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INTERNATIONAL
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SURFACE VEHICLE STANDARD

SAE J620

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Superseding J620 OCT88

An American National Standard

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

***Foreword*—**This Reaffirmed Document has been changed only to reflect the new SAE Technical Standards Board Format.

1. ***Scope*—**This SAE Standard defines flywheel configurations for industry standardization, interchangeability, and compatibility.

Table 1 and Figure 1 give the dimensions for the flywheels.

For dimensions of industrial power take-offs with driving-ring type overcenter clutches, see SAE J621.

For flywheel dimensions for engine-mounted torque converters without front disconnect clutch, see SAE J927.

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 J162—Flywheels for Single Bearing Engine Mounted Power Generators
SAE J617—Engine Flywheel Housing and Mating Transmission Housing Flanges
SAE J621—Industrial Power Takeoffs With Driving-Ring Type Overcenter Clutches
SAE J927—Flywheels for Engine Mounted Torque Connectors
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/ASME B1.1—Unified Inch Screw Threads (UN and UNR Thread Form)

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TABLE 1—DIMENSIONS OF FLYWHEELS, mm (in)

Clutch Size	A	B [1], [2]	C	D		E [5], [11]	F	
165 (6-1/2)	184.2 (7.25)	215.90 (8.500)	200.02 (7.875)	127.0	(5.00)	71.4 (2.81)	63.5	(2.50)
190 (7-1/2)	206.2 (8.12)	241.30 (9.500)	222.25 (8.750)	—	—	71.4 (2.81)	63.5	(2.50)
200 (8)	225.6 (8.88)	263.52 (10.375)	244.48 (9.625)	—	—	100.1 (3.94)	76.2	(3.00)
255 (10)[6]	276.4 (10.88)	314.32 (12.375)	295.28 (11.625)	196.8	(7.75)	100.1 (3.94)	76.2	(3.00)
290 (11-1/2)[7]	314.5 (12.38)	352.42 (13.875)	333.38 (13.125)	203.2	(8.00)	100.1 (3.94)	—	—
355 (14)[8]	409.4 (16.12)	466.72 (18.375)	438.15 (17.250)	222.2	(8.75)	100.1 (3.94)	101.6	(4.00)
405 (16)	460.2 (18.12)	517.52 (20.375)	488.95 (19.250)	254.0	(10.00)	100.1 (3.94)	104.6	(4.12)
460 (18)[9]	498.3 (19.62)	571.50 (22.500)	542.92 (21.375)	—	—	100.1 (3.94)	104.6	(4.12)
530 (21)[10]	584.2 (23.00)	673.10 (26.500)	641.35 (25.250)	—	—	100.1 (3.94)	146.0	(5.75)
610 (24)	644.7 (25.38)	733.42 (28.875)	692.15 (27.250)	—	—	100.1 (3.94)	146.0	(5.75)

Clutch Size	G[5]	H	J	K[3], [11]	L[2], [3], [11]	Tapped Holes[4] No.	Tapped Holes[4] Size
165 (6-1/2)	30.2 (1.19)	12.7 (0.50)	9.7 (0.38)	17.5 (0.69)	52.000 (2.0472)	6	(5/16–18)
190 (7-1/2)	30.2 (1.19)	12.7 (0.50)	12.7 (0.50)	17.5 (0.69)	52.000 (2.0472)	8	(5/16–18)
200 (8)	62.0 (2.44)	12.7 (0.50)	12.7 (0.50)	19.0 (0.75)	62.000 (2.4409)	6	(3/8-16)
255 (10)	53.8 (2.12)	15.7 (0.62)	12.7 (0.50)	28.4 (1.12)	72.000 (2.8346)	8	(3/8-16)
290 (11-1/2)	39.6 (1.56)	28.4 (1.12)	22.4 (0.88)	31.8 (1.25)	72.000 (2.8346)	8	(3/8-16)
355 (14)	25.4 (1.00)	28.4 (1.12)	22.4 (0.88)	38.1 (1.50)	80.000 (3.1496)	8	(1/2-13)
405 (16)	15.7 (0.62)	28.4 (1.12)	22.4 (0.88)	44.4 (1.75)	100.000 (3.9370)	8	(1/2-13)
460 (18)	15.7 (0.62)	31.8 (1.25)	31.8 (1.25)	44.4 (1.75)	100.000 (3.9370)	6	(5/8-11)
530 (21)	0.0 (0.00)	31.8 (1.25)	31.8 (1.25)	57.2 (2.25)	130.000 (5.1181)	12	(5/8-11)
610 (24)	0.0 (0.00)	31.8 (1.25)	31.8 (1.25)	57.2 (2.25)	130.000 (5.1181)	12	(3/4-10)

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

[1] Diameter tolerance of driving-ring 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. Diameter tolerance for mating driving ring, etc., pilot diameter is +0.000, -0.13 (0.005).

[2] Eccentricity between driving-ring pilot bore 'B' and pilot bearing bore 'L' is not to exceed 0.20 (0.008) total indicator reading.

[3] 'K' is length of bore for pilot bearing; 'L' is nominal diameter of bearing. Diameter and fit are to suit installation. Maximum eccentricity is 0.13 (0.005) total indicator readin. (See footnote 2.)

[4] Tapped holes shall be threaded in accordance with UNC Class 2B tolerances of ANSI/ASME B1.1 screw threads, and the minimum length of thread engagement shall be 1.5 times the nominal diameter.

[5] Tolerances for dimensions 'G' and 'E' not to exceed the tolerance for 'E' as defined in SAE J617.

[6] Identical to flywheel No. 500 in SAE J162 (cancelled) except for 'G' dimension which was 25.4 (1.00), and 'H' dimension which was 28.4 (1.12). A spacer can be used between flywheel and coupler for equipment designed to the old specification.

[7] Identical to flywheel No. 511 in SAE J162 (cancelled).

[8] Identical to flywheel No. 514 in SAE J162 (cancelled).

[9] Identical to flywheel No. 518 in SAE J162 (cancelled).

[10] Identical to flywheel No. 521 in SAE J162 (cancelled).

[11] Pilot bearing bores, as defined by dimensions 'E', 'K', and 'L' are not typically required on flywheels for single bearing engine-mounted power generators, and marine gears.

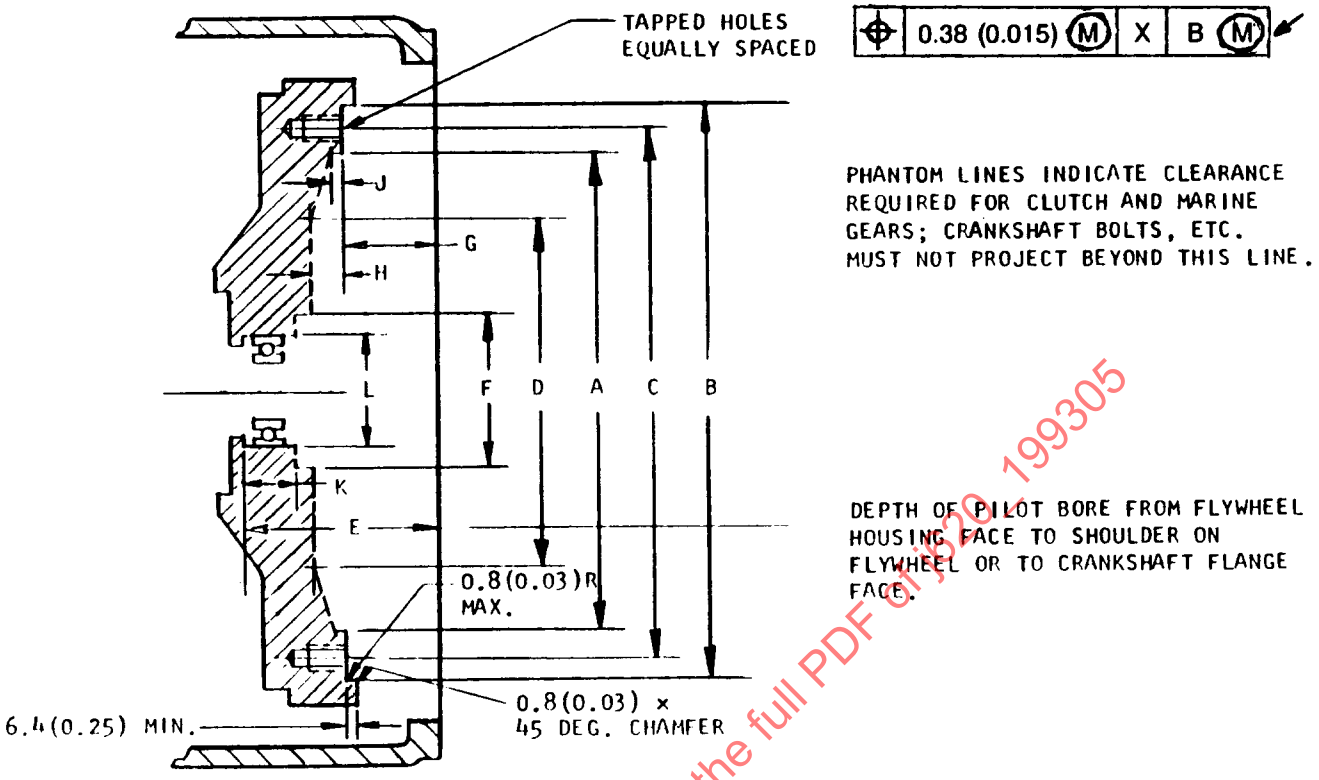

FIGURE 1—FLYWHEEL DETAIL

PREPARED BY THE SAE CLUTCH, FLYWHEEL, AND HOUSING STANDARDS COMMITTEE