

Submitted for recognition as an American National Standard

Tapped and Flanged Exhaust Connections for Small Engines

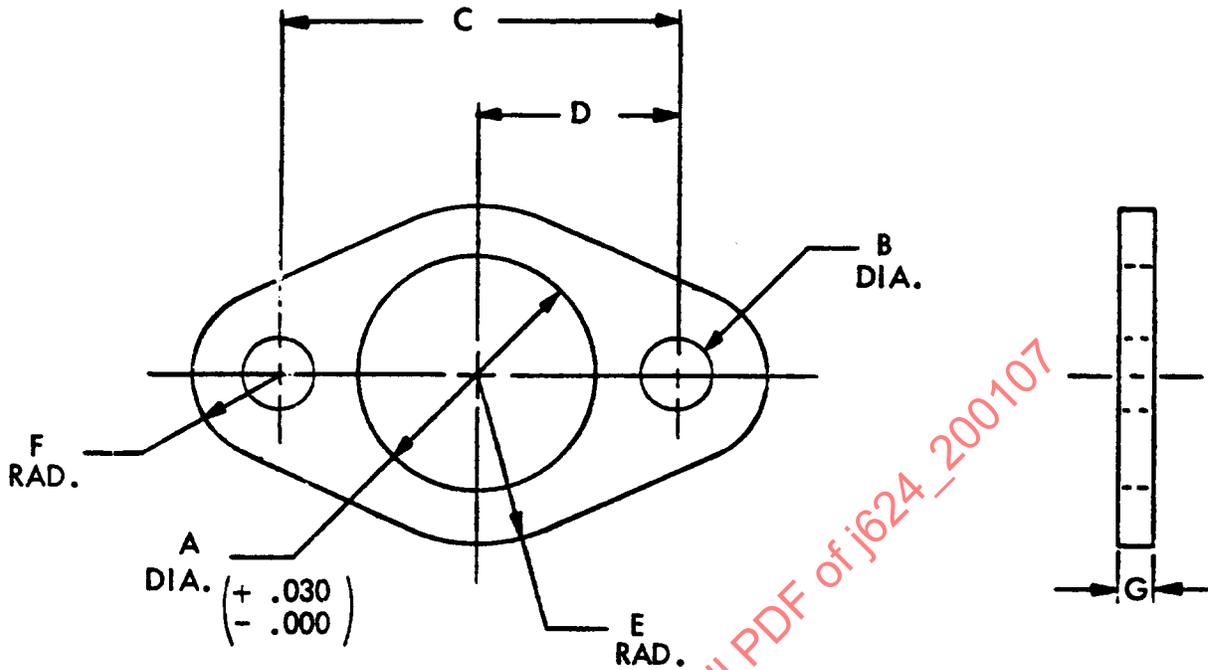
Foreword—This reaffirmed document has been changed only to reflect the new SAE Technical Standards Board Format.

1. **Scope**—This SAE Recommended Practice applies to domestic four-cycle air- and water-cooled engines having a maximum of 14.9 kW (20 hp) or less in power output and/or 0.82 L (50 in³) or less in displacement, with horizontal or vertical crankshafts.
 - 1.1 The engine shall be furnished with a minimum of either a tapped exhaust port or two tapped holes and flat port face making possible use of a threaded connector or one of the flanges shown on Figure 1.
 - 1.2 Exhaust flanges are sized to be used with mild steel or aluminized steel butt-welded tubing.
 - 1.3 **Purpose**—This document is intended to define tapped and flanged exhaust connections for small gasoline engines.
2. **References**—There are no referenced publications specified herein.
3. Recommended port tap sizes and exhaust flanges for both horizontal and vertical crankshaft engines are noted in Figure 1.

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ENGINE HORSEPOWER PER CYLINDER

	1 thru 4 hp 0.75 thru 3 kW	1 thru 4 hp 0.75 thru 3 kW	4 thru 8 hp 3 thru 6 kW	4 thru 8 hp 3 thru 6 kW	8 thru 16 hp 6 thru 12 kW	8 thru 16 hp 6 thru 12 kW	16 thru 20 hp 12 thru 15 kW	16 thru 20 hp 12 thru 15 kW
	Exhaust Port Tap	Exhaust Port Tap	Exhaust Port Tap	Exhaust Port Tap	Exhaust Port Tap	Exhaust Port Tap	Exhaust Port Tap	Exhaust Port Tap
	1/2 - 14 NPSF	1/2 - 14 NPSF	3/4 - 14 NPSF	3/4 - 14 NPSF	1 - 11-1/2 NPSF	1 - 11-1/2 NPSF	1-1/4 - 11-1/2 NPSF	1-1/4 - 11-1/2 NPSF
	mm	in	mm	in	mm	in	mm	in
Bore Diameter A	16.13	0.635	22.48	0.885	28.83	1.135	35.18	1.385
Hole Diameter B	7.14	0.281	7.14	0.281	8.71	0.343	8.71	0.343
Hole Spacing C	34.93	1.375	41.28	1.625	50.80	2.000	57.15	2.250
Center Distance D	17.48	0.688	20.62	0.812	25.40	1.000	28.58	1.125
Flange Radius E	15.75	0.62	19.05	0.75	22.35	0.88	25.40	1.000
Flange Radius F	7.87	0.31	7.87	0.31	11.18	0.44	11.18	0.44
Flange Thickness G	3.18	0.125	3.18	0.125	4.78	0.188	4.78	0.188

FIGURE 1—EXHAUST FLANGE

PREPARED BY THE SAE SMALL ENGINE AND POWER EQUIPMENT COMMITTEE