SAE International

SURFACE VEHICLE RECOMMENDED PRACTICE

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Flywheels for Engine-Mounted Torque Converters

RATIONALE

This technical report covers technology and products for which the technical expertise no longer resides in the Automatic Transmission/Transaxle Technical Standards Committee.

STABILIZED NOTICE

This document has been declared "Stabilized" by the SAE Automatic Transmission Transaxle Committee and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

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Foreword—This reaffirmed document has been changed only to reflect the new SAE Technical Standards Board format.

1. Scope—This SAE Recommended Practice defines flywheel configuration to promote standardization of flywheels for engine flywheel mounted torque converters.

Tables 1A and 1B and Figure 1 give dimensions for flywheels mounted-type torque converters. For torque converters using drive ring overcenter type disconnect clutch, see SAE J620.

2. References

2.1 Applicable Publications—The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply.

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

SAE J617—Engine Flywheel Housing and Mating Transmission Housing Flanges
SAE J620—Flywheels for Industrial Engines Used With Industrial Power Take-Offs Equipped With Driving-Ring Type Overcenter Clutches and Engine-Mounted Marine Gears and Single Bearing Engine-Mounted Power Generators
SAE J1033—Procedure for Measuring Bore and Face Runout of Flywheels, Flywheel Housings, and Flywheel Housing Adapters

2.1.2 ANSI PUBLICATION—Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ANSI B1.1—Screw Threads

TABLE 1A—DIMENSIONS OF FLYWHEEL—mm (in)

Converter Flywheel No.	A mm	A in	B (1),(2) mm	B(1),(2) in	C mm	C in	D mm	D in	E(3) mm	E(3) in	F mm	F in
20 (4)	206.2	(8.12)	241.30	(9.500)	222.25	(8.750)	—	—	71.4	(2.81)	63.5	(2.50)
40	225.6	(8.88)	263.52	(10.375)	244.48	(9.625)	—	—	71.4	(2.81)	76.2	(3.00)
60	314.5	(12.38)	352.42	(13.875)	333.38	(13.125)	203.2	(8.00)	100.1	(3.94)	—	—
80	314.5	(12.38)	352.42	(13.875)	333.38	(13.125)	—	—	100.1	(3.94)	—	—
100	314.5	(12.38)	352.42	(13.875)	333.38	(13.125)	203.2	(8.00)	100.1	(3.94)	66.5	(2.62)
120	349.2	(13.75)	393.70	(15.500)	371.48	(14.625)	228.6	(9.00)	100.1	(3.94)	76.2	(3.00)
140	409.4	(16.12)	466.72	(18.375)	438.15	(17.250)	228.6	(9.00)	100.1	(3.94)	82.6	(3.25)
160	460.2	(18.12)	517.52	(20.375)	488.95	(19.250)	—	—	100.1	(3.94)	104.6	(4.12)
180	498.3	(19.62)	571.52	(22.500)	542.92	(21.375)	—	—	100.1	(3.94)	104.6	(4.12)
210 (5)	584.2	(23.00)	673.10	(26.500)	641.35	(25.250)	—	—	100.1	(3.94)	146.0	(5.75)
240 (6)	644.7	(25.38)	733.42	(28.875)	692.15	(27.250)	—	—	100.1	(3.94)	146.0	(5.75)

Suggested tolerances are to be measured on assembled engine; for measuring procedure, see SAE J1033.

1. Diameter tolerance of pilot bore B is +0.13 (0.005), –0.000; maximum eccentricity is 0.13 (0.005) total indicator reading (see footnote 2), face runout maximum total indicator reading is 0.0005 times the measured diameter.
2. Eccentricity between pilot bore B and pilot bore L is not to exceed 0.20 (0.008) total indicator reading.
3. Tolerances for dimensions "G" and "E" not to exceed the tolerance for "E" as defined in SAE J617.
4. Identical to No. 7-1/2 in SAE J620 except for number of tapped holes.
5. Identical to No. 21 in SAE J620.
6. Identical to No. 24 in SAE J620.

TABLE 1B—DIMENSIONS OF FLYWHEELS—mm(in)

Converter Flywheel No.	G(1) mm	G(1) in	H mm	H in	J mm	J in	K (2) mm	K(2) in	L(2),(3) mm	L(2),(3) in	Tapped Holes(4) No.	Tapped Holes(4) Size	Normally Used with SAE Housing Size
20(5)	30.2	(1.19)	12.7	(0.50)	12.7	(0.50)	17.5	(0.69)	52.000	(2.0472)	12 (6)	(5/16-18)	6
40	30.2	(1.19)	12.7	(0.50)	12.7	(0.50)	19.0	(0.75)	52.000	(2.0472)	12(6)	(5/16-18)	5
60	53.8	(2.12)	23.9	(0.94)	7.9	(0.31)	22.4	(0.88)	52.000	(2.0472)	12(6)	(3/8-16)	4
80	66.5	(2.62)	11.2	(0.44)	—	—	22.4	(0.88)	52.000	(2.0472)	12	(3/8-16)	3
100	53.8	(2.12)	15.7	(0.62)	7.9	(0.31)	22.4	(0.88)	62.000	(2.4409)	12	(3/8-16)	3
120	53.8	(2.12)	15.7	(0.62)	4.8	(0.19)	22.4	(0.88)	72.000	(2.8346)	12	(3/8-16)	2
140	50.8	(2.00)	15.7	(0.62)	3.0	(0.12)	22.4	(0.88)	80.000	(3.1496)	12	(1/2-13)	1
160	15.7	(0.62)	44.4	(1.75)	44.4	(1.75)	33.3	(1.31)	80.000	(3.1496)	12	(1/2-13)	1/2
180	15.7	(0.62)	44.4	(1.75)	44.4	(1.75)	33.3	(1.31)	80.000	(3.1496)	12	(5/8-11)	0
210(7)	0.0	(0.00)	31.8	(1.25)	31.8	(1.25)	57.2	(2.25)	130.000	(5.1181)	12	(5/8-11)	00
240(8)	0.0	(0.00)	31.8	(1.25)	31.8	(1.25)	57.2	(2.25)	130.000	(5.1181)	12	(3/4-10)	00

Suggested tolerances are to be measured on assembled engine; for measuring procedure, see SAE J1033.

1. Tolerances for dimensions "G" and "E" not to exceed the tolerance for "E" as defined in SAE J 617.
2. K is length of pilot bore; L is nominal diameter of bore. Diameter and fit are to suit installation. Maximum eccentricity is 0.13 (0.005) total indicator reading . (See footnote 3.)
3. Eccentricity between pilot bore B and pilot bore L is not to exceed 0.20 (0.008) total indicator reading.
4. Tapped holes shall be threaded in accordance with UNC Class 2B tolerances of ANSI B1.1 screw threads, and the minimum length of thread engagement shall be 1.5 times the nominal diameter.
5. Identical to No. 7-1/2 in SAE J620 except for number of tapped holes.
6. Compatible with 3, 4, 6, or 12 bolt converter mounting.
7. Identical to No. 21 in SAE J620.
8. Identical to No. 24 in SAE J620.