

EPS Dimensions/Codes
2H, 7" & 8" 3H, 2A, 2AN, 3L & HMI Cylinders

Series 2H, 7" & 8", 3H

BORE	SERIES	ROD DIA	ROD NUMBER	STANDARD PROBE LOCATION "GG"	SPACER HEIGHT "C"	SWITCH CODE	SPACER CODE	EPS5 BOLT CODE (1)	EPS 3,6,7 BOLT CODE (1)	OPTIONAL STROKE TO GO
1.5	2H	0.63	1	0.880	0.439	1	A2	GD9	1D9	.422
		1	2	0.880	0.626	1	E2	F99	299	.422
		CAP	-	0.937	1.048	2	EG2	299(2)	499(2)	.381
2	2H	1	1	0.880	0.439	1	A2	GD9	1D9	.442
		1.375	2	0.880	0.579	1	D2	OD9	2E9	.442
		CAP	-	0.875	0.938	2	DF2	299	399	.319
2.5	2H	1	1	0.880	0.170	1	C	FD	2D	.475
		1.75	2	0.880	0.546	1	J	29	39	.475
		1.375	3	0.880	0.358	1	F	F9	39	.475
3.25	2H	1	1	0.880	0.671	2	DG	29	49	.319
		1.75	2	1.125	0.249	1	D	FD	2	.725
		1.75	3	1.125	0.858	2	FH	39	49	.725
4	2H	CAP	-	1.062	0.296	2	E	F9	29	.506
		1.75	1	1.125	0.608	2	DF	29	39	.725
		2.5	2	0.812	0.296	1	E	F9	29	.417
5	2H	2	3	0.812	0	1	NONE	G	1	.417
		CAP	-	1.000	0.170	2	C	FD	2D	.444
		2	1	0.812	0.858	3	FH	39	49	.417
6	2H	3.5	2	0.812	0.858	2	FH	39	49	.417
		2.5	3	0.812	0.358	2	F	F9	29	.417
		3	4	0.812	0.608	2	DF	29	39	.417
7	2H/3H	CAP	-	0.875	0.358	3	F	F9	29	.319
		2.5	1	1.062	0.671	3	DG	29	49	.663
		4	2	1.062	0.608	2	DF	29	39	.663
8	2H/3H	3	3	1.062	0.109	2	A	GD	1	.663
		3.5	4	0.812	0.358	2	F	F9	29	.417
		CAP	-	1.250	1.749	4	DHHH	6A	8D	.683
1.5	2H	3	1	1.562	0.421	3	G	19	39	1.162
		5	2	1.437	0.671	2	DG	29	49	1.037
		3.5	3	1.562	0.671	3	DG	29	49	1.162
2	2H/3H	4	4	1.062	0.109	2	A	GD	1D	.663
		4.5	5	1.437	0.358	2	F	F9	29	1.037
		CAP	-	1.687	1.421	4	GHH	51	7B	1.117
2.5	2H/3H	3.5	1	1.812	0.170	3	C	FD	2D	1.412
		5.5	2	1.687	0.421	2	G	19	39	1.287
		4	3	1.062	0.421	3	G	19	39	.663
3.25	2H/3H	4.5	4	1.437	0.671	3	DG	29	49	1.037
		5	5	1.437	0.170	2	C	FD	2D	1.037
		CAP	-	1.687	0.921	4	GH	31	5B	1.183

(1) The first digit of the Bolt Code refers to screws that mount the switch to the cylinder. The second and third digits refer to screws that mount the spacers to the cylinder.

EPS Dimensions/Codes
2H, 7" & 8" 3H, 2A, 2AN, 3L & HMI Cylinders

Mounting Bolts

Table 7 — Mounting Bolts
 Two mounting bolts are required per switch.

Code #	Parker Part #	Bolt Length Inches	Bolt Type
0	010634-0048	0.75	1/4-20 SHCS
1	010634-0100	1.00	1/4-20 SHCS
2	010634-0116	1.25	1/4-20 SHCS
3	010634-0132	1.50	1/4-20 SHCS
4	010634-0148	1.75	1/4-20 SHCS
5	010634-0200	2.00	1/4-20 SHCS
6	010634-0216	2.25	1/4-20 SHCS
7	010634-0232	2.50	1/4-20 SHCS
8	010634-0248	2.75	1/4-20 SHCS
9	010628-0024	0.38	#8-32 SHCS
A	010628-0032	0.50	#8-32 SHCS
B	010628-0100	1.00	#8-32 SHCS
C	010628-0132	1.50	#8-32 SHCS
D	010453-0024	0.38	#8-32 FHCS
E	010453-0032	0.50	#8-32 FHCS
F	010634-0056	0.88	1/4-20 SHCS
G	010634-0040	0.62	1/4-20 SHCS
Mounting Bolts for HMI		Bolt Length mm	
H	147421-0030	30	M6X1.0 SHCS
J	147421-0040	40	M6X1.0 SHCS
K	147421-0045	45	M6X1.0 SHCS
L	147421-0025	25	M6X1.0 SHCS
M	147421-0065	65	M6X1.0 SHCS
N	148722-0210	10	M6X1.0 SHCS
P	148764-0010	10	M6X1.0 SHCS (LOW HEAD)
Q	147419-0035	35	M4X0.7 SHCS
R	148722-0212	12	M4X0.7 FHSC
S	148722-0216	16	M4X0.7 FHSC
T	148722-0220	20	M4X0.7 FHSC
U	-	-	-
V	148722-0208	8	M4X0.7 FHSC
W	-	-	-
X	147421-0065	65	M6X1.0 SHCS
Y	-	-	-
Z	0108800016	1/4" HI COLLAR LOCK WASHER, 4 REQ'D	

FHSC=Flat Head Socket Screw



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Service Bulletin 0840-G-E1
EPS Dimensions/Codes 2H, 7" & 8" 3H, 2A, 2AN, 3L HMI Cylinders
 Issued : 08/00
 Supersedes 0840 TSD-1,2,3,4,5

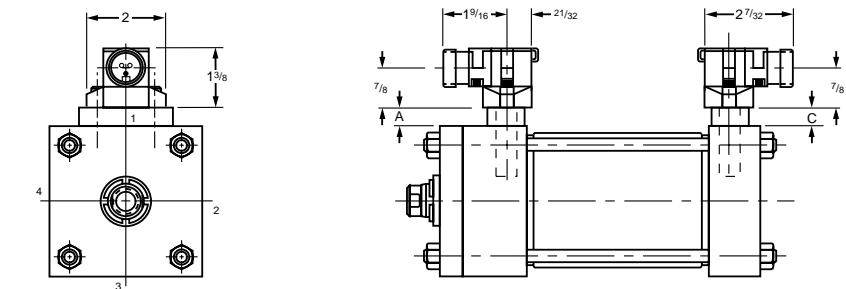
This bulletin contains mounting information for EPS Style Proximity Switches by bore and rod combination. For cylinder dimensions not shown, consult the current catalog.

Switches, spacers and mounting bolts have each been assigned a code that can be found in Table 3.

The components of a complete switch assembly may be identified by cross referencing these codes with the part numbers in Tables 5, 6 and 7.

Warning
 FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.
 This document and other information from the Company, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.
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EPS-5 Automotive Applications



EPS-6 & 7 Heavy Duty Industrial Applications

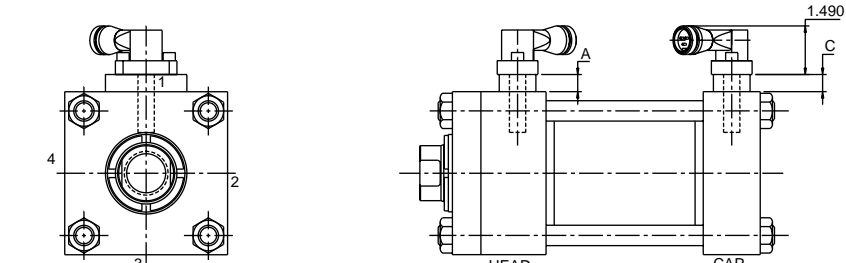


Table 1 - Available Mounting Positions for EPS-3, 5, 6, 7

MOUNTING STYLES	Sensor Location for Series 2A,2AN,3L,2H,7&8"3H, HMI	Bore Size (in inches)									
		1.5	2	2.5	3.25	4	5	6	7	8	10
Bores sizes (inches):		1.5	2	2.5	3.25	4	5	6	7	8	10
HMI bores sizes (mm):		40	50	63	80	100	125	160	200		
T,TB,TC,TD,BB,DD,BC	HEAD	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4
	CAP	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4
J,D,JJ (see note 3)	HEAD	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3
	CAP	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4
H,DB,HH	HEAD	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4
	CAP	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3
C (see note 2)	HEAD	1	1	1	1	1	1	1,2,4	1,2,4	1,2,4	1,2,4
	CAP	1	1	1	1	1	1	1,2,4	1,2,4	1,2,4	1,2,4
E	HEAD	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3
	CAP	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3
F,G,CB	HEAD	1	1	1,2,4	1,2,4	1,2,4	1,2,4	1,2,4	1,2,4	1,2,4	1,2,4
	CAP	1	1	1,2,4	1,2,4	1,2,4	1,2,4	1,2,4	1,2,4	1,2,4	1,2,4
JB	HEAD	NA	NA	NA	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4
	CAP	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4
HB	HEAD	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4
	CAP	NA	NA	NA	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4

Note: The electrical connector orientation may be restricted in some cases. Consult the dimensions in the current catalog.
 Note 2: On 6" cylinders and larger, and for 160mm and 200mm bores, switches mounted in position 2 or 4 will interfere with the installation and removal of mounting bolts.
 Note 3: On 1.5 through 5" JJ cylinders, switches will extend beyond mounting surface of cylinder.
 Note 4: Positions 1, 2, 3 and 4 are determined by viewing cylinder from piston rod end and going clockwise.



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EPS Dimensions/Codes
2H, 7" & 8" 3H, 2A, 2AN, 3L & HMI Cylinders

Series 2A, 2AN, 3L

BORE	SERIES	ROD DIA	2A ROD #	3L ROD #	STANDARD PROBE LOCATION "GG"	SPACER HEIGHT "C"	SWITCH CODE	SPACER CODE	EPS5 BOLT CODE (1)	EPS 3,6,7 BOLT CODE (1)	OPTIONAL STROKE TO GO
1.5	2A/3L	0.63	1	1	0.59	0.688	1	FK	F99	299	0.44
		1	2	2	0.59	0.876	1	1K	199	399	0.44
		CAP	-	-	0.63	0.468	1	BK	GD9	1D9	0.17
2	2A/3L	0.63	1	1	0.59	0.579	1	D2	0E9	2E9	0.44
		1.375	2	2	0.59	0.829	1	H2	199	399	0.44
		1	3	3	0.59	0.688	1	F2	F99	299	0.44
2.5	2A/3L	CAP	-	-	0.63	1.048	2	EG2	299	499	0.17
		0.63	1	7	0.63	0.296	1	E	F9	29	0.48
		1.75	2	3	0.63	0.796	1	EH	29	49	0.48
3.25	2A/3L	1	3	2	0.63	0.421	1	G	19	39	0.48
		1.38	4	1	0.63	0.608	1	DF	29	39	0.48
		CAP	-	-	0.63	0.780	2	FG	29	49	0.17
4	2A/3L	1	1	1	0.88	0.858	2	FH	39	49	0.73
		2	2	4	0.56	0.608	1	DF	29	39	0.42
		1.375	3	2	0.88	0.249	1	D	FE	2E	0.73
5	2A/3L	1.75	5	3	0.88	0.421	1	G	19	39	0.73
		CAP	-	-	0.75	0.546	2	J	29	39	0.34
		1	1	7	0.88	0.499	2	H	19	39	0.73
6	2A/3L	2.5	2	4	0.56	0.546	1	J	29	39	0.42
		1.375	3	2	0.88	0.671	2	DG	29	49	0.73
		1.75	4	1	0.88	0.858	2	FH	39	49	0.73
7	2A	2	5	3	0.56	0.249	0	D	FE	2E	0.42
		CAP	-	-	0.75	0.170	2	C	0D	1D	0.34
		1	1	7	0.88	0.796	3	EH	39	49	0.72
8	2A/3L	3.5	2	2	0.56	0.546	1	J	29	39	0.42
		1.38	3	8	0.88	0.170	2	C	FD	2D	0.72
		1.75	4	1	0.88	0.358	2	F	F9	29	0.72
9	2A	2	5	3	0.56	0.546	2	J	29	39	0.42
		2.5	6	4	0.56	0.858	2	FH	39	49	0.42
		3	7	5	0.56	0.296	1	E	F9	29	0.42
10	2A	CAP	-	-	0.75	0.499	3	H	19	39	0.34
		1.38	1	7	1.13	0.499	3	H	29	39	0.98
		4	2	2	0.81	0.296	1	E	29	29	0.66
11	2A/3L	1.75	3	1	1.13	0.671	3	DG	29	49	0.98
		2	4	3	0.81	0.858	3	FH	39	49	0.66
		2.5	5	4	0.81	0.358	2	F	29	29	0.66
12	2A/3L	3	6	5	0.81	0.608	2	DF	29	39	0.66
		3.5	7	6	0.81	0.858	2	FH	39	49	0.66
		CAP	-	-	0.75	0.109	3	A	1D	1D	0.34
13	2A	1.38	1	7	1.13	0	3	NONE	G	1	0.98
		1.75	3	8	1.13	0.170	3	C	FD	2D	0.98
		2	4	1	0.81	0.358	3	F	F9	29	0.66
14	2A/3L	CAP	-	-	0.94	1.296	4	EHH	5B	6B	0.53
		1.38	1	7	1.13	1.171	4	DGH	4B	6B	0.98
		5.5	2	2	0.69	0.921	2	GH	5B	5B	0.54
15	2A/3L	1.75	3	8	1.13	1.358	4	FHH	5B	6B	0.98
		2	4	1	0.81	1.546	4	HHJ	6C	7C	0.66
		2.5	5	3	0.81	0.170	3	C	FD	2D	0.66
16	2A/3L	3	6	4	0.81	0.421	3	G	19	39	0.66
		3.5	7	5	0.81	0.671	3	DG	29	49	0.66
		4	8	6	0.81	0.110	2	A	GD	1D	0.66
17	2A/3L	5	9	0	0.81	0.671	2	DG	29	49	0.66
		CAP	-	-	0.94	0.796	4	EH	39	49	0.63
		1.75	1	-	1.38	0.296	4	E	F9	29	1.22
18	2A	2	3	-	1.06	0.499	4	H	19	39	0.91
		2.5	4	-	1.06	0.499	4	EH	39	49	0.91
		3	5	-	1.06	1.046	4	DEH	4B	5B	0.91
19	2A	3.5	6	-	1.06	1.296	4	EHH	5B	6B	0.91
		4	7	-	1.06	0	3	NONE	G	1	0.91
		5	9	-	0.94	0.421	3	G	19	39	0.79
20	2A	5.5	0	-	0.94	0.671	3	DG	29	49	0.79
		CAP	-	-	0.94	0	4	NONE	G	1	0.53

(1) The first digit of the Bolt Code refers to screws that mount the switch to the cylinder. The second and third digits refer to screws that mount the spacers to the cylinder.

EPS Dimensions/Codes
2H, 7" & 8" 3H, 2A, 2AN, 3L & HMI Cylinders

Series HMI
 Table 6 Part Numbers

BORE	SERIES	ROD DIA	ROD #	STANDARD PROBE LOCATION "GG"	SPACER HEIGHT "C"	SWITCH CODE	SPACER CODE	EPS5 BOLT CODE (1)	EPS 3,6,7 BOLT CODE (1)	OPTIONAL STROKE TO GO
40	HMI	18	1	0.875	0.688	1	F3	HPP	HPP	.532
		28	2	0.875	0.688	1	F3	HPP	HPP	.532
		CAP	-	0.875	1.048	2	EG3	KPPZ	KPP	.656
50	HMI	22	1	0.875	1.188	2	FH3	KPP	KPP	.532
		36	2	0.875	0.626	1	E3	HPP	HPP	.532
		28	3	0.875	0.500	1	C3	HPP	HNP	.532
63	HMI	CAP	-	0.875	0.829	2	H3	JPP	JPP	.656
		28	1	0.875	0.249	1	D	HN	HN	.500
		45	2	0.875	0.546	1	J	JS	JP	.500
80	HMI	36	3	0.875	0.358	1	F	JR	HP	.500
		CAP	-	0.875	0.671	2	DG	KT	KP	.656
		36	1	1.125	0.671	2	DG	KT	KP	.500
100	HMI	56	2	0.812	0.296	1	E	HN	HN	.500
		45	3	1.125	0.858	2	FH	KJ	KP	.500
		CAP	-	1.000	0.296	2	E	HR	HP	.656
125	HMI	45	1	1.125	0.608	2	DF	JT	JP	.500
		70	2	0.812	0.358	1	F	HR	HP	.500
		56	3	0.812	0.858	2	FH	KU	KP	.500
160	HMI	CAP	-	1.000	0.170	2	C	HV	HN	.656
		56	1	0.812	0.170	2	C	HV	HN	.500
		90	2	0.812	0.109	1	A	LV	LN	.500
200	HMI	70	3	0.812	0.499	2	H	JS	JP	.500
		CAP	-	1.000	0.421	3	G	JS	JP	.656
		70	1	1.062	0.499	3	H	JS	JP	.500
250	HMI	110	2	1.062	0.499	2	H	JS	JP	.500
		90	3	1.062	0.109	2	A	LV	LN	.500
		CAP	-	1.312	0.546	4	J	XW	MQ	.670
300	HMI	90	1	1.562	0.170	3	C	HV	HN	.670
		140	2	1.687	0.421	2	G	JS	JP	.670
		110	3	1.687	0.546	3	J	JS	JP	.670
350	HMI	CAP	-	1.937	0.671	4	DG	KT	KP	.670

(1) The first digit of the Bolt Code refers to screws that mount the switch to the cylinder. The second and third digits refer to screws that mount the spacers to the cylinder.

Code	Probe Length (inches)	Parker Part Number			EPS 1, 2, 3
		EPS 5 AC	EPS 6 DC	EPS 7 AC	
1	1.25	1466170125	1488960125	1488970125	Obsolete; Replace with EPS 7
2	2.062	1466170206	1488960206	1488970206	
3	2.875	1466170287	1488960287	1488970287	
4	4.562	1466170456	1488960456	1488970456	
Brand		Namco	Pepperl & Fuchs	Pepperl & Fuchs	
Connector		3 Pin Mini	5 Pin Mini	3 Pin Mini	
Voltage		50-220 VAC/DC	10-30 VDC	50-220 VAC/DC	
Output		Normally Open	PNP & NPN	Normally Open	
Leakage Current		<1.7mA	NA	<1.7mA	
Voltage Drop		<10 Volts	<.8 VDC	<10 Volts	
Comments:		AC ONLY	DC ONLY	AC ONLY	

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2H, 7" & 8" 3H, 2A, 2AN, 3L & HMI Cylinders

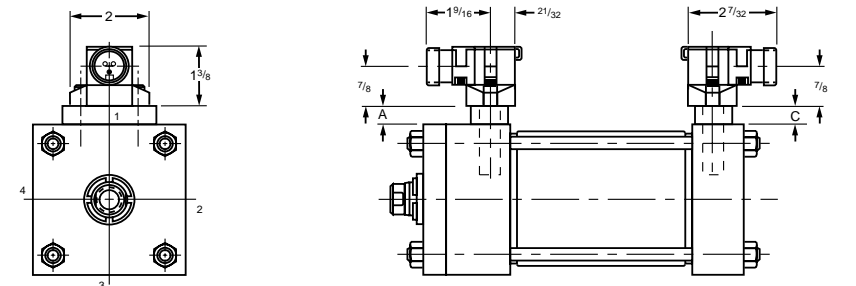
Spacer Blocks

Letter Code	Parker Part#	Spacer Thickness (inches)	Letter Code	Parker Part#	Spacer Thickness (inches)
A	085469-0110	.109	EH	085469-0797	.796
B	085467-0000	.138	FH	085469-0859	.858
C	085469-0171	.170	GH	085469-0922	.921
D	085469-0250	.249	BGG	085469-0983	.982
E	085469-0297	.296	DEH	085469-1047	1.046
F	085468-0359	.358	DGH	085469-1172	1.171
G	085469-0422	.421	EHH	085469-1297	1.296
H	085469-0500	.499	FHH	085469-1359	1.358
J	085469-0547	.546	GHH	085469-1422	1.421
K	085466-0000	.330	HHJ	085469-1547	1.546
DF	085469-0609	.608	DHHH	085469-1750	1.749
DG	085469-0672	.671	1	085468-0547	.546
EG	085469-0719	.718	2	085482-0000	.330
FG	085469-0781	.780	3*	087583-0000	0.330

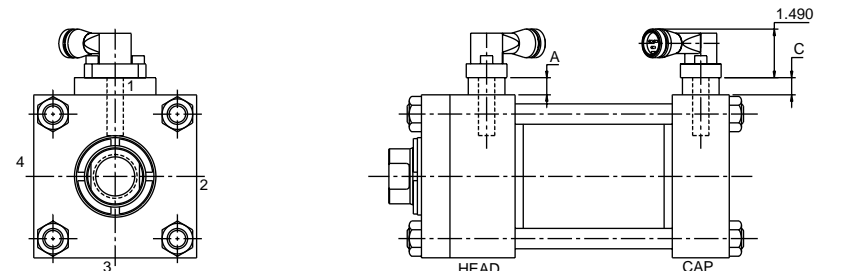
One O-Ring per spacer, Size# 2 - 15, Cylinder Division Part Number 010024-0003 (Fluorocarbon)

* Used on HMI only

EPS-5 Automotive Applications



EPS-6 & 7 Heavy Duty Industrial Applications



(1) The first digit of the Bolt Code refers to screws that mount the switch to the cylinder. The second and third digits refer to screws that mount the spacers to the cylinder.