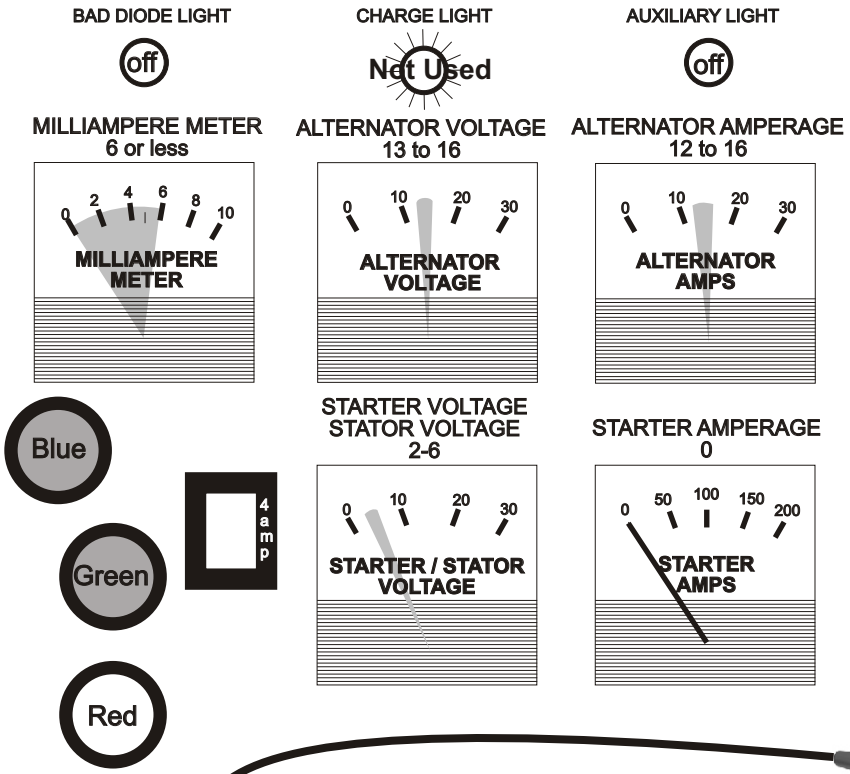


Test Lead DS

881 Alternator and Starter Test Bench

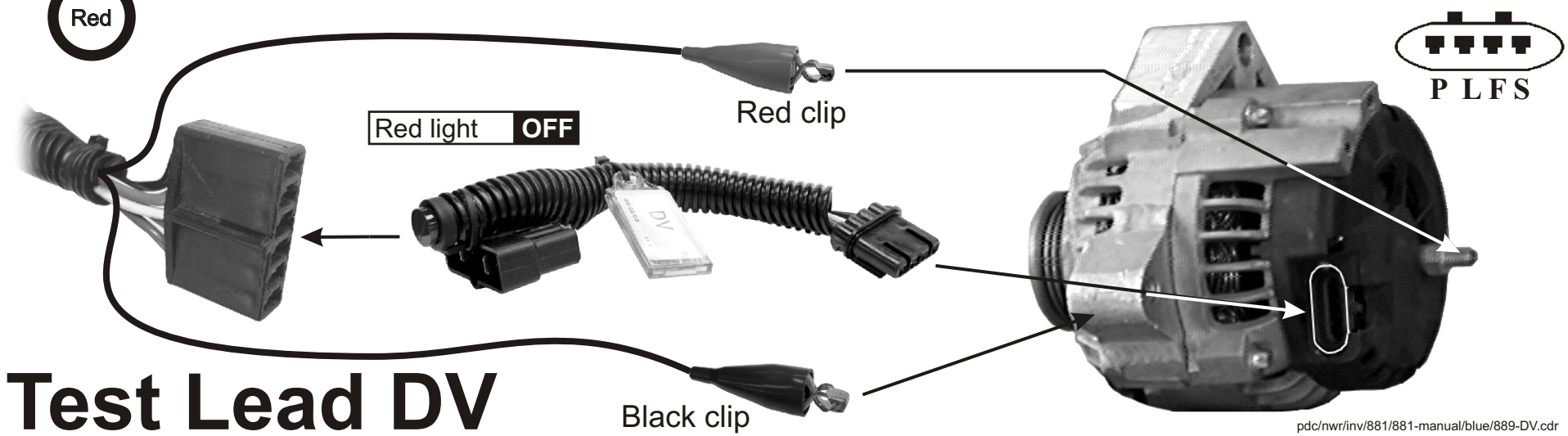
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

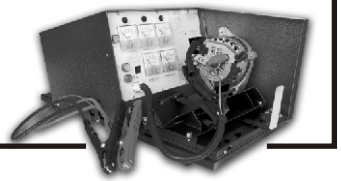
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** and **GREEN** test buttons at the same time for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the **BLUE** button, observe meters for the proper readings. Hold **BLUE** button for no more than 3 seconds.

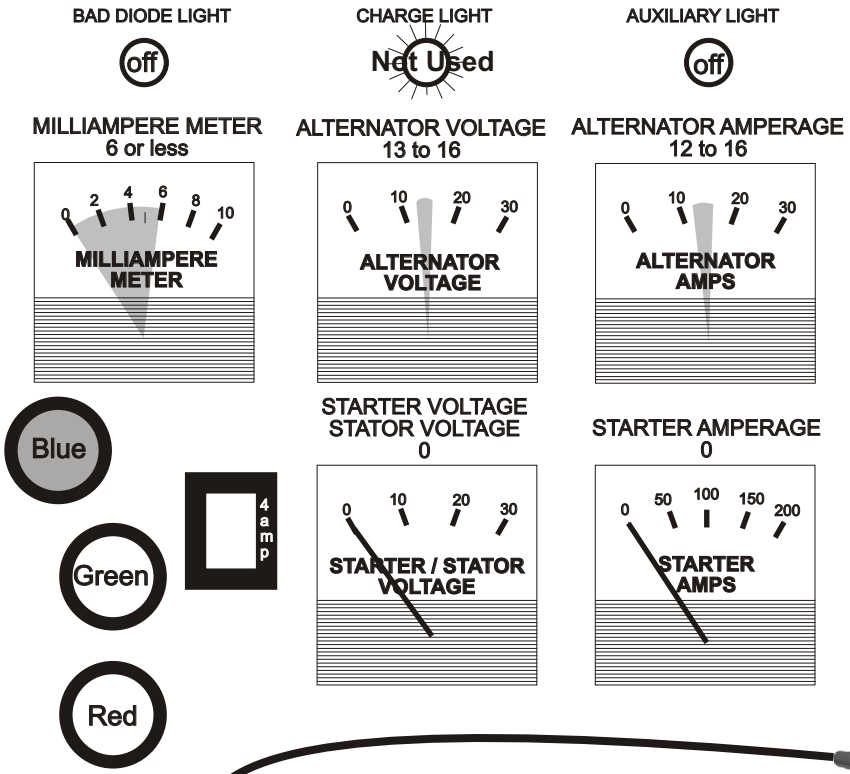


Test Lead DV

881 Alternator and Starter Test Bench

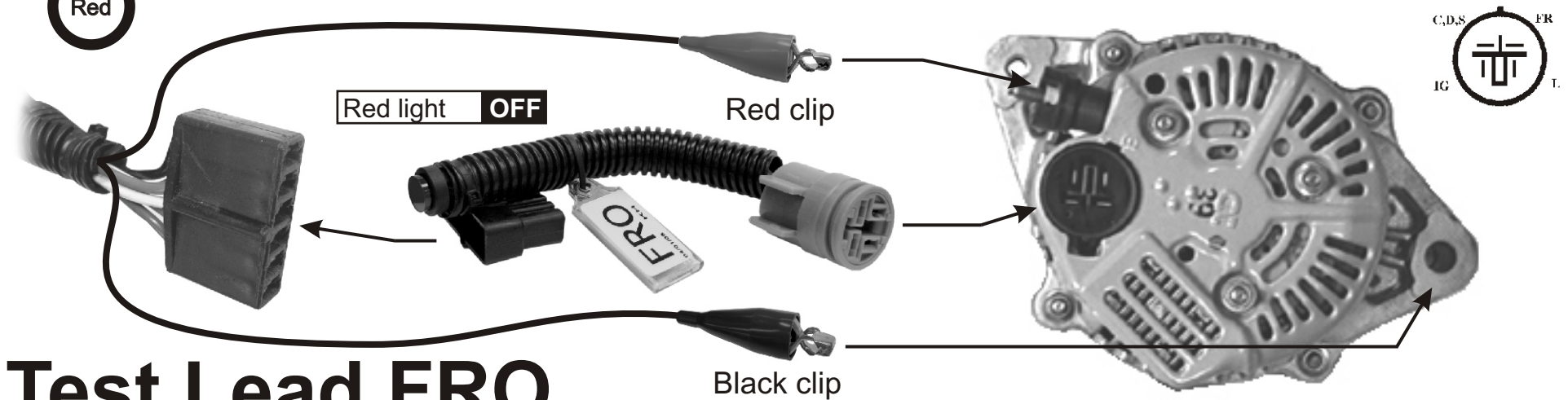
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the button, observe meters for the proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out if it is a good alternator. Some internally sensing alternators will begin to charge immediately.

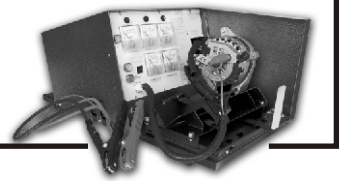


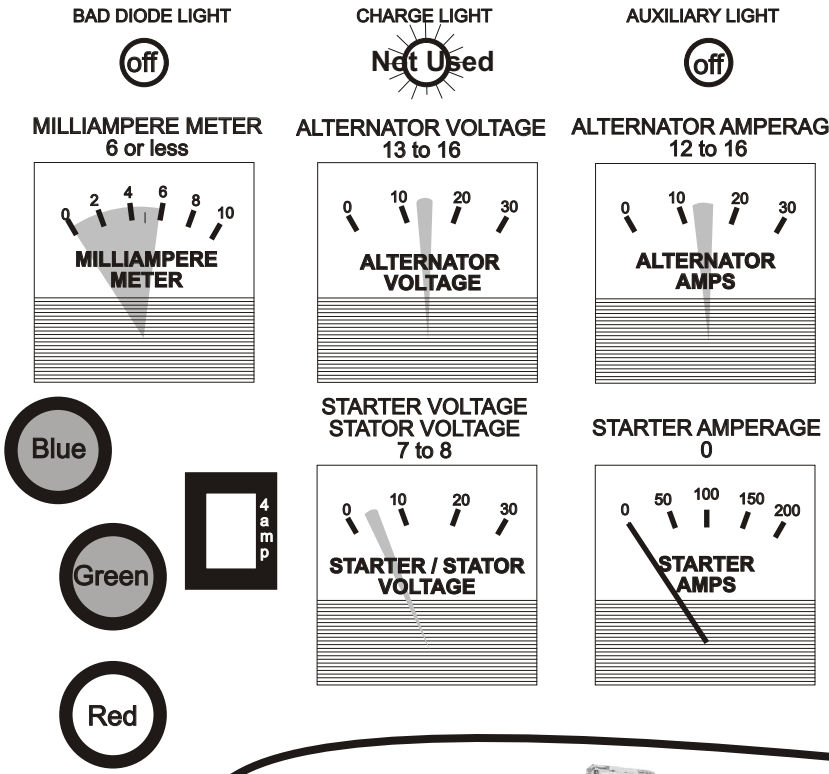
Test Lead FRO

pdc/nwr/inv/881/881-manual/blue/889-FRO.cdr

881 Alternator and Starter Test Bench

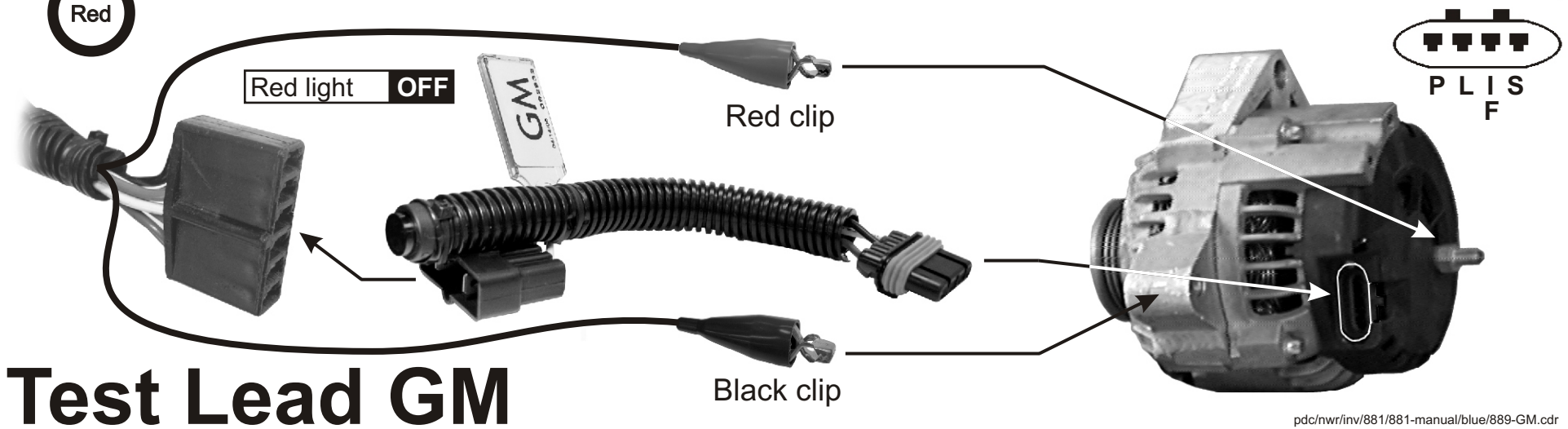
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

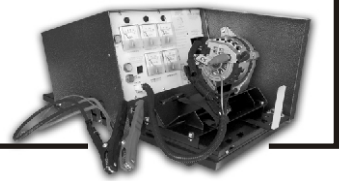
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** and **GREEN** test buttons at the same time for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the **BLUE** button, observe meters for the proper readings. Hold **BLUE** button for no more than 3 seconds.

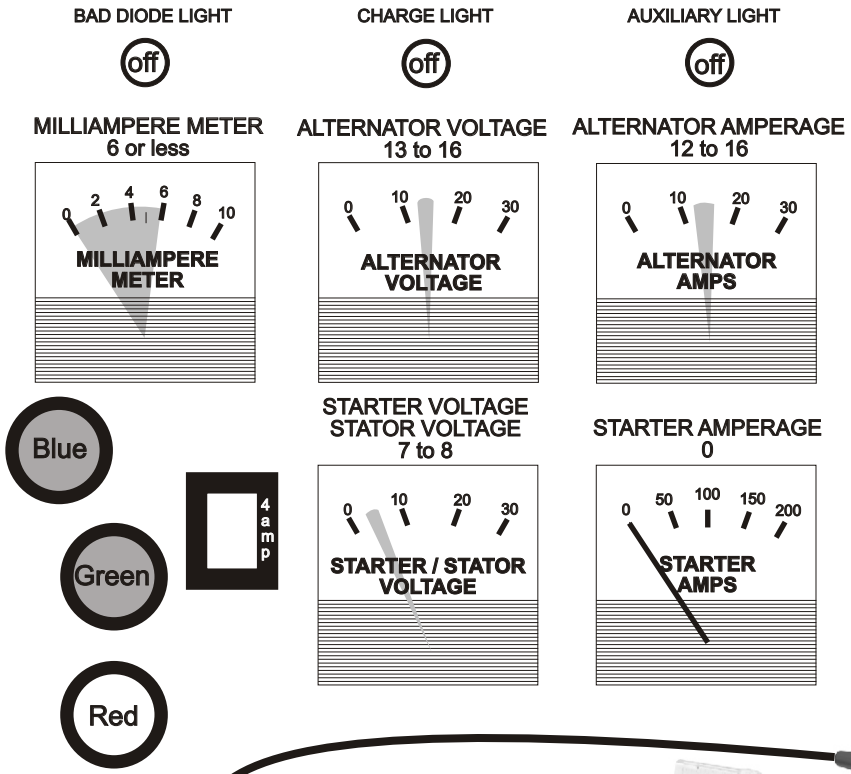


Test Lead GM

881 Alternator and Starter Test Bench

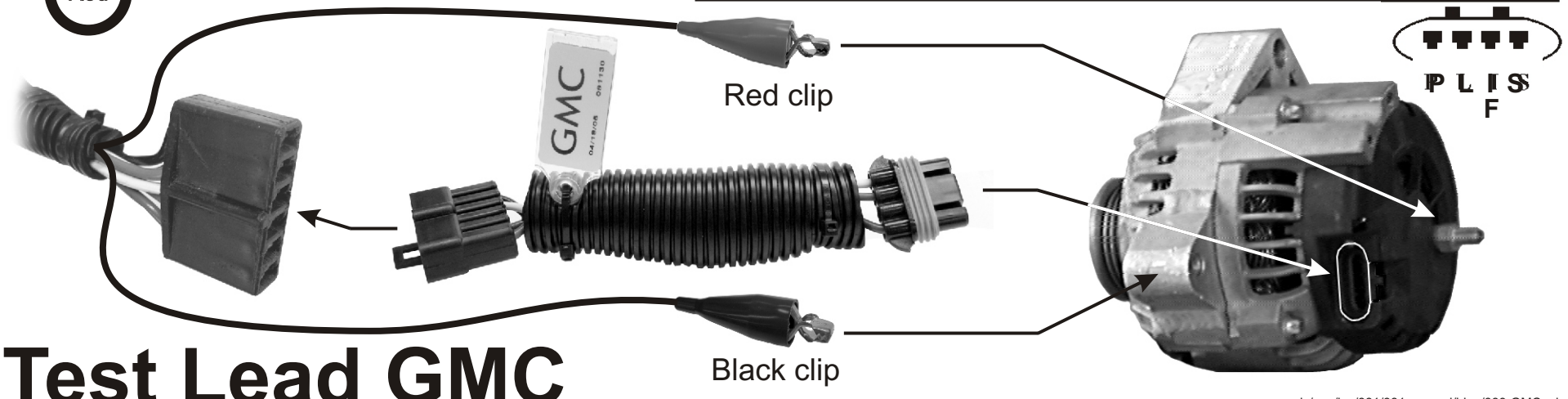
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, turn off motor switch. Check and reset the circuit breaker on the front panel.
5. Press the BLUE and GREEN test button MOMENTARILY and RELEASE the BLUE button only. *The GREEN button MUST remain depressed for the entire test.* After releasing the BLUE button, observe meters for proper readings. Hold BLUE button for no more than 3 seconds.

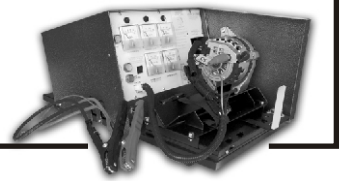


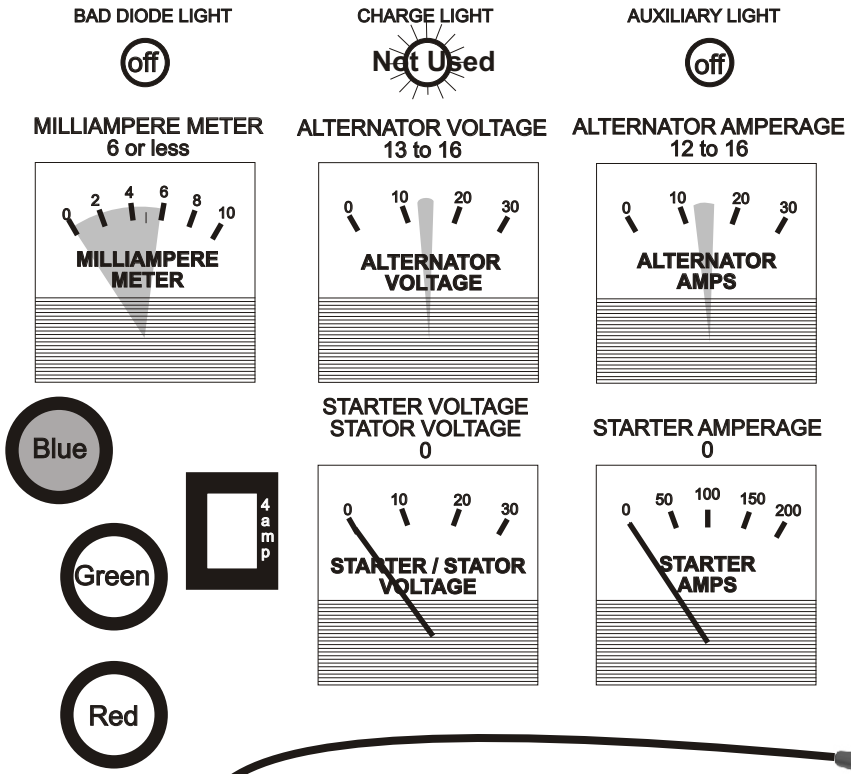
Test Lead GMC

pdc/nwr/inv/881/881-manual/blue/889-GMC.cdr

881 Alternator and Starter Test Bench

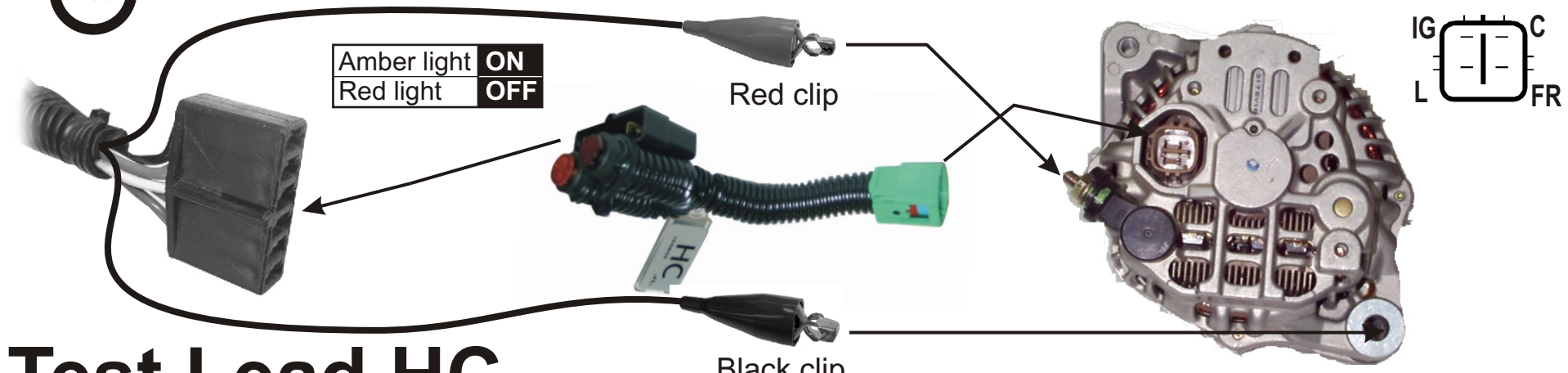
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the button, observe meters for the proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out and the **AMBER** light on the test lead will be lit if it is a good alternator. Some internally sensing alternators will begin to charge immediately.

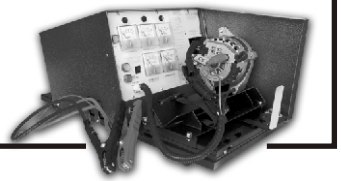


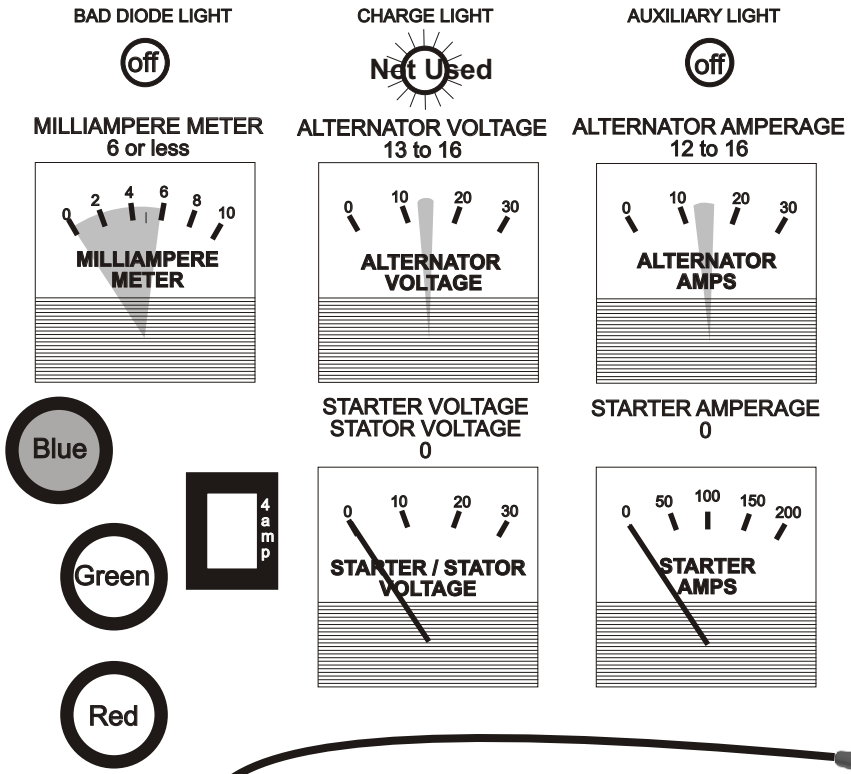
Test Lead HC

Pdc/nwr/inv/881/881-manual/blue/889-HC.cdr

881 Alternator and Starter Test Bench

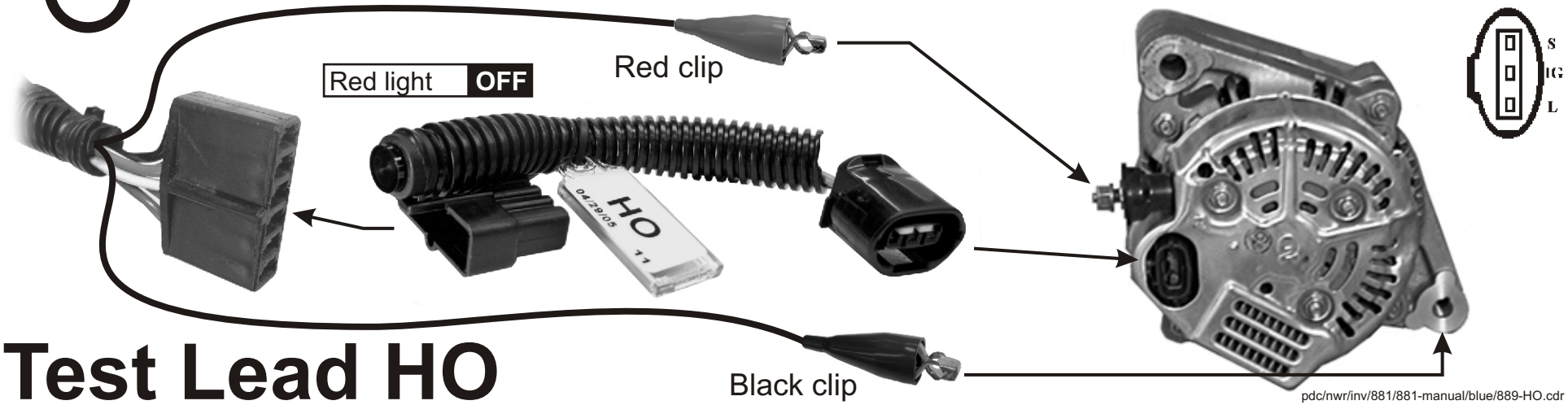
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the BLUE test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install the belt, making sure it is under the belt guard. Slide the green handle to the right, locking the handle into the retaining tab. Close belt guard.
5. turn on motor switch. Press the BLUE test button MOMENTARILY and RELEASE. After releasing button, observe meters for proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out on a good alternator. Some internally sensing regulators will begin to charge immediately.

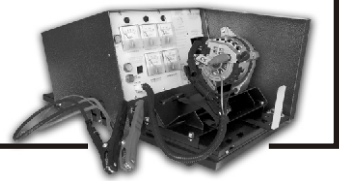


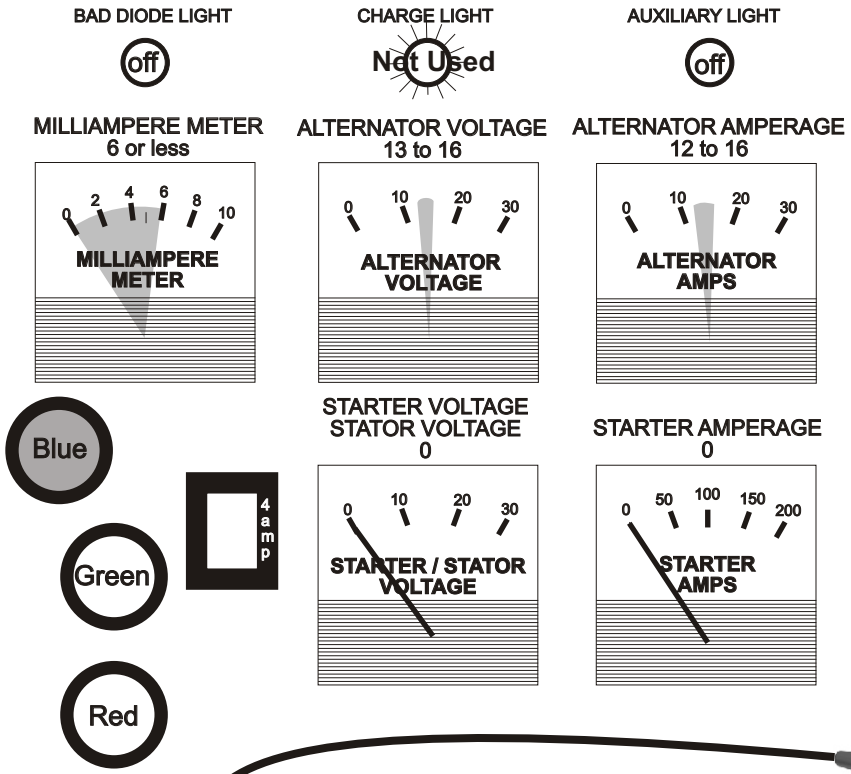
Test Lead HO

pdc/nwr/inv/881/881-manual/blue/889-HO.cdr

881 Alternator and Starter Test Bench

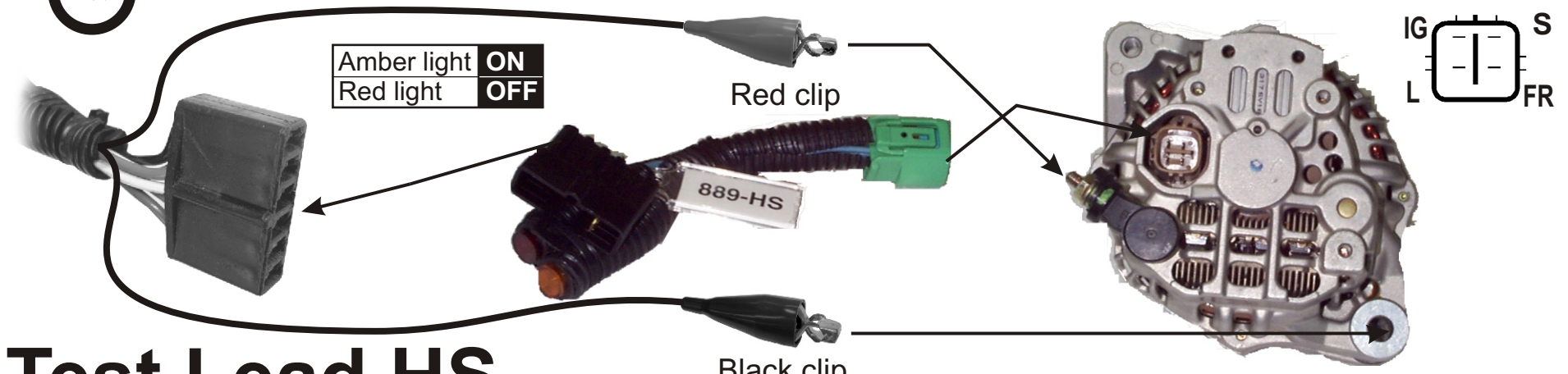
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

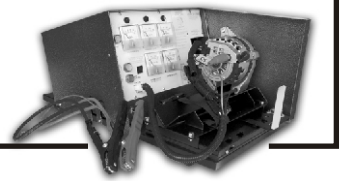
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the button, observe meters for the proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out and the **AMBER** light on the test lead will be lit if it is a good alternator. Some internally sensing alternators will begin to charge immediately.



Test Lead HS

881 Alternator and Starter Test Bench

Test Leads



BAD DIODE LIGHT

off

CHARGE LIGHT

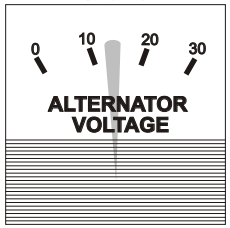
Not Used

AUXILIARY LIGHT

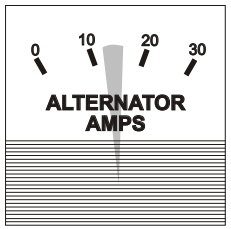
off

MILLIAMPERE METER
6 or less

ALTERNATOR VOLTAGE
13 to 16



ALTERNATOR AMPERAGE
12 to 16



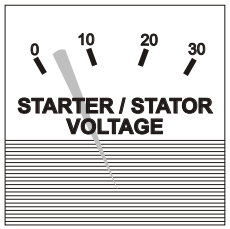
Blue

Green

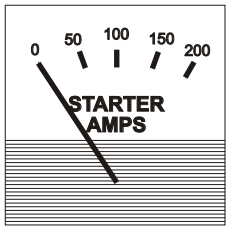
Red

4 amp

STARTER VOLTAGE
STATOR VOLTAGE
3 to 5

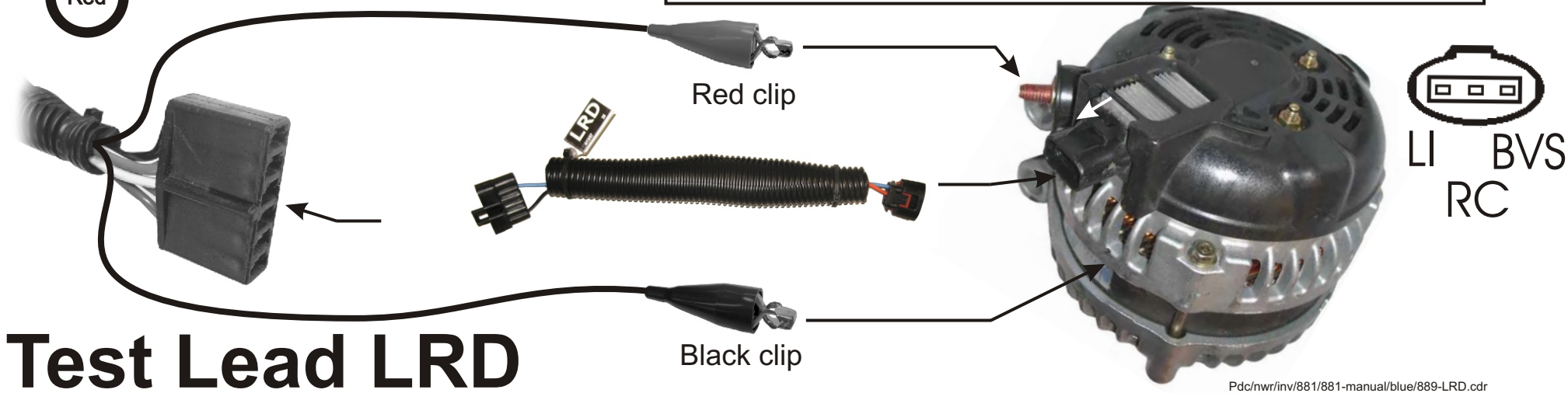


STARTER AMPERAGE
0



Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, turn off motor switch. Check and reset the circuit breaker on the front panel.
5. Press the BLUE and GREEN test button MOMENTARILY and RELEASE the BLUE button only. *The GREEN button MUST remain depressed for the entire test.* After releasing the BLUE button, observe meters for proper readings. Hold BLUE button for no more than 3 seconds.

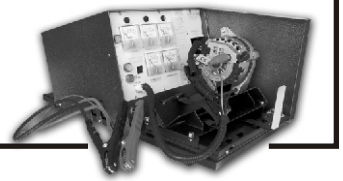


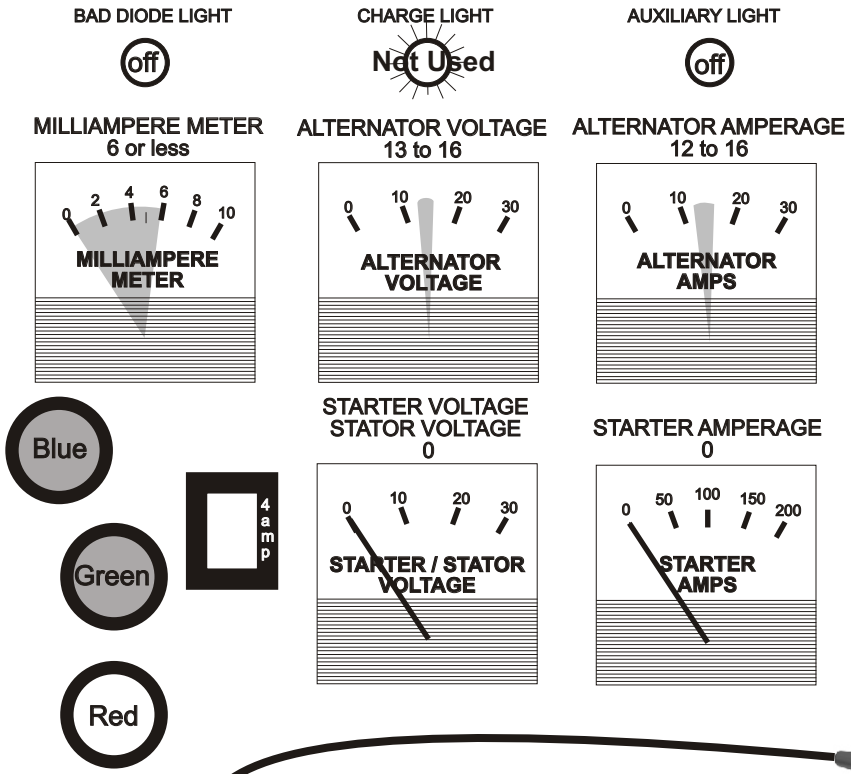
Test Lead LRD

Pdc/nwr/inv/881/881-manual/blue/889-LRD.cdr

881 Alternator and Starter Test Bench

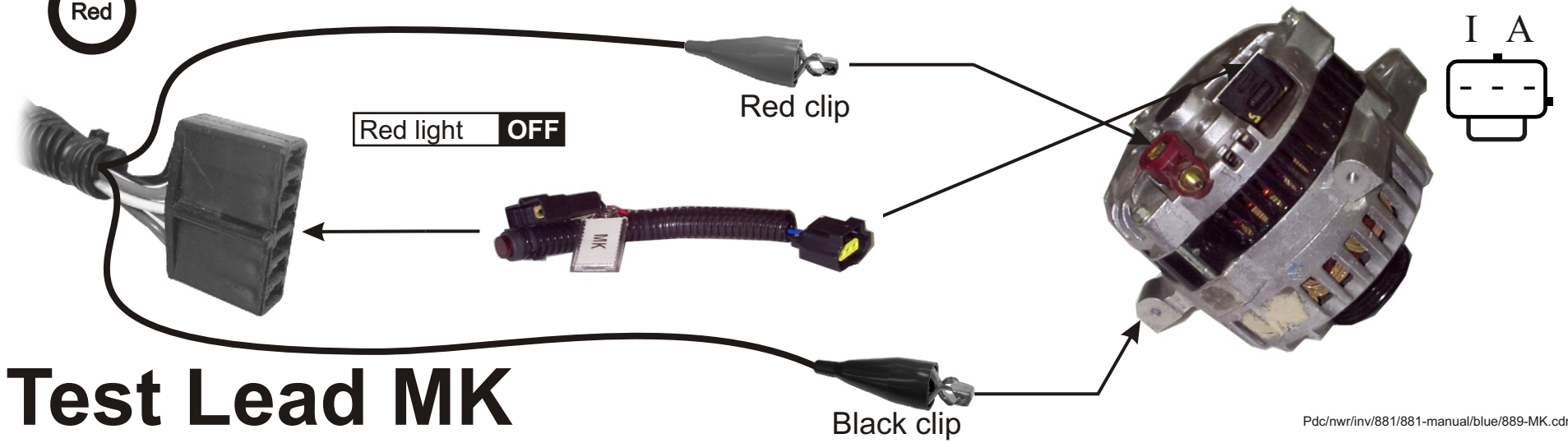
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

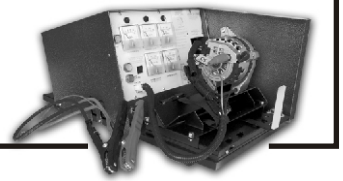
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** and **GREEN** test buttons at the same time for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the **BLUE** button, observe meters for the proper readings. Hold **BLUE** button for no more than 3 seconds.

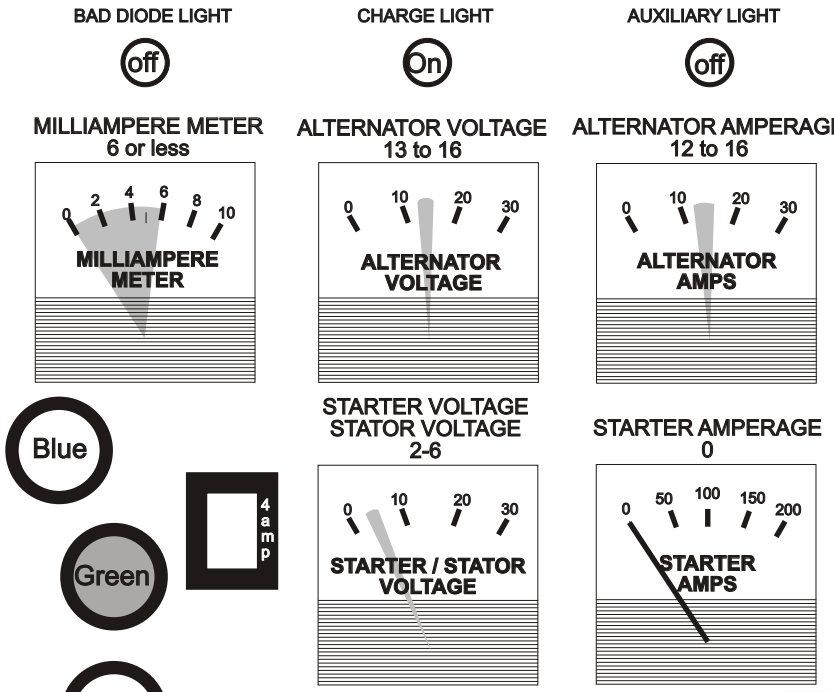


Test Lead MK

881 Alternator and Starter Test Bench

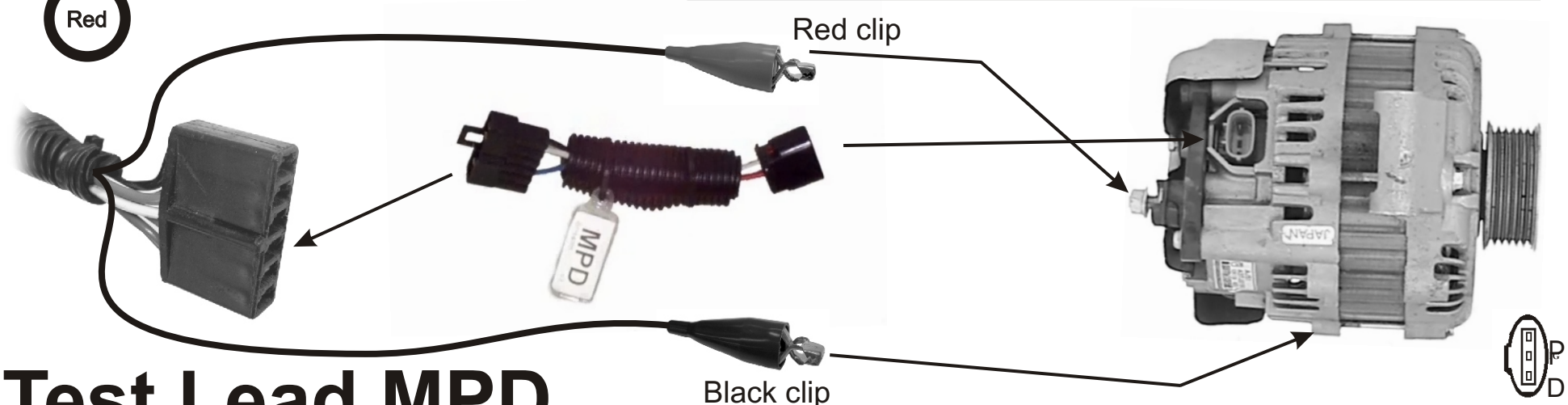
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

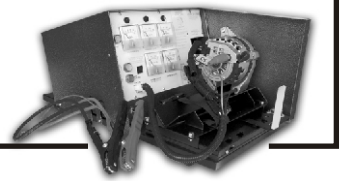
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the GREEN test button MOMENTARILY and RELEASE. Observe meters for proper readings. Hold for no more than 3 seconds.

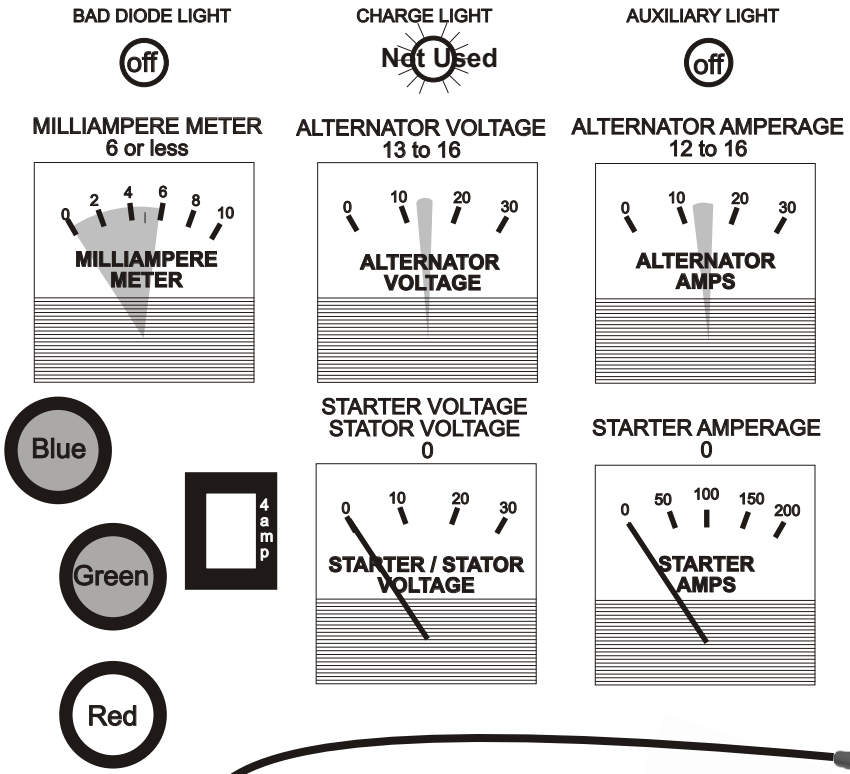


Test Lead MPD

881 Alternator and Starter Test Bench

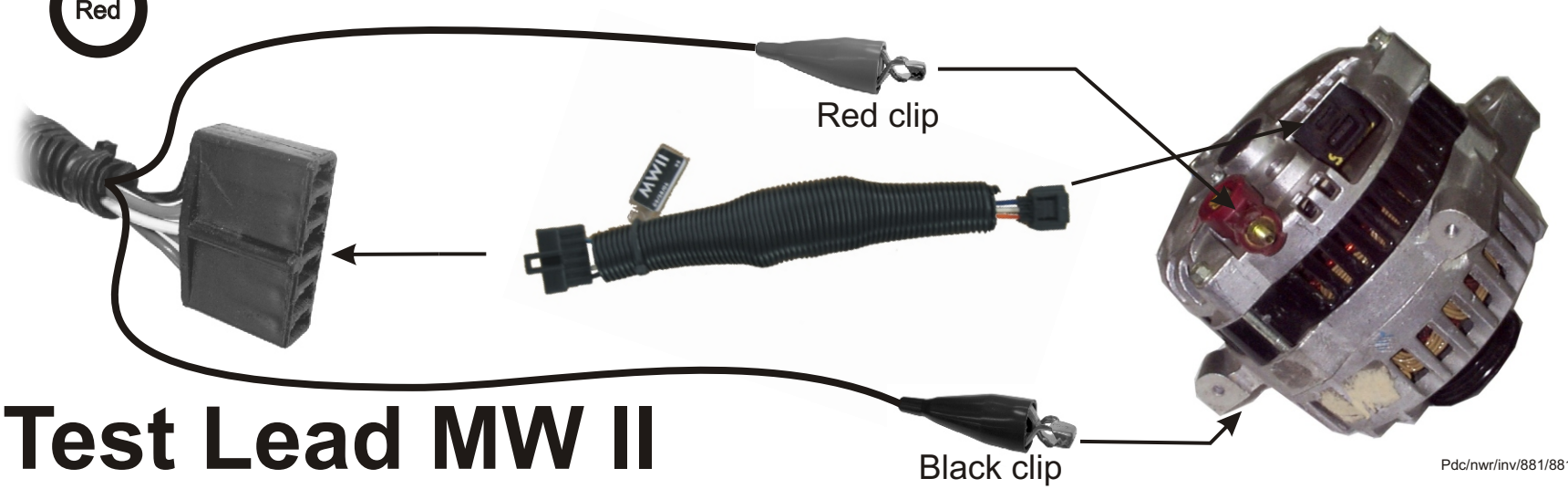
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE and GREEN test buttons MOMENTARILY and RELEASE the BLUE button only. *The GREEN button MUST remain depressed for the entire test.* After releasing the BLUE button, observe meters for proper readings. Hold BLUE button for no more than 3 seconds.

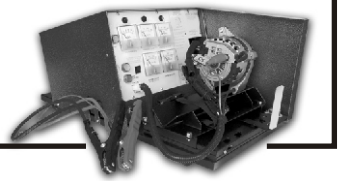


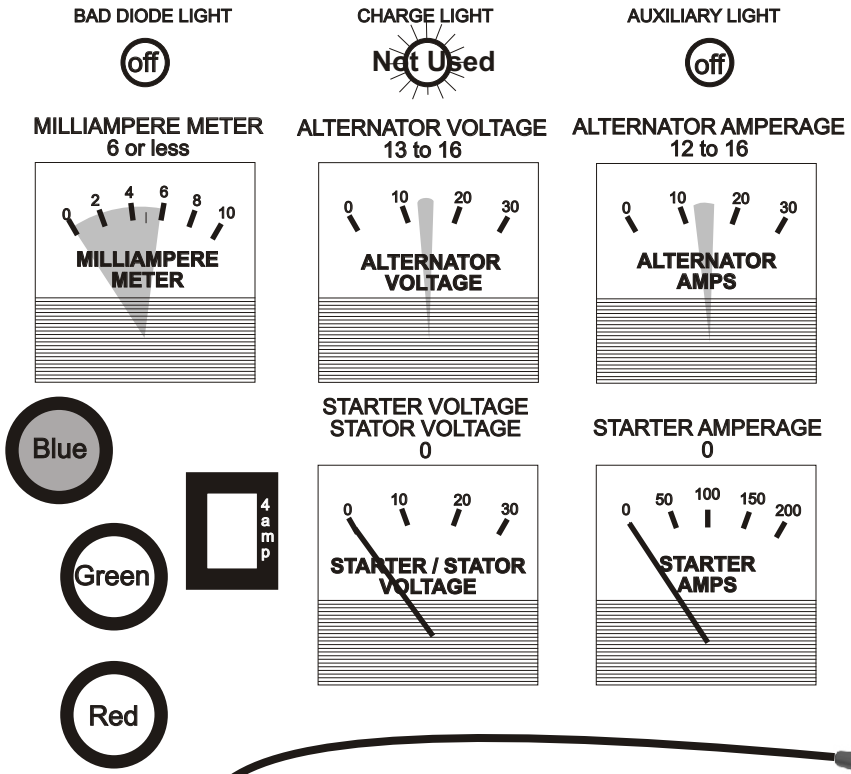
Test Lead MW II

Pdc/nwr/inv/881/881-manual/blue/889-MWII.cdr

881 Alternator and Starter Test Bench

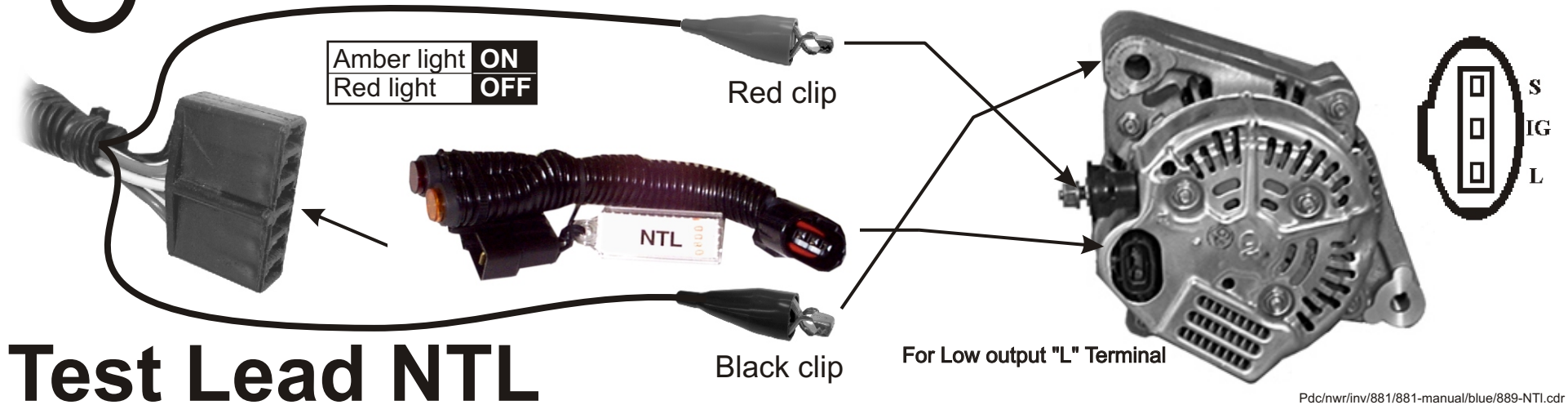
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the button, observe meters for the proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out and the **AMBER** light on the test lead will be lit if it is a good alternator. Some internally sensing alternators will begin to charge immediately.

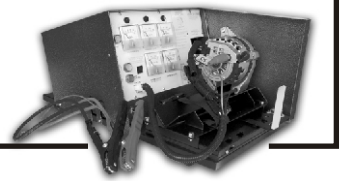


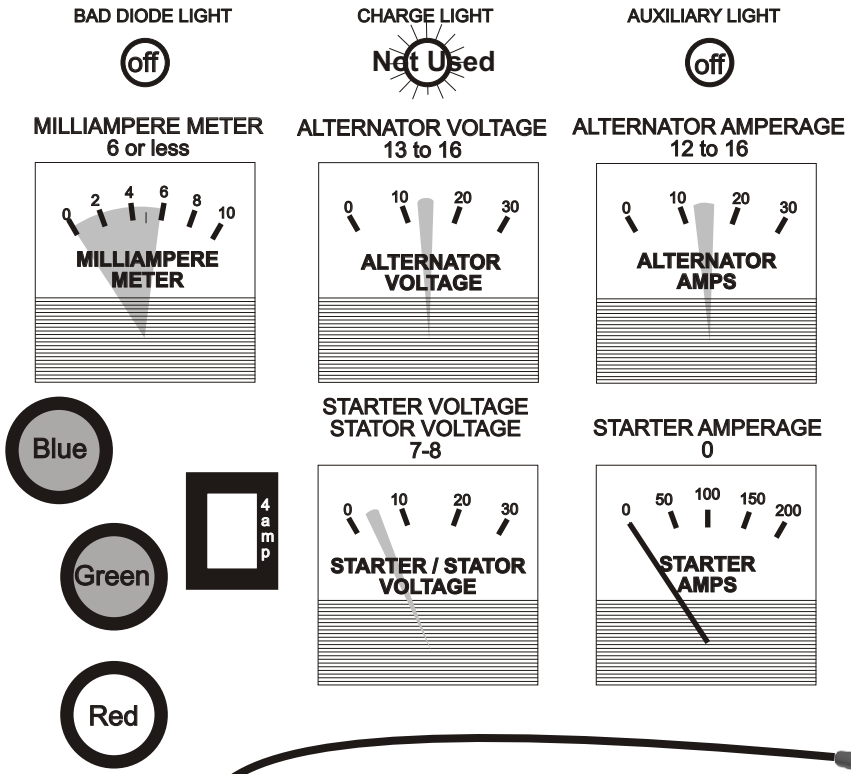
Test Lead NTL

Pdc/nwr/inv/881/881-manual/blue/889-NTl.cdr

881 Alternator and Starter Test Bench

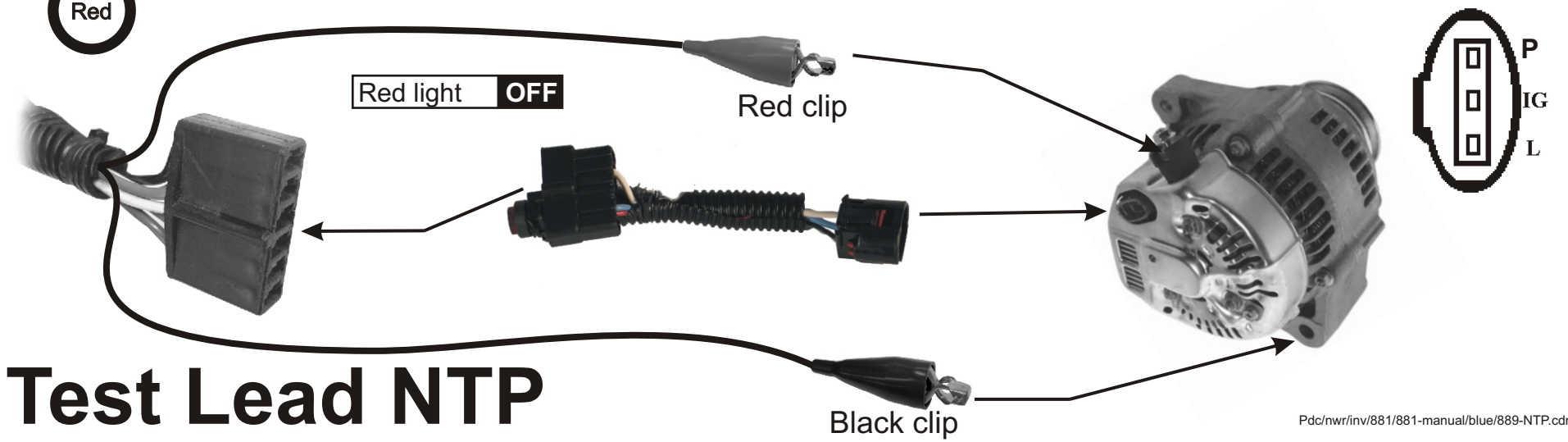
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

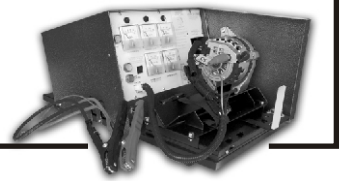
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the BLUE test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install the belt, making sure it is under the belt guard. Slide the green handle to the right, locking the handle into the retaining tab. Close belt guard.
5. turn on motor switch. Press the BLUE test button MOMENTARILY and RELEASE. After releasing button, observe meters for proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out on a good alternator. Some internally sensing regulators will begin to charge immediately.

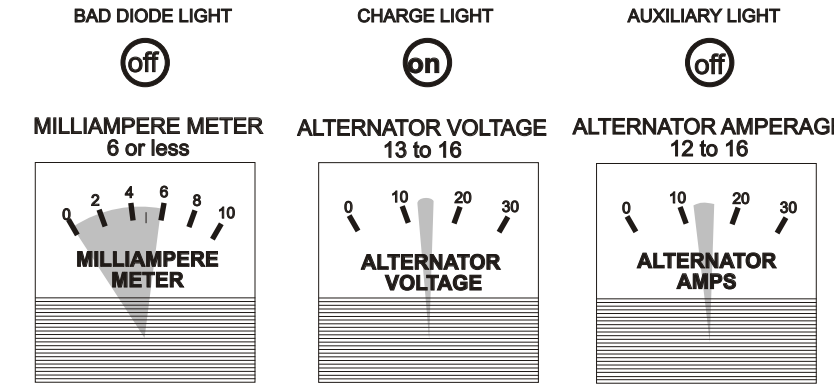


Test Lead NTP

881 Alternator and Starter Test Bench

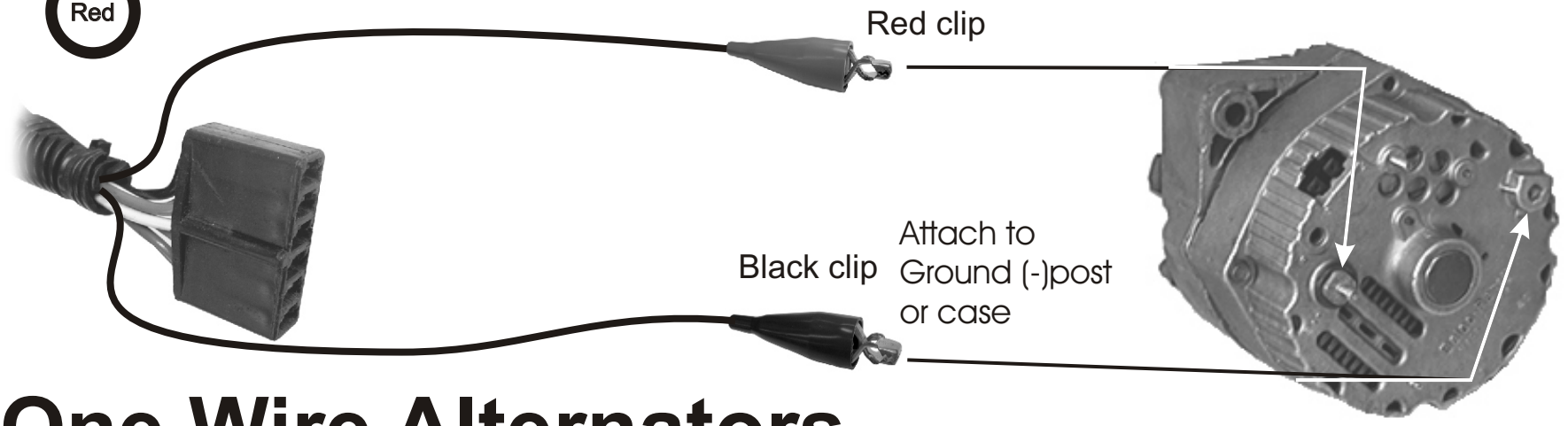
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

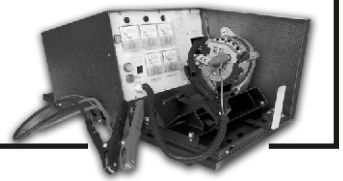
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE test button MOMENTARILY and RELEASE. Observe meters for proper readings. Hold for no more than 3 seconds.

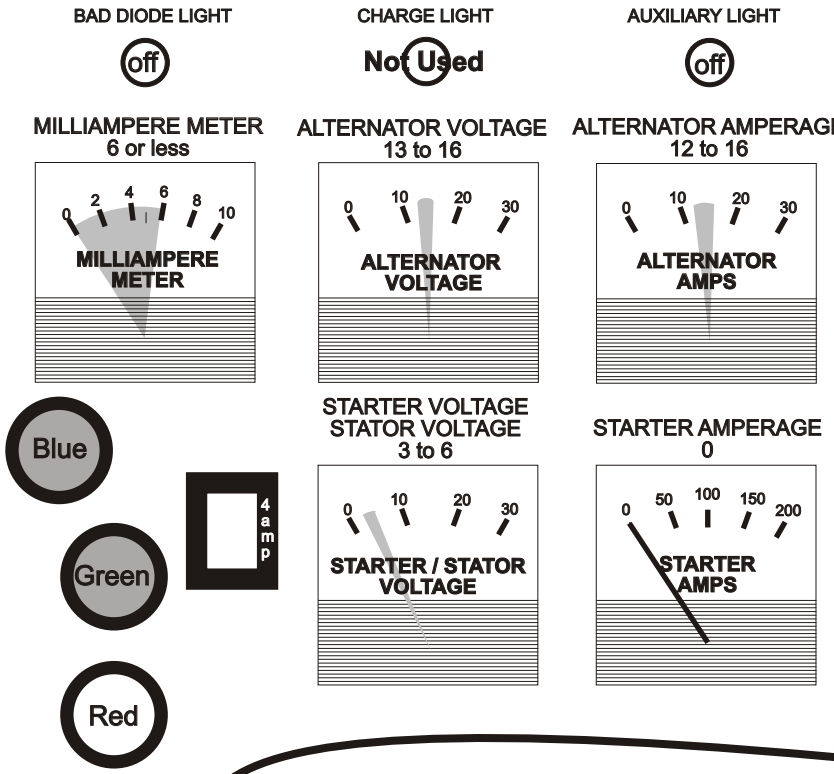


One Wire Alternators

881 Alternator and Starter Test Bench

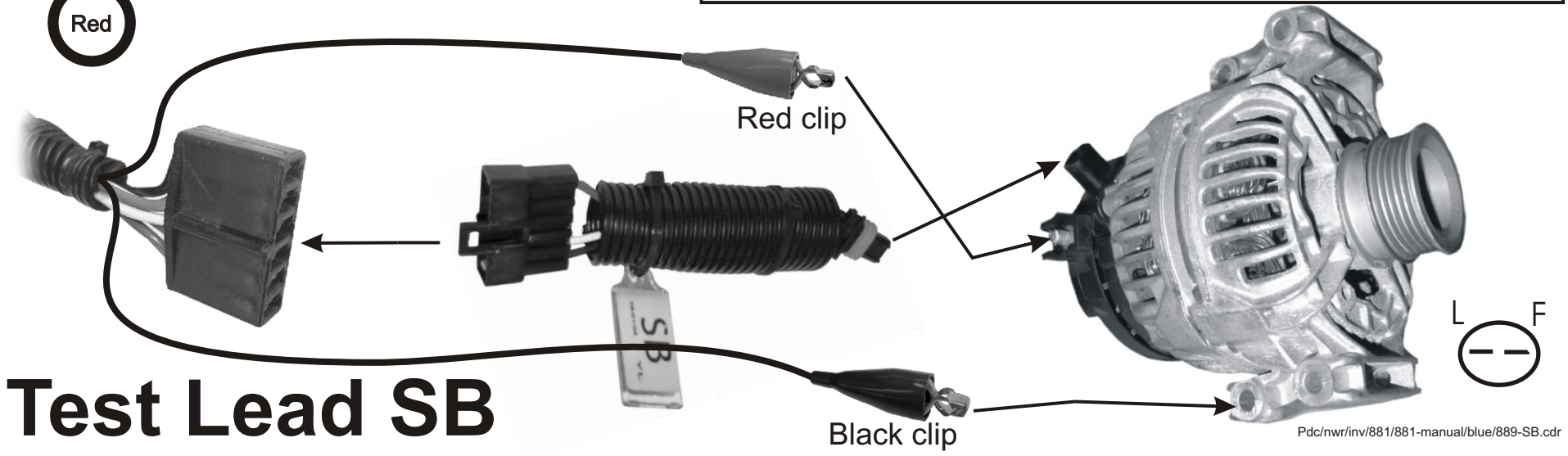
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

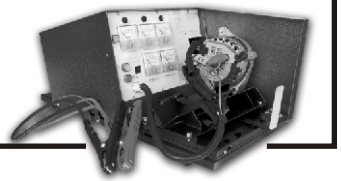
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE and GREEN test buttons MOMENTARILY and RELEASE the BLUE button only. *The GREEN button MUST remain depressed for the entire test.* After releasing the BLUE button, observe meters for proper readings. Hold BLUE button for no more than 3 seconds.

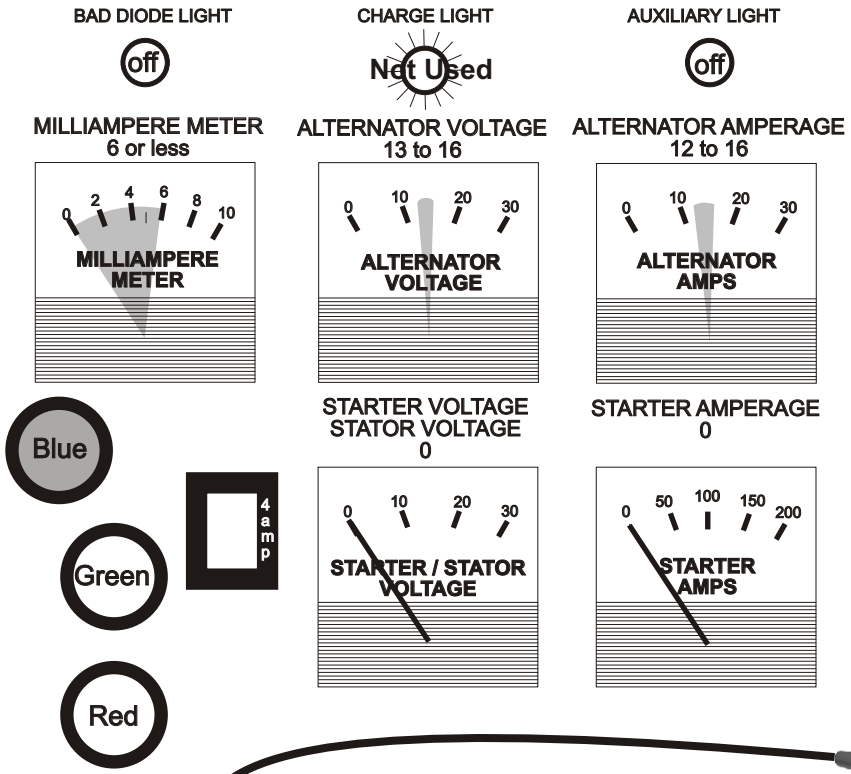


Test Lead SB

881 Alternator and Starter Test Bench

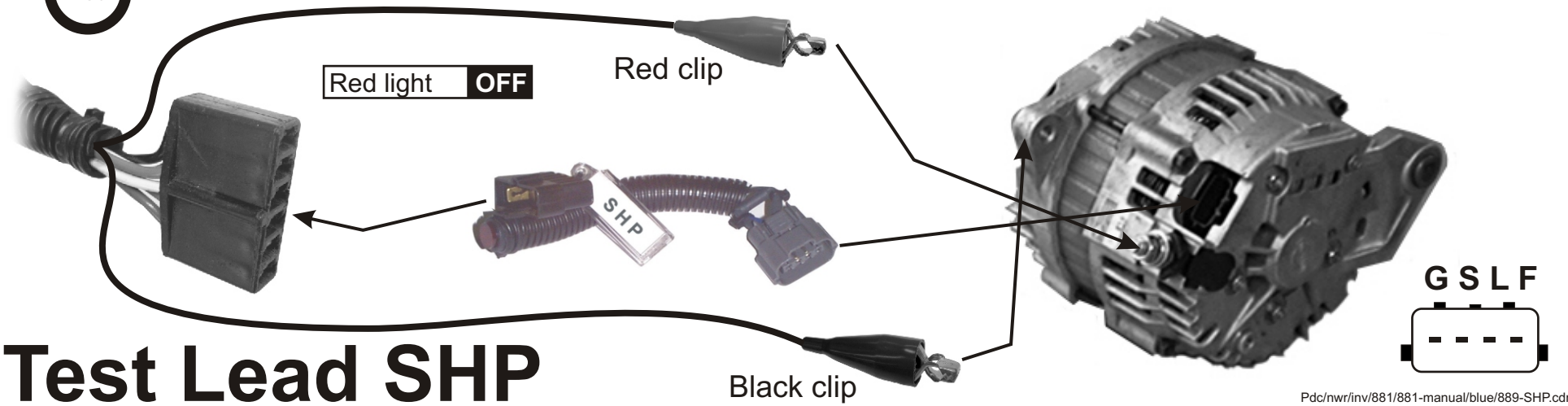
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the BLUE test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install the belt, making sure it is under the belt guard. Slide the green handle to the right, locking the handle into the retaining tab. Close belt guard.
5. turn on motor switch. Press the BLUE test button MOMENTARILY and RELEASE. After releasing button, observe meters for proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out on a good alternator. Some internally sensing regulators will begin to charge immediately.

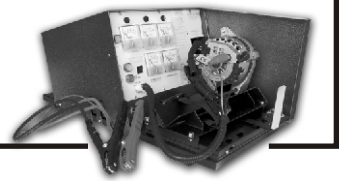


Test Lead SHP

Pdc/nwr/inv/881/881-manual/blue/889-SHP.cdr

881 Alternator and Starter Test Bench

Test Leads



BAD DIODE LIGHT

off

CHARGE LIGHT

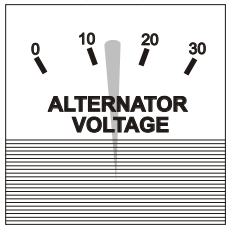
Not Used

AUXILIARY LIGHT

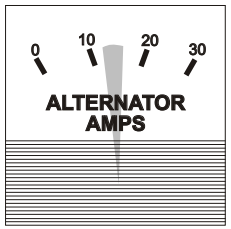
off

MILLIAMPERE METER
6 or less

ALTERNATOR VOLTAGE
13 to 16



ALTERNATOR AMPERAGE
12 to 16



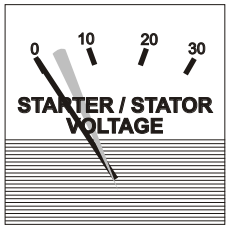
Blue

4 amp

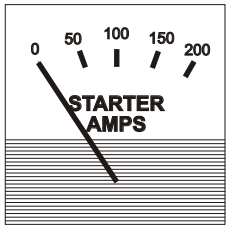
Green

Red

STARTER VOLTAGE
STATOR VOLTAGE
0, unless P connected, then 7 to 8



STARTER AMPERAGE
0

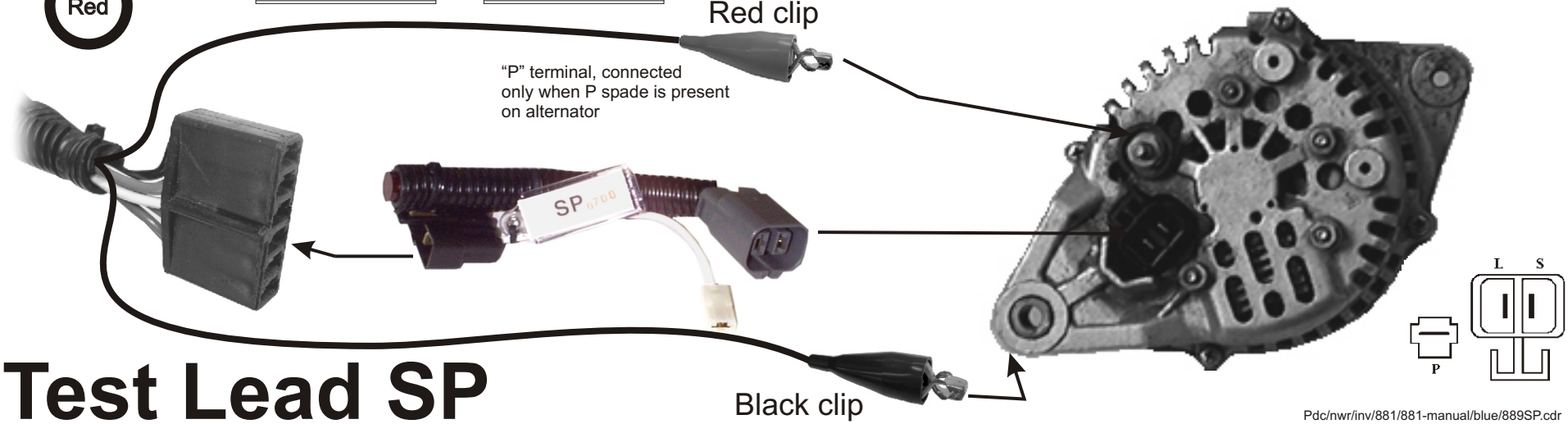


Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE test button MOMENTARILY and RELEASE. Observe meters for proper readings. Hold for no more than 3 seconds.

Red clip

"P" terminal, connected only when P spade is present on alternator

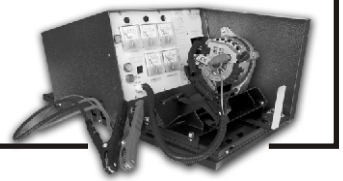


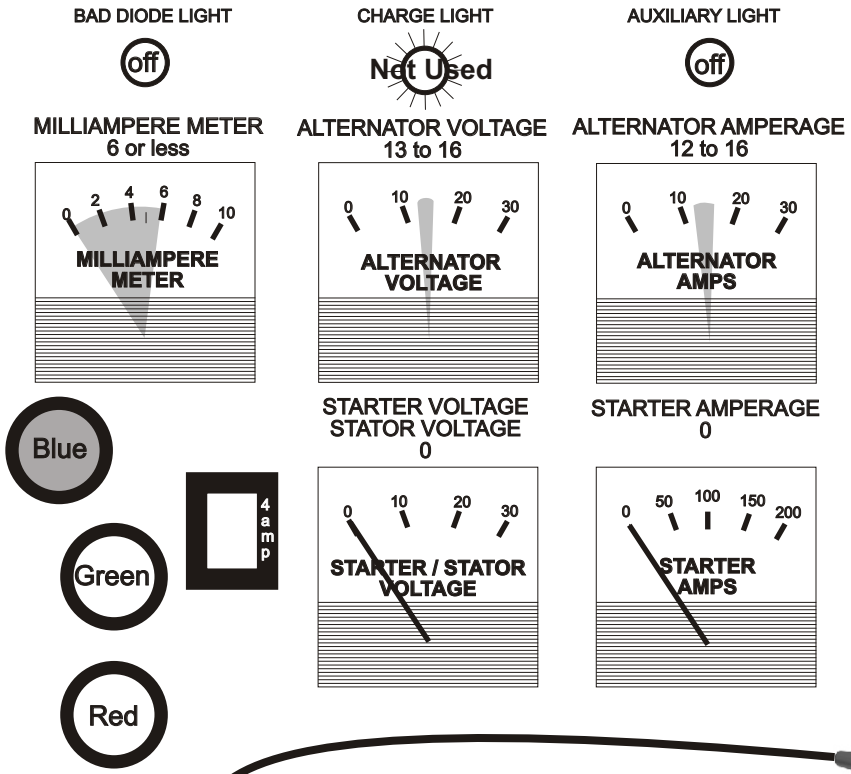
Black clip

Test Lead SP

881 Alternator and Starter Test Bench

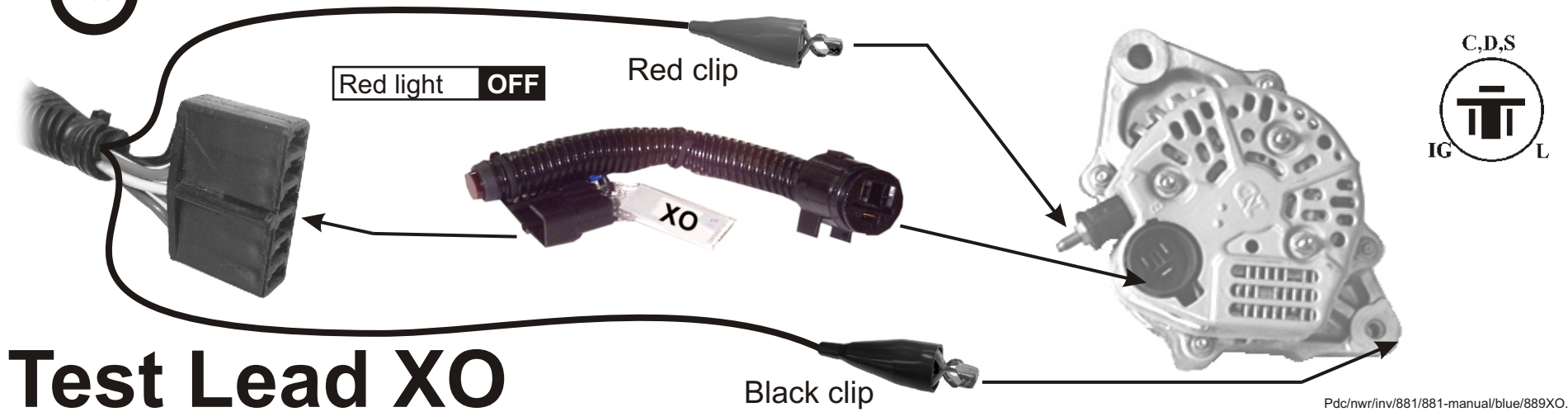
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

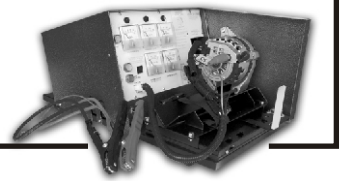
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the BLUE test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install the belt, making sure it is under the belt guard. Slide the green handle to the right, locking the handle into the retaining tab. Close belt guard.
5. turn on motor switch. Press the BLUE test button MOMENTARILY and RELEASE. After releasing button, observe meters for proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out on a good alternator. Some internally sensing regulators will begin to charge immediately.

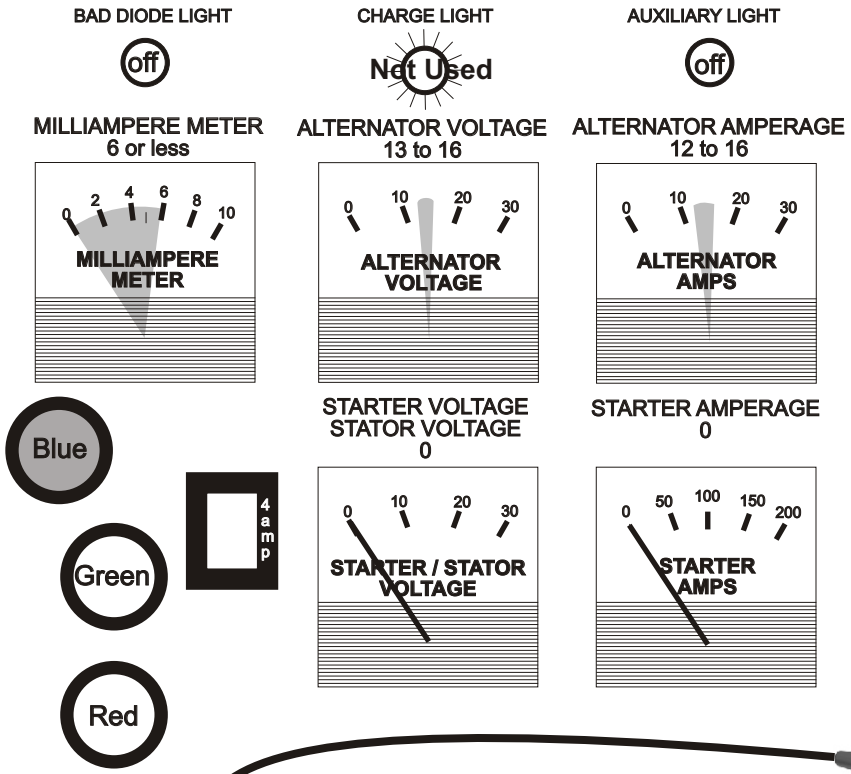


Test Lead XO

881 Alternator and Starter Test Bench

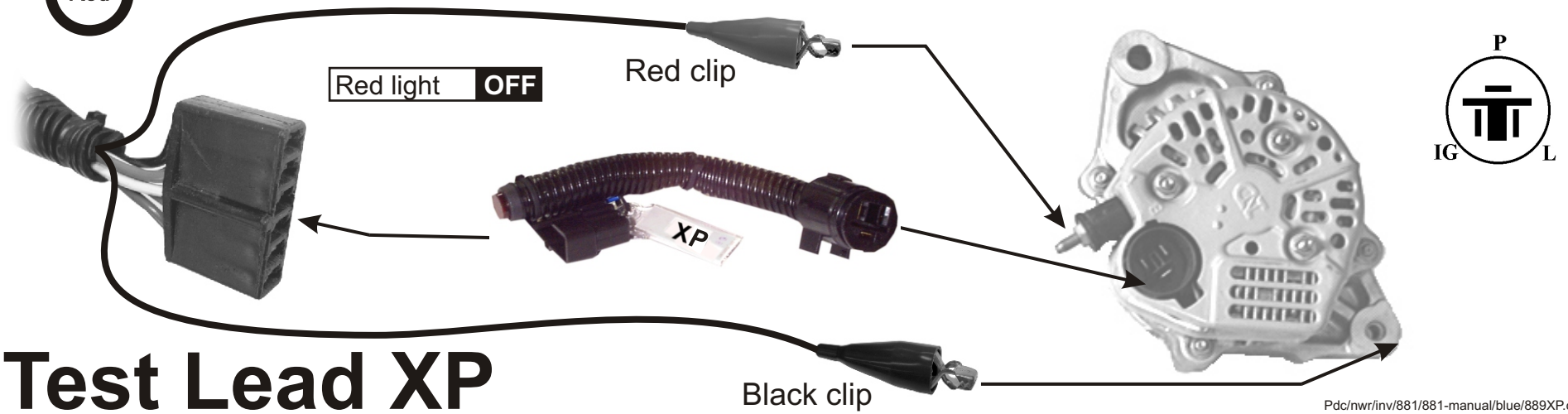
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

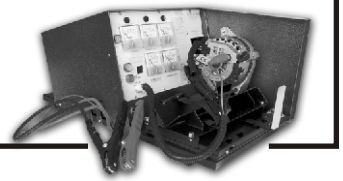
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the BLUE test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install the belt, making sure it is under the belt guard. Slide the green handle to the right, locking the handle into the retaining tab. Close belt guard.
5. turn on motor switch. Press the BLUE test button MOMENTARILY and RELEASE. After releasing button, observe meters for proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out on a good alternator. Some internally sensing regulators will begin to charge immediately.

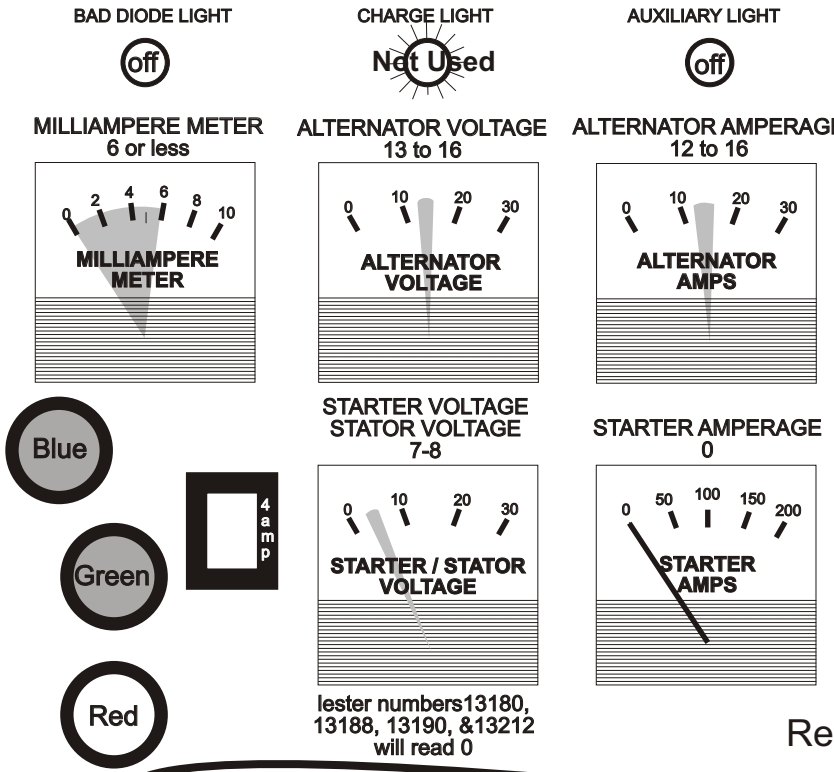


Test Lead XP

881 Alternator and Starter Test Bench

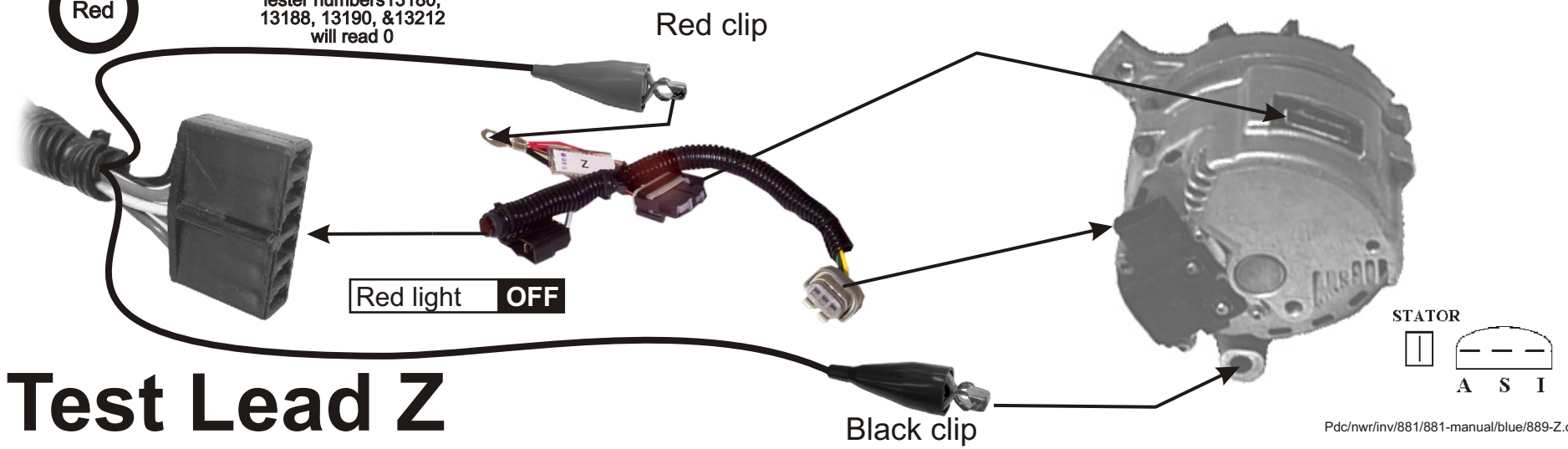
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** and **GREEN** test buttons at the same time for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the **BLUE** button, observe meters for the proper readings. Hold **BLUE** button for no more than 3 seconds.

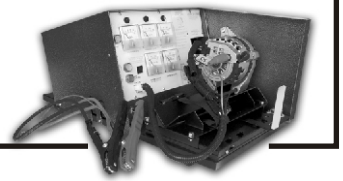


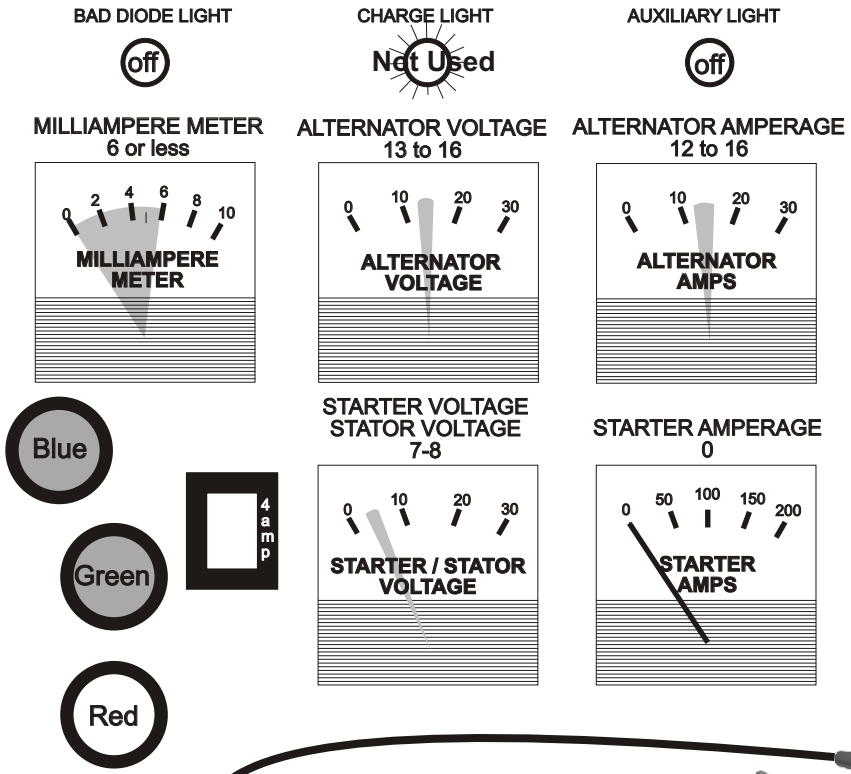
Test Lead Z

Pdc/nwr/inv/881/881-manual/blue/889-Z.cdr

881 Alternator and Starter Test Bench

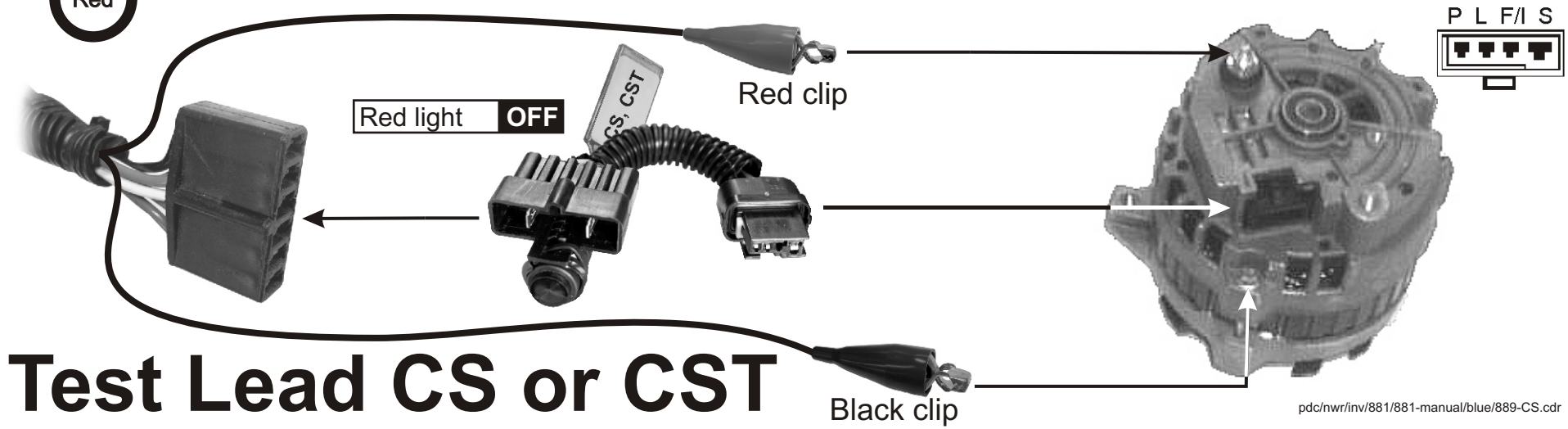
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** and **GREEN** test buttons at the same time for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the **BLUE** button, observe meters for the proper readings. Hold **BLUE** button for no more than 3 seconds.

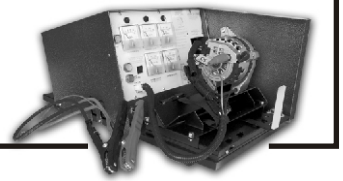


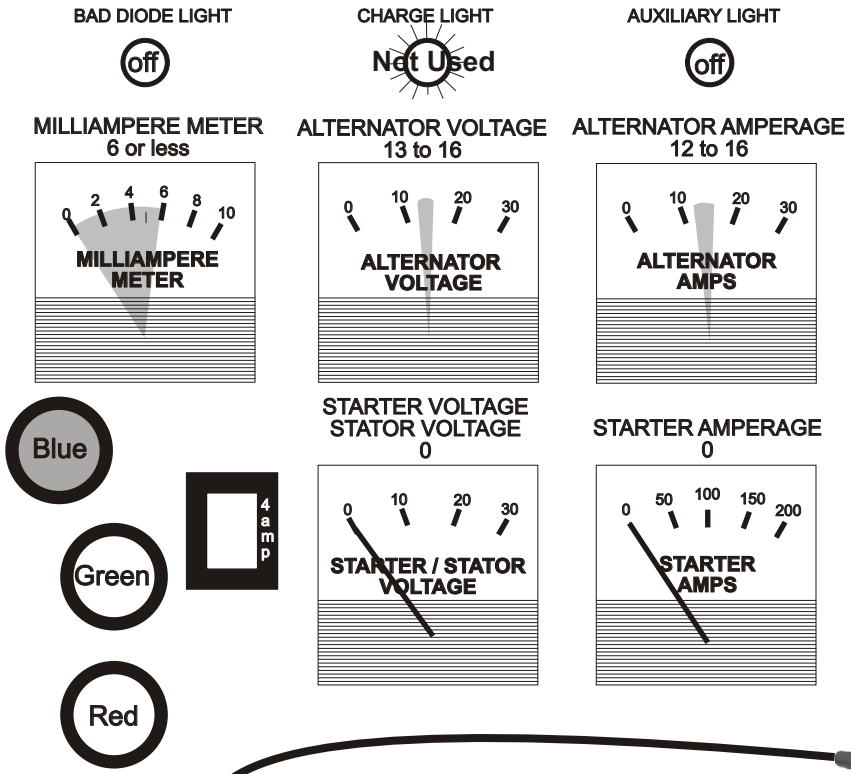
Test Lead CS or CST

pdc/nwr/inv/881/881-manual/blue/889-CS.cdr

881 Alternator and Starter Test Bench

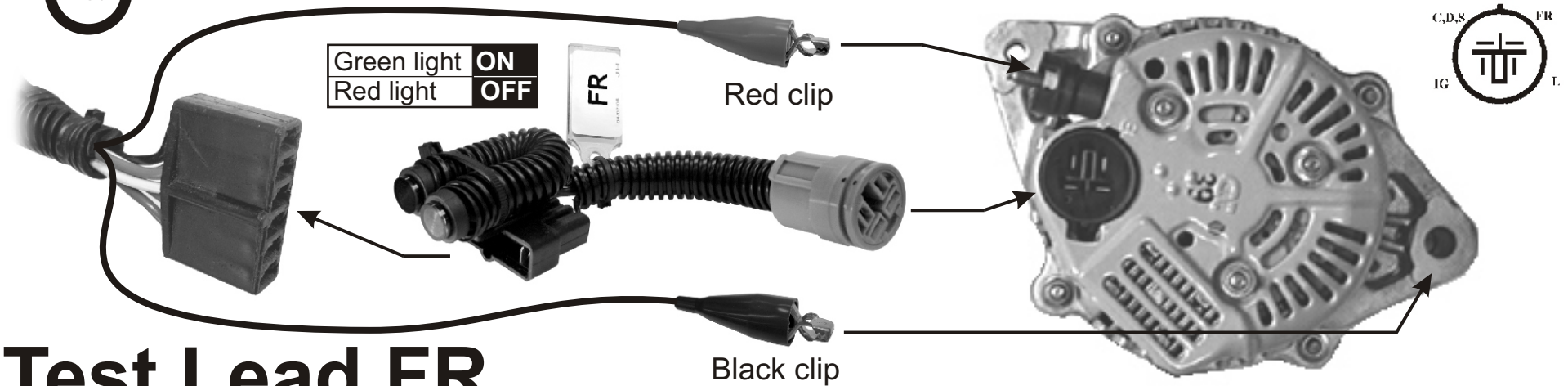
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the button, observe meters for the proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out and the **GREEN** light on the test lead will be lit if it is a good alternator. Some internally sensing alternators will begin to charge immediately.

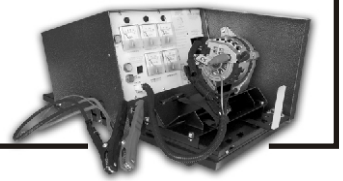


Test Lead FR

pdc/nwr/inv/881/881-manual/blue/889-FR.cdr

881 Alternator and Starter Test Bench

Test Leads



BAD DIODE LIGHT

off

CHARGE LIGHT

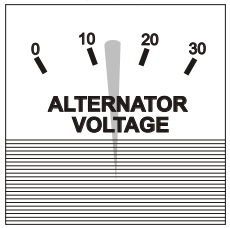
Not Used

AUXILIARY LIGHT

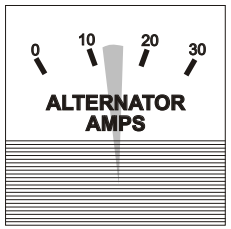
off

MILLIAMPERE METER
6 or less

ALTERNATOR VOLTAGE
13 to 16



ALTERNATOR AMPERAGE
12 to 16



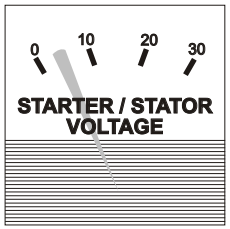
Blue

Green

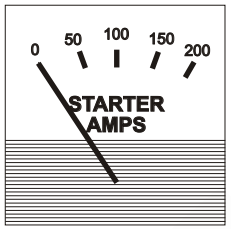
Red

4 amp

STARTER VOLTAGE
STATOR VOLTAGE
3 to 5

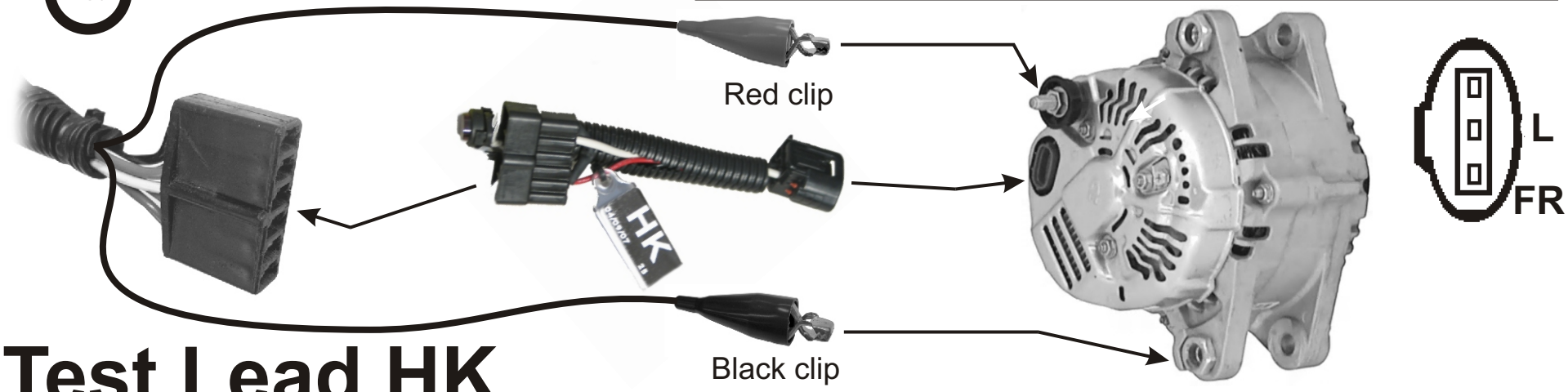


STARTER AMPERAGE
0



Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

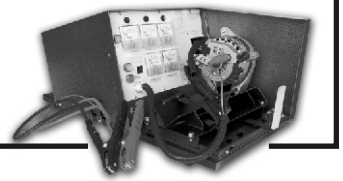
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, turn off motor switch. Check and reset the circuit breaker on the front panel.
5. Press the BLUE and GREEN test button MOMENTARILY and RELEASE the BLUE button only. *The GREEN button MUST remain depressed for the entire test.* After releasing the BLUE button, observe meters for proper readings. Hold BLUE button for no more than 3 seconds.

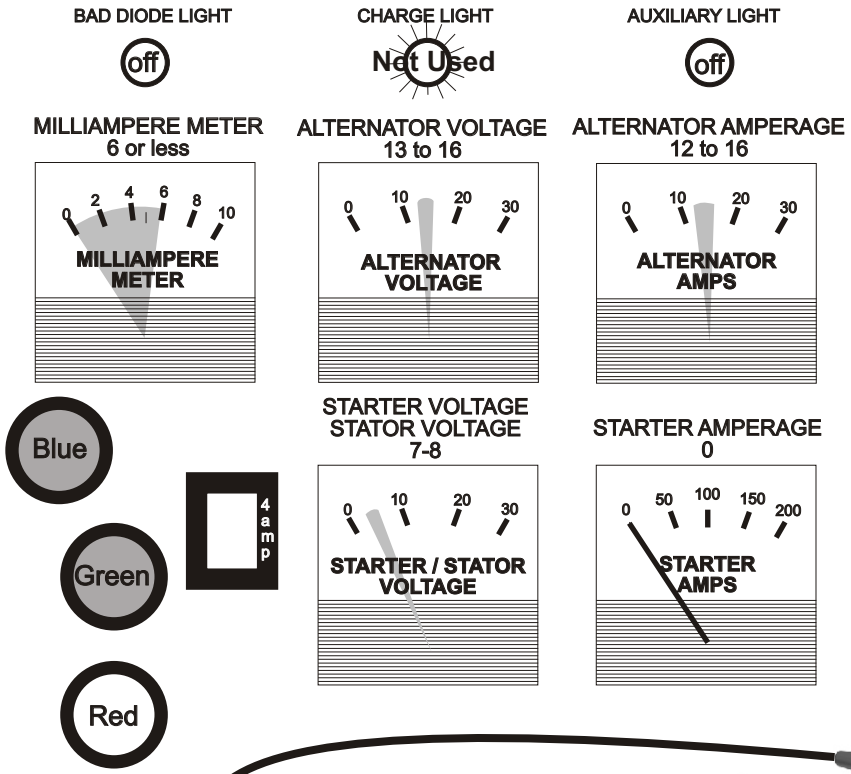


Test Lead HK

881 Alternator and Starter Test Bench

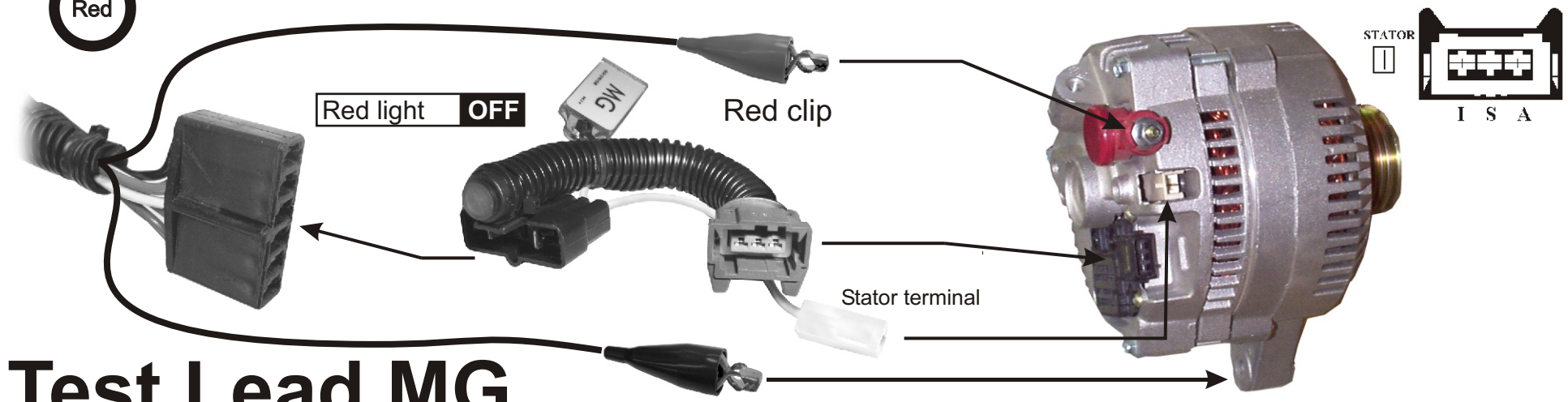
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

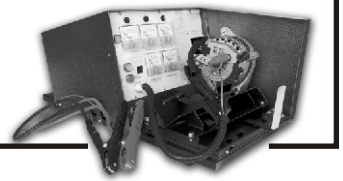
1. Readings for a good alternator are in the shaded area.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** and **GREEN** test buttons at the same time for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the **BLUE** button, observe meters for the proper readings. Hold **BLUE** button for no more than 3 seconds.

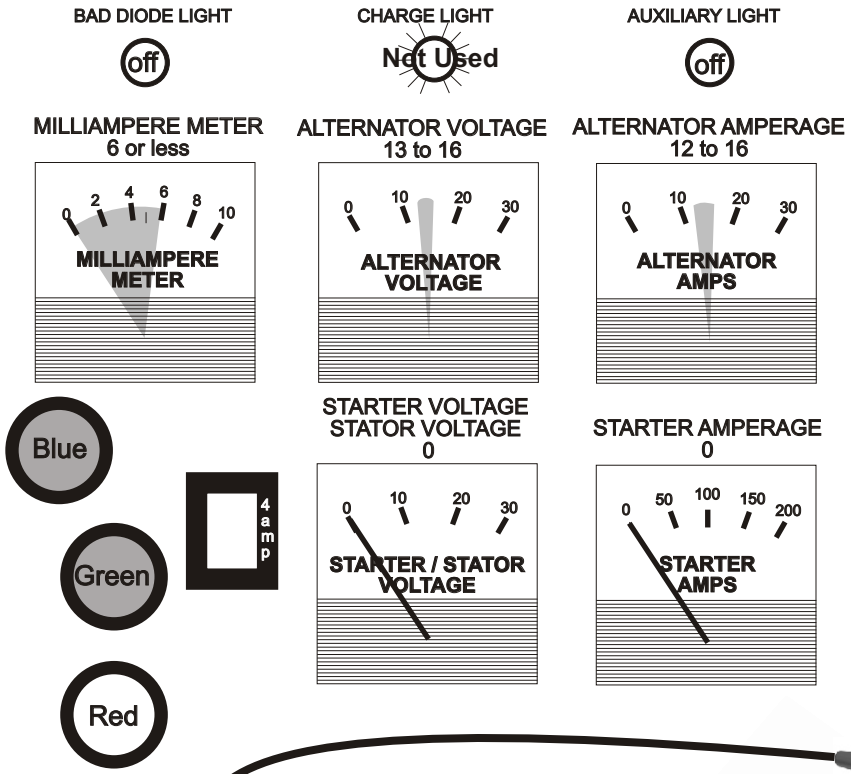


Test Lead MG

881 Alternator and Starter Test Bench

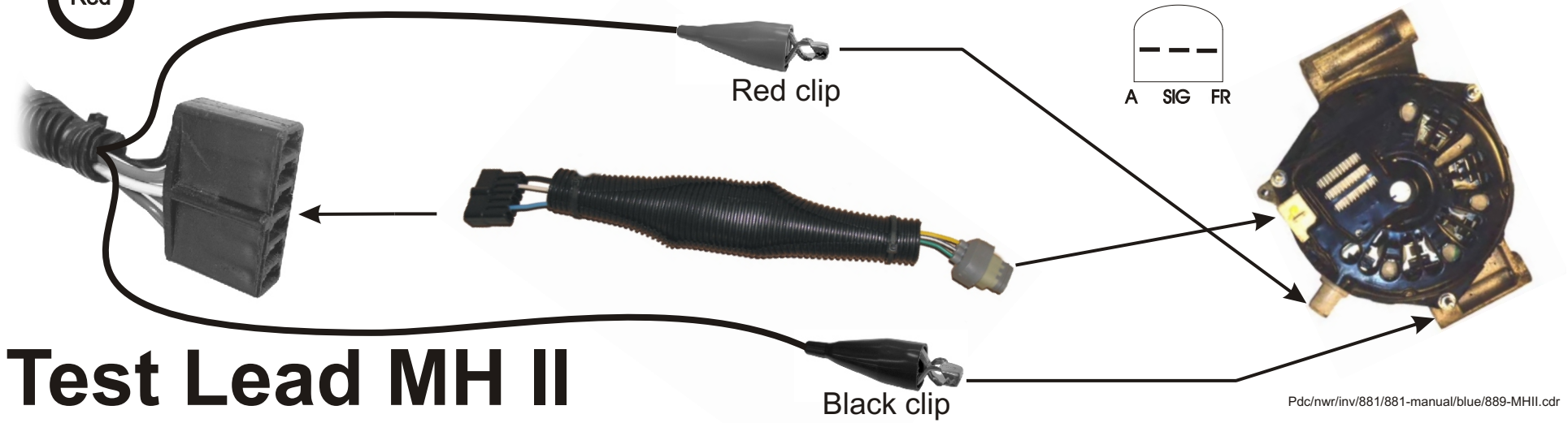
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE and GREEN test buttons MOMENTARILY and RELEASE the BLUE button only. *The GREEN button MUST remain depressed for the entire test.* After releasing the BLUE button, observe meters for proper readings. Hold BLUE button for no more than 3 seconds.

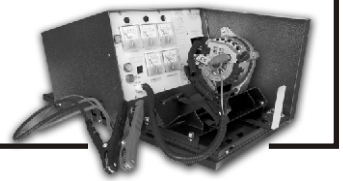


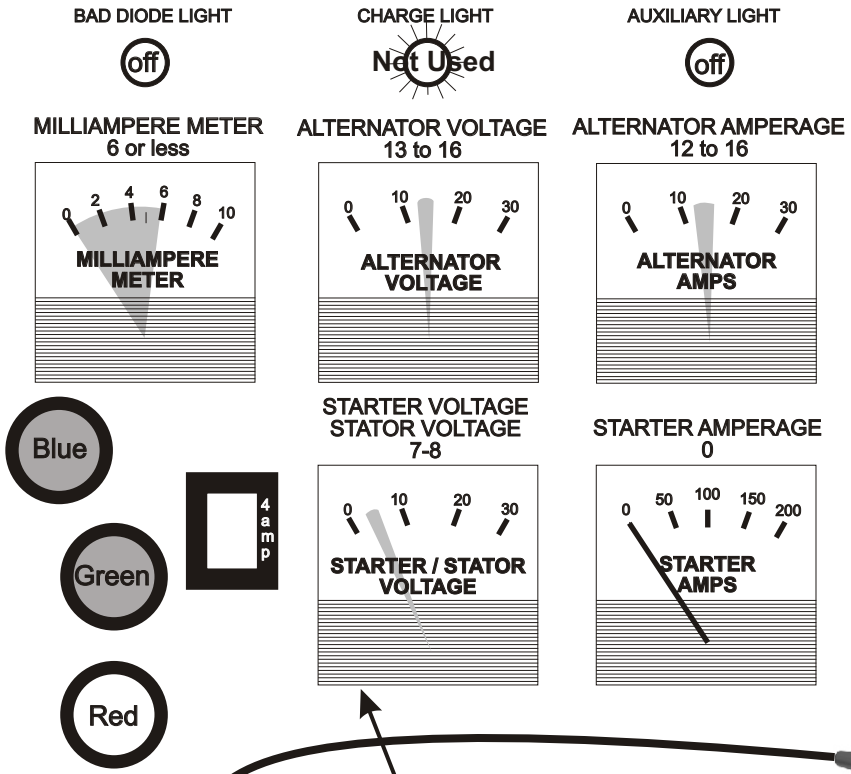
Test Lead MH II

Pdc/nwr/inv/881/881-manual/blue/889-MHII.cdr

881 Alternator and Starter Test Bench

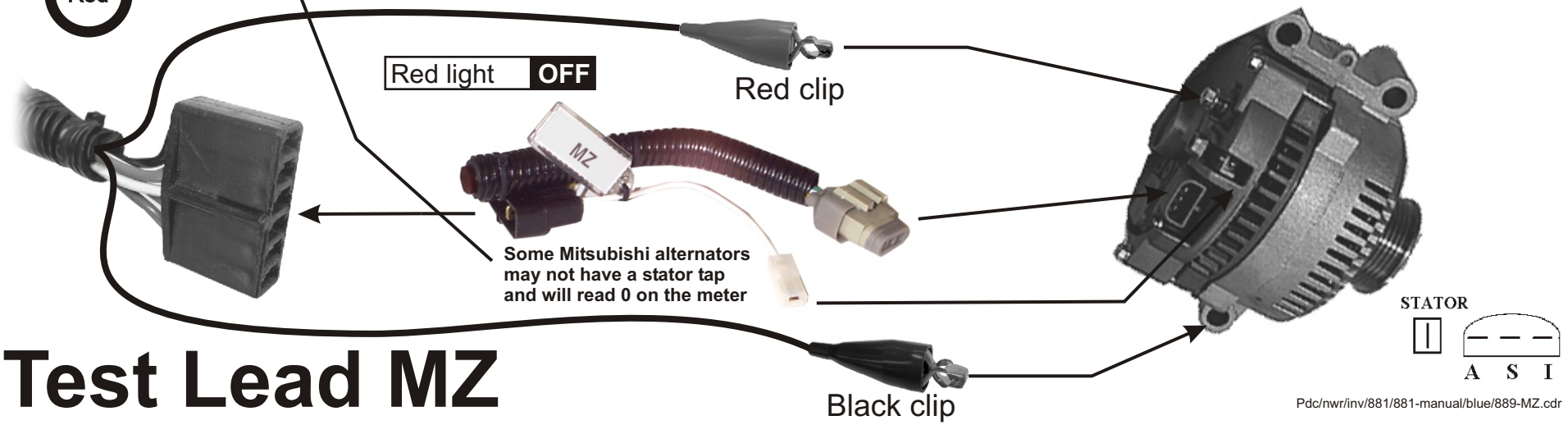
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** and **GREEN** test buttons at the same time for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the **BLUE** button, observe meters for the proper readings. Hold **BLUE** button for no more than 3 seconds.

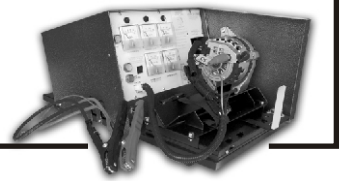


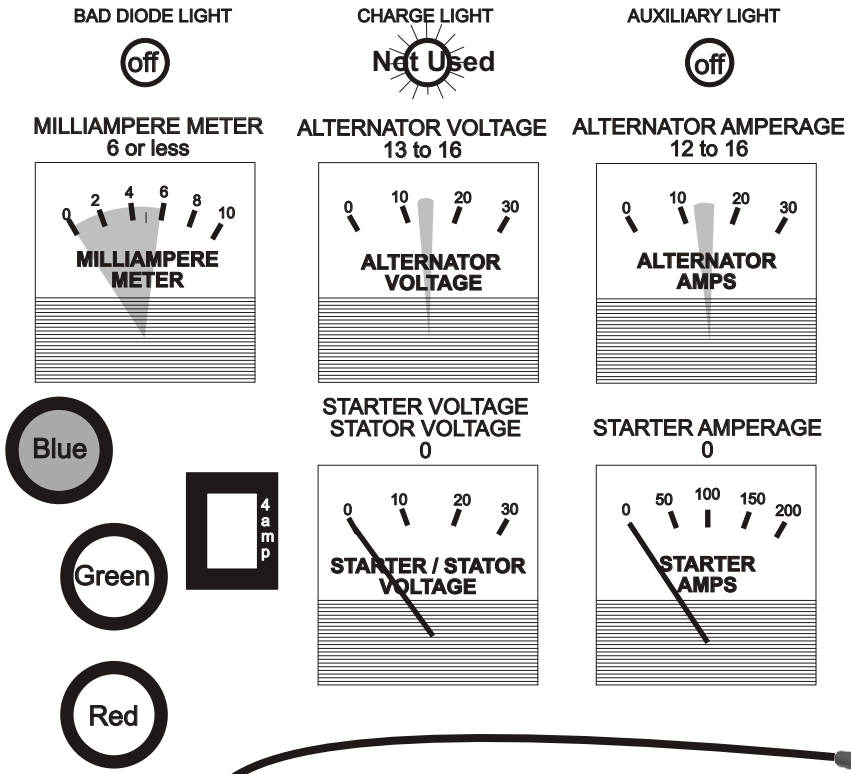
Test Lead MZ

Pdc/nwr/inv/881/881-manual/blue/889-MZ.cdr

881 Alternator and Starter Test Bench

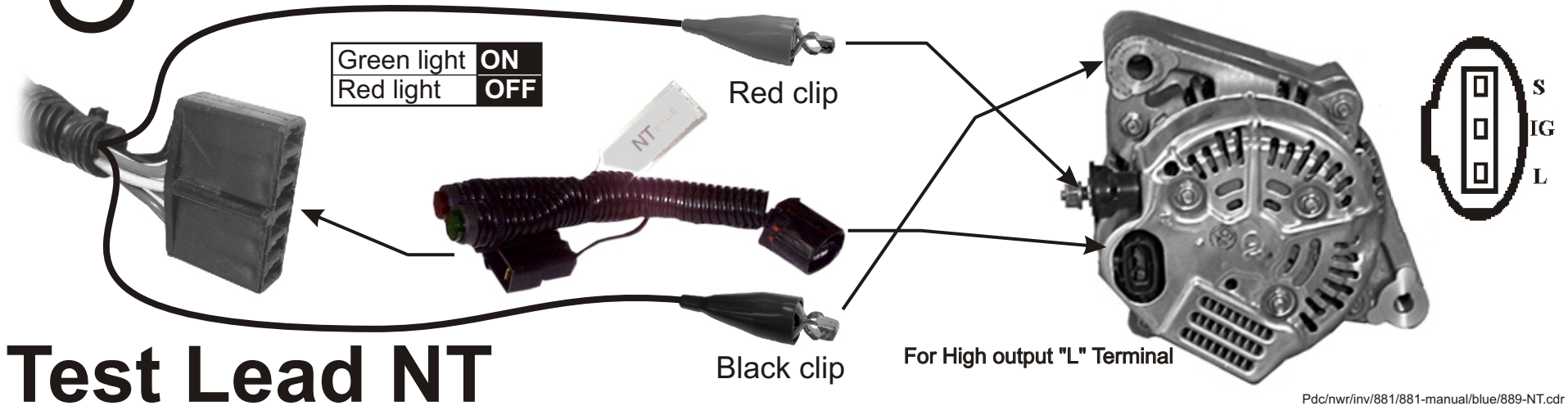
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

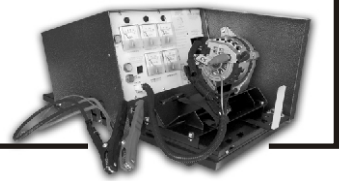
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the button, observe meters for the proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out and the **GREEN** light on the test lead will be lit if it is a good alternator. Some internally sensing alternators will begin to charge immediately.



Test Lead NT

881 Alternator and Starter Test Bench

Test Leads



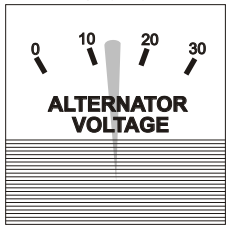
BAD DIODE LIGHT — off

CHARGE LIGHT — On

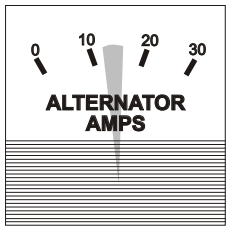
AUXILIARY LIGHT — off

MILLIAMPERE METER
6 or less

ALTERNATOR VOLTAGE
13 to 16



ALTERNATOR AMPERAGE
12 to 16

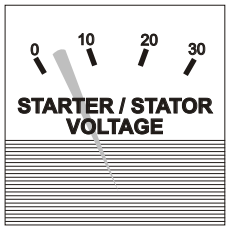


Blue

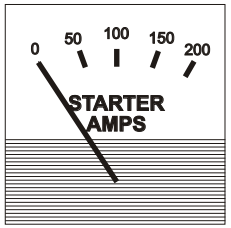
Green

Red

STARTER VOLTAGE
STATOR VOLTAGE
2-6

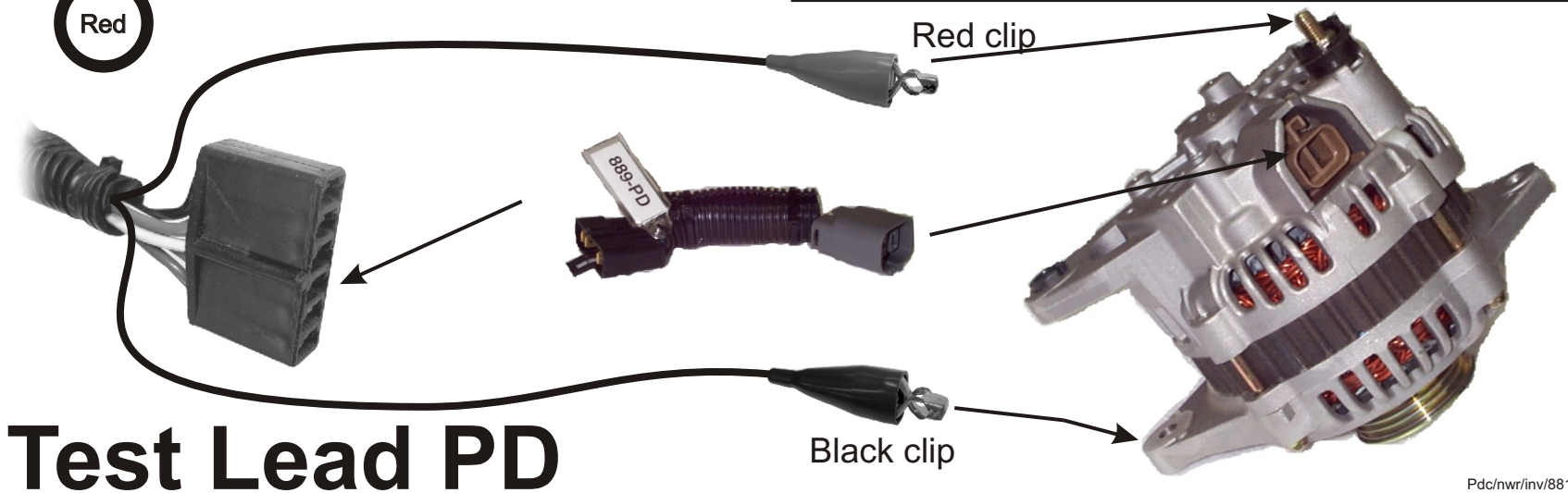


STARTER AMPERAGE
0

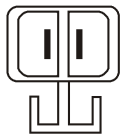


Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the GREEN test button MOMENTARILY and RELEASE. Observe meters for proper readings. Hold for no more than 3 seconds.



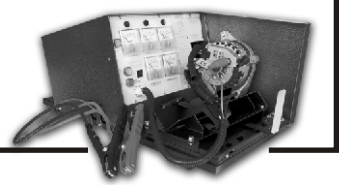
P D

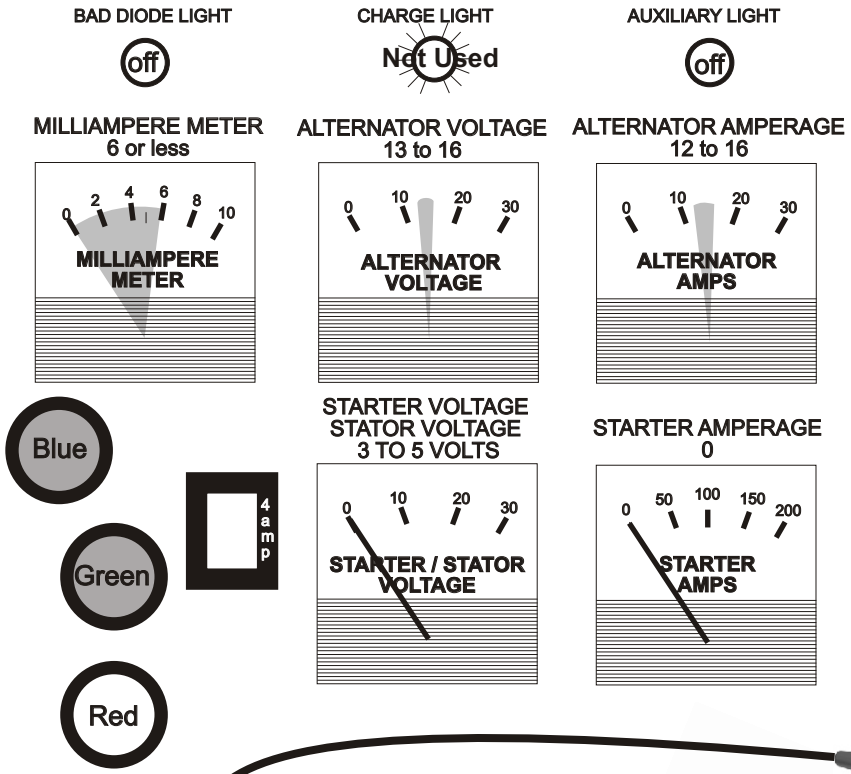


Test Lead PD

881 Alternator and Starter Test Bench

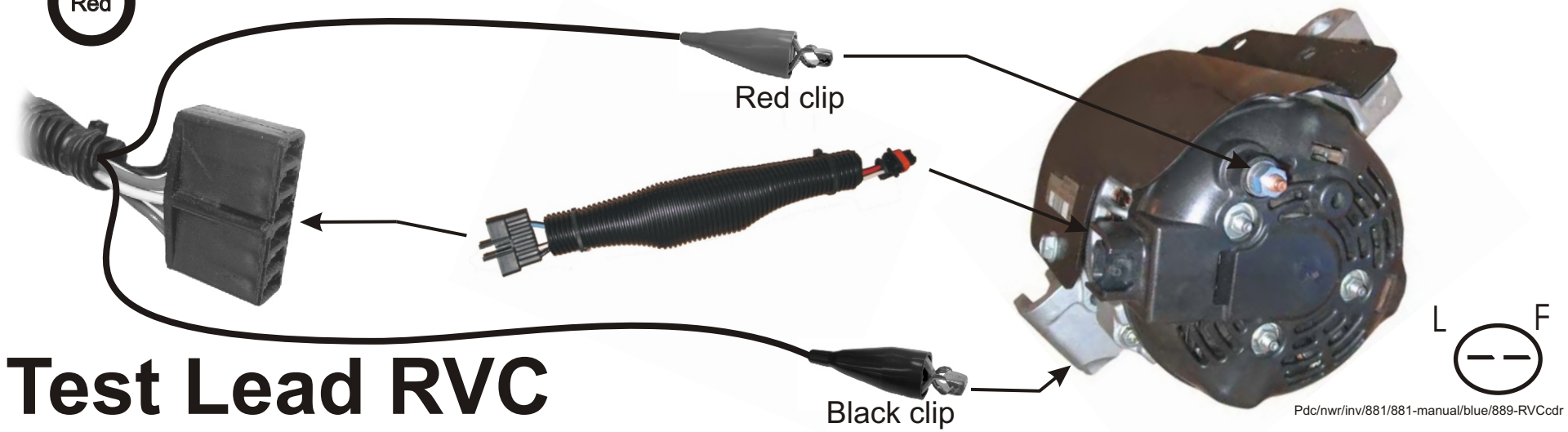
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

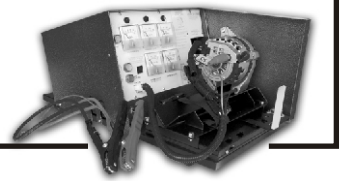
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin.
3. Install the belt making sure it is under the belt retaining clip. Slide the green handle to the right, locking handle into retaining tab and close the belt guard. Make sure to keep your fingers and clothing free of the pulley and belt.
4. Turn on motor switch. The charge light on the panel should be lit. If not, check and reset the circuit breaker on the front panel.
5. Press the BLUE and GREEN test buttons MOMENTARILY and RELEASE the BLUE button only. *The GREEN button MUST remain depressed for the entire test.* After releasing the BLUE button, observe meters for proper readings. Hold BLUE button for no more than 3 seconds.

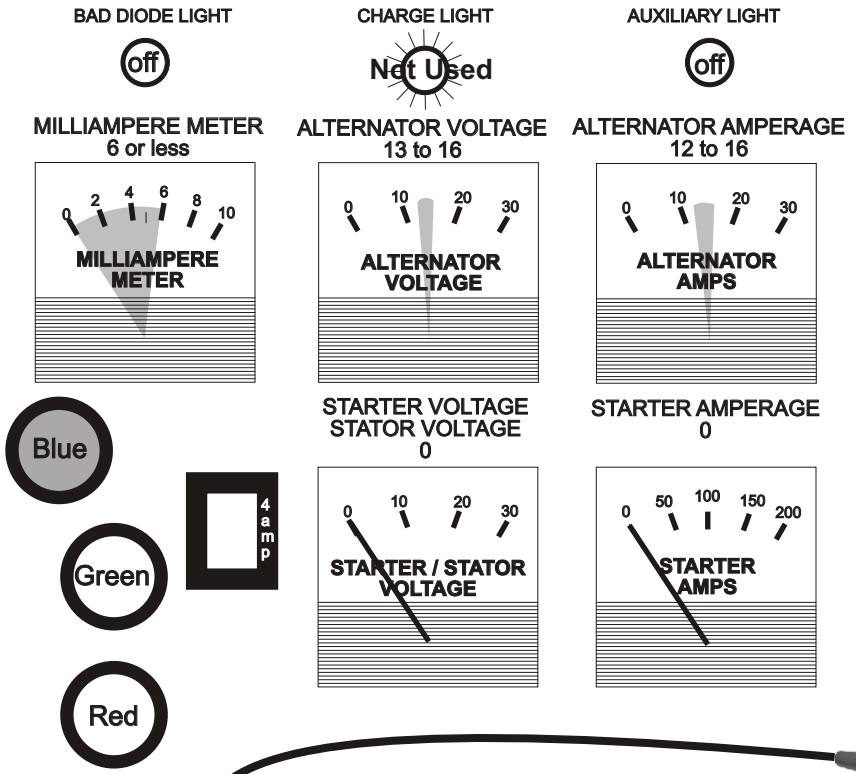


Test Lead RVC

881 Alternator and Starter Test Bench

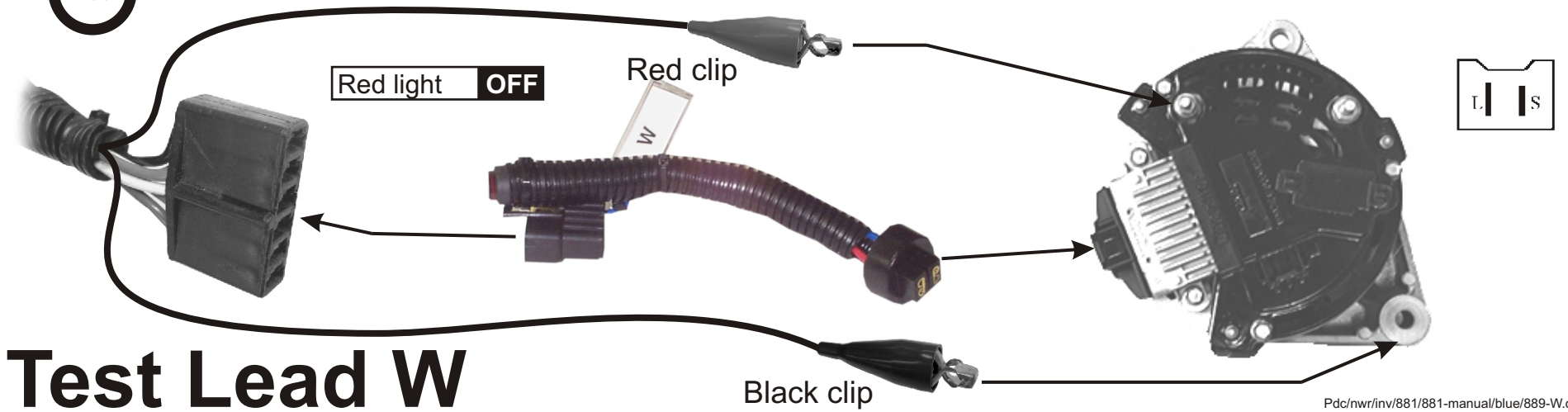
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead requirements!

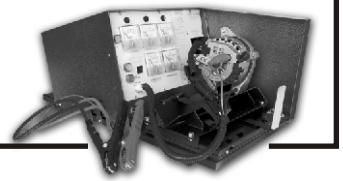
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the BLUE test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install the belt, making sure it is under the belt guard. Slide the green handle to the right, locking the handle into the retaining tab. Close belt guard.
5. turn on motor switch. Press the BLUE test button MOMENTARILY and RELEASE. After releasing button, observe meters for proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out on a good alternator. Some internally sensing regulators will begin to charge immediately.

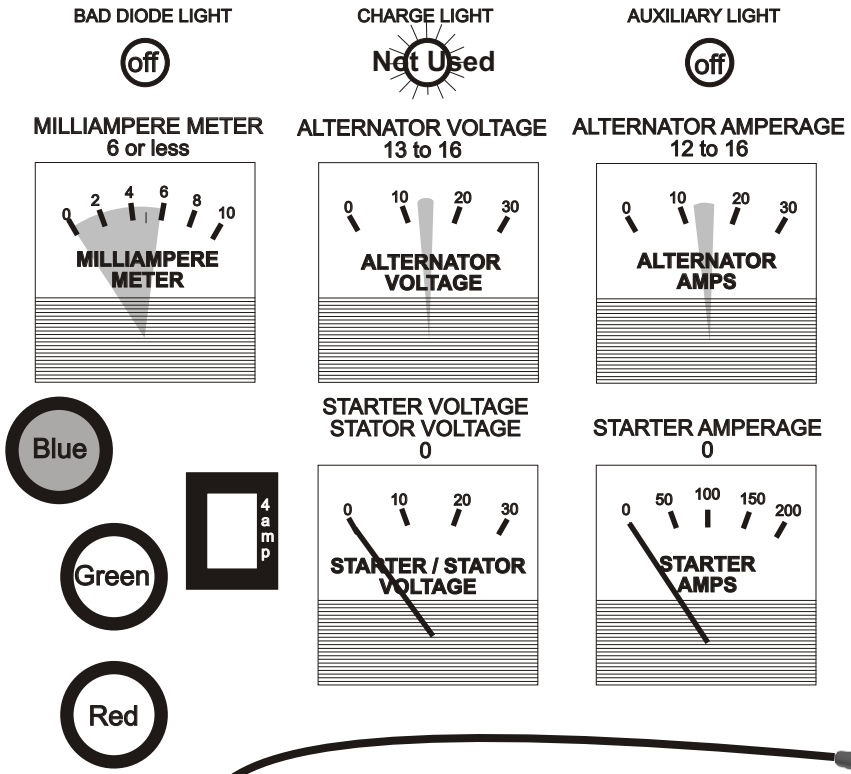


Test Lead W

881 Alternator and Starter Test Bench

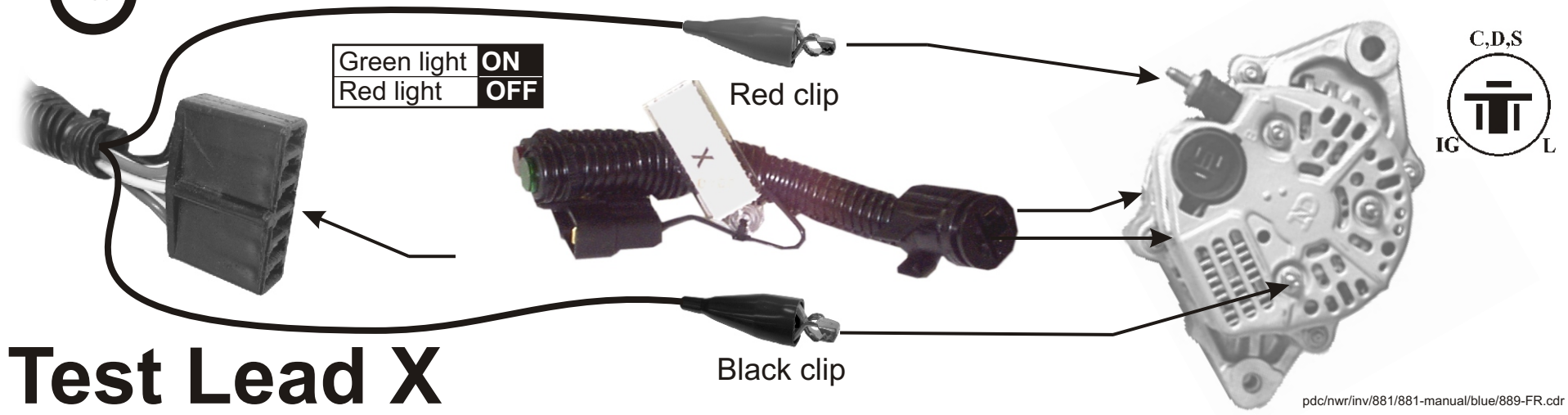
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

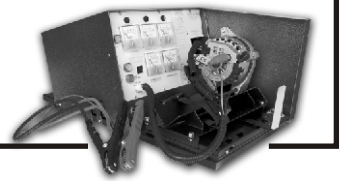
1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** test button for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the button, observe meters for the proper readings. Hold for no more than 3 seconds. The **RED** charge light on the test lead will go out and the **GREEN** light on the test lead will be lit if it is a good alternator. Some internally sensing alternators will begin to charge immediately.

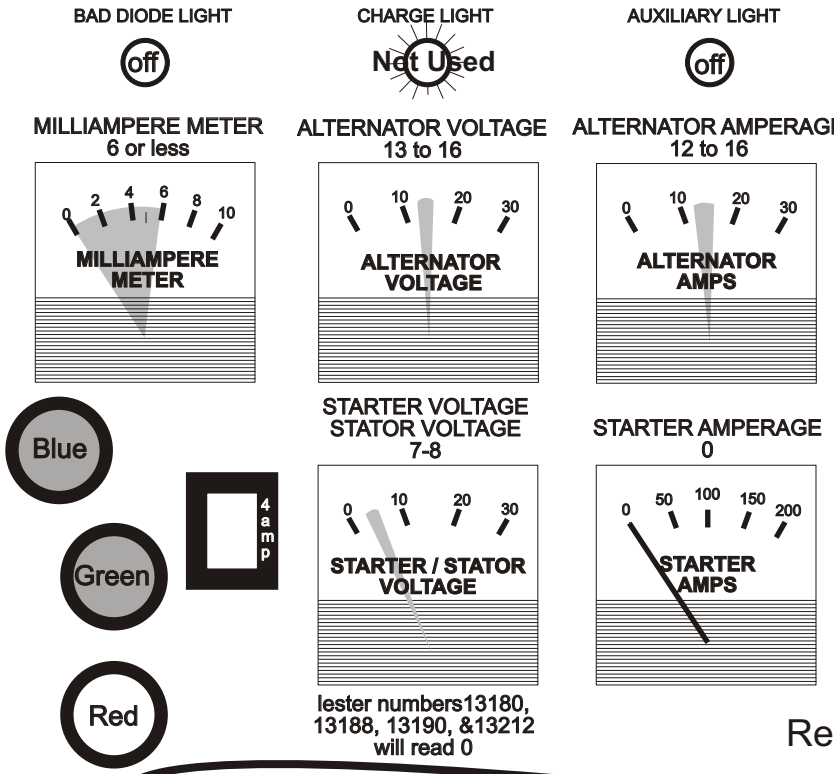


Test Lead X

881 Alternator and Starter Test Bench

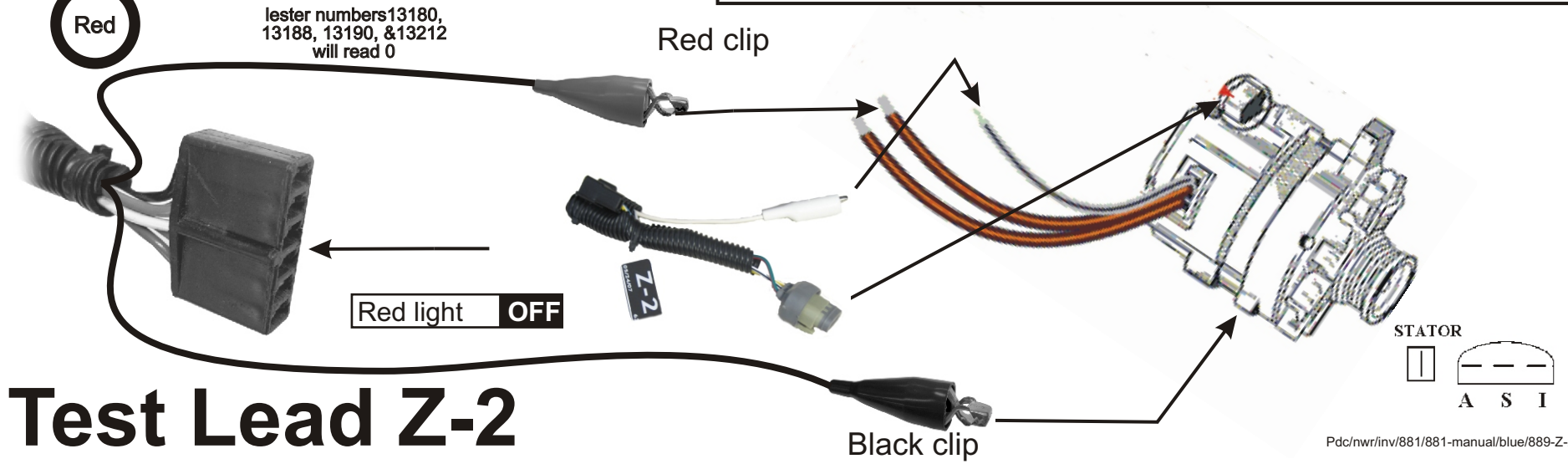
Test Leads





Many alternators use the same plug with different wiring. Please refer to test lead chart for the correct test lead

1. Readings for a good alternator are in the shaded area. All meter readings are ±5%.
2. Insert lead as shown below and slide alternator onto alternator holder pin. Do not install belt.
3. Close belt guard. Make sure to keep fingers and clothing free of pulley.
4. Turn on motor switch and press the **BLUE** and **GREEN** test buttons at the same time for no more than three seconds. The **RED** charge light on the test lead should be lit. If not, check and reset the circuit breaker on the front panel. If the breaker is good and the test lead does not light, repair or replace the alternator. Turn off the motor switch and install belt, slide green handle to the right, locking handle in to retaining tab. Close belt guard.
5. Turn on motor switch. Press the **BLUE** test button MOMENTARILY and RELEASE. After releasing the **BLUE** button, observe meters for the proper readings. Hold **BLUE** button for no more than 3 seconds.



Test Lead Z-2

Pdc/nwr/inv/881/881-manual/blue/889-Z-2.cdr

Generator Testing Instructions

12 VOLT NEGATIVE GROUND ONLY

OPERATOR TEST NOTES:

1. Charge light will not go out when testing “A” circuit generators.
2. If generator circuit is unknown, try testing with “A” circuit instructions first. If there is no charge, make the connections for testing “B” circuit generators and press the green Alternator “**Press To Test”** button.
3. If you need to change direction of rotation, “half twist” the belt (figure “8”). This may require a longer belt.

GENERATOR TERMINAL MARKINGS:

FIELD TERMINALS: F, FLD, EXC, DF
ARMATURE TERMINALS: A, GEN, DYMO

“A” CIRCUIT GENERATORS (Usually Delco):

No test lead is necessary.
Connect the battery test lead clip to the generator armature terminal.
Connect the ground test lead clip to the generator end plate.
Use a jumper wire to ground the generator field terminal.
Note: “A” circuit generators are self-exciting. There is no need to press the green Alternator “**Press To Test”** button.

“B” CIRCUIT GENERATORS (Usually Ford, Autolite and Bosch):

Use test lead “EL”. Test the same as a Ford alternator.
Connect the battery test lead clip to the generator armature terminal.
Connect the ground test lead clip to the generator end plate.
Connect the green clip wire on test lead “EL” to the generator field terminal.
Disregard the white and black clips on test lead “EL” when testing generators.
Note: If a “B” circuit generator does not excite, or start to charge, press the green Alternator “**Press To Test”** button.

Due to the many different windings in armatures and field coils, the test readings will vary from alternator test readings.
Meters will normally read a little lower when testing generators.

TEST PANEL CIRCUIT BREAKER:

When testing alternators or generators, it is possible that a unit will have shorted field windings, a shorted armature, or a grounded brush holder. This can cause the circuit breaker mounted on the meter panel to trip. Push the reset switch to restart the AM-FOR 881.
Turn off test bench when done.