



SURFACE VEHICLE RECOMMENDED PRACTICE

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Towed Vehicle Drivetrain Test Procedure
Passenger Cars, Vans, and Light-Duty Trucks

RATIONALE

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Foreword—This Document *has also changed* to comply with the new SAE Technical Standards Board Format. Definitions changed to Section 3. All other section numbers have changed accordingly.

TABLE OF CONTENTS

1.	Scope	1
2.	References	2
2.1	Applicable Publications	2
3.	Definitions.....	2
4.	Test Equipment	2
4.1	Tow Truck.....	2
4.2	Vehicle Ballast.....	2
5.	Towed Vehicle Drivetrain Test Procedure—Passenger Cars, Vans, and Light-Duty Trucks	2
5.1	Towed Vehicle Preparation	2
5.2	Vehicle Test Procedure	4
6.	Notes	5
6.1	Marginal Indicia	5
6.2	Key Words	5

- 1. Scope**—This SAE Recommended Practice provides a means for evaluating the drivetrain of the passenger car, van, or light-duty truck being towed under a variety of road conditions. The towing equipment used is explained in SAE J1142.

NOTE—For the purpose of this document, the drivetrain refers to the combination of a specific transmission (make, model, size, type), a specific differential assembly (make, model, size, type), and a specific driveline, if required.

2. References

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

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1142—Towability Design Criteria and Equipment Use—Passenger Cars, Vans, and Light-Duty Trucks

SAE J1143—Towed Vehicle/Tow Equipment Attachment Test Procedure—Passenger Cars, Vans, and Light-Duty Trucks

3. Definitions—See SAE J1142, paragraph 3.

4. Test Equipment

4.1 Tow Truck

4.1.1 TOW SLING EQUIPMENT—PASSENGER CARS, VANS, AND LIGHT-DUTY TRUCKS BEING TOWED WITH TOW SLING EQUIPMENT—The tow vehicle used should conform to criteria set in SAE J1142, 4.2.1 through 4.2.3.1.

4.1.2 WHEEL-LIFT EQUIPMENT—PASSENGER CARS, VANS, AND LIGHT-DUTY TRUCKS BEING TOWED WITH WHEEL-LIFT EQUIPMENT—The tow vehicle used should conform to criteria set in SAE J1142, 4.3.1 through 4.3.3.

4.1.3 Additional towing equipment, as necessary, to safely tow the vehicle. See SAE J1142, 4.1 through 4.1.6.

4.1.4 Other equipment and information as required. See SAE J1142, Section 6.

4.2 Vehicle Ballast

5. Towed Vehicle Drivetrain Test Procedure—Passenger Cars, Vans, and Light-Duty Trucks

5.1 Towed Vehicle Preparation

5.1.1 The vehicle shall be the model with the heaviest maximum curb weight for which the drivetrain combination to be tested is used. A ballast may be used, if required.

5.1.2 The vehicle shall be equipped with a combination of tires and differential ratio, which gives the highest N/V (engine rpm per vehicle km/h (mph) ratio as recommended by the vehicle manufacturer for which the drivetrain combination to be tested is used).

5.1.3 The fluid levels in transmission and differential shall meet the minimum specifications for normal vehicle operation.

5.1.4 The ride height shall be within the vehicle manufacturer's specifications prior to testing.

5.1.5 TEST VEHICLE LOADS

5.1.5.1 The passenger cars shall be loaded to the vehicle manufacturer's recommended cargo weight rating.

5.1.5.2 The vans and light-duty trucks shall be loaded as specified by the vehicle manufacturer.

5.1.6 Record final vehicle weights (See Figure 1).