

Certificates of Maximum Net Horsepower for Motor Trucks and Truck Tractors

Foreword—This Reaffirmed Document has been changed only to reflect the new SAE Technical Standards Board Format. Scope was added as Section 1, References were added as Section 2. All other sections were numbered accordingly.

1. **Scope**—[In the report of the SAE Motor Truck Rating Committee on Ability Ratings published in the January 1940 issue of the SAE Journal, it was recommended that pounds per certified net brake horsepower delivered to the clutch or its equivalent be used as the index of the potential ability of a motor truck or combination. This report defined the term "certified net brake horsepower" in detail and recommended that certain data be provided to support the certification. The accompanying forms provide a method for the presentation of the data specified.]

2. **References**

2.1 **Applicable Publications**—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.

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

SAE J606—Engine Test Codes

SAE J816—Engine Test Code—Spark Ignition and Diesel

3. **Gasoline Engine**

3.1 **Gross Horsepower** is the brake horsepower determined under conditions as defined hereinafter by dynamometer test of the stripped engine—that is, the brake horsepower of the engine with only those accessories and attachments necessary to the functioning of the engine during this test.

3.2 **Net Horsepower** is the brake horsepower delivered to the clutch, or its equivalent, with all accessories and attachments functioning (including exhaust pipe, muffler, and tail pipe) which are standard or regular equipment on the engine as installed in the particular chassis model. The manufacturer may determine the net horsepower by subtracting accessory power consumption from the gross brake horsepower or by direct test with accessories installed and functioning.

Horsepower shall be determined under conditions and in accordance with procedure prescribed by SAE J816.

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TABLE 1—DESCRIPTION OF ENGINE AND EQUIPMENT

- | | |
|---|---|
| 1. Engine make | 9. Exhaust valve clear dia ⁽¹⁾ in. |
| 2. Engine model | 10. Exhaust valve lift ⁽¹⁾ in. |
| 3. No. of cylinders | 11. Inlet valve opens ⁽¹⁾ |
| 4. Bore. in., stroke in. | 12. Inlet valve closes ⁽¹⁾ |
| 5. Piston displacement..... cu in. | 13. Exhaust valve opens ⁽¹⁾ |
| 6. Compression ratio | 14. Exhaust valve closes ⁽¹⁾ |
| 7. Inlet valve clear dia ⁽¹⁾ in. | 15. Max spark advance ⁽¹⁾ deg |
| 8. Inlet valve lift ⁽¹⁾ in. | retard deg |

1. If not poppet type, explain below.

TABLE 2—POWER ABSORBING ACCESSORIES, EQUIPMENT, AND ATTACHMENTS

In column A, check items which were functioning when gross horsepower was determined. In column B, check all additional items which were functioning when net horsepower was determined. List and check any additional items. For items not used, write "None".

	A	B		A	B
1. Oil pump ⁽¹⁾			10. Air filter .....	.....	.....
2. Water pump ⁽²⁾			11. Governor .....	.....	.....
3. Fan ⁽¹⁾			12. Generator .....	.....	.....
4. Exhaust pipe ⁽¹⁾			13. Vacuum pump .....	.....	.....
5. Muffler ⁽¹⁾			14. Compressor .....	.....	.....
6. Trail pipe.....			15. ....	.....	.....
7. Fuel pump			16.....	.....	.....
8. Ignition distributor ⁽³⁾ ..			17.....	.....	.....
9. Magneto ⁽³⁾					

1. Required.
 2. Required if watercooled.
 3. Either or both.

Fuel used in brake horsepower tests is to have octane rating equivalent to that of currently available "regular price" gasolines.

4. Diesel Engine

- 4.1 **Gross Horsepower** is the brake horsepower determined under conditions as defined hereinafter by dynamometer test of the stripped engine—that is, the brake horsepower of the engine with only those accessories and attachments necessary to the functioning of the engine during this test.