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Supplier: WINDSOR MACHINE & STAMPING (779435-000)

ProFile



Platform : U281 (Ford)	Program : 2005 - Seating System	Status : Blue
Product : H/R SUPT. ASY.	Ship Point Location : Stathroy, Ontario	Supplier Launch Date : 19-JUL-2005
Ship To : Lear Louisville	Diverse : No	Risk Rating : High
FOB Location : WINDSOR MACHINE & STAMPING (779400-020) - 5725 OUTER DR RR 5-1	Key Supplier : Yes	Email : kbilcock@lear.com
SQE Contact : Decock, Ken	Phone : 313.683.9141	Email : kbilcock@lear.com
Program Manager :	Phone : 313.683.9141	Email : kbilcock@lear.com

Parts

All  Prototype  Pilot  Launch

PROTOTYPE

Part Description	Lear Part Number	Part Number	Status	Revwd	Prelim. SC/CC Review	Engineering Release	DFMEA	DV Testing	New Equip. Facil. Test Chklist	Control Plan	Team Feasibility	Packaging Approval	SC/CC Review
HEADREST - 3R C&S VINYL & CLOTH TRIM/FOAM/FRAAME ASY	L0020760 L0020761	L0020760 L0020761	B	N	19-MAR-04	19-MAR-04	19-MAR-04	28-JUL-04	19-MAR-04	19-MAR-04	19-MAR-04	14-OCT-04	10-JUN-05
ASM, FRAME - HEADREST, LH/RH, 2R, 40/60 HEADREST FOLDING M	L0023287 L0043001	L0023287 L0043001	B	Y	19-MAR-04	19-MAR-04	19-MAR-04	28-JUL-05	19-MAR-04	19-MAR-04	19-MAR-04	14-OCT-04	14-JUN-05
ASM, FRAME - HEADREST, LH/RH, 80%, 2R QUAD SEAT HEAD REST	L0023286 L0042999	L0023286 L0042999	B	Y	19-MAR-04	19-MAR-04	19-MAR-04	28-JUL-05	19-MAR-04	19-MAR-04	19-MAR-04	14-OCT-04	14-JUN-05

Contacts

Contact	Title	Email	Phone	Fax	Mobile	Pager
Lisa Bilbrey		lbilbrey@windsormachine.com	(734)941-7320	(734)941-2430		



Supplier : WINDSOR MACHINE & STAMPING (779625-000)

ProFile

Program U251 (Ford) - 2006 - Seating System

Part Info **Timing** Part History

Timing for Part - HEADREST - 3R C&S VINYL & CLOTH TRIM/FOAM/FRAME ASY (L0020750, L0020751)

WAITING FOR LEAR SQE REVIEW

Prototype Pilot Launch Part Timing Deliverable Guidelines

Please save all the changes before adding any attachments

\* = Key Part Timing. This status filters up to the Part Status and Supplier Status for the worst case scenario.

Status : Green = Target Date greater than 2 weeks from today Yellow = Target Date within 2 weeks from today Red = Past Target Date Blue = Closed

Line		Lear Dates	Target Date	Complete Date	Status	Risk	Comments	Attachment
<b>PROTOTYPE</b>								
1	Prelim. SC/CC Review	View	19-MAR-2004	19-MAR-2004	B	No		View (0) Ad
*2	Engineering Release	View	19-MAR-2004	19-MAR-2004	B	No		View (0) Ad
3	DFMEA	View	19-MAR-2004	19-MAR-2004	B	No	DFMEA & YC YS Matrix Attached	View (2) Ad
*4	DV Testing	View	28-JUL-2003	28-JUL-2004	B	No		View (0) Ad
5	New Equip, Facil. Test Checklist	View	19-MAR-2004	19-MAR-2004	B	No		View (0) Ad
6	Control Plan	View	19-MAR-2004	19-MAR-2004	B	No		View (1) Ad
7	Team Feasibility	View	19-MAR-2004	19-MAR-2004	B	No		View (0) Ad
<b>PILOT</b>								
8	Packaging Approval	View	14-OCT-2004	14-OCT-2004	B	No		View (1) Ad
9	SC/CC Review	View	14-OCT-2004	10-JUN-2005	B	No		View (1) Ad
10	Engineering Release	View	10-JAN-2005	10-JUN-2005	B	No		View (0) Ad
*11	Tool Kick-Off	View	10-JAN-2005	10-JUN-2005	B	No		View (3) Ad
12	Heat Treat Review	View	19-MAR-2004	19-MAR-2004	B	No		View (3) Ad
13	Process Flow / Floor Plan	View	20-DEC-2004	12-DEC-2004	B	No		View (2) Ad
*14	PFMEA	View	08-FEB-2005	08-FEB-2005	B	No		View (4) Ad
15	Pre-Launch Control Plan	View	20-DEC-2004	12-DEC-2004	B	No		View (2) Ad
*16	Check Fixture / Gage Review	View	01-DEC-2004	01-DEC-2004	B	No		View (0) Ad
17	Process / Operator Instructions	View			B			View (0) Ad

Timing for Part - HEADREST - 3R C&S VINYL & CLOTH TRIM/FOAM/FRAAME ASY (L0020750, L0020751)

ProFile - Part Timing (BILBREYLIS)

Page 2 of 2

			20-DEC-2004	22-DEC-2004		No		
18	Production Tooling Complete	View	30-MAY-2005	10-JUN-2005	B	No		View (4) Ad
19	Dimensional Approval	View	10-MAR-2005	10-JUN-2005	B	No		View (1) Ad
20	Appearance Approval	View	25-FEB-2005	10-JUN-2005	B	No		View (0) Ad
21	Int. Mat. Data System Cert	View	28-FEB-2005	10-JUN-2005	B	No		View (6) Ad
22	Team Feasibility	View	19-MAR-2004	19-MAR-2004	B	No		View (1) Ad
23	Run at Rate	View	08-JUN-2005	10-JUN-2005	B	No		View (1) Ad
24	PPAP Submission	View	22-AUG-2005	22-AUG-2005	B	No		View (0) Ad
25	PV Testing	View	17-FEB-2005	10-JUN-2005	B	No		View (1) Ad
26	Doc & Process Review	View	26-MAY-2005	10-JUN-2005	B	No		View (0) Ad

LAUNCH

27	Updated PFMEA	View	26-MAY-2005	10-JUN-2005	B	No		View (2) Ad
28	Launch Control Plan	View	26-MAY-2005	10-JUN-2005	B	No		View (3) Ad
29	Launch Containment Plan	View	03-DEC-2004	03-DEC-2004	B	No		View (1) Ad
30	Ramp Up Plan	View	15-APR-2005	10-JUN-2005	B	No		View (0) Ad
31	Final PPAP Approved	View	30-AUG-2005	13-SEP-2005	B	No		View (2) Ad

Prototype Pilot Launch



Supplier : WINDSOR MACHINE & STAMPING (778625-000)

ProFile

Program U251 (Ford) - 2008 - Seating System



Timing for Part - ASM, FRAME - HEADREST, LH/RH, 2R 40/60 HEADREST FOLDING M (L0023287, L0043001)



REVIEWED BY LEAR SQE

Prototype Pilot Launch Part Timing Deliverable Guidelines

Please save all the changes before adding any attachments

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Line	Learn Dates	Target Date	Complete Date	Status	Risk	Comments	Attachm
<b>PROTOTYPE</b>							
1	Prelim. SC/CC Review	View	19-MAR-2004	19-MAR-2004	B	No	View (0)
*2	Engineering Release	View	19-MAR-2004	19-MAR-2004	B	No	View (0)
3	DFMEA	View	19-MAR-2004	19-MAR-2004	B	No	DFMEA YC YS matrix View (1)
*4	DV Testing	View	28-JUL-2003	28-JUL-2003	B	No	View (0)
5	New Equip. Facil. Test Chklist	View	19-MAR-2004	19-MAR-2004	B	No	View (0)
6	Control Plan	View	19-MAR-2004	19-MAR-2004	B	No	View (0)
7	Team Feasibility	View	19-MAR-2004	19-MAR-2004	B	No	View (0)
<b>PILOT</b>							
8	Packaging Approval	View	14-OCT-2004	14-OCT-2004	B	No	Received approval View (1)
9	SC/CC Review	View	14-OCT-2004	14-JUN-2005	B	No	Requesting to changed to matrix due to error proofing in system View (1)
10	Engineering Release	View	10-JAN-2005	14-JUN-2005	B	No	View (1)
*11	Tool Klok-Off	View	10-JAN-2005	14-JUN-2005	B	No	View (2)
12	Heat Treat Review	View	19-MAR-2004	19-MAR-2004	B	No	View (3)
13	Process Flow / Floor Plan	View	22-DEC-2004	22-DEC-2004	B	No	View (2)
*14	PFMEA	View	22-DEC-2004	22-DEC-2004	B	No	View (3)
15	Pre-Launch Control Plan	View	22-DEC-2004	22-DEC-2004	B	No	View (3)
*16	Check Fixture / Gage Review	View	19-MAR-2004	19-MAR-2004	B	No	View (0)
17	Process / Operator Instructions	View	28-FEB-2005	14-JUN-2005	B	No	View (1)



Supplier : WMNOSOR MACHINE & STAMPING (779626-000)

ProFile

Program U261 (Ford) - 2006 - Seating System

Part Info Timing Part History

Timing for Part - ASM, FRAME - HEADREST, LH/RH, 2R 40/60 HEADREST FOLDING M (L0023287, L0043001)

REVIEWED BY LEAR SQE

Prototype Pilot Launch Part Timing Deliverable Guidelines

ProFile - Part Timing (BILBREYLIS)

*18	Production Tooling Complete	View	08-JUL-2005	14-JUN-2005	B	No		View (2)
*19	Dimensional Approval	View	16-JUL-2005	15-JUN-2005	B	No		View (8)
*20	Appearance Approval	View			N/A	No		View (0)
*21	Int. Mat. Data System Cert	View	01-DEC-2004	10-JUN-2005	B	No		View (3)
*22	Team Feasibility	View	19-MAR-2004	19-MAR-2004	B	No		View (1)
*23	Run at Rate	View	21-JUN-2005	30-JUN-2005	B	No	SNL need capacity tooling for plastic shell	View (0)
*24	PPAP Submission	View	16-JUL-2005	15-JUN-2005	B	No		View (2)
*25	PV Testing	View	08-JUL-2005	15-JUN-2005	B	No		View (0)
*26	Doc & Process Review	View	08-JUL-2005	15-JUN-2005	B	No		View (0)
<b>LAUNCH</b>								
*27	Updated PFMEA	View	16-APR-2005	15-JUN-2005	B	No		View (0)
*28	Launch Control Plan	View	08-DEC-2004	08-DEC-2004	B	No		View (1)
*29	Launch Containment Plan	View	08-DEC-2004	18-OCT-2004	B	No		View (2)
*30	Ramp Up Plan	View	08-DEC-2004	16-OCT-2004	B	No		View (0)
*31	Final PPAP Approved	View	18-JUL-2005	18-JUL-2005	B	No		View (0)

Prototype Pilot Launch





Supplier: WINDSOR MACHINE & STAMPING (779625-000)

ProFile

Program U251 (Ford) - 2006 - Seating System

Part Info **Timing** Part History

Timing for Part - ASM, FRAME - HEADREST, LH/RH, 50%, 2R QUAD SEAT HEAD REST (L0023286, L0042999)

REVIEWED BY LEAR SQE

Prototype Pilot Launch Part Timing Deliverable Guidelines

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Line		Lear Dates	Target Date	Complete Date	Status	Risk	Comments	Attachm
<b>PROTOTYPE</b>								
1	Prelm. SC/CC Review	View	19-MAR-2004	19-MAR-2004	B	No		View (0)
*2	Engineering Release	View	19-MAR-2004	19-MAR-2004	B	No		View (0)
3	DFMEA	View	19-MAR-2004	19-MAR-2004	B	No	DFMEA YC YS matrix	View (1)
*4	DV Testing	View	28-JUL-2003	28-JUL-2003	B	No		View (0)
5	New Equip, Facil. Test Chklist	View	19-MAR-2004	19-MAR-2004	B	No		View (0)
6	Control Plan	View	19-MAR-2004	19-MAR-2004	B	No		View (1)
7	Team Feasibility	View	19-MAR-2004	19-MAR-2004	B	No		View (0)
<b>PILOT</b>								
8	Packaging Approval	View	14-OCT-2004	14-OCT-2004	B	No	Received approval	View (1)
9	SC/CC Review	View	14-OCT-2004	14-JUN-2005	B	No	Requesting to changed to matrix due to error proofing in system	View (1)
10	Engineering Release	View	10-JAN-2005	14-JUN-2005	B	No		View (0)
*11	Tool Kick-Off	View	10-JAN-2005	14-JUN-2005	B	No		View (0)
12	Heat Treat Review	View	19-MAR-2004	19-MAR-2004	B	No		View (3)
13	Process Flow / Floor Plan	View	22-DEC-2004	22-DEC-2004	B	No		View (3)
*14	PFMEA	View	22-DEC-2004	22-DEC-2004	B	No		View (2)
15	Pre-Launch Control Plan	View	22-DEC-2004	22-DEC-2004	B	No		View (2)
*16	Check Fixture / Gage Review	View	19-MAR-2004	19-MAR-2004	B	No		View (0)
17	Process / Operator Instructions	View	28-FEB-2005	14-JUN-2005	B	No		View (0)







# Windsor Machine Headrestraint ASM

## U251 3RD ROW TOOLING & PPAP PLAN

12/13/2004

PART NUMBER	DESCRIPTION	TOOLING COMPLETION DATE	PPAP Date	Open Issues / Changes / Comments:	
6	L0020752_PIA03	PAWL PIVOT ROD	12/29/2004	1/5/2005	ADD HEAT TREAT ECN-42788
7	L0020752_PIA01_ASM	MAIN STAMPING ASM	1/17/2005	1/25/2005	Stamping will be PPAP'd. Waiting for spacer bushing for increased hole diameter PPAP 1-21-05.
8	L0020762_PIA07	HEADREST PIVOT PIN RB	12/17/2004	12/23/2004	LONGER DIA. FOR DOME RIVET ECN-41688.
9	L0020752_PIA10	PAWL RETURN SPRING	12/23/2004	1/7/2005	stronger spring, added coil.
10	L0020752_PIA11	RB DUMP SPRING	12/23/2004	1/7/2005	
11	L0020752_PIA17	E CLIP	Current Production	12/29/2004	
12	L0020752_PIA05	PAWL NUT	Current Production	12/23/2004	
13	L0020752_PIA04	LOCK PAWL	PPAP submitted	PPAP submitted	
14	L0020752_PIA08	PAWL SHAFT BUSHING Plastic	PPAP submitted	PPAP submitted	
15	L0020752_PIA09	WASHER	PPAP submitted	PPAP submitted	

No other upcoming changes

PPAP Submitted for review at Corp. office

AT risk, requested changes, have not been kicked off

**APQP Meeting Minutes**

12/3/2004

	2nd row 60/40	2nd row Quad	3rd row full ASM
Part Number(s):	L8022267 (RH), L8040001 (LH)	L8022267 (RH), L8040001 (LH)	L8022267 (RH), L8040001 (LH)
Part Name:	Mechanical Mechanism	Mechanical Mechanism	Mechanical Mechanism ASM
Annual Volume:	700,000 parts/yr	700,000 parts/yr	400,000 parts/yr
B/P Date:			
B/P Level:			
PPAP Date:	TBD	TBD	TBD
All Supplier PPAP	18-Nov-04	18-Nov-04	18-Nov-04

3-Dec-04 U261 Explorer 2006 Location: PMS Time: 10:00am  
 Attendees: Lisa L, Jake B, Kyle L, Paul D, Rob C, Scott B, Glen S, Lisa B, Phil F, Ninite B, BN MacArthur, Dave Zutck, Steve M, Mike P, Evan K, CC: Jason V, Andy P, Tom B, Lionel P,



**Notes**

- \* Monthly volumes: LH & RH 60/40 2nd row: 64,000 total (3,200 /day & 230 hr (based on 2 shifts))
- \* Monthly volumes: Quad 2nd row: 9,000 total (450 / day & 33pca / hr (based on 2 shifts))
- \* Monthly volumes: 3rd row: 36,000 (1800 / day & 129 / hr)
- \* TBD date for 2nd row Run @ Rate
- \* TBD date for 3rd row Run @ Rate
- \* Run @ rate will be held at Centroy. Building a minimum of 4 hours worth of parts. Centroy will receive all components ready to assemble for the run at rate
- \* 2nd row mechanisms will be shipped to Lear Bing Detroit
- \* 3rd row parts will be assembled with trim covers cloth and vinyl and shipped to Lear Louisville & St. Louis. 1 vacuum fixture is complete

**Open Issues**

	Responsible	Due Date
1 Build 1 lock lever rivet tools for 2nd row. (60/40 & Quad) Properly seat the lock lever to the lock stamping. One machine is done, can do both parts, need to build another machine.	Ellis Tool / PMS	1 completed 2nd due ???
2 Build 2 single station double sequence rivet machine. (60/40 & Quad) Press fit both posts to zinc torsion shaft and rivet.	Ellis Tool / PMS	12/8/4 @ Wajax
3 Build hand tools to load the 2nd row dump spring and 3rd row dump and return spring. 80% complete. PMS to give design support to Centroy	Centroy / PMS	12/8/2004
4 Build 2 cover assembly machines. (60/40 & Quad) To properly seal Right and left side cover plates. Proceed with screwing the covers to the stampings. Jig to be designed by Monday Morning.	Ellis Tool / Centroy	12/10/2004
5 Build 2 Positioner for screws to attach trim closeouts. (60/40 & quad). Closeout must be poke yoked & screws must stay square. Complete	Centroy	Complete
6 Build assembly tables (60/40, quad & 3rd row)	Centroy	Complete
7 Establish foot prints of assembly equipment and update floor plan (60/40, quad & 3rd row) Not req'd for Run @ Rate. Waiting for Tooling	Centroy	1/15/2005
8 Build 1 rivet machine for 3rd row. Ship to Wajax for try-out.	PMS	12/8/2004
9 Build 1 lock pawl press fit machine. 3rd row (press fit lock pawl to pivot pawl rod) Need test equipment to ensure we have a press fit. To PMS Monday, Back to Wajax for Wednesday.	Centroy	12/8/2004
10 Build 1 3rd row pawl nut assembly tool. (press fit the pawl nut to retain pivot pawl rod in place. Jig complete at Ellis, Ready for Centroy	Centroy	12/10/2004
11 Build 3 end of line test to verify (with variable data) : 100% efforts to pull and return to lock position (10-60N). Until assembly process proves capable with 1.67 cpk (variable data). Will need designs for 1pp	Centroy	1/3/2005
12 Most current level, full scale drawing of each component and final assemblies. to Centroy.	Evan / Kyle	12/8/2004

**Comments:** Jake is getting Quote for Zip tie gun and Zip ties by 12/7/4. Machine will be available for 12/15/4

- Get intercompanies on board for PPAP
- set up kick -off meetings 12-6-4
- Reviewed and Established PPAP Plan

**APQP Meeting Minutes**

**11/5/04**

	2nd row 60/40	2nd row Quad	3rd row full ASM
Part Number(s):	LEARNER 6040, LEARNER 6040	LEARNER 6040, LEARNER 6040	LEARNER 6040, LEARNER 6040
Part Name:	Headrest Mechanism	Headrest Mechanism	Headrest Mechanism ASM
Annual Volume:	750,000 parts/yr	750,000 parts/yr	400,000 parts/yr
B/P Date:			
B/P Level:			
PPAP Date:	12-Nov-04	12-Nov-04	12-Nov-04
All Supplier PPAP:	12-Nov-04	12-Nov-04	12-Nov-04

5-Nov-04 U28H Explorer 2004 Location: PMS Time: 10:00am  
 Attendance: Lionel P, Tom B, Lisa L, Richard S, Jake B, Kyle L, Paul O, Rob C, Scott B, Steve M, Glen S, Evan S, CC: Jason V, Irene B, Phil F, Andy P.

**Notes**

- Monthly volumes: LH & RH 60/40 2nd row: 64,000 total (3,200 /day & 230 /hr (based on 2 shifts))
- Monthly volumes: Quad 2nd row: 9,000 total (450 /day & 33pcs / hr (based on 2 shifts))
- Monthly volumes: 3rd row: 36,000 (1800 / day & 120 / hr)
- 12-01-04 date for 2nd row Run @ Rate
- 12-06-04 date for 3rd row Run @ Rate
- Run @ rate will be held at Centroy. Building a minimum of 4 hours worth of parts. Centroy will receive all components ready to assemble for the run at rate
- 2nd row mechanisms will be shipped to Lear Bing Detroit
- 3rd row parts will be assembled with trim covers cloth and vinyl and shipped to Lear Louisville & St. Louis. 1 vacuum fixture is complete

**Open Issues**

	Responsible	Due Date
1 Build 1 lock lever stake tools for 2nd row. (60/40 & Quad) Properly seat the lock lever to the lock stamping. Tom reported that the tooling was on the floor and progressing.	Ellis Tool / PMS	Ellis 11/17/4 PMS 11/24/4
2 Build 2 single station double sequence rivet machines. (60/40 & Quad) Press fit both posts to zinc torsion shaft and rivet. Tom reported that the tooling was on the floor and progressing.	Ellis Tool / PMS	Ellis 11/17/4 PMS 11/24/4
3 Build hand tools to load the 2nd row dump spring and 3rd row dump and return spring. Centroy had everything under control, waiting for a couple jig's from Ellis	Centroy / Ellis	11/18/2004
4 Build 2 cover assembly machines. (60/40 & Quad) To properly seat Right and left side cover plates. Centroy is working on it, needs a couple more days. We talked about heat staking the covers on. Centroy had concerns with the fumes, but we are just talking right now.	Centroy	11/18/2004
5 Build 2 Positioner for screws to attach trim closeouts. (60/40 & quad). Closeout must be poke yoked & screws must stay square. There is a plastic shell design that covers the entire mech. Waiting for response from customer.	Centroy / Scott	11/19/2004
6 Build assembly tables (60/40, quad & 3rd row)	Centroy	11/19/2004
7 Establish foot prints of assembly equipment and update floor plan (60/40, quad & 3rd row) Not req'd for Run @ Rate.	Centroy	1/15/2005
8 Build 1 rivet machine for 3 rd row. Centroy to send old riveting unit to PMS. Rivet machine was sent and will work, design is 75%.	PMS	11/17/2004
9 Build 1 lock pawl press fit machine. 3rd row (press fit lock pawl to pivot pawl rod) Need test equipment to ensure we have a press fit. Tom to do Stack-up study on components at worst case to order correct heading tooling for proper press-fit. Evan to speak with supplier to tighten up tolerance to ensure a press-fit all the time.	Centroy	11/17/2004
10 Build 1 3rd row pawl nut assembly tool. (press fit the pawl nut to retain pivot pawl rod in place.	Centroy	11/17/2004
11 Build 3 end of line test to verify (with variable data) : 100% efforts to pull and return to lock position (10-60N). Until assembly process proves capable with 1.67 cpk (variable data). We will use the current fixture and check the parts manually for the Run @ Rate.	Centroy / Scott	TBD
12 Most current level, full scale drawing of each component and final assemblies. to Centroy. Working on Design Freeze.	Evan	TBD
13 Centroy needs 5 components of each component. (Parts sent) more upon request.	Kyle	10/18/2004

- Comments: 1) Kyle to investigate using a Light oil from Canadian Tire instead of using a Lube Because oil can be sprayed, Lube has to be applied.
- 2) Centroy to look into a Tape machine. (Tape machine will not work because you can't get the part out)
- 3) Investigate S-clips instead of using the zip ties. Print needs to be made for Jake to talk to his supplier. Jake is getting quotes to purchase zip ties as well as the gun.

**Next Meeting: 11/12/04 PMS 10:00am**

# APQP Meeting Minutes

10/14/2004

	2nd row 60/40	2nd row Quad
Part Number(s):	L0023287 (RH), L0043001(LH)	L0023288(RH), L0044000(LH)
Part Name:	Headrestraint Mechanism	Headrestraint Mechanism
Annual Volume:	600,000 parts /yr	100,000 parts /yr
B/P Date:		
Level:		
P Date:	18-Dec-04	18-Dec-04
Supplier PPAP:	18-Nov-04	18-Nov-04

3rd row full ASM
L0020758 (JH), L0020751 (Viny)
Headrestraint Mechanism ASM
400,000 parts /yr
8-Dec-04
18-Nov-04

14-Oct-04 U281 Explorer 2006 Location: PMS Time: 9:00am  
 Attendees: Lionel P, Tom B, Lisa L, Richard S, Jake B, Kyle L, Paul D, Rob C, Scott B, Lane M, Jim V.  
 CC: Jason V, Ivana B, Phil F, Andy P, Glen S, Steve M, Lisa B

At this meeting we went through the open issues and gave them due dates.

## Notes

- Monthly volumes: LH & RH 60/40 2nd row: 64,000 total (3,200 /day & 230 /hr (based on 2 shifts))
- Monthly volumes: Quad 2nd row: 9,000 total (450/ day & 33pcs / hr (based on 2 shifts))
- Monthly volumes: 3rd row: 36,000 (1800 / day & 129 / hr)
- 12-01-04 date for 2nd row Run @ Rate
- 12-08-04 date for 3rd row Run @ Rate
- Run @ rate will be held at Centroy. Building a minimum of 4 hours worth of parts. Centroy will receive all components ready to assemble for the run at rate
- 2nd row mechanisms will be shipped to Lear Bing Detroit
- 3rd row parts will be assembled with trim covers cloth and vinyl and shipped to Lear Louis ville & St. Louis. 1 vacuum fixture is complete

## Open Issues

	Responsible	Due Date
1 Build 1 lock lever stake tools for 2nd row. (60/40 & Quad) Properly seat the lock lever to the lock stamping.	Ellis Tool / PMS	Ellis 11/17/4 PMS 11/24/4
2 Build 2 single station double sequence rivet machine. (60/40 & Quad) Press fit both posts to zinc torsion shaft and rivet.	Ellis Tool / PMS	Ellis 11/17/4 PMS 11/24/4
3 Build hand tools to load the 2nd row dump spring and 3rd row dump and return spring	Centroy / Ellis	11/19/2004
4 Build 2 cover assembly machines. (60/40 & Quad) To properly seat Right and left side cover plates.	Centroy	11/19/2004
5 Build 2 Positioner for screws to attach trim closeouts. (60/40 & quad). Closeout must be poke yoked & screws must stay square.	Centroy	11/19/2004
6 Build assembly tables (60/40, quad & 3rd row)	Centroy	11/19/2004
7 Establish foot prints of assembly equipment and update floor plan (60/40, quad & 3rd row) Not req'd for Run @ Rate.	Centroy	1/15/2005
8 Build 1 rivet machine for 3 rd row. Centroy to send old riveting unit to PMS	PMS	11/17/2004
9 Build 1 lock pawl press fit machine. 3rd row (press fit lock pawl to pivot pawl rod) Need test equipment to ensure we have a press fit. Tom to do Stack-up study on components at worst case to order correct heading tooling for proper press-fit.	Centroy	11/17/2004
10 Build 1 3rd row pawl nut assembly tool. (press fit the pawl nut to retain pivot pawl rod in place.	Centroy	11/17/2004
11 Build 3 end of line test to verify (with variable data) : 100% efforts to pull and return to lock position (10-60N). Until assembly process proves capable with 1.67 cpk (Scott to look into the variable data)	Centroy / Scott	TBD
12 Most current level, full scale drawing of each component and final assemblies. to Centroy	Evan	TBD
13 Centroy needs 5 components of each component	Kyle	10/18/2004

Comments: 1) Kyle to investigate using a Light oil from Canadian Tire instead of using a Lube Because oil can be sprayed, Lube has to be applied.

2) Centroy to look into a Tape machine.

3) Investigate S-clips instead of using the zip ties. Print needs to be made for Jake to talk to his supplier.

6/2/2004

**Summary From Meeting**

Due Date:

	Plastic covers are not holding up Stamping.	
	Stampings being held up by Rubber bumper issue.	
Kyle	Get 60/40 on cycle test with Zinc shaft & rubber bumpers & valid.	6/4/2004
Evan	For production mold on RS cover turn clip features 90°	
Steve	Modify Proto RS cover mold with stronger features and boss	
	All pins resolved by next week	6/11/2004
Evan / Kyle	<OI> Spring rate from Tom F, Get with Spring N things for spring rate, and get some Proto's made. Get mech on sled test. Pins are not being kicked off until issue resolved.	6/18/2004
Kyle	When can I see Die's run @ GFM, PPAP, Run @ Rate. PPAP set for both parts 6/10/4, can see dies run 6/15/4.	6/25/2004
Kyle	Proceed on Dump Spring	6/2/2004
Steve	Have Production Source for Nyliner Bushing & Screw	6/11/2004
Kyle	Finalize Stop Pin send print to Steve for quoting coating.	6/11/2004
Kyle	Quad welded assembly drawing for Steve to quote coating.	6/2/2004
Kyle	Meeting with Pangeo - Get quote, pangeo to by strap mat'l from MIT. PPAP date of 06/25/4, no price change, Paul will get a blanket quote.	6/3/2004
Steve	Steve to send Letter of intent to MIT	6/4/2004
Kyle	Get Strap drawing done for Steve & Scott, with sonic weld & load, give them a PPAP date of 06/18/4	6/3/2004
Scott / Lisa	Is MIT ISO or QS certified	6/3/2004
Kyle	Get Steve a developed Tube length to order tube mat'l. Is this being done on the Unison / bending tools. Follow up.	
	H/R brace design is done. Can use OMOS	
Steve	Coating answer for the welded frame.	6/18/2004
Scott	Figure out if Jake's 3rd row idea will be better for Cost / Time / ease of assembly. Scott doesn't like the e-clip.	6/4/2004
Steve / Scott	Foam we are looking to do it on our own.	7/7/2004
Kyle	Stamping drawing for coating, with welded parts.	6/3/2004
	Jim Kiley, Michael Mosher, When we machine parts out of round stock, its possible get bad grain flow. It all has to do with Mat'l, grain flow, and annealing.	6/8/2004
	Parts should be annealed to the right hardness	
	You can predict the push out	
	You can't predict size (Diameter & Height)	
	They took the drawings and are marking them up (tolerance's)	
	Most likely would cold form then anneal, because the part will work harden.	

**Internal Open Issues**

DATE: 4/20/2004

By: Kyle, Scott, Evan, Steve, Tom, Lisa, Dennis, Mike, Steve, Lisa, Steve, Lisa, Steve

Program: U251

Revision Date:

2nd Row	2nd Row	2nd Row	2nd Row	2nd Row	2nd Row
1	2nd row	Zinc shaft is failing bend test and is to soft material or design for handling during assembly.	Finalize the shaft design. Make samples of current zinc, new zinc (new double D and not coated out) & new steel bar for a different test on legs. Create procedure, document results and take pictures. Production tools for the dump spring is on hold until this is finalized. Make up machined zinc shafts without the weight reduction and build 2 sets of samples.	Kyle, Scott, Evan	4/20/2004
2	2nd row	Contingency plan to absorb the build variation in the assembly excessive chuck	Investigate options for a neoprene rubber, plastead coating, silicone or rubber bumper / shrink tube, in the rotational stop pin and both side stamping interface. Mould is done, modifying current parts to build up mech's. Wrong matt first time around, matt was ripping. Getting natural rubber 5/1.	Evan / Scott / Greg	4/20/2004
3	2nd Row	Fasteners	Steve to work on production source for the trim closeout fasteners. Conroy recommends the torque head with a washer. Self tapping screw Steve has a drawing. Ensure any plating is HEX chromium free.	Kyle, Steve	4/20/2004
4	2nd row	Need a production answer for the nyloner bushing	No production source identified. Steve has a drawing.	Kyle, Steve	4/20/2004
5	2nd row	Need production supplier for zip ties	Investigate options for a production supplier 2 zip ties per headrest. Steve has a drawing for length. Also investigate using tape instead.	Kyle, Steve	4/20/2004
6	2nd row	Need to protect the lock lever from binding on the cover plate with pressure is applied by the foam and trim when assembled.	Short term, weather off rot. Long term, Plastic always 4-23-04 design changes in the plastic cover plate. Still need to review attachment points. Evan to modify design and get quote from Havel Plastics. 6-7-04 DFMEA needs to be updated. Lisa to complete an 8D for Bing for this issue. 5-14-04. One tab and 1 boss added to LS cover to prevent this from happening. Proceeding on production mold when clip feature is finalized.	Evan, Kyle	4/20/2004
7	2nd Row	Plastic Cover plates	Design RS cover plates with the Xmas tree attachment points. I received parts, modifying the stamping to accept new clip features. The parts weren't strong enough, we are strengthen the feature and are going to get more parts.	Evan, Kyle	5/3/2004
8	2nd row	Validate the strength of the rivets	Don Drifon requested a push test on the rivets. Create a fixture, procedure to complete a push test, determine what amount of force is acceptable (acceptance criteria), test the parts and document the results.	Evan	5/8/2004
9	2nd Row	Tom is requesting samples for a lever and push button design to eliminate the right and left hand part no.'s	Scott to quote and Evan to design and mock up some samples.	Scott	4/20/2004
10	2nd Row	Tom is requesting samples with a revised lock notch	Lisa needs an updated drawing a reasons why this change needs to happen to update the DFMEA (Tom received 3 parts, waiting for response)	Scott / Evan	4/20/2004
11	2nd row	Bing is having trouble assembling the trim, our trim closeout is closing up.	Received a quote to make new parts and for them to be placed on a cooling fixture. Timing is 1 week from P.O. (No P.O. issued as of 05/20/04.) Adding note to trim on closeout has not be kicked off. 4 weeks left on mech's - 73%. For our remaining parts, we made our own fixtures. (18 sets were sent to Bing, waiting for response.)	Kyle / Steve	5/4/2004
12	2nd row	Pull out test on strap features and cover plate	Waiting to use the new cover plate and the modified stamping.	Kyle / Evan	5/18/2004
13	2nd row	Flare on Trim Closeouts are showing through Trim cover	Tom mentioned getting 1 set built with shorter flns, but no P.O. so I haven't proceeded.	Kyle / Evan	5/17/2004
14	2nd row	During Bend testing the mech stamped.	Looking into making the lock lever spring stronger, changing the angle of the lock features	Evan	5/26/2004
15	2nd row	Need Production supplier's kicked-off for (Lever Pivot Pin & Rotational Stop Pin)	Waiting to finalize the design	Evan / Kyle	4/20/2004
<b>3rd Row</b>					
2	3rd row	Louisville has clearance issues when installing the stamping into the seat back. Also with increasing looseness	Evan to work on resolving all clearance issues. Samples are made with clearance issues addressed and an added bushing to the stamping to address the increasing looseness. Lisa to send Tom a quote @ current PO price. 6/7-04) Tom Fowler to issue a P.O. and try parts out at Louisville. Lisa to submit an 8D to Louisville. We need an 8D to bump the part level, if they approve these parts.	Evan	4/20/2004
5	3rd row	Trim issues	Confirm with Cindy what the direction for the trim cover around the post holes is for the next build and acquire the material for this. Lisa to submit 8D to Louisville 5-7-04 also addressing the exposed poly foam on the trim from the plus pad and exposed foam burn around the post holes. Revise the trim pattern to resolve these issues.	Tom Fowler / Arton	4/20/2004
4	3rd row	Dump spring safety issue	Investigate what can be done with the edge of the dump spring that sticks out on the slave side. Band down the edge of the spring. Received a quote have not proceeded as of 07/14 \$750.00 and 11 weeks for parts.	Evan, Kyle	5/3/2004
5	3rd row	Need to lock off production supplier's for (Pivot Nut, Pivot Shaft Bushing, My Pivot Pin, Washer, LS pivot Pin, Specor Bushing, Foam)	Finalize the design, some are ready.	Evan / Kyle	4/20/2004
<b>2nd &amp; 3rd Row</b>					
1	2nd row & 3rd row	Revisit design of rivet fasteners. Parts are getting chunk	Set up a meeting with a rivet expert for guidance develop a specification, tolerances and test evaluation method (to ensure properly seated rivet & ) that our process can hold based on industry standards for diameter and height after riveted. Investigate the length of the pins prior to rivet and available area for rivet machine clearance. Meeting with Jim Kelley from Michigan Rivet on 05/24.	Evan, Kyle	4/20/2004
2	2nd row & 3rd row	Need to complete a life cycle test	Put a part on test with no chuck, for 5000 cycles check for chunk every 100 cycles. Develop a measuring device to check for chunk. 3rd row is complete, Not ready for a 2nd row cycle test. (We need correct pull angle and rubber bumpers #2/4.)	Lisa / Evan / Scott	4/20/2004
3	2nd row & 3rd row	Need to confirm production source for strap	MIT is quoting, waiting for response. 1,200,000 parts per year at 116mm long when sewn and complete.	Scott / Steve	4/20/2004
4	2nd row & 3rd row	No proto tooling PO	Scott to follow up on where Leif is at with the PO. We are delivering parts without P.O.'s	Scott	5/3/2004
6	2nd row & 3rd row	Lear has Final Assembly Drawings that we haven't seen.	Get a copy of Lear Final drawing and review	Scott / Lisa	5/11/2004
8	2nd row & 3rd row	Rivet	The mech's are rilling, on stampings it is visible, on the HPR tube and trim brace it is a handling issue. Possible phosphate line / zinc plating / e-coating. Prints to Steve for pricing.	Scott / Dennis	5/18/2004

Identify all parts with a tolerance fix order. Permanent Mark, use stamp the end of the part (per field notes)

2nd row 8D 40

3/25/2004 White dot on post tips bottom to show foam cured out at Bing

4/13/2004 Yellow dot on frame post tips to show washer's silicone has been added.

4/13/2004 Blue dot on the frame post tips to show: reworked radius on the trim closeout, washer added and silicone added (zinc torison bar) @ sets of 60/40. 3 sets of quad.

4/15/2004 Green dot on the frame post tips to show: reworked radius on the trim closeout, washer added, rubber burn per and using steel torison bars. 5 sets 60/40

current

4/16/2004 White dot on shaft where the dump spring engages into the shaft & hole

current

3rd row

3/28/2004 Green star on stamping to show that the parts were cycled for efforts & function

4/5/2004 White dot on rivet to show an optimal rivet, checking for consistency

**Tuesday & Thursday Conference Calls @ 10:30. Call In Number 1-866-564-2503 and your Participant Code is 6661038.**



**Internal Open Issues**

Draw Number:

Lot:

Lot:

Project:

Project:

Row	Issue Description	Assigned To	Due Date
1	2nd row Zinc shell is being used and is not material or design for handling during assembly.	Kyle, Scott, Even	4/20/2004
2	2nd row Confingency plan to identify the built variation in the assembly accessible chuck	Even / Scott / Greg	4/20/2004
3	2nd row Fasteners	Scott, Steve, Mike	4/20/2004
4	2nd row Need a production answer for the nylon bushing	Scott / Steve	4/20/2004
5	2nd row Need production supplier for zip line	Steve, Scott, Kyle	4/20/2004
6	2nd row Need to protect the lock lever from landing on the cover plate with pressure is applied by the beam and trim when assembled.	Even / Scott / Ernie	4/20/2004
3rd ROW			
1	3rd row Tom, Requesting samples for lever & post button designs.	Scott / Ernie	4/20/2004
2	3rd row Tom Requesting quote for auto articulation design.	Scott / Ernie	4/20/2004
3	3rd row Louiseville has clearance issues when installing the stamping into the seat back.	Even	4/20/2004
4	3rd row Trim Issues	Tom Fowler / Mitch	4/20/2004
2nd & 3rd row			
1	2nd row & 3rd row Parts are getting stuck	Even, Kyle, Mike G.	4/20/2004
2	2nd row & 3rd row Need to complete a life cycle test	Mike / Ernie / Scott	4/20/2004
3	2nd row & 3rd row Need to confirm production source for ship	Scott / Steve	4/20/2004

2nd row 6/24/40  
3/25/2004

White dot on post legs bottom to show issue, noted out of Elog

4/13/2004 Yellow dot on frame post tips to show washers, silicone has been added.

4/15/2004 Blue dot on the frame post tips to show new load radius on the trim obscurot, washer added and silicone added (since tonson bar) 8 sets of 60/40, 3 sets of quad.

4/20/2004 Green dot on the frame post tips to show: reworked radius on the trim obscurot, washer added, rubber bumper and using steel torsion bars, 5 sets 60/40

2nd row

White dot on trim to show an order list

Green star on stamping to show that the parts were ordered for airflow & function



**U - 251 2nd Row 60/40 Split Prototype Matrix**

Rev: 1  
2/11/2004

P/N	Part Description	Proto Source	Piece price
L0023287_PIA01	Post LS Rod	Ellis Manufacturing Fab	?
L0023287_PIA01	Post LS Rod	Hess machining, wire cut	\$ 26.00
L0023287_PIA01	Post LS Rod	Zinc Plating	?
L0023287_PIA03	Shaft	Hess machining, wire cut	\$ 25.00
L0023287_PIA09	Post RS Post	Ellis Manufacturing Fab	?
L0023287_PIA09	Post RS Post	Hess machining, wire cut	\$ 28.00
L0023287_PIA09	Post RS Post	Zinc Plating	?
L0023287_PIA11	Tube Headrest Frame	Ellis Manufacturing	?
L0023287_PIA12	Headrest Brace	Ellis Manufacturing	?
L0023287_PIA13	Trim Closeout	Hawk Plastics	\$ 5.00
L0023287_PIA23	Back Headrest shell	CPS	\$ 2.63
L0023287_PIA24	Front Headrest shell	CPS	\$ 2.63
L0023286_PIA02	Lock Stamping	Cantech	\$ 34.92
L0023286_PIA04	Lever Phot Pin	Suntech	\$ 3.00
L0023286_PIA05	Left Side Cover Plate	Hawk Plastics	\$ 3.00
L0023286_PIA06	Lock Lever	GFM	\$#REF!
L0023286_PIA07	Catch Spring	Spring's 'N' Thing's	\$ 30.00
L0023286_PIA08	Rotational Stop Pin (2 per asm)	Suntech (\$2.00 each)	\$ 4.00
L0023286_PIA08	Rotational Stop Pin w/ hybrid (2per asm)	CPS (\$3.70 each)	\$ 7.40
L0023286_PIA10	Sieve Moveable Stamping	Cantech	\$ 25.92
L0023286_PIA14	Dump Spring	Spring's 'N' Thing's	\$ 3.70
L0023286_PIA15	Retaining Screw (2 per asm)	J & Back phos Plating Williams (\$0.0)	\$ 0.14
L0023286_PIA16	Teflon Bushings (2 per asm)	SL Gobain (1.25 each)	\$2.50
L0023286_PIA18	Right Side Cover Plate	Hawk Plastics	\$ 3.00
L0023286_PIA20	Bearing Backer Spring	Spring's 'N' Thing's	\$#REF!
L0023286_PIA17	Manual Release Cable	Pangeo	\$ 2.50

PO #118327 (issued by Ellis.)  
 PO #118930 (issued by Ellis.)  
 CPS Quote# 9801  
 PO #118327 (issued by Ellis.)  
 Screws .02 each and plating is \$110.00 per 2000

**U - 251 2nd Row Quad Prototype Matrix**

P/N	Part Description	Proto Source	Price per part
L0023286_PIA02	Lock Stamping	Cantech	\$ 34.92
L0023286_PIA04	Lever Phot Pin	Suntech	\$ 3.00
L0023286_PIA05	Left Side Cover Plate	Hawk Plastics	\$ 3.00
L0023286_PIA06	Lock Lever	GFM	\$#REF!
L0023286_PIA07	Catch Spring	Spring's 'N' Thing's	\$ 30.00
L0023286_PIA08	Rotational Stop Pin (2 per asm)	Suntech (\$2.00 each)	\$ 4.00
L0023286_PIA08	Rotational Stop Pin w/ hybrid (2per asm)	CPS (\$3.70 each)	\$ 7.40
L0023286_PIA10	Sieve Moveable Stamping	Cantech	\$ 25.92
L0023286_PIA14	Dump Spring	Spring's 'N' Thing's	\$ 3.70
L0023286_PIA15	Retaining Screw (2 per asm)	J & Back phos Plating Williams (\$0.0)	\$ 0.14

PO #118327 (issued by Ellis.)  
 PO #118330 (Issued by Ellis.)  
 CPS Quote# 9801  
 PO #118327 (issued by Ellis.)  
 Screws .02 each and plating is \$110.00 per 2000

\* - Denotes Common Components Between 60/40 Split and Quad Assemblies

Part #	Part Description	Proto Source	Piece Price	USD
L0023286_PIA16	Teflon Bushings (2 per arm)	St. Gobain (1.25 each)	\$2.50	USD
L0023286_PIA18	Right Side Cover Plate	Hawk Plastics	3.00	CDN Funds
L0023286_PIA20	Bearing Backer Spring	Spring's 'N' Things	#REF!	CDN Funds
L0023286_PIA17	Manual Release Cable	Pinyeo	2.50	CDN Funds
L0023286_PIA01	Post LS Rod	Ellis Manufacturing	?	CDN Funds
L0023286_PIA01	Post LS Rod	Hass machining, wire cut	25.00	CDN Funds
L0023286_PIA01	Post LS Rod	Zinc Plating	?	CDN Funds
L0023286_PIA03	Steel Shaft, Fab	Ellis Manufacturing	?	CDN Funds
L0023286_PIA03	Steel Shaft	Hass machining, wire cut	25.00	CDN Funds
L0023286_PIA09	Post RS Post	Ellis Manufacturing, fab	?	CDN Funds
L0023286_PIA09	Post RS Post	Hass machining, wire cut	25.00	CDN Funds
L0023286_PIA09	Post RS Post	Zinc Plating	?	CDN Funds
L0023286_PIA11	Tube Headrest Frame	Ellis Manufacturing	?	CDN Funds
L0023286_PIA12	Headrest Bracs	Ellis Manufacturing	?	CDN Funds
L0023286_PIA13	Trim Cleasout	Hawk Plastics	5.00	USD
L0023286_PIA23	Back Headrest shell	CPS	2.63	USD
L0023286_PIA24	Front Headrest shell	CPS	2.63	USD

\* - Denotes Common Components Between 80/40 Split and Quad Assemblies

### U - 251 3rd Row Prototype Matrix

Last revision as of February 20th, 2004  
Rev: 1

Part #	Part Description	Proto Source	Piece Price	USD
Also Ref Part: (L0020754)				
752	Main Stamping	Carnitech	\$ 520.00	CDN Funds
752	Pawl Pivot Rod	Ellis Manufacturing	?	CDN Funds
752	Lock Pawl	Windsor Lessor / GFM	#REF!	CDN Funds
752	Pawl Nut	Fabroy	#REF!	CDN Funds
752	Pawl Shaft Bushing	Kam Tool	2.50	CDN Funds
752	Headrest Pivot Pin	Suntech	3.50	CDN Funds
752	Washer	Horne Depot	?	CDN Funds
752	Manual Release Strap	MIT Cut & sew	1.25	USD
752	Pawl Return Spring	Spring's 'N' Things	\$ 57.14	CDN Funds
752	RS Dump Spring	Spring's 'N' Things	\$ 50.71	CDN Funds
752	Headrest Post Leg	Ellis Manufacturing FAB, Frame	?	CDN Funds
752	Headrest Post Leg	Hass Wire Cut, trim	70.00	CDN Funds
752	Trim Covers	MIT (cut sew & build)	30.00	USD
752	Pawl Spacer	GFM	#REF!	USD
0753	Foam	ixilan	20.00	USD
752	Teflon Bushings (1 per arm)	St. Gobain	1.25	USD
752	Teflon Bushings (2 per arm)	St. Gobain (\$1.25 each)	2.50	USD

PO# 118327 (issued by Ellis)

CDN Funds

CDN Funds

CDN Funds

PO# 118330 (issued by Ellis)

PO# 118330 (issued by Ellis)

PO# 118330 (issued by Ellis)

CDN Funds

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**U - 251 2nd Row 60/40 Split Production Matrix**

2/21/2008

PPAP June

Yearly Volume - 700,000 Assemblies

Start of Production August 1st, 2008

	P/N	Part Description	Quantity	Tooling Source	Production Source	Ship to for Assembly	PPAP Due Date	PAPP Rev / Status	Tooling Description
1	L0023287_PIA	60/40 Assembly	700 000	PMS/Centroy	Centroy				
2	L0023287_PIA01	Post L& Rod	700 000	Elite/PMS	Southern Wire	H/T, Plating, Centroy	N/A	N/A	Coin / Punch / Bend Die
3	L0023287_PIA03	Shaft	700 000	Stoney Creek	TBD	Centroy	N/A	N/A	Mikefasha
4	L0023287_PIA09	Post R& Post	700 000	Elite/PMS	Southern Wire	Plating, Centroy	N/A	N/A	Coin / Punch / Bend Die
5	L0023287_PIA11	Tube Headrest Frm	700 000	Elite/PMS	Southern Wire	Centroy	N/A	N/A	Bender
6	L0023287_PIA12	Headrest Brace	700 000	OMAS	Elite Manuf.	Southern Wire	N/A	N/A	OMAS

**U - 251 2nd Row Quad Production Matrix**

2/21/2008

PPAP June

Yearly Volume - 100,000 Assemblies

Start of Production August 1st, 2008

A = Approved  
R = Rejected

	P/N	Part Description	Quantity	Tooling Source	Production Source	Ship to for Assembly	PPAP Due Date	PAPP Rev / Status	Tooling Description
1	L0023286_PIA	Quad Assembly	100 000	PMS/Centroy	Centroy		N/A	N/A	
2	L0023286_PIA02	Lock Stamping	800 000	Lindo Tool & Die	Pellus II	Southern Wire	N/A	N/A	If each Prog Die
3		Lock Stamping Fixture	1	Ti-Tech Fixtures	Pellus II				Final Checking Fixture
6	L0023286_PIA05a	Left Side Cover Plate	800 000	Hawk Plastics	Hawk Plastics	Centroy	3/31/2005	TBD	Cavity Mold
7	L0023286_PIA06	Lock Lever	800 000	GPM	GPM	Centroy	Complete	8 / A	Compound Die
8	L0023286_PIA07	Catch Spring	800 000	Dominion Spring	Dominion Spring	Centroy	Complete	11 / A	
10	L0023286_PIA10	Slave Moveable Stamping	800 000	Lindo Tool & Die	Pellus II	Southern Wire	N/A	N/A	If each Prog Die
11		Slave M. Stamping Fixture	1	Ti-Tech Fixtures	Pellus II				Final Checking Fixture
12	L0023286_PIA14	Dump Spring	800 000	Dominion Spring	Dominion Spring	Centroy	Complete	8 / A	
15	L0023286_PIA18a	Right Side Cover Plate	400 000	Hawk Plastics	Hawk Plastics	Centroy	3/31/2005	N/A	Cavity Mold
17	L0023286_PIA17	Manual Release Cable	800 000	Pangco	Pangco	Centroy	Dec ??	N/A	
18	L0023286_PIA01	Post L& Rod	100 000	Elite/PMS	Southern Wire	H/T, Plating, Centroy	N/A	N/A	Coin / Punch Die
19	L0023286_PIA03	Shaft	100 000	Stoney Creek	TBD	Centroy	N/A	N/A	Mikefasha
20	L0023286_PIA09	Post R& Post	100 000	Elite/PMS	Southern Wire	Plating, Centroy	N/A	N/A	Coin / Punch Die
21	L0023286_PIA11	Tube Headrest Frame	100 000	Elite/PMS	Southern Wire	Centroy	N/A	N/A	Bender
22	L0023286_PIA12	Headrest Brace	100 000	OMAS	Elite Manuf.	Southern Wire	N/A	N/A	OMAS
27									
		* Denotes Common Components Between 60/40 Split and Quad Assemblies							

**U - 251 3rd Row Production Matrix**

2/21/2008

Yearly Volume - 400,000 Assemblies

Start of Production August 1st, 2008

A = Approved  
R = Rejected

PPAP June

	P/N	Part Description	Quantity	Tooling Source	Production Source	Ship to for Assembly	PPAP Due Date	PAPP Rev / Status	Tooling Description
1	L0020752_PIA	3rd Row Assembly	400 000	PMS/Centroy	Centroy	N/A	N/A	N/A	
2	L0020752_PIA01	Main Stamping	400 000	Lindo Tool & Die	Pellus II	Centroy	Complete	N/A	1 Off Prog Die
3	L0020752_PIA03	Pawl Pivot Rod	400 000	OMAS	Elite Manuf.	Centroy	N/A	N/A	OMAS into C-Frame Header
4	L0020752_PIA04	Lock Pawl	400 000	GPM	GPM	Centroy	Complete	8 / A	4 Off Compound Die
6	L0020752_PIA06	Pawl Shaft Bushing	400 000	National Mold	National Mold	Centroy	Complete	1.3 / A	7 Cavity Mold
8	L0020752_PIA08	Washer	400 000	National Mold	National Mold	Centroy	Complete	1.5 / A	7 Cavity Mold
9	L0020752_PIA09	Strap	400 000	MIT	MIT	Centroy	??	Rel / R	
10	L0020752_PIA10	Pawl Return Spring	400 000	Dominion Spring	Dominion Spring	Centroy	Complete	1 / A	
11	L0020752_PIA11	R& Dump Spring	400 000	Dominion Spring	Dominion Spring	Centroy	Complete	11 / A	
12	L0020752_PIA12	H/R Frame	400 000	Elite/PMS	TBD	Centroy	N/A	N/A	Trim/Punch Dies hydraulic Bender
13	L0020752_PIA13	Trim Covers	400 000	CNI	CNI	Centroy	?	?	
15	L0020752_PIA16	Spacer Bushing	400 000	GPM	GPM	Southern Wire	Complete	8 / A	4 Off Compound Die
20	L0020753_PIA	Foam	400 000	Konal Eng.	Centroy	Centroy	?	?	