

**PE03-044**  
**FORD**  
**5/13/2005**  
**APPENDIX I**  
**BOOK 17 OF 28**  
**PART 4 OF 4**

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## Chassis/PTSE Adjustable Pedal System Engineering Statement of Work (ESOW)

### Background

Through Lessons learned on the launch of the U152 and U137 adjustable pedal systems, it was deemed necessary to more clearly define internal roles and responsibilities between Chassis (Brake Release Activity) and Powertrain Systems Engineering (Accelerator Control Release Activity) within the Ford Motor Company (FMC). This document will help insure that there is a mutual understanding of expectations between current and future Chassis and PTSE PMT leaders.

### Introduction

Full Service Suppliers (FSS) will be sourced based on offering a complete pedal solution for an adjustable pedal assembly containing both accelerator and brake pedal assemblies. Sourcing for complete assemblies will need to be jointly agreed to by Purchasing along with both Chassis and PTSE representatives. Synergies will be identified and information sharing forums combined in an effort to reduce redundancy with full service suppliers. The separation of tasks should become much less complex as FMC migrates to Electronic Throttle technology. This Statement of Work defines the relationship for both Mechanical and Electronic Throttle Control Adjustable Pedal Systems. PTSE and Chassis D&R representatives who have experienced miscommunication on current and past programs along with representatives who are actively working on future systems have provided their input to this document.

*The Generic Statement of Work contains general Roles & Responsibilities shared across commodity and program format. This document should not be considered all-inclusive...It does not detail every single task that Chassis and PTSE are responsible for. It is expected that information will be added or deleted as mutually agreed to by the Chassis and PTSE PMT Leader.*

The following individuals have provided input:

Basal Abbasi	PTSE, Accelerator Controls	x
Dave Brank	Chassis Brake Engineering	x
Jimmy Chau	Chassis Brake Engineering	x
Jim Conrad	RVT, Accelerator Controls	x
Joel Dalton	PTSE, Accelerator Controls	x
John Florini	PTSE, Accelerator Controls	x
Mark Leroux	PTSE, Accelerator Controls	
Lisa Petrauskas	Chassis Brake Engineering	x
James Rippy	Chassis Brake Engineering	
Mel Server	Chassis Brake Engineering	
Rakesh Sheth	PTSE, Accelerator Controls	x
Tom Skwtrsk	Chassis Brake Engineering	
Dan Villar	Chassis Brake Engineering	
Mike Weber	PTSE, Accelerator Controls	
Greg West	PTSE, Accelerator Controls	x

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### Chassis/PTSE Statement of Work Matrix

L = Lead S = Support	
<b>PROGRAM INFORMATION AND REQUIREMENTS</b>	
	Program Management Structure
	Adjustable Pedal Interface Diagram
	Program Targets
	Program Timing
<b>PROGRAM EXECUTION</b>	
	Program Start-up / Overall Responsibilities
	Target Setting
	Feasibility, Design Optimization & Packaging
	Prototype Build & Part Schedule
	CAD/CAE General Responsibilities
	Testing and Verification
	Program Change Control
	Engineering Tasks
	Launch and Production Support
	Service Documentation and Support

#### PROGRAM INFORMATION AND REQUIREMENTS

Filename: PTSE\_Chassis SOW.doc  
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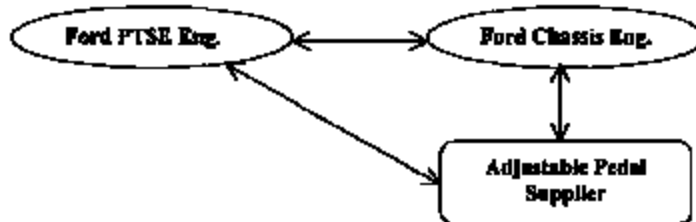
Issued Date: 8/10/01  
Revised Date: 9/19/01

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### 1. Program Management Structure

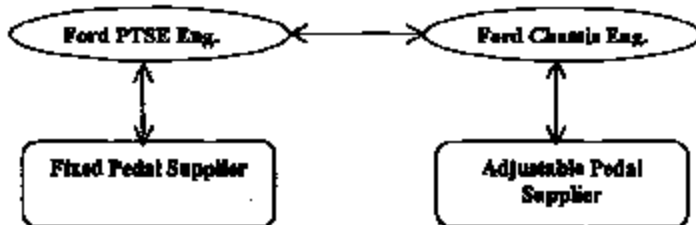
#### Interface When Fixed and Adjustable Pedal Suppliers are the same:

For vehicle platforms with common fixed and adjustable accelerator pedal suppliers, Chassis will lead brake discussions and PTSE will lead accelerator related discussions. An SPMT (Chassis lead) forum with clearly defined reporting times (first half to cover brake issues, last half to cover accelerator controls) to best utilize supplier resources. Sign-off of each sub-system will occur jointly for each subsystem (Brake & Accelerator Controls), and by end-item. A joint sign-off will be required for adjustable pedals (Chassis has primary responsibility for adjustable pedals as the releasing activity). Depending on the number of issues, a separate accelerator control SPMT may be required. Adjustable accelerator pedal issues are to be reported back through the Chassis SPMT.



#### Interface when Fixed and Adjustable Pedal Suppliers are different:

If suppliers for fixed and adjustable pedals are different, Chassis Engineering will lead adjustable pedal supplier interface and PTSE will lead fixed pedal supplier interface. All fixed accelerator pedal issue resolution will be lead by PTSE. Chassis engineering will lead accelerator issues unique to adjustable pedals with support by PTSE engineering in a Tier 2 capacity.



Program Director Letter Input will capture the adjustable pedal content under Chassis CPSC code 06.06.00 and fixed accelerator pedal design direction will be captured under PTSE CPSC code 03.16.00.

### 2. Adjustable Pedal Interface Diagram

- 1. Chassis owns the interface diagram because they release the pedal assembly.

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2. Relationship between a fixed pedal and an adjustable pedal system is similar in that the fixed pedal attaches to the dash panel and is an end item to B&A (fasteners released by PTSE). For an adjustable accelerator pedal, attachment interface is now to a Chassis component and the assembly is an end item to B&A (fasteners released by Chassis engineering). Fasteners should be common to avoid B&A plant complexity.
3. Chassis will be responsible for the interface and clearance checks with surrounding components including the motor cable to accelerator attachments. (Rationale: Chassis mounting hole tolerances were referenced off a brake locator requiring clearance holes for the mounting of the accelerator pedal. As a result, the relationship between the dash panel accelerator cable pierce point and the attach point now has more variability introduced into the system which must be taken into account).
4. ETC PPS electrical connection and pedal component will be packaged by PTSE.

Insert Interface Diagram Here

### 3. Program Targets

Packaging (Dunnage):	Chassis will lead interface between plant packaging engineer and supplier.
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Net Weight:	PTSE will sign up for a fixed pedal target that applies to the adjustable pedal system. On programs where there are 100% adjustable pedals, PTSE will sign up to a portion of the target (accelerator pedals).
Safety:	PTSE will run FMVSS 124 certification testing at the same time during normal fixed pedal development for both mechanical and electronic throttle control systems provided hardware is available at time of testing.
Styling/Appearance: (Including colors)	Accelerator pedal pad will be similar in appearance to the brake pedal pad. If styling change is required, Chassis will lead changes to adjustable pedal. PTSE and Chassis will lead jointly if change required for fixed pedal system (supplier interface efficiencies).
Serviceability:	Chassis Engineering will lead as the D&R activity. PTSE will release accelerator related service components (pedal pad, etc).
Recycling:	Parts must comply with: <ul style="list-style-type: none"> <li>- The recycling targets for Total Vehicle Recyclability</li> <li>- Recycled Materials Usage</li> <li>- Parts Marking (Ford Engineering Standard No. E-4 issued April 19, 1996, SAE J1344 and ISO standards)</li> <li>- Substance of Concern Elimination, as detailed in the Target Agreements and outlined in the Ford Corporate Vehicle Recycling Strategy Objectives.</li> <li>- Reporting Requirements per the current WSS-M99P999-A1 (Hex B)</li> </ul> An End-of-Life recycling plan/strategy is to be provided for each delivered commodity.

4. Program Timing

Will be cascaded to supplier by Chassis Representative. PTSE will attend P/T PMT to obtain information.

<SP>	Strategic Intent	QRDAM Info.
<SC>	Strategic Confirmation (Sourcing jointly agreed to by PTSE/Chassis and Purchasing to ensure proper engineering support (RMS) is available)	Bel. Chassis/PTSE & Purchasing
<PH>	Proportions & Hand points	
<PA>	Program Approval	Targets become Ob.
(ST)	Surface Transfer	
(PT)	Powertrain Design Complete - Design Release	
<PR>	Product Readiness	Also between Chassis/PTSE
(CP)	Confirmation Prototype	
<CC>	Change Cut-Off (Preliminary Engineering Sign-off)	Also between Chassis/PTSE
<LR>	Launch Readiness (Final Engineering Sign-off)	Also between Chassis/PTSE
<LS>	Launch Sign-Off	
(J)	Job #1	

PROGRAM EXECUTION

The following sections in 1.0 describe program work in a paired set. The Chassis responsibilities are denoted with an (Ax) and they have complementing PTSE action set denoted with a (Bx).

5. Program Startup / Overall Responsibilities

A. Chassis Engineering will perform the following activities:	B. PTSE will perform the following activities:
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(A1) Generate and execute an Early Sourcing Work plan.	(B1) Joint agreement by PTSE and Chassis engineering is required to ensure the proper level of resources is available to support sourcing to a new or alternate supplier. If this does not occur, support by one activity may not be desirable making this interface arrangement null and void. Lead for fixed pedals.
(A2) Define tooling responsibilities that will be included in the FSS relationship; document in the SOW and TA.	(B2) Support for adjustable pedals. Lead for fixed pedals.
(A3) Establish Program Module Team (PMTs) and Program Attributes Teams (PATs) as required and notify supplier of required PMT/PAT involvement.	(B3) PTSE will establish fixed pedal SPMT's on programs that do not have a 100% adjustable pedal mix rate. Chassis assignments will be resolved in this forum. PTSE will support Chassis led SPMT's if program is 100% adjustable pedal or as requested.
(A4) Review and update Program BOM as required.	(B4) Lead BOM reviews for fixed pedal programs.
(A5) Release adjustable pedal assembly and all associated Design and Release responsibilities including MP ownership, build support, sign-offs, report outs, etc.	(B5) Support for adjustable pedals. Lead for fixed pedals.

## 6. Target Setting

A. Chassis Engineering will perform the following activities:	B. PTSE will perform the following activities:
<p>(A1) Co-operatively develop functional targets for the adjustable pedal assembly. Chassis will be responsible for the following attributes:</p> <ul style="list-style-type: none"> <li>▪ Motor Sound Quality</li> <li>▪ Range of adjustment</li> <li>▪ Memory function</li> <li>▪ VO Interface Issues</li> </ul> <p>The agreed-upon Targets will be reflected in one or more of the following:</p> <ul style="list-style-type: none"> <li>▪ Program SOW and/or Target Agreement</li> <li>▪ Program specific SDS</li> <li>▪ Program specific DVP</li> </ul>	<p>(B1) PTSE to lead in development of performance feel attributes.</p> <ul style="list-style-type: none"> <li>▪ Pedal efforts</li> <li>▪ Definition of pedal rotation (foot rotation)</li> <li>▪ Mechanical pedal to accelerator cable interface</li> <li>▪ Transfer function between foot rotation vs. voltage output</li> <li>▪ ETC PPS wiring. If a jumper is required by B&amp;A to provide one connection, jumper harness between motor, memory and PPS will be Chassis engineering responsibility.</li> </ul> <p>PTSE and Chassis Engineering will define what parameter changes would impact each subsystem, such as pedal ratio weight, step over height, and spring rates up front for future reference.</p>
(A2) Co-operatively develop the Engineering budget, ESOW and Target Agreement with supplier.	(B2) Support for adjustable pedals. Lead for fixed pedals.
<p>(A3) Lead ORDAM generation of Adjustable Pedal assemblies. Provide supplier with key Quality/Reliability (Q/R) documents including:</p> <ul style="list-style-type: none"> <li>▪ FMC Reliability Guide (FRG)</li> <li>▪ FMC Quality/Reliability SOW Guidelines</li> <li>▪ [Insert program name] Quality/Reliability Strategy</li> <li>▪ Quality/Reliability Planning (FAP-07-005)</li> </ul>	(B3) Fixed pedal ORDAM generation will be led and maintained by PTSE. Chassis and PTSE will determine applicability of information to adjustable pedal assemblies.
<p>(A4) Cooperatively develop a service strategy for markets indicated in the PDI, and provide the following service part requirements to supplier:</p> <ul style="list-style-type: none"> <li>▪ Specific commodity targets (provided by FCSD Program Management thru the PMT)</li> <li>▪ Service Bill of Material (SBOM)</li> <li>▪ Service KPI Requirements</li> </ul>	(B4) Lead accelerator pedal efforts.
(A5) Provide duorage and shipping package requirements.	(B5) Chassis lead if brake and accelerator pedal is shipped as one assembly. PTSE lead for fixed pedals and adjustable pedals if supplier is the same for fixed accelerator pedals.
(A6) Provide Homologation/Regulatory Conformity of Production Requirements (COP).	(B6) Support for adjustable pedals. Lead for fixed pedals.

## 7. Feasibility, Design Optimization &amp; Packaging

A. Chassis Engineering will perform the following activities:	B. PTSE will perform the following activities:
(A1) Facilitate resolutions of system interfacing issues (including but not limited to packaging & appearance). Overall packaging responsibility will reside with Chassis Engineering as the releasing activity.  Note: Integration of supplier-sourced items with surrounding components is mandatory for all FSSs. A FSS may additionally be responsible for 'Integrating' directed sourced items and / or other Tier 1 items. When this condition occurs, the SOW needs to be modified to define the extent of the integrator's responsibility.	(B1) Chassis lead via AFMS, and Issues Manager. PTSE will lead resolution of issues that are common to both fixed and adjustable accelerator pedals.
(A2) Optimize vehicle/system to support program targets with vehicle and system-level verification; provide package/design improvements to supplier (Adjustable Pedal EG requirements).	(B2) Chassis lead with PTSE support of the accelerator pedal requirements.
(A3) Develop critical aspects of vehicle/engine package and set targets consistent with customer expectation. Transfer applicable package data to supplier per CAD deliverables schedule, this should include driver and front row passenger(s) position and accommodation, and assure compliance with external regulatory requirements.	(B3) Adjustable pedal MP Interface will be Chassis lead. PTSE releases fasteners for fixed pedal B&A installed assemblies. Chassis will release mounting hardware for adjustable pedal assemblies.
(A4) Provide common hard points per Global Architecture Process (GAP) if they apply to supplier-performed package activities. Refer to <a href="http://www.ford.com">www.ford.com</a> for hard point definitions.	(B4) Provide accelerator controls GAP strategies for mounting hole orientation to Chassis Engineering.
(A5) Co-chair the Package Program Activity Team (PAT) meetings.	(B5) Lead fixed pedal packaging issues and any accelerator pedal issue common to adjustable pedals.
(A6) Perform final engineering sign-off for the package.	(B6) Jointly signed off by both activities.

## 8. Prototypa Build &amp; Part Schedule

A. Chassis Engineering will perform the following activities:	B. PTSE will perform the following activities:
(A1) Issue and execute a VPP and Prototypa Plan that indicates the following: <ul style="list-style-type: none"> <li>- Prototype Build &amp; Tooling Schedule</li> <li>- Production Build &amp; Tooling Schedule</li> <li>- Engineering Sign Off Schedule</li> </ul>	(B1) PTSE needs to be a recipient of this information. Accelerator related SDS testing must be performed with production representative hardware. Design freezes must be maintained and late changes be discouraged.
(A2) Procure adjustable pedal assemblies to support prototype and preproduction builds including DV quantities.	(B2) Procure fixed pedal assemblies and related hardware to support prototype and preproduction builds including DV quantities.
(A3/B3) Prototype samples will be procured by the releasing activity to ensure latest design levels are being tested by both activities.	

## 9. CAD/CAE General Responsibilities

A. Chassis Engineering will perform the following activities:	B. PTSE will perform the following activities:
(A1) Overall CAD responsibility, including illustrations for the adjustable pedal assembly.	(B1) Accelerator pedal geometry will be worked out with supplier. Supplier will then continue to interface with Chassis Engineer to develop the adjustable pedal package and assembly drawing. Package clearances are to be performed by Chassis engineering due to the pedal checks required in extreme positions (full forward and full rearward).



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<p>(A2) Design activities and timing via a program VPP, PMT work plan, CAD Deliverables schedule and/or VITAL. <i>Note: Supplier will receive engineering requirements in a completed ESOW including and/or referencing applicable specifications.</i></p>	<p>(B2) The Chassis and PTSE SPMT leaders will define protocol jointly.</p>
<p>(A3) CAE analysis requirements, which will be included in the DVP&amp;R. Specific timing of the analysis will be indicated in PMT work plan and/or a discrete CAE Analysis Schedule (if applicable)</p>	<p>(B3) PTSE will lead Fixed Pedal CAE analysis and support adjustable pedal analysis.</p>

**10. Testing and Verification**

A. Chassis Engineering will perform the following activities:	B. PTSE will perform the following activities:
<p>(A1) FMVSS / Homologation vehicle-level testing</p>	<p>(B1) PTSE will perform all applicable DVM's contained in the Accelerator Controls SDS. If the mass of the assembly or any change impacts returnability, PTSE must be consulted to assess if FMVSS 124 must be run.</p>
<p>(A2) Purchase parts for vehicle-level testing  <ul style="list-style-type: none"> <li>- Provide access to test fleet and the test centers for suppliers to support vehicle testing of their system/component.</li> </ul> </p>	<p>(B2) Chassis must provide part numbers so that the correct design level assemblies can be procured for testing. <i>Note: Extreme limit parts must be used for final validation testing in order to establish process control limits for critical and significant characteristics.</i></p>
<p>(A3) Appropriate verification planning &amp; reporting methods for program specific use.</p>	<p>(B3) Chassis will own the adjustable pedal DVP (Chassis Released ES) as well as those requirements called out in the Brake SDS. A separate Chassis brake DVP will exist which includes the adjustable pedal assembly DV requirements. (Accelerator controls DV testing may be included showing name of appropriate engineer responsible for running the test. A separate PTSE Accel. Control DVP will exist for fixed pedal systems and may combine adjustable pedal testing into one test plan. Any testing on a DVP that will not be performed by the originator of the DVP will specifically indicate who will be running the test and when the test will be completed. Copies of the results must be included in the evidence books of both those running the test and those referencing the test.</p> <ul style="list-style-type: none"> <li>• PTSE will perform all DVM's specified by the accelerator controls SDS.</li> <li>• Chassis will perform all DVM's specified by the brake SDS.</li> </ul>
<p>(A4) Corrosion protection testing requirements and sign-off</p>	<p>(B4) Similar corrosion protection will be used on adjustable pedals as on fixed accelerator pedals.</p>
<p>(A5) For ETC adjustable pedal systems, Chassis will be responsible for pedal vibration resolution.</p>	<p>(B5) For Mechanical adjustable pedal systems, PTSE will be responsible for pedal vibration resolution.</p>
<p>(A9/B9) Internal design freeze dates must be established and agreed to by both activities. If dates cannot be met, management must be informed of any testing that must be rerun as a result of part delivery delays as well as timing implications.</p>	

**11. Program Change Control**

- Change control will be handled by the affected release activity; Chassis for adjustable pedals, PTSE for fixed pedals.
- Each activity will participate in their respective organization's PMT/PAT and change control meetings as required.

**12. Engineering Tasks**

- Chassis will develop, execute and maintain Adjustable Pedal Design Failure Mode Effect Analysis (FMEA's) and sign off on the associated control plans as defined in the adjustable pedal Engineering Specification (ES).

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- Chassis will ensure that the Adjustable Pedal Supplier develops and maintains Component Design Specification (CDS), which includes conducting all prove out tests.
- Chassis/PTSE will ensure supplier meets SDS requirements.
- Chassis will support Adjustable Pedal Supplier APQP meetings.
- Chassis/PTSE will initiate / support campaign prevention.
- Warranty performance will be the responsibility of Chassis Engineering (OPD).
- Chassis will be responsible for all WERS part and usage records as well as edits to achieve "Released" @ status for all WERS notices processed.
- GPIRS orders will be generated by each respective release activity as required to support program needs and DV testing.

### 13. Launch and Production Support

- Chassis will lead and resolve on going / identified field concerns, including recalls.
- Utilize correction action/problem resolution process
- Chassis Engineering will support all supplier launch readiness reviews. PTSE will support and jointly support adjustable pedal launch readiness reviews if supplier also is sourced with the fixed pedal design for a program.
- Chassis Engineering will analyze return parts.
- Chassis and PTSE will jointly put forth an effort to continuously improve the quality of the part as well as investigate and implement Material Cost Reduction opportunities.

### 14. Service Documentation and Support

- Chassis engineering will notify service part activities before scrapping or reworking tooling to a new design level.
- Critical dimensions and tolerances that effect service fit, form, and function must not be altered after Job #1. If SREA's are submitted, approval for accelerator control related changes must be jointly approved by PTSE.
- Chassis will lead in the resolution of all adjustable pedal assembly issues at B&A. PTSE will support or lead issues that are common between fixed and adjustable accelerator controls systems.
- Component illustration drawings specifically for service manuals will be updated by Chassis engineering/FSS for adjustable pedals.

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**From:** Florini, John (J.J.)  
**Sent:** Tuesday, November 06, 2001 3:41 PM  
**To:** Crapps, Wally (W.S.); Ziani, Ahmed (A.); Breida, Mary (M.T.); Branik, David (D.P.); Green, Don (D.L.); Gaw, Ron (R.M.); Felch, Hal (H.J.); Abbasi, Basel (B.A.); Chau, Jimmy (J.); Dalton, Joel (J.D.); Laroux, Mark (M.D.); Petrauskas, Lisa (L.E.); Rippy, James (J.M.); Sarver, Mel (M.M.); Sheth, Rakesh (B.); Skwirsk, Tom (T.V.); Villar, Daniel (D.A.); Weber, Michael (M.J.); West, Gregory (G.S.); Lipoosky, Lawrence (L.J.)  
**Cc:** Brennan, Patrick (P.M.); Thompson, Greg (G.J.); Conrad, James (J.A.); Allan, Dave (D.R.); Jackson, Errol (E.C.); Gitcho, Gary (G.E.)  
**Subject:** RE: PTSE/Chassis Adjustable Pedal SOW

Attached is the final version of the Chassis/PTSE SOW regarding adjustable pedals. Input from the 10/29 PTSE/Chassis Synergies Meeting is included along with the feedback I received from the attached note.



PTSE\_Chassis  
SOW.doc

This file will be posted on the RVT/PTSE Accelerator Controls Web Page for future reference.

*John J. Florini*

Supervisor, Accelerator Controls - Outfitters  
Stationary Components P/T Sub-Systems Engineering  
PDC, 2D-Q46, MD 113

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-----Original Message-----

**From:** Florini, John (J.J.)  
**Sent:** Wednesday, October 17, 2001 1:11 PM  
**To:** Crapps, Wally (W.S.); Ziani, Ahmed (A.); Branik, David (D.P.); Green, Don (D.L.); Gaw, Ron (R.M.); Felch, Hal (H.J.); Abbasi, Basel (B.A.); Chau, Jimmy (J.); Dalton, Joel (J.D.); Laroux, Mark (M.D.); Petrauskas, Lisa (L.E.); Rippy, James (J.M.); Sarver, Mel (M.M.); Sheth, Rakesh (B.); Skwirsk, Tom (T.V.); Villar, Daniel (D.A.); Weber, Michael (M.J.); West, Gregory (G.S.)  
**Cc:** Brennan, Patrick (P.M.); Thompson, Greg (G.); Conrad, James (J.A.); Allan, Dave (D.R.); Jackson, Errol (E.C.)  
**Subject:** PTSE/Chassis Adjustable Pedal SOW

Thank you for your input in completing this task. Attached is the Statement of Work that the team generated in an effort to clarifying adjustable pedal roles and responsibilities between PTSE and Chassis.

This task produced a mutual understanding of how future adjustable pedal Truck programs will be engineered within NAT, especially in the areas where the U152 program had difficulties.

If there are any issues unresolved or still unclear, please let me know by 10/26. After this time, I will ask that Jim Conrad post this file onto the Accelerator Controls PTSSE website for future reference.

Again, thanks to all of you who provided input and those of you I met for the first time as a result of this assignment.

<< File: PTSE\_Chassis SOW.doc >>

Best Regards,

*John J. Fiorini*

Supervisor, Accelerator Controls - Outfitters  
Stationary Components P/T Sub-Systems Engineering  
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[REDACTED]

[REDACTED]

## North American Truck Chassis/PTSE Adjustable Pedal System Engineering Statement of Work (ESOW)

### Background

Through Lessons learned on the launch of the U152 and U137 adjustable pedal systems, it was deemed necessary to more clearly define internal roles and responsibilities between Chassis (Brake Release Activity) and Powertrain Systems Engineering (Accelerator Control Release Activity) within the Ford Motor Company (FMC). This document will help insure that there is a mutual agreement of expectations between current and future Chassis and PTSE PMT leaders.

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John Fiorini	PTSE, Accelerator Controls
Larry Liposky	PTSE, Accelerator Controls
Les Petruskas	Chassis Brake Engineering
Rakesh Sheth	PTSE, Accelerator Controls
Tom Skutrak	Chassis Brake Engineering
Mike Weber	PTSE, Accelerator Controls
Greg West	PTSE, Accelerator Controls
Ahmad Ziani	Chassis Brake Engineering

## Chassis/PTSE Statement of Work Matrix

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J. Pochal

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Issued Date: 11/30/01  
Revised Date: 10/17/01

PE03-044 20150

L = Lead  
S = Support

### PROGRAM INFORMATION AND REQUIREMENTS

Program Management Structure

Program Targets

Program Timing

### PROGRAM EXECUTION

Program Start-up / Overall Responsibilities

Target Setting

Feasibility, Design Optimization & Packaging

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CAD/CAE General Responsibilities

Testing and Verification

Program Change Control

Engineering Tasks

Service Documentation and Support

## PROGRAM INFORMATION AND REQUIREMENTS

### 1. Program Management Structure

Filename: PTSE\_Chassis SOW.doc  
Printed Date: 11/11/2003  
J. Fiorini

1

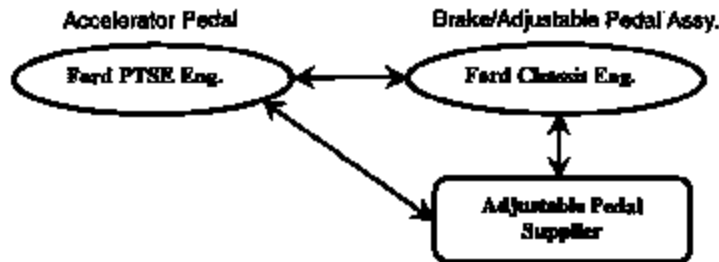
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Revised Date: 10/17/01

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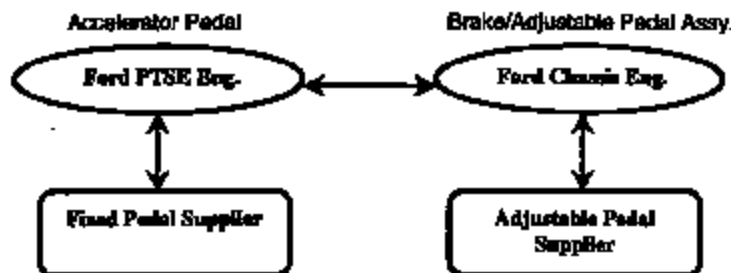
**Interface When Fixed and Adjustable Pedal Suppliers are the same:**

For vehicle platforms with common fixed and adjustable accelerator pedal suppliers, Chassis will lead brake discussions and PTSE will lead accelerator related discussions. An SPMT or PAT (Chassis lead) forum will be established with a clearly defined agenda (first half to cover brake issues, last half to cover accelerator controls) to best utilize supplier and internal engineering resources. Sign-off of each sub-system (PTSE for accelerator controls and Chassis for Brake) will occur separately. A joint sign-off will be required for an adjustable pedal assembly. (Chassis has primary responsibility for adjustable pedals as the releasing activity). Depending on the number of issues, a separate accelerator control SPMT may be required. Adjustable accelerator pedal issues are to be reported back through the Chassis PAT.



**Interface when Fixed and Adjustable Pedal Suppliers are different:**

If suppliers for fixed and adjustable pedals are different, Chassis Engineering will lead adjustable pedal supplier interface and PTSE will lead fixed pedal supplier interface. All fixed accelerator pedal issue resolution will be led by PTSE. Chassis engineering will lead issues unique to adjustable pedals. A Chassis led PAT forum will be established to manage this arrangement. Resources to support this arrangement must be defined and available prior to <SC>. The U251 is the only program where this relationship presently exists.



Program Direction Letter input will capture the adjustable pedal content under Chassis CPSC code 08.08.00 and fixed accelerator pedal design direction will be captured under PTSE CPSC code 03.18.00.

**2. Program Targets**

Packaging (Damage):	Chassis will lead interface between plant packaging engineer and supplier.
---------------------	--

Net Weight:	PTSE will sign up for a fixed pedal target that applies to the adjustable pedal system. On programs where there are 100% adjustable pedals, PTSE will sign up to a portion of the target (accelerator pedal).
Safety:	PTSE will run FMVSS 124 certification testing of the adjustable pedal system at the same time during normal fixed pedal development for both mechanical and electronic throttle control systems.
Styling/Appearance: (including colors)	Accelerator pedal pad will be similar in appearance to the brake pedal pad. If styling change is required, Chassis will direct changes to adjustable pedal. PTSE and Chassis will lead jointly if change required for fixed pedal system (supplier interface efficiencies)
Serviceability:	Chassis Engineering will lead as the D&R activity. PTSE will release accelerator related service components (pedal pad, etc).
Recycling:	Parts must comply with: <ul style="list-style-type: none"> <li>The recycling targets for Total Vehicle Recyclability</li> <li>Recycled Materials Usage</li> <li>Parts Marking (Ford Engineering Standard No. E-4 issued April 18, 1996, SAE J1344 and ISO standards)</li> <li>Substance of Concern Elimination, as detailed in the Target Agreements and outlined in the Ford Corporate Vehicle Recycling Strategy Objectives.</li> <li>Reporting Requirements per the current WSS-M99P9900-A1 (Max 9)</li> </ul> An End-of-Life recycling plan/strategy is to be provided for each delivered commodity.

### 3. Program Timing

Will be awarded to adjustable pedal supplier by Chassis Representative. PTSE will attend P/T PMT to obtain information.

<SB>	Strategic Intent	ORDAM Info.
<BC>	Strategic Confirmation (Sourcing jointly agreed to by PTSE/Chassis and Purchasing to ensure proper engineering support (RMS) is available)	Set. Chassis/PTSE & Purchasing
<PH>	Proportions & Hard points	
<PA>	Program Approval	Targets become Obj.
(ST)	Surface Transfer	
(PT)	Powertrain Design Complete - Design Release	
<PP>	Product Readiness	Also between Chassis/PTSE
(CP)	Confirmation Prototype	
<CC>	Change Cut-Off (Preliminary Engineering Sign-off)	Also between Chassis/PTSE
<LR>	Launch Readiness (Final Engineering Sign-off)	Also between Chassis/PTSE
<LS>	Launch Sign-Off	
(J)	Job #1	

### PROGRAM EXECUTION

The following sections in 1.0 describe program work in a paired set. The Chassis responsibilities are denoted with an (Ax) and they have complementing PTSE action set denoted with a (Bx).

#### 4. Program Startup / Overall Responsibilities

A. Chassis Engineering will perform the following activities:	B. PTSE will perform the following activities:
---	--

Filename: PTSE\_Chassis SOW.doc  
 Printed Date: 11/11/2003  
 J. Florini



(A1) Generate and execute an Early Sourcing Work plan.	(B1) Joint agreement by PTSE and Chassis engineering is required to ensure the proper level of resources is available to support sourcing to a new or alternate supplier. If this does not occur, support by one activity may not be controllable. Additional RMS resource allocations will be required with this interface arrangement. Lead for fixed pedals.
(A2) Define responsibilities that will be included in the FSS relationship; document in the SOW and TA.	(B2) Joint agreement for adjustable pedals. Lead for fixed pedals.
(A3) Establish Program Attributes Teams (PAT's) as required and notify supplier of required PMT/PAT involvement.	(B3) PTSE will establish fixed pedal SPMT's on programs that do not have a 100% adjustable pedal mix rate. Chassis assignments will be received in this forum. PTSE will support Chassis led PAT's if program is 100% adjustable pedal or as requested.
(A4) Review and update Program BOM as required.	(B4) Lead BOM reviews for fixed pedal programs.
(A5) Release adjustable pedal assembly and related Engineering Specification.	(B5) Joint agreement for adjustable pedals. Release fixed accelerator pedals and related Engineering Specification.

## 5. Target Setting

A. Chassis Engineering will perform the following activities:	B. PTSE will perform the following activities:
<p>(A1) Co-operatively develop functional targets for the adjustable pedal assembly. Chassis will be responsible for the following attributes:</p> <ul style="list-style-type: none"> <li>• Motor Sound Quality</li> <li>• Range of Adjustment</li> <li>• Brake Pedal Efforts</li> <li>• Memory Function</li> <li>• VO interface issues (Non-Accel. related)</li> <li>• All Brake System Function</li> </ul> <p>The agreed-upon Targets will be reflected in one or more of the following:</p> <ul style="list-style-type: none"> <li>• Program SOW and/or Target Agreement</li> <li>• Program specific SDS</li> <li>• Program specific DVP</li> </ul>	<p>(B1) PTSE to lead in development of performance feel attributes.</p> <ul style="list-style-type: none"> <li>• Accelerator Pedal efforts</li> <li>• Definition of pedal rotation (foot rotation)</li> <li>• Mechanical pedal to accelerator cable interface</li> <li>• Transfer function between foot rotation vs. voltage output</li> <li>• VO Interface issues (Accel. Related)</li> <li>• ETC Pedal Position Sensor (PPS) wiring. If a jumper is required by V.O. to provide one connection, jumper harness between motor, memory and PPS will be Chassis engineering responsibility.</li> </ul> <p>PTSE and Chassis Engineering will define what parameter changes would impact each subsystem, such as pedal ratio, weight, step over height, and spring rates up front for future reference.</p>
(A2) Co-operatively develop the Engineering budget, ESOW and Target Agreement with supplier.	(B2) Joint agreement for adjustable pedals. Lead for fixed pedals.
(A3) Lead CRDAM generation of Adjustable Pedal assemblies. Provide supplier with key Quality/Reliability (Q/R) documents including:	(B3) Fixed pedal CRDAM generation will be led and maintained by PTSE. PTSE will determine applicability of information to adjustable pedals and support Chassis CRDAM reporting.
<ul style="list-style-type: none"> <li>• FMG Reliability Guide (FRG) and SOW Guidelines</li> </ul>	
(A4) Provide damage and shipping package requirements.	(B4) Chassis lead if brake and accelerator pedal is shipped as one assembly. PTSE lead for fixed pedals.

## 6. Feasibility, Design Optimization & Packaging

A. Chassis Engineering will perform the following activities:	B. PTSE will perform the following activities:
---	--

(A1) Facilitate resolutions of system interfacing issues (including but not limited to packaging & appearance). Overall packaging responsibility will reside with Chassis Engineering as the releasing activity.  <i>Note:</i> Integration of supplier-sourced items with surrounding components is mandatory for all FSS's. A FSS may additionally be responsible for 'integrating' directed sourced items and / or other Tier 1 items. When this condition occurs, the SOW needs to be modified to define the extent of the Integrator's responsibility.	(B1) Chassis lead via AMS, and Issues Manager. PTSE will lead resolution of specific fixed or adjustable accelerator pedal issues.
(A2) Develop critical aspects of vehicle/engine package and set targets consistent with customer expectation. Transfer applicable package data to supplier per CAD deliverables schedule, this should include driver and front row passenger(s) position and accommodation, and assure compliance with external regulatory requirements.	(B2) Adjustable pedal MP interface will be Chassis lead. PTSE releases fasteners for fixed pedal V.O. installed assemblies. Chassis will release mounting hardware for adjustable pedal assemblies.
(A3) Provide Brake hard points per Global Architecture Process (GAP) if they apply to supplier-performed package activities.	(B3) Provide Accelerator Control hard points per Global Architecture Process (GAP) if they apply to supplier-performed package activities. (mounting hole orientation).
(A4) Perform final engineering sign-off for the Brake and Adjustable pedal assembly package.	(B4) Perform final engineering sign-off for the Accelerator Controls function for both Fixed and Adjustable accelerator pedals.

## 7. Prototype Build & Part Schedule

<b>A. Chassis Engineering will perform the following activities:</b>	<b>B. PTSE will perform the following activities:</b>
(A1) Release adjustable pedal assemblies to support prototype and preproduction builds including DV quantities.	(B1) Procure fixed pedal assemblies and related hardware to support prototype and preproduction builds including DV quantities.

## 8. CAD/CAE General Responsibilities

<b>A. Chassis Engineering will perform the following activities:</b>	<b>B. PTSE will perform the following activities:</b>
(A1) Overall CAD responsibility, including illustrations for the adjustable brake pedal assembly, motor and cable attachments.	(B1) Accelerator pedal geometry will be defined with the supplier and included in a separate Master Assembly (MA). Chassis Engineering will be responsible for the adjustable pedal assembly Master Package (MP) and assembly drawing.
(A2) Design activities and timing via a program VPP, PMT work plan, CAD Deliverables schedule and/or VITAL.  <i>Note: Supplier will receive engineering requirements in a completed ESOW including and/or referencing applicable specifications.</i>	(B2) The Chassis PAT and PTSE SPMT leaders will define protocol jointly.
(A3) Chassis Engineering will lead Brake system CAE analysis.	(B3) PTSE will lead fixed and adjustable accelerator pedal CAE analysis.

## 9. Testing and Verification

<b>A. Chassis Engineering will perform the following activities:</b>	<b>B. PTSE will perform the following activities:</b>
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<p>(A1) Chassis will be responsible for generating the Adjustable Pedal Engineering Specification. Content will be agreed to by both activities to ensure completeness.</p> <ul style="list-style-type: none"> <li>Chassis will perform all DVM's specified by the brake SDS and Adjustable Pedal Assembly ES.</li> </ul>	<p>(B1) If the mass of the assembly or any change is made that will affect returnability, PTSE must be notified to assess impact to FMVSS 124. A separate PTSE Accelerator Control DVP will exist for fixed pedal systems and may combine adjustable pedal testing into one test plan. Any testing on a DVP that will not be performed by the originator of the DVP will specifically indicate who will be running the test and when the test will be completed. Copies of the results must be included in the evidence books of both those running the test and those referencing the test.</p> <ul style="list-style-type: none"> <li>PTSE will perform all DVM's specified by the accelerator controls SDS.</li> </ul>
<p>(A2) For ETC adjustable pedal systems, Chassis will be responsible for pedal vibration resolution.</p>	<p>(B2) For Mechanical adjustable pedal systems, PTSE will be responsible for pedal vibration resolution.</p>

## 10. Program Change Control

- Change control will be handled by the affected release activity; Chassis for adjustable pedals, PTSE for fixed pedals.
- Each activity will participate in their respective organization's PMT/PAT and change control meetings as required.

## 11. Engineering Tasks

- Chassis will develop execute and maintain Adjustable Pedal Design Failure Mode Effect Analysis (FMEA's) and sign off on the associated control plans as defined in the adjustable pedal Engineering Specification (ES). PTSE will lead the DFMEA effort for the accelerator pedal portion (Tier 2 to Chassis).
- Chassis will ensure that the Adjustable Pedal Supplier develops and maintains Component Design Specification (CDS), which includes conducting all prove out tests.
- Chassis/PTSE will ensure supplier meets SDS requirements.
- Chassis will support Adjustable Pedal Supplier APQP meetings.
- Chassis/PTSE will initiate / support campaign prevention.
- Adjustable pedal warranty performance will be the responsibility of Chassis Engineering (OPD).
- Chassis will be responsible for all WERS part and usage records as well as edits to achieve "Released" @ status for all adjustable pedal WERS notices processed.
- SPURS orders will be generated by each respective release activity as required to support program needs and DV testing to ensure latest component level hardware is procured.

## 12. Service Documentation and Support

- Chassis engineering will notify service part activities before scrapping or reworking tooling to a new design level.
- Critical dimensions and tolerances that effect service fit, form, and function must not be altered after Job #1. If the adjustable pedal supplier submits SREA's, PTSE approval is required for all accelerator control related changes.
- Chassis will lead in the resolution of all adjustable pedal assembly issues at the assembly plant. PTSE will support or lead issues that are common between fixed and adjustable accelerator controls systems.
- Component illustration drawings specifically for service manuals will be updated by Chassis engineering/FBS for adjustable pedals.

Telex

Page 1 of 1

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**From:** Farah, Alan - Troy [afarah@ford.com]  
**Sent:** Friday, July 14, 2000 10:59 AM  
**To:** lpetrus@ford.com; Evangelista, Elio - Troy; Kalsi, Avtar - Troy  
**Cc:** Teller, Bill - Troy  
**Subject:** Telex

<<U137 fxd-2 OPEN 7-12-00.doc>>

PMT open issues

11/17/2003

PE83-844 21891

**Teleflex****U137 ADJUSTABLE PEDAL / ETC  
FORD OPEN ISSUES**

REVISION DATE: Friday, July 14, 2000

REVISED BY: ALAN FARRAH

T NUM NO.	ISSUE DESCRIPTION	ISSUE STATUS	RESPONSIBILITY	DATE DUE:	DATE Completed:
***** 2001 PMT ISSUES *****					
1	TELEFLEX REPRESENTATIVE TO INSTALL ETC PEDAL AT APG.	<ul style="list-style-type: none"> <li>7-11-00 Jim Cook is no longer the brake durability engineer. Contact Marty McClain 320-753-7523</li> <li>7-14-00 Earl Miller from Teleflex will be flying out to APG on 7-17-00 to monitor the installation of the pedal assemblies</li> </ul>	AF	7-14-00 7-19-00	
2	MEMORY SENSOR REVIEW / PRESENTATION <ul style="list-style-type: none"> <li>describe Teleflex's existing two sensors and why they don't work</li> <li>describe the new sensor and the reasoning behind it's design</li> <li>explain how the sensor works</li> </ul>	<ul style="list-style-type: none"> <li>7-11-00 Need to set-up meeting.</li> <li>7-14-00 If meeting can't be arranged then AF will attempt to put together an informational package on the sensor and forward.</li> </ul>	AF / LP	7-14-00 7-19-00	
3	UPDATE AND CONTINUE DFMEA REVIEW	<ul style="list-style-type: none"> <li>7-11-00 AF to update DFMEA per reviews</li> <li>7-11-00 LP and AF to set-up meeting to finish DFMEA.</li> </ul>	AF	7-19-00	
4	2001 PROTOTYPE DVPR	<ul style="list-style-type: none"> <li>7-11-00 dvpr will be updated once the two additional test are complete ( hub retention test and accel cable retainer test)</li> </ul>	AF	7-19-00	
5	2001 PRODUCTION DVPR <ul style="list-style-type: none"> <li>review with Ford and once accepted combine prototype data</li> </ul>	<ul style="list-style-type: none"> <li>7-11-00 AF and AK to review with Ford</li> </ul>	AF/ AK	7-19-00	
6	PROGRAM MANAGEMENT REVIEW MEETING	<ul style="list-style-type: none"> <li>7-11-00 Bill in the process of scheduling.</li> </ul>	EE	7-19-00	
7	NOISE TESTING OF U137 ASSEMBLIES <ul style="list-style-type: none"> <li>determine procedure, cost and timing to test assemblies at Kendallville</li> </ul>	<ul style="list-style-type: none"> <li>7-11-00 Discuss parameters with Adam Barola.</li> <li>7-14-00 Per Adam B. The Windsor program is under going full-blown DV testing due to the changes being made to the worm and drive gear. These are comment components to all APS, and therefore the Windsor DV data can be used as surrogated data. The U137 should only undergo noise testing, which will involve fabricating fixtures for the sound chamber and then testing in the chamber.</li> </ul>	AF	7-18-00	
8	PHIL TO TALK WITH JIM CONRAD TO DETERMINE		PB	??	

**Teleflex****U137 ADJUSTABLE PEDAL / ETC  
FORD OPEN ISSUES**

REVISION DATE: Friday, July 14, 2000

REVISED BY: ALAN FARRAH

Y NUM NO.	ISSUE DESCRIPTION	ISSUE STATUS	RESPONSIBILITY	DATE DUE:	DATE Completed:
	IF FORD ASSISTANCE IS AVAILABLE IN COMPLETING DVP TESTING				
8	U137 ADJUSTMENT TIME IS ABOVE THE 4.5 +/- .5 SECOND SPEC. • need to gather adjustment time information from all adjustable pedal programs • calculate adjustment time	• 7-11-00 In process of gathering data.	AF	7-19-00	
10	CARRION AND COMPANY IS HAVING ETC PIN OUT ISSUES	• 7-14-00 Avtar is in contact with CC and believes the issue to be software related.	AV	7-19-00	
11	KSR BRACKET WITH WIRING HARNESS HOLE IS IN TELEFLEXES COURT • need to release prints with the hole change .	• 7-14-00 Lisa indicated that KSR is Teleflex's supplier and we need to coordinate the hole change.	AF	??	
12	NEED TO MODIFY ASSY PRINTS TO HAVE LATEST CHANGES • brake mounting brake wiring harness hole • brake mounting brake mounting hole locations • motor wiring harness with 8 additional inches • accel bracket with inserts • others	• 7-14-00 Need to ensure correct concerns are with each issue.	AF/AV	??	
***** 2002 PMT ISSUES *****					
1	DETERMINE QUANTITIES FOR 2002 CP PROTOTYPES WITH MEMORY	• 7-11-00 LP to verify quantities. Currently 30 accel diesel, 20 accel gas, 20 brake gas, and 20 brake diesel have been ordered.	LP	7-19-00 7-19-00	
2	ENSURE PROTOTYPES HAVE THE ADDITIONAL 6 INCHES OF WIRING HARNESS.	• 7-11-00 AF submitted e-mail to Teleflex prototype supervisor with the 6 inch requirement.	RC / AF	7-26-00	
3	2002 DVPR WITH MEMORY TO FORD		AF	7-19-00	
4	2002 DFMEA TO FORD • once reviews and sign off of the 2001 dfmea happens the 2002 will be updated		AF	7-26-00	
5	COST RESOLUTION NEEDED FOR MEMORY SENSOR	• 7-11-00 Larry Wyatt has meeting with Cory	LW	7-12-00 7-17-00	

U137 ford-2 OPEN 7-12-00.doc

2 of 3

PE83-944 21893

# Teleflex

## U137 ADJUSTABLE PEDAL / ETC FORD OPEN ISSUES

REVISION DATE: Friday, July 14, 2000

REVISED BY: ALAN FARRAH

T NUM NO.	ISSUE DESCRIPTION	ISSUE STATUS	RESPONSIBILITY	DATE DUE:	DATE Completed:
		<ul style="list-style-type: none"> <li>• Chevie on 7-12-00 at 2 pm to review cost breakdown.</li> <li>• 7-14-00 Another meeting schedule for Monday 7-17-00.</li> </ul>			
8	PROTOTYPES ON HOLD DUE TO COST ISSUES	<ul style="list-style-type: none"> <li>• 7-11-00 Ella place prototypes on hold per Phil on 7-7-00.</li> </ul>	EE / PB	??	
7	BRAKE PEDAL HAD NOISE ISSUE (CLICKING SOUND) DURING THE KYP TRIAL	<ul style="list-style-type: none"> <li>• 7-11-00 Teleflex to investigate once vehicles are at Carrien and Company</li> <li>• 7-14-00 Max Yin went to Esurion and Company to investigate and found the noise issue to be switch related</li> </ul>	Teleflex	??	7-14-00
***** 2003 PMT ISSUES *****					
1	LISA TO ORDER AP3 ASSEMBLIES		LP	7-18-00	
2	PIN OUT STRATEGY NEEDS TO BE RESOLVED BETWEEN FORD, TELEFLEX AND WILLIAMS.	<ul style="list-style-type: none"> <li>• 7-14-00 The design transmittal will be completed and forwarded to Barb Rossman once the pin out strategy is determined</li> </ul>	AV / DS	7-18-00	

F883-044 21894



[REDACTED]

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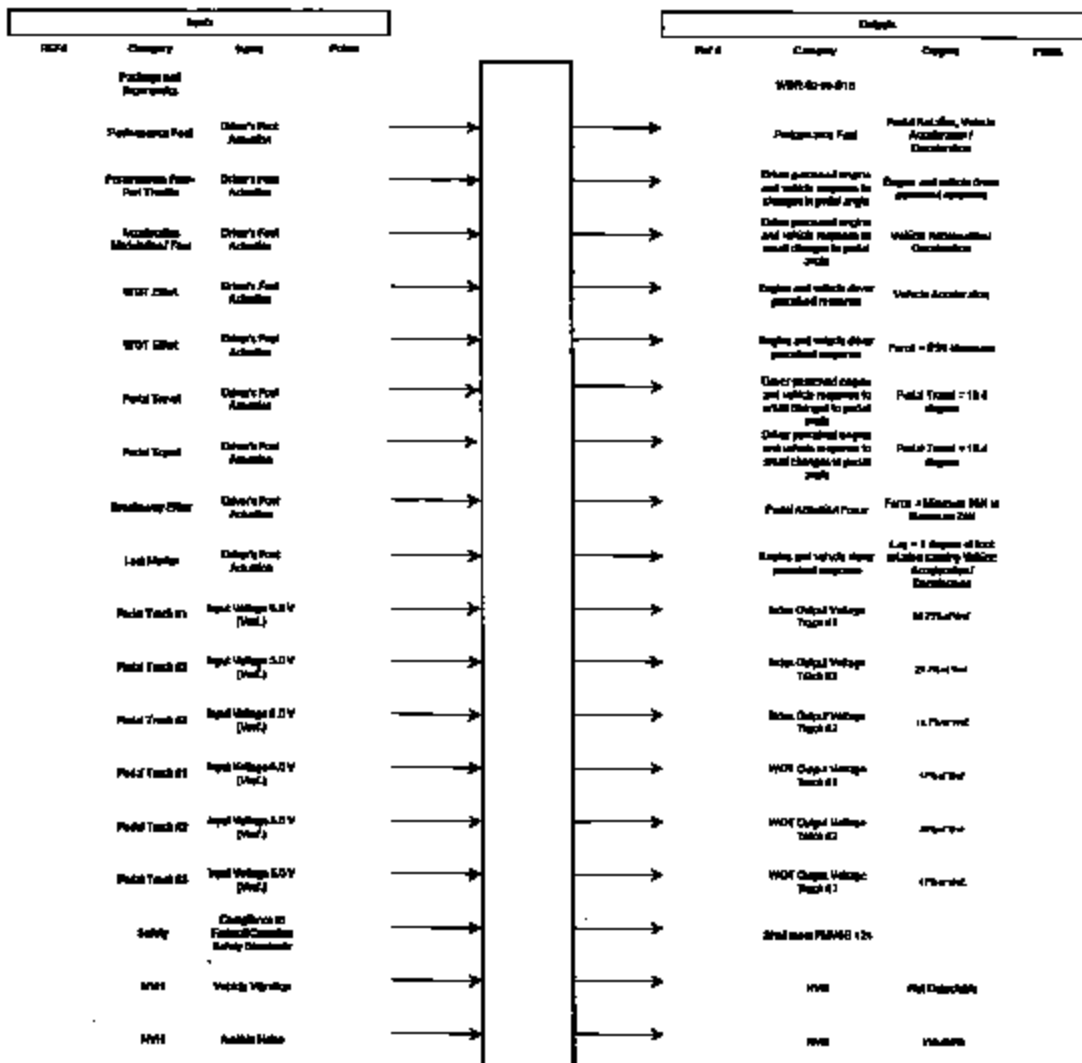
**From:** Kelsl, Avtar - Troy [akatsel@foxauto.com]  
**Sent:** Monday, August 07, 2006 1:15 PM  
**To:** 'tpetraus@ford.com'  
**Subject:** U137 Target Specification.xls



U137 Target  
Specification.xls



# U-137 ETC Pedal Interface Diagram



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**From:** Teller, Bill - Troy [bteller@tfxauto.com]  
**Sent:** Thursday, August 17, 2000 11:28 AM  
**To:** 'petraus@ford.com'  
**Cc:** Foreman, Mike - Kendallville  
**Subject:** U137 SC/CC List

See attached. Please sign and fax to me at 248-616-3810.  
<<U137 ADJUSTABLE PEDAL SYSTEM SC\_CC.doc>>

**William Teller**  
Engineering Manager  
Adjustable Pedal and Pedal Box Engineering  
Teleflex Automotive  
(248) 616-3843



U137

**ADJUSTABLE PEDAL SYSTEM  
CUSTOMER ASSEMBLY DRAWING CONTROL CHARACTERISTICS**  
REF: Accelerator Pedal Assembly 1C35-9726-AC

Item	Description	Category
1	Roll Pin Retention Force	Critical
2	E.S. Specification ES-YL14-2450-AA	Critical
3	Nose Cap Presence	Critical
4	Pedal Actuation	Significant
5	Pedal Pad Position	Significant
6	Throttle Cable Hole Position	Significant
7	Pedal Pad Position Lateral	Significant
8	Pedal Pad Lateral Free Play	Significant

REF: Accelerator Pedal Assembly 1C35-9F836-AC

Item	Description	Category
1	Roll Pin Retention Force	Critical
2	E.S. Specification ES-YL14-2450-AA	Critical
3	Nose Cap Presence	Critical
4	Voltage Output	Critical
5	Pedal Pad Position	Significant
6	Throttle Cable Hole Position	Significant
7	Pedal Pad Position Lateral	Significant
8	Pedal Pad Lateral Free Play	Significant
9	Pedal Actuation	Significant
10	Pedal Effort	Significant

REF: Brake Pedal Assembly 1C35-2450-AC & 1C35-2450-BC

Item	Description	Category
1	Roll Pin Retention Force	Critical
2	E.S. Specification ES-YL14-2450-AA	Critical
3	Nose Cap Presence	Critical
4	Extension Plate	Critical
5	Guide Rod Weldment	Critical
6	Lever Arm Weldment	Critical
7	Booster Pin Weld Strength	Critical
8	Lever Arm Weld Strength	Critical
9	Guide Rod Weld Strength	Critical
10	Pedal Pad Position Lateral	Significant
11	Pedal Pad Position fore And Aft	Significant
12	Pedal Pad Lateral Free Play	Significant

Lisa Petrauskas - Ford Release Engineer

[REDACTED]

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**From:** Kaufmann, Calvin (C.D.)  
**Sent:** Thursday, August 24, 2000 11:19 AM  
**To:** Petrauskas, Lisa (L.E.)  
**Cc:** Avtar Kalsi (E-mail); Janiece Mays (E-mail)  
**Subject:** Temporary Pedal Adjuster

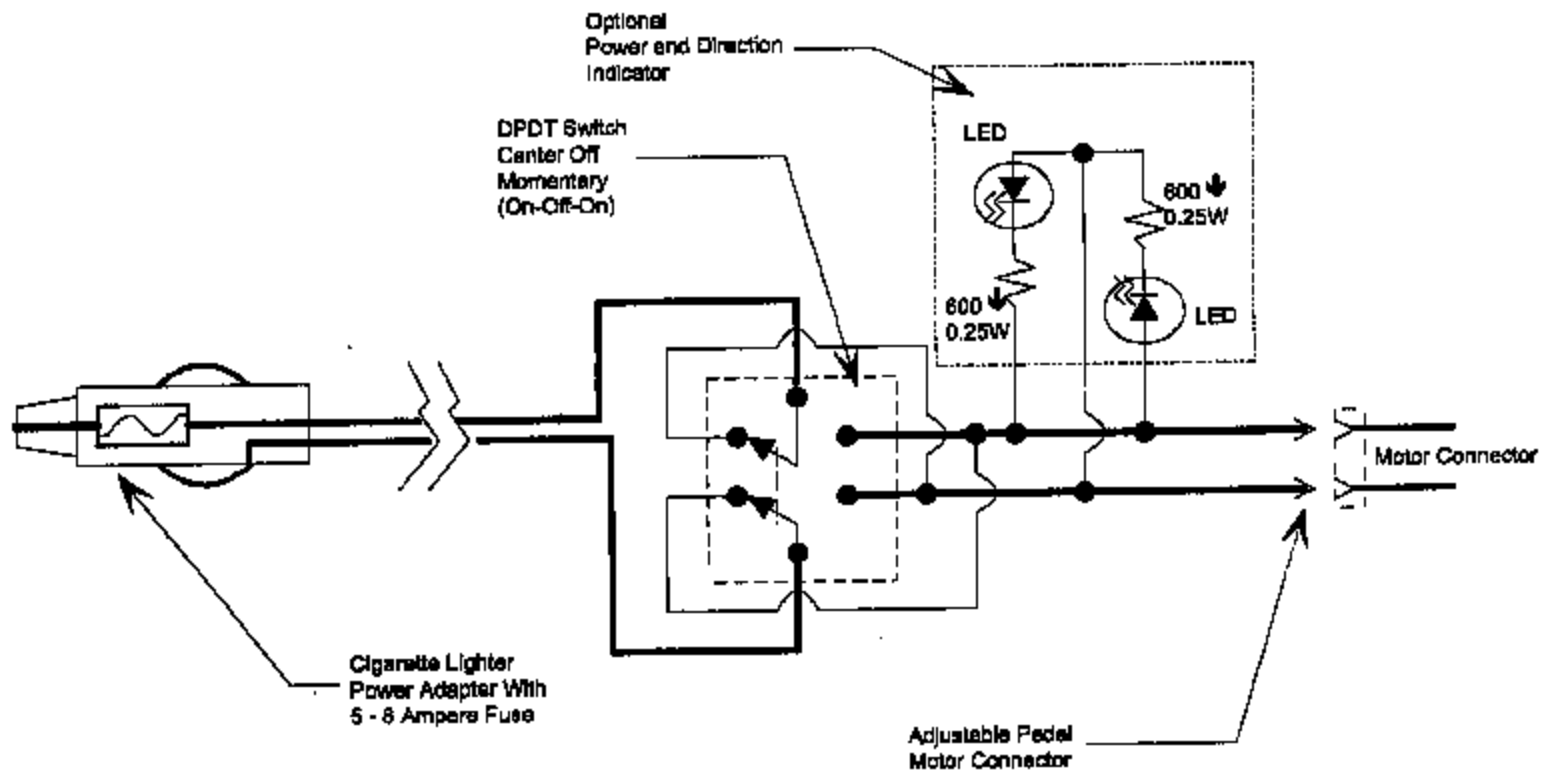
Lisa,

Attached is a circuit diagram of a simple to build pedal adjuster. The intent of this circuit is for temporary use only in prototype drivable trucks having the adjustable pedals without the adjustment circuitry (switch and wiring harness). This circuit allows the driver to adjust the pedals while in driving position. Please let me know if you have further questions.

Calvin Kaufmann



Temp Pedal  
Adjuster.doc



Sketch - Temporary Adjustable Pedal Position Circuit

CDK	08/24/2000	
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PER3-844 21087

**[REDACTED]**

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**From:** Kaufmann, Calvin (C.D.)  
**Sent:** Wednesday, September 06, 2000 12:09 PM  
**To:** Palrauskas, Lisa (L.E.); Bill Teller (E-mail); Elko Evangelista (E-mail)  
**Cc:** Janence Moya (E-mail); Avtar Katal (E-mail)  
**Subject:** U137 ETC Issues

Attached is the update U137 ETC Issues List. Please contact me if you have corrections or additions to this list.

Calvin

  
U137 Issues  
09062000.PDF

PE83-444 21817



# ETC Issue Summary U-137 Excursion

U137 PMT

Revised: Wednesday, September 06, 2000

Total Issues = 5  
Closed Issues = 4

**\*\* 1 \*\* Sign-off Device Transmittal by Ford.**

**Update Status**

Nayeema Rahman - Ford Wiring Systems Engineer and Mike Nazah - AFL Wiring Engineer concurred and signed the document 8/30/2000.

Opened	08/22/2000
Closed	08/30/2000
By	08/30/2000
Status	.....
Update	08/30/2000

Affected Part Numbers

**\*\* 2 \*\* Need to inform Lisa Petruskas about tolerances of adjustable pedal motor wiring lead lengths.**

**Update Status**

Wire harness dimensions +/- 10mm.

Opened	08/02/2000
Closed	08/08/2000
By	08/05/2000
Status	.....
Update	08/08/2000

Affected Part Numbers

**\*\* 3 \*\* Teleflex must support Buck build - 9/1/2000 @ 10:30am.**

**Update Status**

Meet at Lisa Petruskas' desk. TELEFLEX MUST SUPPORT THIS BUCK BUILD!!

Opened	08/30/2000
Closed	09/12/2000
By	.....
Status	.....
Update	.....

Affected Part Numbers

REC-044 21818





# ETC Issue Summary U-137 Excursion

U137 PMT

Revised: Wednesday, September 06, 2000

- 4 Adjustable Pedal Motor leads must be 13 inches.
  - \*\*Wiring must be retained every 300mm according to SDS.
  - \*\*Does the adjustable pedal motor violate SDS requirements?

**Update Status**

09/06/2000 Update: KTP needs to specify wire harness clip locations.

Opened	09/30/2000
Closed	
Due	09/06/2000
Status Update	09/06/2000

Affected Part Numbers

\*\*\* HTPB Subsystems Engineering Review

**Update Status**

The meeting was held to resolve any potential systems issues relating to 2002 MY Adjustable Pedals. The following relate to ETC Issues only:

- \*Ann Holmes - Ford Systems Engineer
- \*Reviewed Device Transmittal signed 8/29/2000.
- \*Need to resolve if Ford connector part number XRBT-14A464-AA is correct. If connector number is to be updated, give Ann Holmes the new part number shown on the Device Transmittal. The new (or corrected) connector part number should be added to the Device Transmittal.

Opened	08/31/2000
Closed	09/30/2000
Due	
Status Update	

Affected Part Numbers

PERC-994 21819





[REDACTED]

[REDACTED]

---

**From:** Buss, Stephen (S.D.)  
**Sent:** Thursday, September 07, 2000 9:13 AM  
**To:** Petrauskas, Lisa (L.E.)  
**Subject:** FW: Re: 14A005 & Adjustable Pedal Build

—Original Message—

**From:** Charland, Alex (A.J.)  
**Sent:** Wednesday, September 06, 2000 3:32 PM  
**To:** Buss, Stephen (S.D.)  
**Subject:** FW: Re: 14A005 & Adjustable Pedal Build

Steve,

Here is Ray Williams response to when I asked him about the issue raised in the adjustable pedal meeting.

*Alex Charland*  
*Ford Motor Company*  
Kentucky Truck Plant - PVT  
Phone: 502.339.3915  
Fax: 502.429.2941  
Pager: 888.618.9907

—Original Message—

**From:** Williams, Rayford (R.O.)  
**Sent:** Wednesday, September 06, 2000 2:51 PM  
**To:** Charland, Alex (A.J.)  
**Subject:** RE: Re: 14A005 & Adjustable Pedal Build

Alex,

The AIMS was written because today, the 14A005 takeout to the 14401 is tucked behind the accelerator pedal to prevent the takeout from being trapped during IP deck. Beginning job # 1.25 the diesel accelerator



14A005 wiring harness.ppt

pedal is shorter, therefore the takeout on the 14A005 can't be tucked behind the pedal. This issue has nothing to do with the adjustable pedal. It was discussed during a buck review for adjustable pedal. Initially this was believed that this was an issue for the new diesel pedal only. Currently, the operator has nothing to tuck the takeout on the 14A005 on gas units and I have not heard of any issues with the takeout. See attached photo.

Please see me if there are any questions.

*Ray Williams*  
AFL Design Resident Engineer, KTP  
Phone - 502-429-2965  
Fax - 502-429-2207  
Pager - 888-259-2654/Text

—Original Message—

**From:** Charland, Alex (A.J.)  
**Sent:** Wednesday, September 06, 2000 2:29 PM  
**To:** Williams, Rayford (R.O.)  
**Subject:** Re: 14A005 & Adjustable Pedal Build

Ray,

Okay, here is the issue:

Can you provide/ do you know who could provide, clarification/ information about the possible wiring harness interference in reference to the adjustable pedal build and the 14A005 harness. The information that I have is that you raised an AIMS issue about the harness having to be taped differently for better IP installation. How? Why? etc. etc.

Thanks,

*Alex Charland*

*Ford Motor Company*

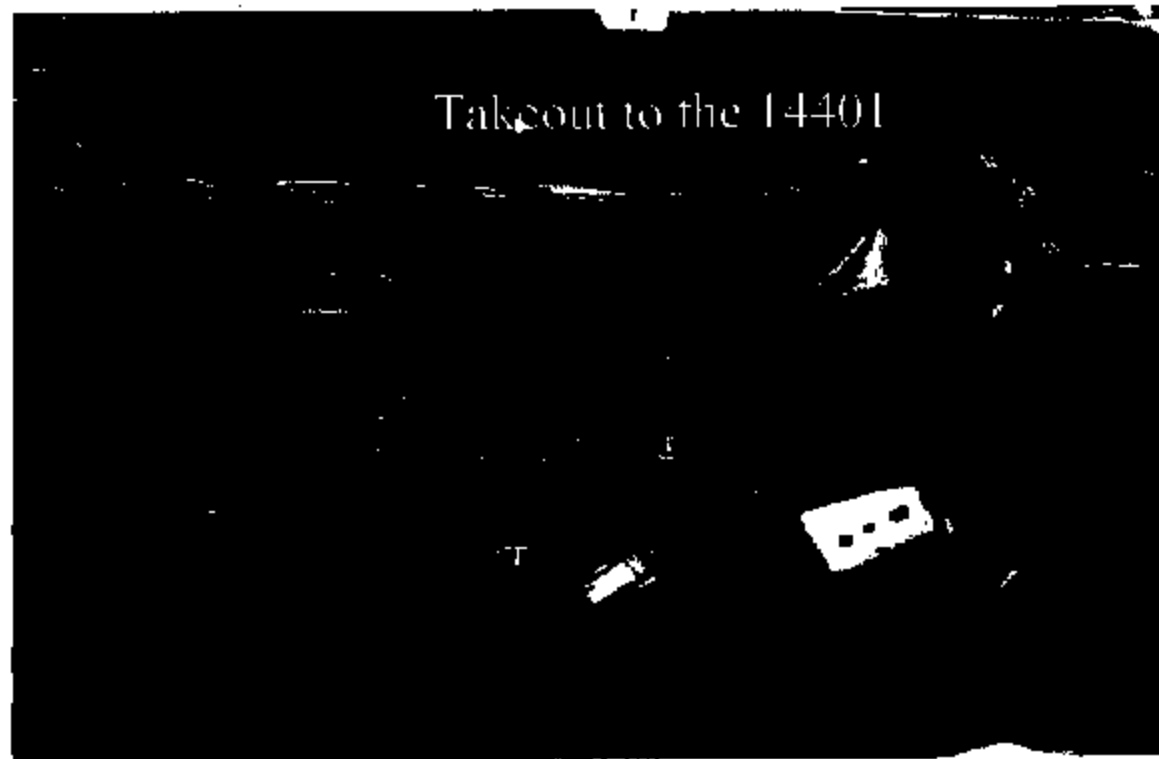
Kentucky Truck Plant - PVT

Phone: 502.339.3913

Fax: 502.429.2941

Pager: 888.618.9907

# 14A005 wiring harness



PERI-ON 21826



RE: trial issue list

Page 1 of 1

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From: Hudson, Lou - Troy [lhudson@TFXAuto.com]  
Sent: Monday, October 23, 2000 10:54 AM  
To: Petrauskas, Lisa (L.E.)  
Subject: RE: trial issue list

Lisa,

Please review my comments in red. Please advise any changes. Otherwise, this is pretty much what I'll be saying.

---Original Message---

From: Petrauskas, Lisa (L.E.) [mailto:lpetraus@ford.com]  
Sent: Friday, October 20, 2000 5:44 PM  
To: Buss, Stephen (S.D.); Lou F. Hudson (E-mail)  
Cc: Beuckelaere, Phillip (P.R.)  
Subject: trial issue list

Stephen & Lou

Please feel free to add more to issues list.  
Needs to be done before Scott Van Dam Meeting on Monday.

<<ADJ\_TRIAL\_ISSUES.xls>>

Lisa Petrauskas  
Heavy F-Series Chassis Design  
FDC ZB-A60  
313-39-08070  
(fax) 313-317-2349  
lpetraus@ford.com

11/17/2003

PE03-044 21571

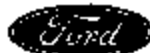
Adjustable Pedal Issue List  
 Item  
 Mkt-TM at RTP 10/17/2000

Item	Issue with part	Issue with process	Concerns	Cost	Timing	Containment Plan	Support	Vehicle
1	BRACE - Dash	Brake pedal bracket bolting out on the dash panel in forward position. When pedal is actuated it lifts the insulation, carpet & plastic bumper before it hits the stop on the bracket.			none	2 wks.		
2	Wiring - Motor	Motor signal is very faint on U127. The 2-way connector is located on the right side of the pedal-brake.	The location of connector is too difficult for installation going down the line					
3	Wiring - Motor	Motor signal is loose on P121. The 2-way connector is located on the left side of the pedal-brake. There is some slack in the wiring. On the dash vehicle the motor wires touch the BTC connector wires.					APL	U127
4	Accel - Ped		locking the upper left-hand hole. Making sure it is being going down the line.				APL	P121
5	Wiring - Ped		pedal the operator is standing in the cab and hand.				APL	P121
6	Wiring - Ped		pedal the operator is standing in the cab and hand.				APL	P121
7	Wiring - Ped		locking the upper left-hand hole. Making sure it is being going down the line.				APL	P121
8	Wiring - Ped		locking the upper left-hand hole. Making sure it is being going down the line.				APL	P121
9	Accel - Ped		locking the upper left-hand hole. Making sure it is being going down the line.				APL	P121
10	Accel - Ped	Accel pedal broke - Ped off brake					VO	U127
11	Accel - Ped	Accel pedal broke - Ped off brake					VO	U127
12	Accel - Ped	Accel pedal broke - Ped off brake					VO	U127
13	Accel - Ped	Accel pedal broke - Ped off brake					VO	U127
14	Accel - Ped	Accel pedal broke - Ped off brake					VO	U127
15	Accel - Ped	Accel pedal broke - Ped off brake					VO	U127
16	Accel - Ped	Accel pedal broke - Ped off brake					VO	U127

1003-044 21872

ADJ\_TRIAL\_ISSUES.xls  
 (person)

Date Created: 10/20/2000  
 Date Revised: 11/17/2003  
 Time Printed: 5:21 AM



**PROGRAM TEAM DOCUMENT TRANSMITTAL**  
Cover sheet for program team documents to suppliers.

Supplier: Teleflex Automotive Group Inc.

Program Team: 2003 SD/Excursion -  
Chassis  
Component: 03.18 Adjustable Accelerator  
Electronic Throttle Control

**DOCUMENT BEING TRANSMITTED:**

<u>DOCUMENT</u>	<u>PURPOSE</u>
<input type="checkbox"/> Early Supplier Involvement Agreement	Identify two or more suppliers to work with program teams to develop design intent.
<input type="checkbox"/> Sourcing Confirmation Letter	Confirms Sourcing for FPDS programs. Sourcing is committed prior to Target commitment.
<input checked="" type="checkbox"/> FPDS Target Agreement	Confirm Targets for FPDS programs.

**ATTACHMENT(S) TO DOCUMENT:**

<u>ATTACHMENT</u>	<u>PURPOSE</u>
<input type="checkbox"/> Ford and Supplier Expectations	Communicates Ford and Supplier roles in Sourcing, Targets, Design and Design Validation.
<input type="checkbox"/> CSP Information	Contact Lists for CSP Information
<input checked="" type="checkbox"/> Procedure for Handling Confidential Information	Documents Confidentiality procedure and commitment to utilize.
<input checked="" type="checkbox"/> Program Specific Sys/Subsys Design Specification	Communicate design criteria.
<input checked="" type="checkbox"/> Program Specific FSS Statement of Work	Define program specific Ford/Supplier product design roles and responsibilities.
<input checked="" type="checkbox"/> Attribute Performance Expectations	Describes the performance expectations for the various attributes of a module or component.



## TARGET AGREEMENT

Vehicle/Product Program (Including Model Year) 2003 SuperDuty Programs

Supplier*: Teleflex Automotive Group Inc.	Q1 Status: <del>Q1</del>
System/Subsystem/End Item/Component# 03.18.01 - Adjustable Accelerator Control	Part Number(s): 3C34-9F838-AA (Use w/ Navistar 6.0L Engine)
Core / Leveraged Commodity: Leveraged	FSEI Decision Maker: Glenn Wilson
Buyer: Joe Stachla (313) 59-41200	PMT # 108
Quality Targets: Functional targets ensuring lifetime robust and reliable performance (not TSM or R/1000 targets)  TBD	Job #1 Date: Kentucky Truck Plant: August 5, 2002
Weight Target: 0.71Kg	Average Production Weekly Volume: TBD  Maximum Production Weekly Volume: TBD  Cycle Average annual FPV: F-Series = TBD Excursion = TBD
Production Piece Price Target <sup>1</sup> 3C34-9F838-AA = \$26.00	Production Tooling Target: (including gages and models) Production Tooling Start Date <sup>2</sup> :  Dates derived to support 100% PSM for (PP MRN) of 3/18/2001
Prototype Piece Price Target: \$2150 Per part	Prototype Tooling Target: TBD for all Proto-type builds through CP. (Note: (PP) are to be PSM parts)
Ford Vehicle Operations Labor/Assembly Time Target No Applicable	Other Targets <sup>3</sup> :

### COMMITMENT

Teleflex Automotive Group Inc was confirmed as the source of the above referenced system/subsystem/end item/component and has been a participating member of the PMT since Early Sourcing Involvement was distributed in December of 1999. As a member of the PMT Teleflex Automotive Group Inc:

- Has joint responsibility for ensuring that the above specified system/subsystem/end item/component supports the established program functional/weight/quality/cost objectives.
- Has participated in the development of the above referenced Targets.

<sup>1</sup> Must be a Q1 ship point, or, if the actual ship point is not known at this time, the parent supplier commits to put the business in a Q1 facility. For a new facility (therefore not Q1), the sourcing process is described at the Ford Internal WEB address [http://www.purchasing.ford.com/prch\\_prod\\_proc\\_man/itnl/pppr215.html](http://www.purchasing.ford.com/prch_prod_proc_man/itnl/pppr215.html).

<sup>2</sup> Tool Start Date is the estimated date for beginning tooling expenditures. Tooling cannot commence until the PMT gives authorization in written form.

<sup>3</sup> Commodity specific targets such as fabric specification (seats), paint colors (painted components) or, on an exception basis, Ford directed sourcing items (see Ford policy on Supplier Sub-system Sourcing Responsibility at the Ford Internal WEB address [http://www.purchasing.ford.com/prch\\_mlec\\_public/html/sply\\_tr1.stm](http://www.purchasing.ford.com/prch_mlec_public/html/sply_tr1.stm).)

- Will participate in the design and development process outlined in the Full Service Supplier Partnering Guidelines dated July 1, 1998 (if this is a leveraged commodity), the attached program specific System/Subsystem Design Specification dated 2/25/2000, and the attached program specific FSS Statement of Work.

On or before 30 Months Before Job #1, a Production Purchase Order based on Ford's standard purchase order terms and conditions (FGT 26, rev. 4/97\*) will be issued which incorporates the targets contained in this Early Sourcing/Target Agreement unless either or both of the following occur:

1. Ford makes a change in program or subsystem/end item/component direction;
2. Your company is unable to continue with design and development of the subsystem/end item/component or carry out all of the responsibilities outlined in this Agreement;

In which case Ford and your company will each absorb their own cost of work for this program. If a Production Purchase Order is not issued due to (2) above, Ford, at its option, may then acquire from your company at actual cost, all or any portion of the technical information and data related to work your company performed for the program together with whatever licenses are required under your Company's intellectual property rights to use that information and data on a royalty free basis.

Upon issuance of the initial Ford Purchase Order, Supplier's Purchase Part Capacity will be the Maximum Production Weekly Volume number shown on this document. Please see the CPV2 Application on the Ford Supplier Network for further information on Purchase Part Capacity.

#### TARGETS

Targets have been developed as follows:

- Piece Price - at Job #1 conditions (firm Job # 1 price). Targets are denominated in currency of supplier manufacturing location.
- Tooling - based on incurred cost and includes gages and models. Targets are denominated in currency of supplier manufacturing location.
- Prototype Piece Cost and Tooling - within program prototype piece/tooling cost targets and/or existing multiplier/formula pricing agreements
- Quality - Functional targets developed using VDS cascade and SDS/CDS to ensure robust and reliable lifetime performance.
- Capacity - Capacity planning supports ongoing production at Average Production Weekly volumes and Maximum Production Weekly Volumes for a minimum of 90 days.

We the team recognize that we will be exposed to data which is sensitive in nature and needs to be protected. Technology, as well as proprietary data, will be treated in accordance with the process outlined in Attachment L.

\* Supplemental Clause to FGT 26, rev. 4/97:

- **PROVISIONS APPLICABLE TO SELLER-OWNED TOOLING.** Seller represents and warrants that the prices for the Supplies will be no less favorable than those which Seller presently, or in the future, offers to any other customer for the same or similar goods or services for similar quantities. If Seller offers a lower price for the same or similar goods or services to any other customer during the term of a Purchase Order, then to the extent permitted by law, Seller will immediately offer Buyer the same price for the Supplies on the same terms and conditions as was offered to the other customer.



[REDACTED]

[REDACTED]

"If Seller has been notified that the special tooling required to support production of Supplies for this Purchase Order is to be funded by Seller ("Supplier-Owned Tooling"), the following provisions shall apply:

- a) Seller acknowledges that the Purchase Order price includes a cost element to help Seller recover the capitalization of Supplier-Owned Tooling. The Supplier-Owned Tooling will be properly maintained by the Seller at its own expense for so long as the Supplies are purchased by Buyer for its serial production as well as for its service and replacement part requirements.
  - b) If Seller uses the Supplier-Owned Tooling to produce the Supplies for other customers, including aftermarket customers, such Supplies shall not incorporate any of Buyer's logos, trademarks, trade names or unique part numbers. Seller shall not disclose or imply in its marketing efforts that the Supplies are equivalent to those purchased from Seller by Buyer or any of its Associated Companies. Seller shall indemnify and hold Buyer (including its employees) harmless from and against any claims, expenses, loss or liability arising out of its sale of Supplies to other customers or caused by or resulting from defects in design, materials or workmanship of the Supplies sold to such customers; the failure of Seller (or its subcontractors) to fully comply with applicable federal, state, or local laws, statutes, regulations or governmental directives which regulate the sale of Supplies to such customers; and from any and all claims, suits and liability for loss of or damage to any tangible property or persons (including death) caused by any act or omission, including negligent or willful conduct of Seller or its subcontractors, arising out of such sales of Supplies to other customers.
  - c) In consideration of Buyer's Purchase Order for parts to be produced from the Supplier-Owned Tooling, Seller grants Buyer an exclusive, irrevocable option to purchase Supplier-Owned Tooling by paying the lesser of the outstanding unrecovered capitalization or the fair market value at the time Buyer exercises the option. Buyer may exercise this option in the event of termination or expiration of this Purchase Order. If Seller finances any portion of the Supplier-Owned Tooling, Seller will obtain for Buyer the rights granted in this subparagraph (c) from its financing source."
- **TERMINATION/EXPIRATION:** "Buyer may terminate a Purchase Order without liability to Seller if Seller (i) sells, or offers to sell, a substantial portion of its assets used for the production of Supplies for Buyer, or (ii) sells or exchanges, or offers to sell or exchange an amount of its stock that would result in a change in the control of Seller. Buyer shall give Seller written notice of the termination at least 30 days prior to the effective termination date. Seller shall notify Buyer no more than 100 days after entering into any negotiations for the sale or exchange of its stock or assets that could result in a change of control of Seller."
- [REDACTED]

[REDACTED]

[REDACTED]

We accept the conditions stated above and we commit to work toward achievement of the targets. At Program Approval <PA>, these targets will become objectives unless the assumptions contained in the agreement are formally amended.

\_\_\_\_\_  
PMT Leader  
Philip Beuckelaers

\_\_\_\_\_  
Date

\_\_\_\_\_  
Vehicle Integration Supervisor  
J. Joseph Weems

\_\_\_\_\_  
Date

\_\_\_\_\_  
Team Finance Analyst

\_\_\_\_\_  
Date

\_\_\_\_\_  
Buyer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Supplier

\_\_\_\_\_  
Date

**ATTACHMENTS:**

- I - Procedure for Handling Confidential Information
- II - Program specific System/Subsystem Design Specification dated   /  /
- III - Program specific FSS Statement of Work dated   /  /

[REDACTED]

[REDACTED]

**ATTACHMENT 1: PROCEDURE FOR HANDLING CONFIDENTIAL INFORMATION**

During the time Supplier is participating in this Program, Ford and Supplier agree that where it is necessary for either Ford or Supplier to disclose its proprietary and confidential information to the other, the following rules will apply to the Parties:

1. A Party which receives such information from the other Party shall have a duty to protect only that information which is (a) disclosed to it in writing or as a tangible item and is marked as confidential at the time of receipt, or (b) disclosed to it in any other manner, is identified as confidential at the time of receipt and is also detailed and designated as confidential in a written memorandum delivered, within thirty (30) days of the first disclosure, to the receiving Party's representative designated for this purpose.
2. A Party which receives confidential information from the other Party shall use a reasonable degree of care, that is at least equal to the degree of care it uses to protect its own confidential information of a like kind and nature from disclosure to third parties, to protect the received confidential information from being disclosed to any third party without the express written permission of the other Party. This obligation shall continue for a period of four (4) years from the date of this Agreement or until Ford commences production of products which incorporate the subject of this Program, whichever first occurs. This obligation shall be replaced and superseded by the confidentiality obligations contained in any Purchase and Supply Agreement issued pursuant to this Agreement.
3. A Party which receives information under this Program from the other Party has no obligation to protect information which (a) was in the receiving Party's possession before receipt from the other Party; (b) becomes a matter of public knowledge through no fault of the receiving Party; (c) is rightfully received by the receiving Party from a rightfully possessing third party without a duty of confidentiality; (d) is disclosed by the other Party to a third party without a duty of confidentiality on the third party; (e) is disclosed under operation of law; or (f) is independently developed by the receiving Party's personnel who have not had access to the information designated as confidential by the other Party, and is provable by competent evidence.

[REDACTED]

[REDACTED]

**ATTACHMENT II: PHASED DATA NOTIFICATION EXPLANATION**

For Ford and Seller-owned tooling, Seller will not commence production of the tooling until:

1. The Tool Start Date as indicated on the Target Agreement is reached; and
2. Seller has received written Engineering Readiness Authorization from the PMT leader for this commodity.

Engineering Readiness Authorization means that the part is at the appropriate engineering release level, as dictated by the PMT. "Appropriate release level" might mean a "Phased Data Notification" (sequential releases of increasing levels of detail about the part prior to actual final release), or a Final Engineering Release ("P" authority release) of the part.

For "Phased Data Notification" parts, the Engineering Release events are described in the Commodity Plan for the part. A Commodity Plan is a detailed engineering workplan of the various events in the engineering process, leading to Job #1 and production usage of the part.

The Commodity Plan will identify two key authorization dates for each phase of the tooling process for the part. The two phases of tooling are: 1) Tool Design and Planning, and 2) Procuring Materials for the Tools/Construction of the Tools. The Commodity Plan will also detail the specific activities that the supplier can undertake at each phase of tooling.

If the Tool Start Date on the Target Agreement has been reached (and for Ford owned tooling, Seller has received a Tool Order for tooling), Seller may initiate the activities associated with Tool design and planning upon receipt of the Phased Data Notification indicating that Tool design and planning may commence. If the Tool Start Date on the Target Agreement has been reached (and for Ford owned tooling, Seller has received a Tool Order), Seller may initiate the activities associated with Procuring Materials for the Tools/Construction of the Tools upon receipt of the Phased Data Notification indicating that material procurement and tool construction may commence.

Seller shall not incur costs for any phase prior to the specified commencement date for that phase.

Order #	Activity	1997 Level 1 Commodity	1998 Commodity	1999 Commodity	2000 Commodity
1.03	Program Timing Planning & Management	X			
1.04	Technical Requirements - Establish/Review	X			
1.05	Recyclability Requirements	X			
1.06	Pre-Program / Pre-Target Agreement	X			
1.07	Prototype Build & Part Schedule	X			
1.08	CAD Responsibilities (shown here or in 2.05)	X			
1.09	CAE Responsibilities (shown here or in 2.05)	X			
1.10	Testing & Check Fixtures	X			
1.11	Budget	X			
1.12	Facilities & Personnel	X			
2.01	Subsystems Sourcing - Interface	X			
2.02 - 2.03	Subsystem/Component Target Delivery	X			
2.04	Systems Integration	X			
2.05	Engineering Tasks	X			
2.06	In-house Engineering & Manufacturing Concerns	X			
2.07	Product Change Approval	X			
2.08	CAD/CAE	X			
2.09	Subsupplier Interface	X			
2.10	Engineering Status - Meetings	X			
2.11	Joint Vehicle-level Concern Resolution	X			
2.12	Joint Prototype Cost, Timing & Tooling Management	X			
2.13	Surface Layout Responsibilities	X			
2.14	Market Research Properties	X			
2.16	Service Documentation	X			
3.01 - 3.04 3.05	Launch & Production Support	X			
3.05	Service Support	X			
	Misc. Attachments				

*Note: This Draft has been created for presentation purposes only as an example. Template is under development and may likely include new sections in 1.0 for: Illustration, Reliability, Service and Release/Change Management. As a result of the new sections the numbering in Section 1.0 will change.*

Program/Model Year:	2003 Super Duty / Excursion	Supplier/Commodity(s):	P1314137 Adjustable Accelerator Electronic Throttle Control
Vehicle Assumptions:	Described in Product Table Below and Section 1.02		
Program Commodity:	Described in 1.01		
COX Requirements, Specify:	C3P Program (CAD/CAM/CAE PIM) - Sections 1.00, 1.00, 2.00 and C3P SOW		
Collaboration Requirements, Specify:	Described in Section 1.12		
Program Targets:	Described in Target Agreement (to be attached), Target Table below and in Section 1.02		

Packaging:		
Net Weight:		
Gross Weight:		
Surface Area:		
Part/Carrier:		
Substrate:		
Part Size:		
Safety:		
Styling/Appearance: (including colors)		
Volume:		
Volume Mbr:		
Thermal & Assoc:		
Serviceability:		
Homologation:		
Recyclability:		
Quality:		
Cost: (see Target Agreement)		

**1.0 General Program Requirements and Pre-Target Agreement**

**1.01 Commodity Description & Scope of Supplier Responsibility**

03.18 Adjustable Accelerator Electronic Throttle Control	Tolltech Automotive Group Inc	Modified	X

**Characteristics & Diagram (Insert here)**

- See Illustration on Master Document

**Full Service Supplier (FSS) Roles & Responsibilities** are defined by Ford's Full Service Supplier Partnering Guidelines and this Statement of Work. This includes the FSS Principles which require the cooperative development of targets, program/module definition, and the SCW. The Principles also describe a budget which is included as part of the SCW and is included in the piece price. Ford and the Supplier are responsible for achieving the budget and the targets. These items and others contained within the FSS Partnering Guidelines are the basis of this document. See the FSS Partnering Guidelines (issued 85.12 and revised 88.07.01 for more information).

Section 1.0 describes General Program Information and Pre-Program responsibilities (Section 1.06). Sections 2.0 and 3.0 explain FSS Roles & Responsibilities from the FSS Partnering Guidelines with additions denoted by bullets '\*' and deletions denoted by 'does not apply'.

- 1.02 Program/Commodity Assumptions are listed below and will be provided by Ford at least two weeks prior to the planned signing of target agreement:

1.02.1 Program Direction Letter

1.02.2 Ford Assembly Plant Locations: [Kentucky Truck Plant, Canton assembly Plant]

1.02.3 Leveraged Commodity: [REDACTED]

- 1.03 Program Timing

SI	Strategic Intent	June 1999
CSP	Readiness with Data Integrity Test (Section 1.06 for details)	August 1999
SC	Strategic Confirmation	August 1999
TA	Target Agreement Signed	January 28, 2000
Level 3 CAD	Idea package data with Design concept	January 28, 2000
PH	Proposals & Handpoints	January 28, 2000
PA	Program Approval	April 2000
Level 4 CAD	All interfaces and Some Component Detail Defined	April 2000
FEAS	Fees Sign-Off	N/A
DSO	Design Sign-Off	N/A
PT	Powertrain Design Complete - Design Release	February 20, 2001
PR	Product Readiness	January 2001
CP	Continental Prototype	April 23, 2001
CC	Change Cut-Off	December 2001
TA	Tooling Authority	TBD
Production TO	Production Tool Order	TBD
LR	Launch Readiness	March 22, 2000
SO	Engineering Sign-Off	March 4, 2000
LS	Launch Sign-Off	April 28, 2000
JL	Job #1	August 5, 2002 (KTP)

- 1.04 Technical Requirements

The following documents define the technical requirements for the component

Program Direction Letter (PDL)	GEN01218062689
WCR Requirements	Provided by Ford
SDS Requirements:	See file
Program - Specific SDS	See File
PMT & supplier Work Plan that documents the following key events:	
<ul style="list-style-type: none"> <li>• Reliability/Robustness Plan (Described in 1.06 and deliverables in 2.05)</li> <li>• Service Plan (described in 1.08 and deliverables in 2.05)</li> <li>• Engineering Sign-off Evidence (evidence and sign off requirements noted in 2.05)</li> <li>• CAD Deliverables (overview in 1.06 and data deliverables in 2.06)</li> <li>• CAE Deliverables (overview in 1.09 and data deliverables in 2.08)</li> </ul>	

**1.96 Recyclability Requirements**

- New Plastic and/or rubber parts must contain at least 25% by weight post-consumer recycled content. Exceptions to this must be reviewed and approved by the Recycling Attribute Team.
- All use of recycled material for parts from eurogate programs must contain that recycled material content incumbent PROGRAM 184.
- All plastic components must be marked with material identification in accordance with Engineering Drafting Standards Metric 8 Standard NO. E-4 Issues April 19, 1996, SAE J1344 and ISO Standards.

*In the following sections, work is described in a paired set. The Ford responsibilities are denoted with an (Ax) and they have complementing Supplier action set denoted with a (Bx).*

**1.98 Pre-Program Work, Pre-Target Agreement**

<p><b>A. Ford will perform the following pre-program activities:</b></p> <ul style="list-style-type: none"> <li>• Appoint a Ford Decision Maker/PMT leader (A1)</li> <li>• Provide Supplier with key Quality documents and support including (A2)           <ul style="list-style-type: none"> <li>◊ Ford Reliability Guide (FRG)</li> <li>◊ Ford Quality/Reliability Statement of work</li> <li>◊ Cooperatively develop tooling and warranty responsibility that will be included in the PSS relationship; document in the Reliability SOW and be part of the TA</li> <li>◊ Review and approve supplier submitted QR Connectivity Strategy</li> </ul> </li> <li>• Cooperatively develop system/component functional &amp; cost targets with supplier (A3)</li> <li>• Make available vehicle and engine package information. (A4)           <ul style="list-style-type: none"> <li>◊ Ford engineering will insure as necessary CAD data is made available for Avit CAD activity to access through Metaphase and the IMT bridge.</li> </ul> </li> <li>• Cooperatively develop service part requirements if any (A5)</li> <li>• Train Telex Engineering support in the Ford Engineering CSP Curriculum (A6)</li> <li>• Provide access to FMC WERS CONCERN and ALERT system to allow the supplier to generate the necessary data to support FMC release system. (A7)</li> <li>• Develop and cascade appearance acceptance (A8)</li> <li>• Communicate and facilitate Damage and shipping package requirements (A9)</li> </ul>	<p><b>B. Supplier will perform the following pre-program activities:</b></p> <ul style="list-style-type: none"> <li>• Provide list of engineering and manufacturing lead contacts including roles &amp; responsibilities (B1)</li> <li>• Develop a Quality/Reliability strategy that meets FRG intent and Ford QR SOW guidelines (B2)           <ul style="list-style-type: none"> <li>◊ Provide Strategy including robustness &amp; Reliability method to be used</li> <li>◊ Description of Campaign prevention process</li> <li>◊ Warranty Sharing Agreement</li> <li>◊ Conducting FMA on Top 5 Super Duty Exhaust Warranty Issues</li> <li>◊ Competitive benchmarking</li> <li>◊ Train Engineer in all Ford FTEP training classes</li> </ul> </li> <li>• Cooperatively develop system/component functional &amp; cost targets with supplier (B3)</li> <li>• Create and develop designs that are compatible with vehicle package environment (B4)           <ul style="list-style-type: none"> <li>◊ Incorporate design improvements as directed by Ford</li> <li>◊ Design Feasibility Optimize vehicle/system to support program targets; provide package/design improvements</li> </ul> </li> <li>• Cooperatively develop service strategy that includes: (B5)           <ul style="list-style-type: none"> <li>◊ Meeting PCSD specific connectivity targets</li> <li>◊ Design system/components for ease of maintenance or repair at a competitive cost</li> <li>◊ Identification of serviceable items via Service Bill-of-Material (SBOM)</li> <li>◊ Identification of Tier II suppliers core system specific service parts per SBOM</li> <li>◊ System diagnostic and special dealer tool identification</li> <li>◊ Capacity planning including service requirements</li> </ul> </li> <li>• Comply with CSP requirements described in section 2.08 (B6)</li> <li>• Prepare design release records in WERS (B7)</li> <li>• Identify material damage and shipping rack package assumptions including estimated packaging density, part orientation and rack dimensions used to identify</li> </ul>
--	--



- packaging piece price, this is to be done in concurrence with the packaging guidelines.(B1)
- a Verify design with Packaging Guidelines "must & wants" utilizing CAD data
  - b Review prototype shipping sock design with prototype parts and verify whether "must & wants" have been achieved

**1.07 Prototype Build & Part Schedule**

A. Ford will be responsible for issuing and executing the Prototype Plan including the following detail schedules:

- Craftsmanship sign-off schedule (to be provided by PMT Leader No Later than July 31, 2000)
- Service part schedule (to be provided by PMT Leader No Later than July 31, 2000)
- Vehicle Launch Plan
- Prototype build and tooling schedule (See table below)

**PROTOTYPE BUILD & TOOLING SCHEDULE**

Build Event	MRD	Tooling Requirement	Build Location	Build Space
AP1 Build	03/27/2000	Prototype	TBD	To be Provided by Ford
AP2 Build	07/10/2000	Prototype	TBD	Minimum of 18 weeks
AP3 Build	09/05/2000	Prototype	TBD	Prior to MRD for all
Reliability Build	02/05/2001	Prototype	TBD	Builds
CP Build	04/23/2001	Prototype (Production Release)	TBD	
1PP	03/18/2002	Production (PSW parts)	TBD	

B. Supplier will provide the following:

- End-items/components to support builds at negotiate prototype part cost

Base Part Number and Description	Prototype Piece Cost
4F836- Accelerator Pedal	To Be Negotiated

Note: Volumes and cost for the above are negotiated as part of the Target Agreement.

- Protect personnel to support prototype and production builds on site and during launch
- Protect and personnel to support vehicle testing and vehicle sign-off
- Protect to support service parts schedule
- On line PSW part approval

**1.08 CAD General Responsibilities: (specific deliverables and timing managed by CAD Detail Schedule aka VITAL)**

A. Ford will be responsible for providing:

- CAD modeling guidelines (if applicable, see here)
- Review of CAD model described in table below (A1)
- CAD file organization, procedures, and drawing requirements (Ford will provide) (A2)
  - ⇒ Engineering CAD File Organization and Data Exchange Guidelines
  - ⇒ Illustration CAD File Organization and Data Exchange Guidelines
- Ford Engineering CAD & Drafting Standards and any local procedures that apply (Ford will provide) (A2)
- Electronic library
- Design-specific Product Information Management requirements
- Layout numbering
- Related data for package, compatibility, and release that is not the supplier's design responsibility (A3)
- Methods of archiving released 3D CAD data (A4)

B. Supplier will be responsible for providing:

- The CAD models listed below in the prescribed format. Details and timing will be managed by CAD Detail Schedule and VITAL. (B1)

	Definition F, P, R, H, P, N	Native/ Translated	Appearance Level (A-F)	CAD Levels (1-7)	Release Form		CAD Restrictions Req'd	CAD Imp. Req'd	Supplier Confidentiality
					Release CAD File	Release Drawing			Restricted Other Suppliers
08.18.01 - 5F836-	F	N	N/A	2,3,4,6,7	X	X	No		None

- Compliance to CAD File, Data Exchange, and Drafting Standards provided by Ford: (B2)

(list Guideline and date)

- Electronic communication of CAD data via INE
- CAD Package Studies, CAD Feasibility, CAD Compatibility and CAD Release of designs (B3)
- Archiving and release of 3D Data and Drawing prescribed by Ford (B4)

1.0 [REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]
TBD		

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

1.11 Budget

The budget which accompanies this SOW and Target Agreement is dated *tbd* and totals \$ *tbd*. This amount has been included in the piece cost target and will be managed by Supplier and the Ford Decision Maker in accordance with the FSS Partnering Guidelines issued 05.12 and revised 07.06.01.

The budget does not include design & engineering work resulting from activity not covered in this SOW (i.e. Ford - Sourced Tier 2 supplier non-conformance, Ford added-starters, Target and/or specification changes after 2000, Ford re-surfacing post SLR, etc.)

1.12 Facilities & Personnel

A. Ford will provide:

- facilities at locations where supplier personnel can be stationed; this includes office space, furniture, and phones at Pre-Program, program home base and launch sites (A1)

B. Supplier will provide the following:

- Technical and engineering liaison at the Supplier Engineering Center and plant location for Job #1 plus 80 days (via phone, e-mail and on-site as needed) (811)
- On-Call engineering support 24hrs per day during proto-type builds and Launch with the ability to be at Ford site within 24hrs. (Pager or Cell phone and list of contact required to be provided to PMT Leader and Launch Team Leader)
- Technical and engineering support at the supplier facilities as required.
- APQP Leader at the manufacturing facility.

**2.0 FSS Responsibilities Throughout the Program Implementation Phase  
Extracted from the Ford FSS Partnering Guidelines**

- 2.01** Subsystems Sourcing in accordance with Ford's Subsystems Sourcing Guidelines
- 2.02** Deliver the subsystem/component to target
- 2.03** Meet function, reliability/quality, safety, homologation, craftsmanship and recyclability requirements
- 2.04** Systems integrator must ensure compatibility of all included component/systems
- 2.05** Function as the Program Module Team/Component Program Module Team Engineer for the subsystem/component. [ list engineering tasks that are in-addition to Partnering Guidelines in table below with a '\*' ]

Engineering Tasks - Additional to the Partnering Guidelines	
<b>Engineering Proves-out:</b> <ul style="list-style-type: none"> <li>• Develop and maintain System DVP&amp;R</li> <li>• Develop and maintain Component DVP&amp;R</li> <li>• Create and maintain Design &amp; Process FMEAs</li> <li>• Compliance with SDC and other technical requirements noted in Section 1.04</li> <li>• Technical/Engineering liaison support</li> <li>• Sign-offs                             <ul style="list-style-type: none"> <li>• Component level during pre-builds</li> <li>• System level after builds</li> </ul> </li> </ul>	L
<b>Preparation and maintenance of graphics files and engineering illustrations including:</b> <ul style="list-style-type: none"> <li>• Component CAD model and necessary detailed drawings compliant to Ford CAD &amp; Drafting Standards per schedule noted in 2.06</li> </ul>	L
<b>Design Compatibility Review and Structures Support including:</b> <ul style="list-style-type: none"> <li>• CAD models for package and digital buck / drawings per schedule noted in 2.06</li> <li>• CAE Model and data as noted on 1.09 and 2.06</li> </ul>	L
<b>Utilize Advanced Product Quality Plan to support Quality Objectives including:</b> <ul style="list-style-type: none"> <li>• All 23 elements and associated checklists contained with FMCs APQP</li> <li>• Supplier Developed Ford approved Quality/Reliability Strategy described in 1.06</li> <li>• Periodic APQP reviews including management of open issues list</li> </ul>	L
<b>Manage and support the release and shipment of all serviceable components</b> <ul style="list-style-type: none"> <li>• to be negotiated under separate contract</li> </ul>	L
<b>Timing and Release Material Control support functions including change management</b>	L
<b>Manage component(s) scheduling</b> <ul style="list-style-type: none"> <li>• Provide required engineering freeze dates for each build communicated in the build schedule shown in section 1.07 to allow for sufficient prototype build time to support MRD.</li> </ul>	L
<b>Manage overall program timing of component(s) to ensure that all key milestones are met including:</b> <ul style="list-style-type: none"> <li>• Develop and execute a program workplan</li> <li>• Provide prototype parts according to agreed upon schedules (see Section 1.07)</li> <li>• Provide parts to schedule agreed upon. (schedule provided in Section 1.03)</li> </ul>	L
<b>Develop and maintain part data records in WERS</b>	L
<b>Studio Engineering role does not apply</b>	NA
<b>Provide vehicle and service part launch support</b>	L
<b>Support Ford Corporate documentation and reporting requirements</b> <ul style="list-style-type: none"> <li>• Maintain QOS / PTPRP / FPOS Checkpoint evidence books</li> </ul>	L

- 2.06 Resolve Supplier in-house engineering and manufacturing concerns including:
- Utilize corrective action/problem resolution process throughout the program
- 2.07 Obtain Ford PMT Decision Makers agreement on feasibility and cost of Change Requests affecting systems before implementing change including:
- Participate in PMT/PAT and change control meetings as required.
- 2.08 Develop and maintain Computer Aided Design/Computer Aided Engineering models for subsystems/components (internal & sourced items) according to the following Data Delivery Schedule:
- Reference CAE Schedule (if any) and/or Supplier Workplan

*Note: Specific delivery dates will be controlled and managed through CAD Detail Schedule and WTAL; see attached CAD Deliverables Map for timing and model levels - Insert appropriate CAD Level where 'x' is shown  
Data Delivery Table - Section 2.08*

Event	Supplier	Process	Supplier	Notes
Pre-PH	Proportions & Hardpoints	Hardpoints Process and specifically Hardpoint affecting Engine Cover (HP # )	Ford	D-F
Feas	Feasibility Studies	CAD feasibility studies to support package and concept development	Supplier	2
SI	Strategic Intent	Deliver CAD Level 2	Supplier	2
SC	Strategic Confirm	Deliver CAD Level 3	Supplier	3
PH	Proportions & Hardpoints	Deliver CAD Level 3	Supplier	3
PA	Program Approval	Deliver CAD Level 4	Supplier	4
PT	Powertrain Design	Deliver CAD Level 6	Supplier	6
PT + 4wks	Design	CAD Level 6	Supplier	6
CR	Compatibility Reviews	Performed via Digital Buck - some drawings may be requested (On going) AP1 AP3 CP	Ford & Supplier	3 3 7
CP	Confirmation Prototype	Provide CAD data to support FMC safety CAE (as required - ck date - CP Design level is latest level typically used - CAE Sign-Off)	Supplier	7
DR	Design Release	1. Supplier release of CAD Design and associated Drawing 2. WERS Notice Approval	Supplier Ford	7
Ongoing	Digital Buck	Provide and maintain up-to-date data for FMC digital buck	Ford & Supplier	2-7
Ongoing	Meetings & Data	Support meetings with data; including up-to-date drawings, 3D models, charts and written submissions (primarily electronic).	Ford & Supplier	2-7
Ongoing	Drawings & 3D	Prepare drawings that have up-to-date 3D models; simultaneous support of 2D and Digital Buck requirements.	Ford & Supplier	2-7

#### 2.9 Direct sub-suppliers

- 2.9a Review jointly with Ford the engineering status as appropriate and control to target including:
- Develop an open issues management process for reporting design changes, risks and opportunities and open issues for the component.
  - Provide communication as appropriate to all affected functions
  - Review open issues on a regular basis (Minimum bi-weekly) and act in a timely manner to support program objectives.
  - Ensure open issue management follows the BD philosophy

- Recommend and implement opportunities to improve quality/design within agreed-upon budget noted in Section 1.09
  - Maintain QOS documents tracking Quality, Cost, Weight, Facilities and Attribute Targets performance vs. objectives
- 2.11 Resolve jointly with Ford vehicle level problems and concerns utilizing the 8D Format.
- 2.12 Manage jointly with Ford prototype cost, timing and tooling to meet vehicle goals and objectives including:
- Provide prototype parts according to agreed upon schedules
- 2.13 Surface Layout responsibilities
- 2.14 Market Research Property responsibilities
- 2.15 Develop service documentation for the subsystem or components specifically:
- component illustration pages for service manual (to be discussed)
- 3.0 FSS Responsibilities Throughout the Production Phase**
- 3.01 Investigate problems, provide resolutions and implement corrective actions including:
- Utilization of correction action/problem resolution process ( 8D, FMEA Process)
- 3.2 Modify component for continuous quality improvement with agreement from Ford Decision maker
- all component or system modification that result in a change to the part geometry, cost must be approved by Ford PMT Leader prior to proceeding with change
  - Internal changes to suppliers facility or process after PSW must be approved by Ford PMT Leader
- 3.03 Modify design/manufacturing for continuous cost improvement.
- all component or system modification that result in a change to the part geometry, cost must be approved by Ford PMT Leader prior to proceeding with change
  - Internal changes to suppliers facility or process after PSW must be approved by Ford PMT Leader
- 3.04 Direct sub-suppliers.
- 3.05 Provide ongoing service support for the service life cycle of the subsystem or component.
- 3.06 Investigate and resolve jointly with Ford in-plant manufacturing and process concerns

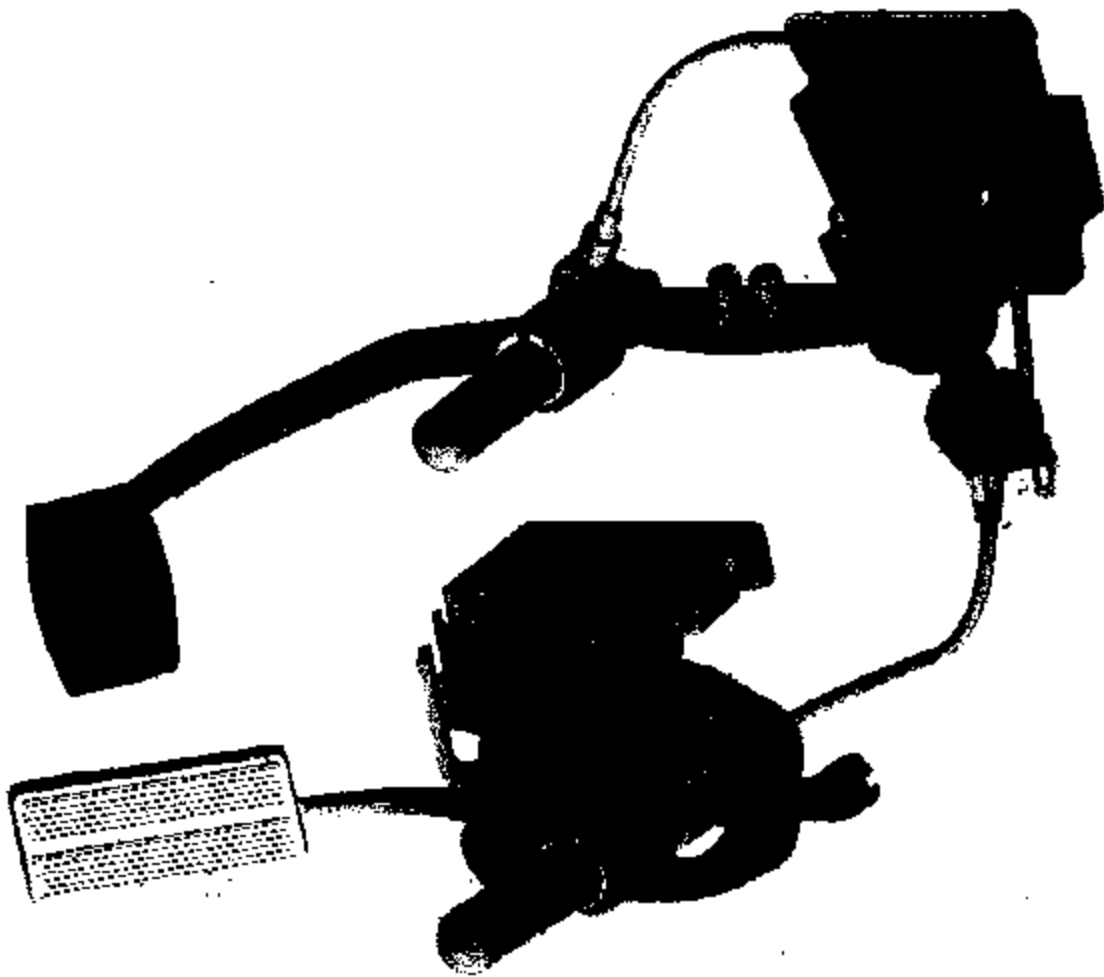
1.03	Program Timing Planning & Management		
1.04	Technical Requirements Establishment	<b>NOT REQUIRED</b>	
1.05	Reliability Requirements		
1.06	Pre-Program / Pre-Target Agreement		
1.07	Prototype Build & Part Schedule		
1.08	CAD Responsibilities (shown here or in 2.05)		
1.09	CAE Responsibilities (shown here or in 2.05)		
1.10	Testing & Check Fixtures		
1.11	Budget	<b>NOT REQUIRED</b>	
1.12	Facilities		
2.01	Subsystems Sourcing - Interface		
2.02 - 2.03	Subsystem/Component Target Delivery		
2.04	Systems Integration		
2.05	Engineering Tests		
2.06	In-house Engineering & Manufacturing Concerns		
2.07	Product Change Approval	<b>NOT REQUIRED</b>	
2.08	CAD/CAE		
2.09	Subsupplier Interface		
2.10	Engineering Status - Meetings		
2.11	Joint Vehicle-level Concern Resolution		
2.12	Joint Prototype Cost, Timing & Testing Management		
2.13	Supplier Layout Responsibilities	<b>NOT REQUIRED</b>	
2.14	Final Design Properties		
2.16	Service Documentation		
3.01 - 3.04 & 3.05	Launch & Production Support		
3.05	Service Support		
<b>TOTALS:</b>			

Supplier Internal Budget

Engng. Budget (incl. In Target)

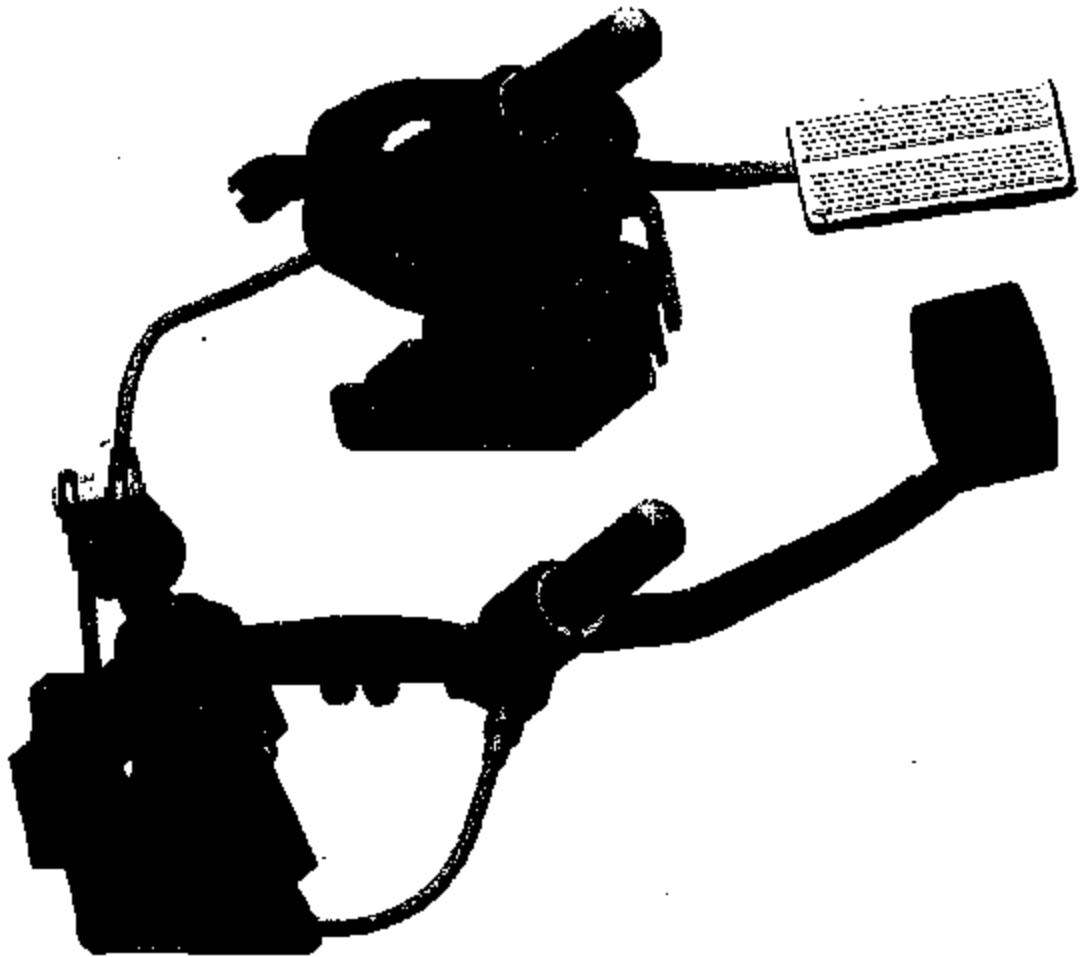
FPO-044 12271

Timing

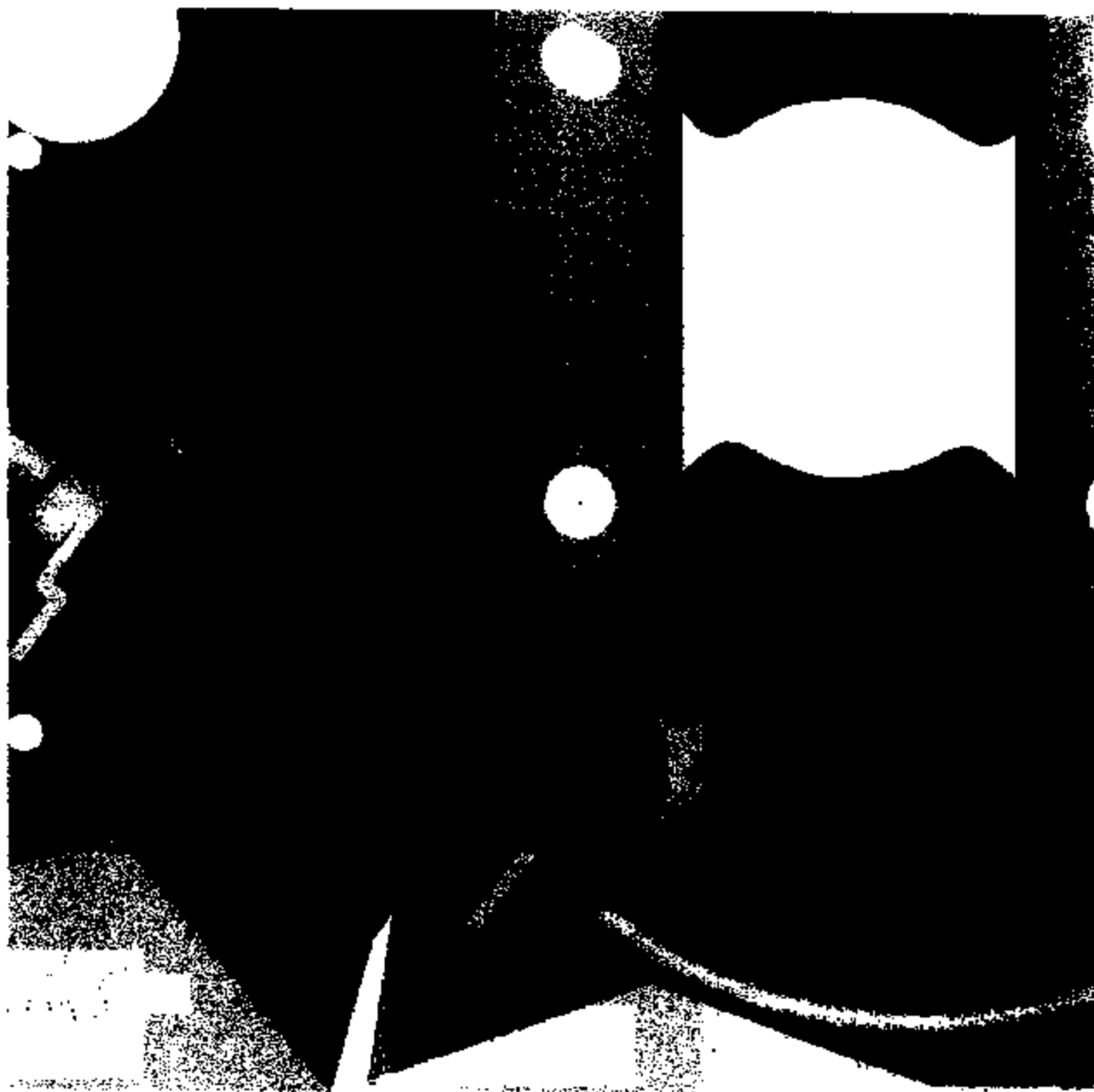


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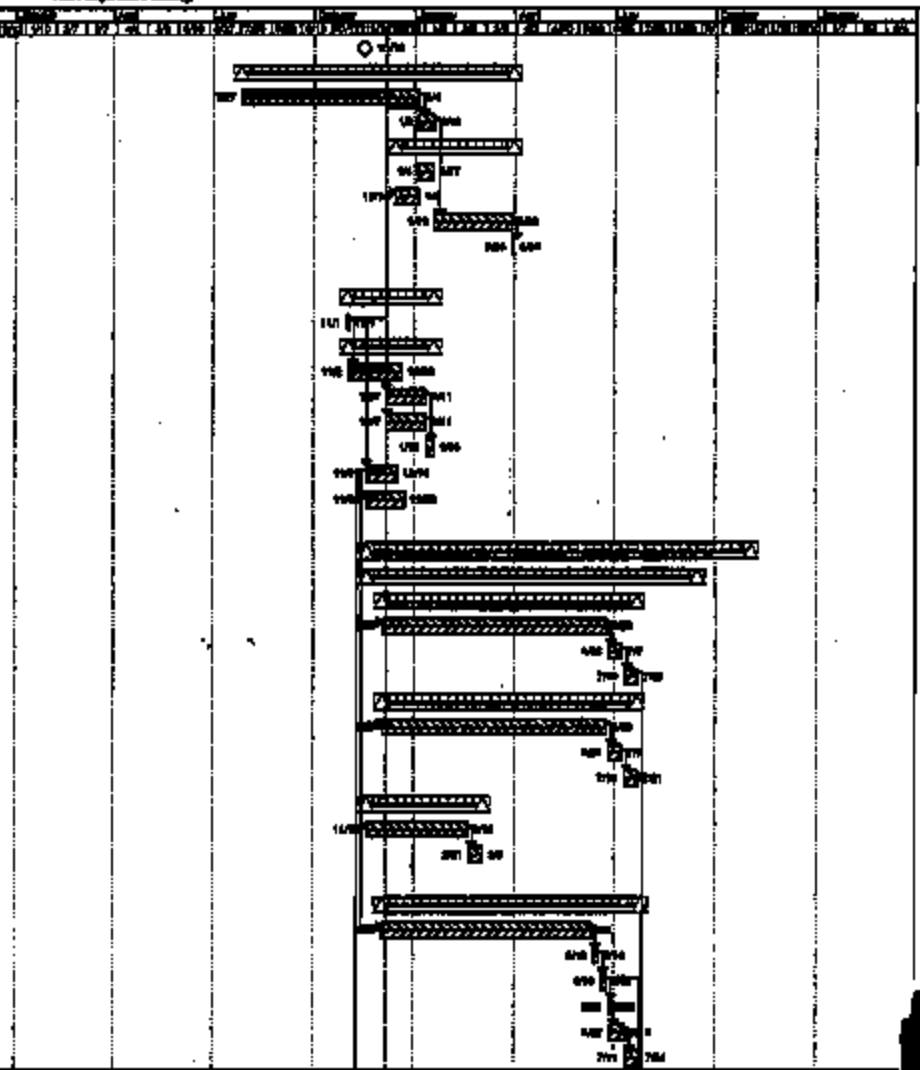
PE88-844 12274



### INSTR ADJUSTABLE PEDALS AND BTO

Non-Specified Items

Item No.	Task Name	Duration	Start	Finish	% D.	Predecessors
1	Technical Drawing	4 days	Nov 17/66	Nov 21/66	100%	
2	Prototype Build	1.00 days	Nov 22/66	Nov 23/66	100%	1
3	Equipment Installation	20 days	Nov 22/66	Dec 12/66	100%	1
4	BTO Assembly	17 days	Nov 22/66	Dec 9/66	100%	1
5	Dr. Pedals	10 days	Nov 22/66	Dec 2/66	100%	1
6	Parts testing: small batches	10 days	Dec 2/66	Dec 12/66	100%	5
7	Parts testing: Production	2 days	Nov 22/66	Dec 4/66	100%	5
8	INSTR testing	10 days	Nov 22/66	Dec 2/66	100%	5
9	Learn INSTR	2 days	Nov 22/66	Nov 24/66	100%	5
10						
11	PRODUCTION RELEASE: PRODUCTION	2 days	Nov 22/66	Nov 24/66	100%	
12	Component Drawing Review	1 day	Nov 22/66	Nov 23/66	100%	
13	Assembly Drawing Production	20 days	Nov 22/66	Dec 12/66	100%	
14	Update Drawing/Design	1 day	Nov 22/66	Nov 23/66	100%	11
15	Tolerance Study	1 day	Nov 22/66	Nov 23/66	100%	14
16	PCB	2 days	Nov 22/66	Nov 24/66	100%	14
17	Developing Change Update: Mechanical/PCB	1 day	Nov 22/66	Nov 23/66	100%	14
18	Review Mechanical/PCB (Nov 22/66)	2 days	Nov 22/66	Nov 24/66	100%	14
19	PCB & Assembly	2 days	Nov 22/66	Nov 24/66	100%	14
20						
21	Production/Parts: INSTR - INSTR	20 days	Nov 22/66	Dec 12/66	100%	
22	Production/Parts: INSTR	20 days	Nov 22/66	Dec 12/66	100%	
23	Parts: Production	20 days	Nov 22/66	Dec 12/66	100%	
24	Component Draw	2 days	Nov 22/66	Nov 24/66	100%	14
25	INSTR	2 days	Nov 22/66	Nov 24/66	100%	14
26	Assembly Approval	2 days	Nov 22/66	Nov 24/66	100%	14
27	Production/Parts	10 days	Nov 22/66	Dec 2/66	100%	14
28	Design & Build	20 days	Nov 22/66	Dec 12/66	100%	14
29	Review & Sign	2 days	Nov 22/66	Nov 24/66	100%	14
30	Review & Sign	2 days	Nov 22/66	Nov 24/66	100%	14
31	Sign	10 days	Nov 22/66	Dec 2/66	100%	14
32	Sign, Stamp, & Sign	10 days	Nov 22/66	Dec 2/66	100%	14
33	Sign Distribution	2 days	Nov 22/66	Nov 24/66	100%	14
34						
35	Work Cell / Build Phase	10 days	Nov 22/66	Dec 2/66	100%	14
36	Work Cell: Design/Build	20 days	Nov 22/66	Dec 12/66	100%	14
37	Sign, and Prod. Sign	1 day	Nov 22/66	Nov 23/66	100%	14
38	Production/Parts: INSTR	2 days	Nov 22/66	Nov 24/66	100%	14
39	Review Sign.	1 day	Nov 22/66	Nov 23/66	100%	14
40	Sign in Sign	1 day	Nov 22/66	Nov 23/66	100%	14
41	Sign Sign	1 day	Nov 22/66	Nov 23/66	100%	14



Project Engineer: Alan Ferris  
 Tasking Authority  
 Author's Date: Nov 1966

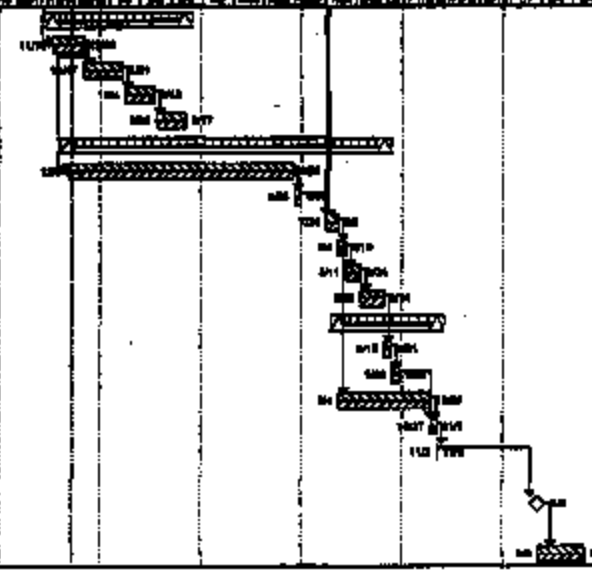
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 Progress: [Symbol] [Symbol]

Resource Allocation: [Symbol] [Symbol]  
 Authority: [Symbol] [Symbol]

Release Authority: [Symbol] [Symbol]

FORM 844 12275

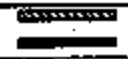
ID	Task Name	Duration	Start	Finish	S.O.	Predecessors
40	Assembly Line	40 days	10/1/88	11/10/88	100	
41	Job Layout, Process Flow	4 wks	10/1/88	10/29/88	100	
42	PPAP	4 wks	10/1/88	10/29/88	100	
43	Control Plan	4 wks	10/1/88	10/29/88	100	
44	Work Instructions	4 wks	10/1/88	10/29/88	100	
45	Supplier Training	40 days	10/1/88	11/10/88	100	
46	Design & Build	30 wks	10/1/88	11/20/88	100	
47	Setup and Test, Types 1 & 2	1 wk	10/1/88	10/8/88	100	
48	Build PV Part at Vendor	3 wks	10/1/88	10/29/88	100	
49	Material Supply	1 wk	10/1/88	10/8/88	100	
50	Install Work	2 wks	10/1/88	10/15/88	100	
51	Define Work	2 wks	10/1/88	10/15/88	100	
52	PPAP Process	40 days	10/1/88	11/10/88	100	
53	Process Capability	1 wk	10/1/88	10/8/88	100	
54	Build PPAP Parts	1 wk	10/1/88	10/8/88	100	
55	P.A. Training	30 wks	10/1/88	11/20/88	100	
56	PPAP Approval	4 wks	10/1/88	10/29/88	100	
57	PPAP	1 wk	10/1/88	10/8/88	100	
58	JOB 1 with non-qualified Supply	3 wks	10/1/88	10/29/88	100	
59	PPAP (K)	4 wks	10/1/88	10/29/88	100	
60	Job 1 (Following this program launch)	4 wks	10/1/88	10/29/88	100	



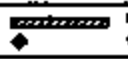
PENG-044 12777

Project Engineer: Jim Plann  
 System Administrator  
 Resident Clerk: New 1988

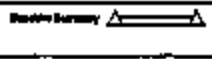
Task  
 Precedence



Install  
 Maintain



Resource Measure  
 Resource Summary



To: *Chris*  
*Exstream*

**FAX COVER PAGE**  
**YAZAKI NORTH AMERICA, INC.**  
4801 Haggerty Road  
Canton, MI 48117  
Phone: 734-983-2962  
Fax: 734-983-2963

~~CONFIDENTIAL~~  
~~CONFIDENTIAL~~

**COMPANY:** Ford Motor  
**ATTN:** Mr. Chris Varlamos  
**FAX NUMBER:** (313) 594-2814  
**DATE:** Nov 08, 1999

*Used on 2001  
P131 / U137 ETC*

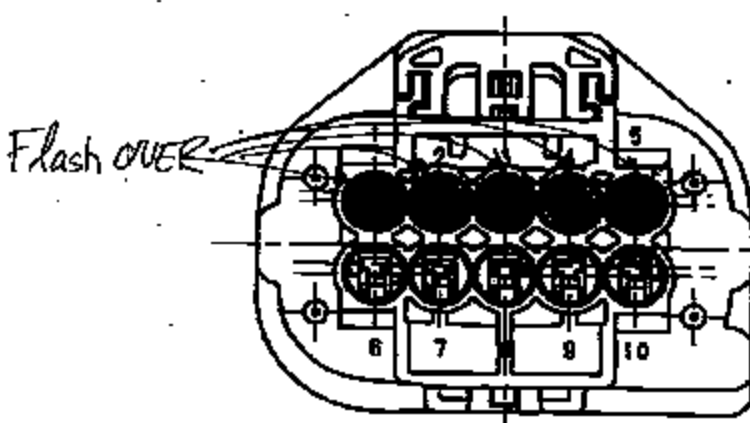
*Jim [Signature]  
11/9/99*

**SUBJECT:** 10 Way 1.5 sealed connector  
**NO. OF PAGES (including this page):** 1

**SENDER:** Vijay Keshavanturthy **DEPT.** Connector.

**MESSAGE:**

Hello Chris,  
Please find below, a picture of the back view of the Yazaki 1.5 system sealed 10 way female connector.  
The cavities are numbered according to the Ford SDS requirement. Please have the PHIN engineer block the necessary cavities (by filling them in) and return this sheet to me so that we can make a drawing accordingly.



*Cover 1-5  
cavities.*

*Jim [Signature]  
11/9/99*

*Chris Varlamos  
YAZAKI NA 11/9/99*

Please obtain the appropriate signatures for concurrence.  
Thank You.

Regards,  
*[Signature]*  
Vijay Keshavanturthy

*M. Sungen - AFL 11/9/99*  
*G. Crawford - AFL 11/9/99*  
*[Signature]*  
*[Signature] 11/9/99*



**PACKING SLIP**

**0810001**

P.O. # 254728

Williams Controls, Inc.  
Pedal Systems  
2420 Trailmate Drive  
Sarasota, Florida 34243

Bill to:  
Ford Motor Co.  
New Model Program  
36501 Van Born Rd.  
Romulus, Mich. 48174

Ship to:  
Ford Motor Co.  
New Model Program  
36501 Van Born Rd.  
Romulus, Mich. 48174

At: D. Sklanpat

Qty. Ordered	Item Description	Qty. Packed
4	3C44-8F838-A0 Electronic Throttle Control Accelerator Pedal	4
DATE SHIPPED 8/10/00		SHIPPED EWCF

## DESIGN ISSUES PROTOTYPE-PRODUCTION

- The new housing design makes use of a Yazaki ten-pin connector by placing it on the side. This design minimizes the height of the assembly, while maintaining optimum connector access. Additionally, it simplifies tooling by allowing the use of identical pins, regardless of the number used.
- The new connector forced the redesign of the ceramic element. The two track version retains the overall size of the prototypes by nesting the switch track inside the sensor track. Any future three tracks will be 20% larger than current three tracks with the new connector.
- The rotor has the brush mounting points much closer to the centerline, to minimize the deflection caused by the lever inside the sensor.
- The current metal WOT stop will be changed from a flange to an edge to ensure no bucking exists during extreme load actuation. FEA data on this new design will be available early in January.
- A production-level urethane version (or similar depending on input from DuPont) will replace the current Acetal idle damper.
- The current pedal pad will be replaced with a newly tooled, articulated part.
- The ceramic element print design will change to allow the use of a common ink, and the thickness of the resistor layers will be increased to reduce the overall resistance and improve the repeatability.
- The production rotor shaft will have a "D" shaped end, compared to the "hex" used in prototypes. A "D" is easier to manufacture, while its dimensions are controlled better. The lever's mating hole will have less stress concentration corners.
- The rotor shaft and bearings will be better sized to each other to eliminate the excess play observed on the current parts. Currently the shafts ( $\varnothing 11.75\text{mm}$ ) are too small inside the bearings ( $\varnothing 12.20\text{mm}$ ). The production shaft ( $\varnothing 12 \pm 0.05\text{mm}$ ) will be a better match to the production bearings ( $\varnothing 12.09 \pm 0.03\text{mm}$ ).
- The return springs will be relocated to have the forward ends out of the way of "Big Foot", and the back ends to rest on the idle pin. This in turn, simplifies the debris cover by not having to protect the springs showing on the bottom of the bracket.
- The ultrasonic weld features on the housing and cover will be redesigned to allow welding with a lower amount of energy. Currently, some ceramic elements are cracking during welding. The housing itself will be reinforced to reduce warpage during welding.
- The splin-ivetting process will be fully functional (We are currently doing trials on it at Aptek) and will replace the fastener and washer setup used current prototype parts.



001

APTEK WILLIAMS

07/07/00 10:01 FAX 8544218044

PER3-944 13156



APTEK Williams, Inc.  
700 NW 12th Avenue, Deerfield Beach, FL 33442  
(954) 421-8450

Part# Fax Note	7571	Date	7/7/00
By	Don Sullivan	Print	Mack Schard
Co. Dept.		Co.	
Phone #	PER3-944	Phone #	
Fax #	AS BUILT	Fax #	

Part of Ford P/N: 3C44-9F836-B0

Pin View

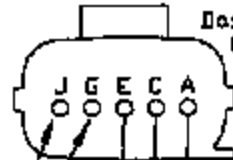
Sensor Connector



Back View

Ford P/N: XRBT-14A464-BA

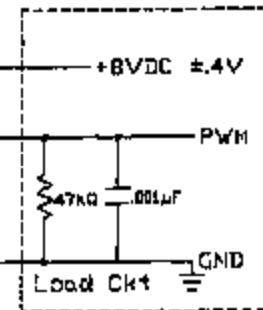
Dash Take-out Connector



Not Used

Use Cavity Plugs on Dash Connector

ECM



PWM Output

$$T_h \propto V_{sens}$$

$$\%DC = (T_h / T) * 100$$

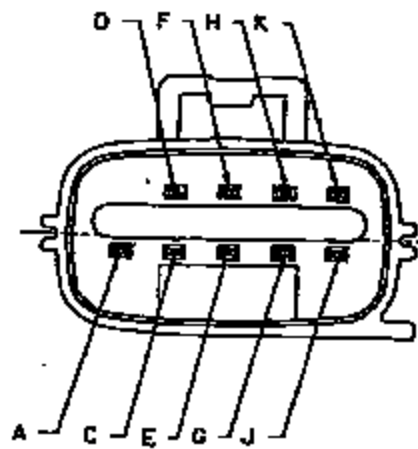


PC # 0003-030-A Connector Diagram: Ford  
 # 3C44-9F836-B0 # 3C44-9F836-B0 PWM, 10 Pin

Mack  
 07-03-00

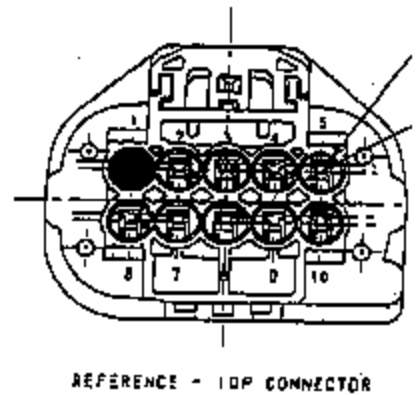
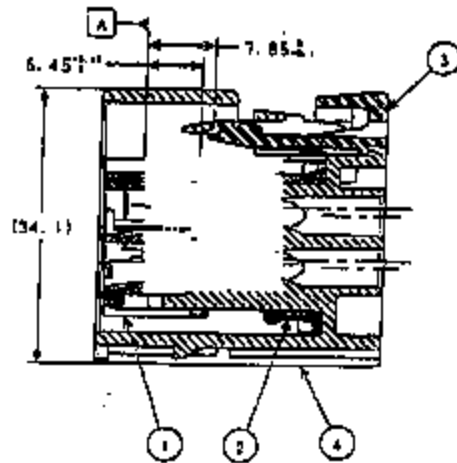
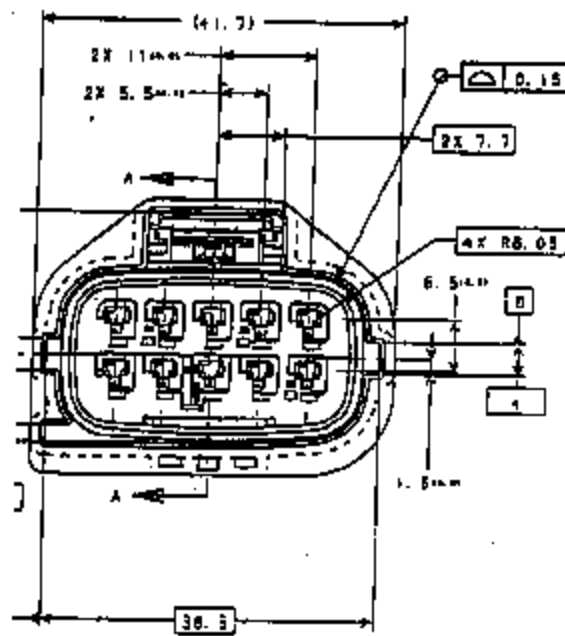
3C44-9F836-B0  
 3C44-9F836-B0  
 3C44-9F836-B0

3C44-9F836-B0  
 3C44-9F836-B0  
 3C44-9F836-B0



Yazaki 10 Pin Connector  
( 9 Pins used)

PIN	USAGE
A	PPS2 GRD (-)
B	NOT USED
C	PPS3 OUTPUT SIGNAL
D	PPS3 GRD (-)
E	PPS2 SUPPLY (+)
F	PPS3 SUPPLY (+)
G	PPS1 GRD (-)
H	PPS2 OUTPUT SIGNAL
J	PPS SUPPLY (+)
K	PPS1 OUTPUT SIGNAL



PERC-944 13173

UNCLASSIFIED  
 CONFIDENTIAL

UNCLASSIFIED CONFIDENTIAL

Electrical / Electronic Design Transmittal

9 PIN DESIGN

Component Name:	ETC 9PIN and sensor Assy
Part Number:	2024-8780-01
Rev/Status:	

Rev:	
Date:	
By:	
Check:	

Rev:	001
Date:	10/10/00
By:	John
Check:	John
Rev:	001
Date:	10/10/00
By:	John
Check:	John

Electrical Hardware Requirements Matrix

Component Number / Pin Number	Signal Name	Function	Operating Current (I) at Voltage (V)				Key Off Load (mA)				Duty Cycle				Frequency (Hz)				Notes
			Normal		Max		Switch		Stall		On		Off		On		Off		
			A	V	A	V	A	V	A	V	A	V	A	V	A	V	A	V	
G	APP1(+)																		Supply terminal for panel position sensor 1
D	APP2(+)																		Supply terminal for panel position sensor 2
E	APP3(+)																		Supply terminal for panel position sensor 3
J	APP1(-)			2mA	5														Supply terminal for panel position sensor 1
K	APP2(-)			2mA	5														Supply terminal for panel position sensor 2
L	APP3(-)			2mA	5														Supply terminal for panel position sensor 3
M	APP1 OUTPUT			1.2mA	4.5V														Supply terminal for panel position sensor 1
N	APP2 OUTPUT			1.2mA	4.5V														Supply terminal for panel position sensor 2
O	APP3 OUTPUT			1.2mA	4.5V														Supply terminal for panel position sensor 3

FIG-04 13174

Docu. Rev'd: 5/23/00

Page 1 of 8

ENTRUSTED TO THE CONFIDENCE OF THE CUSTOMER

  
 Electrical / Electronic Systems Design Transmittal

Component Name: ETC panel and cover Assy  
 Part Number: 3284-01048-AA  
 SubSystem: \_\_\_\_\_

Part / Piece: \_\_\_\_\_  
 Quantity: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Location: \_\_\_\_\_


User: John Kubi  
 Job Title: Technician  
 Phone: 360-636-0000  
 E-Mail: johnk@bomco.com

**Physical Interface Requirements Matrix**

Connector Part Number: \_\_\_\_\_

Signal Name	Pin Number
	A
	B
	C
	D
	E
	F
	G
	H
	I
	J
	K
	L
	M
	N
	O
	P
	Q
	R
	S
	T
	U
	V
	W
	X
	Y
	Z

Connector Pin-Out - View Looking Into the Face of the Connector on Component



1	2	3	4	5	6
OUTPUT	APPROX	APPROX	APPROX	APPROX	APPROX
2	3	4	5	6	7
APPROX	APPROX	APPROX	APPROX	APPROX	APPROX

Connector Part Number: \_\_\_\_\_

Signal Name	Pin Number

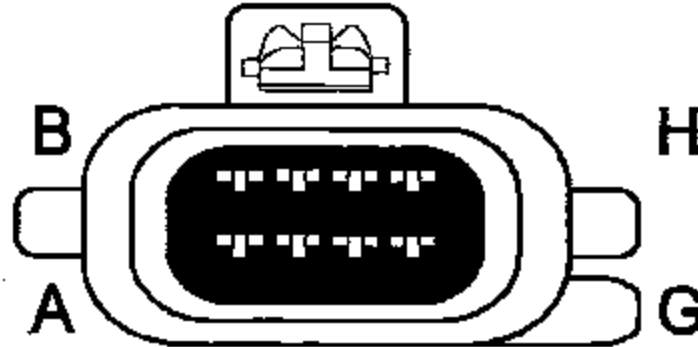
Note: Connector Part Number is the Part Number for the Connector on Your Component Unless Otherwise Noted.

PER-044 13175



~~CONFIDENTIAL~~  
~~CONFIDENTIAL~~

## 8 - Way Inline Connector



Yazaki Accelerator Pedal Position Sensor (APPS) Connector  
Part number XW4T-14A464-ACA

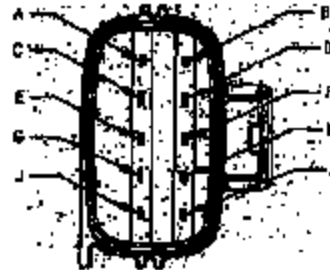
Looking Into Male Side Connector (Sensor)

Configuration

- |                 |                    |
|-----------------|--------------------|
| A. = PPS2 out   | E. = Vref (+)      |
| B. = Ground (-) | F. = Ground (-)    |
| C. = Vref (+)   | G. = PPS3 out      |
| D. = PPS1 out   | H. = not connected |

FOR REFERENCE ONLY

# U-137 Pin-Out Configuration (2003)



A UNUSED	B UNUSED
C PPS1	D PPS2
E PPS3	F UNUSED
G GROUND	H Vref
J GROUND	K Vref

## OPTION 1

A UNUSED	B UNUSED
C PPS1	D PPS2
E PPS3	F UNUSED
G Vref	H Vref
J GROUND	K GROUND

## OPTION 2

A GROUND	B UNUSED
C PPS1	D PPS2
E PPS3	F UNUSED
G Vref	H Vref
J GROUND	K UNUSED

## OPTION 3

TO: THOMAS PINO  
FROM: DON SILLAVRPA

07/18/00 07:48 PM 218 818 3620

TELEPLEX AUTOMOTIVE

2001

PHS-844 13177

~~SECRET~~

954 421 8044



[REDACTED]

---

**Full Name:** Mike Foreman  
**Last Name:** Foreman  
**First Name:** Mike  
**Job Title:** Sr. Manufacturing Engineer  
**Department:** Kendallville  
**Company:** Teleflex

**Other Address:** 301 West Ohio Street  
Kendallville, IN 46755-2017

**Business:** 260-349-1985  
**Business Fax:** 260-349-1983

**E-mail:** mforeman@txauto.com

[REDACTED]

---

**From:** Johnson, Steven (S.M.)  
**Sent:** Monday, September 08, 2003 11:02 AM  
**To:** Settlé, Frank (F.E.)  
**Subject:** 2001 7.3L accel pedal data

Hi Frank,

Could you please forward the following information to Greg Oswalt and Mike Tokarsky.

Here is the data that I have for the 2001 Superduty/Excursion/Econoline 7.3L accelerator pedal issue discussed at last weeks CCM teleconference:

VOQ-5 total reports-all Superduty vehicles (1 fatality)  
CCIS-35 total reports-34 Superduty, 1 Econoline (No significant events)  
AWS-4382 total reports-4045 Superduty, 178 Econoline, 159 Excursion (No significant events)

I have pareto'd out the customer symptoms using keyword searches for the AWS data. The bulk of the reports are captured in check engine light complaints. Even if the customer was having drivability issues, if the check engine light was illuminated, I categorized the reports into this file because of the overtress. I have attached several graphs in the Excel file FYI. Since Econoline uses a different pedal assembly than Superduty/Excursion, I have separated all of the graph data by these two vehicle categories.



01 FH 7.3 accel  
pedal AWS grap...

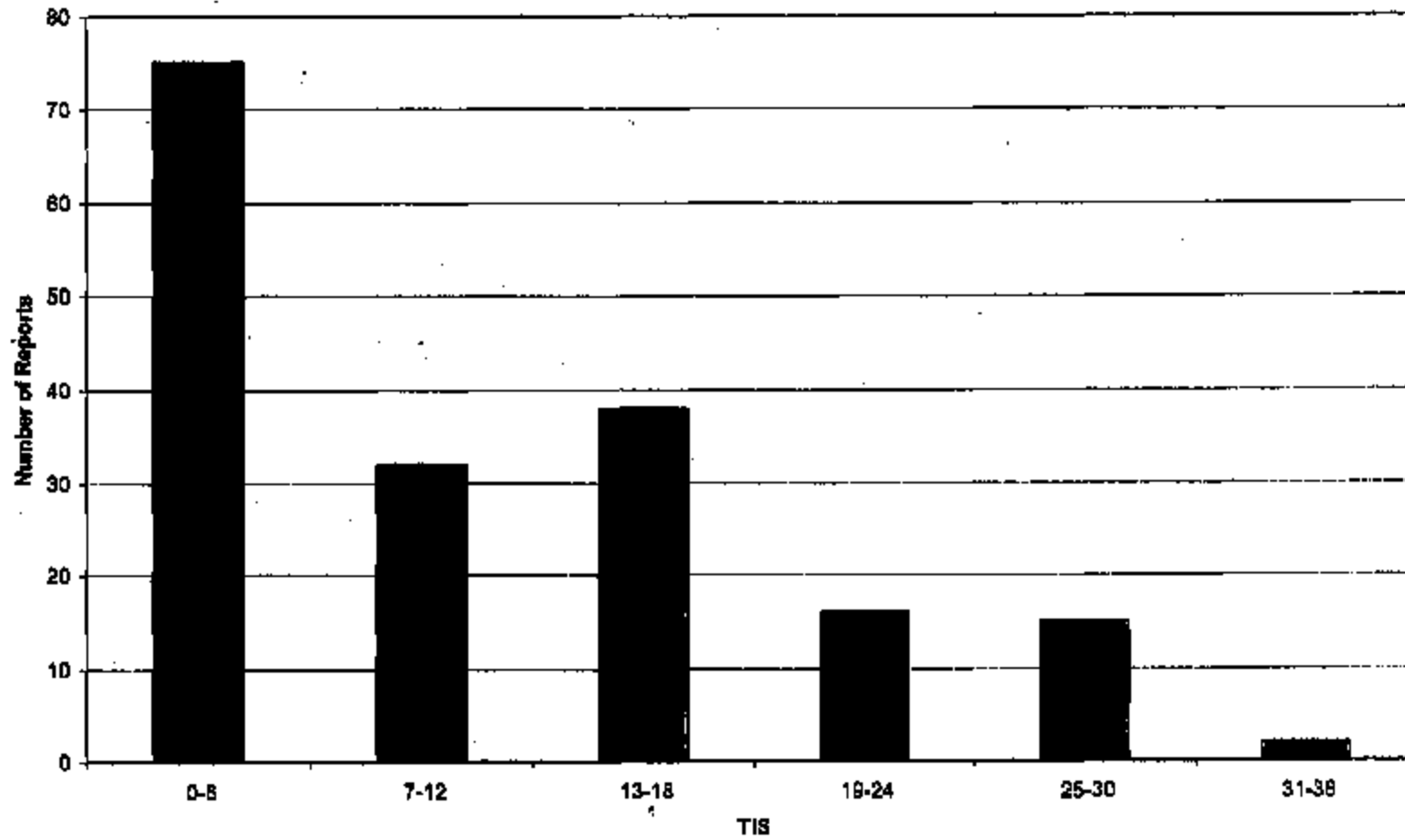
I will put this item back on the CCM agenda for this Wednesday to determine the scope for the paper requested. If you have any preliminary questions, let me know.

Thanks,

*Steve Johnson*

ECI concern analyst  
sjohns52@ford.com  
(313) 248-8113

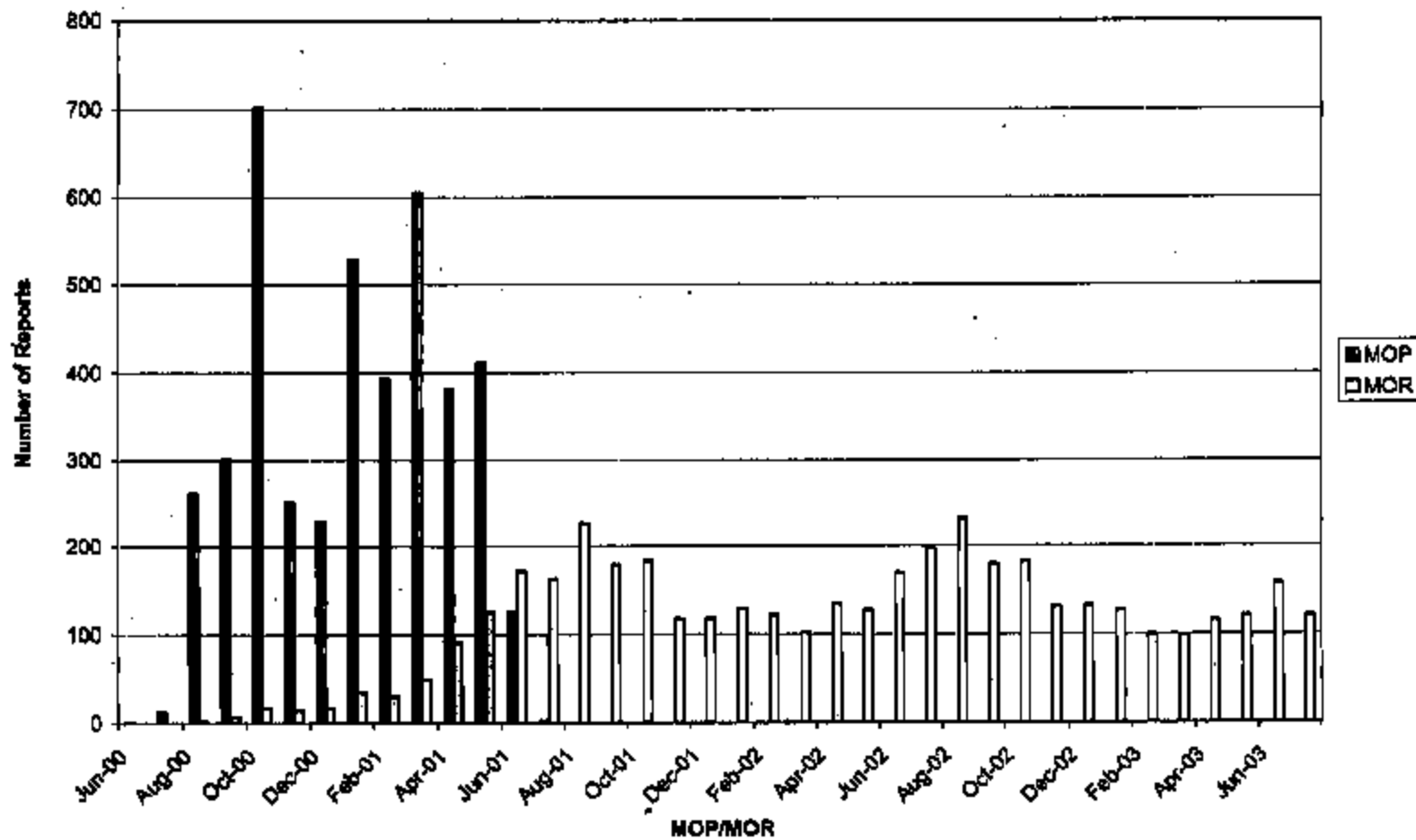
TIS Econoline (AWS data)



PERG-044 17703

[REDACTED]

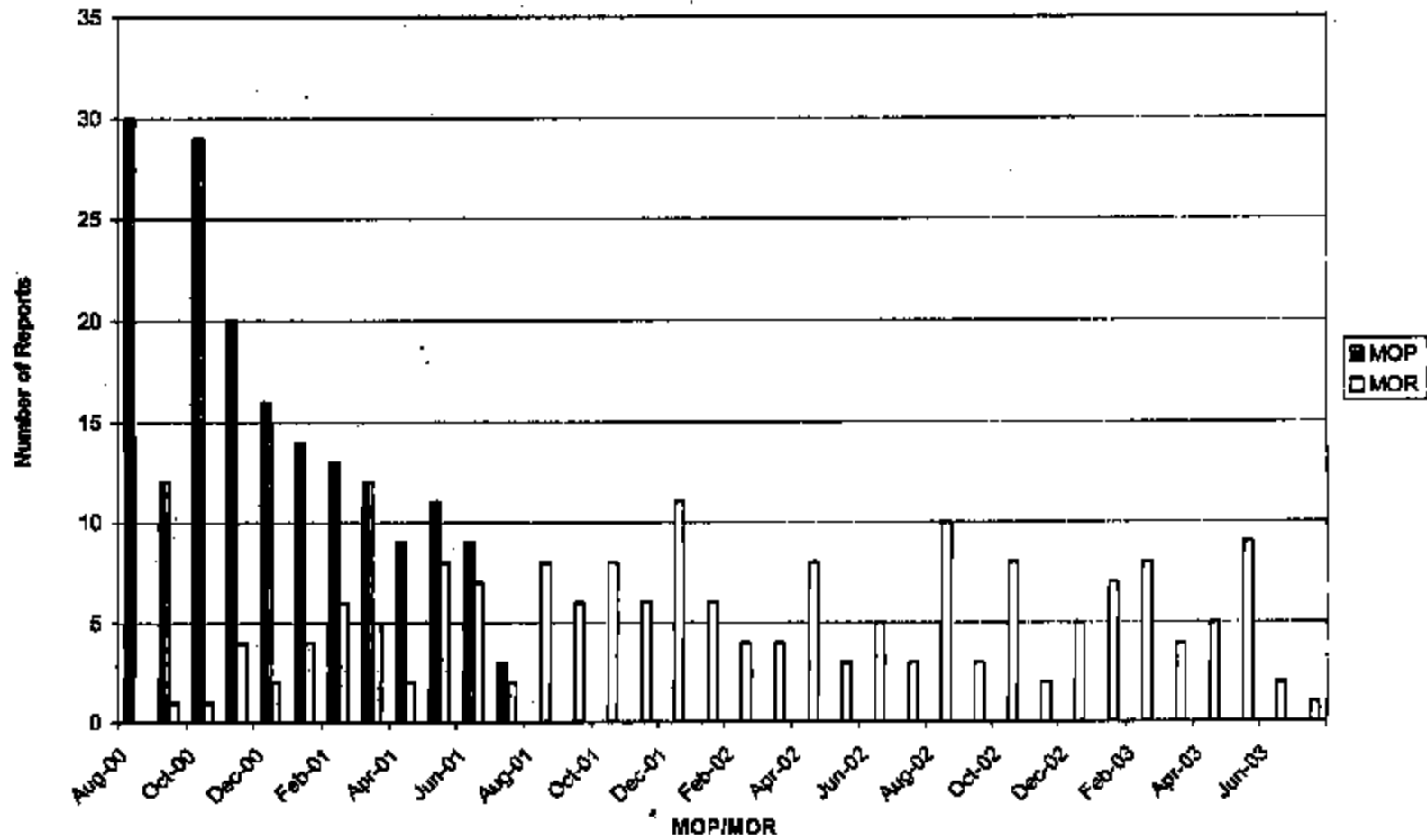
MOP/MOR Superduty-Excursion (AWS data)



PER3-041 17784



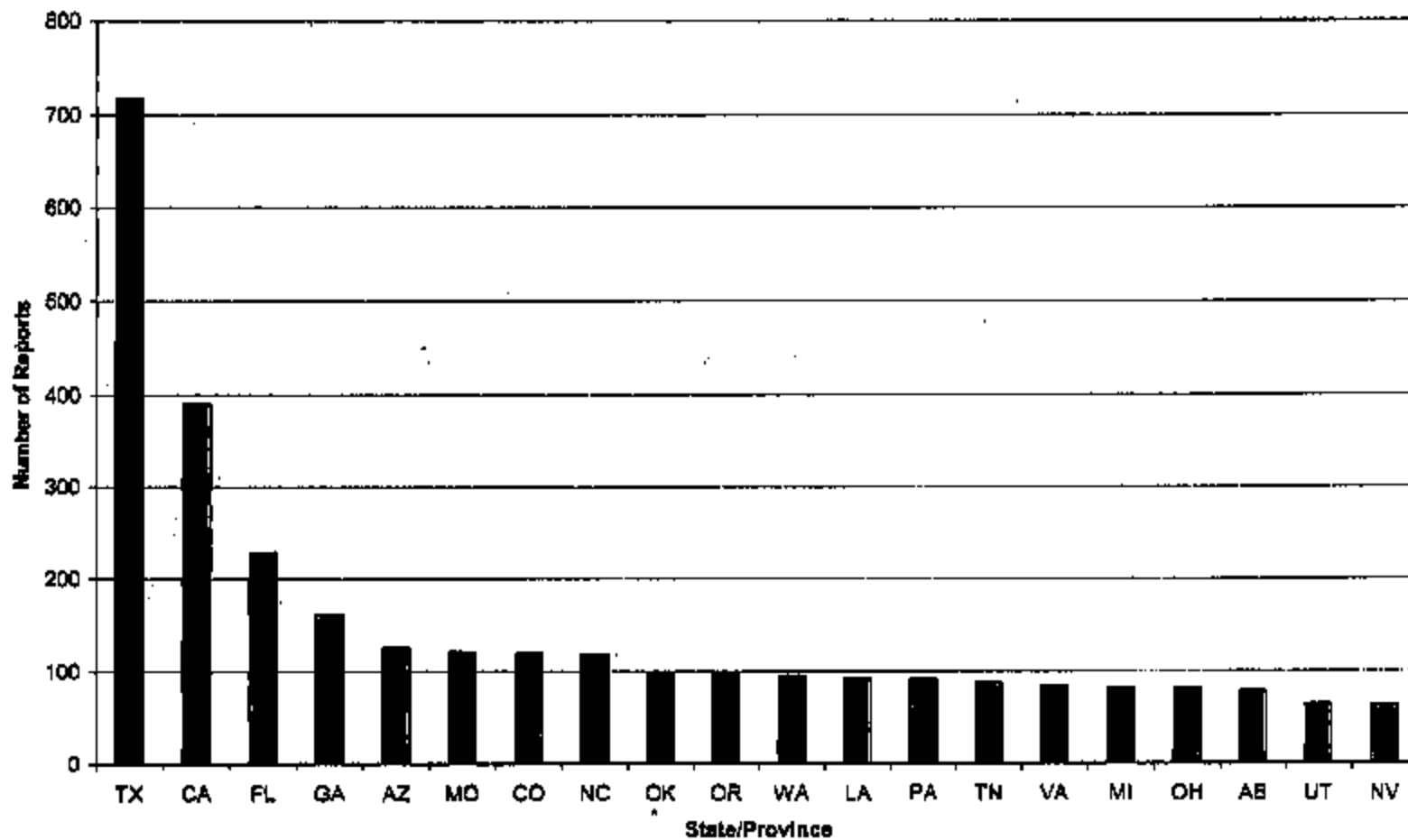
MOP/MOR Econoline (AWS data)



PERC-844 17785

[REDACTED]

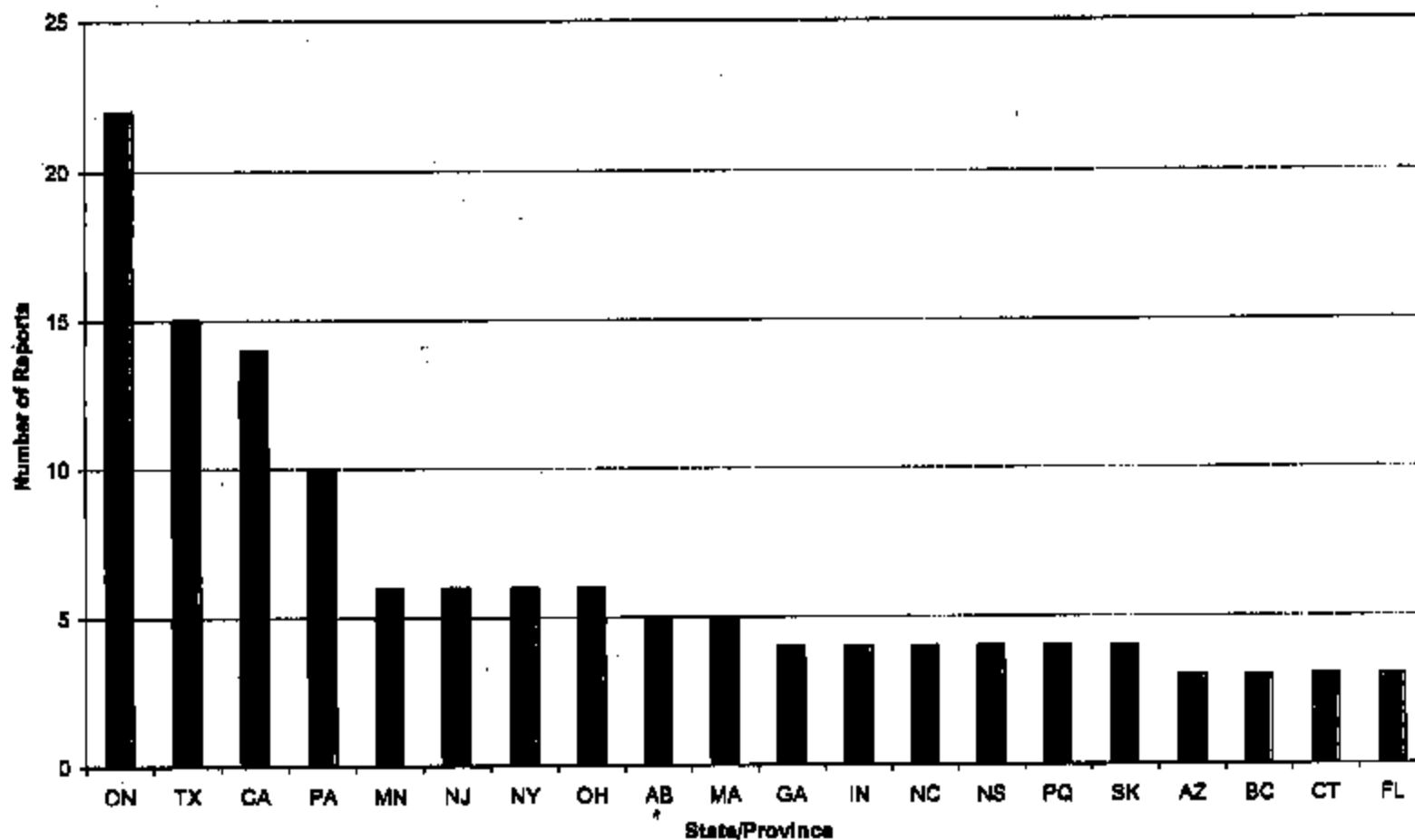
State/Province Top 20 Superduty-Excursion (AWS data)



PER3-044 17706

[REDACTED]

State/Province Top 20 Econoline (AWS data)



PE03-044 17787



Vehicle Line	Number of Reports
Superduty	4045
Econoline	178
Excursion	159

Plant	Number of Reports
KTP	3792
Cuscutlan	412
Loreln	178

Symptom	Superduty-Excursion
Check Engine Light	1971
No Throttle Response	709
Will Not Accelerate	682
No Power	370
Engine Runs Rough/Misses/Surges	182
Hesitation	180
Engine Stall	151
Will Not Run At WOT	37
No Start	27
Rough Idle	25

Symptom	Econoline
Check Engine Light	88
No Throttle Response	34
Will Not Accelerate	30
No Power	18
Engine Stall	11
Engine Runs Rough/Misses/Surges	6
No Start	6
Hesitation	5
Rough Idle	4

Mileage	Superduty-Excursion
0-8K	979
8-12K	472
12-18K	455
18-24K	481
24-30K	450
30-36K	541
36-42K	154
42-48K	167
48-54K	138
54-60K	107
60-66K	89
66-72K	51
72-78K	45
78-84K	33
84-90K	29
90-96K	16
Above 96K	17

Mileage	Econoline
0-8K	80
8-12K	23
12-18K	22
18-24K	13
24-30K	20
30-36K	15
36-42K	6
42-48K	4
48-54K	3
54-60K	6
60-66K	1
66-72K	1
72-78K	2
78-84K	1
84-90K	1

TIS	Superduty-Excursion
0-6	1289
7-12	747
13-18	616

TIS	Econoline
0-6	75
7-12	32
13-18	38

PERC-044 17788





18-24  
25-30  
31-38

855  
388  
131

18-24  
25-30  
31-38

18  
15  
2

PERO-844 17789



Superduty-Excursion

Date	MOP	MOR
Jun-00	1	
Jul-00	12	
Aug-00	281	3
Sep-00	302	7
Oct-00	702	17
Nov-00	251	14
Dec-00	229	18
Jan-01	528	35
Feb-01	399	30
Mar-01	605	49
Apr-01	382	90
May-01	411	124
Jun-01	124	171
Jul-01	3	162
Aug-01		226
Sep-01		178
Oct-01		183
Nov-01		117
Dec-01		117
Jan-02		128
Feb-02		121
Mar-02		102
Apr-02		133
May-02		128
Jun-02		189
Jul-02		197
Aug-02		232
Sep-02		179
Oct-02		182
Nov-02		130
Dec-02		131
Jan-03		126
Feb-03		99
Mar-03		98
Apr-03		115

Econoline

Date	MOP	MOR
Aug-00	30	
Sep-00	12	1
Oct-00	28	1
Nov-00	20	4
Dec-00	16	2
Jan-01	14	4
Feb-01	13	8
Mar-01	12	5
Apr-01	9	2
May-01	11	8
Jun-01	9	7
Jul-01	3	2
Aug-01		8
Sep-01		6
Oct-01		8
Nov-01		6
Dec-01		11
Jan-02		6
Feb-02		4
Mar-02		4
Apr-02		8
May-02		3
Jun-02		5
Jul-02		3
Aug-02		10
Sep-02		3
Oct-02		8
Nov-02		2
Dec-02		5
Jan-03		7
Feb-03		8
Mar-03		4
Apr-03		5
May-03		9
Jun-03		2

State/Province

TX	CA	FL	GA	AZ	MO	CO	NC	OK	OR	WA	LA	PA	TN	VA	MI	OH	AB	UT	NV	MD	ON	AL	KY	MN	AR	WI	IL	IN	SC	BC	NY	MS	MA	IA	NJ
717	390	228	161	126	121	119	118	99	99	95	92	92	87	84	82	81	78	64	63	61	60	58	56	56	55	55	53	51	51	50	49	46	42	41	40

State/Province

ON	TX	CA	PA	MN	NJ	NY	OH	AB	MA	GA	IN	NC	NS	PQ	SK	AZ	BC	CT	FL	IL	MO	MS	ND	SC	VA	AR	LA	NV	OK	OR	UT	CO	DE	HI	IA
22	15	14	10	6	6	6	8	5	5	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1

PH3-844 17798

May-03 120  
Jun-03 157  
Jul-03 120

Jul-03 1

NM 39  
ID 38  
NE 35  
KS 33  
MT 31  
WV 30  
WY 23  
SD 22  
ND 19  
CT 17  
SK 16  
ME 14  
AK 12  
NH 8  
VT 8  
Unknown 7  
DE 6  
HI 6  
RI 5  
PQ 4  
MB 3  
NB 3  
NS 2  
EM 1  
SO 1  
YT 1

KS 1  
MD 1  
ME 1  
MI 1  
MT 1  
NB 1  
NE 1  
NH 1  
RI 1  
TN 1  
WI 1  
WV 1  
YT 1

PS83-044 17781



**[REDACTED]**

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**From:** Liposky, Lawrence (L.J.)  
**Sent:** Tuesday, September 10, 2002 10:39 AM  
**To:** Kilgoar Jr., Paul (P.C.)  
**Cc:** Helms, Jeffrey (J.H.); Tamor, Michael (M.A.); Simko, Steven (S.J.); Schmitz, Pete (P.J.); Heaton, Christopher (C.E.); Nicastri, Paul (P.R.); Gilkey, James (J.K.); Sherard, Gail (G.); West, Gregory (G.S.); Gaw, Ron (R.M.); Carter, Roscoe (R.O.); Hass, Kenneth (K.C.); Guys, Philip (P.R.)  
**Subject:** RE: Report on the analysis and root cause related to the pedal sensor for electronic Throttle Control for P131/U137

Outstanding job from the folks at FRL. The expertise and information provided was key in determining root cause and resolution of this issue. We appreciate the focus and dedication. Great Job!! Thanks again.

Larry Liposky  
Supervisor - Tough Truck  
Accelerator/VMV Components  
Phone 24-81726  
Pager 796-0849

-----Original Message-----

**From:** Carter, Roscoe (R.O.)  
**Sent:** Tuesday, September 10, 2002 9:08 AM  
**To:** Sherard, Gail (G.); Liposky, Lawrence (L.J.); West, Gregory (G.S.); Gaw, Ron (R.M.)  
**Cc:** Hass, Kenneth (K.C.); Helms, Jeffrey (J.H.); Tamor, Michael (M.A.); Simko, Steven (S.J.); Schmitz, Pete (P.J.); Heaton, Christopher (C.E.); Nicastri, Paul (P.R.); Gilkey, James (J.K.)  
**Subject:** Report on the analysis and root cause related to the pedal sensor for electronic Throttle Control for P131/U137

The team at FRL has finished its examination of the ETC pedal position sensors as requested. After sharing our findings with the platform folks on August 28th, we have written a report to document our findings and conclusions. Due to the size of the file, I have taken the liberty of listing the report on the Physical and Environmental Sciences web site on the Lubrication Science recent report page. It can be called up using the URL given below:

[http://www.srl.ford.com/pes/Trans\\_Fluid/ElectronicThrottleFailure.doc](http://www.srl.ford.com/pes/Trans_Fluid/ElectronicThrottleFailure.doc)

By clicking on this URL you can view and print the document if you wish.

It was interesting to find out that commercial labs had been employed to find the lubricant on the worn potentiometer tracks and that they had reported no lube when we were able to find it on all suspect parts. One of the labs has contacted me and I have shared our findings and techniques with them. Perhaps in the future that lab will be of more assistance in solving these types of problems.

We hope this effort assist in solving the failure issue in the very near term.

On behalf of Steve Simko, Chris Heaton, Paul Nicastri, and Pete Schmitz

*Roscoe "ROX" Carter  
Ford Research Lab  
Physical and Environmental Sciences Department  
Lubricant Science and ATF Analysis Group Leader*

FE83-844 18991

[REDACTED]

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**From:** Kuzdek, Kurt (K.M.)  
**Sent:** Wednesday, July 03, 2002 10:14 AM  
**To:** Smith, Ryan (R.E.)  
**Cc:** Klein, Mark (M.A.)  
**Subject:** FW: ACCELERATOR PEDAL CONCERNS 2002 7.3L DIESEL

Ryan,

I received a call from ron about these ap concerns. I told him I would keep him informed. He said that the largest ambulance builder in us has had alot of concerns with this issue. let me know whats going on,  
Thanks,

-----Original Message-----

**From:** Pung, Ron (R.L.)  
**Sent:** Wednesday, July 03, 2002 10:08 AM  
**To:** Kuzdek, Kurt (K.M.)  
**Subject:** ACCELERATOR PEDAL CONCERNS 2002 7.3L DIESEL

Wolverine Ford Truck has four 2002 F350 4X2 ambulances sold to the Detroit Fire Department and all have experienced the same symptom of no response from the accelerator pedal with code P0211. They have called the NHL (see VIN 1FDWF36F12[REDACTED]) and been referred to SSM15412. They have ordered three 2C32-9F836-DA accelerator pedals which are on back order but our parts expediter says they will get these parts next Tuesday. I spoke to Eric Olson the technician about verifying the integrity of the IVS and AP circuits before replacing any of the accelerator pedals.

Wheeled Coach is the Ambulance Body Builder that built the subject vehicles. Obviously they are concerned with the vehicles at Wolverine Ford Truck but they are getting ready to ship 185 ambulances to Iran and want to know what to check before they ship them.

*Ron J. Pung*

**Modified Vehicle Specialist  
Ford Customer Service Division  
1855 Fairlane Circle  
Suite 950-G Room 344  
Allen Park, MI 48101  
Phone: 313-248-6410  
Fax: 313-390-1880  
rpung1@ford.com**

PER3-644 19177

[REDACTED] AL

[REDACTED]

**From:** McDonagh, Scot (S.M.)  
**Sent:** Thursday, September 19, 2002 9:42 AM  
**To:** Smith, Ryan (R.E.)  
**Subject:** FW: P131 adjustable accel. pedal tech. review

**FYI**

**Scot G. McDonagh**  
**Super-Duty/Excursion**  
**Powertrain Quality Leader**  
**Phone-(313)337-8091**  
**Fax-(313)621-8083**  
**E-Mail:smcdonag@ford.com**

---Original Message---

**From:** Kramer, Michael (M.T.)  
**Sent:** Thursday, September 19, 2002 9:41 AM  
**To:** Thompson, Greg (G.J.)  
**Cc:** Guys, Philip (P.R.); Sherard, Gal (G.); Liposky, Lawrence (L.J.); Hollister, Dave (D.); Williams Jr., James (J.P.); West, Gregory (G.S.); McDonagh, Scot (S.M.); Oswald, Greg (G.G.)  
**Subject:** P131 adjustable accel. pedal tech. review

Per Bill Osborne's request at yesterday's PDQR, the Technical Review is being scheduled for the week of 10/7/02 (first available) to review a potential field service action. I will advise as soon as more information is available. ] C

*The company that builds and delivers the best products wins!*

**Mike Kramer**  
**Supervisor, Super Duty/Excursion/E-Series PTQRT**  
**Six Sigma Black Belt**  
**Phone/fax:** (313) 594-2003  
**Page:** (313) 201-9852 (beep); <<http://www4.dashcom.ford.com/cgi-bin/page?>> (internal text); <http://mykmail.com/> (external text)  
**Email:** mikramer1 (internal); [mikramer1@ford.com](mailto:mikramer1@ford.com) (external)