



SURFACE VEHICLE RECOMMENDED PRACTICE

J2604™

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Recommended Test Procedure for Powered Gas Brake Control Systems

RATIONALE

The purpose of the revision to this document is to update the formatting, correct section numbering errors, and clarify wording in titles.

1. SCOPE

This test procedure is for qualification testing of powered gas/brake control systems to assure compliance with the recommended practices for these assistive devices. A powered gas/brake control system which passes all of the tests shall be considered to be in compliance with the recommended practices. The control shall pass all tests denoted by a "shall" in the recommended practice or the recommended test procedure (RTP). All the results of all tests and requirements denoted by a "should" shall be noted, but failure to comply will not constitute failure to pass the test.

1.1 Testing Protocol

Two production samples of the powered gas/brake control system and a documentation package shall be submitted to the testing facility designated to perform the testing. The test facility will be designated by the manufacturer.

1.1.1 Installed System

A complete installed system shall be available for continuous use during the course of testing. The vehicle shall have the complete installation of the powered gas/brake control system as it would be delivered to the user including all labeling and manuals.

1.1.2 Uninstalled System

A complete uninstalled system shall be supplied for bench testing and study of individual components. All parts of the original equipment system which are modified in any way, and all additional parts that make up the powered gas/brake control system installation (labels, gauges, hoses, etc.) shall be supplied.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest version of SAE publications shall apply.

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Full document details: SAE J2604_202111

For more information on this standard, visit
https://www.sae.org/standards/content/J2604_202111

Documents

Document Sharing Hub

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J2603 Recommended Practice for Powered Gas Brake Control Systems

2.1.2 FMVSS Publications

Available from the Superintendent of Documents, U.S. Government Printing Office, Mail Stop: SSOP, Washington, DC 20402-9320.

FMVSS 124 Accelerator Control Systems (CFR V 571.124)

FMVSS 135 Passenger Car Brake Systems (CFR V 571.135)

3. RECEIVING INSPECTION

Inspect the unassembled system to determine that the following items have been provided and meet the referenced recommended practices. The inspections should be documented on an appropriate report form with photocopies or photographs as required.

3.1 Packaging

Inspect the shipping packages and all parts of the powered gas/brake control system inside the packaging for compliance with recommended practice SAE J2603, 4.19.

3.2 Powered Gas/Brake Control System User's Manual

Inspect the manual for compliance according to the following table by referring to recommended practice SAE J2603.

<u>Item of Inspection</u>	<u>Recommended Practice Paragraph</u>	<u>Special Considerations</u>
Control description	6.5.1	
User operation	6.5.2	
Recommended maintenance	6.5.3	
Special purpose tools	6.5.3	
Manufacturer address	6.5.4	
Caution to check brakes	6.5.5	
Shift to neutral and turn off engine	6.5.6	
Warranty information	6.5.7	

3.3 Powered Gas/Brake Control System Installation Manual

Inspect the manual for compliance according to the following table by referring to SAE J2603.

<u>Item of Inspection</u>	<u>Recommended Practice Paragraph</u>	<u>Special Considerations</u>
EMI provisions	4.9	
Furnished peripheral components	6.5	Do in conjunction with parts list (below)
Modified OEM parts	6.6	Do in conjunction with parts list (below)
Warning label	6.4	If not on gas/brake control
Vehicle applicability	7.1	
Fluid schematic flow diagrams	7.2	
Electrical diagrams	7.3	
Parts list	7.4	Do in conjunction with furnished components and OEM parts (above)
Maintainability	7.5	
No operator adjustments	7.6.1	
Components attached to control Box	7.6.2	
Labels	7.6.3	

Lockout	7.6.4.1
Interlocks	7.6.4.2
Dynamics considerations	7.6.5
User information	7.6.6
Means of shifting to neutral turning off the engine/motor	7.6.7

3.4 Furnished Components

Determine whether all parts identified in the installation manual parts list and special purpose tools for user maintenance are in fact furnished by the manufacturer by inspection of the unassembled system. Note the absence of any items required for assembly and installation. Notify the manufacturer immediately of any discrepancies before attempting assembly or installation. (SAE J2603, 4.15.2; SAE J2603, 5.5)

3.5 Modified OEM Parts

As part of the furnished components inspection of 3.4, determine that any OEM parts or other purchased components which have been modified and are included in the installation parts kit have permanent warning labels or other markings on the part (or assembly of parts) indicating that they have been modified and shall not be replaced with OEM parts. (SAE J2603, 5.6)

3.6 Other Documentation

Inspect other documentation included with the unassembled system for compliance according to the following table by referring to recommended practice SAE J2603.

<u>Item of Inspection</u>	<u>Recommended Practice Paragraph</u>	<u>Special Considerations</u>
Input force requirements	4.1.1	
Failure analysis	4.1	
Components selected for backup	4.1	
Identification of components	4.4.1	
Means to disconnect components	4.2.4.2	
EMI interference	4.9	
Torque specifications for all mounting fasteners	4.4.2	
Static load for full brake	6.1.4.2.1	
Static load for full accelerator	6.1.4.2.2	
Recall plan	8.2	
NHTSA registration	8.3	

3.7 Identification Marking

Inspect every major assembly of the powered gas/brake control system for permanent markings with the manufacturer's name, trademark, or other recognizable logo. Such marks shall be on the exterior of the product. These marks shall include parts numbers keyed to parts lists and/or diagrams. At least one major component of the powered gas/brake assembly shall have the serial number of the system where it can be seen without disassembly. (SAE J2603, 8.1)

4. VISUAL AND TACTILE INSPECTION OF THE INSTALLED SYSTEM

Inspect the installed system and the vehicle in which it is installed to ensure that the system meets the requirements of SAE J2603, according to the following table, by referring to recommended practice SAE J2603. The inspections should be documented on an appropriate report form with photocopies or photographs as required. The report should follow the format of the test procedure (including order and paragraph numbering).

<u>Item of Inspection</u>	<u>Recommended Practice Paragraph</u>	<u>Special Considerations</u>
Shift to neutral and turn off engine	4.5	
Inadvertent operation	4.5.2	
Effect on performance	4.11	