

PE03-044
FORD
5/13/2005
APPENDIX I
BOOK 23 OF 28
PART 1 OF 4

From: Zulqarnain Khan [zkhan1@tfxauto.com]
Sent: Thursday, September 28, 2002 12:44 PM
To: tiposky@ford.com; gwest2@ford.com; gbrantfi@tfxauto.com; kczolan@tfxauto.com
Subject: Fwd: Post DOE images for U137 Adj ETC



Post DOE Images
for U137 Adj E...

Attached are the images of DOE parts for U137 regarding Lube migration issue.

The parts are put back to test to complete 1X Life.

Regards,

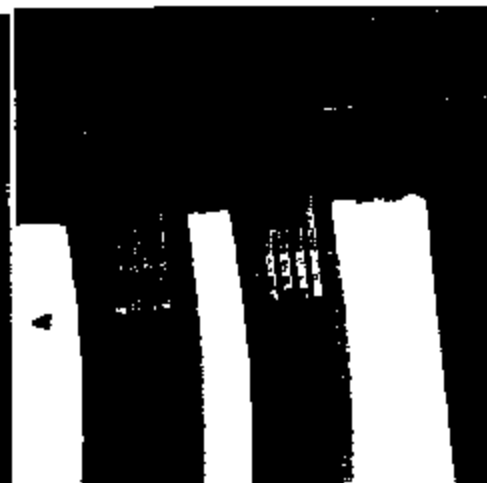
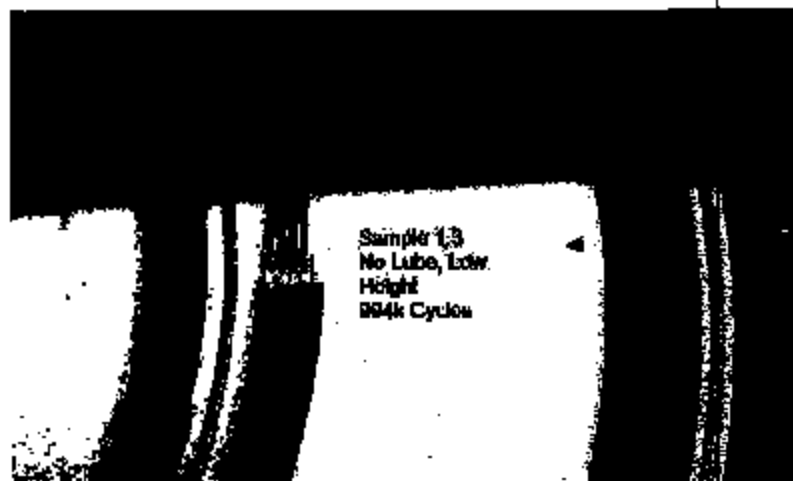
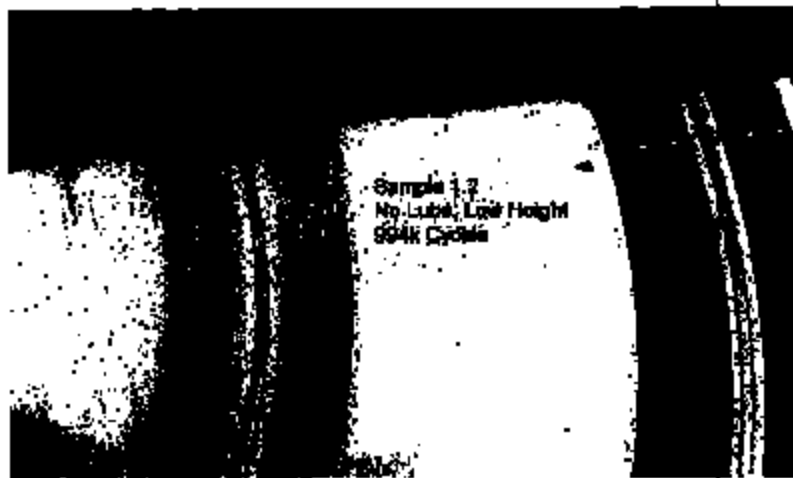
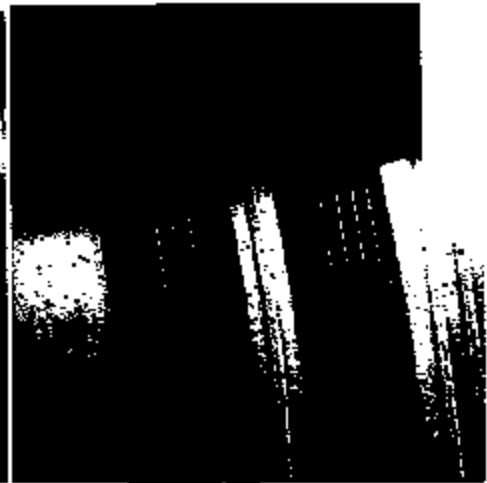
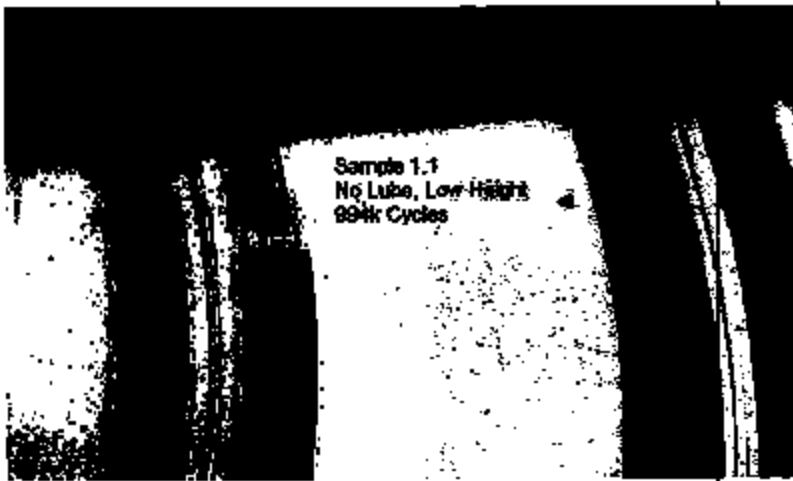
Khan

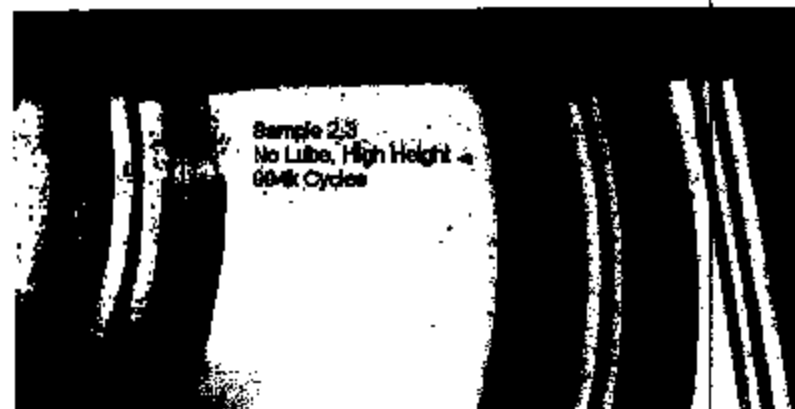
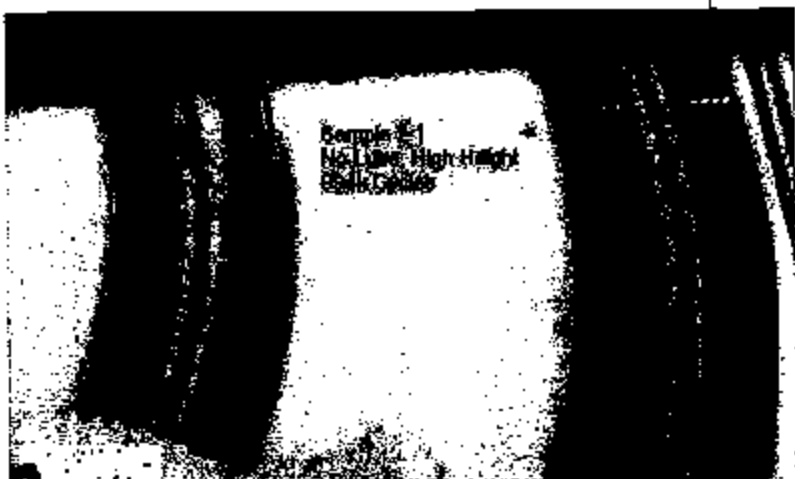
From: Zulqamain Khan [zkhan1@fbxauto.com]
Sent: Thursday, September 26, 2002 11:39 AM
To: zkhan1@fbxauto.com
Subject: Post DOE Images for U137 Adj ETC

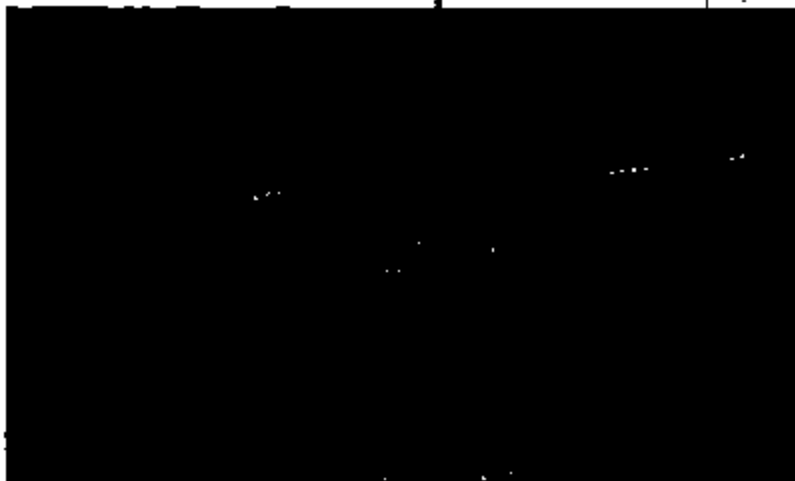
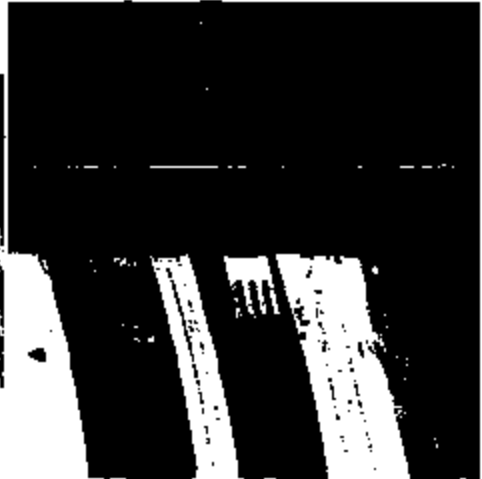
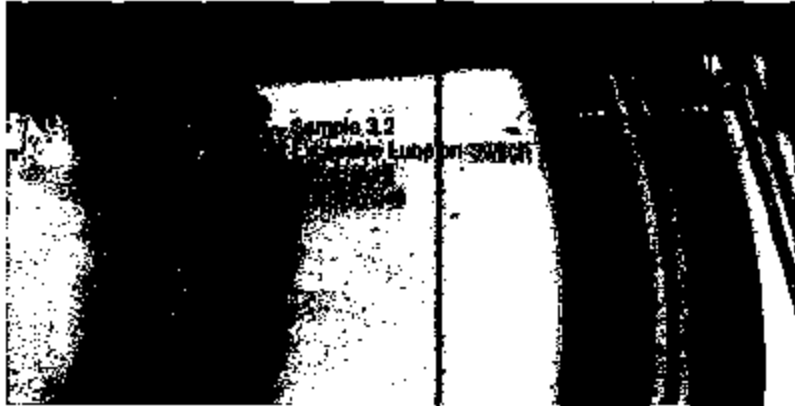


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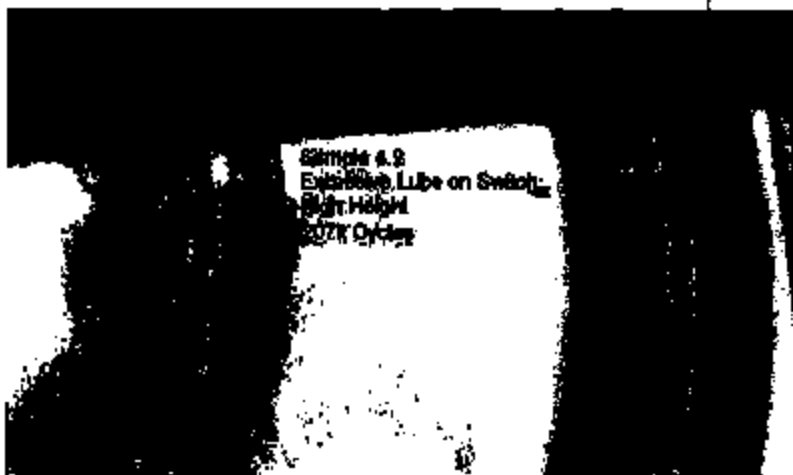
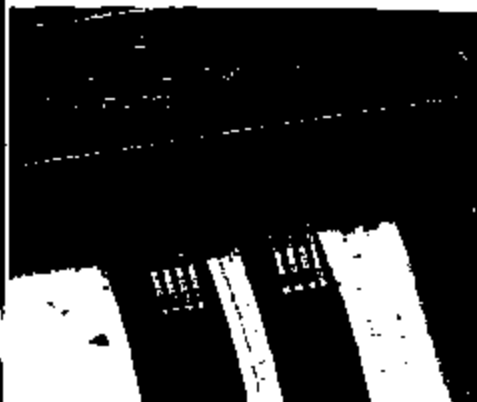
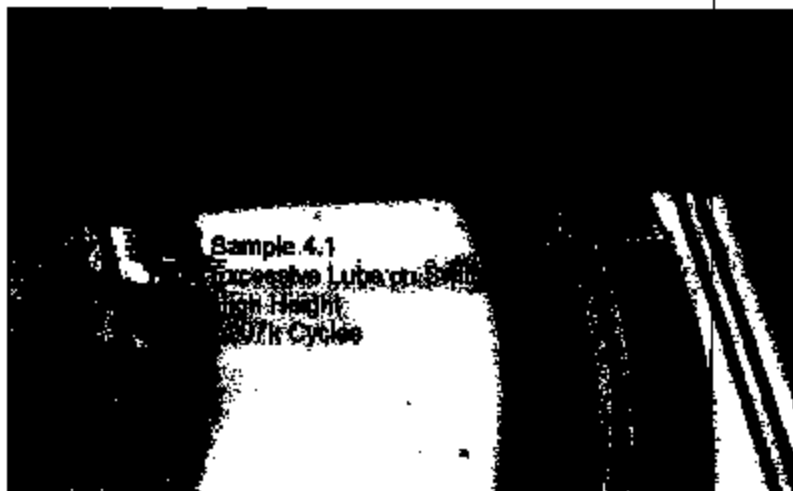
PERO-844 6337

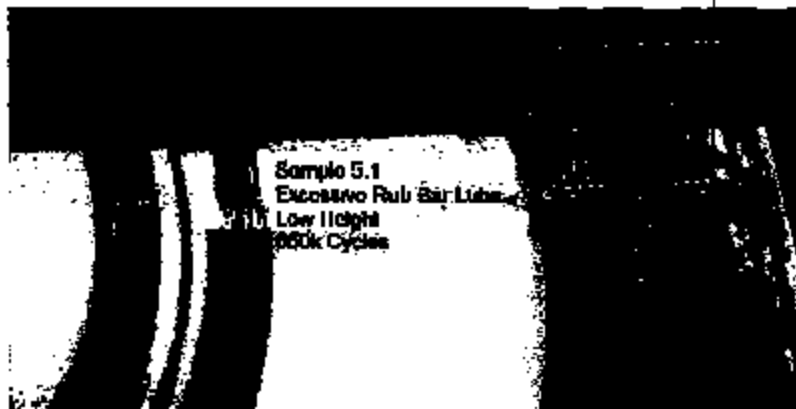


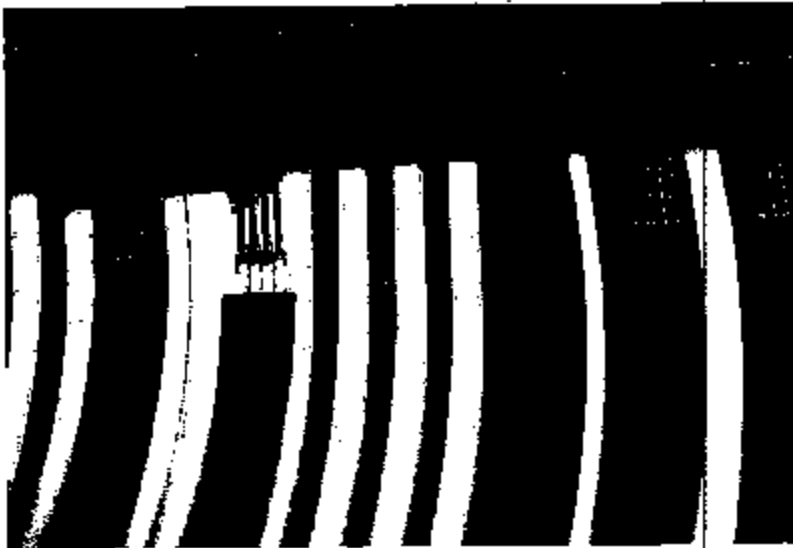
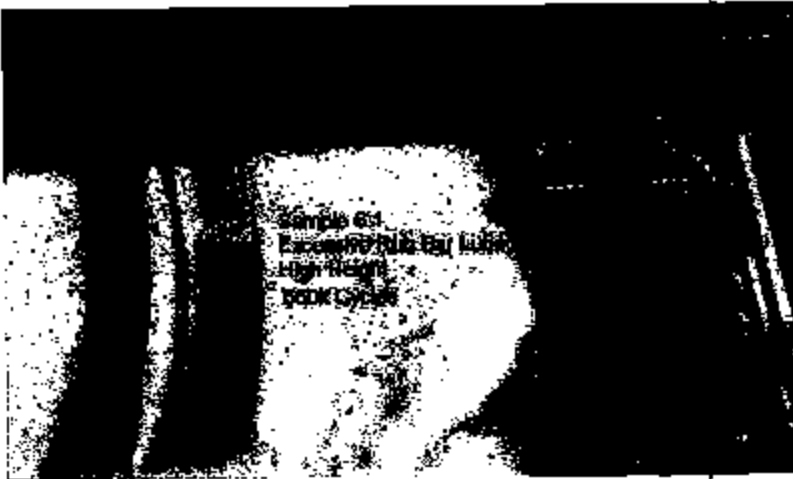


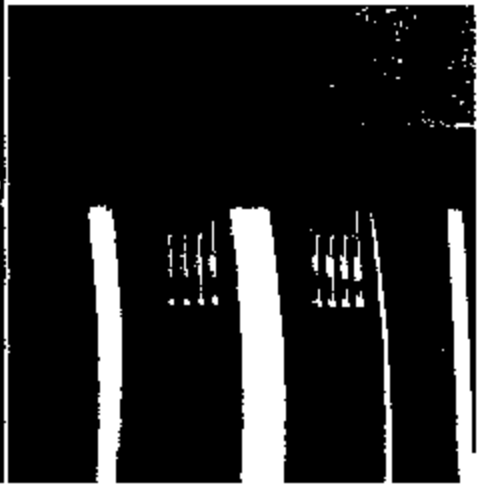
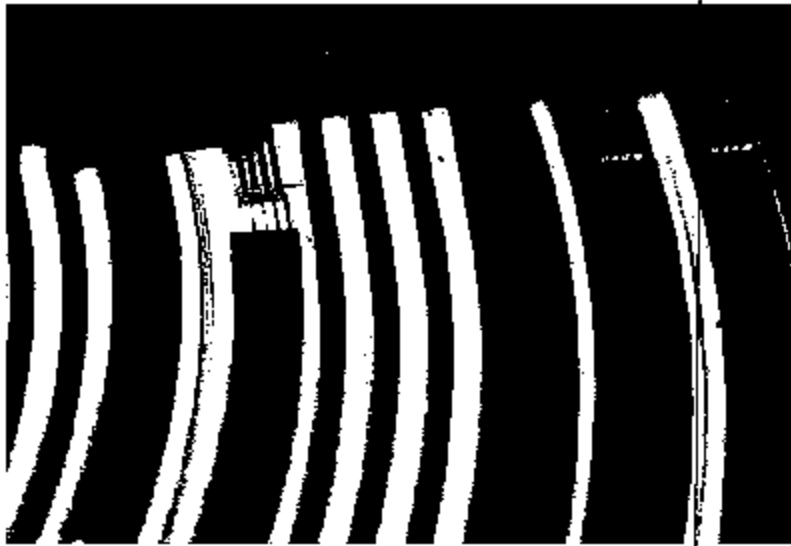


FE83-844 6348

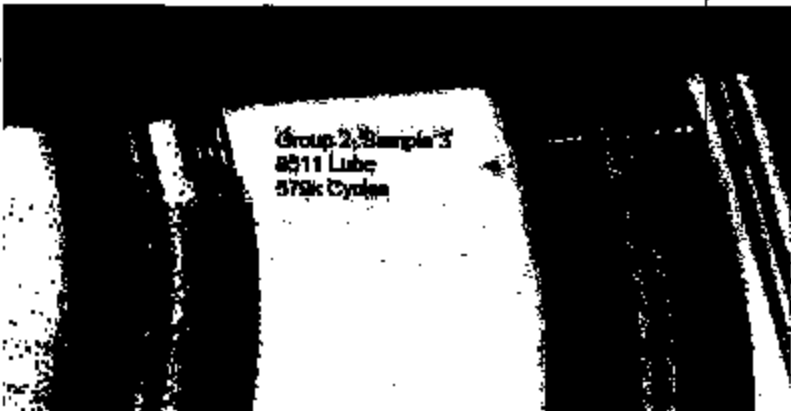
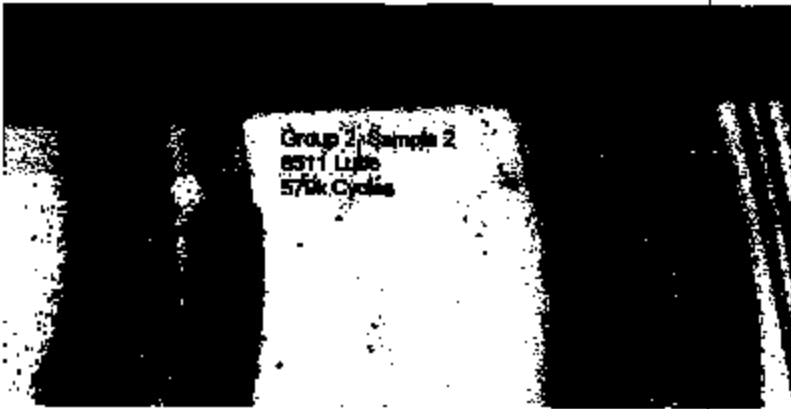


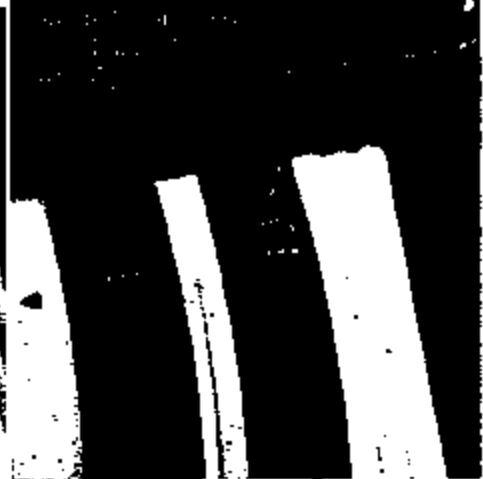
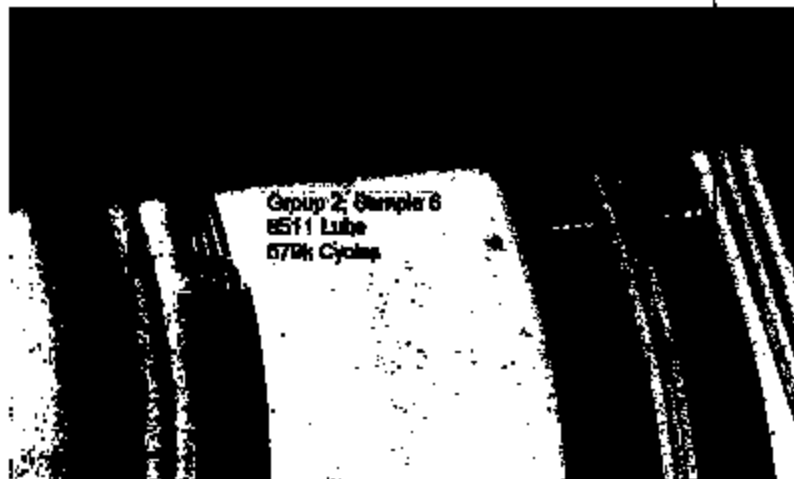
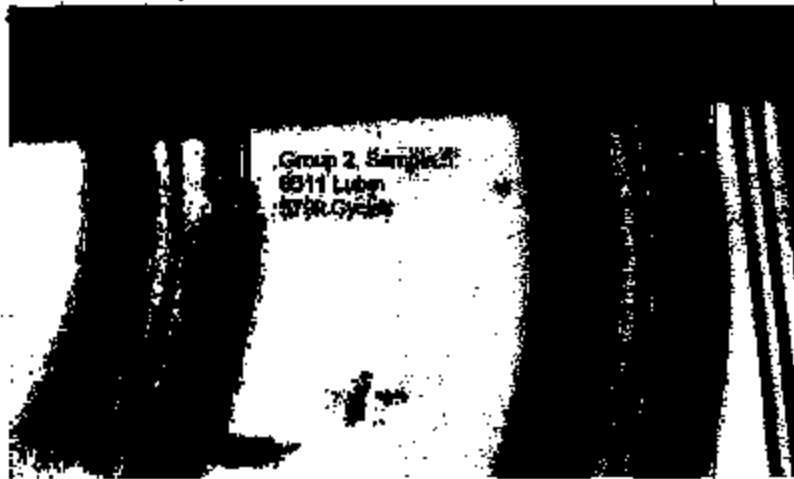
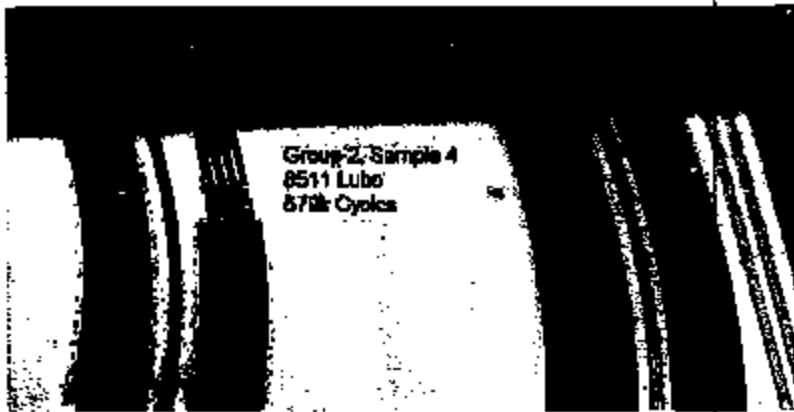






PE83-844 8344





From: Zulqarnain Khan (zkhan1@fxauto.com)
Sent: Thursday, September 28, 2002 12:44 PM
To: mposky@ford.com; gwest2@ford.com; gbran1@fxauto.com; kzolan@fxauto.com
Subject: Fwd: Post DOE images for U137 Adj ETC



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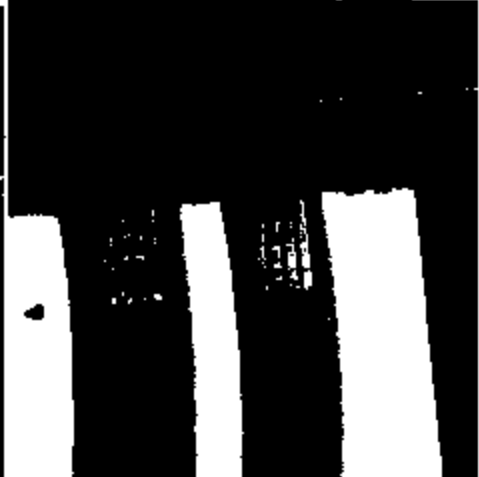
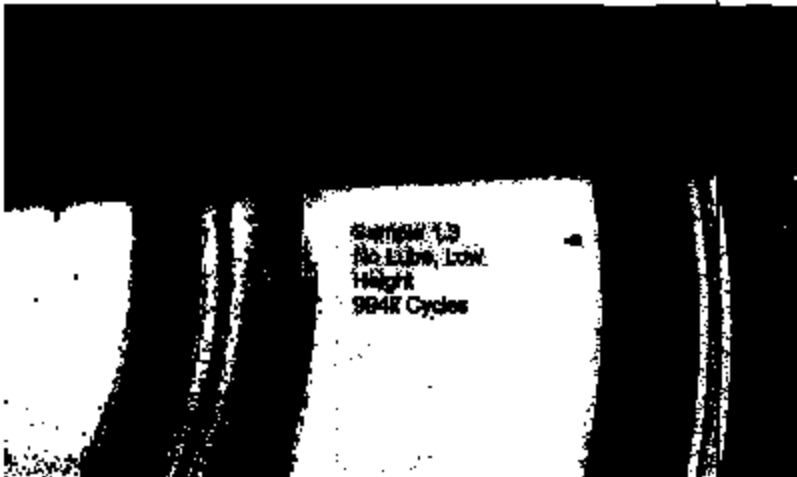
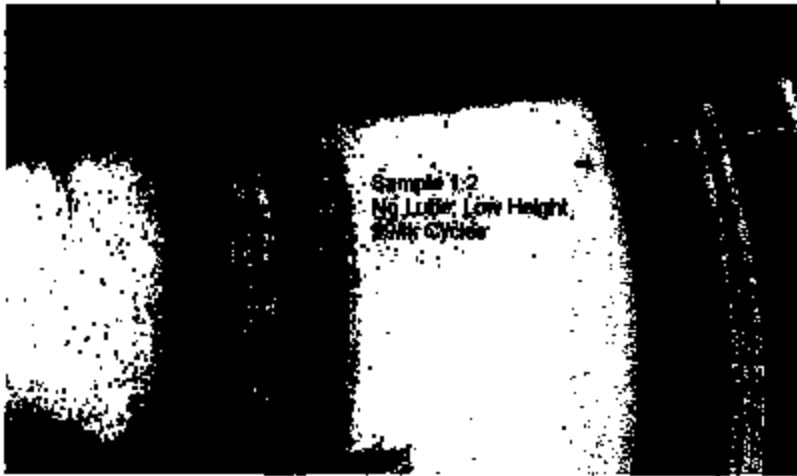
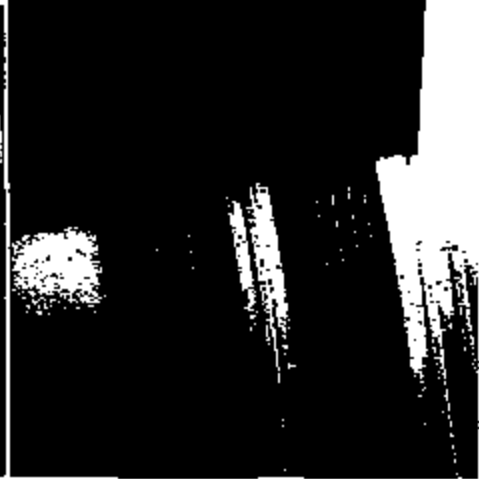
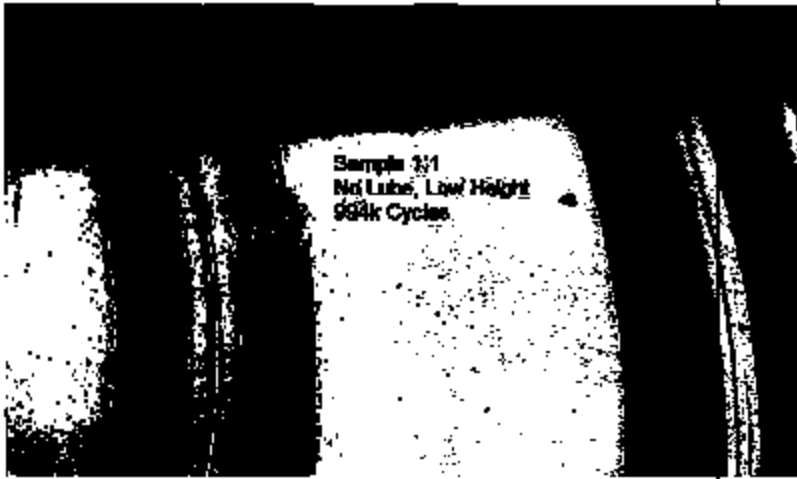
Regards,

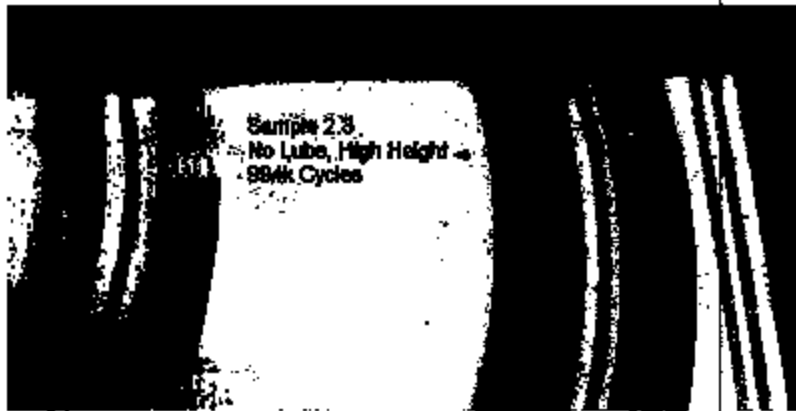
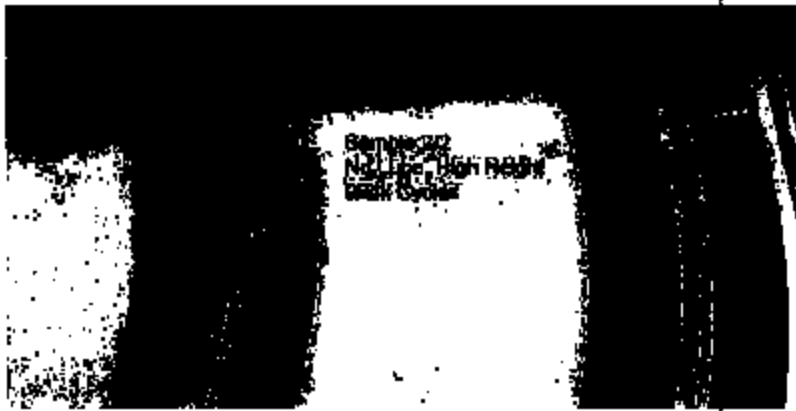
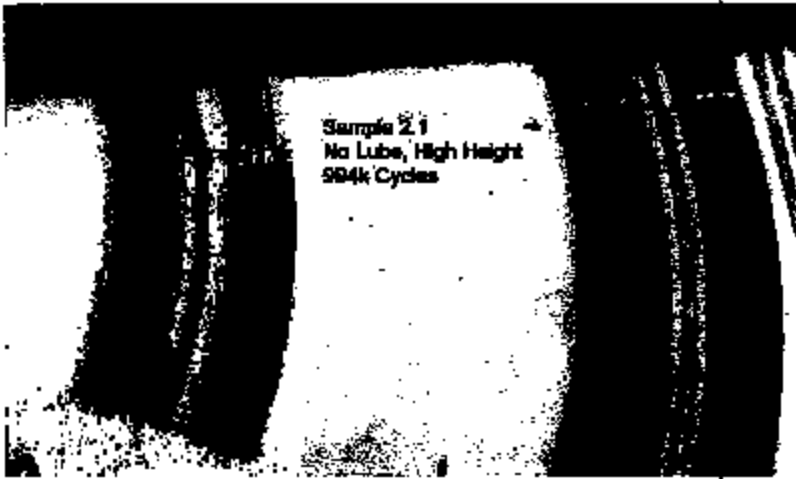
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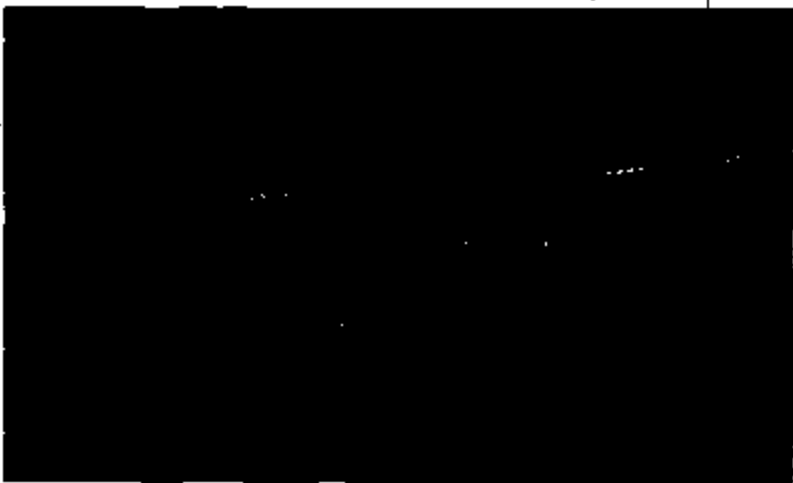
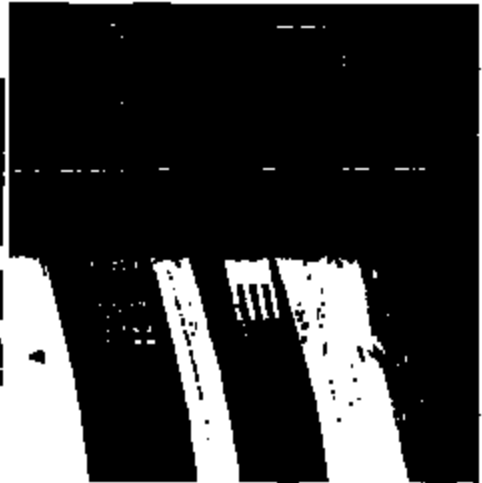
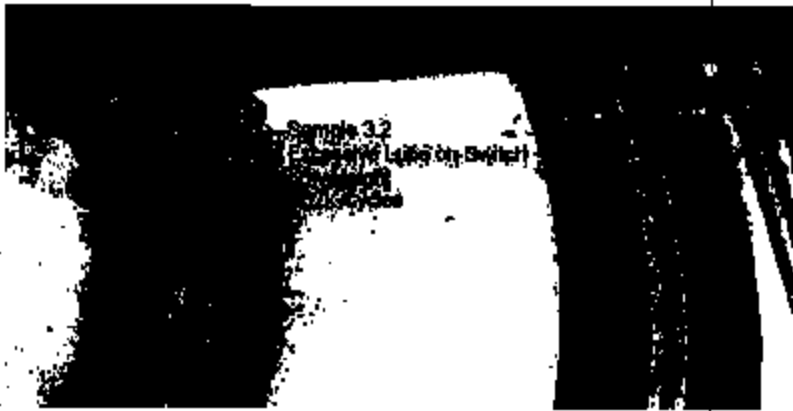
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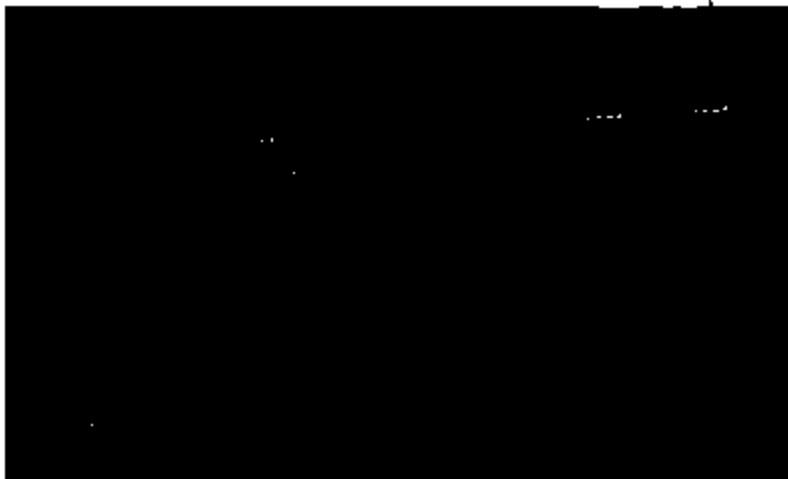
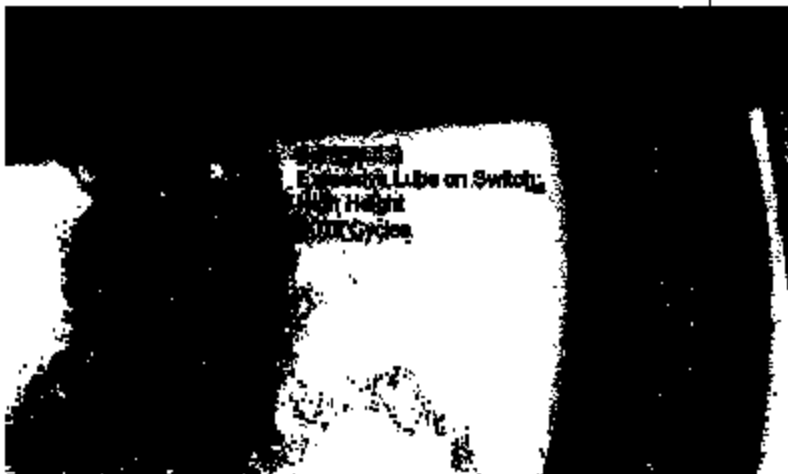
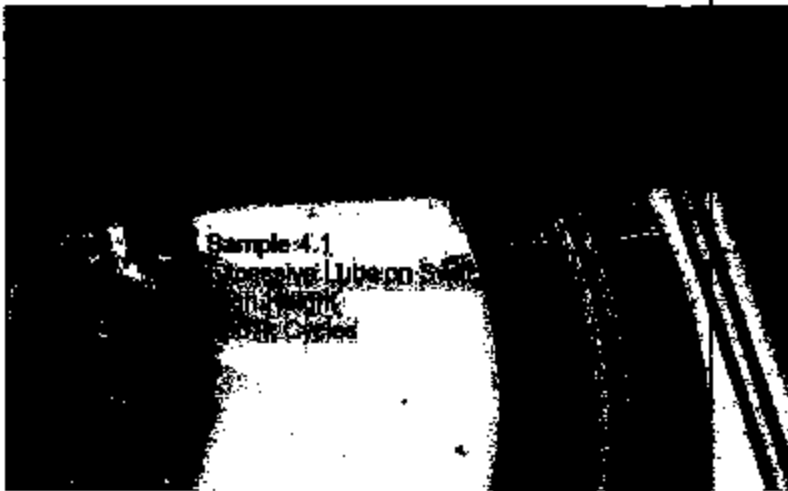


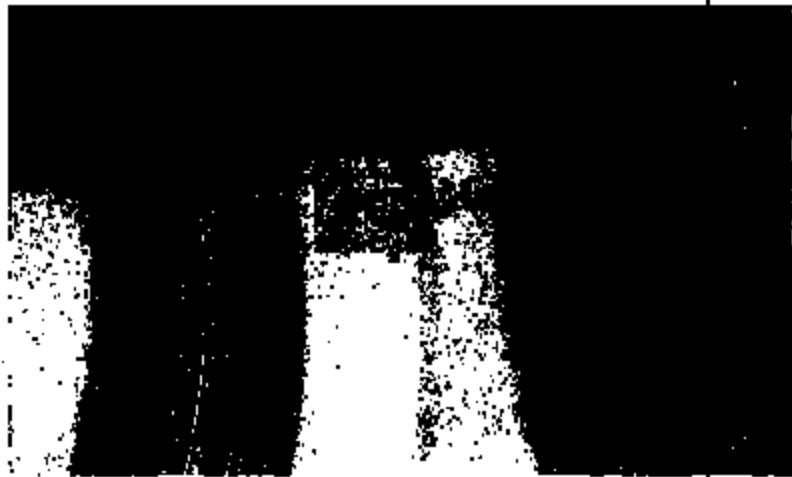
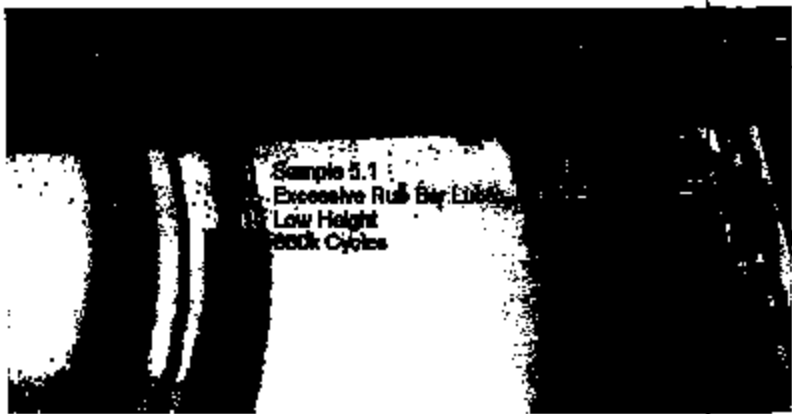
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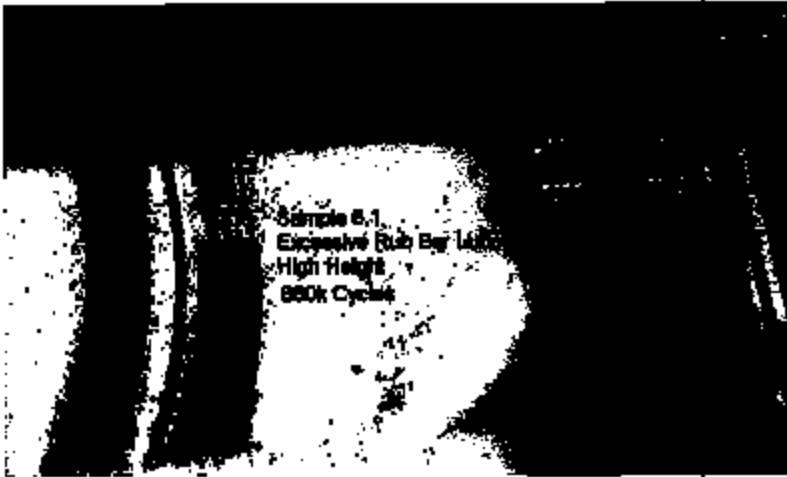


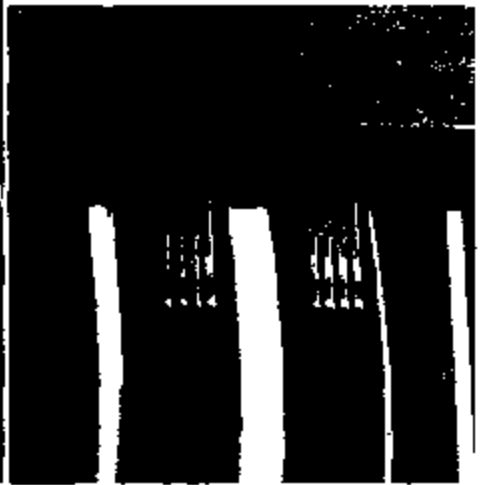
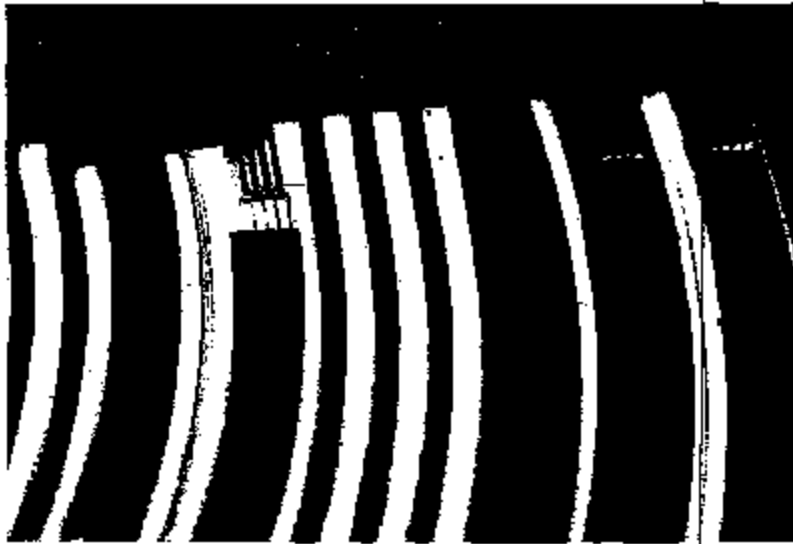
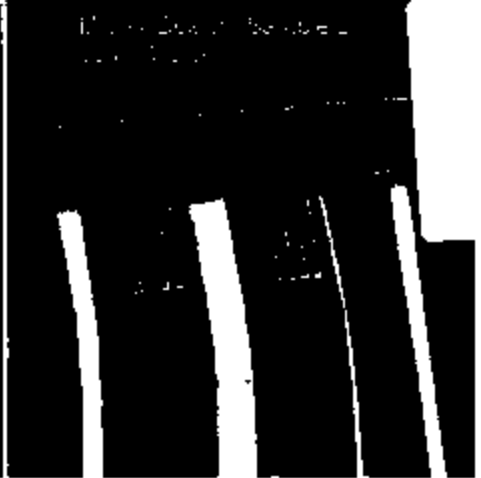


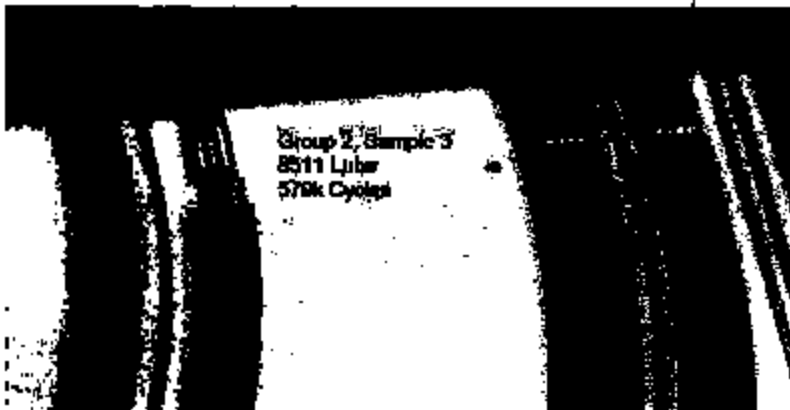
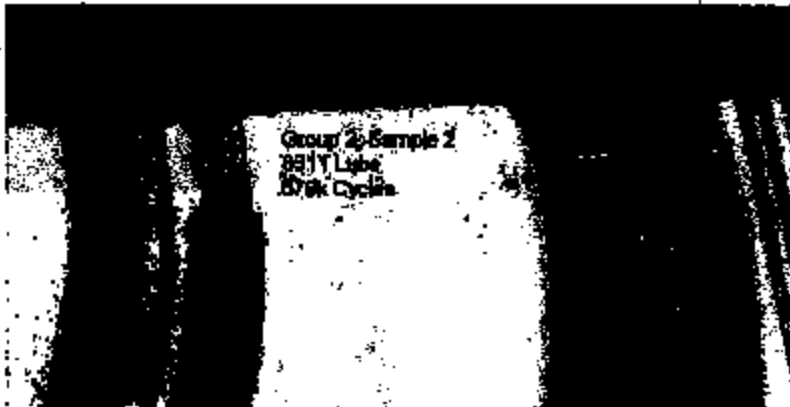


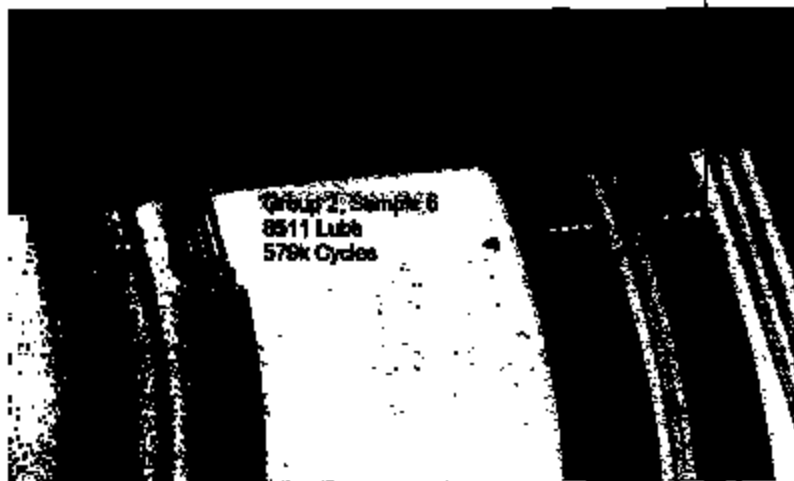
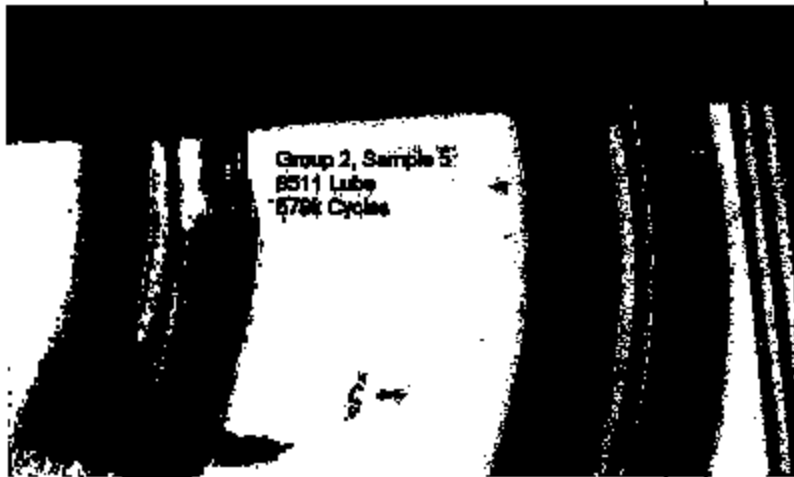
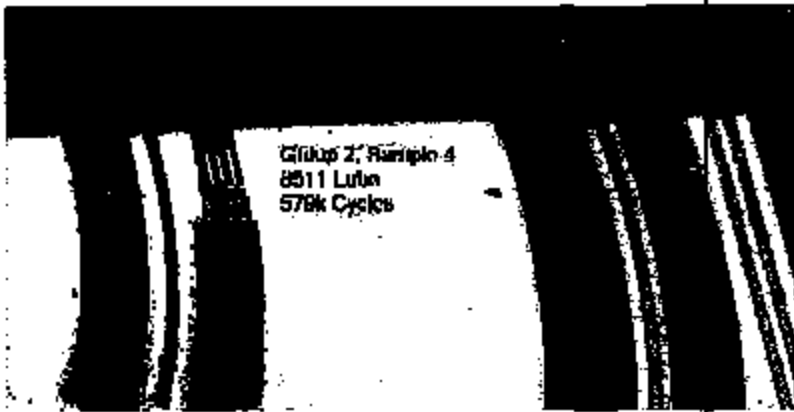












From: Nicasri, Paul (P.R.)
Sent: Tuesday, December 03, 2002 4:37 PM
To: Florini, John (J.J.)
Cc: Heaton, Christopher (C.E.); Brackett, Tom (T.P.); Simko, Steven (S.J.); Carter, Roscoe (R.O.)
Subject: ETC PFS WEAR STUDY

John,

We ran the first three tests and I'd like to get your input. We used one substrate and one wiper for all three tests. We tested the 3 resistive tracks and measured the resistance of each before and after the tests, but found the resistance did not change appreciably. We also took pictures before and after. For purposes of the test we identified the 6 tracks from A to F, with the A track closest to the edge of the substrate. Track B was tested using a normal force of ~28g and run 40K cycles. Track C was tested using a normal force of ~38g and run 50K cycles (the system was rebooted and the default for number of cycles had been 50K and we didn't notice that until after the test). Track E was tested using ~33g normal force for 40K cycles. The amount of wear increased with increasing force as expected, but even at 38g force, it seemed less than what was experienced in the durability tests. There may be some other factors that are not duplicated in our test, such as, we might be using more lubricant or our fixture holds the wiper differently, or some such variable. It might be worthwhile to review the parts, and modify the plan if necessary.

I've attached 4 photos that show the wear and the fingers.

Let me know if you can meet with me to go over this.

Paul



#1 Track B 28g.jpg #1 Track C 38g.jpg #1 Track E 33g.jpg Wiper fingers.jpg



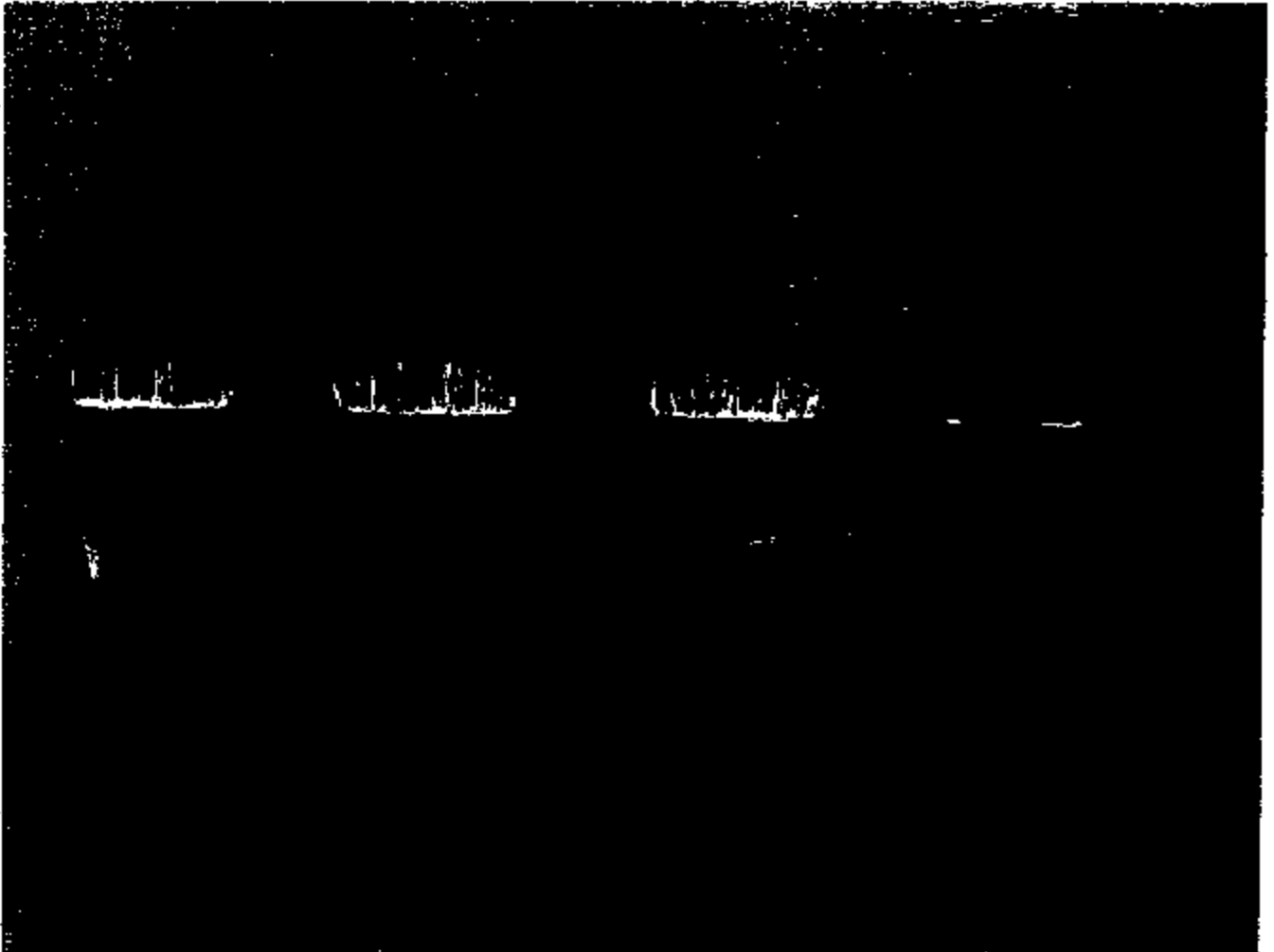
FE03-044 25352





PE83-844 23354





FE83-844 29355

From: Fiorini, John (J.J.)
Sent: Tuesday, December 03, 2002 5:04 PM
To: Nicasiti, Paul (P.A.)
Cc: Heaton, Christopher (C.E.); Brackett, Tom (T.P.); Simko, Steven (S.J.); Carter, Roscoe (R.O.); Liposky, Lawrence (L.J.)
Subject: RE: ETC PPS WEAR STUDY

Thanks Paul for the quick response. I'm available any time after 10:30 tomorrow to discuss.

I have some questions on the stroke length and normal positioning of the fingers relative to the ink. Most of our investigative efforts to date have been under the assumption that the rotor is not parallel with the substrate under side loading. Also that after a certain level of contact force, the finger contact geometry is such that there is higher probability of raking or plowing the ink which may be dependant on the stroke length specified (need to simulate the hysteresis motion of the fingers).

Also, our premise to date has been that contact force over 24g but under 33g was the cause of our problem. We may need to increase the loading until we start to see similar results as those observed under Roscoe and Steve's analysis.

Your data disputes some of our fundamental assumptions we have been basing our investigations on which may help steer us in another direction as we continue to search for root cause.

Let me know what time you'd like to get together. Thanks again Paul.

John J. Fiorini

Supervisor, Accelerator Controls - Outfitters
Stationary Components, PTSE
PDC, 2D-G46, MD 197
☎ Phone: (313) 33-73654
☎ Fax: (313) 32-31153
☎ Page: (734) 651-0854
✉ E-mail: <<mailto:ffiorini@ford.com>>

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

From: Nicasiti, Paul (P.A.)
Sent: Tuesday, December 03, 2002 4:37 PM
To: Fiorini, John (J.J.)
Cc: Heaton, Christopher (C.E.); Brackett, Tom (T.P.); Simko, Steven (S.J.); Carter, Roscoe (R.O.)
Subject: ETC PPS WEAR STUDY

John,

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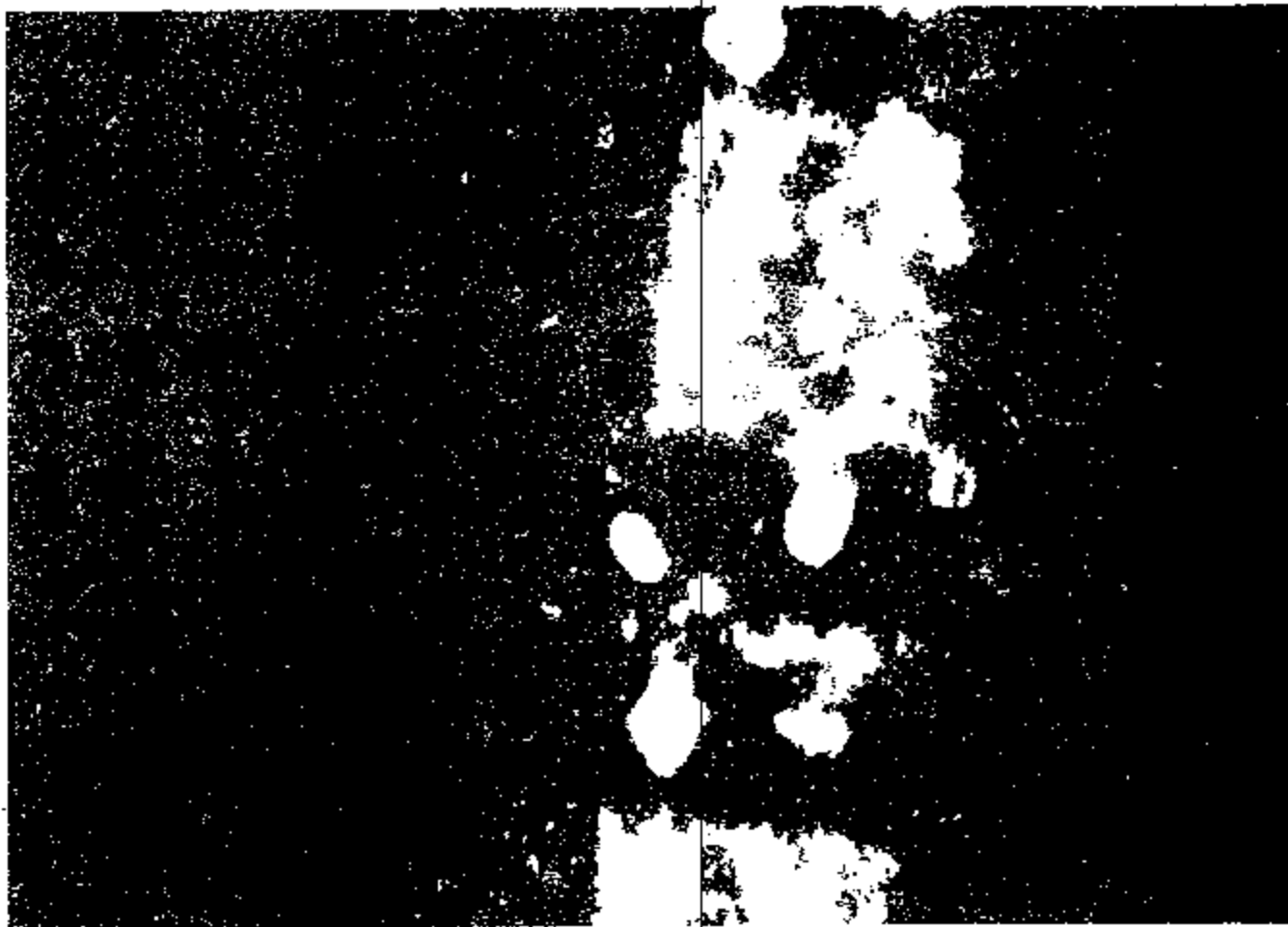
I've attached 4 photos that show the wear and the fingers.

PE03-844 25395

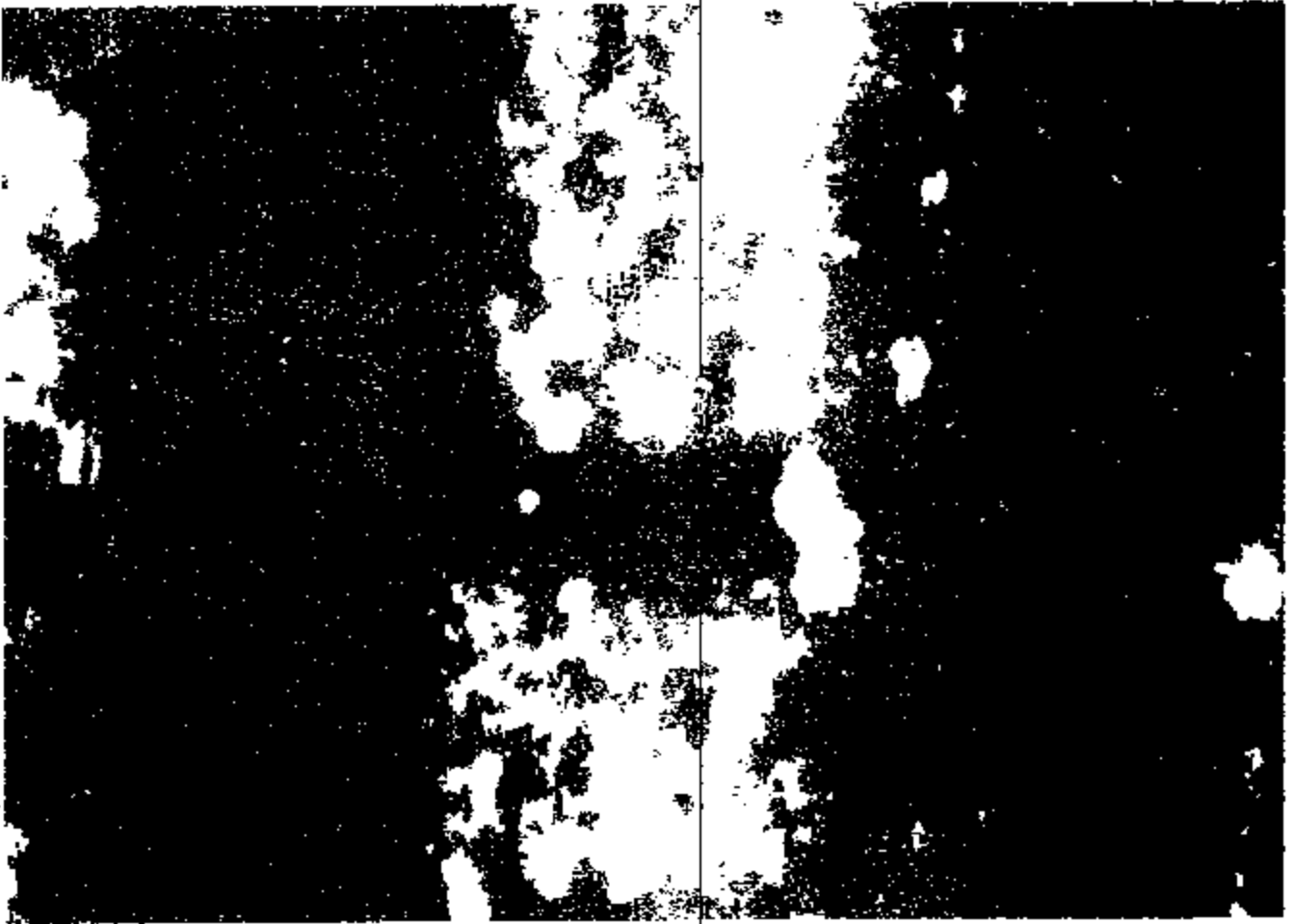
Let me know if you can meet with me to go over this.

Paul

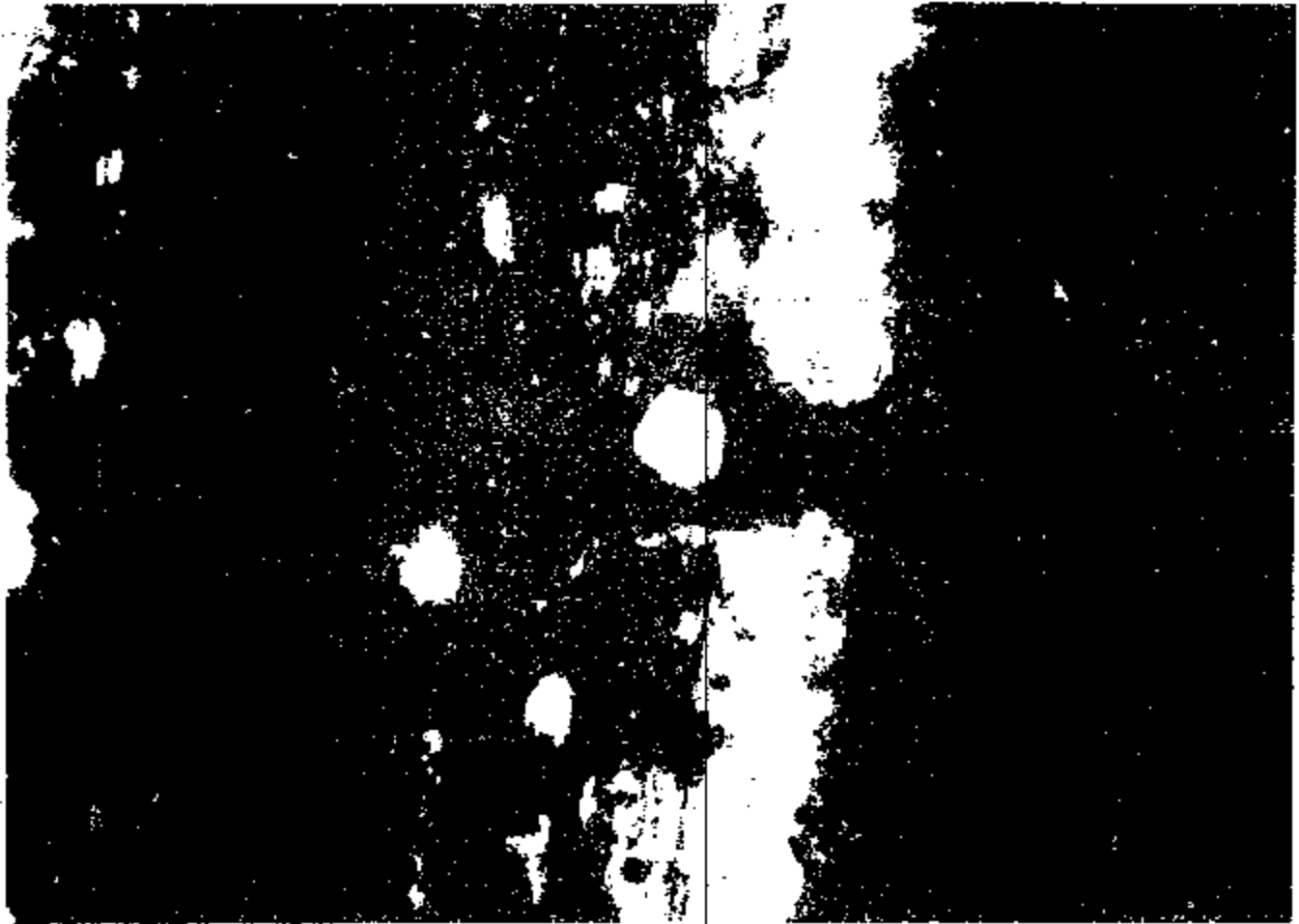
<< File: #1 Track B 28g.jpg >> << File: #1 Track C 38g.jpg >> << File: #1 Track E 33g.jpg >> << File: Wiper fingers.jpg >>



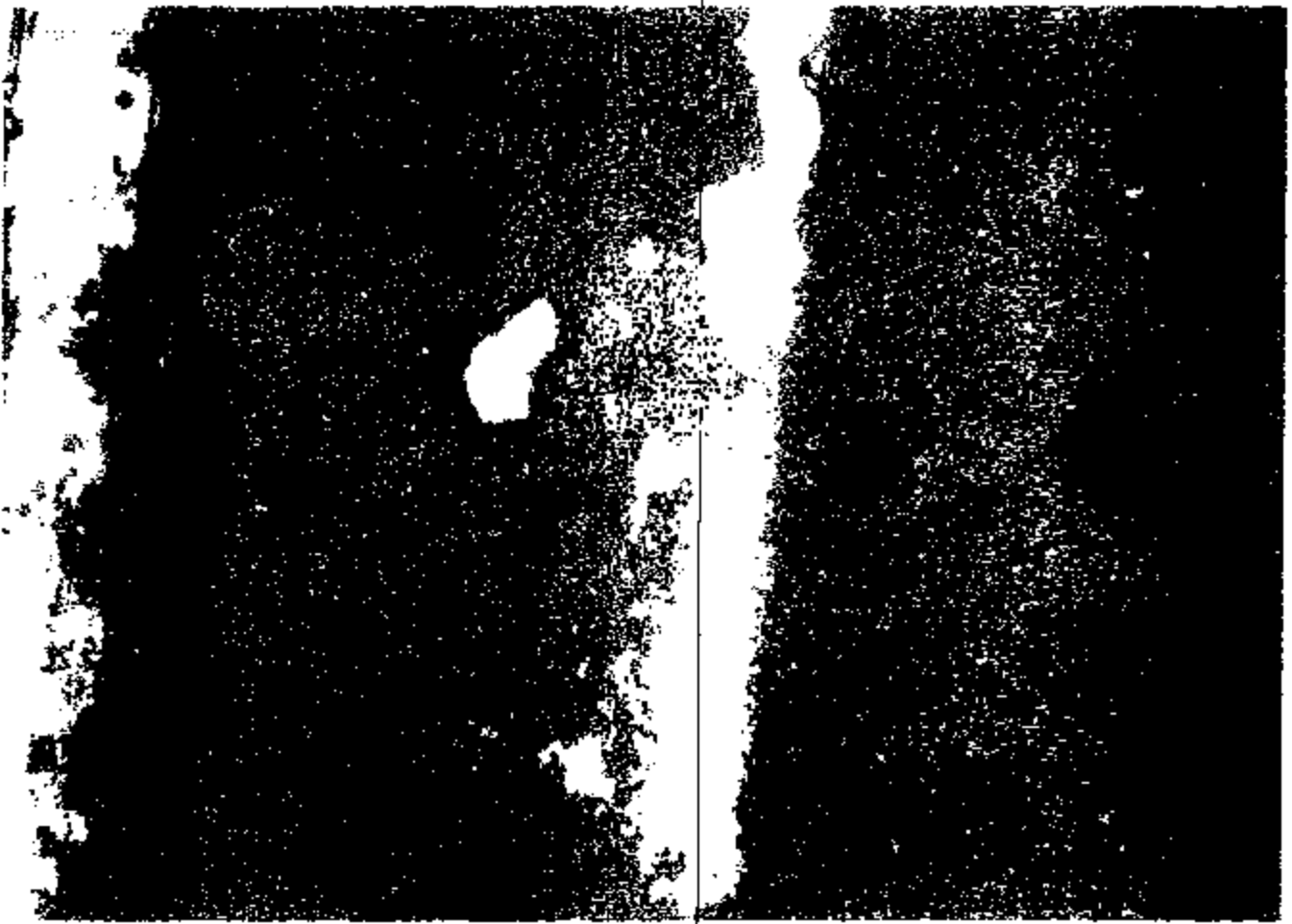
PE03-044 25358



FE83-644 23258



PE83-044 25358



PE83-844 25361



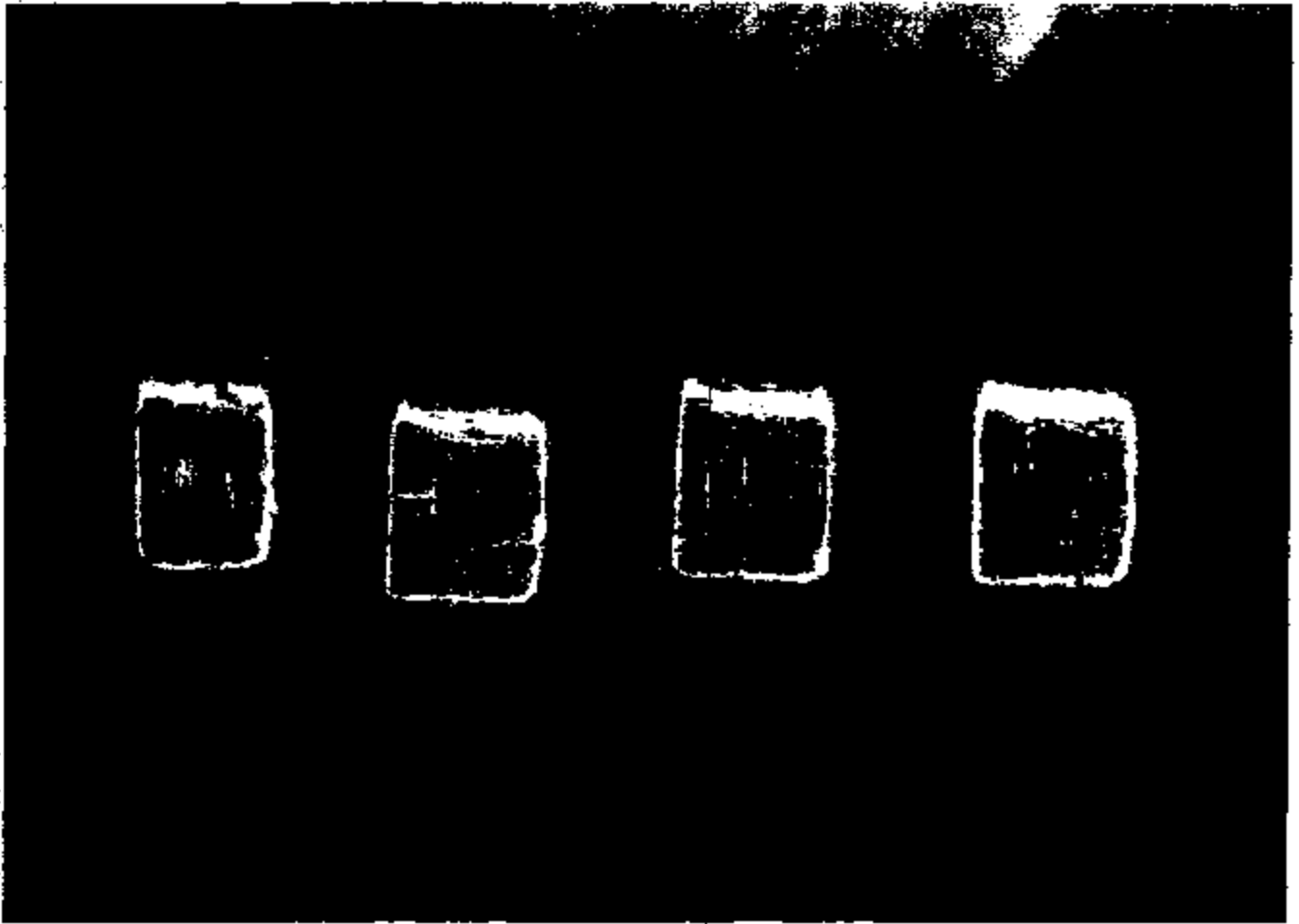
PE83-B44 25362







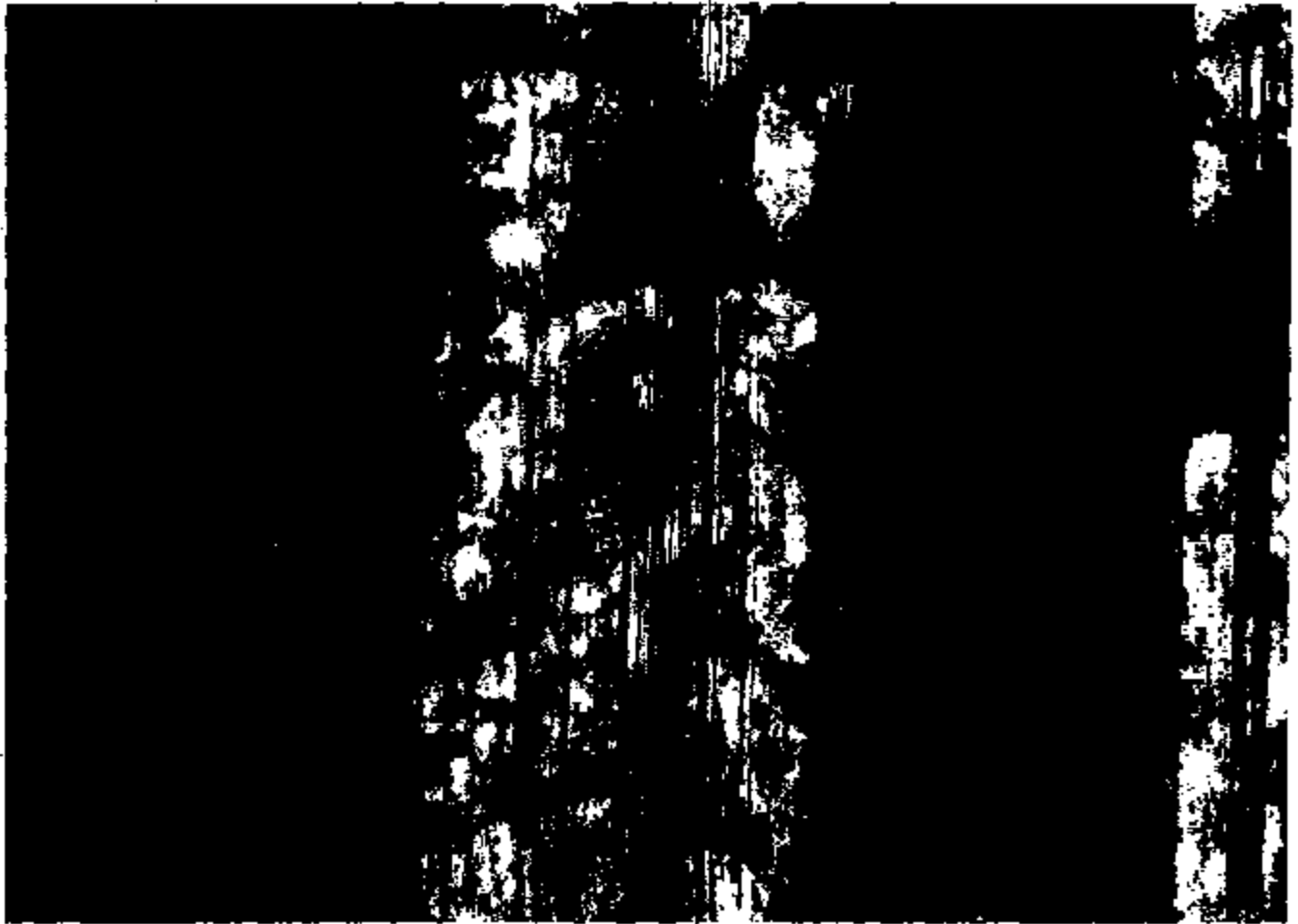
PE03-044 29365



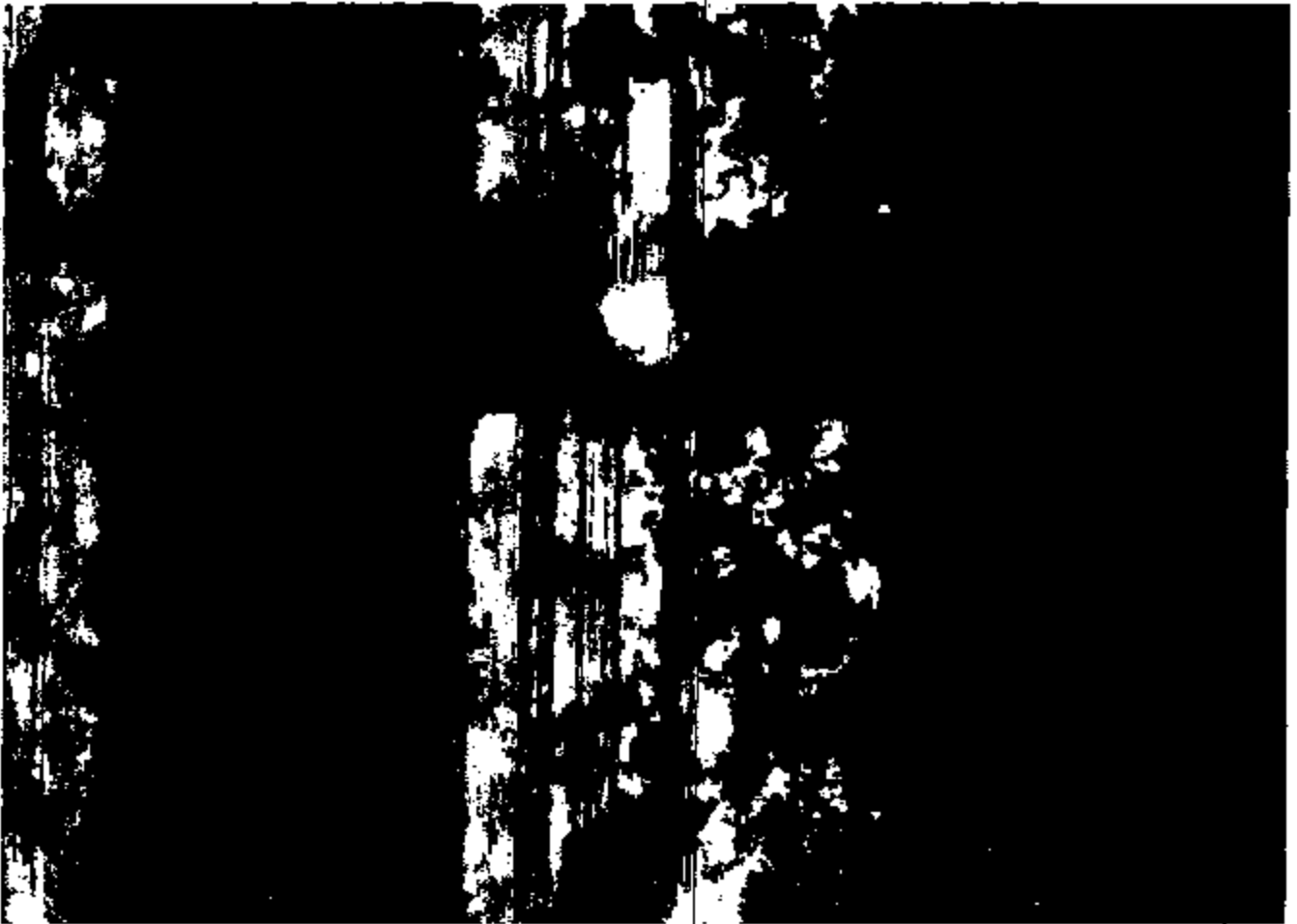
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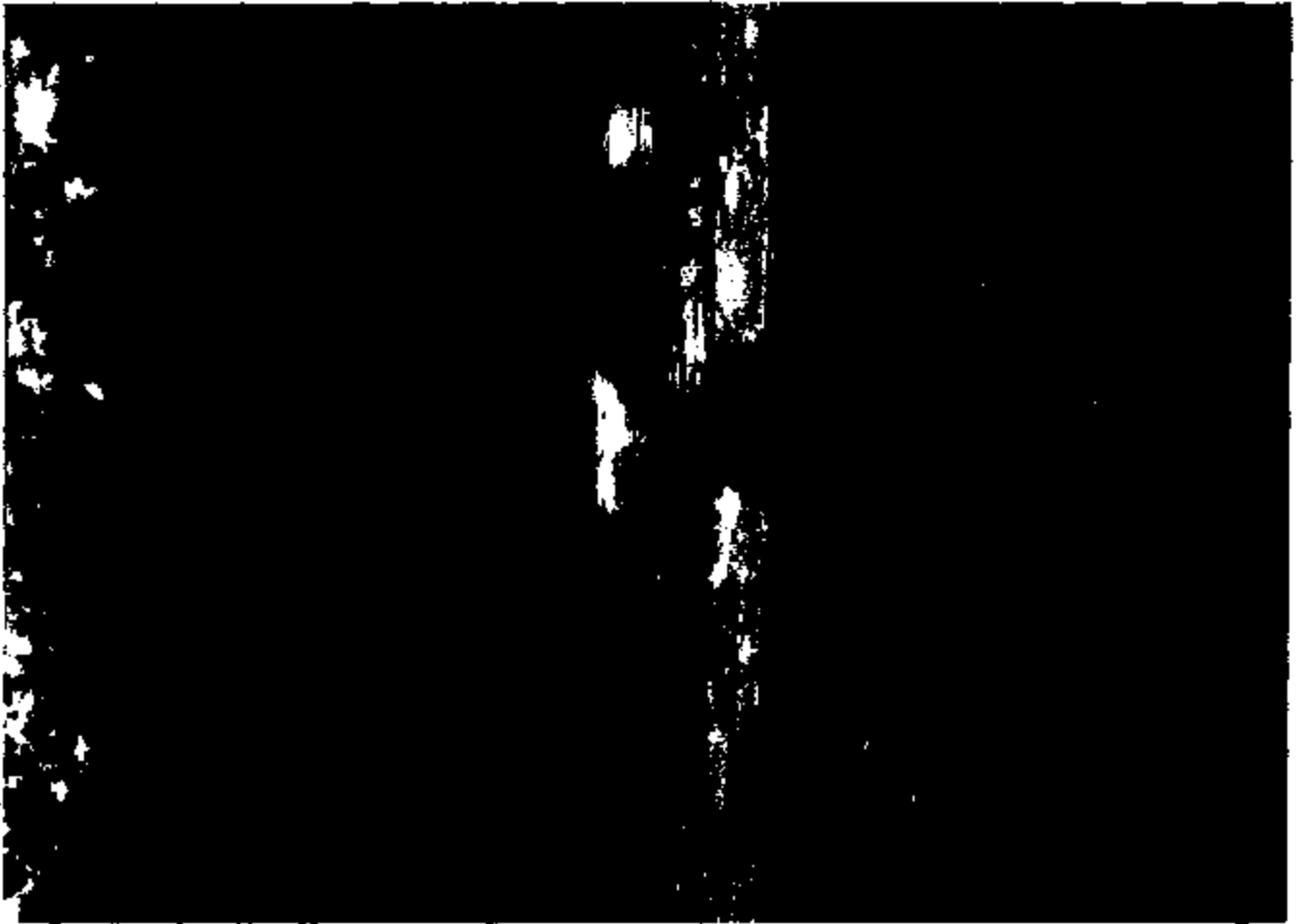
PE83-044 25357



PE83-844 25368



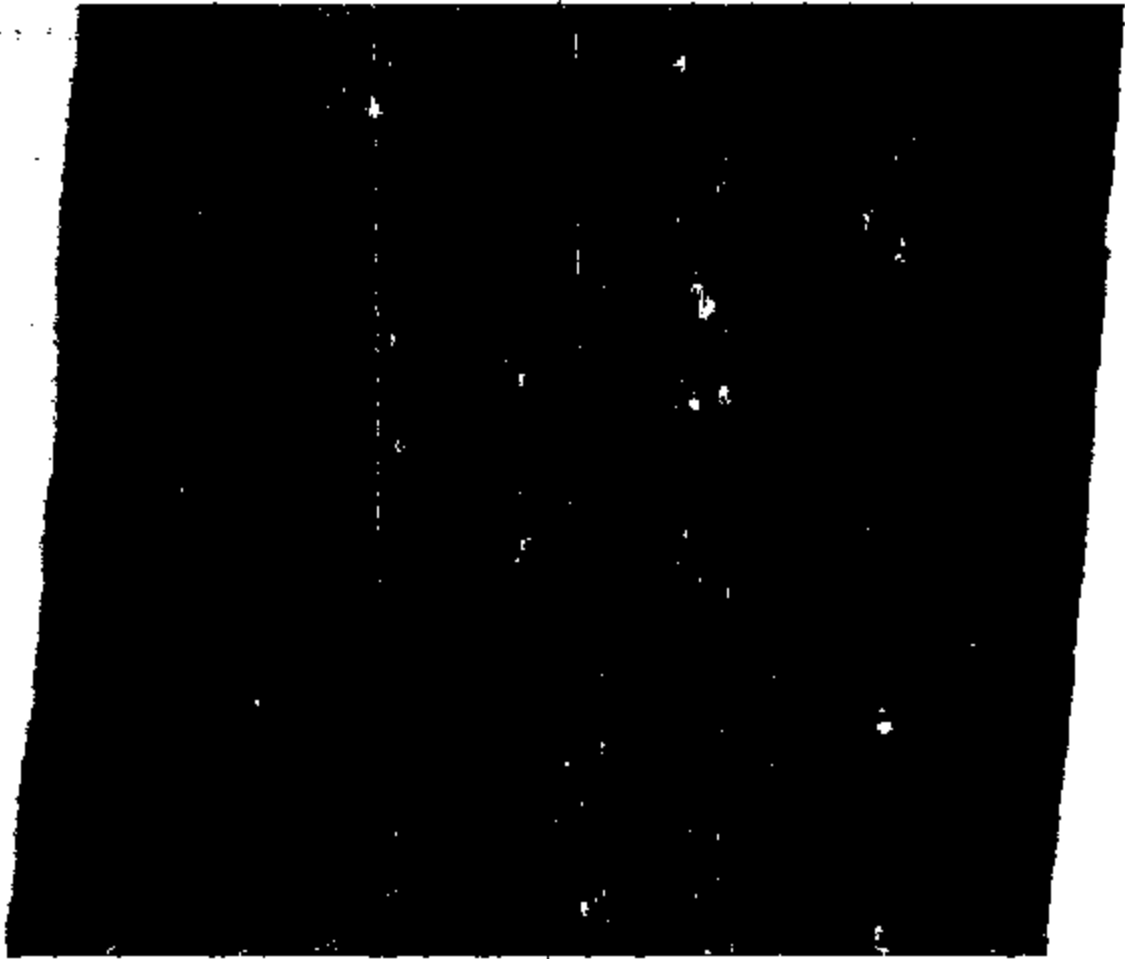
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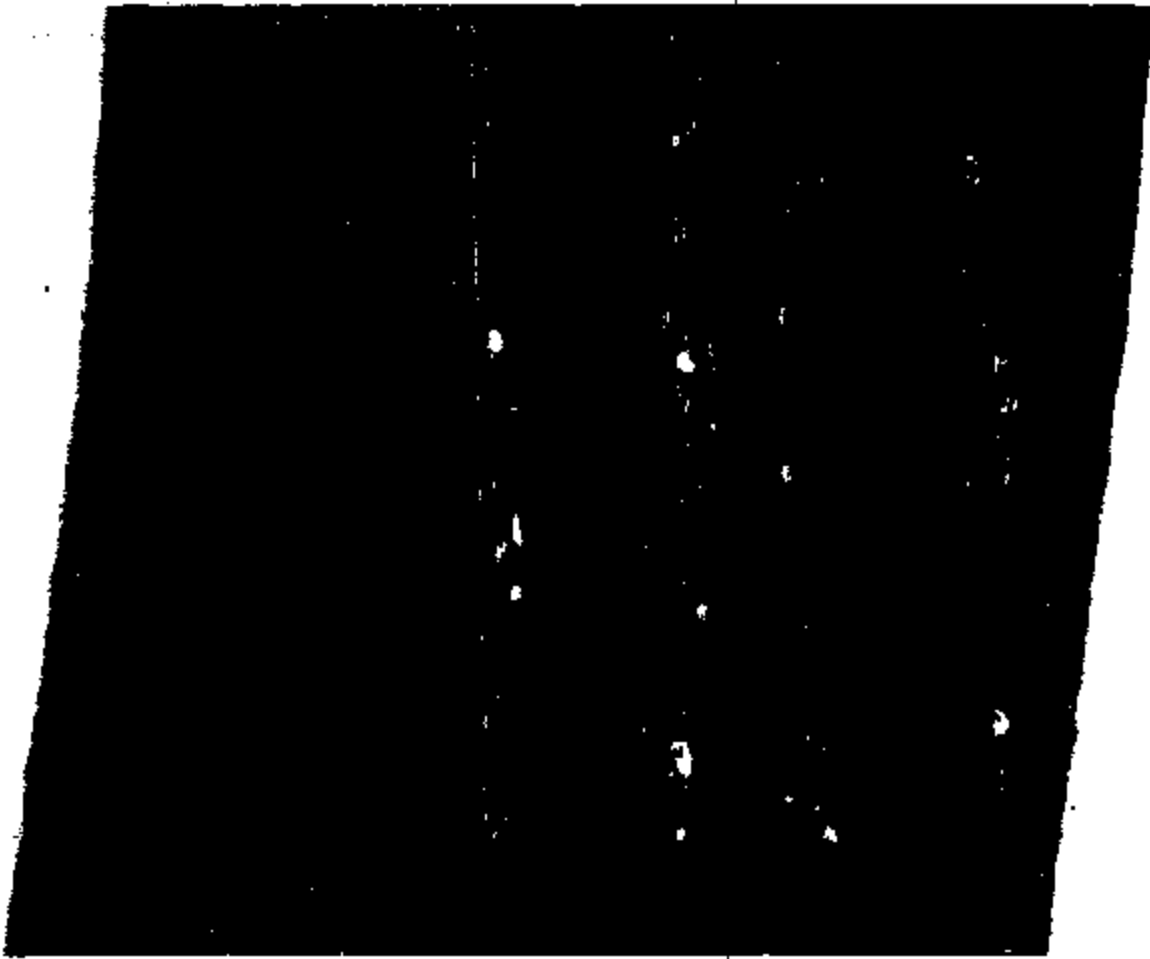
FE83-844 25378



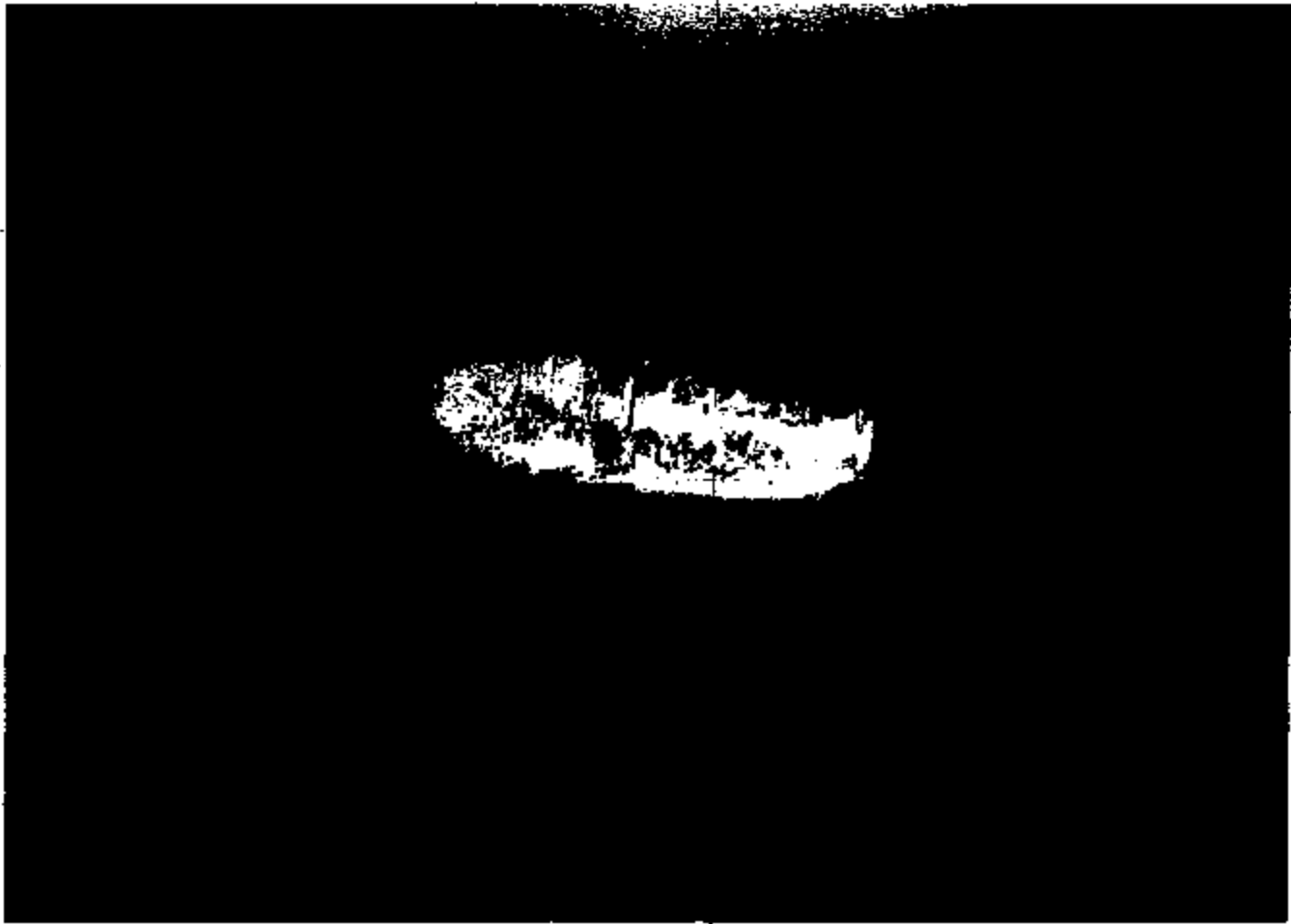
PER3-044 25371



PER3-044 25372



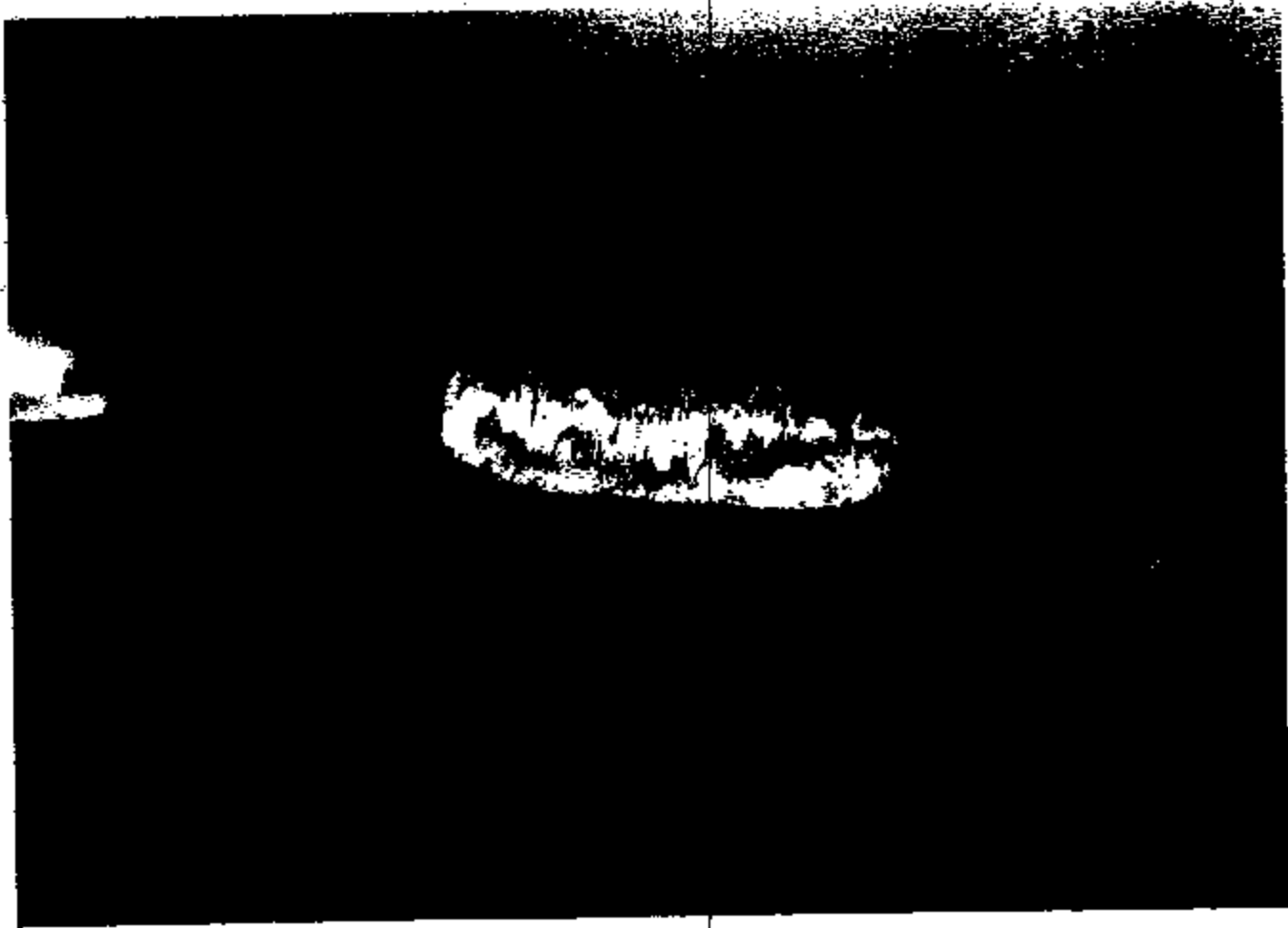
FD-302 (Rev. 11-27-70)



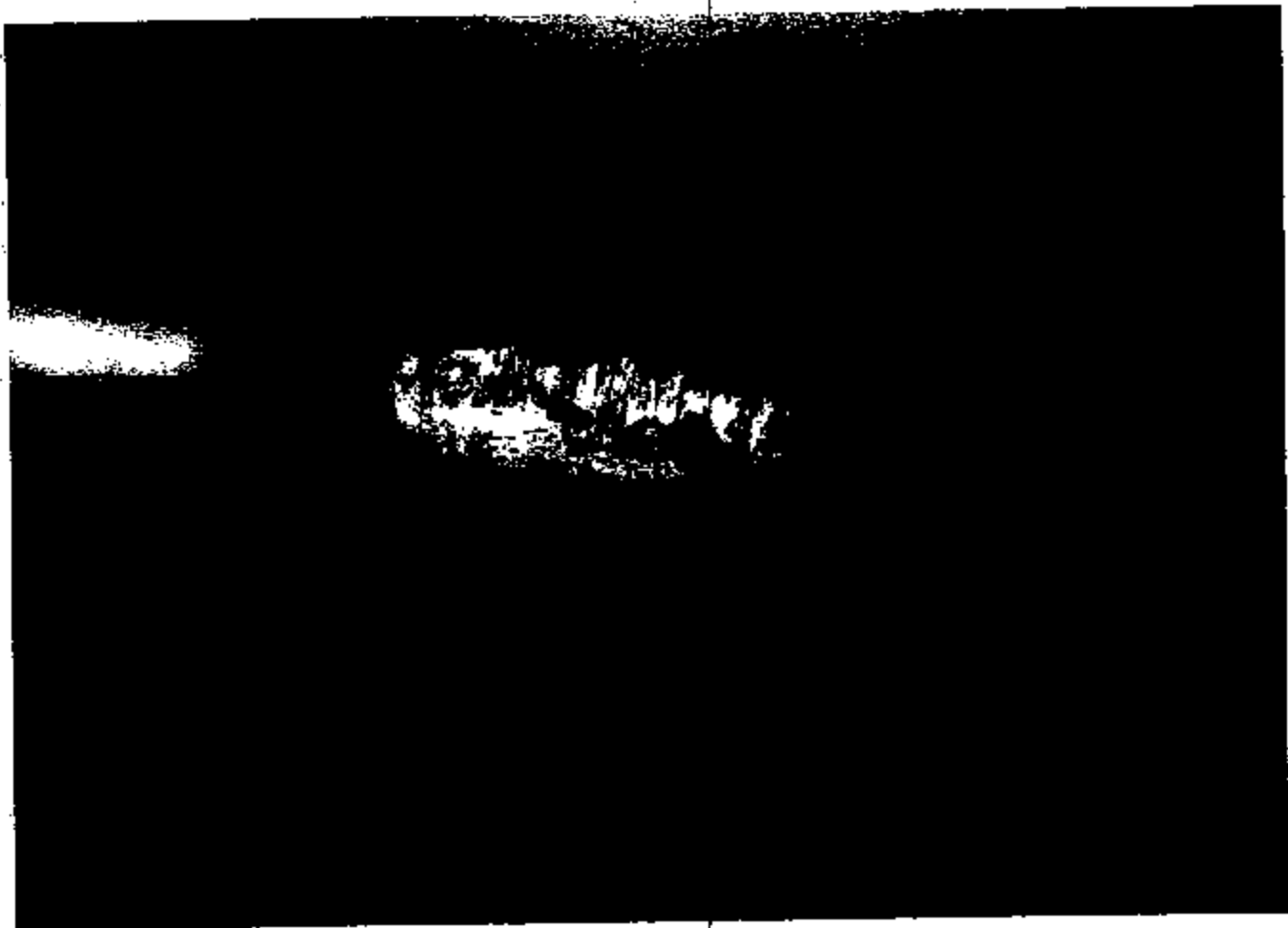
PE83-844 25374



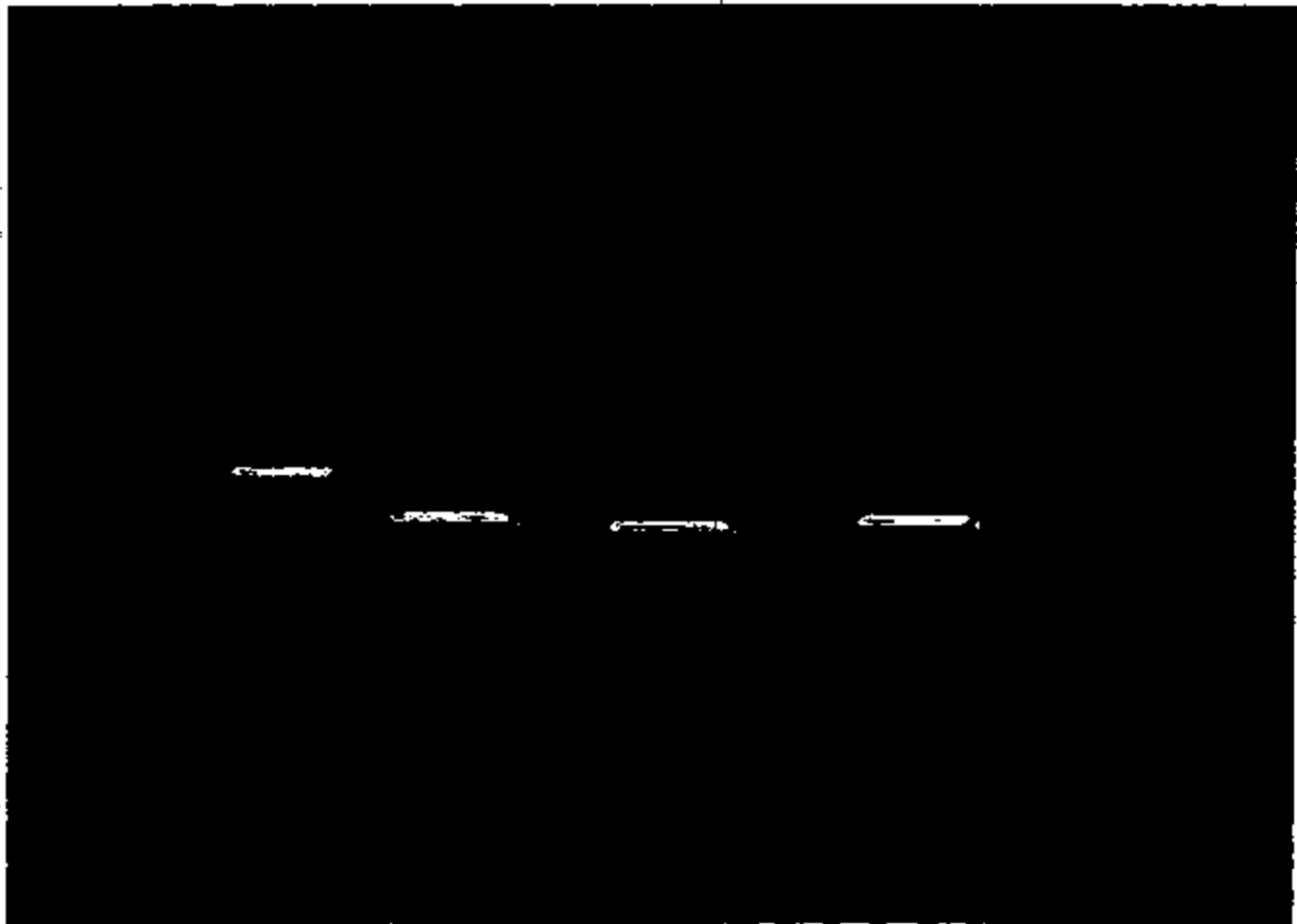
PE83-044 28375



PE83-044 25375



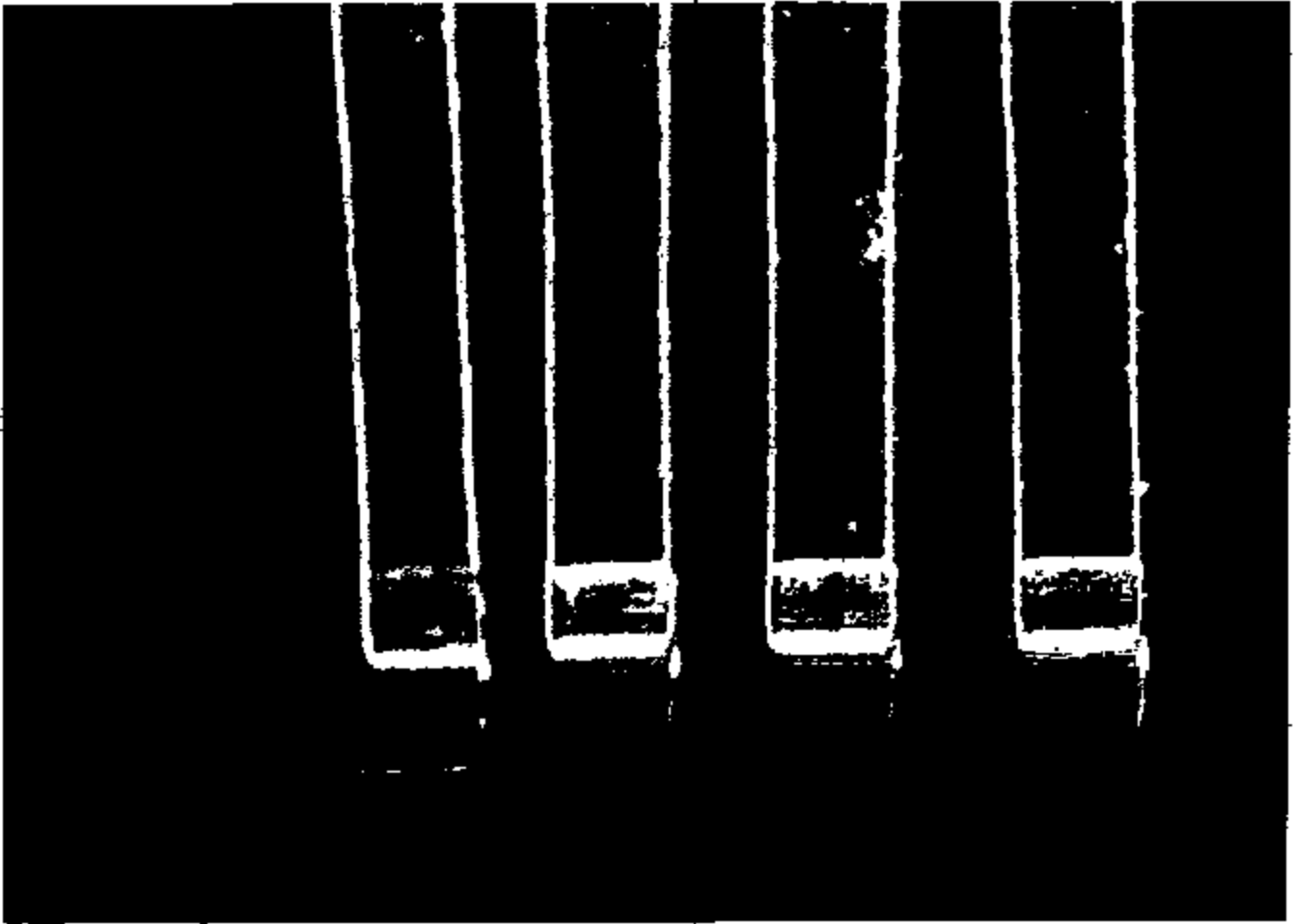
PER3-844 25377



PE03-044 25378



FE03-844 25379



PE83-844 25388

From: Greg Braniff [gbraniff@tfxauto.com]
Sent: Tuesday, September 24, 2002 2:22 PM
To: kzolan@tfxauto.com; zkhan1@tfxauto.com; Greg West; Larry Liposky
Subject: Fwd: FW: Wabash circuit boards



FW: Wabash circuit
boards

Greg Braniff
Teleflex Automotive
Ph 248-616-3107
Cell 248-840-1840
gbraniff@tfxauto.com

From: Pietrzak, Bob [bpietrzak@wabashtech.com]
Sent: Tuesday, September 24, 2002 12:20 PM
To: gbraniff@fcauto.com
Subject: FW: Wabash circuit boards

Importance: High



8511-2.jpg



7060-1.jpg



7060-2.jpg



8511-1.jpg

Greg,

Can you get these out to the applicable Ford people before our 3:00 meeting?

Bob

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

From: Brian Cichoski [mailto:cichoski@dial.net]
Sent: Tuesday, September 24, 2002 10:44 AM
To: Vitale, Joseph; Pietrzak, Bob; Brown, Todd
Subject: Fw: Wabash circuit boards
Importance: High

Gentlemen,

Sorry I was not able to attend the conference call yesterday, but I caught some kind of flu bug over the weekend and was out sick. We have another conference call today at 3 pm correct? and is it beneficial to include my applications engineer in this call if we are going to discuss the pictures? contact me please.

Attached are pictures from the latest test on the swirl designed phenolic board. Please note that picture #1 & #4 are with 8511U, and pictures 2 & 3 show the oil migration with the 7060.

regards,

Brian

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

From: "Ralph Patrizio" <patrizio@nyelubricants.com>
To: "Brian Cichoski" <cichoski@dial.net>
Sent: Monday, September 23, 2002 8:50 AM
Subject: Re: Wabash circuit boards

> Hi Brian,
>
> enclosed are the pictures with the swirl designed Wabash boards.
> Let me know if you have any questions.

> Ralph

> Brian Cichoski wrote:

>> Hi Ralph,

>> Wabash has asked Nye to run the heat age test again on these new design
>> boards with 7060 & 8511U. The purpose of the new design is to create a
>> ditch

FBI-644 6348

> > that will not allow the 706D base oil from migrating over onto the pot
> > tracks.

> > Do you think we could have a couple of pictures for a 11am Monday
morning
> > conference call that I have with Wabash, Ford, TeleFlex?

> > Brian
> > ----- Original Message -----
> > From: "Ralph Patrizio" <patrizio@nyelubricants.com>
> > To: "Brian Cichoski" <cichoski@nyelubricants.com>
> > Sent: Friday, September 20, 2002 11:40 AM
> > Subject: Wabash circuit boards

> > > Hi Brian,
> > >
> > > I received some Wabash (new design) circuit boards.
> > > Do you have any plans for them ?

> > > Ralph
> > > --
> > > Ralph Patrizio
> > > Nye Lubricants, Inc.
> > > 12 Howland Road
> > > Fairhaven, MA 02719 USA
> > >
> > > Ph. 508-996-6721
> > > Fx. 508-984-7123
> > >
> > > www.nyelubricants.com
> > > email: patrizio@nyelubricants.com

> > > --
> > > Ralph Patrizio
> > > Nye Lubricants, Inc.
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> > > email: patrizio@nyelubricants.com

PEB3-044 0350

FEB-84 6351

PE01-844 8352

PERG-D44 8363

From: Zulqarnain Khan [zkhan1@fcauto.com]
Sent: Tuesday, September 17, 2002 3:39 PM
To: gwest2@ford.com; liposky@ford.com; kzoian@fcauto.com; gbranfi@fcauto.com
Subject: Phenolic resin after 1M cycles



1ME-1.JPG



1ME-5a.JPG



1ME-5b.JPG



1ME-6.JPG



1ME-2.JPG



1ME-3.JPG

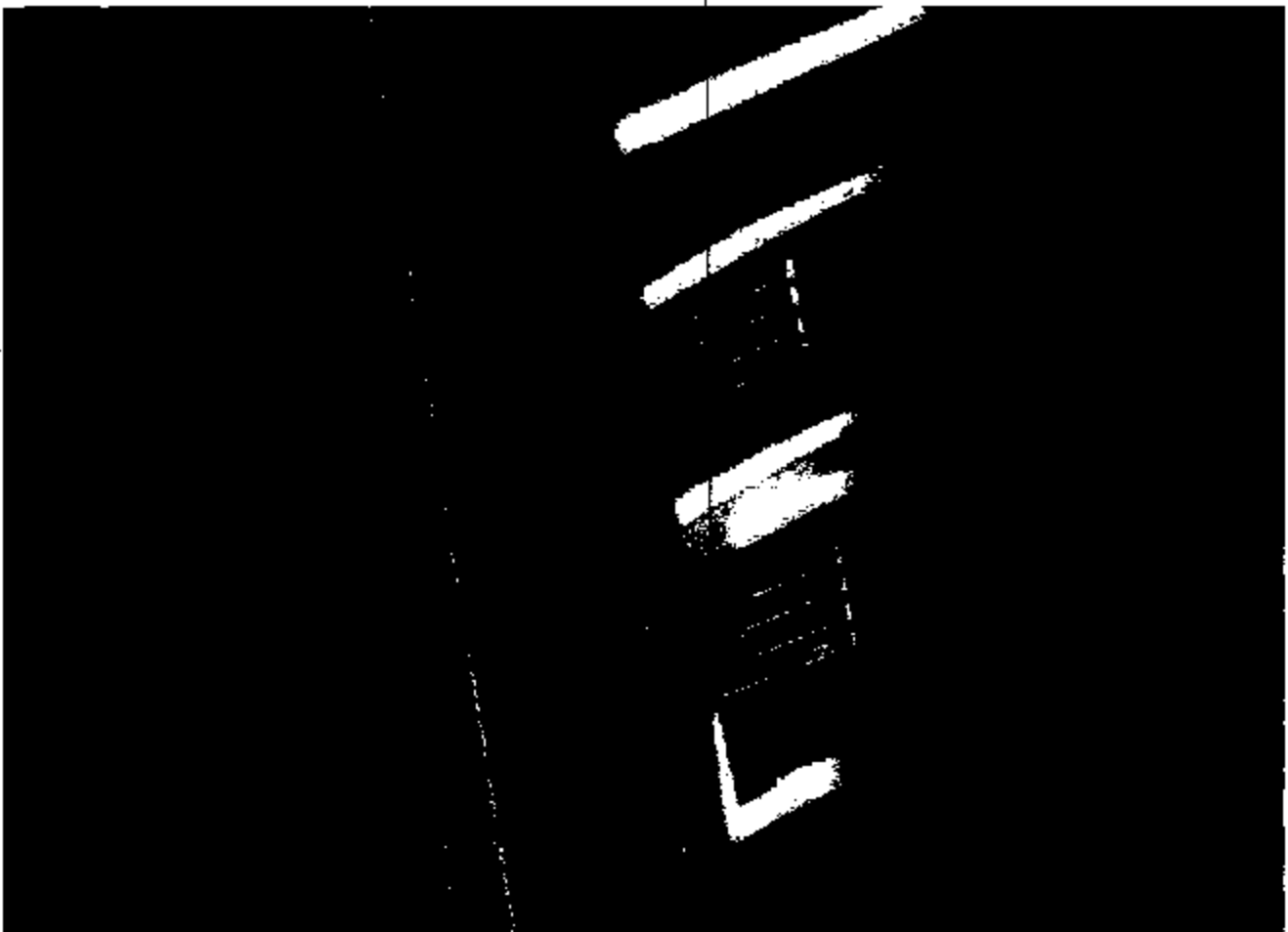


1ME-4.JPG

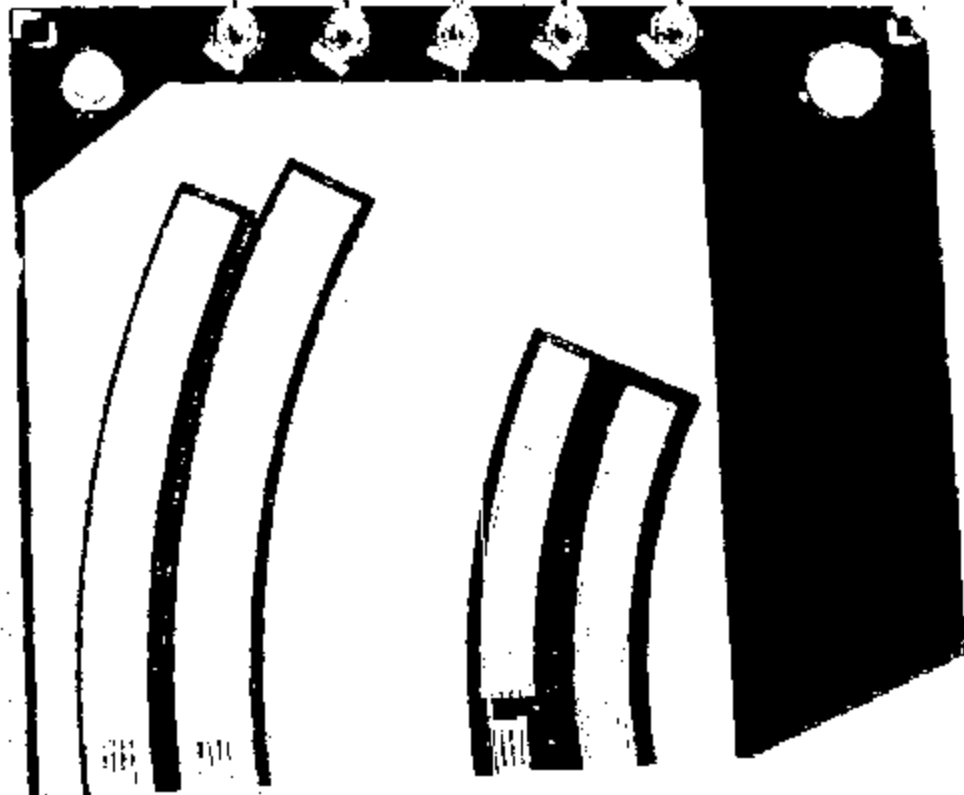
Attached are the images of U137 phenolic parts after 1M cycles.

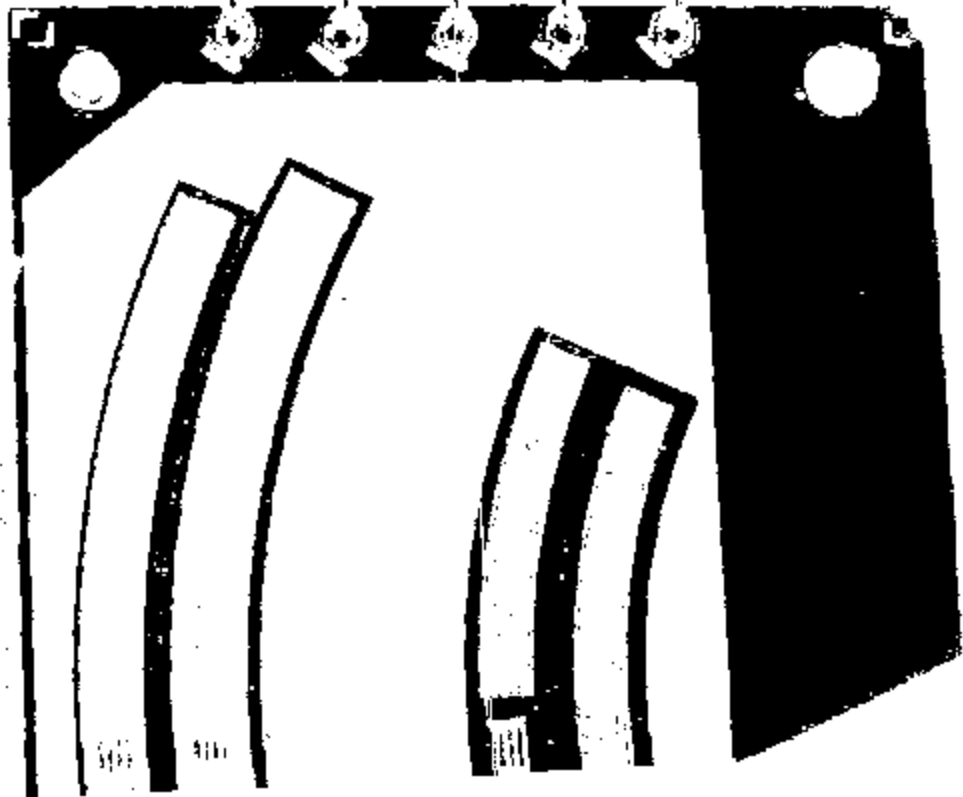
Regards,

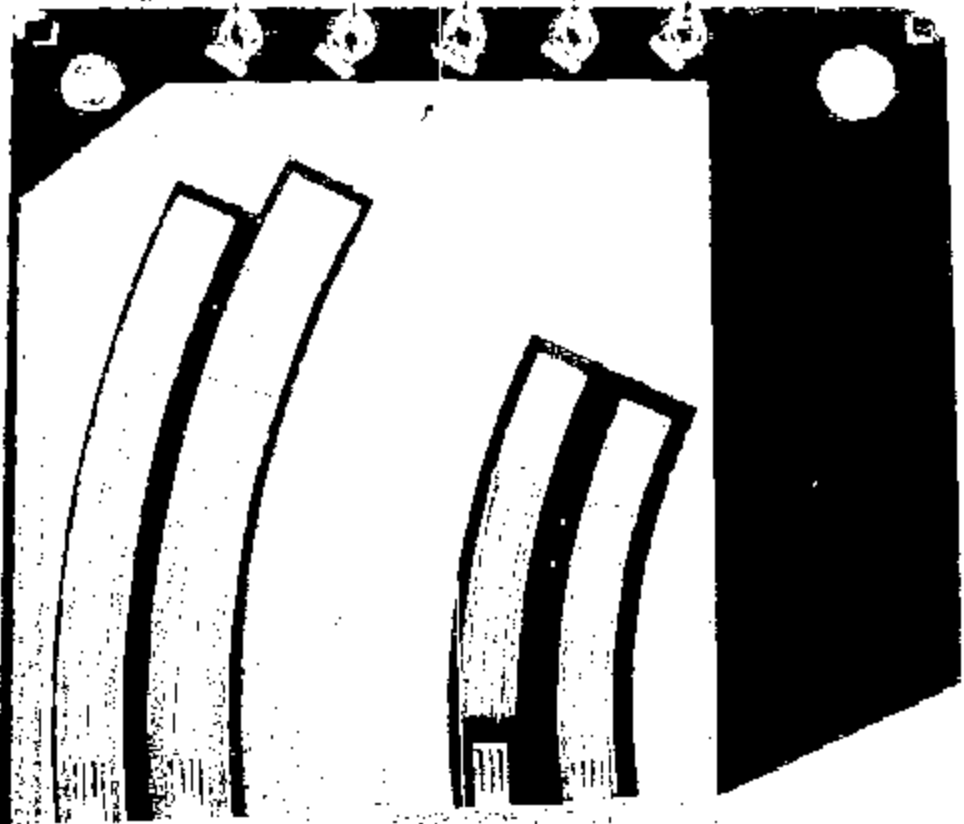
Khan



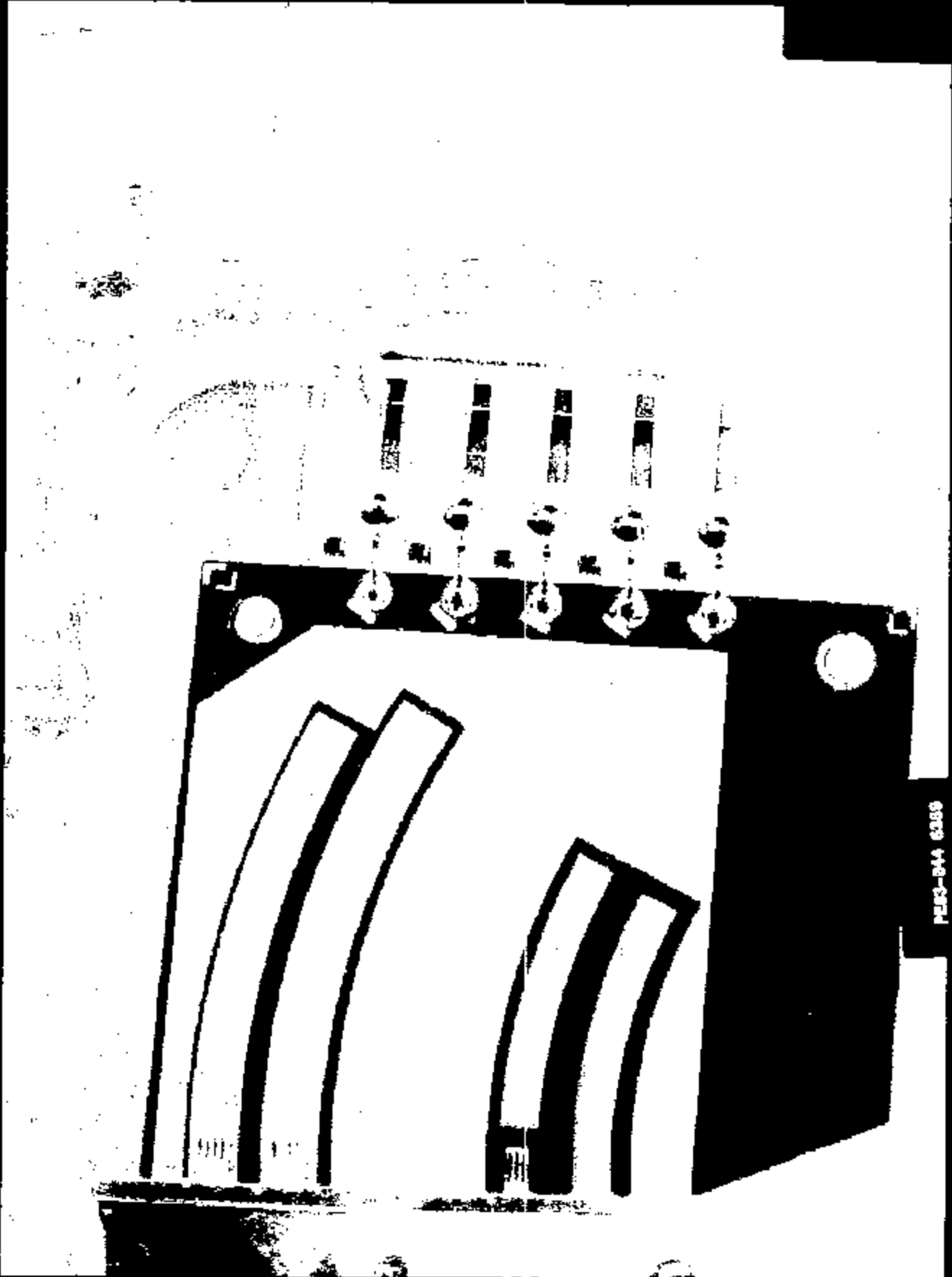
FD-302 (Rev. 5-8-64)



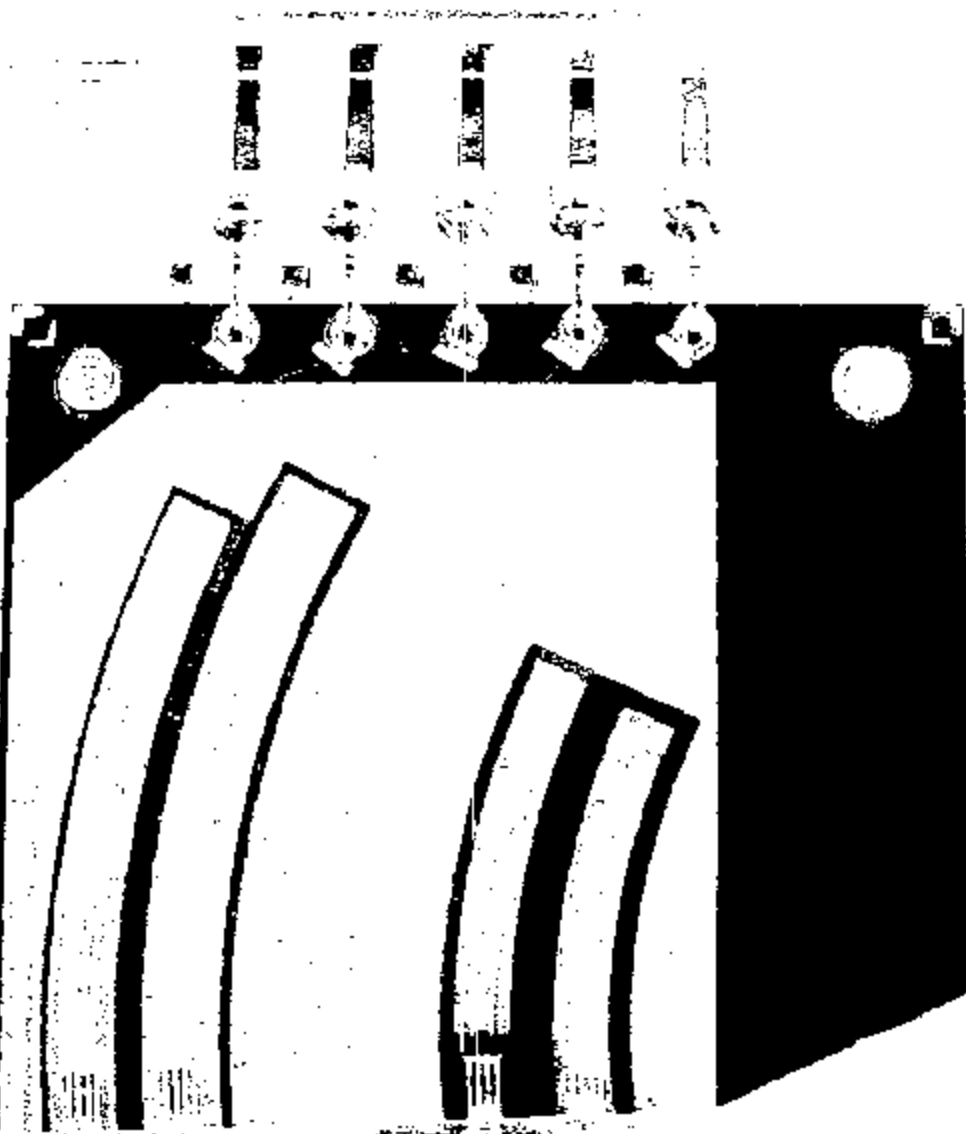




PE83-844 8388



PEIS-044 0389



P83-844 1390

From: Kathy Zolan [kzolan@tfxauto.com]
Sent: Monday, September 16, 2002 8:52 AM
To: Mkramer1@ford.com; Laposky@ford.com; Gwest2@ford.com; Jwila5@ford.com
Cc: Zulqamejn Khan
Subject: Nye Testing

Importance: High



Phanolic Resin
boards test.doc...

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

From: Vitale, Joseph [mailto:jvitale@wabashtech.com]
Sent: Monday, September 16, 2002 8:04 AM
To: Braniff Greg; Brian Cichoski; Brown Todd; Dean Kuchta; Lay Pam;
Martin Tom; Mike Foreman; Pentecost Gary; Pietrzak Bob; Quillin Mark;
Rick Trecapelli; Scaringelli Carl; Strupp Bruce; Zolan Kathy
Subject: FW:
Importance: High

Kathy,

Please distribute to the Ford team.

Thanks,

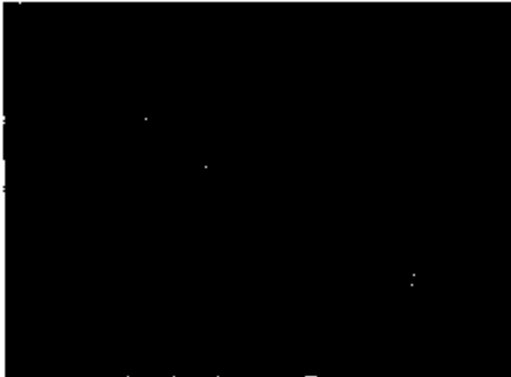
Attached are the pictures of the heat soak test for oil separation.

Brian

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

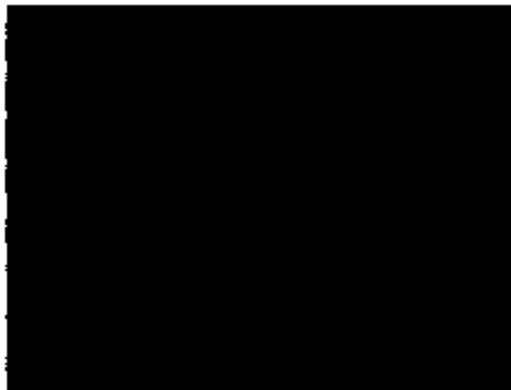
From: "Vitale, Joseph" <jvitale@wabashtech.com>
To: "Braniff, Greg" <gbraniff@tfxauto.com>; "Brian Cichoski" <cichoski@nyelubricants.com>; "Brown, Todd" <tbrown@wabashtech.com>; "Lay, Pam" <play@wabashtech.com>; "Martin, Tom" <MARTINT@corp.optekinc.com>; "Mike Foreman" <aforeman@tfxauto.com>; "Pentecost, Gary" <gpentecost@wabashtech.com>; "Pietrzak, Bob" <bpietrzak@wabashtech.com>; "Quillin, Mark" <squillin@wabashtech.com>; "Rick Trecapelli" <ricktrec@nyelubricants.com>; "Scaringelli, Carl" <cscaringelli@wabashtech.com>; "Strupp, Bruce" <bstrupp@wabashtech.com>; "Zolan, Kathy" <kzolan@tfxauto.com>
Sent: Wednesday, September 11, 2002 9:10 AM

<<9-9-02 Ford-tfx-wt Ccalls.doc>>



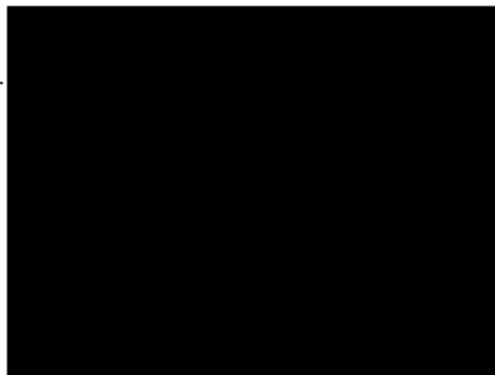
706D with NyeBar Q

1. Red trace indicates placement of Nyebar Q.
2. Yellow trace indicates the oil migration of 706D.



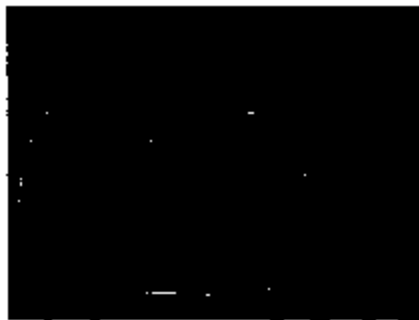
706D

1. Yellow trace indicates oil migration of 706D.



362HF w/NyebarQ

1. Red Trace indicates Nyebar Q.
2. Yellow trace indicates oil migration of 362HF.



362HF

1. Yellow trace indicates oil migration of 362HF.



8511 w/Nyebar Q

1. Yellow trace outline of 8511. No oil migration present.
2. Red Trace indicates Nyebar Q.



8511

1. Yellow trace outline of 8511. No oil migration present.

From: Greg Braniff [gbraniff@tfxauto.com]
Sent: Monday, September 09, 2002 12:12 PM
To: >khan1@tfxauto.com; Greg West; Larry Liposky; kzoian@tfxauto.com; Joe Vitale
Subject: Phenolic Parts after 461K cycles



461-1.jpg



461-2.jpg



461-3.jpg



461-4.jpg

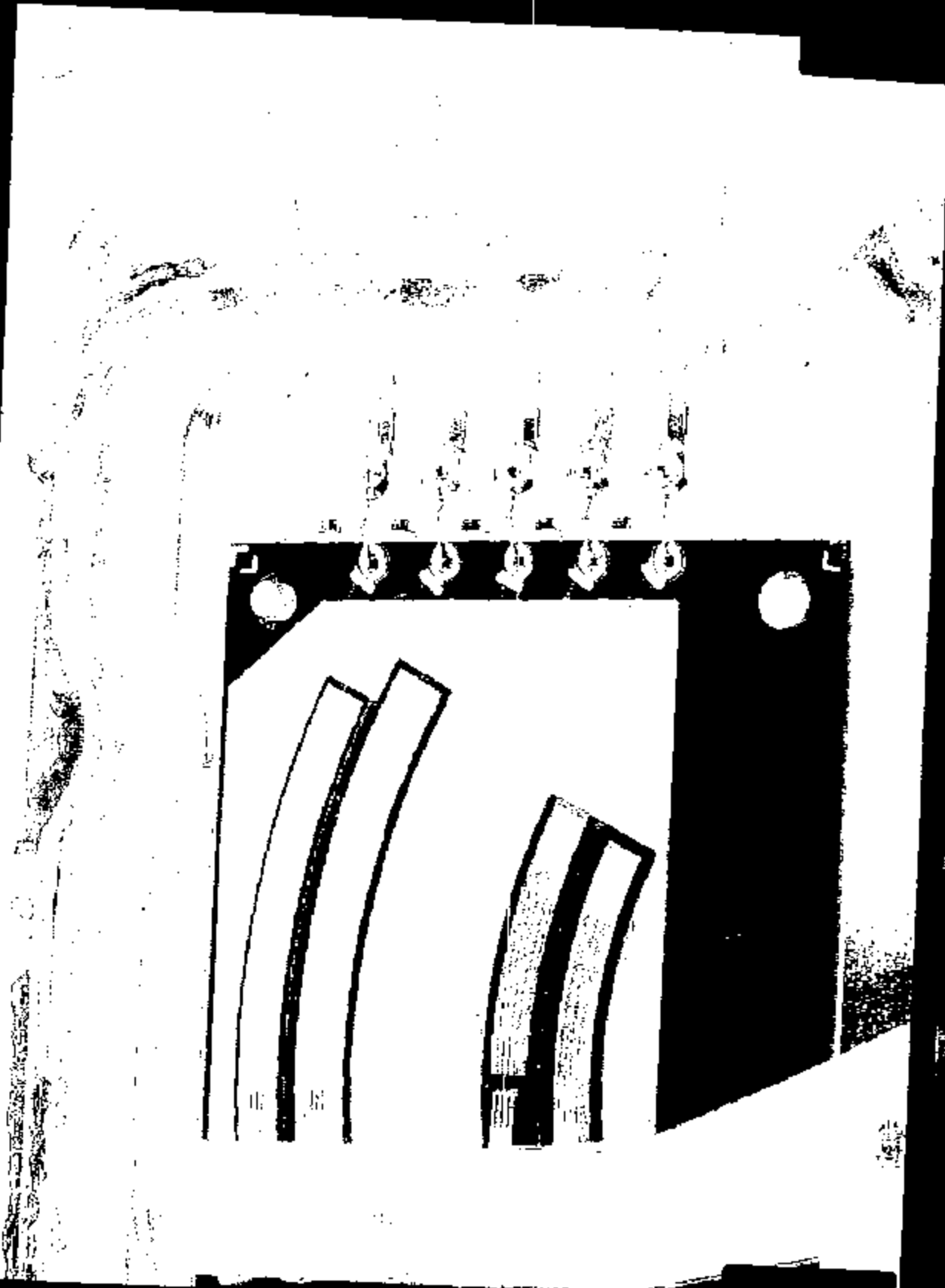


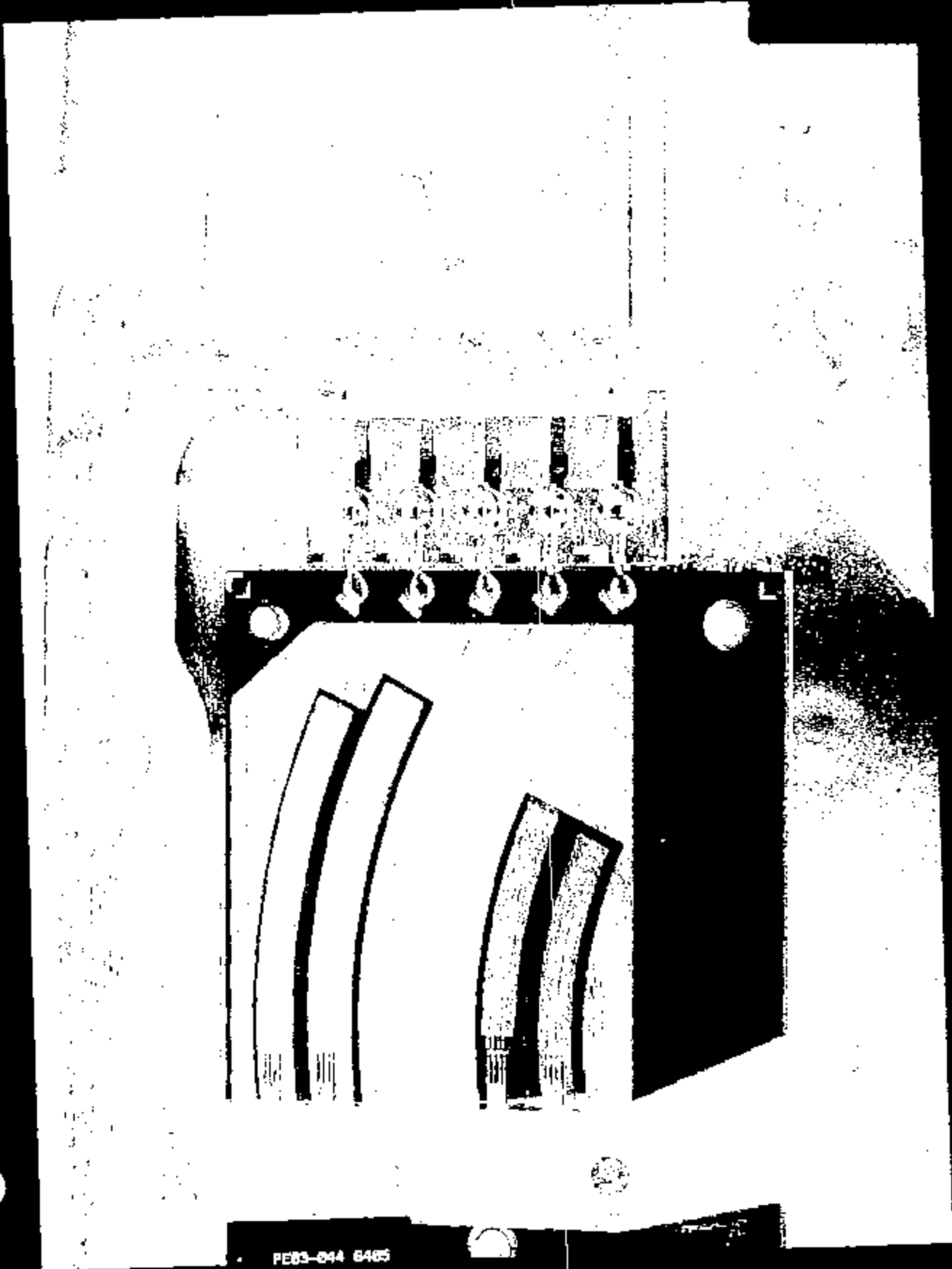
461-5.jpg



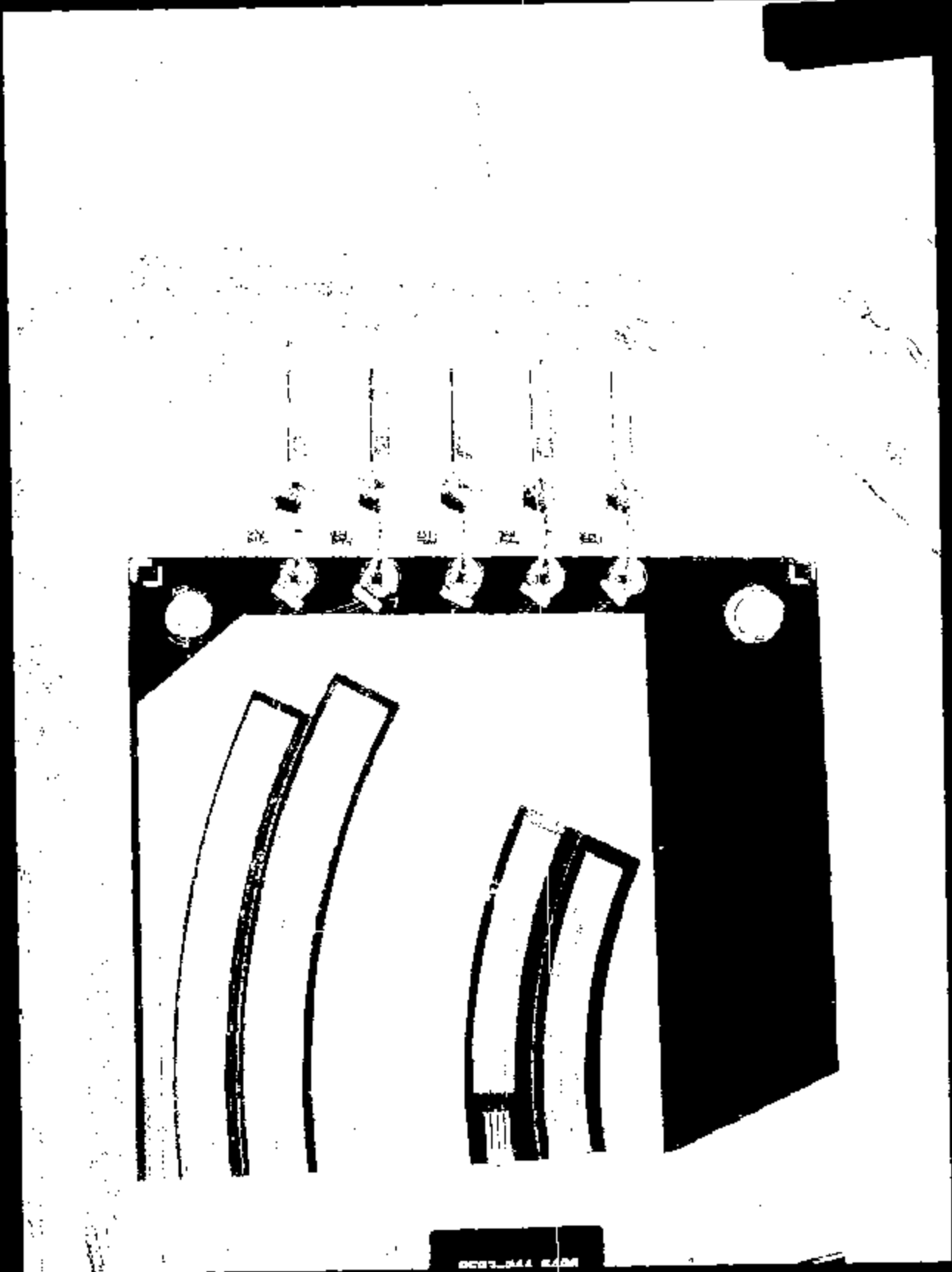
461-6.jpg

Greg Braniff
Telaflax Automotive
Ph 248-616-3107
Cell 248-840-1840
gbraniff@tfxauto.com

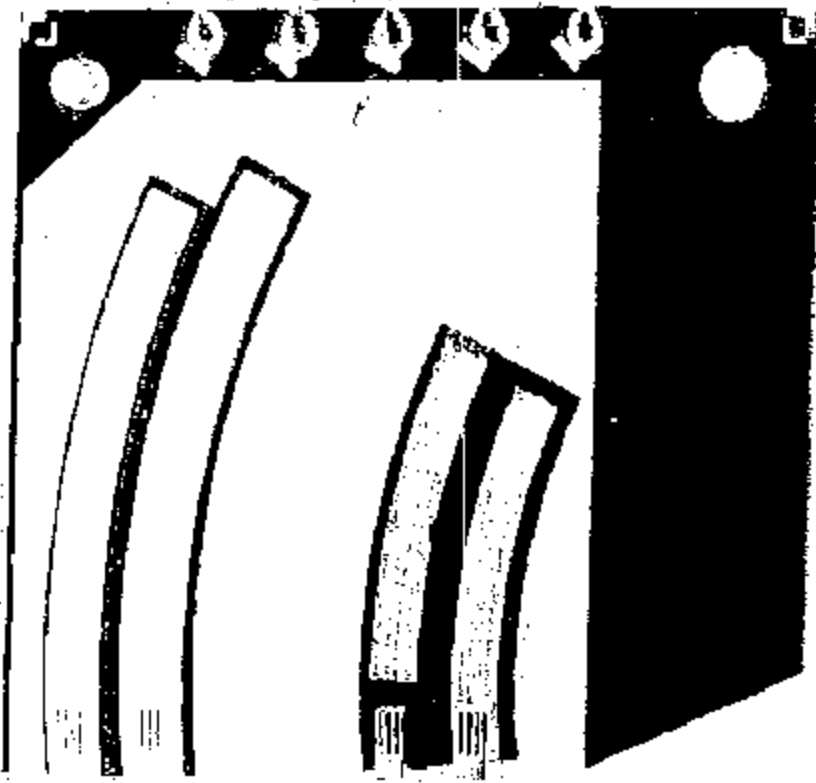




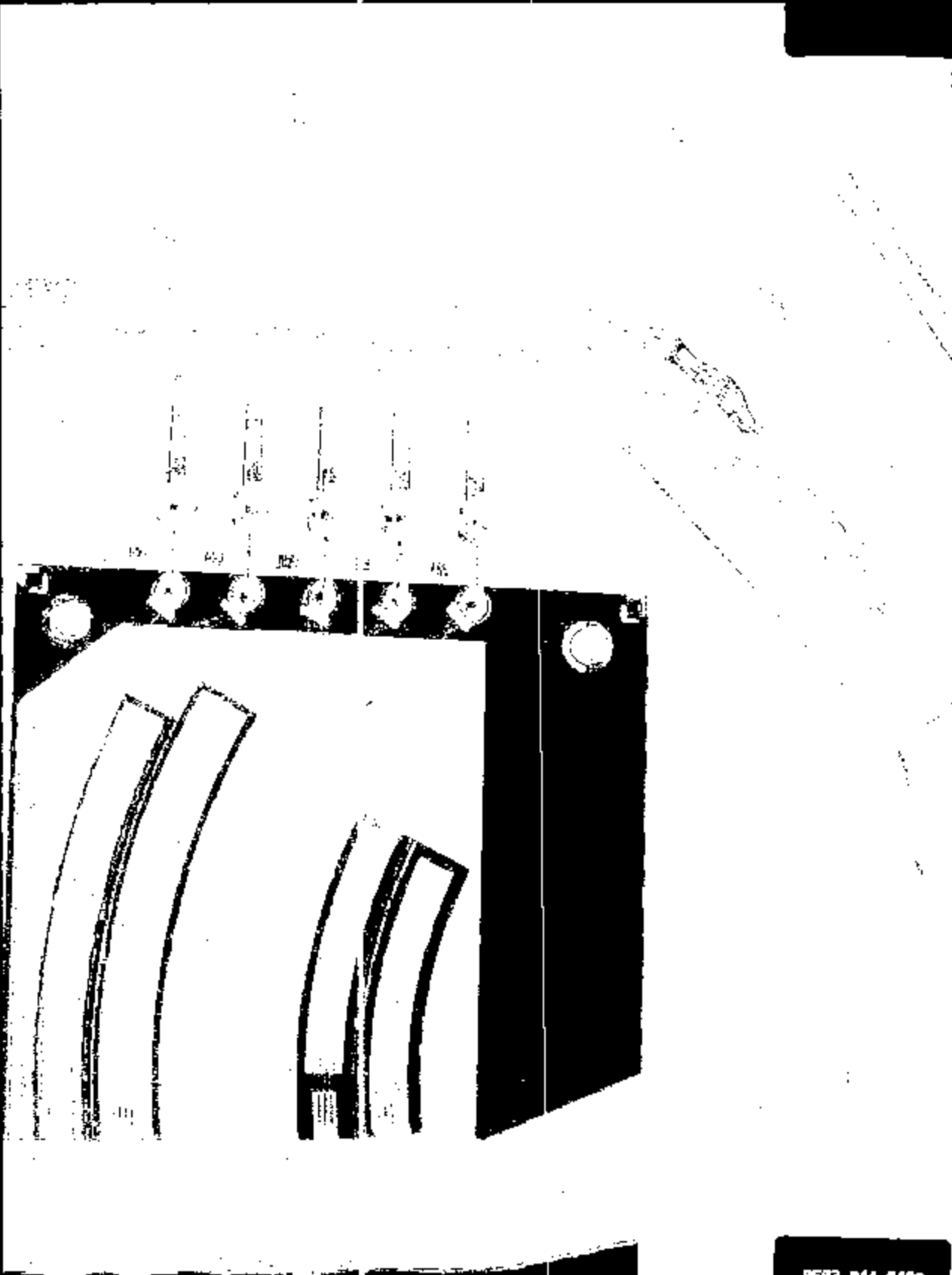
FE83-044 6485



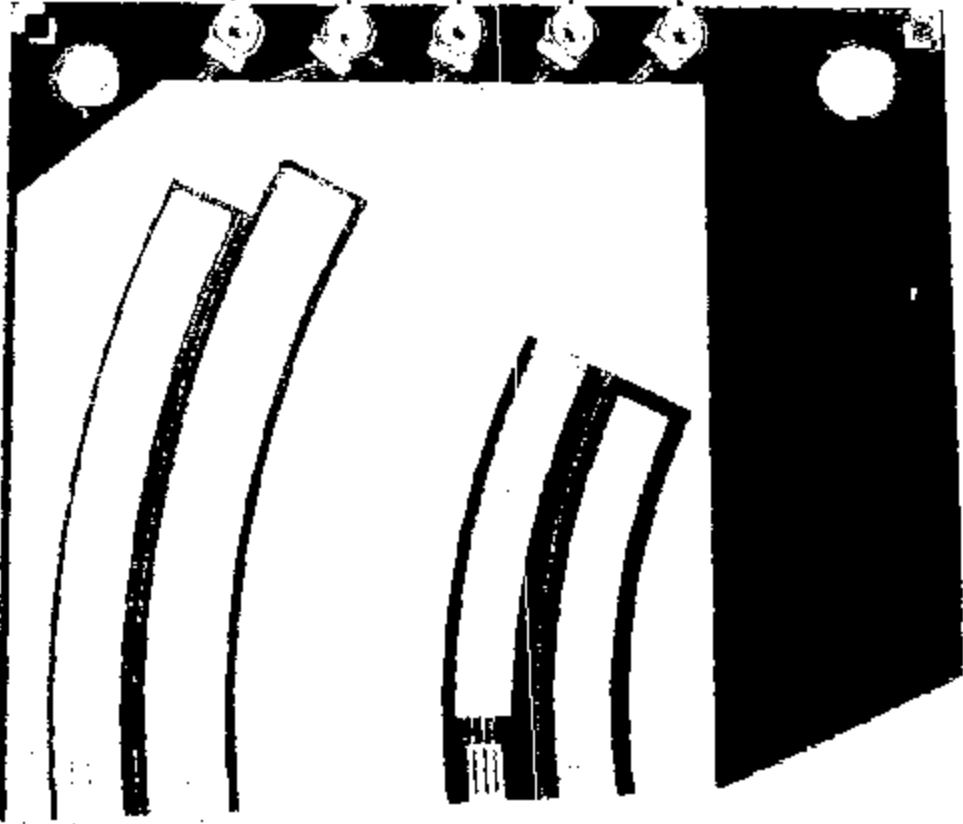
0007-044 8204



PER3-044 0487



PE83-844 6488



PER3-044 6408