

Innovative Products of America 4205

Innovative Products of America Smart MUTT X Trailer Tester

MODEL #4205 SHOP MODEL

User Manual

1. Introduction

The Innovative Products of America (IPA) Smart MUTT X #4205 Shop Model is a universal, remote-controlled, mobile diagnostic light tester designed for all North American trailers. This device facilitates efficient one-person testing of trailer lighting and electrical brake systems, eliminating the need for a tow vehicle or a second technician. It provides automatic fault indicators for ground, cross, open, overload, and short circuits, and includes an integrated PULSAR mode for troubleshooting short circuits without blowing fuses.



Figure 1: Innovative Products of America Smart MUTT X #4205 Shop Model with included accessories.

2. Safety Information

WARNING: Read all instructions before use. Failure to follow these instructions may result in electrical shock, fire, or serious injury.

- Always wear appropriate personal protective equipment, including safety glasses, when operating this device.
- Ensure the work area is well-ventilated and free from flammable materials.
- Do not operate the device in wet conditions or expose it to excessive moisture.
- Verify all connections are secure before applying power.
- Keep hands and clothing clear of moving parts and electrical connections.
- Batteries can produce explosive gases; exercise caution when handling.

3. What's in the Box

The Smart MUTT X #4205 Shop Model includes the following components:

- Smart MUTT X #4205 Shop Model Unit
- Remote Control
- Battery Charger
- 3-Way Trailer Adapter (for 6-Way Round, 5-Pin, and 4-Pin connections)
- Rain Cover

4. Setup

Before operating the Smart MUTT X, ensure it is properly set up:

1. **Battery Installation (User-Provided):** The Smart MUTT X requires a 12-volt motorcycle battery (e.g., YTX14 or similar) which is not included. Install the battery into the designated compartment, ensuring correct polarity.
2. **Charging the Battery:** Connect the provided battery charger to the unit and a power outlet. Allow sufficient time for the battery to fully charge before first use.
3. **Connecting to Trailer:** Select the appropriate trailer connector (7-way spade, 7-way round, or use the 3-way adapter for 6-way round, 5-pin, or 4-pin connections). Securely connect the Smart MUTT X to the trailer's electrical system.



Figure 2: Smart MUTT X connected to a trailer for testing.

7-WAY FLAT PIN CONNECTION



This Unit Also Works on the Following Connection Types with the Use of the Included 3-Way Trailer Adapter:

6-Way Round Pin
4/5 Pin

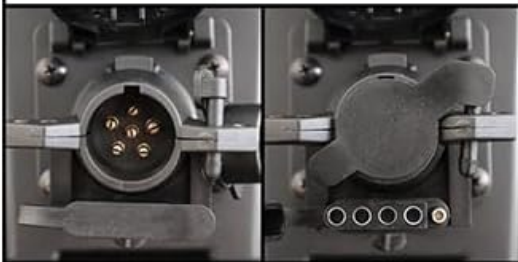


Figure 3: The 7-way flat pin connection and the included 3-way adapter for various pin types.

For a visual guide on the Ranger MUTT's general setup and features, please watch the video below:

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Video 1: Overview of the IPA Ranger MUTT Mobile Universal Trailer Tester, demonstrating its features and general operation.

5. Operating Instructions

The Smart MUTT X offers comprehensive testing capabilities for trailer electrical systems.

1. **Powering On:** Flip the 'POWER SOURCE' switch to 'BATTERY' (or 'EXTERNAL' if using an external power source). The unit will power on, and the display will initialize.

2. **Selecting Circuits:** Use the control knob on the panel or the remote control to select individual circuits for testing (e.g., Left Turn, Right Turn, Brake Lights, Tail/Tag, Clearance, Auxiliary).
3. **Interpreting Alerts:** The unit provides visual and audible alerts for various fault conditions:
 - **Ground Integrity:** During startup, all circuits blinking indicate poor ground pin or chassis ground.
 - **Open Circuit:** Blinking circuit with audible alert indicates disconnected or open circuit.
 - **Crossed Circuit:** Selected circuit is illuminated and a crossed circuit blinks with an audible alert.
 - **Overload:** Indicates an overloaded condition.
 - **Short Circuit:** Indicates a short to ground.
 - **Reverse Polarity:** Indicates battery leads are reversed.
4. **PULSAR Mode:** For short circuit troubleshooting, activate PULSAR mode to chase down shorts without blowing fuses.
5. **ABS Testing:** The Smart MUTT X can test ABS systems. Refer to the ABS Manufacturer manual to determine the correct ABS module programming sequence. The unit will provide alerts for ABS ECU Power, ABS Signal Quality, and ABS Fault Status.
6. **Electric Brake Testing:** When the 'BRAKE ELEC. BRAKES' circuit is selected, the unit will provide a full 12-volt brake application. You can confirm proper braking system function by jacking up the trailer frame and attempting to turn the wheels; they should be locked.



Figure 4: Detailed view of the Smart MUTT X control panel with indicators and controls.

Watch this video for a demonstration of the Smart MUTT X's features and capabilities:

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Video 2: A brief overview of the Smart MUTT X by IPA, highlighting its key features like 7-way flat connection, analog ammeter, audible/visual alerts, and power lights.

For advanced control ABS and electrical trailer testing, refer to the Super Ranger MUTT video:

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Video 3: Demonstration of the Super Ranger MUTT's ABS and electrical trailer testing capabilities, including Pulsar mode and advanced diagnostics.

6. Maintenance

- **Cleaning:** Keep the unit clean and free of debris. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- **Battery Care:** Regularly charge the internal battery to maintain its lifespan. If the unit is stored for extended periods, ensure the battery is fully charged and periodically recharged.
- **Storage:** Store the Smart MUTT X in a dry, protected environment. Use the provided rain cover when the unit is exposed to the elements.
- **Fuse Replacement:** The unit features an internal 10A auto-resetting fuse. If a circuit trips, allow a 30-second cool-down cycle for the fuse to reset. If issues persist, consult the troubleshooting section.

7. Troubleshooting

Refer to the alert indicators on the control panel for initial diagnosis. Common issues and their potential solutions include:

Problem	Alert Indicator	Possible Cause / Solution
No power to unit	N/A	Check battery charge. Ensure power switch is ON.
Poor ground connection	Ground Integrity (blinking)	Check trailer ground pin or chassis ground.
Disconnected circuit / No load	Open Circuit (blinking with audible alert)	Verify bulb presence and connection. Check cable.
Two or more circuits crossed	Cross Circuit (illuminated, other circuit blinks)	Inspect wiring for crossed connections.
Overcurrent condition	Overload	Reduce load or check for short. Fuse will auto-reset.
Short to ground	Short / Overload	Use PULSAR mode to locate and clear short.
Battery leads reversed	Reverse Polarity	Correct battery lead connections.

8. Specifications

- **Model:** Smart MUTT X - Shop Model (#4205)
- **Brand:** Innovative Products of America
- **Power Source:** Battery Powered (user-provided 12V motorcycle battery)
- **Connections:** 7-Way Spade, 7-Way Round, 6-Way Round, 5-Pin, 4-Pin
- **Measurement Type:** Ammeter (0-20 amps)
- **Safety Standard:** IEC 61010-1, UL
- **Item Weight:** 45.5 Pounds
- **Product Dimensions (L x W x H):** 21 x 15 x 36.5 inches
- **Color:** Red



Figure 5: Dimensions of the Smart MUTT X #4205 Shop Model.

9. Warranty and Support

For warranty information, technical support, or to locate a dealer, please contact Innovative Products of America directly. Technical support is available at 845-679-4500.

You can also visit their website: www.ipatools.com

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question