

DELPHI

## Mechatronics Change Request Form

CR #:

6115

CN #:

57128

Assigned CN# Date:

| Request Information                                                                                                                                                                                                                                                                                    |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|----------------------------|
| Requester: <u>DG. J. Coniff/G.Lin</u>                                                                                                                                                                                                                                                                  |                                     | Change Owner: <u>Eduardo Rodriguez Pequeño</u>                                                                                                            |                                                     | CO Phone: <u>[REDACTED]</u>                                                                                                                                                                                                                                                                                                                         | Request Date: <u>1/15/06</u>        |                                     |                            |
| Change Request Title: <u>New PCB design and Catera Spring/Plunger for production in Delta Ignition Sw</u>                                                                                                                                                                                              |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| Customer: <u>GM</u>                                                                                                                                                                                                                                                                                    |                                     | Program, Product Type & Model Year: <u>GMX357, Delta Ignition Sw 2007</u>                                                                                 |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| PTS / AR #: <u>972251</u>                                                                                                                                                                                                                                                                              |                                     | Design Center: <u>DG</u>                                                                                                                                  |                                                     | Manufacturing Sites Affected: <u>Condura</u>                                                                                                                                                                                                                                                                                                        |                                     |                                     |                            |
| <b>What is the impact of this change?</b><br><input type="checkbox"/> Process <input type="checkbox"/> Purchased Components<br><input checked="" type="checkbox"/> Final Product <input type="checkbox"/> In-House Fab Components                                                                      |                                     | <b>Change Driven by:</b><br><input checked="" type="checkbox"/> Customer<br><input checked="" type="checkbox"/> D-MS<br><input type="checkbox"/> Supplier |                                                     | <b>Change Category:</b><br><input type="checkbox"/> Warranty<br><input type="checkbox"/> Cost Savings<br><input checked="" type="checkbox"/> Product Design<br><input type="checkbox"/> Process/Quality                                                                                                                                             |                                     |                                     |                            |
| Ref. Info.(DAR, Customer Authorization, PRR, etc)                                                                                                                                                                                                                                                      |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| Change Reason: <u>New PCB has vias enlarge and via holes removed from traces. Cater Spring/Plunger is a Customer request to be in specification according the GM spec for the torque forces.</u>                                                                                                       |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| <b>Change Flow:</b><br><input type="checkbox"/> Fast Track<br><input checked="" type="checkbox"/> Production                                                                                                                                                                                           |                                     | <b>Risk Assessment:</b><br><input type="checkbox"/> Low<br><input type="checkbox"/> Med<br><input checked="" type="checkbox"/> High                       |                                                     | <b>Change Type:</b><br><input type="checkbox"/> Documentation<br><input checked="" type="checkbox"/> Running<br><input type="checkbox"/> Mandatory<br>Date: _____                                                                                                                                                                                   |                                     |                                     |                            |
|                                                                                                                                                                                                                                                                                                        |                                     | <b>Request Type:</b><br><input type="checkbox"/> Experimental<br><input checked="" type="checkbox"/> Permanent<br><input type="checkbox"/> Advanced       |                                                     | <b>Program Phase:</b><br><input type="checkbox"/> Program Launch <input type="checkbox"/> Production Approval<br><input type="checkbox"/> Concept Direction <input type="checkbox"/> Close Out/Transfer<br><input type="checkbox"/> Concept Approval <input checked="" type="checkbox"/> Present Product<br><input type="checkbox"/> Final Approval |                                     |                                     |                            |
| Technical Analysis                                                                                                                                                                                                                                                                                     |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| <input checked="" type="checkbox"/> Theoretical Analysis                                                                                                                                                                                                                                               |                                     | <input checked="" type="checkbox"/> DOE                                                                                                                   |                                                     | <input checked="" type="checkbox"/> Spec. Review                                                                                                                                                                                                                                                                                                    |                                     |                                     |                            |
| <input checked="" type="checkbox"/> Tolerance Stack UP                                                                                                                                                                                                                                                 |                                     | <input checked="" type="checkbox"/> Mock Up                                                                                                               |                                                     | <input checked="" type="checkbox"/> Dim.Studies                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
|                                                                                                                                                                                                                                                                                                        |                                     |                                                                                                                                                           |                                                     | <input checked="" type="checkbox"/> Drawings Review                                                                                                                                                                                                                                                                                                 |                                     |                                     |                            |
|                                                                                                                                                                                                                                                                                                        |                                     |                                                                                                                                                           |                                                     | <input checked="" type="checkbox"/> 3D Analysis                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
|                                                                                                                                                                                                                                                                                                        |                                     |                                                                                                                                                           |                                                     | <input checked="" type="checkbox"/> Prod. Validation                                                                                                                                                                                                                                                                                                |                                     |                                     |                            |
|                                                                                                                                                                                                                                                                                                        |                                     |                                                                                                                                                           |                                                     | <input checked="" type="checkbox"/> DFMEA Review                                                                                                                                                                                                                                                                                                    |                                     |                                     |                            |
|                                                                                                                                                                                                                                                                                                        |                                     |                                                                                                                                                           |                                                     | <input checked="" type="checkbox"/> Where's Used (BPCS)                                                                                                                                                                                                                                                                                             |                                     |                                     |                            |
|                                                                                                                                                                                                                                                                                                        |                                     |                                                                                                                                                           |                                                     | <input checked="" type="checkbox"/> Special Testing                                                                                                                                                                                                                                                                                                 |                                     |                                     |                            |
| 1. Description of Change (Use <u>CN Details format</u> if additional space is required to explain better the change):<br><u>1. PCB change is because the fall-out problems in the EOLT and the Catera spring/plunger is because the torque forces.</u><br><u>PCB 12861211 Rev 5 Release in CN57064</u> |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| Change Verification (Special Testing) Summary:                                                                                                                                                                                                                                                         |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| * 3 lifes of durability perform without problems                                                                                                                                                                                                                                                       |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| * Torque and angle test perform for forces and displacements of make/brakes.                                                                                                                                                                                                                           |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| CIB - Multifunctional Team                                                                                                                                                                                                                                                                             |                                     |                                                                                                                                                           |                                                     |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| MINIMUM REQUIRED NOTIFICATION                                                                                                                                                                                                                                                                          |                                     |                                                                                                                                                           | NOTIFICATION TO THESE POSITIONS UP TO CIB DECISION: |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |
| Function                                                                                                                                                                                                                                                                                               | Notified                            | Responded                                                                                                                                                 | Name                                                | Function                                                                                                                                                                                                                                                                                                                                            | Notified                            | Responded                           | Name                       |
| Change Owner                                                                                                                                                                                                                                                                                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | Eduardo Rodriguez                                   | Production Line Supervisor                                                                                                                                                                                                                                                                                                                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Carlos Zarate              |
| Purchasing:                                                                                                                                                                                                                                                                                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | Carlos Lara                                         | Software Engineer:                                                                                                                                                                                                                                                                                                                                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | N/A                        |
| SQA:                                                                                                                                                                                                                                                                                                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | Marco Lemus                                         | Systems Engineer:                                                                                                                                                                                                                                                                                                                                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | N/A                        |
| PC&L - Procurement                                                                                                                                                                                                                                                                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | Aldo Gonzalez                                       | Component Engineer:                                                                                                                                                                                                                                                                                                                                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | N/A                        |
| PC&L - Cust Service:                                                                                                                                                                                                                                                                                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | D.Cardenas/Barbarella G                             | Validation Engineer:                                                                                                                                                                                                                                                                                                                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Aldo Calvillo/Luis Delgado |
| PC&L - Planning                                                                                                                                                                                                                                                                                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | Israel Leon                                         | Sales:                                                                                                                                                                                                                                                                                                                                              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Larry Allen                |
| Manufacturing Eng:                                                                                                                                                                                                                                                                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | Jorge MontesdeOca                                   | Finance:                                                                                                                                                                                                                                                                                                                                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Gabriel Ayala              |
| Process Engineer:                                                                                                                                                                                                                                                                                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | Jorge MontesdeOca                                   | Test Engineer:                                                                                                                                                                                                                                                                                                                                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Edgar Zambrano             |
| Quality Engineer                                                                                                                                                                                                                                                                                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | Jose Luis Rivera                                    | Tool Engineer:                                                                                                                                                                                                                                                                                                                                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | N/A                        |
| Industrial Engineer                                                                                                                                                                                                                                                                                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       | Ernesto Castellanos                                 | ECAD                                                                                                                                                                                                                                                                                                                                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | N/A                        |
| Packaging Engineer:                                                                                                                                                                                                                                                                                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                                                                                                                       |                                                     | MCAD                                                                                                                                                                                                                                                                                                                                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Gerardo Cuevas             |
| Note: Minimum required, but not limited to this.<br>Note: Follow next steps to find Condura Contact List to verify CIB names.<br>(Delphi Mechatronics Systems- Sharepoint Home / Condura Engineering Document Control / Cond Contact List for Engineering Changes)                                     |                                     |                                                                                                                                                           | Other: _____<br>Other: _____                        |                                                                                                                                                                                                                                                                                                                                                     |                                     |                                     |                            |

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## Financial Feasibility Review

## IMPORTANT:

Previous to fill out this section, please type Cost, and leadtimes into Checklist/IAP format.

Once leadtimes have been received, target dates can be set up in all required tasks into Checklist/IAP format also.

|                                  | Paid By:         |                     |           |         |
|----------------------------------|------------------|---------------------|-----------|---------|
|                                  | TOTAL            | Supplier%           | Customer% | Delphi% |
| Investment \$                    | \$240            | 0%                  | 0%        | 100%    |
| Development<br>Engineering Hours | TOTAL<br>Hrs-Qty | TOTAL<br>Hrs-Cost\$ | Paid By:  |         |
|                                  | 210              | \$21,000            | Customer% | Delphi% |
|                                  |                  |                     | 0%        | 100%    |

Investment paid by Delphi:

| Dept / Account#  | Dept Name      | %    |
|------------------|----------------|------|
| 3171             | SMT department | 100% |
| Charge to Dept : |                |      |
| Charge to Dept : |                |      |
| Charge to Dept : |                |      |
| Charge to Dept : |                |      |

Total Change Lead Time : 24 wks

Planned Obsolescence \$ \$0.00

Piece Part Cost \$ Change From: - To: -

## CR Approval

| Title                  | Name                 | Signature | Date      | Title            | Name                    | Signature | Date    |
|------------------------|----------------------|-----------|-----------|------------------|-------------------------|-----------|---------|
| Change Owner:          | Eduardo Rodriguez    |           | 4/12/06   | Plant Mgr:       | Mauro Gonzalez          |           |         |
| CAL:                   | Juan Carlos Gonzalez |           | 4/12/06   | PC&L Mgr (Proc): | Oriando Salinas         |           | 4/13/06 |
| Mech. Prod. Eng. Mgr.: | Paul Verdram         |           | 4/24/06   | PC&L Mgr (C.S.): | Rocio Barron/R. Ramire: |           | 4/13/06 |
| Elec. Prod. Eng. Mgr.: | N/A                  |           |           | Purchasing Mgr.: | Eugenia Acosta          |           | 4/12/06 |
| Program Mgr.:          | Jesus Chavez         |           | ABR-13-06 | Production Mgr.: | J. Olvera               |           | 4/12/06 |
| Account Mgr.:          | N/A                  |           |           | Prod. Line Mgr.: | Carlos Zarate           |           | 4/12/06 |
| Mfg. Eng. Mgr.:        | Armando Lozano       |           | 4/12/06   | Quality Mgr.:    | Saul Hernandez          |           | 4/13/06 |
| Process Mgr.:          | Hector Hernandez     |           | 13 ABR 06 | Lab Mgr.:        | Francisco Mendoza       |           | 4/13/06 |

Form No: D-MSNAW3.8F1 (Rev. 3) Change Request Form

# DELPHI CONFIDENTIAL

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## Mechatronics Change Notice Form

Page 1

CR #:

6115

CN #:

57128

Assigned CN# Date:

4/13/06

### Change Notice Information

Requester: OG. J. Coniff/G.Li Change Owner: Eduardo Rodriguez Pequeño

CO Phone: XXXXXXXXXX

Request Date: 1/15/06

Change Title: New PCB design and Catera Spring/Plunger for production in Delta Ignition Sw

Customer: GM

Program, Product Type & Model Year:

GMX357, Delta Ignition Sw 2007

### Affected Documents Information

|                           |                          |      | From this:   |     |     |      |        | To this: |              |     |     |            |
|---------------------------|--------------------------|------|--------------|-----|-----|------|--------|----------|--------------|-----|-----|------------|
| Where Used P/N            | Affected Doc Description | Type | Current Doc  | Rev | Ver | Disp | Action | Disp     | New Document | Rev | Ver | Doc. Owner |
| 741-76307                 | Assy Ignition Sw         | DR   | 741-76307    | B   | 1   | P    | R      | P        | 741-76307    | C   | 1   |            |
| 741-76307                 | Part List Ignition sw    | PL   | pl-741-76307 | B   | 1   | P    | R      | P        | pl-741-76307 | C   | 1   |            |
| 741-76307                 | Dfmea Ignition Sw        | DF   | df-741-76307 | C   | 1   | P    | R      | P        | df-741-76307 | D   | 1   |            |
| ----- OBSOLETE P/N: ----- |                          |      |              |     |     |      |        |          |              |     |     |            |
|                           | Detent Spring Plunger    | DR   | 741-75316    | A   | 1   | P    | R      | O        | 741-75316    | -   | -   |            |
|                           | Assy Base-PCB            | DR   | 741-79845-T  | B   | 1   | P    | R      | O        | 741-79845-T  | -   | -   |            |
|                           | Assy PCB                 | DR   | 741-79846-T  | A   | 1   | P    | R      | O        | 741-79846-T  | -   | -   |            |
|                           | Assy PCB in process      | DR   | 741-79847-T  | A   | 1   | P    | R      | O        | 741-79847-T  | -   | -   |            |
|                           | Printed Circuit Board    | DR   | 12962193     | 2   | 1   | P    | R      | O        | 12962193     | -   | -   |            |
|                           | Assy Ignition Sw         | DR   | 741-79896    | A   | 1   | P    | R      | O        | 741-79896    | -   | -   |            |
|                           | Part List Ignition sw    | PL   | pl-741-79896 | A   | 1   | P    | R      | O        | pl-741-79896 | -   | -   |            |
|                           | Dfmea Ignition Sw        | DF   | df-741-79896 | A   | 1   | P    | R      | O        | df-741-79896 | -   | -   |            |
|                           | Data doc support         | DS   |              |     |     |      | N      |          | 57128dat.doc | -   | -   |            |

Type: DRW-Drawing; PL-Part List; SW-Software; DF-DFMEA; DS-Data Support. Disposition: P-Production; S-Service; O-Obsolete. Action: R-Replace; N-New.

### CN Approval

Validation Test was successfully completed?

☒ Yes ☐ No ☐ N/A

Validation Ref. Number: C005-177

Has customer approval or concurrence been received for this change?

☒ Yes ☐ No ☐ N/A

Customer Approval Ref. No: See 57128dat for GM3660

Detailed Implementation Action Plan defined & Agrees with CIB:

☒ Yes ☐ No ☐ N/A

CIL Identified: ☒ Yes ☐ No

CIL's Name: Alicia Salazar  
 Engineering Manager Name: Paul Verdream  
 CAL's Name: Juan Carlos Gonzalez  
 Program Mgr Name: Jesus Chavez

Signature  
 Signature  
 Signature  
 Signature

Date: 4/21/06  
 Date: 4/21/06  
 Date: 4/21/06  
 Date: ABR-21-06

### Document Control Usage Only

CN Number: 57128

Release Date: 04/27/06

D.C. Name & Signature: Jose Luis Alpuete

Form No: D-MSNAW3.8FI (Rev. 3) Change Notice Form

SC-000093