

**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [0417910840](#)  
**Status:** **Active**  
**Overview:** [kk](#)  
**Description:** 3.96mm (.156") Pitch KK® Solid Header, Vertical, Friction Lock, 10 Circuits, 0.38µm (15µ") Gold (Au) Selective Plating

**Documents:**

|   |  |
|---|--|
| <a href="#">3D Model</a>                      | <a href="#">Product Specification PS-08-50 (PDF)</a> |
| <a href="#">Packaging Specification (PDF)</a> | <a href="#">RoHS Certificate of Compliance (PDF)</a> |
| <a href="#">Drawing (PDF)</a>                 |  |

**Agency Certification**

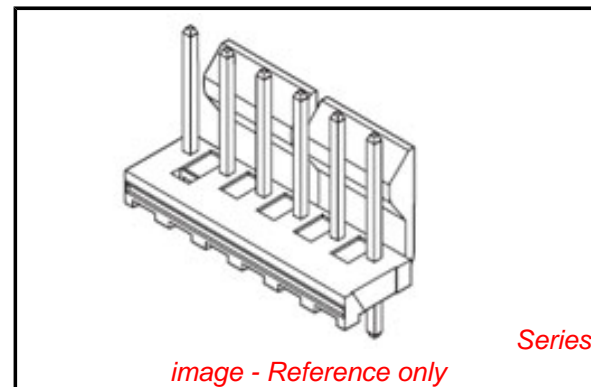
|     |         |
|-----|---------|
| CSA | LR19980 |
| UL  | E29179  |

**General**

|                |                       |
|----------------|-----------------------|
| Product Family | PCB Headers           |
| Series         | <a href="#">41791</a> |
| Application    | Wire-to-Board         |
| Overview       | <a href="#">kk</a>    |
| Product Name   | KK®                   |

**Physical**

|                                |              |
|--------------------------------|--------------|
| Breakaway                      | No           |
| Circuits (Loaded)              | 10           |
| Circuits (maximum)             | 10           |
| Color - Resin                  | Natural      |
| Durability (mating cycles max) | 50           |
| Flammability                   | 94V-0        |
| Glow-Wire Compliant            | No           |
| Lock to Mating Part            | Yes          |
| Material - Metal               | Brass        |
| Material - Plating Mating      | Gold         |
| Material - Plating Termination | Tin          |
| Material - Resin               | Polyester    |
| Number of Rows                 | 1            |
| Orientation                    | Vertical     |
| PC Tail Length (in)            | 0.140 In     |
| PC Tail Length (mm)            | 3.56 mm      |
| PCB Locator                    | No           |
| PCB Retention                  | None         |
| PCB Thickness Recommended (in) | 0.062 In     |
| PCB Thickness Recommended (mm) | 1.60 mm      |
| Packaging Type                 | Bag          |
| Pitch - Mating Interface (in)  | 0.156 In     |
| Pitch - Mating Interface (mm)  | 3.96 mm      |
| Plating min: Mating (µin)      | 15           |
| Plating min: Mating (µm)       | 0.38         |
| Plating min: Termination (µin) | 100          |
| Plating min: Termination (µm)  | 2.5          |
| Polarized to Mating Part       | Yes          |
| Polarized to PCB               | No           |
| Shrouded                       | Partial      |
| Stackable                      | Yes          |
| Temperature Range - Operating  | 0°C to +75°C |
| Termination Interface: Style   | Through Hole |



**EU RoHS**

**ELV and RoHS  
Compliant**  
**REACH SVHC  
Contains SVHC: No  
Halogen-Free  
Status**

**China RoHS**



**Need more information on product  
environmental compliance?**

Email [productcompliance@molex.com](mailto:productcompliance@molex.com)  
 For a multiple part number RoHS Certificate of Compliance, [click here](#)

Please visit the [Contact Us](#) section for any non-product compliance questions.

**Search Parts in this Series**

[41791Series](#)

**Mates With**

[3069](#) , [2139](#) , [2145](#) , [6442](#) , [7674](#) , [7675](#) ,  
[41695](#) , L ink:41815

**Electrical**

|                               |      |
|-------------------------------|------|
| Current - Maximum per Contact | 7A   |
| Voltage - Maximum             | 250V |

**Solder Process Data**

|  |                        |
|--|------------------------|
| Duration at Max. Process Temperature (seconds) | 5                      |
| Lead-free Process Capability                   | Wave Capable (TH only) |
| Max. Cycles at Max. Process Temperature        | 1                      |
| Process Temperature max. C                     | 235                    |

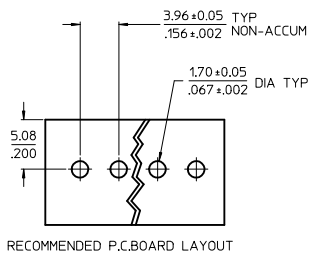
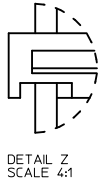
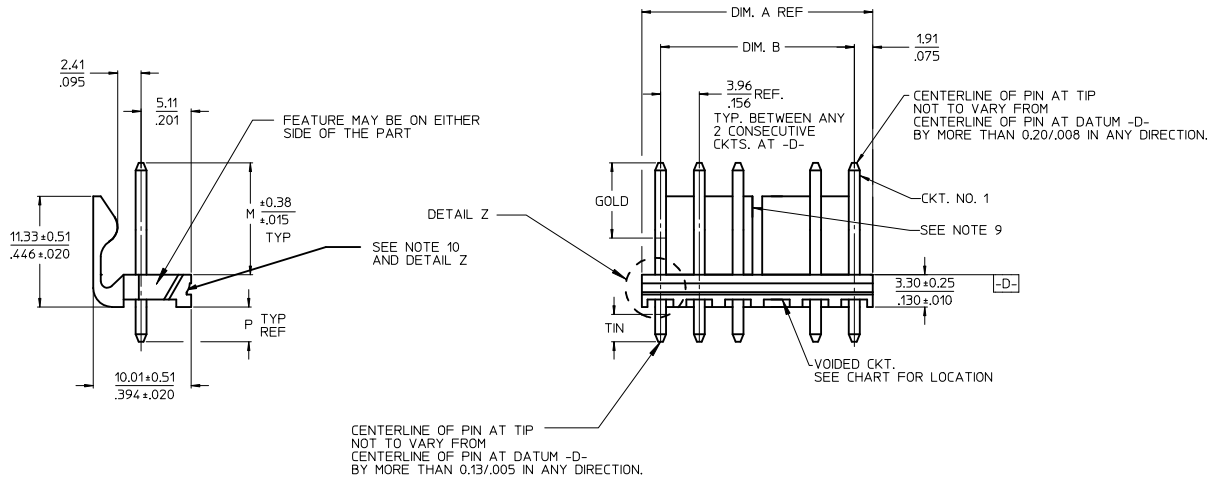
**Material Info****Reference - Drawing Numbers**

|                         |              |
|-------------------------|--------------|
| Packaging Specification | PK-41791-001 |
| Product Specification   | PS-08-50     |
| Sales Drawing           | SDA-41791    |

This document was generated on 05/24/2010

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| CKT | DIM. A         | DIM. B                    | SLOT LOC BETWEEN CKTS |
|-----|----------------|---------------------------|-----------------------|
| 2   | 7.77<br>.306   | 3.96±0.05<br>.156±0.002   | NONE                  |
| 3   | 11.73<br>.462  | 7.92±0.08<br>.312±0.003   | NONE                  |
| 4   | 15.70<br>.618  | 11.89±0.08<br>.468±0.003  | NONE                  |
| 5   | 19.66<br>.774  | 15.85±0.10<br>.624±0.004  | NONE                  |
| 6   | 23.62<br>.930  | 19.81±0.10<br>.780±0.004  | 3 & 4                 |
| 7   | 27.58<br>1.086 | 23.77±0.10<br>.936±0.004  | 4 & 5                 |
| 8   | 31.55<br>1.242 | 27.74±0.13<br>1.092±0.005 | 4 & 5                 |
| 9   | 35.51<br>1.398 | 31.70±0.13<br>1.248±0.005 | 5 & 6                 |
| 10  | 39.47<br>1.554 | 35.66±0.13<br>1.404±0.005 | 5 & 6                 |
| 11  | 43.43<br>1.710 | 39.62±0.15<br>1.560±0.006 | 6 & 7                 |
| 12  | 47.40<br>1.866 | 43.59±0.15<br>1.716±0.006 | 4 & 5<br>8 & 9        |
| 13  | 51.36<br>2.022 | 47.55±0.15<br>1.872±0.006 | 4 & 5<br>9 & 10       |
| 14  | 55.32<br>2.178 | 51.51±0.18<br>2.028±0.007 | 5 & 6<br>9 & 10       |
| 15  | 59.28<br>2.334 | 55.47±0.18<br>2.184±0.007 | 5 & 6<br>10 & 11      |
| 16  | 63.25<br>2.490 | 59.44±0.18<br>2.340±0.007 | 5 & 6<br>11 & 12      |
| 17  | 67.21<br>2.646 | 63.40±0.20<br>2.496±0.008 | 6 & 7<br>11 & 12      |
| 18  | 71.17<br>2.802 | 67.36±0.20<br>2.652±0.008 | 6 & 7<br>12 & 13      |



NOTES:

- MATERIAL: HEADER-GLASS FILLED POLYESTER, 94V-0, MOLDED NATURAL (WHITE).
- FINISH: (102-TIN) OVERALL TIN: 0.00508/.000200 MIN OVER 0.00254/.000100 MIN COPPER.  
(154-TIN) OVERALL TIN: 0.00254/.000100 MIN OVER 0.00127/.000050 MIN NICKEL.  
(222-TIN) OVERALL MATTE TIN: 0.00254/.000100 MIN OVER 0.00127/.000050 MIN NICKEL.  
\*(208-15 GOLD) SELECT GOLD: 0.00038/.000015 MIN, SELECT TIN: 0.00254/.000100 MIN, OVERALL NICKEL UNDERPLATE: 0.00127/.000050 MIN.  
\*(228-30 GOLD) SELECT GOLD: 0.00076/.000030 MIN, SELECT TIN: 0.00254/.000100 MIN, OVERALL NICKEL UNDERPLATE: 0.00127/.000050 MIN.  
(501-GOLD) OVERALL GOLD: 0.00051/.000020 MIN OVER 0.00076/.000030 MIN NICKEL.
- \*THE PRIMARY SHIPPING CARTON WILL BE LABELED "COMPLIANT TO RoHS DIRECTIVE 2002/95/EC AND ELV ANNEX II OF DIRECTIVE 2000/53/EC". CARTONS WITHOUT THIS LABEL MAY CONTAIN PRODUCT WITH TIN-LEAD PLATING.
- PRODUCT SPECIFICATION AND PROCESS PARAMETERS: SEE PS-08-50.
- PACKAGING INFORMATION: SEE CHARTS.
- SOLDERABILITY: PER SMES-152.
- PIN PUSH-OUT FORCE: PRIOR TO SOLDERING, A 3 LB. MINIMUM FORCE (IN EITHER DIRECTION)
- PARTS ARE STACKABLE END TO END ON 3.96/.156 CENTERS.
- THIS PART CONFORMS TO CLASS B REQUIREMENTS OF COSMETIC SPECIFICATION PS-45499-002.
- SLOTS ON BACKWALL ARE BETWEEN CIRCUITS. SEE CHART FOR LOCATION.
- FEATURE MAY OR MAY NOT EXTEND ACROSS THE ENTIRE FACE OF THE PART "SEE DETAIL Z".

|     |     |
|-----|-----|
| 2-* | P16 |
| 1   | P16 |
| SHT | REV |

|                         |
|-------------------------|
| ADD 41791-1150          |
| EC NO: UCP2010-1453     |
| DRWN:MK/PPR 2010/01/28  |
| CHKD:SSOUSEK 2010/02/02 |
| APPR:FSM/TH 2010/02/02  |
| REV                     |
| P16                     |

|                 |
|-----------------|
| QUALITY SYMBOLS |
| ▽=0             |
| ▽=0             |

|  |
|--|
| GENERAL TOLERANCES (UNLESS SPECIFIED)                |
| 4 PLACES ± --- ± ---                                 |
| 3 PLACES ± --- ± .010                                |
| 2 PLACES ± 0.25 ± .015                               |
| 1 PLACE ± 0.38 ± ---                                 |
| ANGULAR ± 1/2°                                       |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS |

|                 |           |                         |
|-----------------|-----------|-------------------------|
| DIMENSION STYLE | SCALE     | DESIGN UNITS            |
| MM/IN           | 2:1       | INCH                    |
| DRAWN BY        | DATE      | TITLE                   |
| JSCHAFFER       | 11-07-03  | KK 156 HEADER ASSEMBLY  |
| CHECKED BY      | DATE      | FRICITION LOCK VERTICAL |
| KSAMIEC         | 11-10-03  | SOLID BODY W/O PEGS     |
| APPROVED BY     | DATE      | MATERIAL NO.            |
| MARGULIS        | 11-17-03  | SEE CHART               |
| DOCUMENT NO.    | SHEET NO. |                         |
| SDA-41791       | 1 OF *    |                         |

|   |
|---|
| THIRD ANGLE PROJECTION  |
| MOLEX INCORPORATED  |
| THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |

|          |              |                   |              |                   |              |                   |              |                   |
|----------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|
| OPTIONS  | Group        | A-41791-0002/0018 | Group        | A-41791-0019/0035 | Group        | A-41791-0036/0052 | Group        | A-41791-0059/0074 |
|          | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0018   |
|          | Pin No:      | 2161-94(102)      | Pin No:      | 2161-94(501)      | Pin No:      | 2161-94(102)      | Pin No:      | 2161-94(102)      |
|          | Plating:     | 102 – TIN         | Plating:     | 501 – GOLD        | Plating:     | 102 – TIN         | Plating:     | 102 – TIN         |
|          | Pin Length L | 18.29 / .720      | Pin Length L | 18.29 / .720      | Pin Length L | 18.29 / .720      | Pin Length L | 18.29 / .720      |
|          | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      |
|          | Gold Loc G   | N/A               | Gold Loc G   | OVERALL           | Gold Loc G   | N/A               | Gold Loc G   | N/A               |
|          | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56 / .140       |
|          | Tin Loc T    | OVERALL           | Tin Loc T    | N/A               | Tin Loc T    | OVERALL           | Tin Loc T    | OVERALL           |
|          | Voided Ckts  | NONE              | Voided Ckts  | NONE              | Voided Ckts  | 2                 | Voided Ckts  | 3                 |
| Pack Per | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 |                   |
| Ckts     | Material No  | Engineer Number   | Material No  | Engineer Number   | Material No  | Engineer Number   | Material No  | Engineer Number   |
| 2        | 26-60-4020   | A-41791-0002      | 26-61-4020   | A-41791-0019      | 26-62-4020   | A-41791-0036      |              |                   |
| 3        | 26-60-4030   | A-41791-0003      | 26-61-4030   | A-41791-0020      | 26-62-4030   | A-41791-0037      | 26-62-4036   | A-41791-0059      |
| 4        | 26-60-4040   | A-41791-0004      | 26-61-4040   | A-41791-0021      | 26-62-4040   | A-41791-0038      | 26-62-4046   | A-41791-0060      |
| 5        | 26-60-4050   | A-41791-0005      | 26-61-4050   | A-41791-0022      | 26-62-4050   | A-41791-0039      | 26-62-4056   | A-41791-0061      |
| 6        | 26-60-4060   | A-41791-0006      | 26-61-4060   | A-41791-0023      | 26-62-4060   | A-41791-0040      | 26-62-4066   | A-41791-0062      |
| 7        | 26-60-4070   | A-41791-0007      | 26-61-4070   | A-41791-0024      | 26-62-4070   | A-41791-0041      | 26-62-4076   | A-41791-0063      |
| 8        | 26-60-4080   | A-41791-0008      | 26-61-4080   | A-41791-0025      | 26-62-4080   | A-41791-0042      | 26-62-4086   | A-41791-0064      |
| 9        | 26-60-4090   | A-41791-0009      | 26-61-4090   | A-41791-0026      | 26-62-4090   | A-41791-0043      | 26-62-4096   | A-41791-0065      |
| 10       | 26-60-4100   | A-41791-0010      | 26-61-4100   | A-41791-0027      | 26-62-4100   | A-41791-0044      | 26-62-4106   | A-41791-0066      |
| 11       | 26-60-4110   | A-41791-0011      | 26-61-4110   | A-41791-0028      | 26-62-4110   | A-41791-0045      | 26-62-4116   | A-41791-0067      |
| 12       | 26-60-4120   | A-41791-0012      | 26-61-4120   | A-41791-0029      | 26-62-4120   | A-41791-0046      | 26-62-4126   | A-41791-0068      |
| 13       | 26-60-4130   | A-41791-0013      | 26-61-4130   | A-41791-0030      | 26-62-4130   | A-41791-0047      | 26-62-4136   | A-41791-0069      |
| 14       | 26-60-4140   | A-41791-0014      | 26-61-4140   | A-41791-0031      | 26-62-4140   | A-41791-0048      | 26-62-4146   | A-41791-0070      |
| 15       | 26-60-4150   | A-41791-0015      | 26-61-4150   | A-41791-0032      | 26-62-4150   | A-41791-0049      | 26-62-4156   | A-41791-0071      |
| 16       | 26-60-4160   | A-41791-0016      | 26-61-4160   | A-41791-0033      | 26-62-4160   | A-41791-0050      | 26-62-4166   | A-41791-0072      |
| 17       | 26-60-4170   | A-41791-0017      | 26-61-4170   | A-41791-0034      | 26-62-4170   | A-41791-0051      | 26-62-4176   | A-41791-0073      |
| 18       | 26-60-4180   | A-41791-0018      | 26-61-4180   | A-41791-0035      | 26-62-4180   | A-41791-0052      | 26-62-4186   | A-41791-0074      |

|                   |      |                             |        |  |              |               |  |
|-------------------|------|-----------------------------|--------|--|--------------|---------------|--|
| <b>P16</b>        | REV: | ECR/ECN INFORMATION         | TITLE: | <b>KK 156 HEADER ASSEMBLY<br/>FRICTION LOCK VERTICAL<br/>SOLID BODY W/O PEGS</b> | SHEET No.    |               |  |
|                   |      | EC NO.: <b>UCP2010-1453</b> |        |  | <b>- 2 -</b> |               |  |
|                   |      | DATE: <b>2/2/2010</b>       |        |  |              |               |  |
| DOCUMENT NUMBER:  |      | CREATED / REVISED BY:       |        | CHECKED BY:  |              | APPROVED BY:  |  |
| <b>SDA- 41791</b> |      | <b>MKIPPER</b>              |        | <b>SSOUSEK</b>   |              | <b>FSMITH</b> |  |

| OPTIONS  | Group        | A-41791-0086/0100 | Group        | A-41791-0309/0308 | Group        | A-41791-0464/0480 | Group        | A-41791-0481/0491 |
|----------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|
|          | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0012   |
|          | Pin No:      | 2161-94(102)      | Pin No:      | 2161-94(501)      | Pin No:      | 2161-1(102)       | Pin No:      | 2161-26(154)      |
|          | Plating:     | 102 – TIN         | Plating:     | 501 – GOLD        | Plating:     | 102 – TIN         | Plating:     | 154 – TIN         |
|          | Pin Length L | 18.29 / .720      | Pin Length L | 18.29 / .720      | Pin Length L | 19.05 / .750      | Pin Length L | 22.23 / .875      |
|          | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      |
|          | Gold Loc G   | N/A               | Gold Loc G   | OVERALL           | Gold Loc G   | N/A               | Gold Loc G   | N/A               |
|          | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56 / .140       | PC Tail P    | 4.32 / .170       | PC Tail P    | 7.49 / .295       |
|          | Tin Loc T    | OVERALL           | Tin Loc T    | N/A               | Tin Loc T    | OVERALL           | Tin Loc T    | OVERALL           |
|          | Voided Ckts  | 2, 4              | Voided Ckts  | 2                 | Voided Ckts  | NONE              | Voided Ckts  | NONE              |
| Pack Per | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-002 |                   |
| Ckts     | Material No  | Engineer Number   | Material No  | Engineer Number   | Material No  | Engineer Number   | Material No  | Engineer Number   |
| 2        |              |                   |              |                   | 26-60-4023   | A-41791-0464      | 41791-0481   | A-41791-0481      |
| 3        |              |                   | 26-63-4031   | A-41791-0310      | 26-60-4033   | A-41791-0465      | 41791-0482   | A-41791-0482      |
| 4        | 26-62-4041   | A-41791-0086      |              | A-41791-0311      | 26-60-4043   | A-41791-0466      | 41791-0483   | A-41791-0483      |
| 5        | 26-62-4051   | A-41791-0087      | 26-63-4051   | A-41791-0312      | 26-60-4053   | A-41791-0467      | 41791-0484   | A-41791-0484      |
| 6        | 26-62-4061   | A-41791-0088      | 26-63-4061   | A-41791-0313      | 26-60-4063   | A-41791-0468      | 41791-0485   | A-41791-0485      |
| 7        |              | A-41791-0089      | 26-63-4071   | A-41791-0314      | 26-60-4073   | A-41791-0469      | 41791-0486   | A-41791-0486      |
| 8        |              | A-41791-0090      |              | A-41791-0315      | 26-60-4083   | A-41791-0470      | 41791-0487   | A-41791-0487      |
| 9        |              | A-41791-0091      |              | A-41791-0316      | 26-60-4093   | A-41791-0471      | 41791-0488   | A-41791-0488      |
| 10       | 26-62-4101   | A-41791-0092      |              | A-41791-0317      | 26-60-4103   | A-41791-0472      | 41791-0489   | A-41791-0489      |
| 11       |              | A-41791-0093      |              | A-41791-0318      | 26-60-4113   | A-41791-0473      | 41791-0490   | A-41791-0490      |
| 12       |              | A-41791-0094      |              | A-41791-0319      | 26-60-4123   | A-41791-0474      | 41791-0491   | A-41791-0491      |
| 13       |              | A-41791-0095      |              | A-41791-0320      | 26-60-4133   | A-41791-0475      |              |                   |
| 14       |              | A-41791-0096      |              | A-41791-0321      | 26-60-4143   | A-41791-0476      |              |                   |
| 15       |              | A-41791-0097      |              | A-41791-0322      | 26-60-4153   | A-41791-0477      |              |                   |
| 16       |              | A-41791-0098      |              | A-41791-0323      | 26-60-4163   | A-41791-0478      |              |                   |
| 17       |              | A-41791-0099      |              | A-41791-0324      | 26-60-4173   | A-41791-0479      |              |                   |
| 18       |              | A-41791-0100      |              | A-41791-0325      | 26-60-4183   | A-41791-0480      |              |                   |

|                                       |                     |  |   |  |                               |
|---------------------------------------|---------------------|--|---|--|-------------------------------|
| REV:                                  | ECR/ECN INFORMATION |  | TITLE:                                  | <b>KK 156 HEADER ASSEMBLY<br/>                 FRICTION LOCK VERTICAL<br/>                 SOLID BODY W/O PEGS</b> | SHEET No.                     |
|                                       | <b>P16</b>          | EC NO.: <b>UCP2010-1453</b><br>DATE: <b>2/2/2010</b> |   |  |                               |
| DOCUMENT NUMBER:<br><b>SDA- 41791</b> |                     |  | CREATED / REVISED BY:<br><b>MKIPPER</b> | CHECKED BY:<br><b>SSOUSEK</b>  | APPROVED BY:<br><b>FSMITH</b> |

|          |              |                   |              |                   |              |                   |              |                   |
|----------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|
| OPTIONS  | Group        | A-41791-0583/0597 | Group        | A-41791-0598/0609 | Group        | A-41791-0638/0653 | Group        | A-41791-0773/0785 |
|          | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0018   | Header No:   | 41790-0006/0018   |
|          | Pin No:      | 2161-94(102)      | Pin No:      | 2161-94(102)      | Pin No:      | 2161-94(501)      | Pin No:      | 2161-94(102)      |
|          | Plating:     | 102 – TIN         | Plating:     | 102 – TIN         | Plating:     | 501 – GOLD        | Plating:     | 102-TIN           |
|          | Pin Length L | 18.29 / .720      | Pin Length L | 18.29 / .720      | Pin Length L | 18.29 / .720      | Pin Length L | 18.29/.720        |
|          | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      | Mating M     | 11.43/.450        |
|          | Gold Loc G   | N/A               | Gold Loc G   | N/A               | Gold Loc G   | OVERALL           | Gold Loc G   | N/A               |
|          | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56/.140         |
|          | Tin Loc T    | OVERALL           | Tin Loc T    | OVERALL           | Tin Loc T    | N/A               | Tin Loc T    | OVERALL           |
|          | Voided Ckts  | 4                 | Voided Ckts  | 7                 | Voided Ckts  | 3                 | Voided Ckts  | 3, 6              |
| Pack Per | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 |                   |
| Ckts     | Material No  | Engineer Number   | Material No  | Engineer Number   | Material No  | Engineer Number   | Item Number  |                   |
| 2        |              |                   |              |                   |              |                   |              |                   |
| 3        |              |                   |              |                   |              |                   |              |                   |
| 4        | 27-62-4049   | A-41791-0583      |              |                   | 26-63-4032   | A-41791-0638      |              |                   |
| 5        | 27-62-4059   | A-41791-0584      |              |                   | 41791-0639   | A-41791-0639      |              |                   |
| 6        | 27-62-4069   | A-41791-0585      |              |                   | 26-63-4052   | A-41791-0640      |              |                   |
| 7        | 27-62-4079   | A-41791-0586      | 41791-0598   | A-41791-0598      | 26-63-4062   | A-41791-0641      |              |                   |
| 8        | 27-62-4089   | A-41791-0587      | 41791-0599   | A-41791-0599      | 41791-0642   | A-41791-0642      | 41791-0774   |                   |
| 9        | 27-62-4099   | A-41791-0588      | 41791-0600   | A-41791-0600      | 26-63-4082   | A-41791-0643      |              |                   |
| 10       | 27-62-4109   | A-41791-0589      | 41791-0601   | A-41791-0601      | 41791-0644   | A-41791-0644      |              |                   |
| 11       | 27-62-4119   | A-41791-0590      | 41791-0602   | A-41791-0602      | 41791-0645   | A-41791-0645      |              |                   |
| 12       | 27-62-4129   | A-41791-0591      | 41791-0603   | A-41791-0603      | 41791-0646   | A-41791-0646      |              |                   |
| 13       | 27-62-4139   | A-41791-0592      | 41791-0604   | A-41791-0604      | 41791-0647   | A-41791-0647      |              |                   |
| 14       | 27-62-4149   | A-41791-0593      | 41791-0605   | A-41791-0605      | 41791-0648   | A-41791-0648      |              |                   |
| 15       | 27-62-4159   | A-41791-0594      | 41791-0606   | A-41791-0606      | 41791-0649   | A-41791-0649      |              |                   |
| 16       | 27-62-4169   | A-41791-0595      | 41791-0607   | A-41791-0607      | 41791-0650   | A-41791-0650      |              |                   |
| 17       | 27-62-4179   | A-41791-0596      | 41791-0608   | A-41791-0608      | 41791-0651   | A-41791-0651      |              |                   |
| 18       | 27-62-4189   | A-41791-0597      | 41791-0609   | A-41791-0609      | 41791-0652   | A-41791-0652      |              |                   |
|          |              |                   |              |                   | 41791-0653   | A-41791-0653      |              |                   |

|                   |                       |  |               |
|-------------------|-----------------------|--|---------------|
| REV:              | ECR/ECN INFORMATION   | TITLE:   | SHEET No.     |
| <b>P16</b>        | EC NO.: UCP2010-1453  | <b>KK 156 HEADER ASSEMBLY<br/>FRICTION LOCK VERTICAL<br/>SOLID BODY W/O PEGS</b> | <b>- 4 -</b>  |
|                   | DATE: 2/2/2010        |  |               |
| DOCUMENT NUMBER:  | CREATED / REVISED BY: | CHECKED BY:  | APPROVED BY:  |
| <b>SDA- 41791</b> | <b>MKIPPER</b>        | <b>SSOUSEK</b>   | <b>FSMITH</b> |

|          |              |                   |              |                   |              |                   |              |                   |
|----------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|
| OPTIONS  | Group        | A-41791-0815/0831 | Group        | A-41791-0832/0848 | Group        | A-41791-0849/0865 | Group        | A-41791-0883/0891 |
|          | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0018   | Header No:   | 41790-0002/0018   | Header No:   | 41790-0010/0018   |
|          | Pin No:      | 2161-36(102)      | Pin No:      | 43294-0209        | Pin No:      | 43294-0210        | Pin No:      | 2161-94(102)      |
|          | Plating:     | 102 – TIN         | Plating:     | 208 – 15 GOLD     | Plating:     | 228 – 30 GOLD     | Plating:     | 102 – TIN         |
|          | Pin Length L | 30.48 / 1.200     | Pin Length L | 18.29/. 720       | Pin Length L | 18.29/. 720       | Pin Length L | 18.29 / .720      |
|          | Mating M     | 11.43 / .450      | Mating M     | 11.43/. 450       | Mating M     | 11.43/. 450       | Mating M     | 11.43 / .450      |
|          | Gold Loc G   | N/A               | Gold Loc G   | 6.86/. 270        | Gold Loc G   | 6.86/. 270        | Gold Loc G   | N/A               |
|          | PC Tail P    | 15.75/ .620       | PC Tail P    | 3.56/. 140        | PC Tail P    | 3.56/. 140        | PC Tail P    | 3.56 / .140       |
|          | Tin Loc T    | OVERALL           | Tin Loc T    | 4.06/. 160        | Tin Loc T    | 4.06/. 160        | Tin Loc T    | OVERALL           |
|          | Voided Ckts  | NONE              | Voided Ckts  | NONE              | Voided CKts  | NONE              | Voided Ckts  | 10                |
| Pack Per | PK-41791-003 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 |                   |
| Ckts     | Item Number  |                   | Material No  | Engineer Number   | Material No  | Engineer Number   | Item Number  |                   |
| 2        | 41791-0815   |                   | 41791-0832   | A-41791-0832      | 41791-0849   | A-41791-0849      |              |                   |
| 3        | 41791-0816   |                   | 41791-0833   | A-41791-0833      | 41791-0850   | A-41791-0850      |              |                   |
| 4        | 41791-0817   |                   | 41791-0834   | A-41791-0834      | 41791-0851   | A-41791-0851      |              |                   |
| 5        | 41791-0818   |                   | 41791-0835   | A-41791-0835      | 41791-0852   | A-41791-0852      |              |                   |
| 6        | 41791-0819   |                   | 41791-0836   | A-41791-0836      | 41791-0853   | A-41791-0853      |              |                   |
| 7        | 41791-0820   |                   | 41791-0837   | A-41791-0837      | 41791-0854   | A-41791-0854      |              |                   |
| 8        | 41791-0821   |                   | 41791-0838   | A-41791-0838      | 41791-0855   | A-41791-0855      |              |                   |
| 9        | 41791-0822   |                   | 41791-0839   | A-41791-0839      | 41791-0856   | A-41791-0856      |              |                   |
| 10       | 41791-0823   |                   | 41791-0840   | A-41791-0840      | 41791-0857   | A-41791-0857      | 41791-0883   |                   |
| 11       | 41791-0824   |                   | 41791-0841   | A-41791-0841      | 41791-0858   | A-41791-0858      | 41791-0884   |                   |
| 12       | 41791-0825   |                   | 41791-0842   | A-41791-0842      | 41791-0859   | A-41791-0859      | 41791-0885   |                   |
| 13       | 41791-0826   |                   | 41791-0843   | A-41791-0843      | 41791-0860   | A-41791-0860      | 41791-0886   |                   |
| 14       | 41791-0827   |                   | 41791-0844   | A-41791-0844      | 41791-0861   | A-41791-0861      | 41791-0887   |                   |
| 15       | 41791-0828   |                   | 41791-0845   | A-41791-0845      | 41791-0862   | A-41791-0862      | 41791-0888   |                   |
| 16       | 41791-0829   |                   | 41791-0846   | A-41791-0846      | 41791-0863   | A-41791-0863      | 41791-0889   |                   |
| 17       | 41791-0830   |                   | 41791-0847   | A-41791-0847      | 41791-0864   | A-41791-0864      | 41791-0890   |                   |
| 18       | 41791-0831   |                   | 41791-0848   | A-41791-0848      | 41791-0865   | A-41791-0865      | 41791-0891   |                   |

|            |                      |   |           |                       |
|------------|----------------------|---|-----------|-----------------------|
| REV:       | ECR/ECN INFORMATION  | TITLE:  | SHEET No. |                       |
| P16        | EC NO.: UCP2010-1453 | KK 156 HEADER ASSEMBLY<br>FRICTION LOCK VERTICAL<br>SOLID BODY W/O PEGS | - 5 -     |                       |
|            | DATE: 2/2/2010       |   |           |                       |
|            | DOCUMENT NUMBER:     |   |           | CREATED / REVISED BY: |
| SDA- 41791 |                      | MKIPPER   | SSOUSEK   | FSMITH                |

| OPTIONS  | Group        | A-41791-0892/0908 | Group        | A-41791-0922/0933 | Group        | 41791-0934/0948 | Group        | 41791-0966/0976 |
|----------|--------------|-------------------|--------------|-------------------|--------------|-----------------|--------------|-----------------|
|          | Header No:   | 41790-0002/0018   | Header No:   | 41790-0007/0018   | Header No:   | 41790-0004/0018 | Header No:   | 41790-0007/0018 |
|          | Pin No:      | 43294-0299        | Pin No:      | 2161-94(102)      | Pin No:      | 43294-0209      | Pin No:      | 2161-94(102)    |
|          | Plating:     | 208 – 15 GOLD     | Plating:     | 102 – TIN         | Plating:     | 208 – 15 GOLD   | Plating:     | 102 – TIN       |
|          | Pin Length L | 20.83 / .820      | Pin Length L | 18.29 / .720      | Pin Length L | 18.29/. 720     | Pin Length L | 18.29/. 720     |
|          | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450    | Mating M     | 11.43/. 450     |
|          | Gold Loc G   | 6.83/. 270        | Gold Loc G   | N/A               | Gold Loc G   | 6.86/ .270      | Gold Loc G   | N/A             |
|          | PC Tail P    | 6.10/ .240        | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56/. 140      | PC Tail P    | 3.56/. 140      |
|          | Tin Loc T    | 6.35/ .250        | Tin Loc T    | OVERALL           | Tin Loc T    | 4.06/. 160      | Tin Loc T    | OVERALL         |
|          | Voided Ckts  | NONE              | Voided Ckts  | 5, 7              | Voided Ckts  | 4               | Voided Ckts  | 3, 7, 8         |
| Pack Per | PK-41791-002 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per        | PK-41791-001 |                 |
| Ckts     | Item Number  |                   | Item Number  |                   | Item Number  |                 | Item Number  |                 |
| 2        | 41791-0892   |                   |              |                   |              |                 |              |                 |
| 3        | 41791-0893   |                   |              |                   |              |                 |              |                 |
| 4        | 41791-0894   |                   |              |                   | 41791-0934   |                 |              |                 |
| 5        | 41791-0895   |                   |              |                   | 41791-0935   |                 |              |                 |
| 6        | 41791-0896   |                   |              |                   | 41791-0936   |                 |              |                 |
| 7        | 41791-0897   |                   | 41791-0922   |                   | 41791-0937   |                 |              |                 |
| 8        | 41791-0898   |                   | 41791-0923   |                   | 41791-0938   |                 | 41791-0966   |                 |
| 9        | 41791-0899   |                   | 41791-0924   |                   | 41791-0939   |                 | 41791-0967   |                 |
| 10       | 41791-0900   |                   | 41791-0925   |                   | 41791-0940   |                 | 41791-0968   |                 |
| 11       | 41791-0901   |                   | 41791-0926   |                   | 41791-0941   |                 | 41791-0969   |                 |
| 12       | 41791-0902   |                   | 41791-0927   |                   | 41791-0942   |                 | 41791-0970   |                 |
| 13       | 41791-0903   |                   | 41791-0928   |                   | 41791-0943   |                 | 41791-0971   |                 |
| 14       | 41791-0904   |                   | 41791-0929   |                   | 41791-0944   |                 | 41791-0972   |                 |
| 15       | 41791-0905   |                   | 41791-0930   |                   | 41791-0945   |                 | 41791-0973   |                 |
| 16       | 41791-0906   |                   | 41791-0931   |                   | 41791-0946   |                 | 41791-0974   |                 |
| 17       | 41791-0907   |                   | 41791-0932   |                   | 41791-0947   |                 | 41791-0975   |                 |
| 18       | 41791-0908   |                   | 41791-0933   |                   | 41791-0948   |                 | 41791-0976   |                 |

|            |                             |  |              |
|------------|-----------------------------|--|--------------|
| REV:       | ECR/ECN INFORMATION         | TITLE:   | SHEET No.    |
| <b>P16</b> | EC NO.: UCP2010-1453        | <b>KK 156 HEADER ASSEMBLY<br/>FRICTION LOCK VERTICAL<br/>SOLID BODY W/O PEGS</b> | <b>- 6 -</b> |
|            | DATE: 2/2/2010              |  |              |
|            | DOCUMENT NUMBER: SDA- 41791 |  |              |



| OPTIONS  | Group        | 41791-0977/0993 | Group        | 41791-0994/1002   | Group        | A-41791-1036 / 1048 | Group        | A-41791-1049/1062 |
|----------|--------------|-----------------|--------------|-------------------|--------------|---------------------|--------------|-------------------|
|          | Header No:   | 41790-0002/0018 | Header No:   | 41790-0010/0018   | Header No:   | 41790-0006 / 0018   | Header No:   | 41790-0005/0018   |
|          | Pin No:      | 43294-0345      | Pin No:      | 43294-0209        | Pin No:      | 2161-94(102)        | Pin No:      | 2161-94(102)      |
|          | Plating:     | 228 – 30 GOLD   | Plating:     | 208 – 15 GOLD     | Plating:     | 102 – TIN           | Plating:     | 102 – TIN         |
|          | Pin Length L | 22.10/. 870     | Pin Length L | 18.29/. 720       | Pin Length L | 18.29 / .720        | Pin Length L | 18.29 / .720      |
|          | Mating M     | 11.43/. 450     | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450        | Mating M     | 11.43 / .450      |
|          | Gold Loc G   | 10.02/. 400     | Gold Loc G   | 6.86/. 270        | Gold Loc G   | N/A                 | Gold Loc G   | N/A               |
|          | PC Tail P    | 7.37/. 290      | PC Tail P    | 3.56/. 140        | PC Tail P    | 3.56 / .140         | PC Tail P    | 3.56 / .140       |
|          | Tin Loc T    | 5.08/. 200      | Tin Loc T    | 4.06/. 160        | Tin Loc T    | OVERALL             | Tin Loc T    | OVERALL           |
|          | Voided Ckts  | None            | Voided Ckts  | 3, 4, 5, 8, 9, 10 | Voided Ckts  | 4, 6                | Voided Ckts  | 2, 5              |
| Pack Per | PK-41791-002 | Pack Per        | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per            | PK-41791-001 |                   |
| Ckts     | Item Number  | Item Number     | Material No  | Engineer Number   | Item Number  |                     |              |                   |
| 2        | 41791-0977   |                 |              |                   |              |                     |              |                   |
| 3        | 41791-0978   |                 |              |                   |              |                     |              |                   |
| 4        | 41791-0979   |                 |              |                   |              |                     |              |                   |
| 5        | 41791-0980   |                 |              |                   |              |                     |              |                   |
| 6        | 41791-0981   |                 |              | A-41791-1036      |              |                     |              |                   |
| 7        | 41791-0982   |                 | 41791-1037   | A-41791-1037      | 41791-1051   |                     |              |                   |
| 8        | 41791-0983   |                 |              | A-41791-1038      |              |                     |              |                   |
| 9        | 41791-0984   |                 |              | A-41791-1039      |              |                     |              |                   |
| 10       | 41791-0985   | 41791-0994      |              | A-41791-1040      |              |                     |              |                   |
| 11       | 41791-0986   | 41791-0995      |              | A-41791-1041      |              |                     |              |                   |
| 12       | 41791-0987   | 41791-0996      |              | A-41791-1042      |              |                     |              |                   |
| 13       | 41791-0988   | 41791-0997      |              | A-41791-1043      |              |                     |              |                   |
| 14       | 41791-0989   | 41791-0998      |              | A-41791-1044      |              |                     |              |                   |
| 15       | 41791-0990   | 41791-0999      |              | A-41791-1045      |              |                     |              |                   |
| 16       | 41791-0991   | 41791-1000      |              | A-41791-1046      |              |                     |              |                   |
| 17       | 41791-0992   | 41791-1001      |              | A-41791-1047      |              |                     |              |                   |
| 18       | 41791-0993   | 41791-1002      |              | A-41791-1048      |              |                     |              |                   |

|            |                                    |  |              |
|------------|------------------------------------|--|--------------|
| REV:       | ECR/ECN INFORMATION                | TITLE:   | SHEET No.    |
| <b>P16</b> | EC NO.: UCP2010-1453               | <b>KK 156 HEADER ASSEMBLY<br/>FRICTION LOCK VERTICAL<br/>SOLID BODY W/O PEGS</b> | <b>- 7 -</b> |
|            | DATE: 2/2/2010                     |  |              |
|            | DOCUMENT NUMBER: <b>SDA- 41791</b> |  |              |

|          |              |                   |              |                   |              |                   |              |                 |
|----------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-----------------|
| OPTIONS  | Group        | A-41791-1063/1071 | Group        | A-41791-1074/1088 | Group        | A-41791-1089/1105 | Group        | A-41791-1107    |
|          | Header No:   | 41790-0010/0018   | Header No:   | 41790-0004/0018   | Header No:   | 41790-0002/0018   | Header No:   | 41790-0006/0018 |
|          | Pin No:      | 2161-94(102)      | Pin No:      | 2161-94(501)      | Pin No:      | 43294-0212        | Pin No:      | 2161-94(154)    |
|          | Plating:     | 102 – TIN         | Plating:     | 501 – GOLD        | Plating:     | 222 – TIN         | Plating:     | 154 – TIN       |
|          | Pin Length L | 18.29 / .720      | Pin Length L | 18.29 / .720      | Pin Length L | 18.29 / .720      | Pin Length L | 18.29 / .720    |
|          | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450      | Mating M     | 11.43 / .450    |
|          | Gold Loc G   | N/A               | Gold Loc G   | OVERALL           | Gold Loc G   | N/A               | Gold Loc G   | N/A             |
|          | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56 / .140       | PC Tail P    | 3.56 / .140     |
|          | Tin Loc T    | OVERALL           | Tin Loc T    | N/A               | Tin Loc T    | OVERALL           | Tin Loc T    | OVERALL         |
|          | Voided Ckts  | 5, 10             | Voided Ckts  | 2, 3, 4           | Voided Ckts  | NONE              | Voided Ckts  | 6               |
| Pack Per | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 | Pack Per          | PK-41791-001 |                 |
| Ckts     | Item Number  |                   | Item Number  |                   | Item Number  |                   | Item Number  |                 |
| 2        |              |                   |              |                   | 41791-1089   |                   |              |                 |
| 3        |              |                   |              |                   | 41791-1090   |                   |              |                 |
| 4        |              |                   |              |                   | 41791-1091   |                   |              |                 |
| 5        |              |                   | 41791-1075   |                   |              |                   |              |                 |
| 6        |              |                   |              |                   | 41791-1093   |                   |              |                 |
| 7        |              |                   |              |                   |              |                   | 41791-1107   |                 |
| 8        |              |                   |              |                   | 41791-1095   |                   |              |                 |
| 9        |              |                   |              |                   | 41791-1096   |                   |              |                 |
| 10       |              |                   |              |                   | 41791-1097   |                   |              |                 |
| 11       | 41791-1064   |                   |              |                   | 41791-1098   |                   |              |                 |
| 12       |              |                   |              |                   | 41791-1099   |                   |              |                 |
| 13       |              |                   |              |                   |              |                   |              |                 |
| 14       |              |                   |              |                   |              |                   |              |                 |
| 15       |              |                   |              |                   |              |                   |              |                 |
| 16       |              |                   |              |                   | 41791-1103   |                   |              |                 |
| 17       |              |                   |              |                   |              |                   |              |                 |
| 18       |              |                   |              |                   | 41791-1105   |                   |              |                 |

|                   |      |                             |        |  |              |
|-------------------|------|-----------------------------|--------|--|--------------|
| <b>P16</b>        | REV: | ECR/ECN INFORMATION         | TITLE: | <b>KK 156 HEADER ASSEMBLY<br/>FRICTION LOCK VERTICAL<br/>SOLID BODY W/O PEGS</b> | SHEET No.    |
|                   |      | EC NO.: <b>UCP2010-1453</b> |        |  | <b>- 8 -</b> |
|                   |      | DATE: <b>2/2/2010</b>       |        |  |              |
| DOCUMENT NUMBER:  |      | CREATED / REVISED BY:       |        | CHECKED BY:  |              |
| <b>SDA- 41791</b> |      | <b>MKIPPER</b>              |        | <b>SSOUSEK</b>   |              |
|                   |      |                             |        | APPROVED BY:   |              |
|                   |      |                             |        | <b>FSMITH</b>  |              |

|          |              |              |              |              |              |               |              |  |
|----------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--|
| OPTIONS  | Group        | A-41791-1120 | Group        | A-41791-1134 | Group        | A-41791-1150  | Group        |  |
|          | Header No:   | 41790-0006   | Header No:   | 41790-0004   | Header No:   | 41790-0005    | Header No:   |  |
|          | Pin No:      | 2161-94(154) | Pin No:      | 2161-94(154) | Pin No:      | 43294-0210    | Pin No:      |  |
|          | Plating:     | 154 – TIN    | Plating:     | 154 – TIN    | Plating:     | 228 – 30 GOLD | Plating:     |  |
|          | Pin Length L | 18.29 / .720 | Pin Length L | 18.29 / .720 | Pin Length L | 18.29/. 720   | Pin Length L |  |
|          | Mating M     | 11.43 / .450 | Mating M     | 11.43 / .450 | Mating M     | 11.43/. 450   | Mating M     |  |
|          | Gold Loc G   | N/A          | Gold Loc G   | N/A          | Gold Loc G   | 6.85/. 270    | Gold Loc G   |  |
|          | PC Tail P    | 3.56 / .140  | PC Tail P    | 3.56 / .140  | PC Tail P    | 3.56/. 140    | PC Tail P    |  |
|          | Tin Loc T    | OVERALL      | Tin Loc T    | OVERALL      | Tin Loc T    | 4.06/. 160    | Tin Loc T    |  |
|          | Voided Ckts  | 2, 5         | Voided Ckts  | 2, 3         | Voided Ckts  | 2, 4          | Voided Ckts  |  |
| Pack Per | PK-41791-001 | Pack Per     | PK-41791-001 | Pack Per     | PK-41791-001 | Pack Per      |              |  |
| Ckts     | Item Number  |              | Item Number  |              | Item Number  |               | Item Number  |  |
| 2        |              |              |              |              |              |               |              |  |
| 3        |              |              |              |              |              |               |              |  |
| 4        |              |              | 41791-1134   |              |              |               |              |  |
| 5        |              |              |              |              | 41791-1150   |               |              |  |
| 6        | 41791-1120   |              |              |              |              |               |              |  |
| 7        |              |              |              |              |              |               |              |  |
| 8        |              |              |              |              |              |               |              |  |
| 9        |              |              |              |              |              |               |              |  |
| 10       |              |              |              |              |              |               |              |  |
| 11       |              |              |              |              |              |               |              |  |
| 12       |              |              |              |              |              |               |              |  |
| 13       |              |              |              |              |              |               |              |  |
| 14       |              |              |              |              |              |               |              |  |
| 15       |              |              |              |              |              |               |              |  |
| 16       |              |              |              |              |              |               |              |  |
| 17       |              |              |              |              |              |               |              |  |
| 18       |              |              |              |              |              |               |              |  |

|                   |                       |  |               |
|-------------------|-----------------------|--|---------------|
| REV:              | ECR/ECN INFORMATION   | TITLE:   | SHEET No.     |
| <b>P16</b>        | EC NO.: UCP2010-1453  | <b>KK 156 HEADER ASSEMBLY<br/>FRICTION LOCK VERTICAL<br/>SOLID BODY W/O PEGS</b> | <b>- 9 -</b>  |
|                   | DATE: 2/2/2010        |  |               |
| DOCUMENT NUMBER:  | CREATED / REVISED BY: | CHECKED BY:  | APPROVED BY:  |
| <b>SDA- 41791</b> | <b>MKIPPER</b>        | <b>SSOUSEK</b>   | <b>FSMITH</b> |