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SAVE THIS MANUAL

Reference this manual for all safety warnings and precautions, operating and maintenance procedures, parts list and diagrams. Keep your invoice with this manual and write your invoice number on the inside of the front cover. Keep the manual and invoice in a safe, dry place for future reference.

WARNING: Be sure to read and understand all safety instructions in this manual, including all safety alert symbols such as "danger", "warning", and "caution" before using this tool.

SAFETY INSTRUCTIONS

NOTE: Please heed the following safety warnings and precautions:

To prevent personal injury or vehicle damage please read safety precautions and warnings before working on vehicle.

1. Always perform automotive testing in a safe environment.
2. Wear eye protection that meets ANSI standards.
3. Keep clothing, hair, hands, tools, test equipment, etc., away from all moving or hot engine parts.
4. Operate vehicle in a well ventilated work area. Exhaust gases are toxic.
5. Use blocks on drive wheels and never leave vehicle unattended while running tests.
6. Use extreme caution when working on the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltages when the engine is running.

PRODUCT INFORMATION

FCC INFORMATION - CLASS "B" DEVICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced Radio/TV Technician for help.

NOTE: Changes or modifications to this equipment not expressly approved by STEELMAN® could void the user's authority to operate this equipment.

NOTE: Only Cable Leads/Clamps supplied with this equipment must be used. It is the responsibility of the user to use only the accessories supplied with this equipment.

STEELMAN® Wireless ChassisEAR™ is a versatile electronic listening tool which is designed to allow the user to listen to amplified sounds through a speaker or earphones during a road test. (see under "How to Use")

There are up to 6 extremely sensitive microphones/clamps that can be attached adjacent to many difficult to diagnose vehicle parts.

Some of these vehicle parts/areas include:

1. Wheel Bearings	9. Fuel Injectors
2. Brake Calipers	10. Alternators
3. C.V. Joints	11. Water Pumps
4. Leaf and Coil Springs	12. Smog Pumps
5. Differentials	13. Power Steering Pumps
6. Transmissions	14. AC Compressors
7. Body Squeaks and Rattles	15. Industrial Equipment
8. Under the Dash	

During a road test under load, these parts make different sounds than when the car is on a hoist. In order to accurately diagnose an under car problem, the car must be driven during diagnoses so that all parts and bearings are under full load and actual driving conditions.

Before using the STEELMAN® Wireless ChassisEAR™ for the first time, please review the components.

KIT CONTENTS

KIT CONTENTS: 60635 / Wireless ChassisEAR™:

- 1 ea. - Receiver Unit (Rx)
- 4 ea. - Transmitter Units (Tx) - Channels 1-4 (Channels 5-6 optional - not shipped with kit)
- 4 ea. - Cable Leads / Clamps - For all Channels
- 1 ea. - Ear Phones
- 12 ea. - Velcro Straps
- 12 ea. - Nylon Straps
- 16 ea. - AAA Batteries (Tx) 4 per Unit
- 6 ea. - AA Batteries (Rx) 6 per Unit
- 1 ea. - Blow Molded Case
- 1 ea. - Vinyl Pouch
- 1 ea. - Location Identifier Note Pad (25 sheets per pad)
- 1 ea. - Instruction Manual / Warranty Card

HOW TO USE

- 1) With the vehicle elevated, attach the clamps to the suspect areas. If, for example, you suspect there is a bad wheel bearing, attach the clamps, one each, per wheel bearing. Put the clamp on the tie rod or knuckle close to the inside of the wheel. In order to generate an exact cross-comparison of sounds, place the clamp on identical opposite locations. With the availability of two more channels, you could place transmitters on the transmission and differential, since many times what you think is a wheel bearing turns out to be something different. Or, if you suspect a brake problem, attach the 4 clamps adjacent to the brakes. The closer the clamp is positioned to the suspected problem, the better sound reproduction you will get.
- 2) Be sure the transmitters are securely fastened to the locations chosen. Each Transmitter has 3 methods of attachment:
 - 1) First, there are two internal magnets so that the transmitter can hold to a metal surface.
 - 2) Second, there is a velcro strap that can be wrapped around any non-moving part.
 - 3) Third, there is a spring-loaded clamp that can grab onto non-moving parts. **BE SURE EACH TRANSMITTER IS SECURELY HELD IN PLACE WITH ONE OF THESE METHODS TO AVOID LOSS OF TRANSMITTER FROM EXCESSIVE BUMPS OR SHAKING DURING ROAD TEST.**
Also, carefully check for clearance of all vehicle parts that are located close to the transmitters to avoid contact/damage from movement or heat.
- 3) Using the location identifier note pad, record information on note pad of the location and corresponding channel for each microphone/clamp. This will allow you to properly assign the problem noise to the proper malfunctioning part while conducting the road test.
- 4) It is highly recommended that if earphones are used during diagnosis (there is a earphone jack available on the receiver), that there be a separate driver for the vehicle.

CAUTION: It is illegal in many jurisdictions to operate a motor vehicle while wearing earphones.

HOW TO USE

- 5) Before conducting the road test, turn on the on/off-volume control switch located on the front of the STEELMAN® Wireless ChassisEAR™ receiver. Select the first channel and adjust the volume to the desired level. Various volume levels may reveal different sounds and problems. Initially make a mental note of the sounds you hear as you listen. Next, push each channel according to the location and make notes accordingly. You may make instant cross comparisons of two locations, for example, channels #2 and #4, just by pushing the channel indicators in an alternating manner.

IMPORTANT: Make notes while driving (being cautious) as to what is heard on each channel (rattles, squeaks, grinding, whining, etc.). When you have returned to the shop, you can then zero in on the exact location of the noise/problem.

FUEL INJECTORS: It is quick and easy to hook up the STEELMAN® Wireless ChassisEAR™ clamps on the fuel injectors. The "tapping" solenoids are easily heard. If a clear metal-to-metal "ringing" sound is heard, then the injector is clean. If the "needle" inside the solenoid is making a dull "thud", then a deposit buildup more than likely exists inside the injector. A cleaning of the injectors is suggested. It is important to listen to the injectors before and after cleaning in case one is still dirty after cleaning.

REPLACEMENT PARTS

60635	Wireless ChassisEAR™ Kit
60635-00	WCE Receiver Unit
60635-01	WCE Transmitter - Channel #1
60635-02	WCE Transmitter - Channel #2
60635-03	WCE Transmitter - Channel #3
60635-04	WCE Transmitter - Channel #4
60635-05	WCE Transmitter - Channel #5 (optional - not shipped with initial kit)
60635-06	WCE Transmitter - Channel #6 (optional - not shipped with initial kit)
60635-07	Cable Leads / Clamps - All Channels
60635-08	Earphones
60635-09	Blow Molded Case
60635-10	User Manual / Warranty Card
60635-11	Location Identifier Note Pad (25 sheets per pad)
60635-12	Velcro Straps (12 ea.)
60635-13	Nylon Straps (12 ea.)

WIRELESS CHASSISEAR™



90 DAY | LIMITED WARRANTY

This STEELMAN® product is backed by a 90 Day Limited Warranty. This warranty covers manufacturer defects and workmanship. The warranty excludes misuse or abuse and normal wear and tear. Exclusion is not allowed in some states and may not apply. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.

HOW TO OBTAIN WARRANTY SUPPORT

Before sending a unit back for repair, an RMA (return materials authorization) number must be obtained and written on the outer shipping box. To get an RMA number, the customer/end user must call 800-255-7011 or submit a ticket online at www.steelman-tools.com/contact-us. We will ascertain if the unit needs to come in for repairs or replacement. Warranty claims that cannot be processed through the point of purchase and any other product related questions should be addressed directly to JS Products.

**SAVE YOUR RECEIPTS
THIS WARRANTY IS VOID WITHOUT THEM**