

INCH-POUND

MIL-DTL-55302/191C  
w/AMENDMENT 1  
18 August 2014  
SUPERSEDING  
MIL-DTL-55302/191C  
21 March 2011

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:  
PLUG, PIN CONTACTS, DECADE INCREMENTS 10 THRU 100 POSITIONS,  
PRINTED WIRING BOARD (.075 SPACING)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-55302.

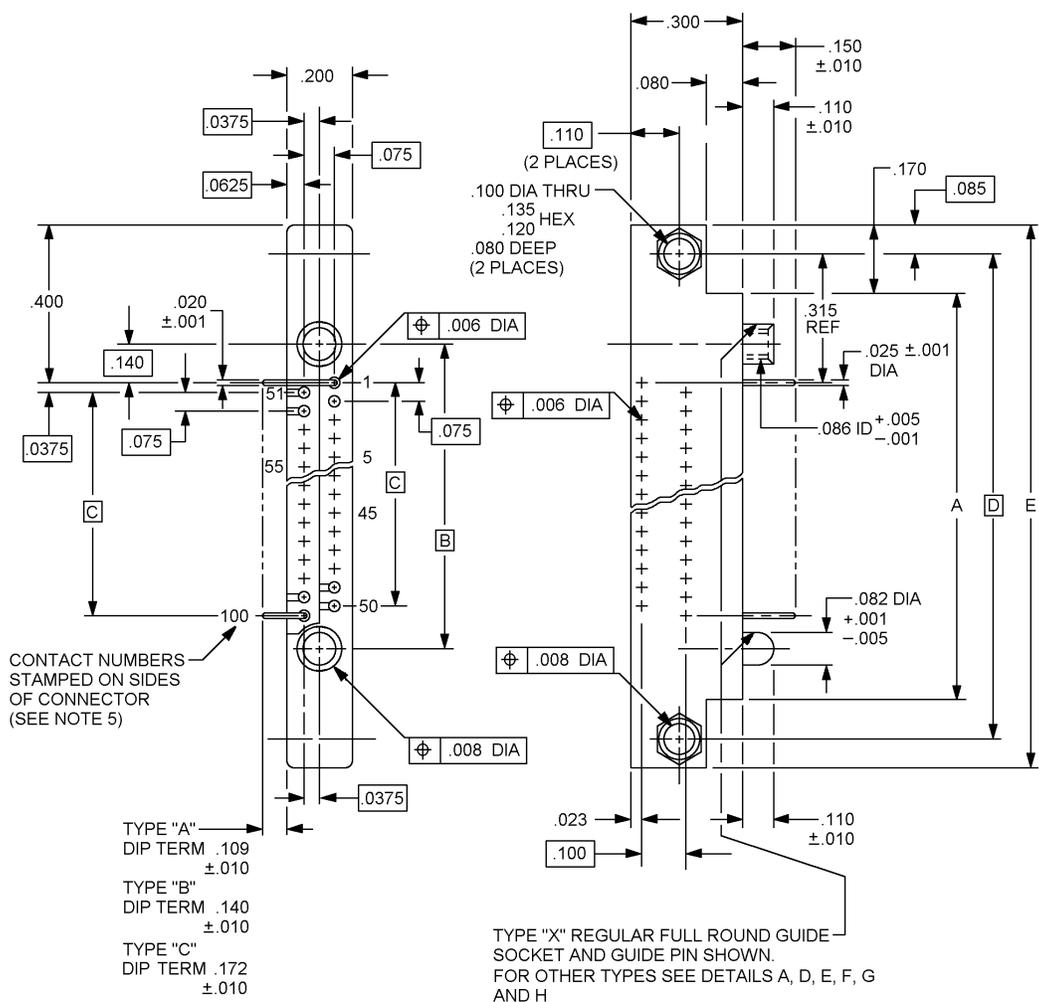
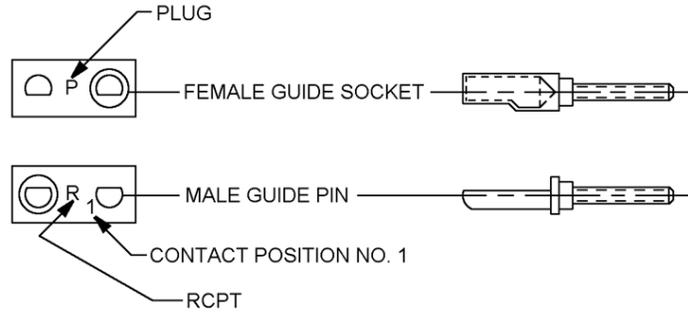
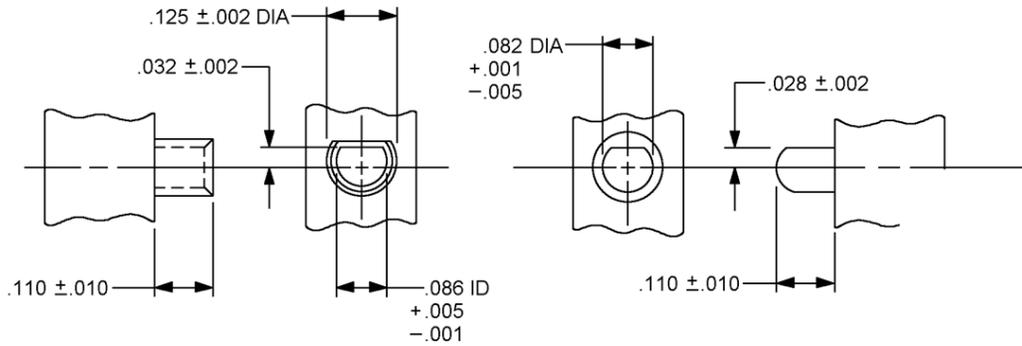


FIGURE 1. Connector, plug, .075 (1.91 mm) spacing.

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CONNECTOR POLARIZATION WITH "D" SHAPED GUIDE PINS AND SOCKETS. (TYPE "Y")



DETAIL A: POLARIZATION PIN/SOCKET  
(FOR POLARIZATION CONFIGURATION SEE DETAIL "B")

-1	-9	-17	-25	-33	-41	-49	-57
-2	-10	-18	-26	-34	-42	-50	-58
-3	-11	-19	-27	-35	-43	-51	-59
-4	-12	-20	-28	-36	-44	-52	-60
-5	-13	-21	-29	-37	-45	-53	-61
-6	-14	-22	-30	-38	-46	-54	-62
-7	-15	-23	-31	-39	-47	-55	-63
-8	-16	-24	-32	-40	-48	-56	-64

DETAIL B: POLARIZATION CONFIGURATION CHART

FIGURE 1. Connector, plug, .075 (1.91 mm) spacing - Continued.

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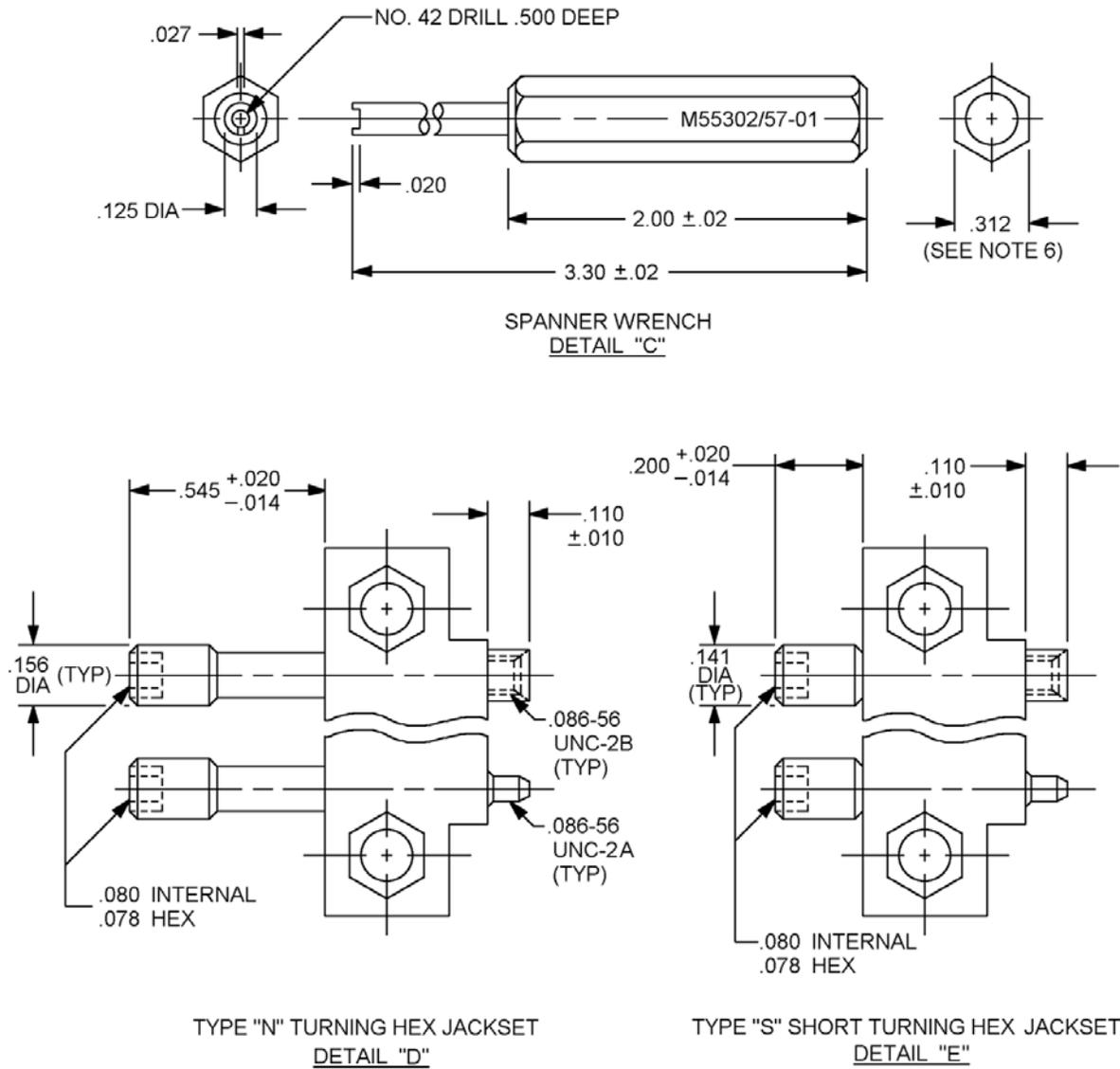
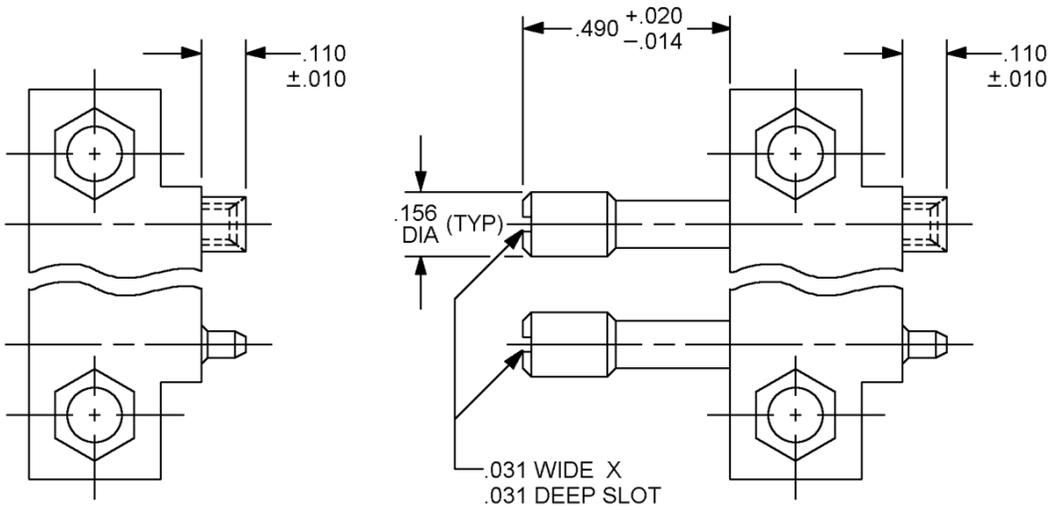


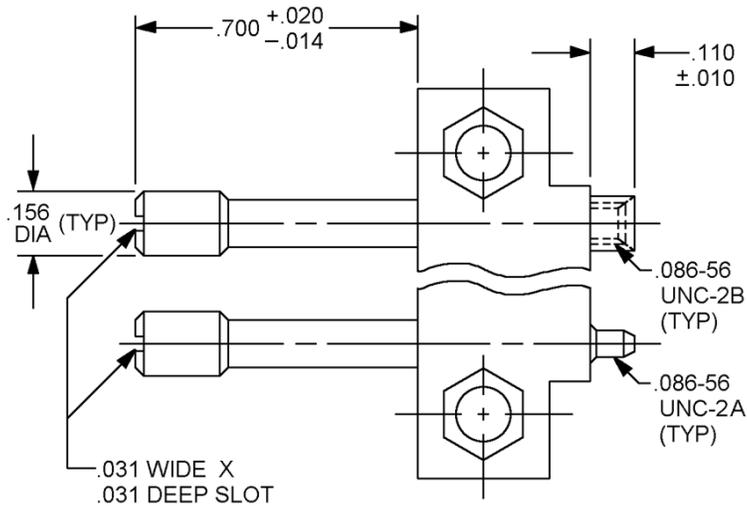
FIGURE 1. Connector, plug, .075 (1.91 mm) spacing - Continued.

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TYPE "F" FIXED JACKSET  
DETAIL "F"

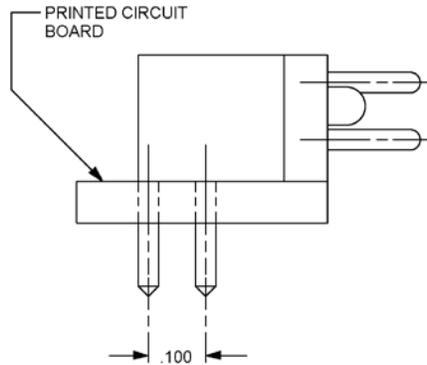
TYPE "M" SHORT TURNING  
SLOTTED JACKSET  
DETAIL "G"



TYPE "L" TURNING  
SLOTTED JACKSET  
DETAIL "H"

FIGURE 1. Connector, plug, .075 (1.91 mm) spacing - Continued.

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Number of contacts	Dimensions				
	A ± .010	BSC B	BSC C	BSC D	E ± .010
10	.798 (20.27)	.618 (15.70)	0.300 (7.62)	.968 (24.59)	1.138 (28.91)
20	1.173 (29.79)	.993 (25.22)	0.675 (17.15)	1.343 (34.11)	1.513 (38.43)
30	1.548 (39.32)	1.368 (34.75)	1.050 (26.67)	1.718 (43.64)	1.888 (47.96)
40	1.923 (48.84)	1.743 (44.27)	1.425 (36.20)	2.093 (53.16)	2.263 (57.48)
50	2.298 (58.37)	2.118 (53.80)	1.800 (45.72)	2.468 (62.69)	2.638 (67.01)
60	2.673 (67.89)	2.493 (63.32)	2.175 (55.25)	2.843 (72.21)	3.013 (76.53)
70	3.048 (77.42)	2.868 (72.85)	2.550 (64.77)	3.218 (81.74)	3.388 (86.06)
80	3.423 (86.94)	3.243 (82.37)	2.925 (74.30)	3.593 (91.26)	3.763 (95.58)
90	3.798 (96.47)	3.618 (91.90)	3.300 (83.82)	3.968 (100.79)	4.138 (105.11)
100	4.173 (105.99)	3.993 (101.42)	3.675 (93.35)	4.343 (110.31)	4.513 (114.63)

FIGURE 1. Connector, plug, .075 (1.91 mm) spacing - Continued.

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Inches	mm	Inches	mm	Inches	mm
.001	0.03	.0375	0.95	.150	3.81
.002	0.05	.0625	1.59	.156	3.96
.005	0.13	.075	1.91	.170	4.32
.006	0.15	.078	1.98	.172	4.37
.008	0.20	.080	2.03	.200	5.08
.010	0.25	.082	2.08	.300	7.62
.014	0.36	.085	2.16	.315	8.00
.020	0.51	.086	2.18	.375	9.53
.023	0.58	.100	2.54	.400	10.16
.0245	0.62	.109	2.77	.490	12.45
.0255	0.65	.110	2.79	.545	13.84
.027	0.69	.125	3.18	.700	17.78
		.135	3.43	2.00	50.80
		.141	3.58	3.30	83.82

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are  $\pm 0.005$  (0.13 mm).
4. These connectors mate with connectors specified in MIL-DTL-55302/190 using appropriate hardware.
5. Numbers indicating the first and last position in each row and every fourth contact position in between shall be marked on the side(s) of the connector. As an option to the above, numbers indicating every fourth cavity may be stamped on the side of the connector, with exception that the number one contact shall be marked.
6. Handle shape optional.

FIGURE 1. Connector, plug, .075 (1.91 mm) spacing - Continued.

REQUIREMENTS

Dimensions and configuration: See figure 1.

Material: Guide pins, type X guide sockets, jackscrews, and jacksockets shall be made of corrosion resisting stainless steel in accordance with ASTM A581/A581M or ASTM A582/A582M, passivated in accordance with SAE-AMS-2700, or shall be corrosion resistant copper nickel alloy (61 $\pm$  2 percent copper, 25  $\pm$  2 percent nickel, 2.5 percent maximum other, and the balance zinc) and shall have a brinell hardness of 145 to 175. Type Y guide sockets shall be beryllium copper in accordance with ASTM B196/B196M or ASTM B197/B197M, nickel plated in accordance with SAE-AMS-QQ-N-290, class 02, 50 to 150 microinches.

Plating: The contact plating shall be in accordance with MIL-DTL-55302, over nickel plating in accordance with SAE-AMS-QQ-N-290, class 02, 50 to 150 microinches in the engaging area and gold in accordance with MIL-DTL-45204 or equivalent as approved by the qualifying and preparing activities, type II, class 00, grade C, or type III, grade A, class 00, over nickel plating in accordance with SAE-AMS-QQ-N-290, class 02, 50 to 150 microinches in the termination area.

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Contact identification: See figure 1.

Jackscrews and jacksocket torque: 2 inch pounds max fully mated.

Contact resistance: The average contact resistance of all contacts measured shall not exceed 0.007 ohm, and no individual contact pair shall have a resistance exceeding 0.015 ohm.

Dielectric withstanding voltage:

Sea level: 750 volts rms.

High altitude: 250 volts rms at 70,000 feet.

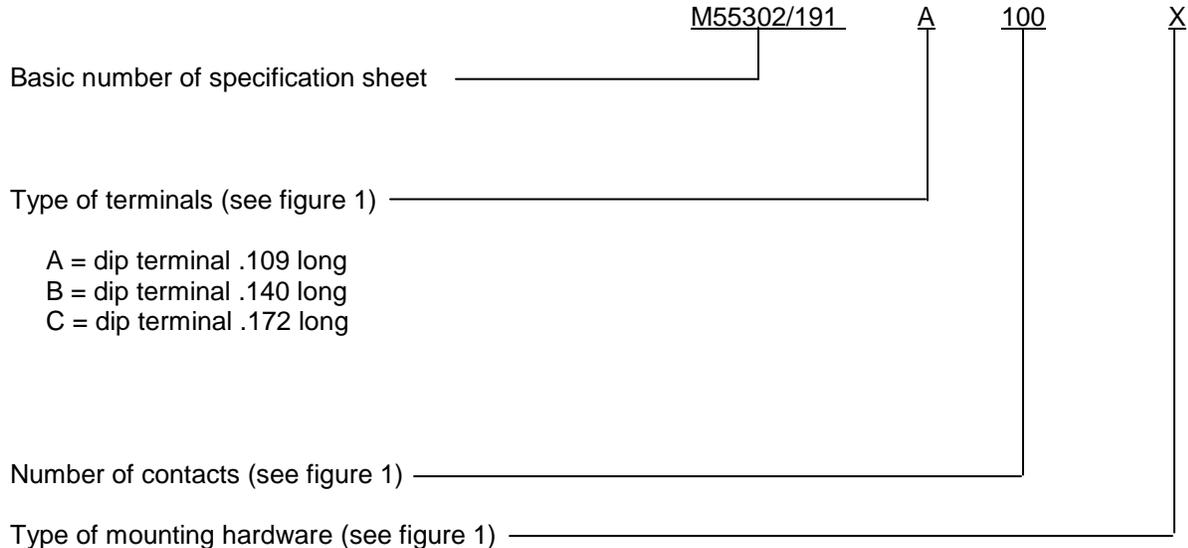
Current rating: 3.0 amperes maximum per contact.

Polarization: Type X regular, guide pin and socket, full round (see figure 1). Type Y, adjustable "D" shaped guide pin and socket (see figure 1, detail A). All connectors are supplied in the -1 polarized position. For other than OEM use, connectors may be repolarized by using M55302/57-01 spanner wrench and M55302/190-01 guide pin and guide socket kit. When guides are removed and reinstalled in another position, apply Loctite 83-CV or equivalent on the threads. Ordering connectors in other than the -1 polarized position may be done by the OEM's by placing the desired polarized position in brackets three spaces after the Part or Identifying Number (PIN) on the purchase order. Example: M55302/191A100Y [-32]. Polarization pins and sockets shall be adjusted to any desired configuration by spanner wrench (M55302/57-01). Ordering connectors in the -1 polarized position without Loctite 83-CV or equivalent applied may be done by placing a "-0" in brackets three spaces after the PIN on the purchase order. Guide sets, as installed, shall withstand 7 ounce-inches backoff torque applied through the guide set mounting nut.

M55302/190-01 kit: Consists of one type Y "D" shaped guide socket and one type Y "D" shaped guide pin and two spanner nuts.

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Example of Part or Identifying Number (PIN):



- A = dip terminal .109 long
- B = dip terminal .140 long
- C = dip terminal .172 long

- Type X = full round
- Type Y = "D" shaped
- Type F = fixed jackset
- Type S = short turning hex jackset
- Type N = turning hex jackset
- Type L = turning slotted jackset
- Type M = short turning slotted jackset

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Referenced documents. In addition to MIL-DTL-55302, this document references the following:

- MIL-DTL-55302/190
- MIL-DTL-45204
- ASTM A581/A581M
- ASTM A582/A582M
- ASTM B196/B196M
- ASTM B197/B197M
- SAE-AMS-QQ-N-290
- SAE-AMS-2700

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CONCLUDING MATERIAL

Custodians:

Army - CR  
Navy - EC  
Air Force – 85  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5935-2014-030)

Review activities:

Army - AR, AT, AV, CR4, MI  
Navy - AS, MC, OS, SH  
Air Force - 19, 99

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