



## DEFENSE LOGISTICS AGENCY

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IN REPLY

REFER TO DSCC -VAI (Mr. Antonelli/ (DSN 850) 614-692-0576/ra)

September 10, 2004

SUBJECT: Initial Drafts of MIL-DTL-55302/190A , /191A, /192A, /193A, Connectors, Printed Circuit Subassembly and Accessories, Plug and Receptacle, Various Contact Positions, for Printed wiring Boards (.075 inch spacing), Project number 5935-4606-001, through 4606-004.

### Military/Industry Distribution

The initial drafts for the subject documents, which are being revised for conversion to detail status in accordance with acquisition reform, incorporate Amendment 2 and to replace obsolete references, have been placed on the DSCC-VAI website for you to review and comment. The website address is;

<http://www.dsccl.dla.mil/Programs/Milspec/DocSearch.asp>

If these documents are of interest to you, please provide your comments or suggested changes by e-mail to [ralph.antonelli@dla.mil](mailto:ralph.antonelli@dla.mil) or by fax at (614) 692-6940. You may also send comments or suggested changes on Compilation of Comments form 155, shown at the end of the draft documents posted on the web.

Comments or suggested changes that are not editorial in nature should include justification. Industrial activities should indicate whether they are commenting from the standpoint of a "User" or "Manufacturer." Military review activities should forward their comments to their custodians in sufficient time to allow for consolidating the departmental reply. Military departments must identify their comments as either "Essential" or "Suggested." Essential comments, which must be accepted or withdrawn, should be supported by test data unless they obviously require no data.

Please return comments to this Center no later than 45 days from the date of this letter. Any further coordination concerning this document will be circulated only to firms and organizations that furnish comments or reply that they have an interest.

If you do not have access to the world wide web or you have problems downloading this document, please notify Mr. Ralph Antonelli at either the above e-mail address or fax number or by telephone at (614) 692-0576.

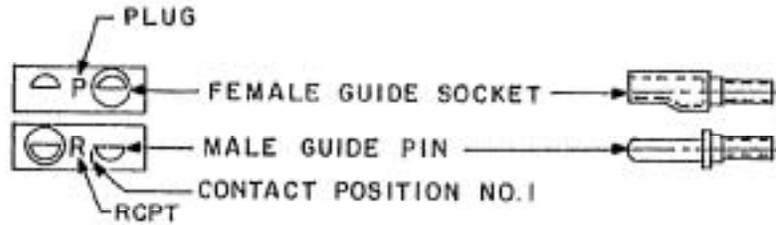
Sincerely,

/ signed /

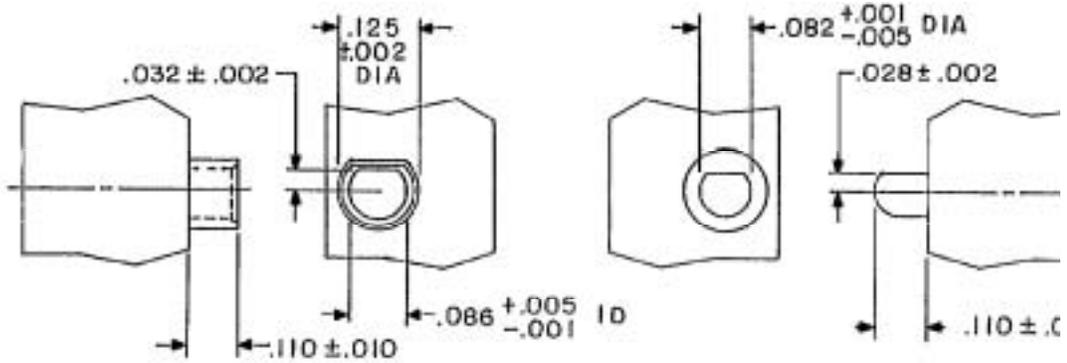
RICHARD L. TAYLOR  
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cc:  
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CDAB (Dave Barman)  
AF -11 (Jim Arnold - 88 OSS/OSE)





CONNECTOR POLARIZATION WITH D SHAPED GUIDE PINS AND SOCKETS (TY)



DETAIL A. POLARIZATION PINS/SOCKETS.  
(FOR POLARIZATION CONFIGURATION SEE DETAIL B)

DETAIL B. POLARIZATION CONFIGURATION CHART

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

NOTE: PINS/SOCKETS IN CHART CAN BE EASILY ADJUSTED TO ANY DESIRED CONFIGURATION BY THE SPANNER WRENCH (SEE DETAIL C)

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

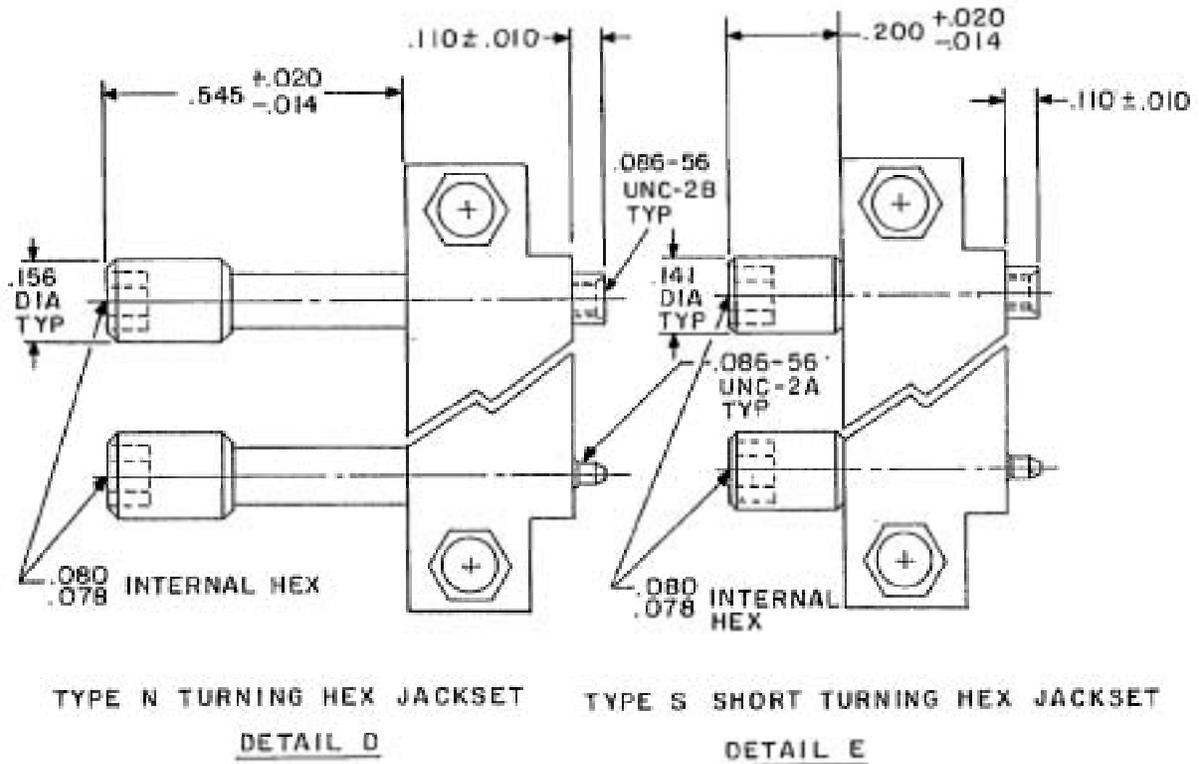
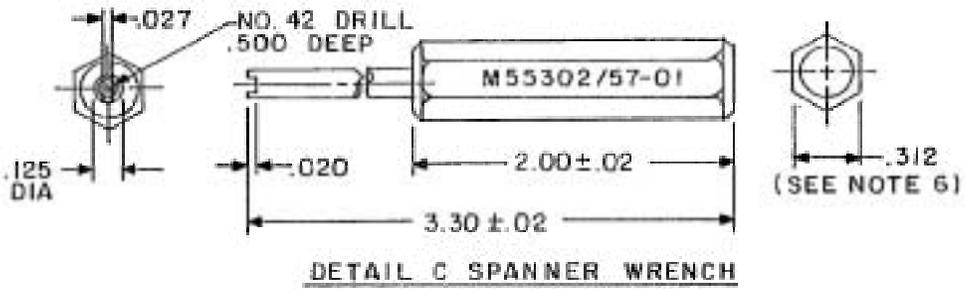


FIGURE 1. Connector, plug, .075 (1.91 mm) spacing – Continued.

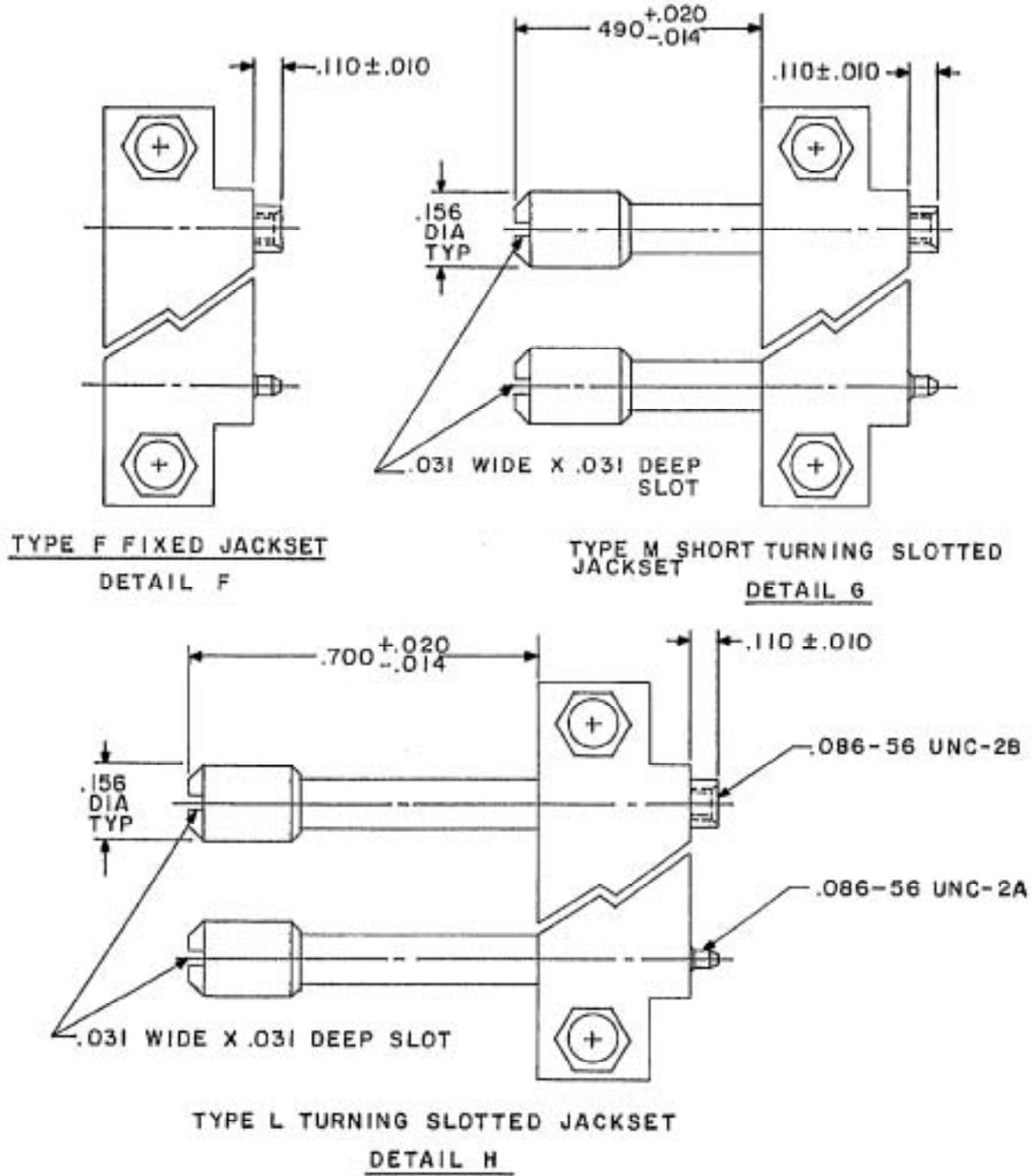
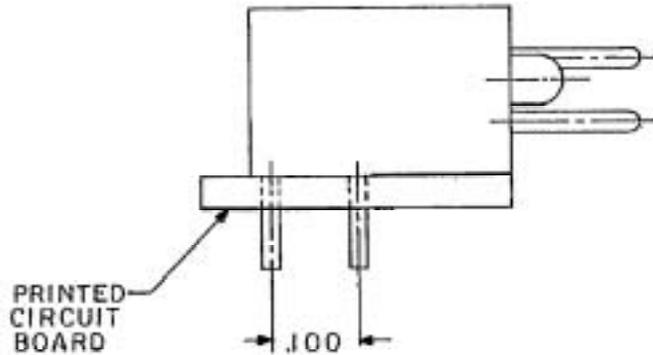


FIGURE 1. Connector, plug, .075 (1.91 mm) spacing – Continued.

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| Number of contacts | Dimensions        |                   |                  |                   |                   |
|--------------------|-------------------|-------------------|------------------|-------------------|-------------------|
|                    | A<br>± .010       | BSC B             | BSC C            | BSC D             | E<br>± .010       |
| 100                | 4.173<br>(105.99) | 3.993<br>(101.42) | 3.675<br>(93.35) | 4.343<br>(110.31) | 4.513<br>(114.63) |

| 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 | .312   | 7.92  |
| .020   | 0.51 | .086   | 2.18 | .315   | 8.00  |
| .023   | 0.58 | .100   | 2.54 | .400   | 10.16 |
| .0245  | 0.62 | .109   | 2.77 | .490   | 12.45 |
| .0255  | 0.66 | .110   | 2.79 | .545   | 13.84 |
| .027   | 0.69 | .125   | 3.18 | .700   | 17.78 |
| .028   | 0.71 | .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 general information only.
3. Unless otherwise specified, tolerance is  $\pm .005$  (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 the exception that the number one contact shall be marked.
6. Handle shape optional.

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

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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 or ASTM-A582, passivated in accordance with SAE-AMS-QQ-P-35, 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 ~~QQ-C-550~~ASTM B194, 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-C-55302, or gold in accordance with ASTM B488, type III, code Class 1.27, 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 ASTM B488, type III, code C, class 0.51, or type II, code A, class 0.51, over nickel plating in accordance with SAE-AMS-QQ-N-290, class 02, 50 to 150 microinches in the termination area.

Contact identification: See figure 1.

Jackscrew 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.

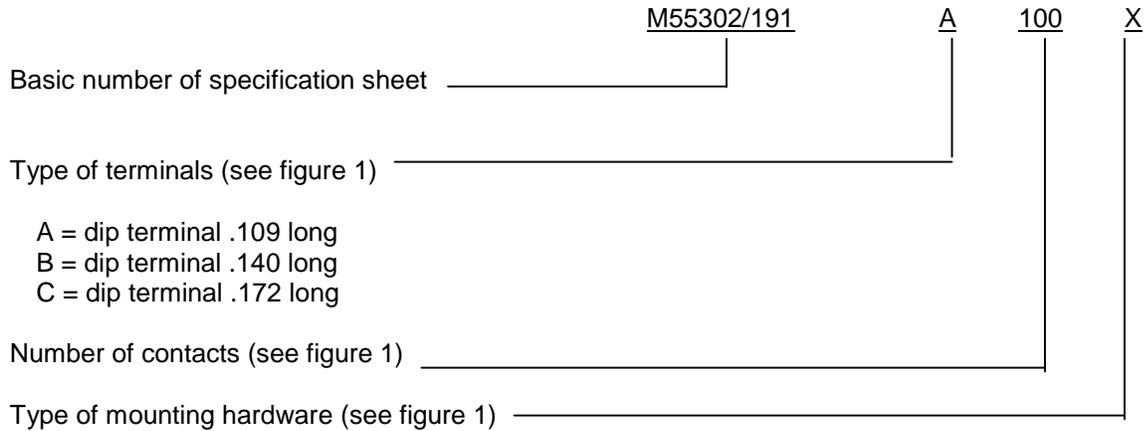
Current rating: 3.0 amperes maximum per contact.

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 D). 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 of 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 number on the purchase order. Example: M55302/57-A10Y [-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 part number 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.

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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 jacket
- 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
- ASTM A581
- ASTM A582
- ASTM B488
- SAE-AMS-QQ-N-290
- SAE-AMS-QQ-P-35

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CONCLUDING MATERIAL

Custodians:

Army – CR  
Navy – EC  
Air Force – 11  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5935-4606-002)

Review activities:

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

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://www.dodssp.daps.mil>.

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| DOD USE ONLY                           | DEPT | [ ] A [ ] N [ ] AF [ ] DLA [ ] NSA [ ] CNDN [ ] NASA                           | [ ] ESSENTIAL [ ] SUGGESTED    |                |
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|  |      |  |                                |                |
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| DOCUMENT                               |      | COMMENTOR<br>IND NAME OR CODE  | [ ] MFR [ ] USER [ ] IND ASSOC |                |
|  |      |  |                                |                |
| DOD USE ONLY                           | DEPT | [ ] A [ ] N [ ] AF [ ] DLA [ ] NSA [ ] CNDN [ ] NASA                           | [ ] ESSENTIAL [ ] SUGGESTED    |                |
| RECOMMENDED DISPOSITION<br>OF COMMENT: |      | [ ] ACCEPTANCE [ ] NON-ACCEPTED-SEE REASON [ ] WITHDRAW [ ] MODIFY [ ] DISCUSS |                                |                |
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