

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J667

CAN-
CELLED
FEB2002

Issued 1952-04
Cancelled 2002-02

Superseding J667 JUN1961

Brake Test Code—Inertia Dynamometer

1. **Scope**—The code is applicable to hydraulic, air, or electrically actuated brakes. For electric brakes, “ampere” values are substituted for “line pressure” where specified in the procedure or on data and curve sheets.
- 1.1 **Purpose**—This SAE Recommended Practice establishes a uniform laboratory procedure for evaluating performance and wear of automotive brakes and brake drums by an inertial dynamometer simulation of vehicle test and operating conditions.
2. **References**—There are no referenced publications specified herein.
3. **Tests**—The procedure includes the following tests:
 1. Torque output and deceleration (various speeds and brake input).
 2. Evaluation of lining life (wear tests).
 3. Brake characteristics (fade and recovery tests, noise, chatter, grabbiness).
 4. Drum evaluation (wear, heat checking, scoring).
4. **Graphs and Charts**—The following graphs are plotted and charts compiled on standard forms:
 - a. Torque output versus brake input and deceleration versus brake input graphs (effectiveness tests). See Figures 3 and 4.
 - b. Characteristic torque graphs from effectiveness tests at maximum line pressures (individual stops). See Figure 5.
 - c. Lining fade and recovery graphs (deceleration and temperature versus stop number). See Figure 6.
 - d. Lining wear tabulation—wear per test phase and total test. See Figure 7.
 - e. Drum—statement of condition (and wear, if any). See Figure 7.
5. **Test Conditions**—Actual tests for performance shall be started when preliminary preparations and lining “break in” have been completed. See Procedure.

Dynamometer inertia shall correspond with the work load imposed on the particular brake as it is to be used in the specific vehicle.

SAE Technical Standards Board Rules provide that: “This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user.”

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

TO PLACE A DOCUMENT ORDER: +1 (724) 776-4970 FAX: +1 (724) 776-0790
SAE WEB ADDRESS <http://www.sae.org>

SAE J667 Cancelled FEB2002

SAE BRAKE TEST - DYNAMOMETER

MASTER SHEET NO. 1

TEST NO. _____
DATE _____

SUBJECT _____

OBJECTIVE _____

SPECIAL INSTRUCTIONS _____

VEHICLE _____

MANUFACTURER _____ MODEL _____ TIRE SIZE _____

	WT STATIC	WT DYNAMIC	TEST LOAD
TOTAL	LB	LB	LB
FRONT	LB	LB	LB
REAR	LB	LB	LB

ROLLING
RADIUS _____ IN. AT _____ MPH
BRAKE FRONT REAR

SIZE _____ TYPE _____ DWG. NO. _____
ANCHOR LOCATION _____ % OF RADIUS _____ DEG FROM CENTERLINE _____
SHOES _____ DWG NO. _____
DRUM _____ MFR _____ DWG NO. _____

WEIGHTS

COMPLETE ASSEMBLY _____ LB BACKING PLATE COMPLETE _____ LB
SHOE AND LINING _____ LB DRUM _____ LB
SHOE AND LINING _____ LB

LINING

	SHOE	
	MFR	
	CODE	
	DWG. NO.	
IN.	DEG	LENGTH IN. DEG
	DEG	TOE ANGLE DEG
	DEG	HEEL ANGLE DEG
	IN.	WIDTH IN.
	IN.	THICKNESS IN.
	SQ IN.	AREA SQ IN.
	SQ IN.	TOTAL AREA

METHOD OF AFFIXING _____ GRIND DIA _____ IN.

HYDRAULIC ACTUATION ELECTRIC AIR
CYLINDER DIA _____ VOLTAGE _____ CYLINDER DIA _____
DWG NO. _____ MAX AMP _____ DWG NO. _____
MATERIAL _____ DWG NO. _____ SLACK ADJ LENGTH _____
PISTON MATERIAL _____ STROKE _____
CUP DWG NO. _____ CAM _____
MFR _____
COMPOUND _____
FLUID _____

FIGURE 1—MASTER SHEET NO. 1

SAE BRAKE TEST - DYNAMOMETER

MASTER SHEET NO. 2

TEST NO. _____

DATE _____

DYNAMOMETER

DYNAMOMETER WHEEL TEST LOAD _____ LB _____ SLUGS (LB/32.2)

FLYWHEEL MOMENT INERTIA _____ SLUG FT² _____

DISCS USED _____

TORQUE ARM _____ IN.

TORQUE CYLINDER DIAMETER _____ IN. TORQUE CONSTANT _____

MILES PER HOUR	20	30	40	50	60	70
RPM.						
K E/STOP-LB-FT.						

FIGURE 2—MASTER SHEET NO. 2

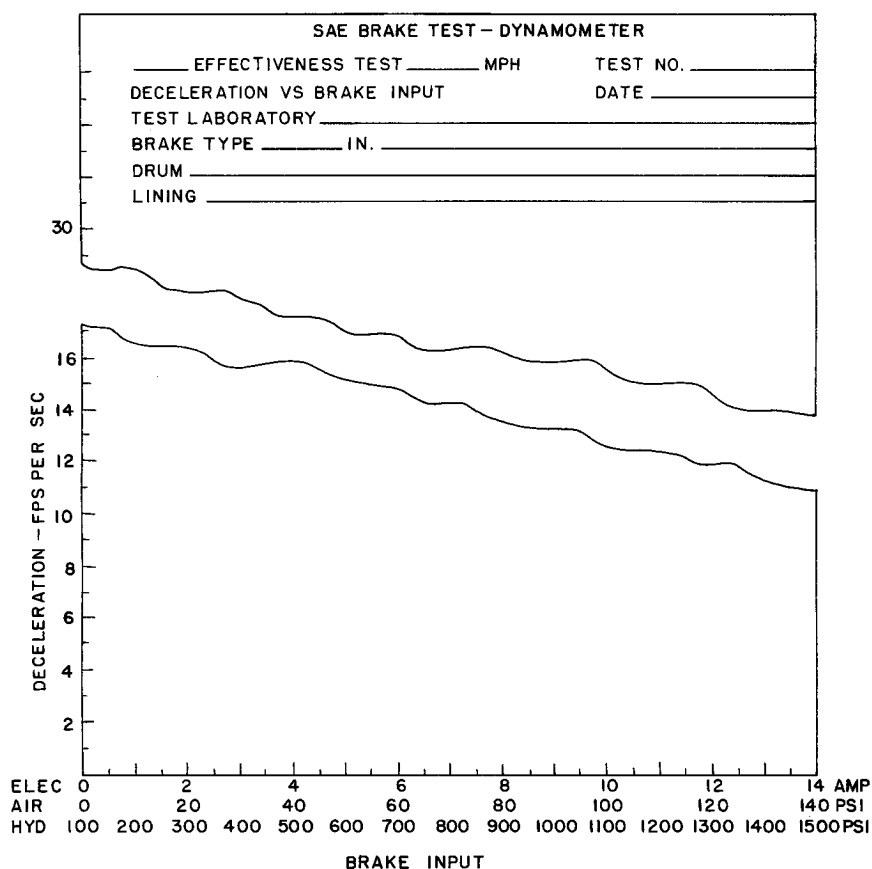


FIGURE 3—DECELERATION VERSUS BRAKE INPUT