

NAVISTAR, INC.

Material, Parts, and Process Specifications (MPAPS)

NUMBER:

MPAPS S-J-11.101-GS/PL

Former Designation: **ESP-J-11.101-GS**

TITLE: **Square Parallel Keys – English Series
(Noun Code 4820)**

CURRENT REV No.:

1506

DATE:

June 2015

WRITTEN/EDITED BY:

Materials Engineering

APPROVED BY:

Materials Engineering

SUPERSEDES:

ESP-J-11.101-GS - September 2000

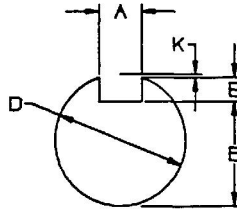
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This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.

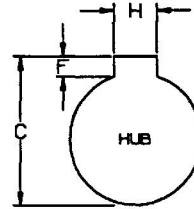
Change Notice: **Changed to New MPAPS format; Combined GS, NPP.**

- 1.0 GENERAL:** These keys are general purpose, negative toleranced, made from cold finished bar stock.
- 2.0 RESTRICTED CHEMICAL SUBSTANCES:** Effective January 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification.
- 3.0 DIMENSIONS:** Key dimensions wherever shown are to be specified: Width x Height x Length.
- 4.0 MATERIAL:** Cold drawn steel with .06 sulfur max, per MPAPS A-0, Part II, Code 2-202.

COMPUTING SQUARE PARALLEL KEYSLOTS AND KEYWAYS



Keyslot



Keyway

When keyslot and keyway dimensions other than those shown in this general specification are required, the following formulas and values will be used to determine standard dimensions:

<u>WIDTH</u>	A & H Dimensions shown on page 2 of this document
<u>SHAFT DEPTH</u>	B MAX = D - K - E MIN B MIN = B MAX - .006 in (. 152 mm)
<u>HUB HEIGHT</u>	C MIN = D - K + F MIN C MAX = C MIN - .004 in (. 102 mm)

Key Size	3/16		1/4		5/16		3/8		1/2		5/8		3/4	
in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
E MIN	.089	2.261	.12	3.048	.151	3.835	.182	4.623	.245	6.223	.307	7.798	.370	9.398
F MIN	.1	2.54	.132	3.353	.163	4.14	.195	4.953	.257	6.528	.32	8.128	.382	9.703

NOTE: For "K" Values, refer to MPAPS S-J-10.101-GS/PL.

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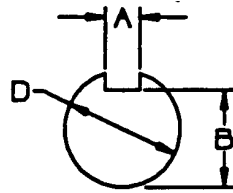
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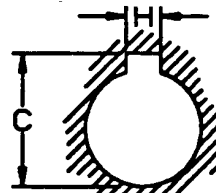
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NUMBER: MPAPS S-J-11.101-GS/PL	TITLE: SQUARE PARALLEL KEYSLOTS & KEYWAYS	REVISION: 1506
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KEYSLOT



KEYWAY

D Nominal inch	A		B		H		C		Recommended Key Size inch
	in	mm	in	mm	in	mm	in	mm	
	+0.002 -0	+0.051 -0	+0.003 -0.003	+0.08 -0.08	+0.0015 -0	+0.038 -0	+0.002 -0.002	+0.05 -0.05	
** .625			.519	13.18			.713	18.11	3/16 Sq x 1
** .6875	.1875	4.762	.583	14.81	.1885	4.788	.777	19.74	
** .75			.647	16.43			.841	21.36	
.8125			.67	17.02			.927	23.55	1/4 Sq x 1.5
.875	.25	6.35	.734	18.64	.251	6.375	.991	25.17	
.9375			.798	20.27			1.055	26.8	
1.			.861	21.87			1.118	28.4	
** 1.0625			.885	22.48			1.204	30.58	5/16 Sq x 2
** 1.125			.949	24.1			1.268	32.21	
** 1.1875	.3125	7.938	1.013	25.73	.3135	7.963	1.332	33.83	
** 1.25			1.076	27.33			1.395	35.43	
** 1.3125			1.14	28.96			1.459	37.06	
** 1.375			1.203	30.56			1.522	38.66	
1.4375			1.227	31.17			1.609	40.87	3/8 Sq x 2.5
1.5			1.291	32.79			1.673	42.49	
1.5625	.375	9.525	1.354	34.39	.376	9.55	1.736	44.09	
1.625			1.418	36.02			1.8	45.72	
1.6875			1.481	37.62			1.863	47.32	
1.75			1.544	39.22			1.926	48.92	
1.8125			1.529	38.84			2.036	51.71	1/2 Sq x 3.25
1.875			1.593	40.46			2.1	53.34	
1.9375			1.657	42.09			2.164	54.97	
2.	.5	12.7	1.721	43.71	.501	12.725	2.228	56.59	
2.0625			1.785	45.34			2.292	58.22	
2.125			1.848	46.94			2.355	59.82	
2.1875			1.911	48.54			2.418	61.42	
2.25			1.974	50.14			2.481	63.02	
2.3125			1.96	49.78			2.592	65.84	5/8 Sq x 4.25
2.375			2.024	51.41			2.656	67.46	
2.4375	.625	15.875	2.087	53.01	.626	15.9	2.719	69.06	
2.5			2.151	54.64			2.783	70.69	
2.625			2.278	57.86			2.91	73.91	
2.75			2.405	61.09			3.037	77.14	
2.875			2.452	62.28			3.209	81.51	3/4 Sq x 6
2.9375			2.516	63.91			3.273	83.13	
3.	.75	19.05	2.579	65.51	.751	19.075	3.336	84.73	
3.125			2.706	68.73			3.463	87.96	
3.25			2.833	71.96			3.59	91.19	

* Length of key is shown in order to effect standardization and may vary according to individual requirements.

Theoretical Fits: On Height: 0.002 in (0.05 mm) to 0.014 in (0.36 mm) Loose

** 0.0015 in (0.038 mm) to 0.0135 in (0.343 mm) Loose

On Side: 0 to 0.004 in (0.1 mm) Loose for Keyslot

.001 in (0.0025 mm) to 0.0045 in (0.114 mm) Loose for Keyway

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