EA02-025

FORD 10/27/03

APPENDIX N

BOOK 18 OF 61

PART 2 OF 4

WOLK & GENTER
ATTORNEYS AT LAW

DEFECTIVE WIRING IS HIGH ON THE LIST OF POTENTIAL SOURCES OF THE SMOKE THAT BEFELL SWISSAIR 111

Aviation attorney, Arthur Alan Wolk, who has done substantial research in the field of aircraft fires, notes that the United States Navy refused to allow the continued use of Kapton in Navy fighters because of its poor performance, specifically its propensity for arcing and the propagation of dangerous fire-producing sparks.

Long before the MD-11 was manufactured, McDonnell Douglas, one of the largest manufacturers of Navy fighters, was prohibited from using Kapton encased wiring in Navy fighters, yet it chose to use that kind of wiring in the MD-11.

The FAA was made aware long before this crash that Kapton was a hazardous wiring for use in aircraft, yet did not mandate more stringent inspections of aircraft in which Kapton was used as electrical insulation.

Kapton was described by DuPont, its manufacturer, as having "outstanding thermal, mechanical, chemical and electrical properties." In fact, Boeing engineers concluded that Kapton was completely unsuitable because when wires arced within the Kapton insulation, Kapton became a carbon track, allowing further propagation of the electrical arcing, much like a dynamite fuse.

This clearly made Kapton a bomb waiting to go off in any aircraft in which it was utilized.

It is indefensible that both the FAA and the manufacturer of this aircraft would permit the use of electrical wiring in a civilian, passenger carrying airliner, knowing that in an aircraft in which the crew is equipped with an ejection seat, the material was found to be unsuitable because of its fire and arcing propagation characteristics, says Wolk.

This will be undoubtedly a very ugly and embarrassing investigation for the industry and a further embarrassment to the FAA, which already has thousands of lives etched on its tombstone of ineptitude, says Wolk.

For more information about Swissair Flight 111, call Arthur Alan Wolk, Esq. at (215) 545-4220.

1992-93 LINCOLN TOWN CAR
UNDERHOOD FIRES

NO.	OWNER NAME	ADDRESS	CITY	STATE	ZIP CODE	TELEPHONE NUMBER	VIN	MODEL YEAR	MODEL	BUILD DATE	SALE DATE	REPORT DATE	REPORT TYPE	MILEAGE	ISSUE REPORTED	POSSIBLE PROBLEM DESCRIPTION
[redacted]	[redacted]		Hugo	OK	N/A	N/A	1LNLM81W1NY [redacted]	1992	Town Car	03/12/92	03/02/92	08/17/94	COS/ MORS	84,863	Fire	Lines leaked on exhaust manifold and caused a fire.
[redacted]	[redacted]		Evergreen Pks.	IL	N/A	N/A	1LNLM81W4NY [redacted]	1992	Town Car	10/08/91	02/27/92	06/28/96	COS	220,248	Fire	Brakes.
[redacted]	[redacted]		Skokie	IL	N/A	N/A	1LNLM82W8NY [redacted]	1992	Town Car	12/19/91	01/04/92	07/30/93	COS	21,250	Melted	Brake lines.
[redacted]	[redacted]		Los Angeles	CA	N/A	N/A	1LNLM81W3NY [redacted]	1992	Town Car	01/13/92	03/03/92	08/20/95	COS	37,442	Fire	Brake lines.
[redacted]	[redacted]		Dearborn	MI	N/A	516 543-0161	1LNLM81W0NY [redacted]	1992	Town Car	08/27/91	08/23/91	04/25/96	COS/ MORS	317,000	Fire	Alternator melt-down issue
[redacted]	[redacted]		Gainesville	FL	N/A	N/A	1LNLM81W0NY [redacted]	1992	Town Car	12/18/91	01/31/92	03/08/93	COS	15,772	Hood/Burned	Overheated, drive belt broke. A/C leaked, burned.
[redacted]	[redacted]		Memphis	TN	N/A	N/A	1LNLM82W0PY [redacted]	1993	Town Car	09/10/92	03/08/93	10/08/96	COS	51,500	Fire	Brake lines.
[redacted]	[redacted]		Ft. Lauderdale	FL	N/A	N/A	1LNLM81W6NY [redacted]	1992	Town Car	04/07/92	10/02/92	04/21/97	COS	58,602	Smoke	Brake pressure switch caught on fire and burned the wiring.
[redacted]	[redacted]		Santa Monica	CA	N/A	N/A	1LNLM81W1NY [redacted]	1992	Town Car	07/22/92	08/23/93	12/27/94	COS	35,837	Melted wires	Overheated, melted wires.
[redacted]	[redacted]		Peekskill	NY	N/A	N/A	1LNLM81W4NY [redacted]	1992	Town Car	08/22/92	09/22/92	01/05/95	COS	40,115	Overheated	Spark plug wires melted.
[redacted]	[redacted]		Troy	OH	N/A	N/A	1LNLM81W4PY [redacted]	1993	Town Car	07/28/93	11/23/93	04/23/94	COS	14,522	Fire	Brakes.
[redacted]	[redacted]	[redacted]	Northbrook	IL	[redacted]	[redacted]	[redacted] LNLM81W6PY [redacted]	1993	Town Car	08/05/92	11/05/92	07/28/96	MORS	40,000	Burned	Electrical wiring.
[redacted]	[redacted]	[redacted]	Naperville	IL	[redacted]	[redacted]	[redacted] LNLM80W0PY [redacted]	1993	Town Car	08/27/92	09/15/92	06/14/96	MORS	83,500	Fire	Unknown.
[redacted]	[redacted]	[redacted]	Englewood	NJ	[redacted]	[redacted]	[redacted] LNLM82W4PY [redacted]	1993	Town Car	09/18/92	12/18/92	07/25/94	MORS	12,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	New Orleans	LA	[redacted]	[redacted]	[redacted] LNLM81W0PY [redacted]	1993	Town Car	06/25/93	07/10/93	08/28/93	MORS	4,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	Iron Station	NC	[redacted]	[redacted]	[redacted] LNLM82W0PY [redacted]	1993	Town Car	04/01/93	04/14/93	08/24/94	MORS	25,811	Fire	Unknown.
[redacted]	[redacted]	[redacted]	Pittsburgh	PA	[redacted]	[redacted]	[redacted] LNLM83W1PY [redacted]	1993	Town Car	12/04/92	01/30/93	03/23/95	MORS	12,000	Fire	Wiring harness.
[redacted]	[redacted]	[redacted]	Rochester	NY	[redacted]	[redacted]	[redacted] LNLM82W4NY [redacted]	1992	Town Car	03/10/92	06/03/92	03/09/95	MORS	20,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	North Miami	FL	[redacted]	[redacted]	[redacted] LNLM82W4NY [redacted]	1992	Town Car	11/25/91	12/21/91	03/27/96	MORS	48,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	Hallandale	FL	[redacted]	[redacted]	[redacted] LNLM82W7NY [redacted]	1992	Town Car	07/30/92	09/18/92	04/28/97	MORS/ VOQ	80,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	Baton Rouge	LA	[redacted]	[redacted]	N/A	1992	Unknown	Unknown	Unknown	08/16/96	MORS	84,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	Indianapolis	IN	[redacted]	[redacted]	[redacted] LNLM81W2NY [redacted]	1992	Town Car	06/11/92	07/30/92	08/22/93	MORS	60,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	Jackson	MS	[redacted]	[redacted]	[redacted] LNLM82W4NY [redacted]	1992	Town Car	08/25/92	09/21/92	07/01/96	MORS	68,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	St. Martinville	LA	[redacted]	[redacted]	[redacted] LNLM82W1NY [redacted]	1992	Town Car	05/13/92	01/21/93	08/11/97	MORS	85,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	Port St. Lucie	FL	[redacted]	[redacted]	[redacted] NLM81W3 [redacted]	1992	Town Car	07/21/92	10/08/92	01/08/96	MORS/ VOQ	81,000	Fire	Unknown.
[redacted]	[redacted]	[redacted]	Stuart	FL	[redacted]	[redacted]	[redacted] LNLM82W0 [redacted]	1992	Town Car	04/08/92	04/17/92	12/30/97	MORS	1	Fire	Unknown.

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1992-93 LINCOLN TOWN CAR
UNDERHOOD FIRES

NO.	OWNER NAME	ADDRESS	CITY	STATE	ZIP CODE	TELEPHONE NUMBER	VIN	MODEL YEAR	MODEL	BUILD DATE	SALE DATE	REPORT DATE	REPORT TYPE	MILEAGE	ISSUE REPORTED	POSSIBLE PROBLEM DESCRIPTION
2[redacted]			Baytown	TX	[redacted]		1LNLM82W[illegible]NY[redacted]	1992	Town Car	10/[illegible]/91	03/03/92	08/17/94	MORS	37,000	Fire	Unknown.
2[redacted]			Beverly Hills	CA	[redacted]		1LNLM81W[illegible]NY[redacted]	1992	Town Car	03/10/92	08/13/92	08/14/93	MORS	125	Fire	Unknown.
2[redacted]			[illegible] Rouge	LA	[redacted]		1LNLM82W[illegible]NY[redacted]	1992	Town Car	10/11/91	11/14/91	04/12/93	MORS	10,000	Fire	Unknown.
3[redacted]			[illegible]	TX	[redacted]		1LNLM82W2NY[redacted]	1992	Town Car	03/18/92	07/24/92	04/30/97	MORS	[illegible]	Fire	Unknown.
3[redacted]			Naples	FL	[redacted]		1LNLM81W[illegible]NY[redacted]	1992	Town Car	05/[illegible]/92	06/10/92	12/[illegible]	MORS	62,000	Fire	Engine compartment, gas lines.
3[redacted]			Roswell	GA	[redacted]		1LNLM81W[illegible]NY[redacted]	1992	Town Car	03/[illegible]	04/10/92	[illegible]	MORS	30,000	Fire	Unknown.
3[redacted]			[illegible]	IL	[redacted]		1LNLM82W[illegible]NY[redacted]	199[illegible]	Town Car	07/[illegible]/92	08/17/92	10/12/93	MORS	60,212	Fire	Brakes.
3[redacted]			[illegible]	NY	[redacted]		1LNLM83W[illegible]NY[redacted]	1992	Town Car	[illegible]	04/10/92	07/[illegible]	MORS	11,000	Fire	Brakes.
3[redacted]			Crosby	TX	[redacted]		1LNLM81W[illegible]NY[redacted]	1992	Town Car	08/04/92	08/20/92	12/22/97	MORS	72,000	Fire	Unknown.
3[redacted]			[illegible]	TX	[redacted]		1LNLM8[illegible]W[illegible]NY[redacted]	1992	Town Car	05/[illegible]/92	05/22/92	06/01/97	MORS	58,000	Fire	Fire starting above the left front tire.
3[redacted]			Somerset	KY	[redacted]		1LNLM8[illegible]W[illegible]NY[redacted]	1992	Town Car	07/[illegible]	07/24/92	[illegible]	MORS	1	Fire	Engine compartment.
3[redacted]			Greenwood	MS	[redacted]		1LNLM83W[illegible]NY[redacted]	1992	Town Car	[illegible]	08/14/92	[illegible]	MORS/ VOQ	47,094	Fire	Rising flames in engine compartment.
3[redacted]			[illegible]	FL	[redacted]		1LNLM82W7NY[redacted]	1992	Town Car	07/27/92	10/30/92	01/[illegible]	MORS	47,000	Fire	Motor.
4[redacted]			Beaumont	TX	[redacted]		1LNLM82W7NY[redacted]	1992	Town Car	05/05/92	05/21/92	12/07/[illegible]	MORS	120,000	Fire	Under the hood - solenoid, pressure sensor for the ABS.
4[redacted]			Fernandina	FL	[redacted]		1LNLM81W4NY[redacted]	1992	Town Car	03/1[illegible]/92	04/[illegible]/92	[illegible]	MORS	1	Fire	Unknown.
4[redacted]			E. Amherst	NY	[redacted]		1LNLM83W[illegible]PY[redacted]	1993	Town Car	10/21/92	05/11/93	03/31/97	MORS	90,000	Fire	Under the hood.
4[redacted]			Wilmington	NC	[redacted]		Unknown	1993	Unknown	Unknown	Unknown	12/[illegible]/97	MORS	[illegible]	Fire	Under the hood.
4[redacted]			Miami	FL	[redacted]		1LNLM81W[illegible]PY[redacted]	1993	Town Car	11/[illegible]/92	12/05/92	01/[illegible]/97	MORS	40,000	Fire	Under the car.
4[redacted]			Boca Raton	FL	[redacted]		1LNLM82W[illegible]NY[redacted]	1992	Town Car	[illegible]	09/[illegible]	12/[illegible]/97	MORS	47,000	Fire	Under the engine.
4[redacted]			Forest Hills	NY	[redacted]		1LNLM82W[illegible]NY[redacted]	1992	Town Car	12/04/91	12/[illegible]/91	03/12/[illegible]	MORS	1	Fire	Electrical short.
4[redacted]			[illegible]	KS	[redacted]		1LNLM8[illegible]W[illegible]NY[redacted]	1992	Town Car	05/27/91	[illegible]	02/[illegible]/97	MORS	[illegible]	Fire	Front suspension.
4[redacted]			Lebanon	OH	[redacted]		1LNLM81W[illegible]NY[redacted]	1992	Town Car	04/14/92	[illegible]	11/01/[illegible]	MORS/ VOQ	100,000	Fire	Ignition or electrical system.
4[redacted]			Evans	GA	[redacted]		1LNLM81W2NY[redacted]	1992	Town Car	02/21/92	03/10/92	04/[illegible]	MORS	[illegible]	Fire	Unknown.
5[redacted]			Kansas City	MO	[redacted]		1LNLM8[illegible]W2NY[redacted]	1992	Town Car	05/03/92	[illegible]	[illegible]	MORS	72,[illegible]	Fire	Electrical system.
5[redacted]			Houston	TX	[redacted]		1LNLM83W[illegible]NY[redacted]	1992	Town Car	[illegible]/91	11/[illegible]/91	04/26/[illegible]	MORS	65,000	Fire	Electrical.
5[redacted]			Lee's Summit	MO	[redacted]		1LNLM83W[illegible]NY[redacted]	1992	Town Car	10/[illegible]/91	11/14/91	06/30/[illegible]	MORS	71,000	Fire	Brake system sensor.

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1992-93 LINCOLN TOWN CAR
UNDERHOOD FIRES

NO. / OWNER NAME / ADDRESS	CITY	STATE	ZIP CODE / TELEPHONE NUMBER	VIN	MODEL YEAR	MODEL	BUILD DATE	SALE DATE	REPORT DATE	REPORT TYPE	MILEAGE	ISSUE REPORTED	POSSIBLE PROBLEM DESCRIPTION
[redacted]	Jensen Beach	FL	[redacted]	[illegible] [redacted]	1992	Town Car	12/11/91	[illegible]	[illegible]	MORS	70,000	Fire	Electrical.
	[illegible]	LA		[illegible] [redacted]	1992	Town Car	[illegible]	07/17/92	01/13/98	MORS/ VOQ	95,760	Fire	Unknown.
	Slidell	LA		[illegible] [redacted]	1992	Town Car	05/15/92	[illegible]	12/30/97	MORS/ VOQ	60,000	Fire	Electrical short.
	West Palm Beach	FL		[illegible] [redacted]	1992	Town Car	[illegible]	02/11/92	10/14/97	MORS	76,000	Fire	Electrical.
	[illegible]	TX		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	MORS/ VOQ	67,000	Fire	Electrical system.
	Austin	TX		[illegible] [redacted]	1992	Town Car	05/05/92	[illegible]	[illegible]	MORS	53,000	Fire	Engine.
	[illegible]	TX		[illegible] [redacted]	1992	Town Car	12/17/91	04/23/92	[illegible]	MORS	105,000	Fire	Unknown.
	[illegible] Park	IL		[illegible] [redacted]	1992	Town Car	12/05/91	[illegible]	[illegible]	MORS	85,000	Fire	Left front tire.
	Houston	TX		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	MORS	[illegible]	Fire	Unknown.
	Clearwater	FL		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	MORS	38,000	Fire	Unknown.
	Cocoa Beach	FL		[illegible] [redacted]	1992	Town Car	09/18/91	[illegible]	[illegible]	MORS/ VOQ	70,000	Fire	Left front wheel area.
	Dallas	TX		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	MORS	60,000	Fire	Engine.
	Leesburg	VA		[illegible] [redacted]	1992	Town Car	04/27/92	05/13/92	[illegible]	MORS	111,[illegible]	Fire	Unknown.
	[illegible]	TX		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	MORS	[illegible]	Fire	Under the hood.
	[illegible]	VA		[illegible] [redacted]	1992	Town Car	[illegible]	11/08/91	[illegible]	MORS	[illegible]	Fire	Unknown.
	Memphis	TN		Unknown [redacted]	1992	Unknown	Unknown	Unknown	[illegible]	MORS	[illegible]	Fire	Under the hood.
	Unknown	MA		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	MORS	67,000	Fire	Electrical short.
	Metairie	LA		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	MORS	[illegible]	Fire	Electrical.
	Mount Holly	NJ		[illegible] [redacted]	1993	Town Car	[illegible]	[illegible]	[illegible]	MORS	[illegible]	Fire	Electrical.
	West Columbia	SC		Unknown [redacted]	1993	Unknown	Unknown	Unknown	[illegible]	MORS	[illegible]	Burned	[illegible]
	Cumming	GA		[illegible] [redacted]	1992	Town Car	[illegible]	03/11/92	[illegible]	MORS	[illegible]	Fire	Catalytic converter.
	Durant	OK		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	MORS/ VOQ	[illegible]	Fire	Spark plug wires.
	Vero Beach	FL		[illegible] [redacted]	1992	Gr Marq	[illegible]	[illegible]	[illegible]	COIS	[illegible]	Fire	[illegible] switch.
	Unknown	N/A		[illegible] [redacted]	1992	Town Car	11/25/91	11/27/91	Unknown	VOQ	Unknown	Fire	Unknown.
	Unknown	N/A		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	Unknown	VOQ	Unknown	Fire	Unknown.
	Unknown	N/A		[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	Unknown	VOQ	Unknown	Fire	Unknown.

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1992-93 LINCOLN TOWN CAR
UNDERHOOD FIRES

NO.	OWNER NAME	ADDRESS	CITY	STATE	ZIP CODE	TELEPHONE NUMBER	VIN	MODEL YEAR	MODEL	BUILD DATE	SALE DATE	REPORT DATE	REPORT TYPE	MILEAGE	ISSUE REPORTED	POSSIBLE PROBLEM DESCRIPTION
79	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM81W[illegible] [redacted]	92	Town Car	04/07/92	[illegible]	Unknown	VOQ	Unknown	Fire	Unknown.
80	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM82W[illegible] [redacted]	92	Town Car	03/05/92	[illegible]	Unknown	VOQ	Unknown	Fire	Unknown.
81	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM81W[illegible] [redacted]	992	Town Car	[illegible]	[illegible]	Unknown	VOQ	Unknown	Fire	Unknown.
82	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM81W[illegible] [redacted]	92	Town Car	04/27/92	[illegible]	Unknown	VOQ	Unknown	Fire	Unknown.
83	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM82W[illegible] [redacted]	92	Town Car	[illegible]	04/23/92	Unknown	VOQ	Unknown	Fire	Unknown.
84	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM82W1N[illegible] [redacted]	992	Town Car	[illegible]	[illegible]	Unknown	VOQ	Unknown	Fire	Unknown.
85	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM81W[illegible] [redacted]	92	Town Car	[illegible]	[illegible]	Unknown	VOQ	Unknown	Fire	Unknown.
86	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM81W[illegible] [redacted]	92	Town Car	[illegible]	[illegible]	Unknown	VOQ	Unknown	Fire	Unknown.
87	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM81W[illegible] [redacted]	92	Town Car	[illegible]	11/05/92	Unknown	VOQ	Unknown	Fire	Unknown.
88	Unknown	Unknown	Unknown	FL	N/A	Unknown	1LNLM82W[illegible] [redacted]	92	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Engine.
89	Unknown	Unknown	Unknown	MD	N/A	Unknown	1LNLM81W[illegible] [redacted]	992	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Underhood.
90	Unknown	Unknown	Unknown	TX	N/A	Unknown	1LNLM82W[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	Unknown	VOQ	Unknown	Fire	Engine compartment.
91	Unknown	Unknown	Unknown	TX	N/A	Unknown	1LNLM82W[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Engine compartment.
92	Unknown	Unknown	Unknown	TX	N/A	Unknown	1LNLM82W[illegible] [redacted]	1993	Town Car	11/24/92	12/07/92	[illegible]	VOQ	Unknown	Fire	Engine compartment.
93	Unknown	Unknown	Unknown	NY	N/A	Unknown	1LNLM81W[illegible] [redacted]	1991	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Engine compartment.
94	Unknown	Unknown	Unknown	CA	N/A	Unknown	1LNLM81W[illegible] [redacted]	[illegible]	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Underhood.
95	Unknown	Unknown	Unknown	FL	N/A	Unknown	1LNLM81W[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Underhood.
96	Unknown	Unknown	Unknown	MI	N/A	Unknown	1LNLM81W[illegible] [redacted]	[illegible]	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Underhood.
97	Unknown	Unknown	Unknown	TX	N/A	Unknown	1LNLM81W[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Engine compartment.
98	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM81W[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Engine.
99	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM81W[illegible] [redacted]	1993	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Engine.
100	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM82W[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Engine compartment.
101	Unknown	Unknown	Unknown	N/A	N/A	Unknown	1LNLM81W[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Left front fender area.
102	Unknown	Unknown	Unknown	TX	N/A	Unknown	1LNLM82W[illegible] [redacted]	1993	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Engine compartment.
103	Unknown	Unknown	Unknown	FL	N/A	Unknown	1LNLM82W[illegible] [redacted]	1992	Town Car	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Engine compartment.
104	Unknown	Unknown	Unknown	N/A	N/A	Unknown	2MECM75W[illegible] [redacted]	1993	Gr Marq	[illegible]	[illegible]	[illegible]	VOQ	Unknown	Fire	Brake booster.

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1992-93 LINCOLN TOWN CAR
UNDERHOOD FIRES

PE99-055

NO.	OWNER NAME	ADDRESS	CITY	STATE	ZIP CODE	TELEPHONE NUMBER	VIN	MODEL YEAR	MODEL	BUILD DATE	SALE DATE	REPORT DATE	REPORT TYPE	MILEAGE	ISSUE REPORTED	POSSIBLE PROBLEM DESCRIPTION
105	Unknown	Unknown	Unknown	FL	N/A	Unknown	2MECM74W8RX[redacted]	1992	Grand	05/06/92	05/22/92	09/01/99	VOQ	Unknown	Fire	Under hood.
106	Unknown	Unknown	Unknown	FL	N/A	Unknown	1LNLM83W0YY[redacted]	1992	Town Car	05/04/92	10/26/92	08/01/99	VOQ	Unknown	Fire	Engine compartment.
107	Unknown	Unknown	Unknown	FL	N/A	Unknown	1LNLM82W6NY[redacted]	1992	Town Car	04/28/92	05/15/92	07/01/97	VOQ	Unknown	Fire	Engine compartment.
108	Unknown	Unknown	Unknown	FL	N/A	Unknown	1LNLM81TXNY[redacted]	1992	Town Car	03/28/92	04/15/92	12/01/97	VOQ	Unknown	Fire	Left edge of hood and fender
109	Unknown	Unknown	Unknown	NC	N/A	Unknown	1LNLM83W8NY[redacted]	1992	Town Car	05/04/92	09/26/92	09/01/99	VOQ	Unknown	Fire	Under hood.
110	Unknown	Unknown	Unknown	FL	N/A	Unknown	1LNLM81W4NY[redacted]	1992	Town Car	05/18/92	07/02/92	11/01/99	VOQ	Unknown	Fire	Under hood.
111	Unknown	Unknown	Unknown	FL	N/A	Unknown	1LNLM81W3NY[redacted]	1992	Town Car	04/15/92	04/28/92	08/01/99	VOQ	Unknown	Fire	Under hood.

3713 2518

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 000000807
Date of Request: 02/22/1999 08:17:31 AM
Print Date: 05/28/1999 03:48:36 PM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requester Information:

Primary Contact: STEVENS, GREG - 10006	Phone: (313) 323-6686	PROFS ID: GSTEVEN1	Fax: (313) 390-7224
Secondary Contact: LA POINTE, NORM - 10075	Phone: (313) 594-2686	PROFS ID: NLAPOINT	Fax: (313) 337-8258

Send Report to: MD 5006/2G095, RVT MATERIALS, BLDG. #5
Bill to:
Acctg Location: 5100
Dept: T113
Work Task: XQG04

Sample Information:

Total Number of Containers: 21
Source: Not specified
Sample Handling: Return after test
Supplier Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CPSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED SHEET	F2VY-9F824-A	NA	00.00.00	TEXAS INSTRUMENTS

Investigation Information:

Nature of Investigation: Failure Analysis
Long Term Project
Requestor Info. Box: Mail typed report

Additional Sample Information/Testing Requirements:

EXAMINE, DOCUMENT, AND ANALYZE SWITCHES PER PROTOCOL ESTABLISHED BY N. LAPOINTE TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE. SWITCHES ARE FROM FIELD SURVEYS. MORE SWITCHES MAY FOLLOW.

Reporting Directions:

Date customer would like report: 04/01/1999
Date customer must have report: 04/01/1999

Report Format(s):

Log-in Information:

Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRouche, Steve
Phone: 84-54876

View your test status at: 'HTTP://fpd4web.pd7.ford.com/kalis'

Program Name: KALIS/Lab Engr Module
Program Version: 3.0.0

3713 2517

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 00000226
Date of Request: 01/26/1999 11:18:53 AM
Print Date: 05/28/1999 05:49:02 PM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requestor Information:

Primary Contact: STEVENS, GREG - 10006	Phone: (313) 323-6686	PROFS ID: GSTEVEN1	Fax: (313) 390-7224
Secondary Contact: LA POINTE, NORM - 10075	Phone: (313) 594-2886	PROFS ID: NLAPOINT	Fax: (313) 337-8258

Send Report to:
Bill to: MD 5006/2G06, RVT MATERIALS, BLDG. #5
Acctg Location: 5100
Dept: T113
Work Task: XQG04

Sample Information:
Total Number of Containers: 6
Source: Not specified
Sample Handling: Dispose after 30 days
Supplier Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CPSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	6	A,B,C,D,11(E), AND F	F2VY-9F924-A	NA	00.00.00	TEXAS INST RUMEN TS

Investigation Information:
Nature of Investigation: Failure Analysis
Long Term Project
Requestor Info. Box: Mail typed report

Additional Sample Information/Testing Requirements:
DISASSEMBLE SWITCHES IN PRESENCE OF PERSONNEL FROM TEXAS INSTRUMENTS. PERFORM ANALYSES TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE.

Reporting Directions:
Date customer would like report: 02/11/1999
Date customer must have report: 02/11/1999

Report Format(s):

Log-in Information:
Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRouche, Steve Phone: 84-54676

View your test status at: 'HTTP://bd4web.pd7.ford.com/kalis'

Program Name: KALISLab Engr Module
Program Version: 3.0.0

3713 2519

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 009901571
Date of Request: 05/12/1999 03:37:40 PM
Print Date: 05/28/1999 03:49:22 PM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requestor Information:

Primary Contact: STEVENS, GREG - 10000	Phone: (313) 323-6066	PROFS ID: GSTEVEN1	Fax: (313) 390-7224
Secondary Contact: LA POINTE, NORM - 10075	Phone: (313) 594-2566	PROFS ID: NLAPOINT	Fax: (313) 387-6258

Send Report to: MD 8006/2G065, RVT MATERIALS, BLDG. #6
Bill to: Acctg.Location: 8160
Dept: T113
Work Task: XQ304

Sample Information:
Total Number of Containers: 17
Source: Not specified
Sample Handling: Return after test
Supplier Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CPSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	17	SEE ATTACHED SHEET	F2VY-9F924-A	NA	00.00.00	TEXAS INST RUMENTS

Investigation Information:
Nature of Investigation:Requestor Info. Box: Mail typed report

Additional Sample Information/Testing Requirements:
Perform Tests as in Lab Number: 9900807
PERFROM TESTS AS IN 9900807 TO ASSIST IN DETERMINING CAUSE OF POSSIBLE LEAKAGE/FIRES. ADDITIONAL SWITCHES MAY FOLLOW.

Reporting Directions:
Date customer would like report: 07/01/1999
Date customer must have report: 07/01/1999

Report Format(s):

Log-in Information:
Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRouche, Steve Phone: 84-54678

View your test status at: 'HTTP://bd4web.pd7.ford.com/kalis'

Program Name: KALISLab Engr Module
Program Version: 3.0.0

8713 2518

DENVER & EAA
FIELD REPORTS ETC

SCHILLING
LINCOLN/MERCURY

James Farris
Service Manager

Schilling Lincoln-Mercury
2660 South Mendenhall
Memphis, TN 38115
(901) 794-4000

3713 2521

Schilling's Guiding Principles

- Practice honesty, integrity and fairness in everything we do.
- Assure every customer receives value, quality and satisfaction.
- Create an environment in which our employees can succeed.
- Return to the community a share of the success we experience.
- Consistently promote these principles through our Christian behavior.

SCHILLING
LINCOLN/MERCURY
SUPER CENTER

2660 S. Mendenhall
Memphis, TN
(901) 794-4000

NEW DIRECT PHONE NUMBERS:
- SERVICE DEPARTMENT
363-1500
- COLLISION REPAIR DEPARTMENT
363-2870 OR 363-2803
- PARTS DEPARTMENT
795-2222

CUSTOMER NO. 28385	ADVISOR ROBERT GUISEPPE 6434	HAT NO. 5120	INVOICE DATE 02/22/99	INVOICE NO. LICS85970
[redacted]	LABOR RATE	OCCRAN NO.	MILEAGE 136588	COLOR CRYSTAL BLU	STOCK NO.
	YEAR/MAKE/MODEL 92/LINCOLN/TOWN CAR, 4DR S		DELIVERY DATE 10/23/92	DELIVERY MILES 7
	VEHICLE ID NO. 1[redacted]6[redacted]Y[redacted]		SELLING DEALER NO.	PRODUCTION DATE 05/29/92
MEMPHIS, TN [redacted]	A.V.E. NO.	P.O. NO.	P.O. DATE 02/22/99	
[redacted]	BUSINESS PHONE	E# 4.6L EFI V8 ENG		

LABOR & PARTS

JM 1 00LIZOFLL2 LOF/LOF-2 TECH(S):355B3 3.50
LUB / OIL & FILTER
CHANGE OIL & OIL FILTER / LUB CHASSIS

PARTS	QTY	FP-NUMBER	DESCRIPTION	UNIT PRICE	
JOB # 1	1	PKLSC820		9.40	9.40
JOB # 1	1	FL-820-S	FILTER ASY -	****	****
JOB # 1	5	XO-5W30-QP	SUPER PREM MOT	****	****
			JOB # 1 TOTAL PARTS		9.40
			JOB # 1 TOTAL LABOR & PARTS		12.90

JM 2 20LIZ TRIM TECH(S):9879 64.00
CUST STATES WONT COME OUT OF PARK AND BRAKE LIGHTS INOP
REPLACE BRAKE LIGHT SWITCH AND WIRING.

PARTS	QTY	FP-NUMBER	DESCRIPTION	UNIT PRICE	
JOB # 2	1	F0AZ-13480-A	SW ASY-STP LP	12.99	12.99
JOB # 2	1	OSP-PIGTAIL		7.76	7.76
JOB # 2	1	F2VY-9F924-A	SW ASY-SPD CON	16.08	16.08
			JOB # 2 TOTAL PARTS		36.83
			JOB # 2 TOTAL LABOR & PARTS		100.83

JM 3 20LIZINT1 INT.TRIM TECH(S):9879 96.00
CHECK RIGHT REAR DOOR [illegible]
REPLACE RIGHT REAR DOOR [illegible] MOTOR

PARTS	QTY	FP-NUMBER	DESCRIPTION	UNIT PRICE	
JOB # 3	1	F5VY-5426[illegible]-A	[illegible] ASY-DR LAT	44.41	44.41
JOB # 3	1	-38804-[illegible]1021	BLIND	0.62	0.62
			JOB # 3 TOTAL PARTS		45.03
			JOB # 3 TOTAL LABOR & PARTS		141.03

JM 4 02LIZLIGHT BRAKE WARNING LIGHT TECH(S):9879 51.20
CHECK RED BRAKE LIGHT [illegible] TIRES AND BRAKE FLUID LOW
REPLACE BRAKE PRESSURE SWITCH

PARTS	QTY	FP-NUMBER	DESCRIPTION	UNIT PRICE	
			JOB # 4 TOTAL PARTS		0.00
			JOB # 4 TOTAL LABOR & PARTS		51.20

MISC	CODE	DESCRIPTION	CONTROL NO	
JOB # A	MAT	SHOP SUPPLIES/DISPOSAL FEE		10.00
JOB # 1	LOF	LSC DISCOUNT		-12.92
		TOTAL - MISC		-2.92

COMMENTS
ASAP

3713 2523

FORD MOTOR COMPANY
CENTRAL LABORATORY
15000 CENTURY DRIVE
COMMERCE PARK NORTH
DEARBORN, MI 48120
ATTN: DEPT. T118

5770 DRIVELINE CLUNK/JERK DURING TIP-IN/OUT

SOME 1999 EXPEDITION/NAVIGATOR EQUIPPED WITH 5.4L-2V ENGINES AND 4R100 TRANSMISSIONS MAY EXHIBIT A DRIVELINE CLUNK/JERK DURING TIP-IN FROM CLOSED THROTTLE AT VEHICLE SPEEDS ABOVE 43MPH IN 4TH GEAR AND NORMAL TRANSMISSION OPERATING TEMPERATURES. TO REPAIR THIS CONCERN RE-FLASH THE PCM WITH NEW CALIBRATION LEVEL 9VZA-BEF. NOTE: AFTER RE-FLASHING THE PCM, SOME VEHICLES MAY REQUIRE SOME TIME ON THE HIGHWAY TO LEARN PARAMETERS FOR THE MISFIRE PROFILE CORRECTION. A CLUNK MAY BE HEARD DURING THIS LEARNING PROCESS. THIS IS NORMAL AND WILL GO AWAY AFTER THE CUSTOMER HAS DONE SOME HIGHWAY DRIVING.

5771 FORDSTAR VIDEO ANNOUNCEMENT - RECALL 98S36

A A SHORT VIDEO DETAILING THE PROCEDURES UTILIZED FOR COMPLETING RECALL 98S36 (CERTAIN 1986-1995 TAURUS AND SABLE AND 1988-1994 CONTINENTAL VEHICLES - SUB-FRAME REAR PLATE NUT REPLACEMENT) WILL BE BROADCAST ON FORDSTAR DURING THE WEEK OF MARCH 1, 1999 IMMEDIATELY FOLLOWING THE BROADCAST OF TECH TIME. THE VIDEO PROVIDES TIPS FOR THE COMPLETION OF THE RECALL IN THE ALLOTTED TIME. IT MAY BE ADVANTAGEOUS TO TAPE THE BROADCAST FOR YOUR FUTURE REFERENCE. PLEASE REFER TO YOUR "STARGUIDE" FOR THE EXACT BROADCAST TIMES.

LAWRENCE U DAVIS

[redacted]

97/LINCOLN/TOW/4D

[redacted]

BATON ROUGE [redacted]

[redacted]

LABOR & PARTS

J# 1 ABS BRAKE LITE ON TECH(S):397
ABS LIGHT STAYS ON MOST OF TIME. WHEN CAR IS COASTING WITH OUT BRAKES ON, WILL GRAB LIKE BRAKES ARE APPLIED
ABS TEST-REPLACED BOTH REAR WHEEL SPEED SENSORS,CLEARED CODES,REPLACED BRAKE PRESSURE SWITCH

PARTS	QTY	FP NUMBER	DESCRIPTION	UNIT PRICE
JOB # 1	2	E1VY-2C190-A	SENSOR ASY RR	52.50
JOB # 1	1	F2VY-9F924-A	SW ASY-SPD CO	19.75

JOB # 1 TOTAL PARTS

JOB # 1 TOTAL LABOR & PARTS

J# 2 COOLANT FLUSH TECH(S):397
REPAIR COMPLETED

PARTS	QTY	FP NUMBER	DESCRIPTION	UNIT PRICE
JOB # 2	1	E2FZ-19549-AA	FLUID-COOLANT	14.95
JOB # 2	1	USP-86-340	FLUSH	5.50

JOB # 2 TOTAL PARTS

JOB # 2 TOTAL LABOR & PARTS

J# 3 MULTI POINT INSP TECH(S):397
PERFORM MULTI POINT INSPECTION
COMPLETED
REPLACED BELT AND FUEL FILTER

PARTS	QTY	FP NUMBER	DESCRIPTION	UNIT PRICE
JOB # 3	1	[illegible]	FILTER ASSEMBL	18.50
JOB # 3	1	[illegible]	BELT DRIVE	32.50

JOB # 3 TOTAL PARTS

JOB # 3 TOTAL LABOR & PARTS

J# 4 TRANSMISSION SERV TECH(S):361
REPAIR COMPLETED

PARTS	QTY	FP NUMBER	DESCRIPTION	UNIT PRICE
JOB # 4	1	USP-[illegible]-TRANS	KIT	20.00
JOB # 4	[illegible]	XT-2-QDX	FLUID-AUTO TRA	2.35

JOB # 4 TOTAL PARTS

JOB # 4 TOTAL LABOR & PARTS

J# 5 AIR SUSPENSION TEST TECH(S):[illegible]
AIR SUSPENSION TEST-REPLACED REAR AIR SPRINGS AND SUSPENSION PUMP

PARTS	QTY	FP NUMBER	DESCRIPTION	UNIT PRICE
JOB # 5	[illegible]	[illegible]-5A60-A	KIT-AIR SPRG S	169.00
JOB # 5	[illegible]	[illegible]-5319-AA	COMPRESSOR - S	269.50

JOB # 5 TOTAL PARTS

JOB # 5 TOTAL LABOR & PARTS

MISC	CODE	DESCRIPTION	CONTROL NO
JOB # 5	SS	SHOP MATERIALS	
JOB # 5	EPA	EPA DISPOSAL FEE	

Robinson

3713 2625

L N L M 8 3 W 6 P Y 6 0 5 8 2 6

93/LINCOLN/TOW/

[redacted]

3878 GRY/

09/23/92 23652

79312

02/24/99

392

532

83003

BATON ROUGE, LA [redacted]

[redacted]

04:30pm 02/25/99 02:06pm 3

STATE REG# 2

COMMENTS : APPOINTMENT ABS Cust - Replace Both Rear Wheel Speed Sensors - Clear Codes -

C 02LIZH19 397 ABS BRAKE LITE ON
ABS LIGHT STAYS ON MOST OF TIME. WHEN CAR IS COASTING WITH OUT BRAKES ON, WILL GRAB LIKE BRAKES ARE APPLIES

Replace Brake Release Switch .3, .6

WAS Leaking Brake Fluid

See Larry before driving car

2 C1142 397 Drain + flush - .8

3 C011429P 397 Multi Pt. [illegible] 1.7
R+R Belt + [illegible] Filter

4 C01429P 361 [illegible]

5 C00412135 Replace air bags + compressor

#353 Tested air suspension, replaced rear air springs & suspension pump.

4.0

1 OF 1

ROBINSON BROTHERS, INC. • 9550 Interline Avenue • BATON ROUGE, LOUISIANA 70809 • Telephone (504) 924-7068

3713 2526

1LNLM83W4PY[illegible] 4 DR SEDAN CARTIER
1993 TOWN CAR
4.6L SOHC (MOD) 318JR00A 4 SPD OD AODE
AXLE CODE: JY
02/24/1999 17:25:33
#OPEN CAMPAIGNS
NO CAMPAIGN MESSAGE(S) FOUND
WARRANTY START DATE 09/23/1992 BUILD DATE 08/05/1992 START ODOM
LESS THAN TWO DEALER APPROVED AAA REPAIR VISITS PAID TO DATE
NO ESP INFORMATION AVAILABLE

FOR MORE INFO CRTND, M. MENU OR 99. BYE

VEHICLE IDENTIFICATION

CUSTOMER'S NAME

ADDRESS [redacted]

MILEAGE 8-2-95/93

DATE 83003 TIME

TAG #

NUMBER

2810

CUSTOMER SERVI

CONCERN 1: WHAT?

CONCERN 2: WHAT?

CONCERN 2: WHAT?

May we keep your car? Yes______ No

INTERMITTENT / IDLE / ENGINE SPEED / BOTTOM / NO

INTERMITTENT / IDLE / ENGINE SPEED / BOTTOM / NO

INTERMITTENT / IDLE / ENGINE SPEED / BOTTOM / NO

- ☐ L.O.F.
- ☐ ROTATE
- ☐ BRAKES
- ☐ WHEEL BALANCE
- ☐ CLEAN [illegible]
- ☐ TUNE UP
- ☐ FRONT END ALIGNMENT
- ☐ FUEL FILTER
- ☐ PCV VALVE
- ☐ CHECK BELTS AND HOSES
- ☐ SERVICE TRANSMISSION
- ☐ FLUSH COOLING SYSTEM
- ☐ STATE INSPECTION

3713 2527

April 6, 1999

03/22/99 MON 14:28 FAX 2486424555 EA ASSOCIATES

Vehicle/Customer Information/Incident Info

Model Year:1992 Make: Grand Marquis Vin#:2MECM74W5NX[redacted]
Miles: Aprox 58,000 to 60,000 miles based on old service records
Inspection Date/Location: 4-5-99 Gibsonton, Fl. Vehicle Owner: [redacted]
Incident 3-18-99 Approximate miles at incident: 58 to 60,000 miles
Inspector Name: David Burnett EAA 561-575-4174

Requested Info

Area of fire origination (engine compartment quadrant, component, etc)
Quadrant hard to identify--engine compartment driver side appears to hot spot area
Identify if any underhood relays show evidence of internal overheat
All parts consumed by fire--see photographs
Identify if any fuses or fuse links were blown or show evidence of other damage
All parts consumed by fire--see photographs
Determine if the correct fuse for the stop lamp switch in the fuse box
All parts consumed by fire--see photographs
Identify is there was any damage to wiring in the area where the fire was started (ie chafing, missing insulatic
All parts consumed by fire--see photographs
Assess whether the air suspension pump shows evidence of internal overheating
All parts consumed by fire--see photographs
Identify if there were any aftermarket modifications to the vehicle? (specifically car alarm, trailer tow, or rem
start
No after market equipment seen on burned vehicle or reported to Ins Co.

If possible, identify if the vehicle was involved in a natural disaster/accident that required significant vehicle
up? If so where was cleanup performed?
Do not know

If possible, identify vehicle repair history --no prior service problem reported..

Any other info that may be pertinent to the incident...

Per Bill Buckley car was serviced by Bradenton, Fl. dealer on US 41 or for oil changes-- at a local quick lube location closer to where he lived.--no prior service problem reported..

Vehicle burned in a garage, which was part of a two story house.

Prior to fire vehicle was driven 10-15 miles, then parked in garage for some 5 to 10 minutes when owner herd noises in garage--per Bill Buckley.

David Burnett EAA
561-575-4174

3713 2528

Vehicle/Customer Information/Incident Info

April 6, 1999

Model Year:1992 Make: Grand Marquis Vin#:2MECM74W5NX[redacted]
Miles: Aprox 58,000 to 60,000 miles based on old service records
Inspection Date/Location: 4-5-99 Gibsonton, Fl. Vehicle Owner:[redacted]
Incident 3-18-99 Approximate miles at incident: 58 to 60,000 miles
Inspector Name: David Burnett EAA 561-575-4174

Parts that we would like from vehicle if possible to acquire

Brake pressure switch (preferably with wire pigtail/connector attached and still attached to prop valve)
Brake switch removed from prop valve—badly burned no pigtail , connector or fluid.
Sample of brake fluid at prop valve (in sealed glass container)
No brake fluid sample possible --all burned--see photographs
Relay pack located on LH fender apron (with as much wiring as possible)
All parts consumed by fire--see photographs
EDIS 8 module located on LH fender All parts consumed by fire--see photographs

Speed control module located on LH fender All parts consumed by fire--see photographs

Air suspension compressor located under air filter All parts consumed by fire--see photographs

Air suspension relay All parts consumed by fire--see photographs

Photograph of door jam VIN sticker
Door jam VIN sticker burned
Other suspect parts

Remains of master cylinder--with possibly a cross threaded fitting?

Remains of several badly burned under hood wire harnesses--driver side

rev 2.0 — 3/

David Burnett EAA
561-575-4174

S.E.A. INC.
An FTI Consulting, Inc. Company
13930 Lynmar Blvd.
Tampa, Florida 33626
813 891-1440 800 881-7824
FAX 813 814-1716

Bill L. Buckley, C.F.I.

www.seaohio.com

Case # 39N

1992-98 Town Car/Crown Vic/Grand Marquis/ Under Hood Fire Questionnaire

We are contacting you, because you reported smoke or fire in your vehicle. Ford is investigating your report and would like to ask you some questions about it. We hope everyone was ok...

Vehicle/Customer Information

ModelYear: 1992 Make: GRAND MARQUIS VIN: 2MECM74W[redacted]

BH → SHREDDIT + SALVAGE YARD IS 21779

Present Vehicle Location: COPART SALVAGE Who owns vehicle now: CUST/INS. CO

Customer Name: [redacted] Phone: [redacted]

Is it ok for engineering to contact customer: YES

Was the vehicle involved in a natural disaster/accident that required significant vehicle clean up? NO

If so, where was cleanup performed? N/A

What is the general repair history of the vehicle? NO MAJOR REPAIRS OTHER THAN MAINTENANCE

Was it equipped with any aftermarket components? (specifically car alarm, trailer tow, or remote start _____

Insurance Agency Info (if appropriate) CNA INSURANCE

Agency Name: PREMIER ADJUSTING SVCS Agency phone number: _____

Claim number: P8034501

Contact: Mr. Bill Buckley (SEA, Inc) Phone number: 800-881-7324

Incident Info

Date of fire: 3-18-99 Mileage: 58-60,000 APX Was the vehicle repaired? NO

If repaired, when and where? N/A

Any idea where the fire started? (engine compartment quadrant... front, back, left, right) DRIVERS SIDE OF ENGINE TOWARD REAR

Was the vehicle parked or running? PARKED If parked, where? (garage, carport, parking lot) GARAGE

Was the engine ON or OFF? OFF If OFF, how long was it parked before fire? 5-10 minutes

Did customer notice anything unusual prior to fire? NO

Was there any difficulty getting the vehicle out of park: NO Was speed control not working: NO

Was the brake warning lamp illuminated: NO Were the brake lights inoperative: NO

Any other info that you think may be useful to our investigation? he has seen very similar damage to town cars - he sees a pattern

- Valve cover damage (near brake master cylinder) is a pattern he sees

Vehicle/Customer Information/Incident Info

Model Year: 92 Make: Lincoln VIN#: 1LNLM81W5NY [redacted]

Mileage (at inspection): Fire 73925

Inspection Date/Location: Naples, FL 3411(6)

Vehicle Owner: Loretta Glass

Incident date: 12/25/98 Approximate mileage at incident: 73925

Inspector Name:

David Barnett EA
561-575-4174

Parts that we would like from vehicle if possible to acquire

Brake pressure switch (preferably with wire pigtail/connector attached and still attached to prop valve)

SWITCH WAS REPLACED 12/23/98 SEE ATTACHED WORK ORDER

Sample or orifice fluid at prop valve (in sealed glass container) NO PARTS SAVED

SAMPLE FROM TOP FLUID IN MASTER CYLINDER

Relay pack located on LH fender apron (with as much wiring as possible)

EDIS 8 module located on LH fender

Speed control module located on LH fender

Air suspension compressor located under air filter

Air suspension relay

Photograph of door jam VIN sticker

___Other suspect parts

PRIOR TO FIRE MRS GLASS NOTICED WINDOWS, LOCKS, SEATS IN OPERATIVE. ONE WEEK PRIOR TO FIRE - NEVER REPAIRED - ALL NEW WORK - TECH SAYS HE DID NOT REPLACE ANY FUSES.

SEE ATTACHED OTHER INFO

RECEIVED
MAR 30 1999

rev 2.0 — 3/

Page 1 of 2

Vehicle/Customer Information/Incident Info

Model Year: 92 Make: LINCOLN VIN#: 1LNUM81W5NY [redacted] Mileage (at inspection): 75405 FIRE 73925

Inspection Date/Location: NAPLES, FL 34116 3084 50TH LANE S.W. Vehicle Owner: LORETTA GLASS

Incident date: 12/23/98 Approximate mileage at incident: 73925

Inspector Name: DAVID BURNETT SAA 561 675 4174

Requested Info

Area of fire origination (engine compartment quadrant, component, etc)

BRAKE PRESSURE SWITCH AREA — BEHIND BRAKE BOOSTER CYLINDER

Identify if any underhood relays show evidence of internal overheat

NO EVIDENCE OF. OVER HEATED RELAYS

Identify if any fuses or fuse links were blown or show evidence of other damage

SEE ATTACHED FUSE DRAWING/PLANS — NO BLOWN FUSE LINKS

Determine if the correct fuse for the stop lamp switch in the fuse box

SEE ATTACHED FUSE DRAWING

Identify is there was any damage to wiring in the area where the fire was started (ie chafing, missing insulation)

NO AFTER-MARKET EQUIPMENT NOTED — NO HITCH

Assess whether the air suspension pump shows evidence of internal overheating

LOOKS NORMAL

Identify if there were any aftermarket modifications to the vehicle? (specifically car alarm, trailer tow, or remote start)

NO AFTER MARKET EQUIPMENT NOTICED — NO TRAILER HITCH

If possible, identify if the vehicle was involved in a natural disaster/accident that required significant vehicle clear up? If so where was cleanup performed?

VEHICLE PURCHASED USED IN 94 — LOOK GOOD FOR 92

If possible, identify vehicle repair history

Any other info that may be pertinent to the incident...

SHE SAID SOMEONE IN WASHINGTON CALLED ABOUT FIRE AND TALKED 45 MIN.

UNKNOWN DRUG STORE PERSONNEL CAME OUT OF STORE AND SAW FIRE PUT OUT FIRE — UNDER BRAKE BOOSTER AREA

IS CAR FIRE COVER WAS MELTED ON INSIDE COVER?

Page 2 of 2

LORETTA GUNES
92 LINCOLN

3-24-99
DAVID BURNETT EA.
561 575 4174

OTHER INFO:

1. NO PARTS WERE REMOVED BECAUSE CAR HAS BEEN REPAIRED AND IS BEING USED BY OWNER WHO'S AWAY.
2. ARRANGEMENTS CAN BE MADE TO REPLACE ANY OF THE LISTED PARTS IF FORD WANTS SOME OF THE COMPONENTS - JUST CALL ME AND ADVISE YOUR WISHES, DAVID BURNETT - 561 575 4174 - I WILL WORK OUT DETAILS.
3. [redacted] IS MORE THAN WILLING TO BE TRADED OUT OF HER '92 INTO A DAMAGE USED MARK VIII
4. POSSIBLE BUY BACK MIGHT HELP FORD INVESTIGATION BECAUSE THIS VEHICLE HAD VERY MINOR FIRE DAMAGE.
5. THE ONLY PART REPLACED WAS DRIVE PASSORT SWITCH AND ITS PIG TAIL - PLUS SOME MINOR HEAT DAMAGE TO A FEW WIRES - WHICH WERE REPAIRED.
6. GERMAIN FORD - MECHANIC THAT WORKED ON VEHICLE IN OCT 98 - REMEMBERS THE REPAIR AS A LOCKING SWITCH - BRAKE FLUID BLEW IN AREA AND CAUSED MANIFOLD, OR SOMETHING - CAR PARKED 5 MINUTES - TIME TO START FIRE. OLD PART WAS NOT SAVED
7. GERMAIN MECHANIC, [redacted] DAGATA, SAYS IN RECENT TIMES HE ESTIMATES HE HAS REPLACED ABOUT 10 SWITCHES - ALL LEAKING FUNCTIONAL A CAUSE PROBLEM - NOT FIRE -
8. SUGGESTION: FORD SHOULD CONSIDER LOCKING A SERVICE PARTS NUMBER FOR THIS SWITCH P/U & POSSIBLY CONSIDER A NATIONAL RETURN OF DEFECTIVE SWITCHES FOR REVIEW.

3713 2533

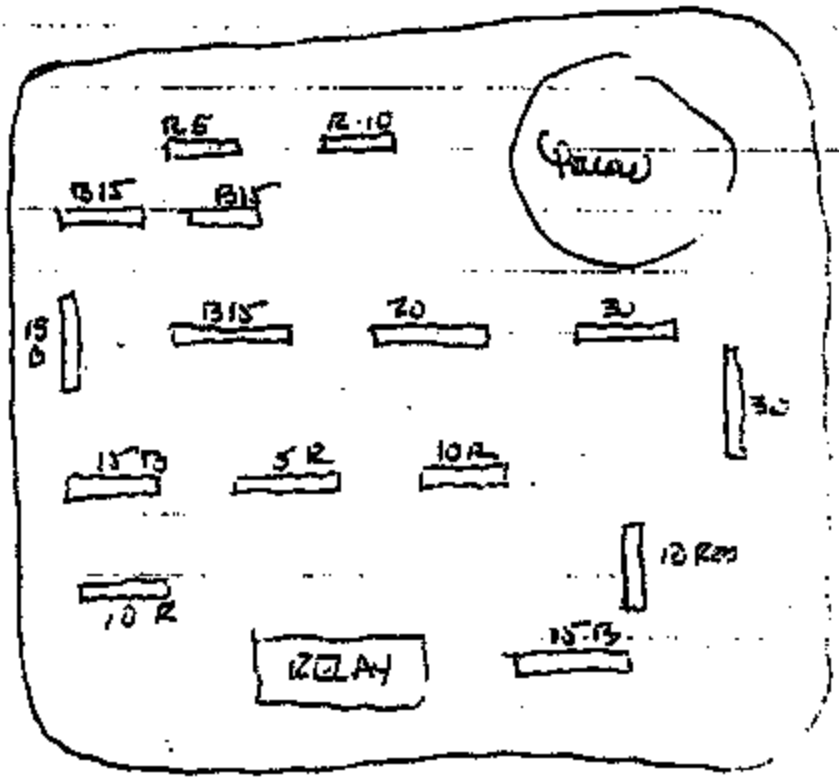
[redacted]

NAPLES, FL [redacted]

LINCOLN TOWN CAR

ILLUMBIA SW4 [redacted]

UPSIDE DOWN



ALWAYS

[redacted]

MARK Van BUREN
Service Manager

13329 N. Tamiami Trail • Naples, Florida 341
(941) 597-6011 x 224 • Ft. Myers 334-4256 (to

[illegible dealer name]

LINCOLN MERCURY
13329 N. Tamiami Trail
Naples, Florida 34110

Motorcraft

We go that extra mile for you.

NAPLES	FT. MYERS
(941) 597-4011	(941) 334-4255

ALL PARTS ARE NEW UNLESS OTHERWISE INDICATED.

STATE OF FLORIDA
REGISTRATION: MV - 21232

REPLACED PARTS REQUESTED BY CUSTOMER YES ☐ NO ☐
*SEE BACK FOR INFORMATION REGARDING SHOP SUPPLIES AND HAZARDOUS WASTE CHARGE.
TERMS: STRICTLY CASH UNLESS ARRANGEMENTS MADE.

CUSTOMER* X
* SEE BACK FOR INFORMATION REGARDING WARRANTY

[redacted]

NAPLES
PHONE: [redacted]
PHONE: [redacted]

---- FOR OFFICE USE ---- ---- VEHICLE INFORMATION ----

TAG: 5202 ADV: 271 SWANSON, INVOICE: PRELIM BOD D A8 VIN 1LNLM81W[redacted] LICENSE NUMBER: [redacted]
TAX RULES: TY2NN INVOICED AT: 12/23/98 14:55:38 92 LINCOLN TOWN CAR EXECUTIVE 4DR SDN WHITE
ODOMETER IN: 73925 OUT: 73925 DIST: 1PA DATES INSERVICE: 032292 PRODUCTION: 031292
DATES BEGIN: 12/21/98 DONE: 12/23/98

CONCERN 51 STATE FARM INSURANCE CLAIM — OPERATION TECH AMOUNT
CLAIM[illegible] .00
CORRECTION VOID [illegible]
PART N[illegible]

	SELL	
	[illegible].50	32.50
PKG [illegible]	[illegible].49	14.49
PKG: [illegible]	[illegible].51	9.06
PKG: [illegible]	[illegible].78	.78
	SUBTOTAL	
		24.33
	[illegible] REPAIRS	32.50
TYPE: SCD	TOTAL CHARGE FOR CONCERN	56.83

CONCERN 52 TOWING — OPERATION TECH AMOUNT
CORRECTION TOWING ONLY — TOWING 137 .00
---- SUBTOTAL ----
TYPE: SCD — TOTAL CHARGE FOR CONCERN .00

CONCERN 53 — OPERATION TECH AMOUNT
CORRECTION R&I — LABOR 137 B 202.50
---- SUBTOTAL ----
LAB-BODY SHOP 202.50
TYPE: SCD — TOTAL CHARGE FOR CONCERN 202.50

OFFICE COPY

3713 2535

CERTAIN

LINCOLN MERCURY
13329 N. Tamiami Trail
Naples, Florida 34110

Fine 12-23-16

We go that extra mile for you.

Motorcraft Service

NAPLES	FT. MYERS
(941) 597-6011	(941) 334-4866

ALL PARTS ARE NEW UNLESS OTHERWISE INDICATED.

STATE OF FLORIDA
REGISTRATION: MV - 21226

REPLACED PARTS REQUESTED BY CUSTOMER YES ☐ NO ☐
*SEE BACK FOR INFORMATION REGARDING SHOP SUPPLIES AND HAZARDOUS WASTE CHARGE.

SIGNATURE X
SEE BACK FOR INFORMATION REGARDING WARRANTY

GRAND TOTALS

SUMMARY OF CHARGES FOR INVOICE D44997		PAYMENT DISTRIBUTION FOR INVOICE D44997	
PARTS	24.33	TOTAL CHARGE	272.30
PARTS DISCOUNT	2.44-		
SUBLET REPAIRS	32.50	CASH DUE	272.30
LAB-BODY SHOP	202.50		
SUB-TOTAL	256.89		
FL SALES TAX	15.41		
TOTAL CHARGE	272.30		

IF YOU HAVE ANY QUESTIONS

Ford LINCOLN MERCURY

PAGE 2

OFFICE COPY

3713 2536

[redacted]

primary claim rep: Delago, Jack
phone: 941-643-8615 primary unit: RT owning office: Naples
reporting agent: GRAY at & agt: 59-1934 phone: 941-261-5523

insured
name: [redacted]
street: [redacted]
city: NAPLES state/prov: FL zip/postal: [redacted]
phone: home: [redacted]
contact:

insured vehicle	year	make	model	body style
01	1992	LINCOLN	TOWN CAR	4DR

vehicle identification number: 1LNLM81W5NY[redacted] license number: prior damage: N drivable: N
principle damage: ELECTRICAL FIRE UNDER HOOD
vehicle location: SANTA BARBARA & RADIO RD, WALGREENS PARKING LOT

POLICY INFORMATION

vehicle: 1992 LINCOLN TOWN CAR 4DR
vehicle identification number: 1LNLM81W5NY706341 prior damage: N
coverages in force: policy source: PERS
A 100/300/50,P14 10,000,C 5,000,D,G50,H,R1,U3 100/300

lienholder or leasing company
BARNETT BANK OF NAPLES INSURANCE DEPT

claim history

claim number	dol	type	claim number	dol	type
59-V067-573	11-25-98	9	59-7512-900	01-05-96	4
59-0489-10L	11-19-93	5	59-7434-544	01-04-93	2
59-7337-007	11-15-90	4	59-7262-814	11-09-90	4
59-7015-837	04-09-87	1			

FACTS

JES-INSD PARKED VEH 1 IN LOT, WENT INTO STORE, CAME OUT OF STORE 5 MINUTES LATER & SAW CAR SMOKING FROM UNDER HOOD

date and time of loss: [redacted]
location of loss: SANTA BARBARA & RADIO RD, WALGREENS PARKING LOT
city: NAPLES state/prov: FL zip/postal:

Tow 39.50 73925 L 96 ap

CHARGES $ | ESTIMATE $

SIGNED: ______________________ DATE: ______________

PLEASE READ CAREFULLY, INITIAL ONE OF THE STATEMENTS BELOW, AND SIGN: I UNDERSTAND THAT UNDER STATE LAW, I AM ENTITLED TO A WRITTEN ESTIMATE, IF MY FINAL BILL WILL EXCEED $50.00.

_____ I REQUEST A WRITTEN ESTIMATE.

_____ I DO NOT REQUEST A WRITTEN ESTIMATE AS LONG AS THE REPAIR COSTS DO NOT EXCEED $ _______. THE SHOP MAY NOT EXCEED THIS AMOUNT WITHOUT MY WRITTEN OR ORAL APPROVAL.

_____ I DO NOT REQUEST A WRITTEN ESTIMATE.

SIGNED: X ______________________ DATE: ______________

1257 1314 ONLY

	TECH #	OPERATION	TIME	CONDITION
				PG 1 OF 1
51* PAY TYPE: BOD STATE FARM INSURANCE CLAIM ~~CLAIM#59 V082 031~~	TECH NO. LAST 4 - SOC. SEC. 9113A		4.5	
52 PAY TYPE: BOD TOWING	TECH NO. LAST 4 - SOC. SEC.			
53 PAY TYPE: BOD EST ONLY	TECH NO. LAST 4 - SOC. SEC.			
	TECH NO. LAST 4 - SOC. SEC.			

5202

RO 44997 *TAG 6341* LIC: FL L9600P SVC ADV: 271 ANABELLA SWANSON

92 **VIN: 1LNLM81W3 NY[redacted]

[redacted]

LINCOLN TOWN CAR COL CD: WHI

EXECUTIVE 4DR SDN

NAPLES CAR

FL [redacted] SVC DLR: 21624 SLM: 59

PROD: 031292

CURRENT: 73925

900

HOME: [redacted]

DIST CODE: 1FA

3713 2538

DEALERSHIP'S USING DAILY JOB TICKETS SHOULD AFFIX THE JOB STICKERS IN THIS AREA.	TECHNICIANS COMMENTS INCLUDE DESCRIPTION OF CAUSE	CORRECTION CODE	LABOR ALLOC. EMP. NO.	LABOR ALLOC. PARTS RETURN	LABOR ALLOC. ITEM NO.
	Repair Leaky Brake Press. Switches & blown wire Harness's				
	CAUSE:				
	CAUSE:				
	CAUSE:				
	CAUSE:				

3713 2539

VIN 1LNLM82W6PY[redacted]

Mileage N/A

The vehicle was inspected 3-17-99 at Insurance Auto Auction in Aurora, Illinois with John Kessler of State Farm Insurance.

The vehicle appeared to be in good condition and their is no evidence of collision damage. Also their is no indication the vehicle was ever used as a tow vehicle. The valve cover had been removed at a prior time.

The fire started on the left side of the engine compartment and burned with such intensity that the hood and all components on the left side of the engine melted. No brake fluid was available for analysis.. The brake pressure switch and the #12, 15 amp fuse were removed and forwarded to Ford Motor Co.

In a discussion with the State Farm representative I learned that the original State Farm inspector had determined the fire started as a result of a leaking valve cover gasket and removed the valve cover during the initial inspection. I was also told that the owner of the vehicle is a real estate agent and was showing property when the fire occurred. The owner arrived early for her appointment and left the car idling in the driveway. After a while she noticed smoke, raised the hood and the fire spread. Their was no indication of how long the vehicle was left running before the fire occurred.

The enclosed photographs detail the extent of the damage.

Orville D Mullens

[redacted]

Vehicle/Component Information/Incident Info

Model Year: Make: Lincoln VIN/Unknown/Illegible — Mileage (at inspection): Could not Determine

Inspection Date/Location: 3.2.05

Vehicle Owner: ____

Insurance Auto Auction Angela Ell

Incident date: Unknown Approximate mileage at incident: Unknown

Inspector Name: Orville Mullins

Component Info

Area of fire origin(s) (engine compartment, passenger, suspension, etc)
Left Side of Engine Compartment and

Identify if any undefined origin show evidence of incorrect method
Could not Determine

Identify if any fuses or fuse links were blown or show evidence of other damage
#12 15 AMP FUSE - Blown - Being Retained

Determine if the correct fuse for the stop lamp switch in the fuse box
15 AMP

Identify is there was any damage to wiring in the area where the fire was started (ie chafing, missing insulation)
Could not Determine

Advise whether the air suspension pump shows evidence of internal overheating
Could not Determine

Identify if there were any aftermarket modifications to the vehicle? (specifically car alarm, washer tow, or remote start) None

If possible, identify if the vehicle was involved in a recent disaster/accident that required significant vehicle clean up? If so where was cleaning performed?
Could not Determine — Dealership

If possible, identify vehicle repair history
Could not Determine

Any other info that may be pertinent to the incident...

Parts that we would like from vehicle if possible to consider

Brake pressure switch (preferably with wire harness/connector attached and still mounted to prop valve)
Removed — Being Retained

Sample of brake fluid at prop valve (in sealed glass container)
Consumed by Fire

Relay pack located on LH fender apron (with as much wiring as possible)
Consumed by Fire

ECM II module located on LH fender
Consumed by Fire

Speed control module located on LH fender
Consumed by Fire

Air suspension compressor located under air filter
Consumed by Fire

Air suspension relay
Consumed by Fire

Photograph of door jam VIN sticker
Attached

Other suspect parts
Was not advised to Retain prop. value

rev 2.0 — 1/19/05

DAVID BARNETT EA
JUPITER FL 33458
561-575-4174

INSPECTION DATE
3-19-99

Vehicle/Customer Information

Model Year: 92 Make: LINCOLN VIN#: 1LNLM81W0NY [redacted] Mileage: 100,000 plus per owner

Build Date: 5/92 Present Vehicle Location: DAVENPORT, FL. Who owns vehicle now: PARKED IN YARD 1022 N. BLUD. WEST [redacted]

Customer Name: [redacted] Phone: [redacted] Is it ok for engineering to contact customer: YES

Parts that we would like from vehicle if possible to acquire

Brake pressure switch (preferably with wire pigtail/connector attached and still attached to prop valve)
REMOVED SWITCH - BUT CONNECTOR & PIG TAIL APPARENTLY BURNED

Sample of brake fluid at prop valve (in sealed glass container)
NO BRAKE FLUID FOUND - RESERVOIR BURNED - NO FLUID AT BRAKE SWITCH

Relay pack located on LH fender apron (with as much wiring as possible)
BURNED

EDIS 8 module located on LH fender (EDIS 8 =
BURNED OR MISSING

Speed control module located on LH fender
BURNED OR MISSING

Air suspension compressor located under air filter
BURNED OR MISSING

Air suspension relay
BURNED

Other suspect parts
- ALL RUBBER FUEL LINES, BENEK, UNDER HOSES, AIR CLEANER ASSY AND DRIVER SIDE FENDER INNER 1/2 HOOD BURNED
- FIRE DEPT PUT OUT FIRE
- NOT CAR/TRUCK ALSO BURNED.
- LOCAL FORD DEALER JARRETT FORD HAMESCITY, FL.

DAVID BURNETT EAI
JUPITER FL 33458
561-575-4174

INSPECTION DATE
3-19-99

Vehicle/Customer Information

Model Year: 92 **Make:** LINCOLN **VIN#:** 1LNLM81W0NY [redacted] **Mileage:** 100,000 plus per owner

Build Date: 5/92 **Present Vehicle Location:** DEVAUPORT, FL. **Who owns vehicle now:** PARKED IN YARD 1022 W. BLVD. WEST [redacted]

Customer Name: [redacted] **Phone:** 941-421-1750 **Is it ok for engineering to contact customer:** YES

Incident Info/Vehicle History

Where did fire originate? (engine compartment quadrant, suspect location, or suspect component(s))
NOT SURE APPEARS TO BE BELOW BRAKE VACUUM BOOST CYLINDER AREA

What was the vehicle circumstances when the fire was noticed? Was the vehicle running, parked, engine on/off if off, how long? VEHICLE PARKED-ENGINE OFF - APPROX 15-20 MIN. OWNER SAID SHE DROVE TO POST OFFICE AND OUTTO A GROCERY SHOPPING CENTER-PARKED-WHEN RETURNED TO CAR IT WAS ON FIRE

Did customer notice anything unusual prior to fire? (specifically... difficulty getting the vehicle out of park, spe control not working, brake warning lamp illuminated, stop lamp inoperative) CUSTOMER STATES PRIOR EVENING SHE COULD NOT GET SHIFT OUT OF 'PARK' POLICE APPARENTLY CHANGED A FUSE WHICH CORRECTED SHIFT PROBLEM.

Do any underhood relays show evidence of overheat?
ALL RELAYS CONSUMED BY FIRE

Were the underhood fuse links blown?
ALL WIRE INSULATION CONSUMED BY FIRE

Were there any fuses that were blown or show evidence of other damage?
NO FUSES UNDER HOOD - ALL BURNED BY FIRE

Is the correct fuse for the stop lamp switch in the fuse box?
SEE ATTACHED DRAWING - DO NOT KNOW STOP LAMP FUSE POSITION OR AMPS.

Was there any damage to any wiring in the area where the fire was suspected to start?
ALL WIRES (INSULATION) CONSUMED BY FIRE

Does the air suspension pump show evidence of overheating?
COULD NOT FIND PUMP ?

Was there any aftermarket modifications to the vehicle? (specifically car alarm, trailer tow, or remote start)
NO PER OWNER - I DID NOT NOTICE ANY MODIFICATIONS - NO TRAILER HITCH

Was the vehicle involved in a natural disaster/accident that required significant vehicle clean up? If so where w cleanup performed?
PURCHASED USED 10-18-95 ?

What was vehicle repair history?
VEHICLE HAS BEEN SERVICED BY MR. F. CROW - THE FATHER IN LAW

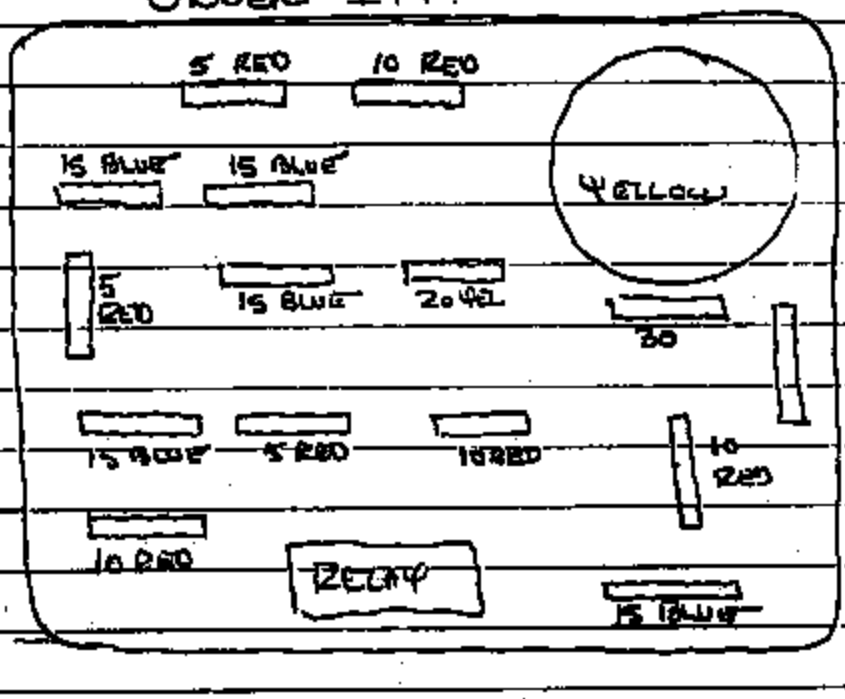
DAVID BURNETT ESQ.

42 LINCOLN ELMHURST NY. 3-19-99

[redacted]

[redacted]

DRAWING (UPSIDE DOWN)
UNDER I.P.



3713 2544

Vehicle/Customer Information/Incident Info

Model Year: 1993 Make: CROWN VICTORIA VIN: 2FALP74W[redacted] Miles (at inspection): 4[redacted]

Inspection Date/Location: VEHICLE AT HOME MAY 13,98

Incident date: 4-19-[redacted] Approximate mileage at time of incident: 75,000[redacted]

Inspector Name: D[redacted] BURNETT

PH - 561-575-4174

Recorded Info

Area of fire origination (engine compartment, interior, etc.): APPEARS TO HAVE OCCURRED IN

Identify if any underhood relays show evidence of overheating: BURNED

Identify if any fuses or fuse links were blown or show evidence of overheating damage: BURNED

Determine if the correct fuse for the stop lamp switch in the fuse box: BURNED

Identify is there was any damage to wiring in the area where the fire was started (ie chafing, missing insulation: BURNED

Assess whether the air suspension pump shows evidence of internal overheating: BURNED

Identify if there were any aftermarket modifications to the vehicle? (specifically car alarm, trailer tow or remote start): DO NOT KNOW

If possible, identify if the vehicle was involved in a natural disaster/accident that required significant vehicle clean up? If so where was cleanup performed?: DO NOT KNOW HISTORY

If possible, identify vehicle repair history: IT MAY BE IN FORD'S WARRANTY DATA

Any other info that may be pertinent to the incident...

PAGE 2 OF 4

NOTE:

- VEHICLE PURCHASED USED FROM [redacted] DEALER 3-12-97 WITH 35,000 MI.
- NEXT OWNERS - HAD A NICE CONVERSATION - ONLY PROBLEMS WITH CAR SINCE PURCHASE WAS A FAILED A/C COMPRESSOR + ONE LONG CAR TRIP TO CALIFORNIA AFTER PURCHASE
- NEW TIRES JUST PURCHASED TWO WEEKS PRIOR TO FIRE
- PRIOR HOME PUT CAR IN GARAGE WENT INTO HOUSE - SHORT TIME LATER HEARD NOISES IN GARAGE - OPENED SLIDER + CAR WAS FREE
- MR. WHITNALL SAID CRUISE HAD NOT WORKED FOR SOME TIME BUT NO OTHER PROBLEMS - NO WARNING LIGHTS - BRAKE LTS WERE OK

CASE 54N

03/22/99 MON 14:28 FAX 2486424656 EA ASSOCIATES

Vehicle/Customer Information/Incident Info

Model Year: 93 Make: CROWN VICTORIA VIN#: 2FALP74W8PX [redacted] Mileage (at inspection): 75,000 APROX

Inspection Date/Location: Vehicle Owner: [redacted]

Incident date: 4-14-99 Approximate mileage at incident: 75,000 mi APROX

Inspector Name: DAVID BURNETT SAA 561-575-4174

Parts that we would like from vehicle if possible to acquire

Brake pressure switch (preferably with wire pigtail/connector attached and still attached to prop valve)
BRAKE SWITCH TERMINAL & PIG TAIL BURNED & SWITCH REMOVED & SENT TO FORENSIC TESTING -5-17-99-

Sample of brake fluid at prop valve (in sealed glass container)
CONSUMED BY FIRE -

Relay pack located on LH fender apron (with as much wiring as possible)
BURNED

EDIS 8 module located on LH fender
BURNED

Speed control module located on LH fender
BURNED

Air suspension compressor located under air filter
BURNED

Air suspension relay
BURNED

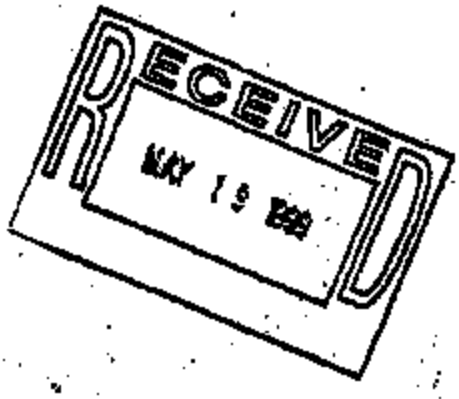
Photograph of door jam VIN sticker -VIN PLATE ONLY - STICKER BURNED

Other suspect parts
- OWNER, MR. WALTHALL SAID CRUISE HAD NOT WORKED FOR A LONG TIME.
- HE SAID NO E.F. WARNING LIGHTS - PRIOR TO FIRE
- CAR DRIVE NORMAL PRIOR TO FIRE -
- HE THINKS BRAKE LIGHTS WERE FUNCTIONING
- POWER WINDOWS WERE WORKING
- CAR WAS ACTING NORMAL - NO UNUSUAL PROBLEMS
- JOINED BY INVESTIGATOR Ina Buckham SEA 813-891-1448
- CNA INSURANCE CLAIM

rev 2.0 3-17-99

Page 1 of 2

3713 2547



Model Year: 98 Make: Lin VIN: 1LNL M[illegible] Mileage (at inspection): 54187

Inspection Date/Location: 5-17-99 Mid South Auto Salvage Vehicle Owner: [redacted]

Incident date: 4-24-99 Approximate mileage at incident: 54187 Jackson MS

Inspector Name: Danny D. Mullins

CASE # 53 N

Mechanical Info

Area of the origination (engine compartment, passenger, cargo area, etc)
Engine Compartment Left Side

Identify if any pedestrian injury show evidence of internal overheat
Dashboard

Identify if any fuse or fuse links were blown or show evidence of other damage
#4 15 AMP Fuse Blown

Determine if the correct fuse for the map lamp exists in the fuse box
15 AMP

Identify if there was any damage to wiring in the area where the fire was started (ie chafing, wiring insulation)
Dashboard

Assess whether the air suspension pump shows evidence of internal overheating
Not Available

Identify if there were any aftermarket modifications to the vehicle? (specifically car alarm, trailer tow, or remote start) None

If possible, identify if the vehicle was involved in a recent disconnection that required significant vehicle down unit If so where was cleanup performed?
None

If possible, identify vehicle repair history
Not Available

Any other info that may be pertinent to the incident...

Parts that you would like from vehicle if possible to analyze

Entire pressure switch (preferably with wire pigtail connector attached and still attached to pump valve)
Long lead

Sample of brake fluid or pump valve (in sealed glass container)
Not Available

Relay pack located on LH fender apron (with as much wiring as possible)
Not Available

BCM 1 module located on LH fender
Not Available

Speed control module located on LH fender
Not Available

Air suspension compressor located under air filter
Not Available

Air suspension relay
Not Available

Photograph of dash from VIN sticker
Broken Off

Other suspect parts

rev 2.0 — 3/15/99

HENRY SECKEL
20949 BOCA RIDGE DRIVE SOUTH
BOCA RATON, FL. 33428
561 488 3760
FAX 561 883 9444

REF: F002A49C

FORD CENTRAL TESTING LAB / DEPT. T118
15000 CENTURY DRIVE
COMMERCE PARK NORTH
DEARBORN, MI 48120

DATE :04-27-99

CASE # 49
VIN: 2FALP71W9RX[redacted]
NAME[redacted]
MILEAGE: 87204

ATTACHED PLEASE FIND:
1 BRAKE PRESSURE SWITCH
1BRAKE PROPORTIONING VALVE
1 BRAKE FLUID SAMPLE FROM PROPORTIONING VALVE MARKED # 1 (1/2 GLASS JAR)
1 BRAKE FLUID SAMPLE FROM MASTER CYLINDER MARKED #2 (3/4 GLASS JAR)
FORD UNDER HOOD FIRE QUESTIONAIRE

ADDENDUM TO FORD UNDER HOOD INVESTIGATION.

PRIOR TO THE INSPECTION I MET WITH[redacted]. AND INFORMED HIM THAT AFTER THE INVESTIGATION, THE BRAKE PROPORTIONING VALVE AND THE BRAKE PRESSURE SWITCH WOULD BE REPLACED ON THE CAR AT NO COST TO THE[redacted]. PROVIDED THAT HE GIVES PERMISSION TO PERFORM THIS REPAIR TO THE VEHICLE. HE GAVE HIS PERMISSION. THE INSPECTION AND PARTS REPLACEMENT WAS DONE AT FORT LAUDERDALE LINCOLN MERCURY IN FT. LAUDERDALE FL.
THE INSPECTION REVEALED THAT THE BRAKE PRESSURE SWITCH AND WIRE TERMINAL WAS COVERED WITH FLUID WHICH STARTED TO WICK UP THE WIRING HARNESS. THE BRAKE MASTER CYLINDER ASSEMBLY AND BRAKE LINES WERE DRY AND NO OTHER UNDER HOOD BRAKE COMPONENT HAD ANY LEAKS. THE MASTER CYLINDER FLUID LEVEL WAS FULL. THE BRAKE PEDAL HAD A GOOD SOLID FEEL AND THE PEDAL DID NOT DROP UNDER STEADY FOOT PRESSURE OF ABOUT 100 LBS. THE POWER BRAKE ASSIST WHEN THE ENGINE WAS STARTED WAS NORMAL. NONE OF THE ENGINE COMPARTMENT WIRING WAS DAMAGED OR HAD ANY SIGN OF OVERHEATING EXCEPT FOR THE WIRING HARNESS TO THE UNDER HOOD LIGHT. SEE PHOTOGRAPHIC NOTES. WIRING TO THE ENGINE COMPARTMENT FUSE BOX ON THE RIGHT FENDER WAS NOT DAMAGED. ALL FUSES WERE OF PROPER SIZE AND NONE WERE BLOWN. MOST OF THE POLICE WIRING PACKAGE WAS CONNECTED TO THIS LOCATION AND NO WIRE DAMAGE WAS OBSERVED. THERE WAS NO OVERHEATING NOTED ON THE SOLENOIDS. THE UNDER DASH FUSE PANEL ALSO HAD THE PROPER SIZE FUSES AND NONE OF THE FUSES WERE BLOWN. ALL THREE STOP LIGHTS IN THE REAR OPERATED NORMALLY. WIRING TO THE RELAY CENTER ON THE LEFT FENDER WAS UNDAMAGED.

THE WIRING HARNESS TO THE EDIS 8 MODULE WAS NOT DAMAGED. THE ABS PUMP CASTING AND HYDRAULIC LINES ARE TIGHT AND DID NOT SHOW ANY SIGN OF LEAKS. IT SHOULD BE NOTED THAT THE ABS MONITOR LIGHT AT THE INSTRUMENT PANEL STAYS LIT WITH KEY ON. THIS IS A COMPLAINT AND THE VEHICLE WAS BROUGHT IN TO REPAIR THIS CONDITION. THE STEERING GEAR HOUSING HAS A SLIGHT FLUID LEAK. PRIOR TO REMOVING THE BRAKE PRESSURE SWITCH AND PROPORTIONING VALVE AS AN ASSEMBLY THE WIRE HARNESS TO THE SWITCH WAS REMOVED. SOME FLUID WAS STARTING TO WICK UP THE HARNESS BUT AFTER CLEANING THE WIRES THERE WAS NO INSULATION DAMAGE OR OVERHEATING CONDITION OBSERVED. THE PROPORTIONING VALVE AND SWITCH WAS REMOVED AS A UNIT AND WAS SHIPPED WITHOUT ANY CLEANING TO THE TESTING LAB. THE SWITCH WAS FOUND TO BE TIGHT IN THE PROPORTIONING VALVE BLOCK. AFTER COMPLETING THE PARTS REPLACEMENT THE POWER TRAIN WAS CHECKED AND THE SYSTEM PASSED AND NO DTC'S WERE OBSERVED. THE DATA MONITOR ALSO INDICATED NO DTC'S.

Case # 49 X (2)

1993-98 Town Car/Crown Vic/Grand Marquis/Under Hood Fire Questionnaire

We are contacting you, because you reported smoke or fire in your vehicle. Ford is investigating your report and would like to ask you some questions about it. We hope everyone was ok...

Vehicle/Customer Information

Model Year: 94 Make: CROWN VICTORIA VIN#: 2FALP71W7RX [redacted]

Primary Vehicle Location: 840 NW 5th Ave Was owns vehicle now: [redacted]

Customer Name [redacted] Phone: [redacted]

Is it ok for engineering to contact customer: OK

Was the vehicle involved in a natural disaster/accident that required significant vehicle clean up? NO

If so, where was cleanup performed? N/A

What is the general repair history of the vehicle? Mechanical problems - nothing electrical related

Was it equipped with any aftermarket components? (specifically car alarm, trailer tow, or remote start) POLICE PACKAGE

Insurance Agency Info. (if appropriate)

Agency Name: _____ Agency phone number: _____

Claim number: _____

Contact _____ Phone number _____

Incident Info

Date of fire N/A Mileage 97,202 Was the vehicle repaired? IN THE PROCESS

If repaired, when and where? _____

* See Below Any idea where the fire started? (engine compartment quadrant... front, back, left, right) BRAKE BOOSTER/BRAKE LIGHT SWITCH

Was the vehicle parked or running? PARKED If parked, where? (garage, carport, parking lot) SIC DEPT BAY AREA

Was the engine ON or OFF? OFF If OFF, how long was it parked before fire? _____

Did customer notice anything unusual prior to fire? _____

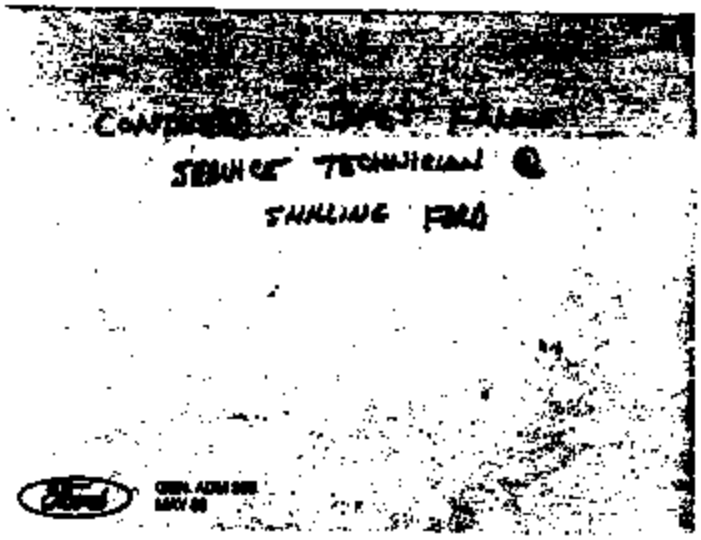
Was there any difficulty getting the vehicle out of park: NO Was speed control not working: NO

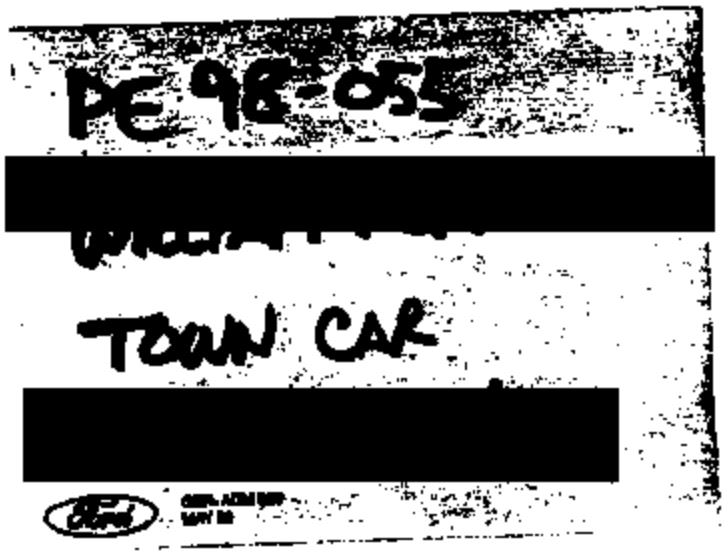
Was the brake warning lamp illuminated: NO Were the brake lights inoperative: NO

Any other info that you think may be useful to our investigation? _____

* Excessive brake fluid - Vehicle had not caught on fire
Brake Switch was SATURATED with brake fluid

3713 2852


SERVICE TECHNICIAN


PE 98-055
[redacted]
TOWN CAR
[redacted]

Page: 01 CQIS DETAIL REPORT 12/07/98 18:14:14

CQIS Report Number: WJIAA135 Program Type: Q Orig Rpt #: 225951-98
Report Source: MSS - FCSD - Q5F5 Report Date: 10/09/1998

REPORT SUMMARY

VEHICLE: 1993 TOWN CAR,SIGN ,SEDAN VIN : 1LNLM82W0PY[redacted]
Engine : 4.6L ROMEO BASE EFI Odometer: 51,500 MILES
Operating Environ: WCC : 5D05
Vehicle Use : Rsp. Act:

SYMPTOM: 3 01 0 00 CHASSIS SERVICE BRAKE SYSTEM
OTHER (CODE NOT AVAILABLE) OTHER (CODE NOT AVAILABLE)
Additional Symptom:
Other Veh. With Concern: Severity Rating - Customer: Engineering:

Causal Component: 28264 SWITCH BRK PRES WRN L
Causal Factor: Feature: Loc:
Causal Condition: Photo: Images: 0
Component Test Status: ---- Return Loc:
Vehicle Fixed?: YES Customer satisfied?: Repair Effectiveness (%): 100

COMMENTS

--TYPE--	COMMENT TEXT
CONCER	INITIALLY THE CUSTOMERS CONCERN WAS THAT THE VEHICLE WOULD NOT COME OUT OF PARK. WHILE IN THE DEALERSHIP, AN UNDERHOOD FIRE STARTED, CAUSED BY A LEAKING BRAKE FLUID THROUGH THE SWITCH INTO THE CONNECTOR.
REPAIR	REPLACED THE SPEED CONTROL SWITCH AND CONNECTOR. REPLACED THE STOP LAMP SWITCH FOR THE ORIGINAL CUSTOMERS CONCERN. PER TECHNICIAN, THIS IS THE THIRD UNIT THAT HAD AN UNDERHOOD FIRE THAT APPEARED TO ORIGINATE FROM THIS AREA. THE OTHER TWO WERE TOO DAMAGED TO DETERMINE THE SPECIFIC LOCATION OF THE POINT OF THE ORIGIN. THE SWITCH AND CONNECTOR ARE PRESENTLY IN MY POSSESSION IN THE MEMPHIS REGIONAL OFFICE.
AUDIT	10/14/1998 09:56AM BRENDA WENDEL MSS - FCSD - Q5F5
	DEALER ID 68523 CHANGED TO 12098 BY BWENDEL

CONCERN DETAILS

DIAGNOSTIC INFORMATION

Symp. Verif?: Base of Diagnosis: Level of Assistance:
Comp. Timing: Base Timing : MIL Light on? :
Test Stand : Road Test : OD Number:
Prior Repair Attempts: Repair Prior to Call: NO
DTCs KOEO: KOEC:
KOER: CB:

Equipment/Procedure Used	Effective?	Equipment/Procedure Used	Effective?

SERVICE ACTIONS

Repair Type	Component Number	Number Type	Description	Causal Comp.
RPL	28264	SERVICE	SWITCH BRK PRES WRN L	YES

VEHICLE DETAILS

Vehicle Build Date: 09/10/1992 Warranty Start Date: 02/08/1993
Date of Sale: 02/08/1993 Selling Dlr (Mkt,Dlr,Sub): 12098
Dealer Special Order: Gross Vehicle Weight:
LH/RH Drive:

ENGINE

Engine: 4.6L ROMEO BASE EFI Tag: 3G 812 AA
Bld Dt: Calb: 318JR10 A Serial #: W

Post-it® Fax Note 7671	Date 12/10	# of pages ▶ 4
To Bill Abbaczyk	From Marilyn Taylor	
Co./Dept.	Co.	
Phone #	Phone # 27642	
Fax # 42268	Fax #	

3713 2555

CQIS Report Number: WJIAA135 Program Type: Q Orig Rpt #: 225951-98
Report Source: MSS - PCSD - QSFS Report Date: 10/09/1998

---TRANSMISSION---

Trans: ADD-E 4SP ELEC O/D Part #:
Bld Dt: Serial #:
Model: Plt: Shft:

---AXLE---

Axle: 8.8 3.08 CONVENTIONAL Id Tag Code: Bld Dt:
Serial #: Plt:

---ADDITIONAL---

Tire : P215/70R15 WSW Brand :
Radio : ELETR PREMIUM AM/FM STRO/CSTE A/C : ATC AIR CONDITIONER
Paint : BLUE EXTERIOR PAINT FAMILY ------- AQUAMARINE FROST C/C

---------- AFTER MARKET MODIFICATIONS ----------

NO AFTER MARKET MODIFICATIONS DATA AVAILABLE FOR THIS VEHICLE

--------- REPORT ORIGINATOR - REPAIR FACILITY - CUSTOMER INFORMATION ---------
Orig/Caller : KENNETH DYER Title: OTHER

Repair Dlr: 12098 - SCHILLING L-M/MERIDENHALL INC Ph#:(901) 794-4000
City: Memphis State : Tennessee
Country: UNITED STATES Region : Memphis - 23

Claim #/Date : LIC5777 07/19/1998

Customer Name : [redacted] City :

---------- CQIS VIN HISTORY ----------

NO CQIS VIN HISTORY AVAILABLE FOR THIS VEHICLE

--- SUPPLEMENTAL SURVEY: NONE ---

---------- VEHICLE'S WARRANTY HISTORY (365 days only) ----------

NO VEHICLE WARRANTY HISTORY AVAILABLE FOR THIS VEHICLE

[redacted]

SCHILLING
LINCOLN/MERCURY

SCHILLING ASSURANCE

2660 S. Mendenhall
Memphis, TN
(901) 794-4000

SCHILLING
LINCOLN/MERCURY
SUPER CENTER

2660 S. Mendenhall
Memphis, TN
(901) 794-4000

- SERVICE DEPARTMENT
- COLLISION REPAIR DEPARTMENT
- PARTS DEPARTMENT

34586	WILLIAM BLAKELY 4899	4972		10/07/98	LIC#77613
[redacted]		51411		AC08/	
	98/LINCOLN/TOWN CAR/4DR			02/08/93	15400
	I E N E H G Z B O P Y [redacted]				09/10/92
MEMPHIS, TN [redacted]		15612		10/06/98	REPRINT# 1

LABOR & PARTS
JW 1 20L12 TRIM TECH(S):7102 64.00
CAR WON'T COME OUT OF PARK.
REPLACE BRAKE LIGHT SWITCH AND WIRING.

PARTS	QTY	FP NUMBER	DESCRIPTION	UNIT PRICE	
JOB # 1	1	F0AZ-13480-A	SW ASY-STP LP	12.99	12.99
JOB # 1	1	OBP-PIGTAIL		7.76	7.76
JOB # 1	1	D9ZZ-14526-G	FUSE	0.87	0.87
JOB # 1	2	E0AZ-14487-B	CONN-SUIT SPLI	0.29	0.58
			JOB # 1 TOTAL PARTS		22.20
			JOB # 1 TOTAL LABOR & PARTS		86.20

SUBLET	PUR	VEND INVO	INV.DATE	DESCRIPTION	
JOB # 1	98292	35260	10/05/98	TOW BILL	39.00
				TOTAL - SUBLET	39.00

COMMENTS
DELETED OPERATION(S)
22L729 OTHER SUBLET

TOTALS

TOTAL LABOR..	44.00
TOTAL PARTS..	22.20
TOTAL SUBLET..	39.00
TOTAL S.O.S..	0.00
TOTAL MISC....	0.00
TOTAL TAX.....	10.58
TOTAL INVOICE $	135.78

CASHIER ID [ ]

CASH [ ] CHARGE [ ] CHECK [ ] CREDIT CARD [ ]
EMPLOYEE CHARGE [ ]

THE AMOUNT OF THIS INVOICE REFLECTS ALL DISCOUNTS **********

WE APPRECIATE YOUR BUSINESS.!!

CUSTOMER SIGNATURE

********** DUPLICATE INVOICE **********

PAGE 1 OF 1 [END OF INVOICE] 10153195

3713 2557

[redacted]

SCHILLING
LINCOLN/MERCURY

2660 S. Mendenhall
Memphis, TN
(901) 794-4000

SCHILLING
LINCOLN/MERCURY
SUPER CENTER

2660 S. Mendenhall
Memphis, TN
(901) 794-4000

[redacted]
COLLISION REPAIR DEPARTMENT
[redacted]

34486	WILLIAM BLAKELY 4859	L972		10/07/98	LIC877723
[redacted]		51500		BLUE/	
	93/LINCOLN/TOWN CAR/4DR			02/08/93	12400
	1LNLM82W0PY[redacted]				09/18/92
MEMPHIS, TN [redacted]				10/07/98	

LABOR & PARTS

JM 1 20LIZ TRIM TECH(S)#7102 INTERNAL

WIRING HARNESS.
REPLACE BRAKE LIGHT SWITCH AND WIRING.

PARTS	QTY	FP-NUMBER	DESCRIPTION	UNIT PRICE	
JOB # 1	1	F6UZ-9F924-A	SW ASY-STD CON		INTERNAL
JOB # 1	2	E6AZ-14487-A	CONN-BUTT SPLI		INTERNAL
JOB # 1	1	OBP-HARNESS			INTERNAL

JOB # 1 TOTAL PARTS 0.00

JOB # 1 TOTAL LABOR & PARTS 0.00

TOTALS

TOTAL LABOR..	0.00
TOTAL PARTS..	0.00
TOTAL SUBLET.	0.00
TOTAL G.O.B..	0.00
TOTAL MISC....	0.00
TOTAL TAX....	0.00
TOTAL INVOICE $	0.00

CASHIER ID ( )

CASH [ ] CHARGE [ ] CHECK [ ] CREDIT CARD [ ]
EMPLOYEE CHARGE [ ]

THE AMOUNT OF THIS INVOICE REFLECTS ALL DISCOUNTS ********

WE APPRECIATE YOUR BUSINESS !!

CUSTOMER SIGNATURE

DUPLICATE INVOICE

PAGE 1 OF 1 [END OF INVOICE] 10154140

3713 2559

FedEx USA Airbill 805580868404

Form I.D. No. 0210

SNA22 Sender's Copy

1 From (please print and press hard)

Date 12/10/98 Sender's FedEx Account Number 1035-4524-2

Sender's Name [redacted] Phone [redacted]

Company FORD CUST SVC DIV

Address 8000 CENTERVIEW PKWY #201

City CORDOVA State TN ZIP 38018

2 Your Internal Billing Reference Information

3 To (please print and press hard)

Recipient's Name Phone

Company

Address

City State ZIP

4a Express Package Service

4b Express Freight Service

5 Packaging

6 Special Handling

7 Payment

Total Packages Total Weight Total Declared Value Total Charges

8 Release Signature

321

Questions? Call 1-800-Go-FedEx (800)463-3339

The World On Time

004947714 2

RETAIN THIS COPY FOR YOUR RECORDS

3713 2569

Terms And Conditions

Definitions In this Airbill, "we," "our" and "us" refer to Federal Express Corporation, its employees, and agents. "You" and "your" refer to the shipper, its employees, and agents.

Agreement To Terms By giving us your package to deliver, you agree to all the terms in our current Service Guide, which is available on request. You also agree to these terms on behalf of any third party with an interest in the package. If there is a conflict between the Service Guide and this Airbill, the Service Guide will control. No one is authorized to change the terms of our Agreement.

Responsibility For Packaging And Completing Airbill You are responsible for adequately packaging your goods and properly filling out this Airbill. If you omit the number of packages and/or weight per package, our billing will be based on our best estimate of the number of packages we received and/or an estimated "default" weight per package as determined by us.

Responsibility For Payment Even if you give us different payment instructions, you will always be primarily responsible for all delivery costs, as well as any cost we incur in either returning your package to you or re-shipping it pending disposition.

Limitations On Our Liability And Liabilities Not Assumed

- Our liability for loss or damage to your package is limited to your actual damages or $100, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. You may pay an additional charge for each additional $100 of declared value. The declared value does not constitute, nor do we provide, cargo liability insurance.
- In any event, we will not be liable for any damage, whether direct, incidental, special, or consequential in excess of the declared value of a shipment, whether or not Federal Express had knowledge that such damages might be incurred including but not limited to loss of income or profits.
- We won't be liable:

  for your acts or omissions including but not limited to inaccurate or insufficient packing, securing, marking, or addressing or those of the recipient or anyone else with an interest in the package

- If you or the recipient violate any of the terms of this Agreement
- for loss or damage to shipments of prohibited items
- for loss, damage, or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, acts of public enemies, war, strikes, civil commotions, or acts of public authorities with actual or apparent authority.

Declared Value Limits

- The highest declared value allowed for FedEx Letter and FedEx Pak shipments is $500.
- For other shipments, the highest declared value allowed is $50,000 unless your package contains items of "extraordinary value," in which case the highest declared value allowed is $500.
- Items of "extraordinary value" include shipments containing such items as artwork, jewelry, furs, precious metals, negotiable instruments, and other items listed in our Service Guide.
- You may send more than one package on this Airbill and fill in the total declared value for all packages, not to exceed the $100, $500 or $50,000 per package limit described above. (Example: 5 packages can have a total declared value of up to $250,000.) In that case, our liability is limited to the actual value of the package(s) lost or damaged, but may not exceed the maximum allowable declared value(s) or the total declared value, whichever is less. You are responsible for proving the actual loss or damage.

Filing A Claim YOU MUST MAKE ALL CLAIMS IN WRITING and notify us of your claim within strict time limits set out in the current Service Guide.

We'll consider your claim filed if you notify our Customer Service Department at 1-800-Go-FedEx® (800463-3339) and make your claim in writing as soon as possible.

Within 30 days after you notify us of your claim, you must send us all the information you have about it. We won't be obligated to act on any claim until you have paid all transportation charges, and you may not deduct the amount of your claim from these charges.

If the recipient accepts your package without noting any damage on the delivery record, we will assume the package was delivered in good condition. For us to process your claim, you must make the original shipping cartons and packing available for inspection.

Right To Inspect We may, at our option, open and inspect your package(s) before or after you give them to us to deliver.

Right Of Redirection We reserve the right to reject a shipment when such shipment would be likely to cause delay or damage to other shipments, equipment, or personnel or if its shipment is prohibited by law; or if the shipment would violate any terms of our Agreement or our current Service Guide.

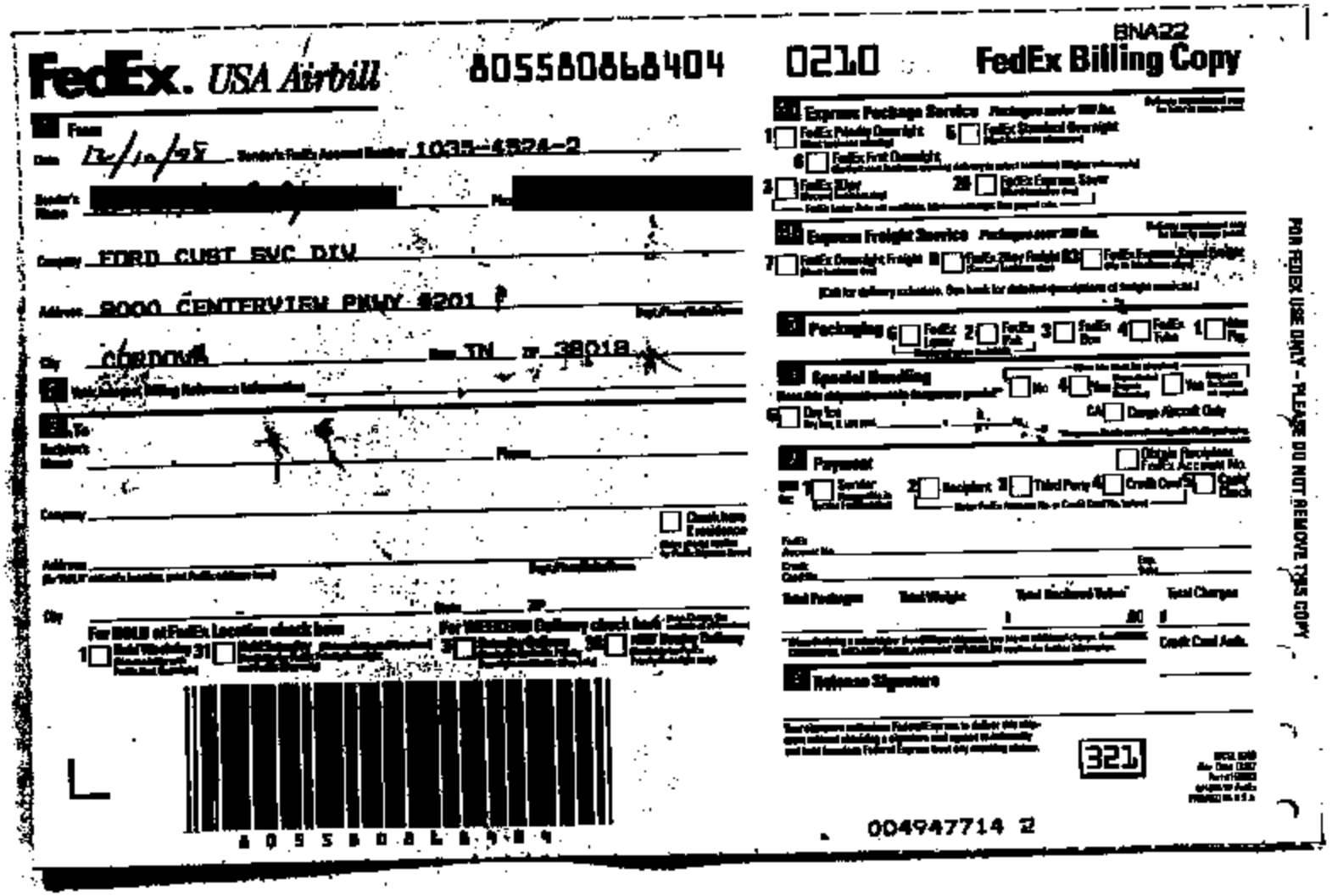
C.O.D. Services C.O.D. SERVICE IS NOT AVAILABLE WITH THIS AIRBILL. If C.O.D. Service is required, please use a Federal Express C.O.D. Airbill.

Air Transportation Tax Included A federal excise tax when required by the Internal Revenue Code on the air transportation portion of this service, if any, is paid by us.

Money-Back Guarantee In the event of untimely delivery, Federal Express will at your request and with some limitations, refund or credit all transportation charges. See current Service Guide for more information.

Freight Services There are several freight service options, depending on your transit time needs.

- FedEx Overnight Freight: Next business-day service to all points in the 48 states; rates are based upon the distance shipped.
- FedEx 2Day Freight: Second business-day service to all points in the 48 states; rates are based upon the distance shipped.
- FedEx Express Saver Freight: By to 3 business-day service to all points in the 48 states; rates are based upon the distance shipped.



FedEx. USA Airbill

805580868404

0210

BNA22

FedEx Billing Copy

From

Date 12/10/95 Sender's FedEx Account Number 1035-4524-2

Sender's Name [redacted] Phone [redacted]

Company FORD CUST SVC DIV

Address 9000 CENTERVIEW PKWY #201

City CORDOVA State TN ZIP 38018

Your Internal Billing Reference Information

To

Recipient's Name Phone

Company

Address

City State ZIP

For DOMESTIC or FedEx Location check here

For INTERNATIONAL Delivery check here

Express Package Service

Express Freight Service

Packaging

Special Handling

Payment

Total Packages Total Weight Total Declared Value* Total Charges

Credit Card Auth.

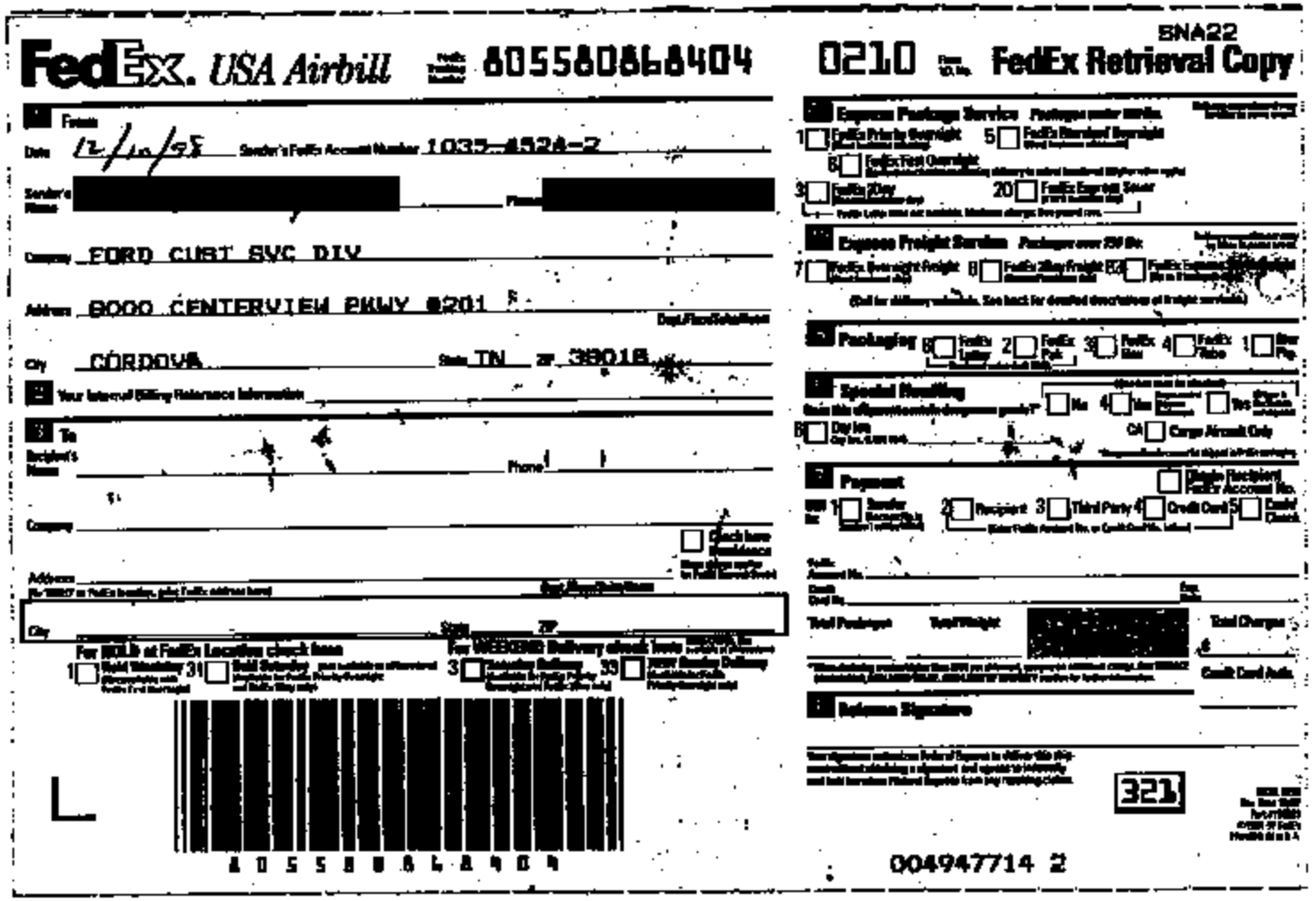
Reference Signature

321

004947714 2

FOR FEDEX USE ONLY - PLEASE DO NOT REMOVE THIS COPY

3713 2561



FedEx. USA Airbill 805580868404

0210 FedEx Retrieval Copy

SNA22

From

Date 12/10/98 Sender's FedEx Account Number 1035-4524-2

Sender's Name [redacted] Phone [redacted]

Company FORD CUST SVC DIV

Address 8000 CENTERVIEW PKWY 8201 S

City CORDOVA State TN ZIP 38018

Your Internal Billing Reference Information

To

Recipient's Name Phone

Company

Address

City State ZIP

For HOLD at FedEx Location check here

1 Hold Weekday 31 Hold Saturday

For WEEKEND Delivery check here

3 Saturday Delivery 39 Sunday Delivery

805580868404

Express Package Service

1 FedEx Priority Overnight 5 FedEx Standard Overnight

6 FedEx First Overnight

3 FedEx 2Day 20 FedEx Express Saver

Express Freight Service

7 FedEx Overnight Freight 8 FedEx 2Day Freight 9 FedEx Express Saver Freight

Packaging 0 FedEx Letter 2 FedEx Pak 3 FedEx Box 4 FedEx Tube 1 Other Pkg

Special Handling

No 4 Yes 7 Yes

5 Dry Ice CA Cargo Aircraft Only

Payment

1 Sender 2 Recipient 3 Third Party 4 Credit Card 5 Credit Check

FedEx Account No.

FedEx Acct No.

Credit Card No. Exp.

Total Packages Total Weight [redacted] Total Charges $

Credit Card Auth.

Release Signature

321

004947714 2

3713 2562

FedEx. *USA Airbill* 805580868404

0210 Recipient's Copy

SNA22

12/10/03

[redacted]

FORD CUST SVC DIV

8000 CENTERVIEW PKWY #201

CORDOVA TN 38018

[redacted]

[redacted]

321

004947714 2

3713 2563

Terms And Conditions

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Agreement To Terms By giving us your package to deliver, you agree to all the terms in our current Service Guide, which is available on request. You also agree to these terms on behalf of any third party with an interest in the package. If there is a conflict between the Service Guide and this Airbill, the Service Guide will control. No one is authorized to change the terms of our Agreement.

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- In any event, we will not be liable for any damage, whether direct, incidental, special, or consequential in excess of the declared value of a shipment, whether or not Federal Express had knowledge that such damages might be incurred including but not limited to loss of income or profits.
- We won't be liable:
  - for your acts or omissions including but not limited to improper or insufficient packing, securing, marking, or addressing or those of the recipient or anyone else with an interest in the package
  - if you or the recipient violate any of the terms of our Agreement
  - for loss or damage to shipments of prohibited items
  - for loss, damage, or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, acts of public enemies, war, strikes, civil commotions, or acts of public authorities with actual or apparent authority.

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We'll consider your claim filed if you notify our Customer Service Department at 1-800-GO-FedEx® (800.463.3339) and make your claim in writing as soon as possible.

Within 60 days after you notify us of your claim, you must send us all the information you have about it. We might be required to act on any claim until you have paid all transportation charges, and you may not deduct the amount of your claim from your charges.

If the recipient accepts your package without noting any damage on the delivery record, we will assume the package was delivered in good condition. For us to process your claim, you must make the original shipping cartons and packing available for inspection.

Right To Inspect We may, at our option, open and inspect your packages before or after you give them to us to deliver.

Right Of Rejection We reserve the right to reject a shipment when such shipment would be likely to cause delay or damage to other shipments, equipment, or personnel or if its shipment is prohibited by law; or if the shipment would violate any terms of our Agreement or our current Service Guide.

C.O.D. Services C.O.D. SERVICE IS NOT AVAILABLE WITH THIS AIRBILL. If C.O.D. Service is required, please use a Federal Express C.O.D. Airbill.

Air Transportation Tax Excluded A federal excise tax when required by the Internal Revenue Code on the air transportation portion of this service, if any, is paid by us.

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- FedEx 2Day Freight: Second business-day service to all points in the 48 states; rates are based upon the distance shipped.
- FedEx Express Saver Freight: Up to 3 business-day service to all points in the 48 states; rates are based upon the distance shipped.

9804105
COMPLETE
FINAL REPORT ISSUED

Photos
Final Report
Raw Data

Request for Central Laboratory Service

9804105 | 12-17-98

13000 Century Dr., Dearborn MI 48120-1267 Phone [313] 32-21676 FAX [313] 32-21614

Your Name (Send report to)	Telephone	PROFS ID	FAX
G. STEVENS	36686	GSTEVEN1	36686
Secondary Contact	**Telephone**	**PROFS ID**	**FAX**
N. LAPOINTE	42696	NLAPOINT	

Send Report To

Room No./Mail Drop/PO Box	Building	Location Code	Dept.	Work Task
MD 500 [illegible] MATERIALS ANL	[illegible]	[illegible]	7E03	XO[illegible]

Sample

Sample Handling: X Return after test ___ Dispose after test ___ Dispose after 30 days

TOX/CAS# | Source | Supplier Code

Part/Material Name	Sample Identification	Part Number	Material Specification	CPSC Code	Supplier
					TEXAS
SPEED CONTROL	BURNED	E2VY-9F924-A	NA		INSTRUMENTS
CUT-OFF SWITCH	CONNECTOR ?				
	PRESSURE ACTUATOR				
	(REDDICK)				

Investigation

Requestor Info. Box (For requestor use): HIGH PRIORITY – POSSIBLE LEGAL

___ Production/Test ___ Failure Analysis X Legal ___ Specification

___ No ___ Yes | ___ No ___ Yes | Do you need to know your CL contact and timing? ___ Yes

Additional Sample Information/Testing Requirements

DETERMINE CAUSE OF BURNED CONNECTOR

- RADIOGRAPH
- PHOTOGRAPH
- PRESSURE TEST DIAPHRAGM

EVALUATE / UNDERSTAND CIRCUITRY OF NEW SWITCHES

ATTN: S. LABONCHE

Sample in Lab

NOTE: ALL COMMUNICATIONS / REPORT ETC. TO BE DUAL (I.E. N LAPOINT

Report

Format (Check all that apply):

X FAX preliminary results ___ FAX hand written ___ Mail typed report

___ FAX typed report ___ Mail hand written ___ Electronically transmit report ___ Phone preliminary results

For information about services or assistance in completing this form please refer to the Central Laboratory WEB page. [www.ga.ford.com/...]
Laboratory number and date cannot be assigned without receipt of samples.
Samples will be disposed of after 30 days unless otherwise indicated above.

CL-Form #CLF07_01

3713 2566

Central Laboratory
15000 Century Drive
Dearborn, MI 48120-1267
FAX (313) 322-1614

Report 9804105

April 22, 1999

To:	G. Stevens	(313) 32-36886	(313) 39-0724 FAX
From:	S. LaRouche	(313) 84-54876	

Subject: Speed Control Cut-off Switch
Part Number: F2VY-9F924-A
Specification: See Appendix A
Supplier: Texas Instruments

Received: One burned speed control cut-off switch and attached connector were received on December 17, 1998. The switch was identified as Reddick (Memphis).

Object: Determine cause of burned switch and connector.

Conclusion: The switch cavity of the base exhibits the most severe heat damage, which suggests that the fire may have originated in that location.

Although several conditions were discovered in the switch cavity which could contribute to the switch fire, it could not be determined if any of these conditions were the actual cause:

The deposits on the face of the cup contain elements (copper and zinc) from the brass contacts. This indicates transfer of the contact material to the cup, possibly as a result of an electrical cell being set up between the contacts which are electrically hot (+) and the cup which is grounded (-). The face of the cup and switch cavity contain a glycol based material (probably brake fluid) which could have acted with other materials (possibly water or an oxalate) as an electrolyte. If a cell occurred, it would have been a current path between the electrically hot contacts and ground.

The stationary contact is corroded and exhibits dezincification. Dezincification in brass is usually caused by exposure to water. The contact also exhibits cracks which are intergranular and appear to have been caused by stress corrosion cracking. Stress corrosion cracking in copper alloys is usually caused by exposure to ammonia, ammonia compounds, or amines. Portions of the contact have been reduced in cross sectional area by as much as 50 as a result of corrosion. All of these conditions could have increased the resistance of the contact.

The movable contact appears to have been melted back into the bulkhead between the switch and wire cavities of the switch base, most likely due to arcing. The surfaces of the melted area are clean which suggests that this damage may have occurred in the later stages of the fire.

The Kapton seals (diaphragms) exhibit cracks, possible mechanical damage, and embrittlement associated with the cracks. The cause of the cracks could not be determined. The cracks appear to have formed a leak path for the brake fluid to enter the switch cavity.

Data and Analysis:

Visual Examination

For reference, the components and internal construction of a typical switch are shown in Appendix 1.

The base and connector of the submitted assembly have a burned and melted appearance. The base separated from the pressure side of the assembly approximately flush with the crimp ring. This left the face of the cup exposed. The face of the cup is partially covered with a greenish deposit and what appears to be some type of liquid. Small samples of the deposit and liquid were removed from locations A and B shown in Figure 1 for subsequent analyses.

The switch cavity contains the stationary contact which has a corroded appearance. The movable contact and its base are missing. The ceramic transfer pin is also missing. The cavity appears to be the most severely burned portion of the base. The plastic appears to have been charred away in this area, with only fibrous filler material remaining. This suggests that the fire may have started in this area. The connector appears to have been bonded to the switch base by heat from the fire. The exterior of the connector is covered with a white deposit.

The switch was examined with a fluoroscope (see Fluoroscopic Examination) and then sent to Texas Instruments (switch supplier, Attelboro, MA) for disassembly and examination (witnessed by N. LaPointe). The disassembled components were photographed by N. Lapointe (Figures 2 through 14). After disassembly and examination by Texas Instruments, the switch components were returned to Central Laboratory.

The Kapton seals are discolored and appear to have been cracked. These were sent to the Polymers section of Central Laboratory for further examination (see Examination of Kapton Seals section of this report).

The interior of the cup, the washer, converter, disc, and spacer are covered with a liquid and black residues (Figures 13 and 14). These were sent to the Organic Section of Central Laboratory for sampling and analysis.

The connector and switch base had been separated during examination by Texas Instruments. After the parts were returned from Texas Instruments, the connector was examined at Central Laboratory in the presence of UTA (connector supplier). The gray seal where the wires enter the connector appears intact (Figure 15). The cavity below the seal contains white deposits similar in appearance to those noted on the exterior (Figure 16). The sealing surface of the red seal is no longer intact and appears to have been partially melted by heat from the fire (Figure 17). Part of the melted seal material appears to have been transferred to the switch base (Figure 18). The insulation was carefully removed from the wires. The wires exhibit some tarnish and greenish discoloration (Figure 19). After this examination was completed, the contact bases and terminals were removed from the switch base.

The stationary contact exhibits cracks in the corners of the window below the contact pad and bridge (Figure 20). One corner away from the pad exhibits what appears to be localized arc damage. Approximately 50% of the bridge cross section has been lost by what appears to be corrosion. Cracks are also present in the base of the contact where it is bent and crimped to the bulkhead in the switch base. The terminal is covered with a black deposit.

The movable contact appears to have been melted back into the bulkhead of the switch base. The contact appears to have been melted into a large globule which has a clean and shiny appearance (Figure 20). The clean surfaces suggest that this damage is fresh and may have occurred in the later stages of the fire. The terminal is covered with olive green deposits.

Fluoroscopic Examination

Fluoroscopic examination revealed the presence of cracks in the stationary contact (Figures 21 and 22). It also shows loss of material in the bridge (Figure 21). The movable contact is missing. The base and terminal of the movable contact terminate in a large globule in the bulkhead of the switch base (Figure 23). The switch base and pressure side of the switch assembly were placed together to show the approximate relative position between the stationary contact and cup (Figures 23 through 26). Close ups of the pressure side of the switch assembly show the washer, converter, and disc in position inside the cup (Figures 27 and 28.

Examination of Kapton Seals
(Reflected Light Microscopy and Scanning Electron Microscopy (SEM))

The switch contains three Kapton seals which were splayed at ~45° angle to one another. Each seal has a laminated construction of Kapton between Teflon films. All three Kapton seals exhibit radial and circumferential cracks in the area that conformed over the converter and depression in the washer (Figure 29). The direction of the cracks and appearance of the damage suggest that they were caused by buckling or pinching of the Kapton. The cracking and damage appears to have initiated along the side of the seal which was against the washer. The Teflon appears to have been torn in the crack areas. The cracked areas of the Kapton material have been darkened and embrittled by some unknown mechanism (Figure 29). The cracks in the Kapton occurred in a brittle mode (Figures 30 and 31) and appear to have provided a leak path for brake fluid to enter the switch cavity.

Surface Analysis
(Scanning Electron Microscopy (SEM) and Energy dispersive X-ray Spectroscopy (EDS))

The surfaces and cracks of the stationary contact were examined with the SEM. Most of the surfaces of the contact exhibit damage suggesting corrosive attack (Figure 32). One corner of the contact bridge, away from the contact pad, exhibits what appears to be localized arc damage (Figure 33). The crack surfaces exhibit intergranular features (Figures 34 and 35), indicating stress corrosion cracking. EDS was performed to identify elements present in the following materials:

Oxide material on side of stationary contact.
Greenish deposit removed from face of cup.
Fibrous material on cup.
Material scraped from new switch base.
Material scraped from burned switch base.
White deposits removed from wire cavity in connector.
Material scraped from pad of stationary contact.
Material on crack surface.
Green material on terminal of stationary contact.
Black material on terminal from movable contact.

Spectra from these analyses are shown in Figures 36 through 47.

The spectrum from the material on the side of the stationary contact exhibits elements from the base metal (brass) as well as a trace amount of sulfur. This suggests that the material on the surface of the stationary contact is most likely an oxide of the base metal with possibly a sulfur compound.

Surface Analysis - continued

The spectrum from the greenish deposit on the cup exhibits mostly copper and zinc with trace amounts of sulfur, potassium, silicon, chromium, and iron. The presence of copper and zinc indicates that the deposit is primarily an oxide of the brass contact material which has transferred to the cup. The presence of sulfur suggests that some of the material may be a sulfate. The chromium and iron are most likely from the cup. The deposit also contains fibers which have spectra similar to those in the switch housing.

Spectra from the switch bases are similar. Aluminum, silicon, and calcium are most likely from the fillers (fibers, etc.) used in the housing material.

Spectra from the white deposit exhibit elements which would be found in dry chemical fire extinguishers, i.e., high phosphorus content material with plates of Si, Al, F - rich material (Muscovite).

The spectrum from the material on the pad of the stationary contact exhibits elements from the base metal (brass) as well as sulfur and traces of potassium and silicon. This suggests that the material on the surface of the pad is most likely an oxide and a sulfur compound of the base metal.

The spectrum from the black deposit on the movable contact terminal exhibits elements from the brass base material and the tin coating with sulfur. The deposit appears to be an oxide and sulfur compound of the terminal materials.

The spectrum from the green deposit on the stationary contact terminal exhibits elements from the base metal as well as sulfur, silicon, potassium, calcium, and aluminum. The deposit is most likely a sulfur compound of the terminal material with possible oxide. The silicon, calcium, potassium, and aluminum could be present from the fillers in the switch base or from a dry chemical fire extinguisher.

Molecular Characterization
(FTIR, Qualitative, Microscopic)

Deposit on Face of Cup

Arrow B in Figure 2 points to area where analysis was performed). Spectra of the fluid noted on the metallic surface (chloroform micro casts - several areas) are characteristic of a glycol ether [spectrally similar to Dow HD 50-4 brake fluid] with evidence of an ester and metal soap.

Spectra of the new, brown base are characteristic of a polyester on the base of terephthalic acid.

Spectra of the burned base are similar to the new base and are characteristic of a polyester on the base of terephthalic acid.

Molecular Characterization
(FTIR, Qualitative, Conventional and Microscopic)

Hexport Deposit

Spectra as received are characteristic of a glycol based material [probably brake fluid] and a metal salt [probably an oxalate].

Spectra of the methanol solubles are characteristic of a glycol based material [probably brake fluid] and ester.

Spectra of the insolubles are characteristic of essentially a metal salt [possibly an oxalate].

Converter Deposit

Spectra as received are characteristic of a glycol based material [probably brake fluid] and a metal salt [probably an oxalate].

Spectra of the methanol solubles are characteristic of a glycol based material [probably brake fluid, ester, and other material.

Spectra of the insolubles are characteristic of essentially a metal salt [probably an oxalate].

Spacer Deposit

Spectra of the deposit [as received] are characteristic of a metal salt [probably an oxalate] and a glycol based material [probably brake fluid].

Washer Deposit

Spectra of the deposit [as received] are characteristic of a glycol based material [probably brake fluid] and a metal salt [possibly an oxalate].

Diaphragm #2 Internal Fluid/Deposit

Spectra as removed are characteristic of a glycol based material [probably brake fluid] and a metal salt [possibly an oxalate].

Water Content, % by weight[1] ~10
(ASTM D 1744)

Metallographic Analysis
(ASTM E 3)

The corroded bridge area of the stationary contact was mounted and polished for metallographic examination. The corroded area exhibits dezincification, suggesting exposure to moisture (Figures 48 and 49).

[1] Accuracy of this result is unknown based on the small sample size and possible interference caused between compounds present in the deposit and the titrant.

Concur: _____
P. Klaas, Supervisor
Metallurgy Section

By: _____
Steven LaRouche (SLAROUCH)

Enclosures: Appendix I
Figures 1 through 49

SL/sl

Appendix I

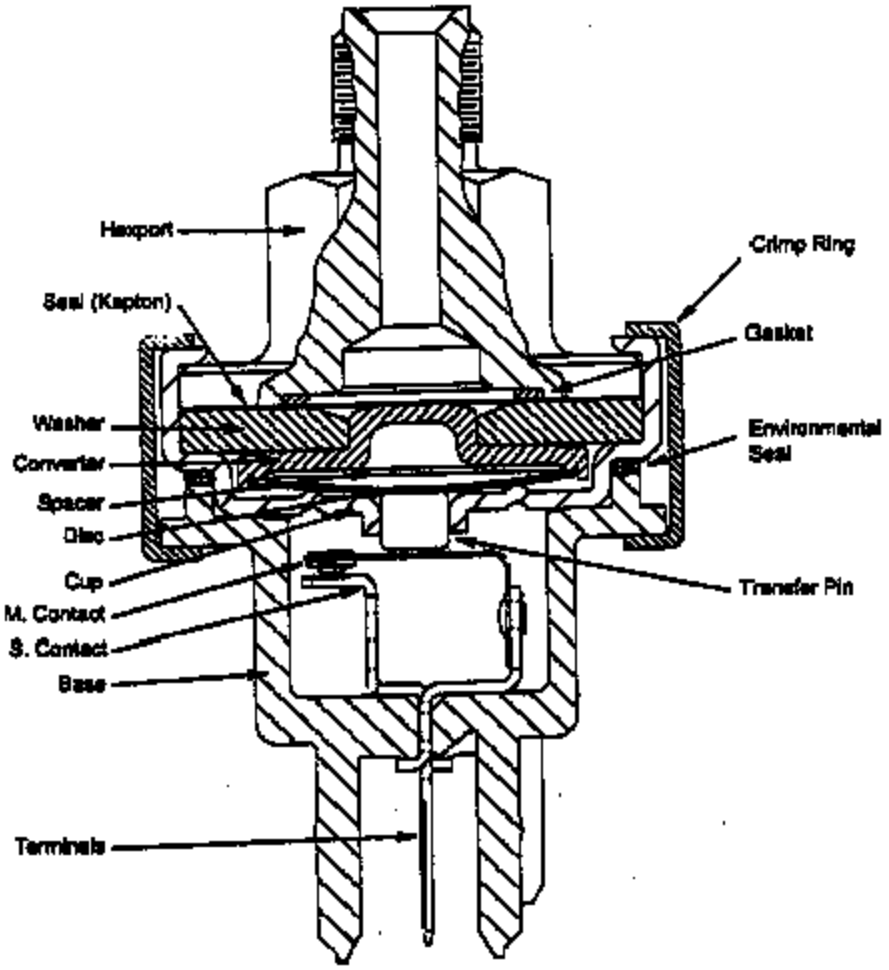


Diagram showing components of switch.

~1.7X

Figure 1: Photograph showing as-received switch and locations where samples were removed from cup face.

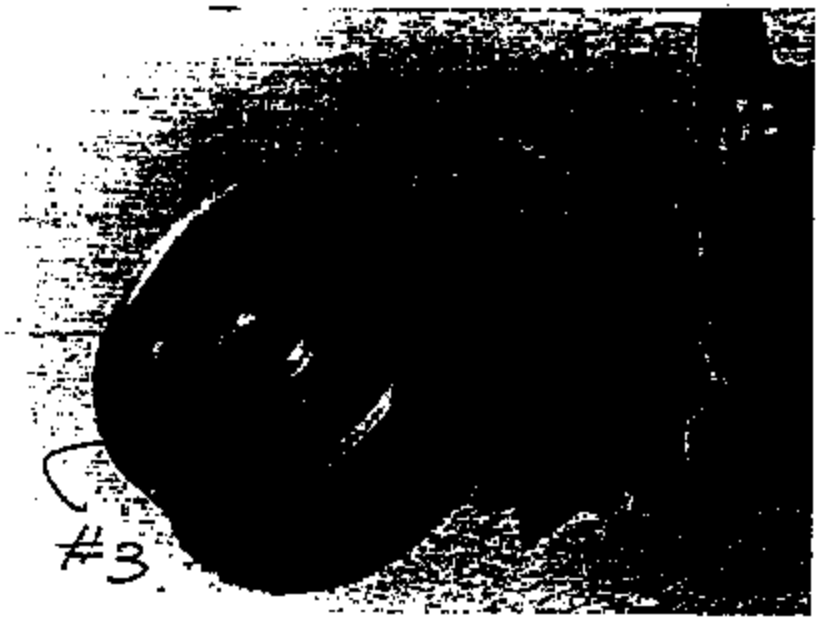
~1.4X

Figure 2: Photograph showing cup, Kapton seals, and hexport after disassembly at Texas Instruments (N. LaPointe).

Note: Nominal magnifications given for photomicrographs.

~2X

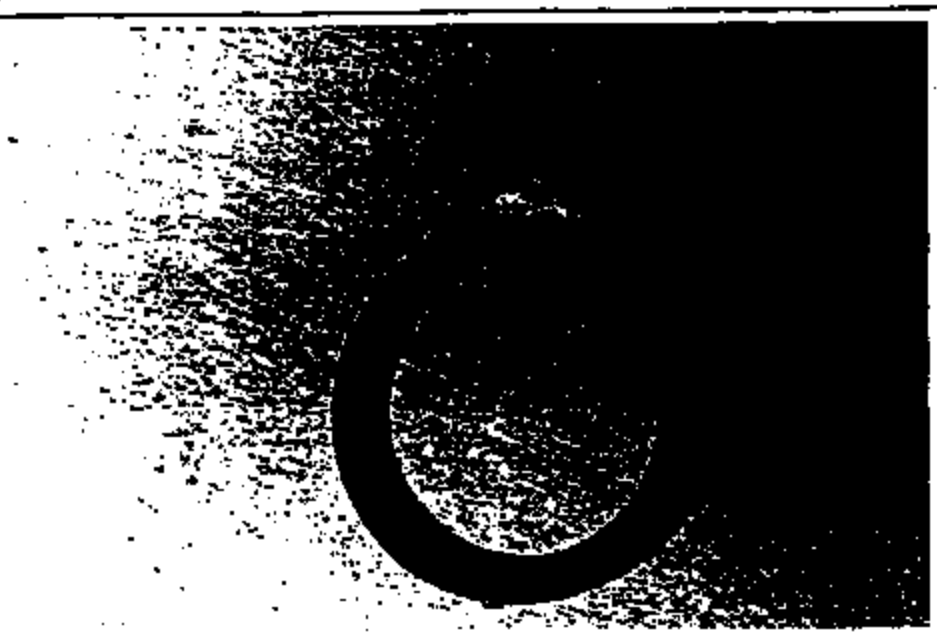
Figure 3: Photograph showing hexport after disassembly at Texas Instruments (N. LaPointe).



~1.9X

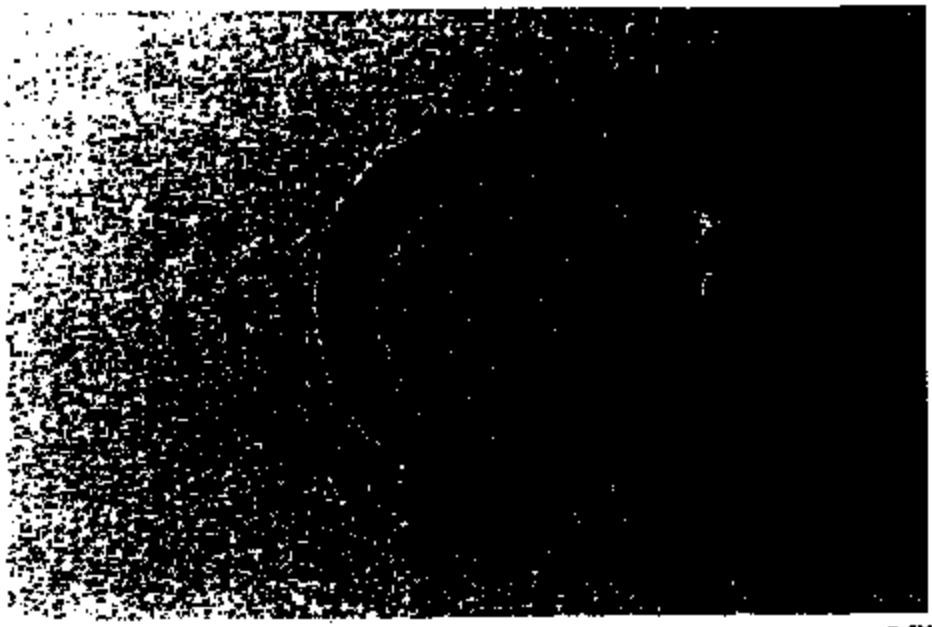
Figure 4: Photograph showing Kapton seals after disassembly at Texas Instruments (N. LaPointe).

Note: Nominal magnifications given for photomicrographs.



~3.5X

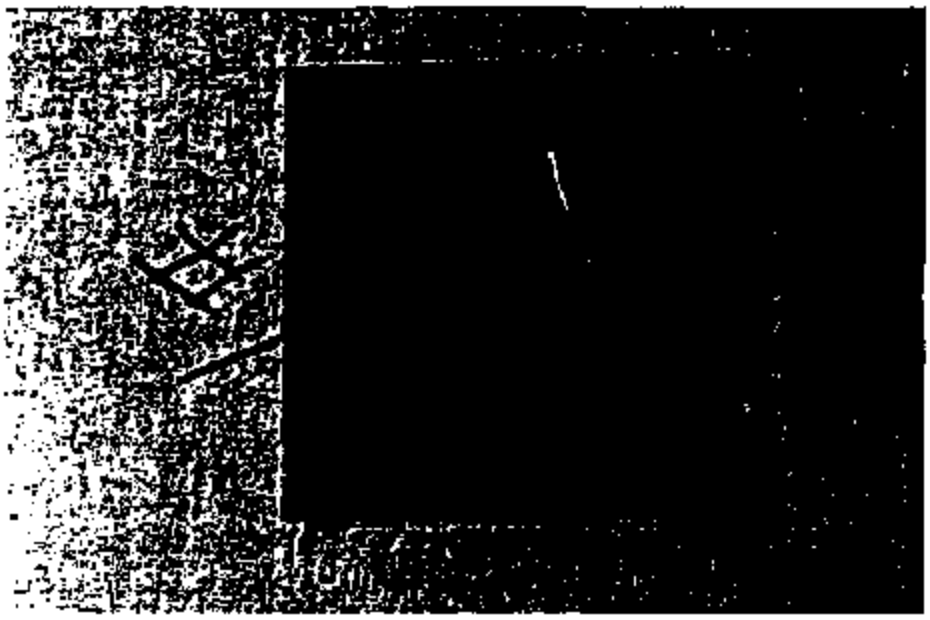
Figure 5: Photograph showing gasket after disassembly at Texas Instruments (N. LaPointe).



~3.5X

Figure 6: Photograph showing gasket (opposite side of that shown in Figure 5) after disassembly at Texas Instruments (N. LaPointe).

Note: Nominal magnifications given for photomicrographs.



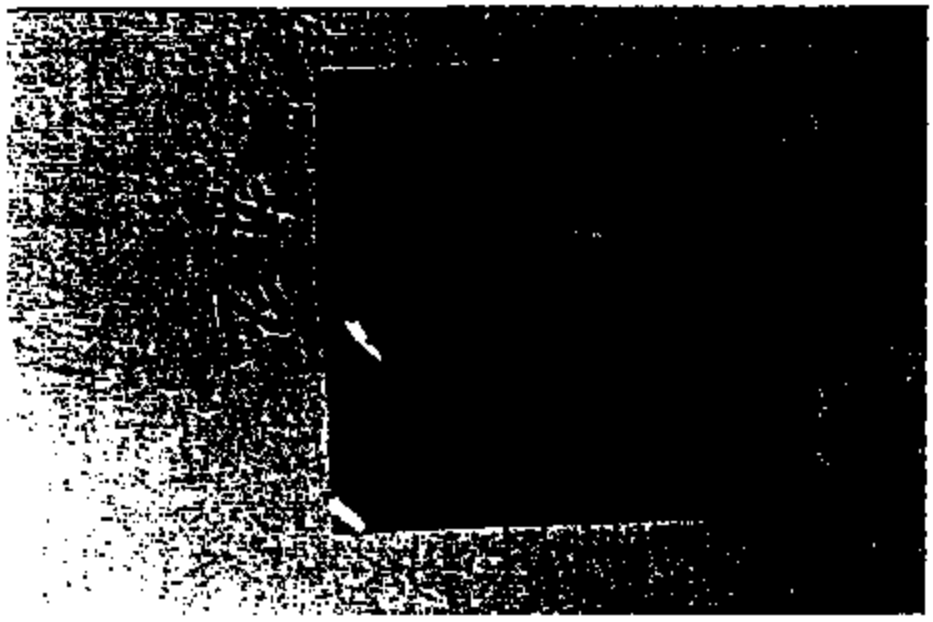
~3.4X

Figure 7: Photograph showing Kapton seal #1 (closest to hexport) after disassembly at Texas Instruments (N. LaPointe).

~3.4X

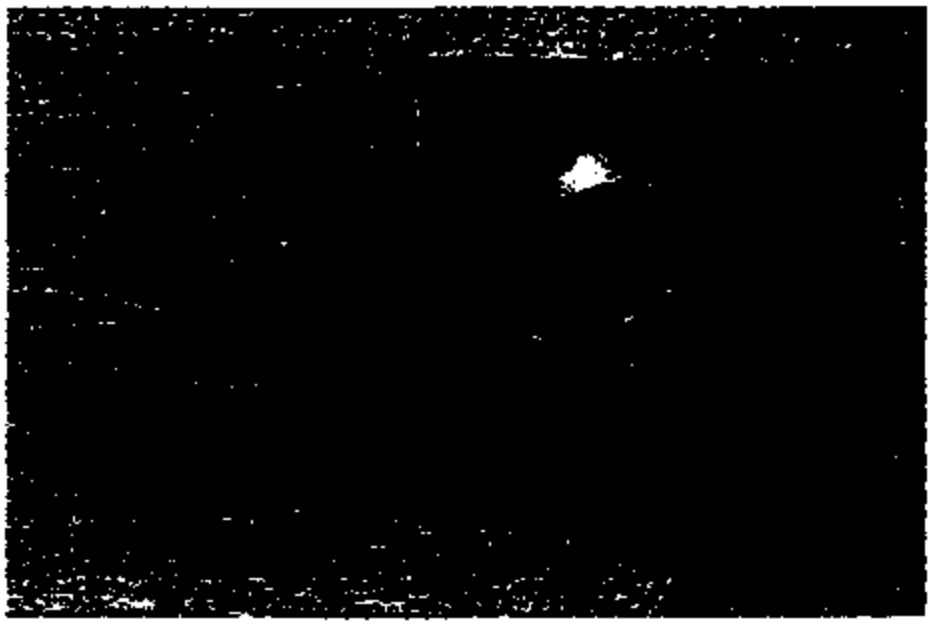
Figure 8: Photograph showing Kapton seal #1 (opposite side of that shown in Figure 7) after disassembly at Texas Instruments (N. LaPointe).

Note: Nominal magnifications given for photomicrographs.



~3.4X

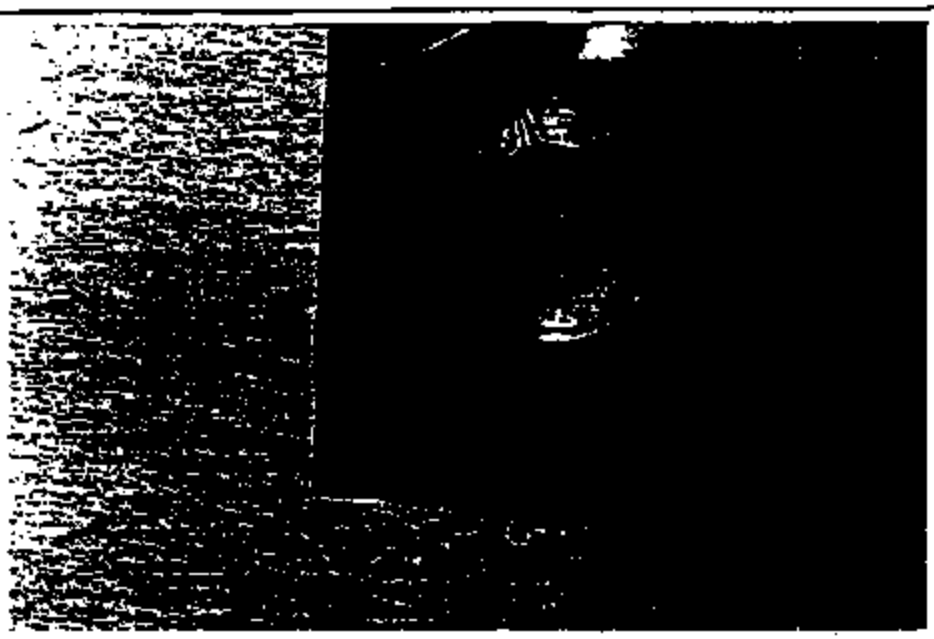
Figure 9: Photograph showing Kapton seal #2 after disassembly at Texas Instruments (N. LaPointe).



~3.4X

Figure 10: Photograph showing Kapton seal #2 (opposite side of that shown in Figure 9) after disassembly at Texas Instruments (N. LaPointe).

Note: Nominal magnifications given for photomicrographs.



~3.4X

Figure 11: Photograph showing Kapton seal #3 (closest to washer) after disassembly at Texas Instruments (N. LaPointe).

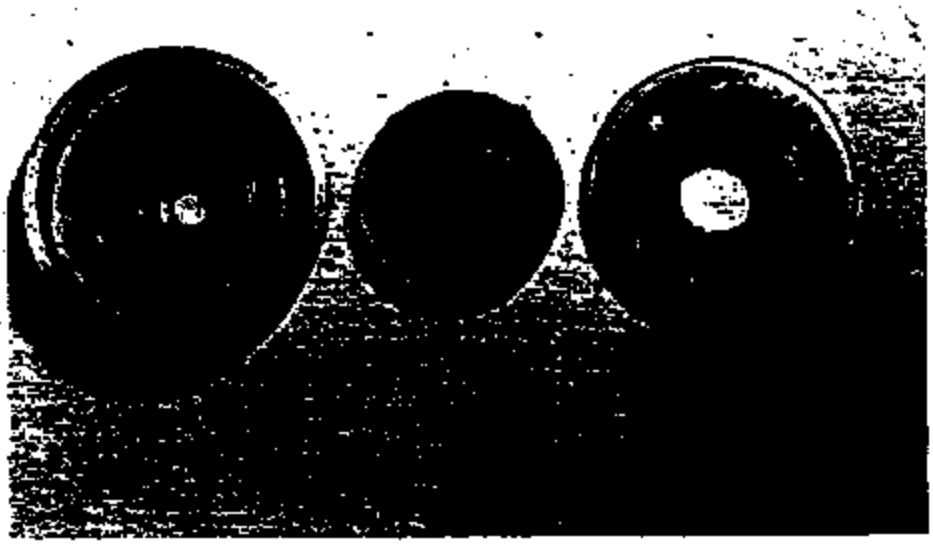
~3.4X

Figure 12: Photograph showing Kapton seal #3 (opposite side of that shown in Figure 11) after disassembly at Texas Instruments (N. LaPointe).

Note: Nominal magnifications given for photomicrographs.

~1.9X

Figure 13: Photograph showing face of washer after disassembly at Texas Instruments (N. LaPointe).



~1.4X

Figure 14: Photograph showing internal surfaces of cup, converter/disc, and washer after disassembly at Texas Instruments (N. LaPointe).

Note: Nominal magnifications given for photomicrographs.

~6.4X

Figure 15: Image showing grey seal.

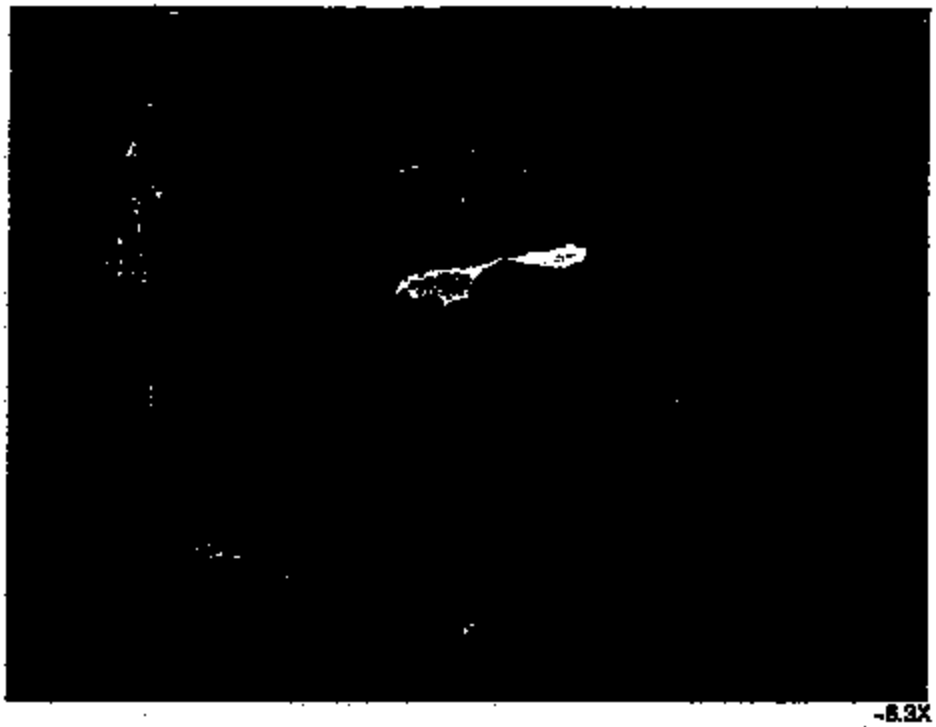
~5.9X

Figure 16: Image showing white deposit in cavity below grey seal.

Note: Nominal magnifications given for photomicrographs.

~4.6X

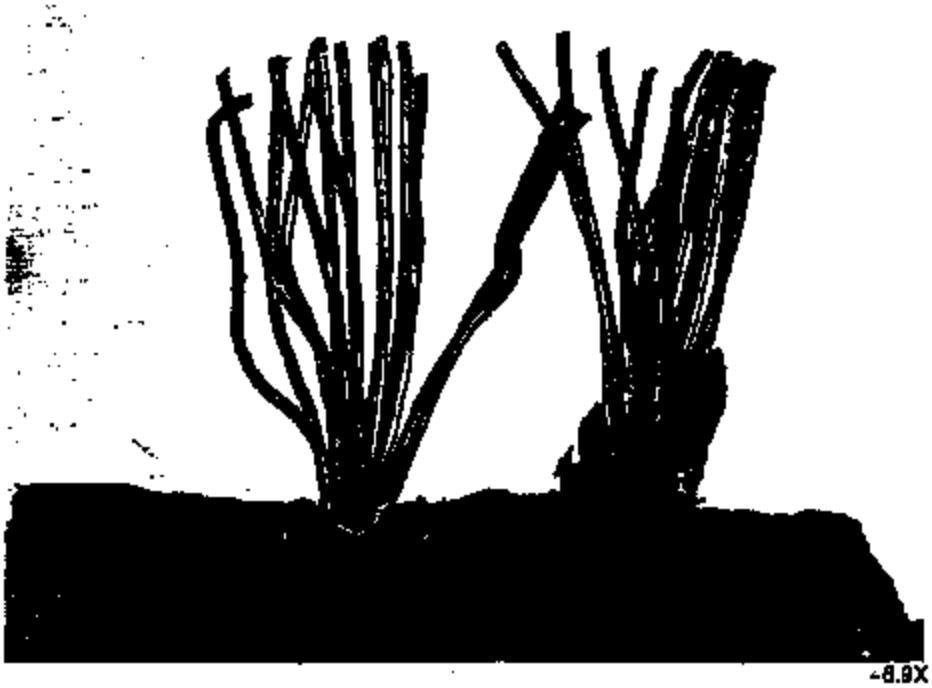
Figure 17: Image showing condition of red seal.



~6.3X

Figure 18: Image showing transfer of red seal material to switch base.

Note: Nominal magnifications given for photomicrographs.



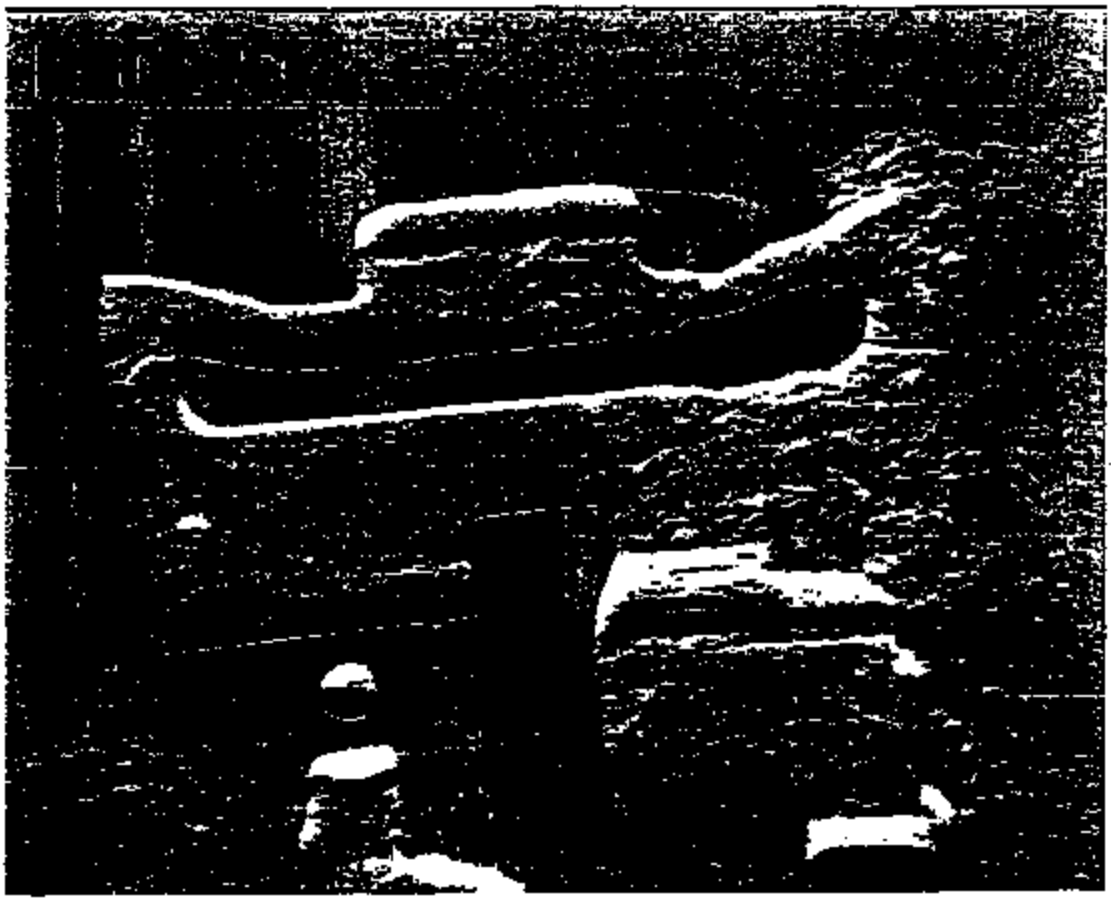
~8.9X

Figure 19: Image showing tarnished condition of wires below insulation.

~3.7X

Figure 20: Photograph showing contacts, bases, and terminals after removal from switch base.

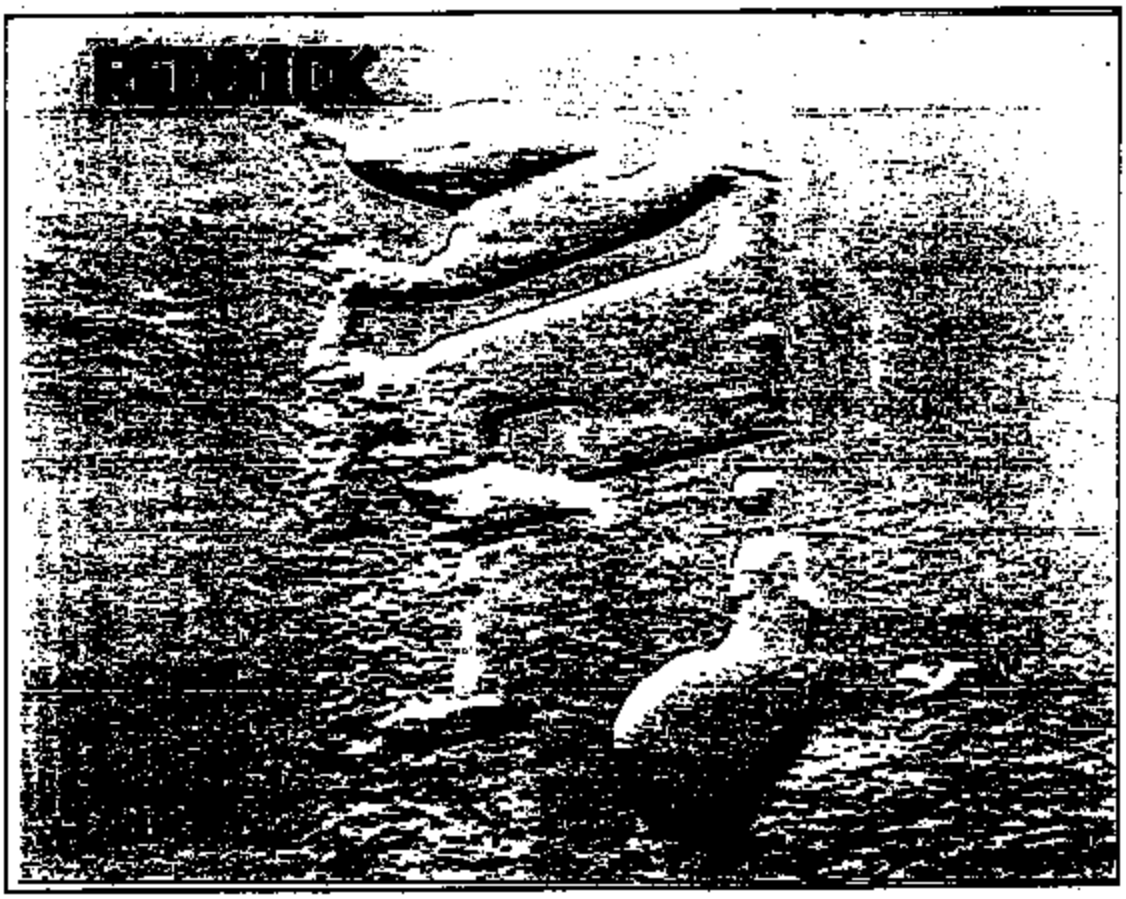
Note: Nominal magnifications given for photomicrographs.



~8.8X

Figure 21: Fluoroscopic image showing cracks and loss of material in stationary contact.

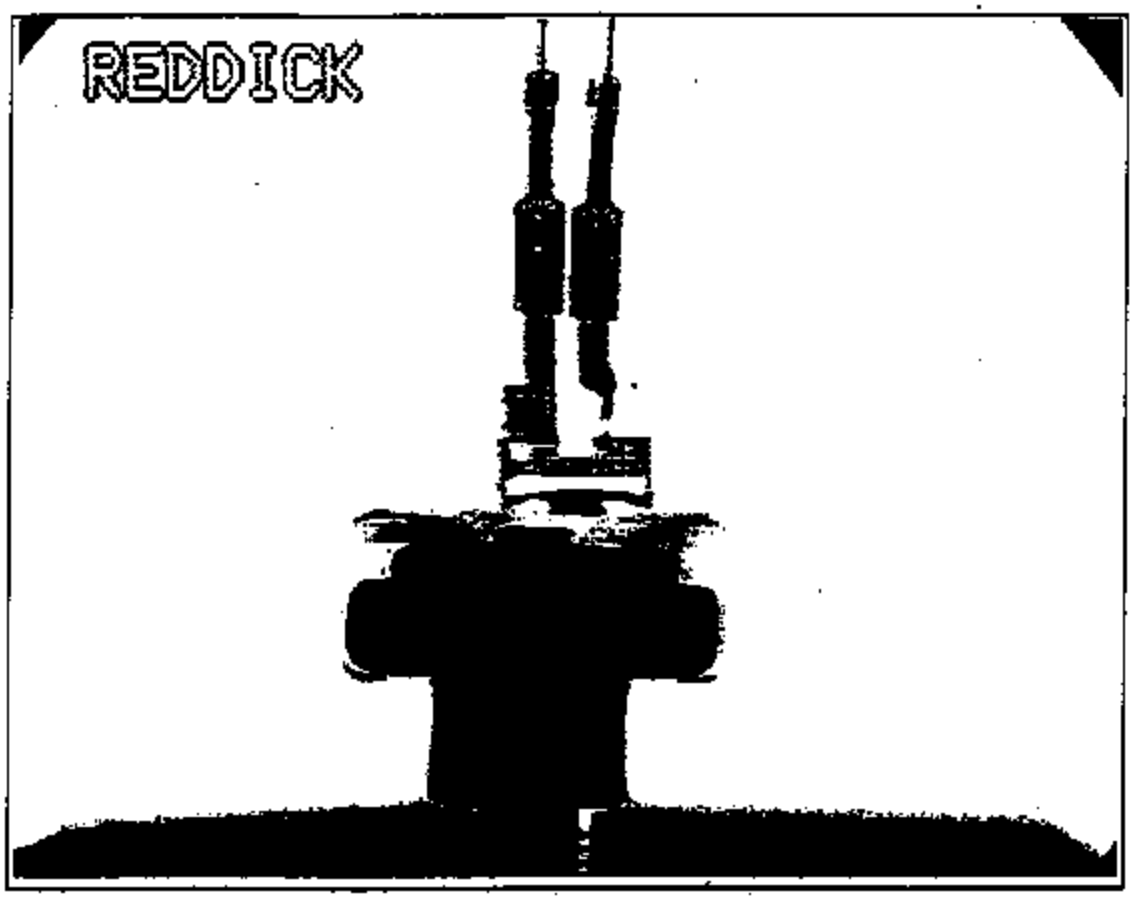
Note: Nominal magnifications given for photomicrographs.



~4.9X

Figure 22: Fluoroscopic image showing cracks and loss of material in stationary contact.

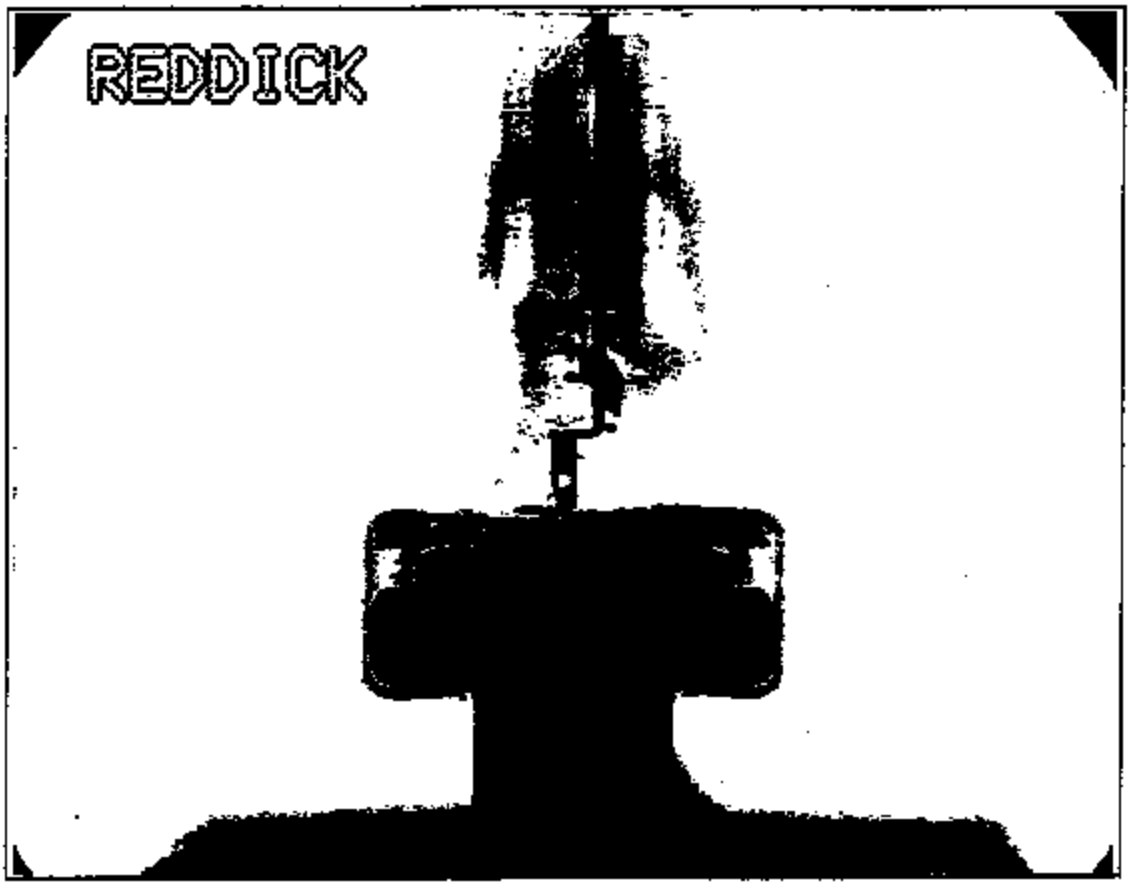
Note: Nominal magnifications given for photomicrographs.



~1.8X

Figure 23: Fluoroscopic image showing switch base and pressure side of switch placed together. Note base of movable contact terminating in large globule.

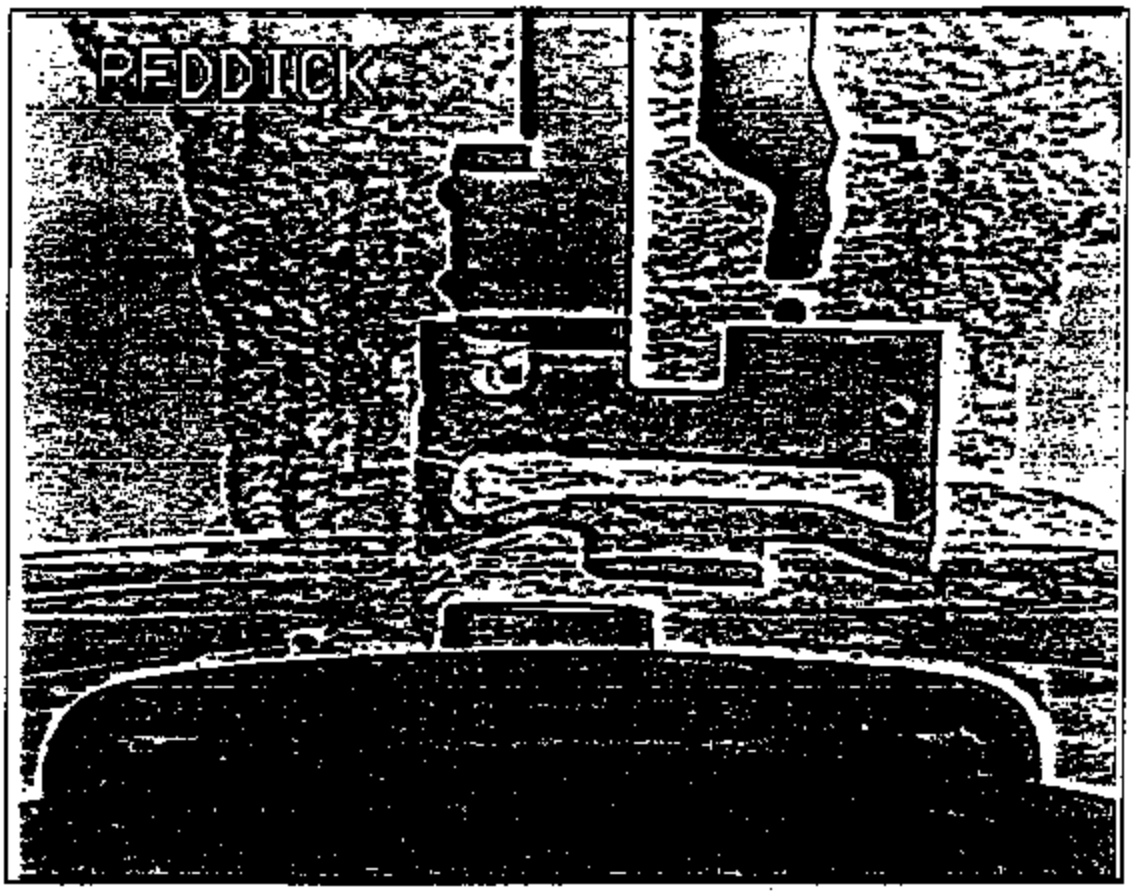
Note: Nominal magnifications given for photomicrographs.



~1.9X

Figure 24: Fluoroscopic image showing switch base and pressure side of switch placed together.

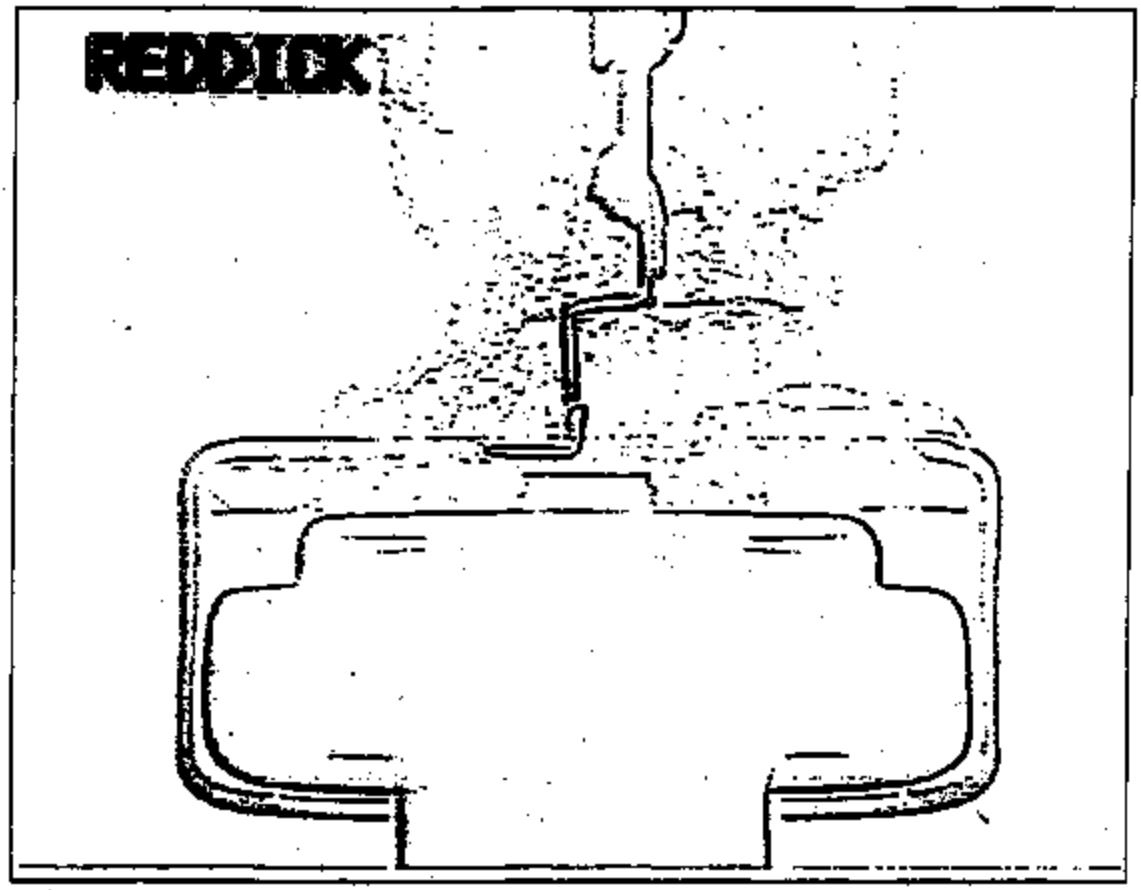
Note: Nominal magnifications given for photomicrographs.



~5.2X

Figure 25: Fluoroscopic image showing switch base and pressure side of switch placed together.

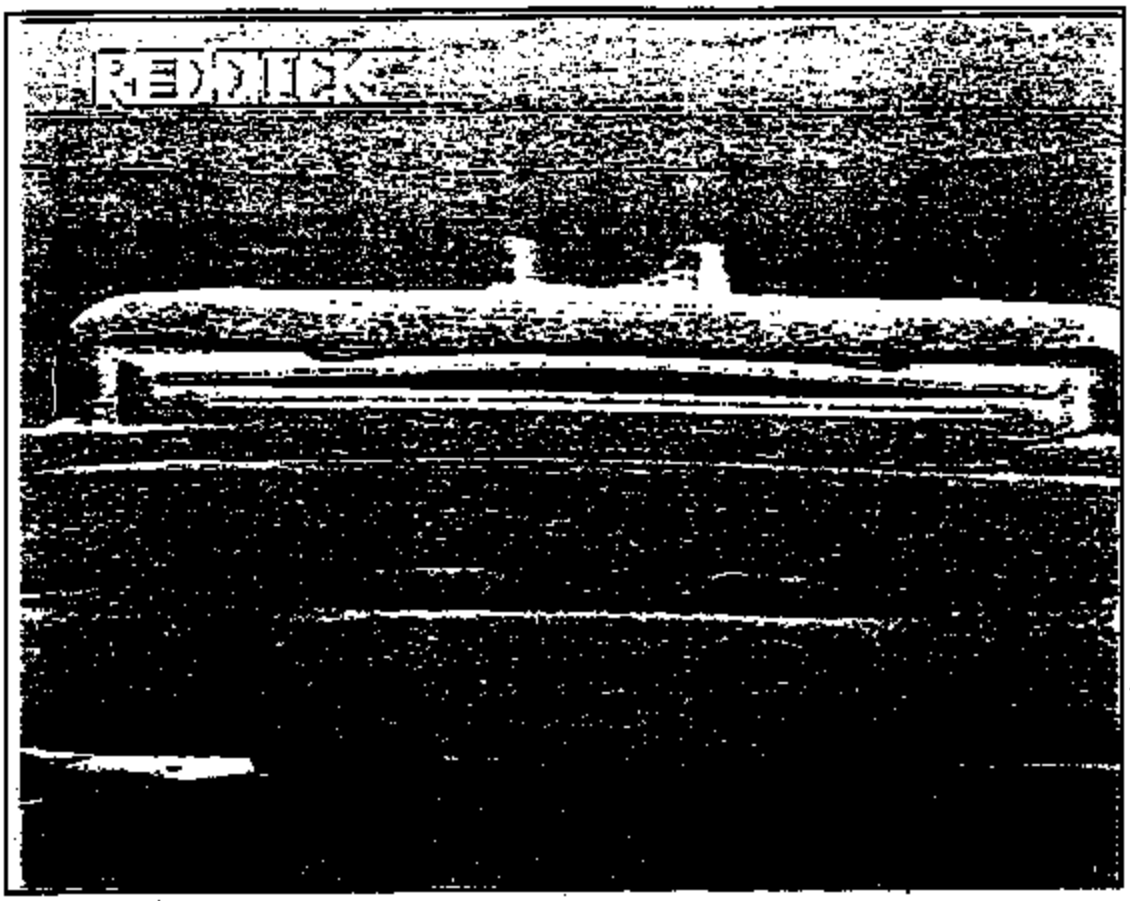
Note: Nominal magnifications given for photomicrographs.



~3.7X

Figure 26: Fluoroscopic image showing switch base and pressure side of switch placed together.

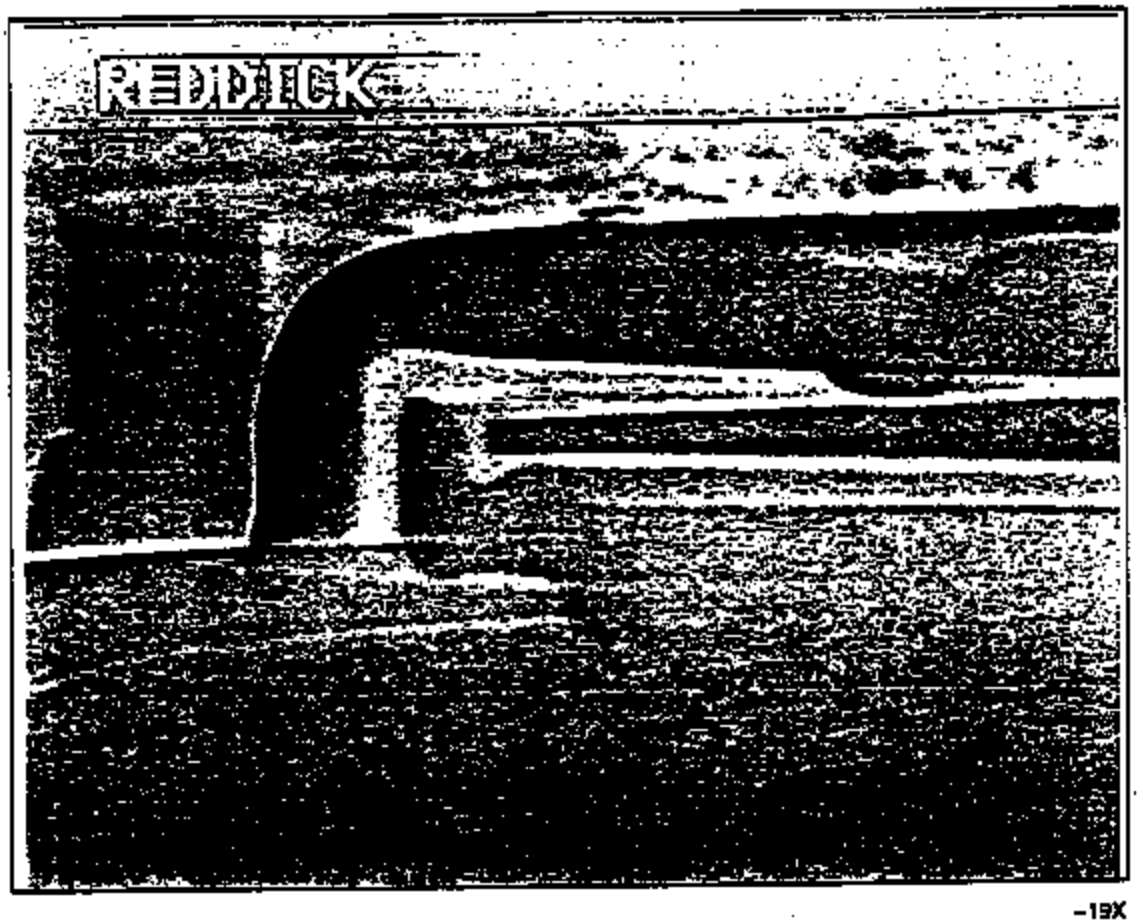
Note: Nominal magnifications given for photomicrographs.



~5.5X

Figure 27: Fluoroscopic image of washer, converter, and disc in place.

Note: Nominal magnifications given for photomicrographs.



-19X

Figure 28: Fluoroscopic image showing converter and disc in place.

Note: Nominal magnifications given for photomicrographs.

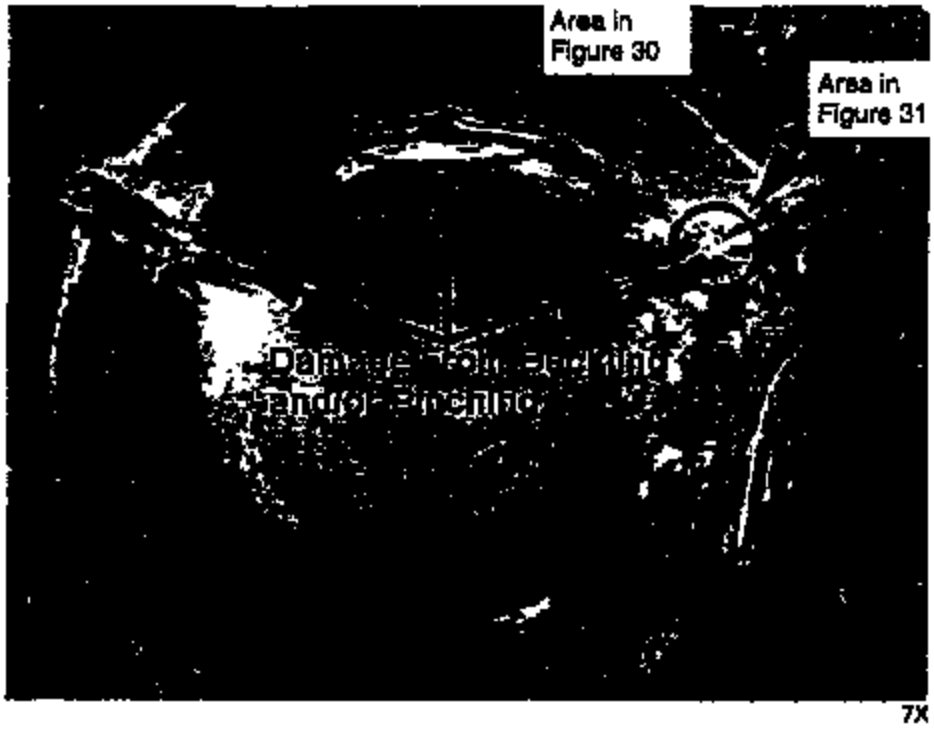


Figure 29: Image showing typical damage to Kapton seals. Kapton Strip (Teflon Layers Removed) Closest to Washer with Concave Side Down

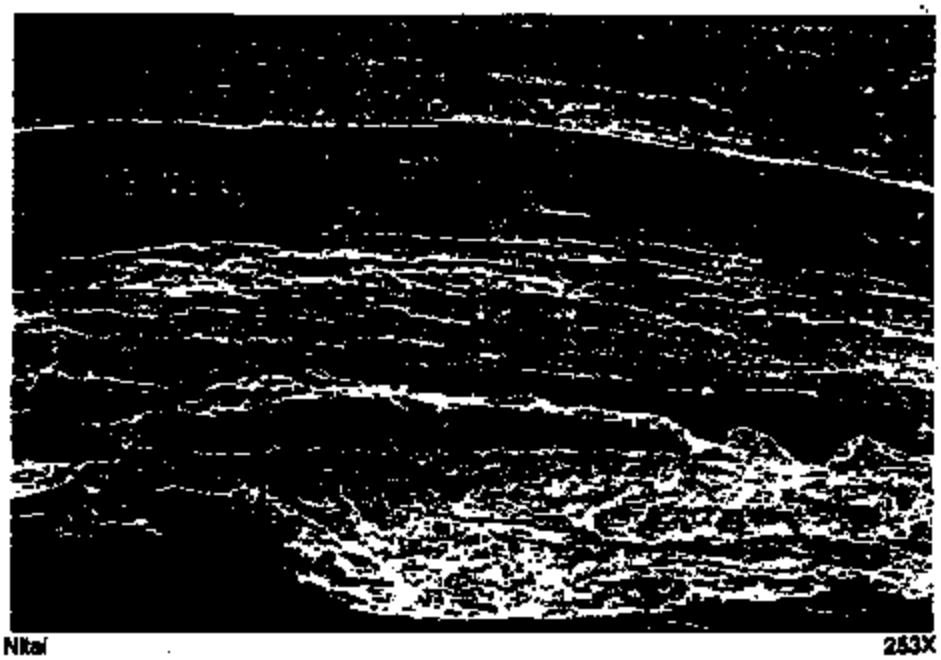


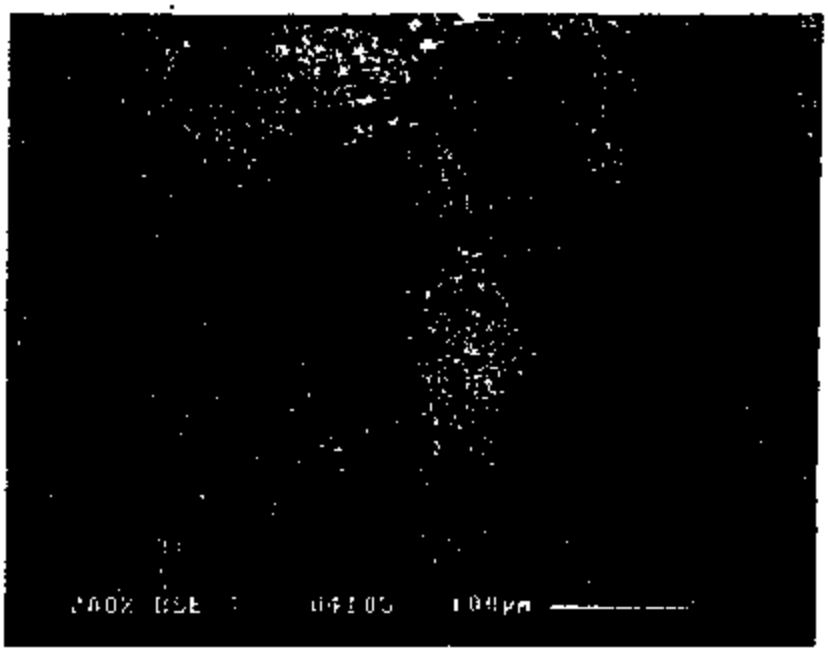
Figure 30: SEM photomicrograph showing brittle crack in Kapton seal. Crack appears to have propagated away from the washer. The direction of propagation is perpendicular to the plane of the page

Note: Nominal magnifications given for photomicrographs.

1000X

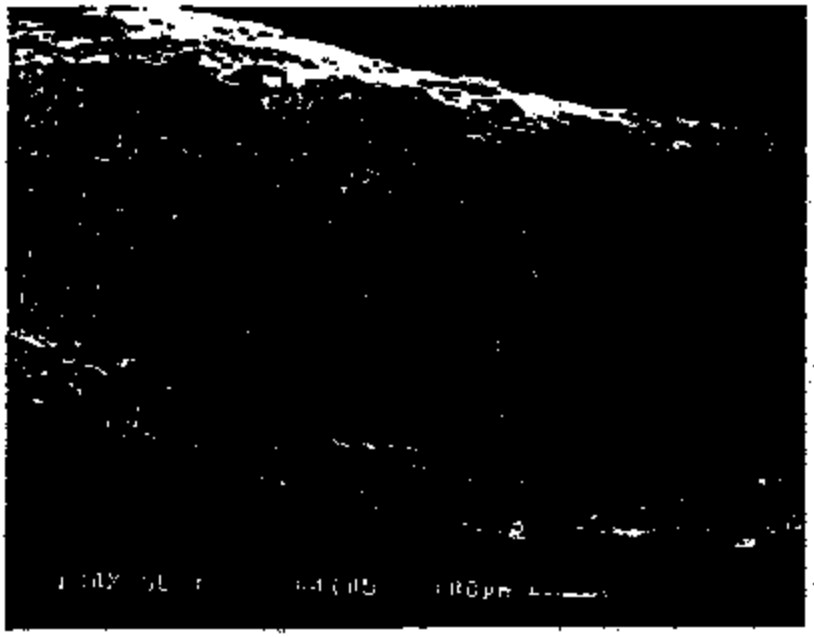
Figure 31: SEM photomicrograph showing brittle crack in Kapton seal. Direction of propagation is perpendicular to plane of page.

Note: Nominal magnifications given for photomicrographs.



200X

Figure 32: SEM photomicrograph showing apparent corrosion damage to surface of stationary contact.



100X

Figure 33: SEM photomicrograph showing what appears to be localized arc damage to corner of stationary contact.

Note: Nominal magnifications given for photomicrographs.

75X

Figure 34: SEM photomicrograph showing intergranular crack in stationary contact.

750X

Figure 35: SEM photomicrograph showing intergranular crack in stationary contact.

Note: Nominal magnifications given for photomicrographs.

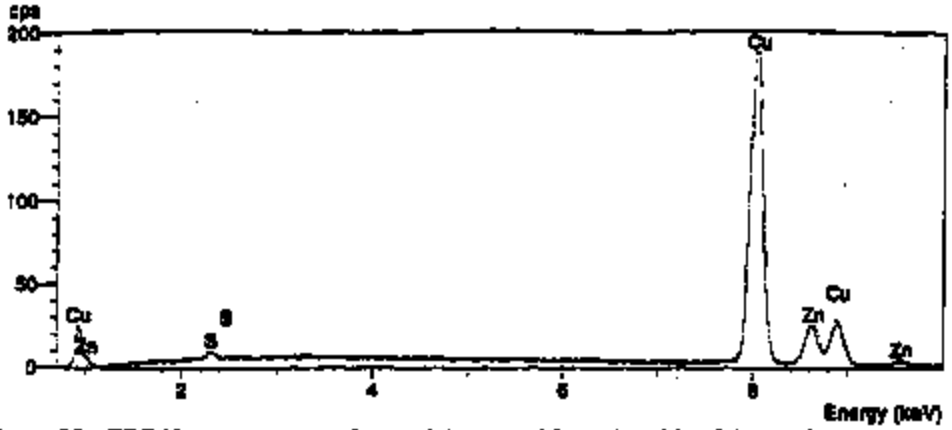


Figure 36: EDS X-ray spectrum of material scraped from the side of the stationary contact body.

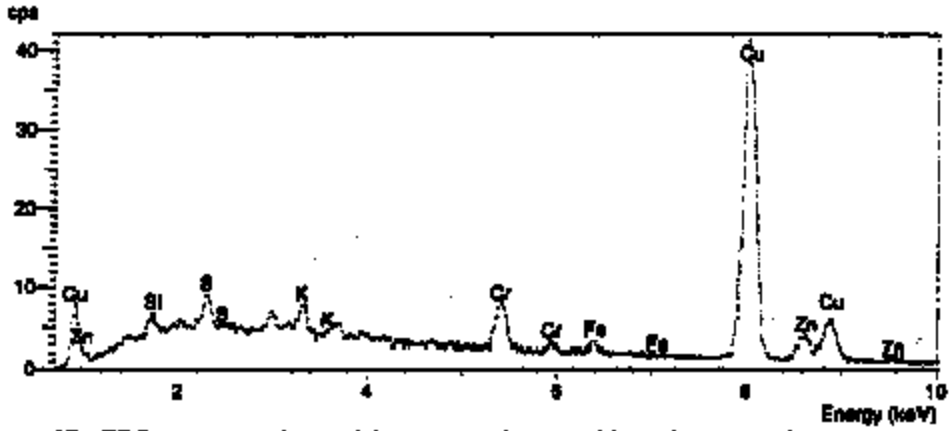


Figure 37: EDS spectrum of greenish compound scraped from the cup region.

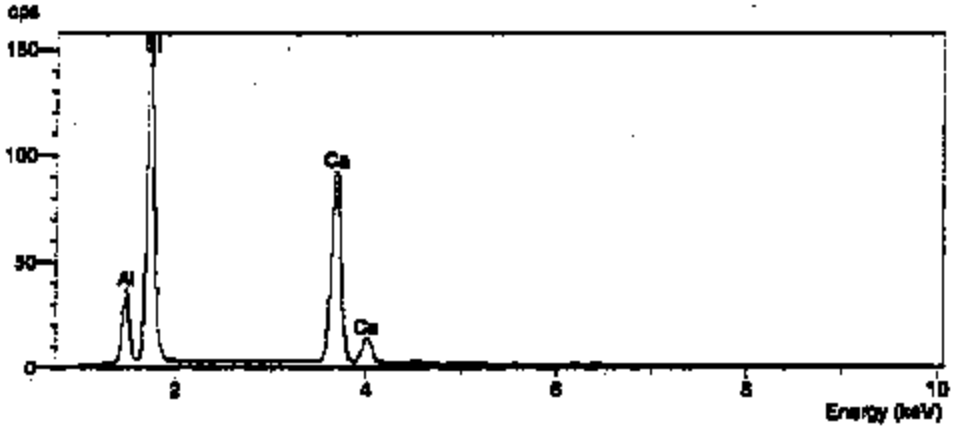


Figure 38: EDS X-ray spectrum of fibrous material scraped from the cup region.

Note: Nominal magnifications given for photomicrographs.

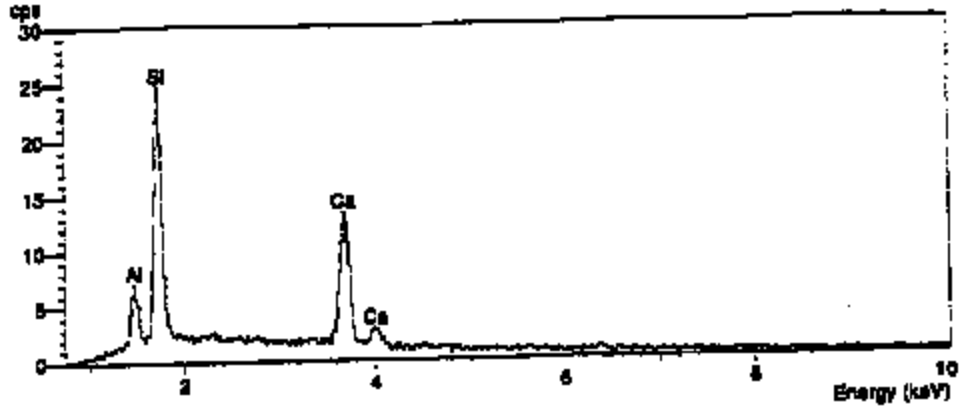


Figure 39: EDS X-ray spectrum of material shaved from a new base.

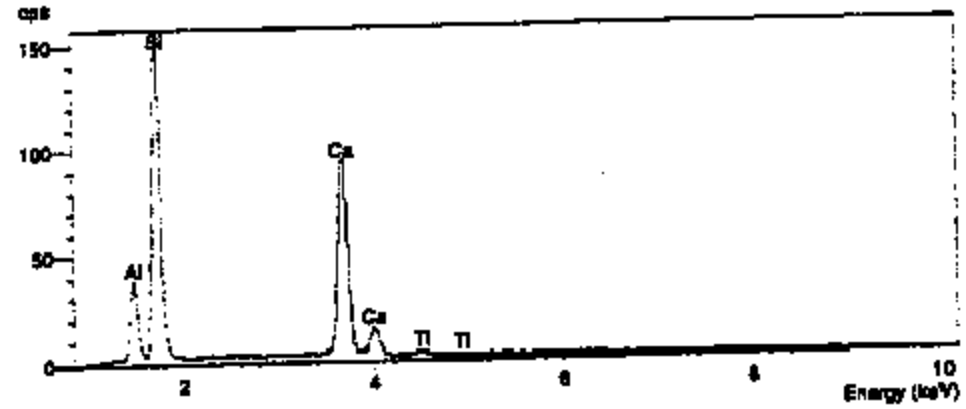


Figure 40: EDS X-ray spectrum of fibrous material scraped from the old base.

Note: Nominal magnifications given for photomicrographs.

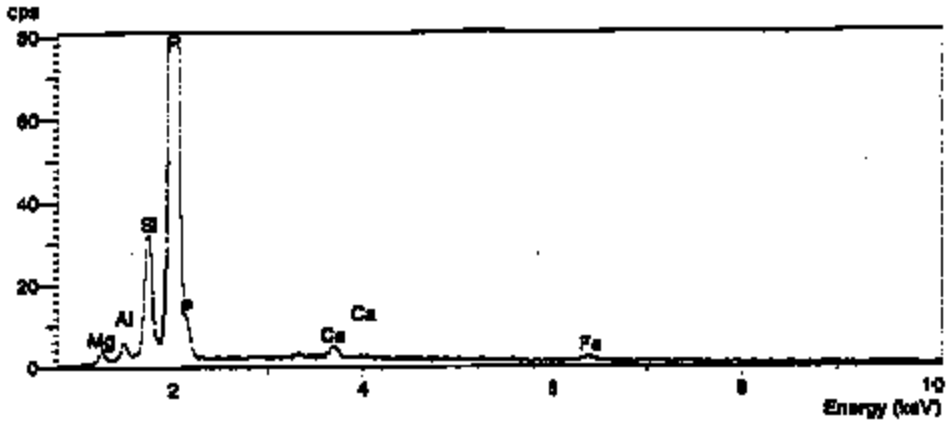


Figure 41: EDS X-ray spectrum of one of three samples of the white powder taken from the connector cavity below the wire seal.

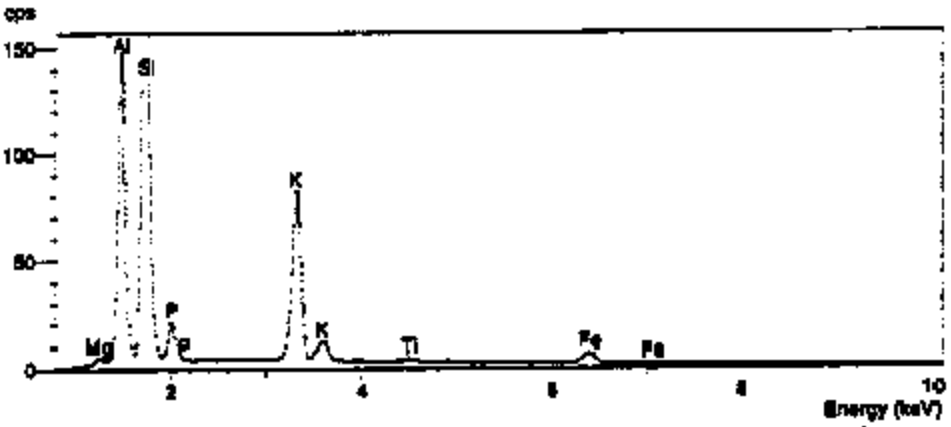


Figure 42: EDS X-ray spectrum of the second of three samples of the white powder.

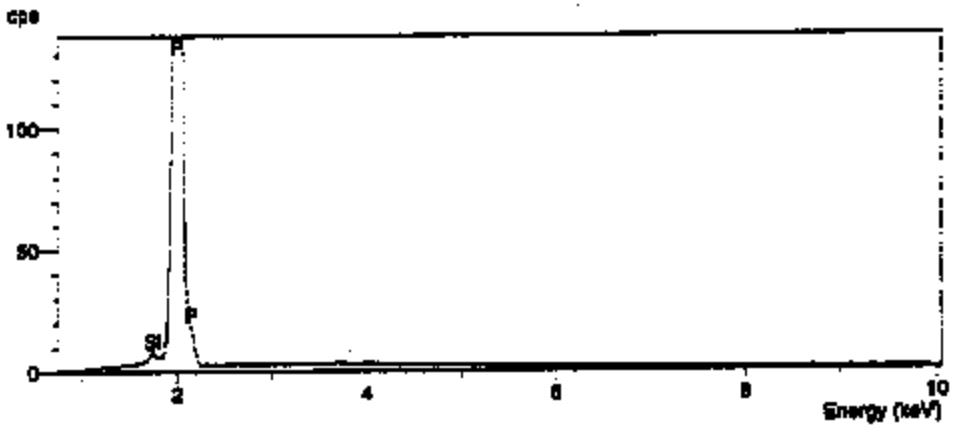


Figure 43: EDS X-ray spectrum of the third of three samples of the white powder.

Note: Nominal magnifications given for photomicrographs.

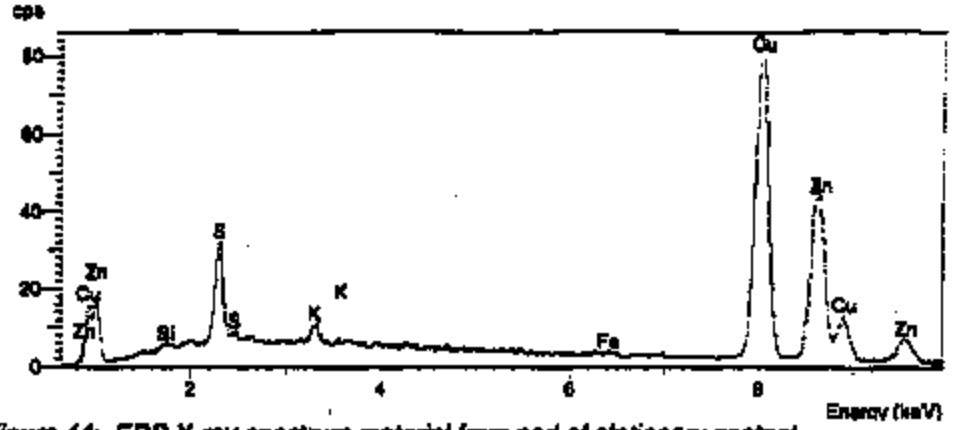


Figure 44: EDS X-ray spectrum material from pad of stationary contact.

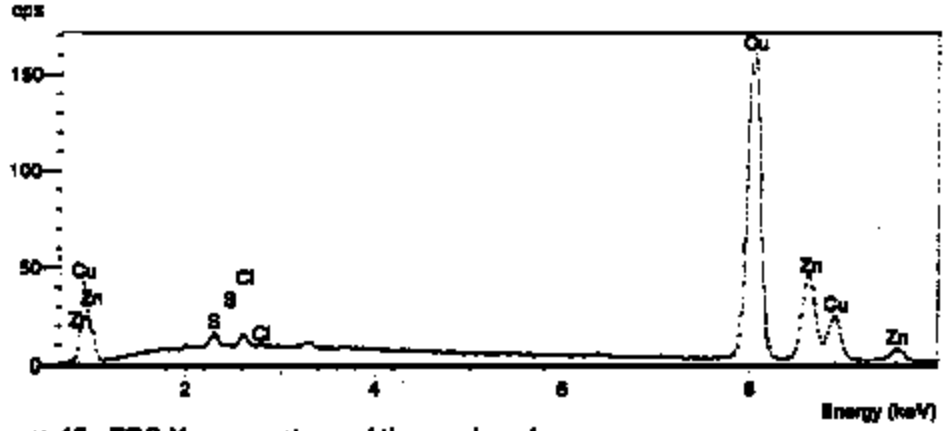


Figure 45: EDS X-ray spectrum of the crack surface.

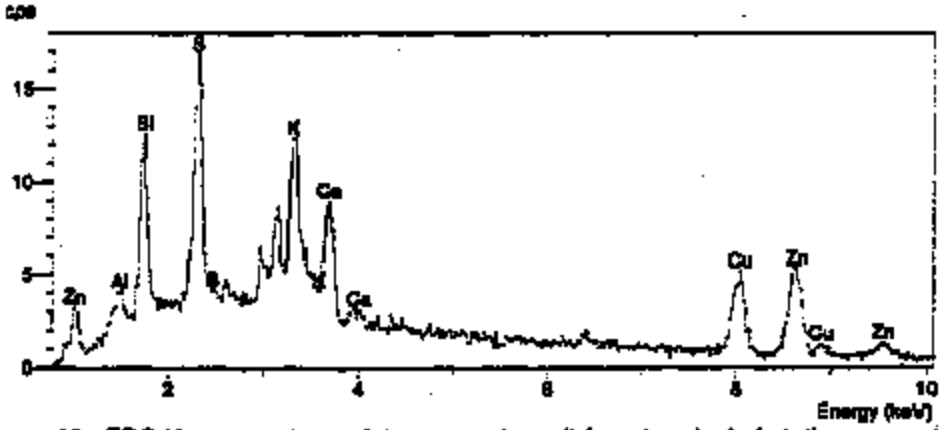


Figure 46: EDS X-ray spectrum of the green deposit from terminal of stationary contact.

Note: Nominal magnifications given for photomicrographs.

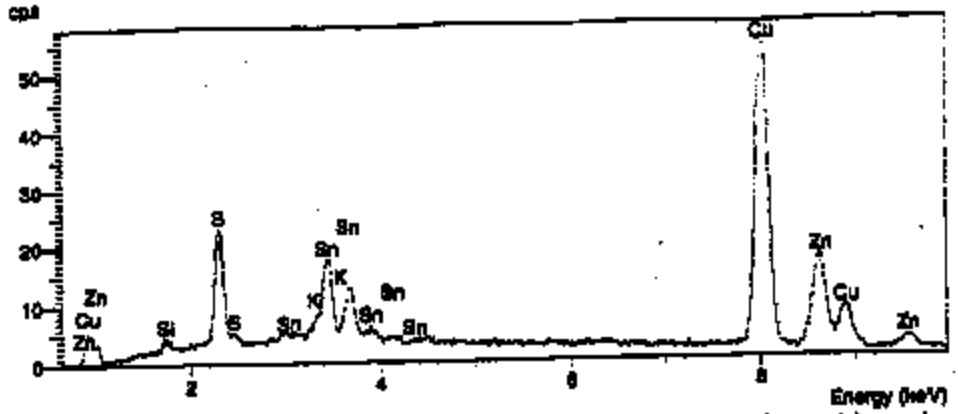
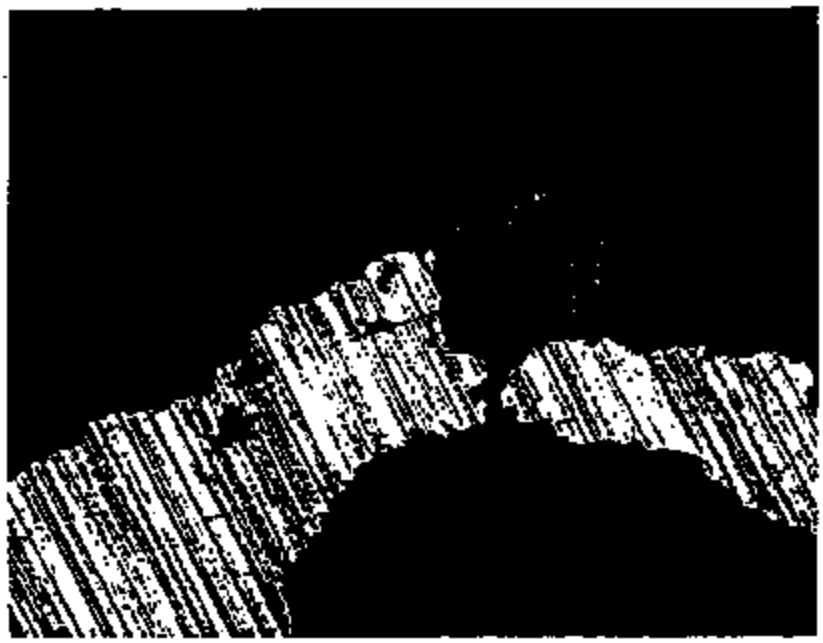


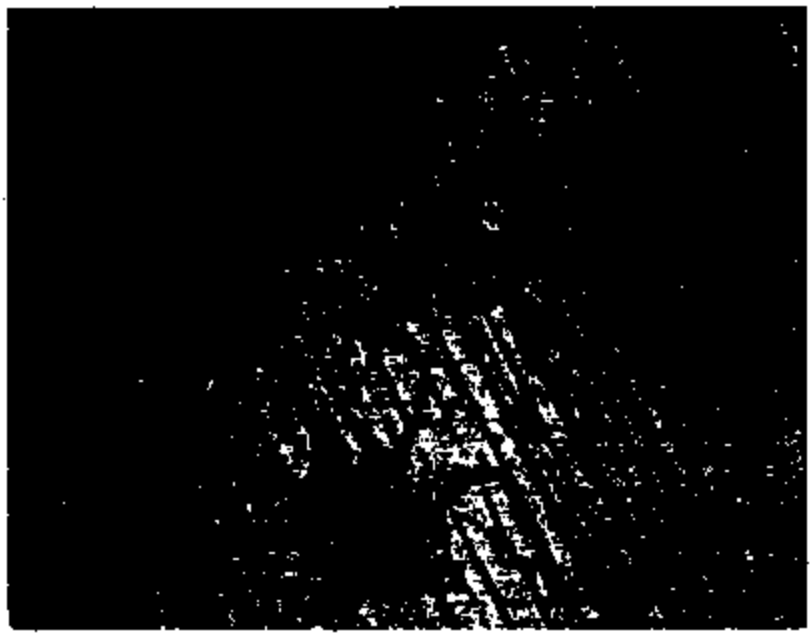
Figure 47: EDS X-ray spectrum of the black deposit from terminal of movable contact.

Note: Nominal magnifications given for photomicrographs.



As-polished 80X

Figure 48: Photomicrograph showing dezincification in stationary contact.



As-polished 500X

Figure 49: Photomicrograph showing dezincification in stationary contact.

Note: Nominal magnifications given for photomicrographs.

SL37

Ford

Request for Central Laboratory Service

All shaded areas must be filled in to process your request

Laboratory Use Only

Laboratory Number	Date
9804105	12-17-98

15000 Century Dr., Dearborn MI 48120-1267 Phone [313] 32-21676 FAX [313] 32-21614

Your Name [Send report to]	Telephone	PROFS ID	FAX
C. STEVENS	36686	CSTEVEN1	36686
Secondary Contact	**Telephone**	**PROFS ID**	**FAX**
N. LAPOINTE	42656	NLAPOINT	

Send Report To — Bill To

Room No./Mail Drop/PO Box	Department/Activity	Building	Location Code	Dept. #	Work Task # [For 5100 Loc. Only]
MD5006	MATERIALS ENT	BLDG	4110	T-113	XCC6A

Samples

Total # of Samples	Sample Handling	TOX/CAS#	Source	Supplier Code
1	X Return after test ___ Dispose after test ___ Dispose after 30 days			

Part/Material Name	Sample Identification [Continue below if needed]	Part Number [If any]	Material Specification [If any]	CPSC Code	Supplier
SPEED CONTROL	BURNED	F2VY-9F924-A	NA		TEXAS INSTRUMENTS
CUT-OFF SWITCH	CONNECTOR				
	PRESSURE ACTUATOR				
	(REDDICK)				

Investigation

Nature of Investigation/Specific Tests Required [Check all that apply]

- ___ Production/Plant problem
- X Failure Analysis
- X Legal
- ___ Specification Compliance
- ___ Perform Tests as in Lab No. _____
- ___ Photograph [Describe below]
- ___ Use Specification _____ as a guide
- ___ Other [Describe below]

Requester Info. Box [For requester use]: HIGH PRIORITY - POSSIBLE LEGAL

Stop testing upon failure? ___ No ___ Yes

Does this support CAE testing? [If "Yes", what is the expected outcome?] ___ No ___ Yes

Do you need to know your CL contact and timing? ___ Yes

Additional Sample Information/Testing Requirements

DETERMINE CAUSE OF BURNED CONNECTOR

- RADIOGRAPH
- PHOTOGRAPH
- PRESSURE TEST DIAPHRAGM

EVALUATE/UNDERSTAND CIRCUITRY OF NEW SWITCHES

ATTN: S. LABRUCHE

Sample in Lab

NOTE: ALL COMMUNICATIONS/REPORT, ETC. TO BE DUAL (I.E. NLAPOINT & SLABRUCHE)

Report

Date you would like report 1-13-99

Date you must have report 1-14-99

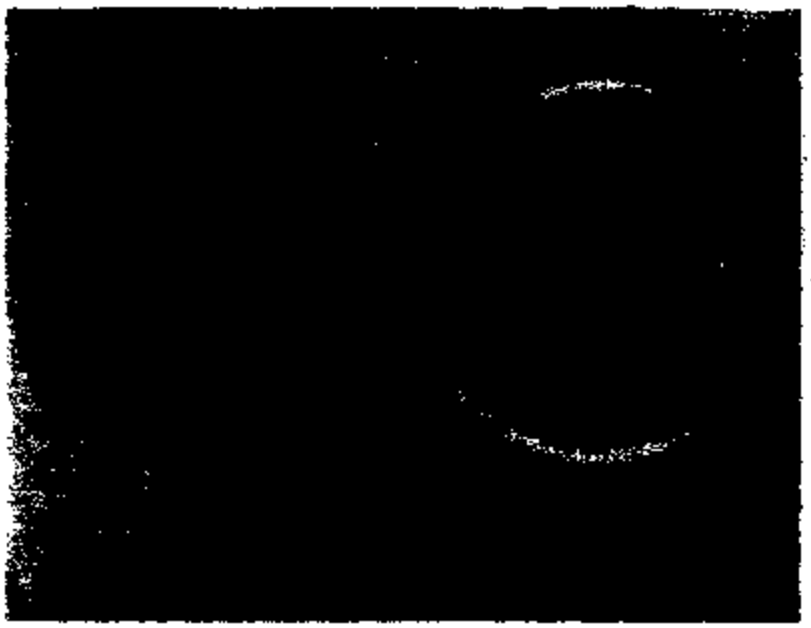
Format [Check all that apply]

- X FAX preliminary results
- ___ FAX typed report
- ___ FAX hand written
- ___ Mail hand written
- ___ Mail typed report
- ___ Electronically transfer report
- ___ Phone preliminary results

For information about services or assistance in completing this form please refer to the Central Laboratory WEB page. [www.gis.ford.com/central/home.html]
Laboratory number and date cannot be assigned without receipt of samples.
Samples will be disposed of after 30 days unless otherwise indicated above.

CL-Form #CLF07_01

3713 2601



~1.7X

Figure 1: Photograph showing as-received switch and locations where samples were removed from cup face.

~1.4X

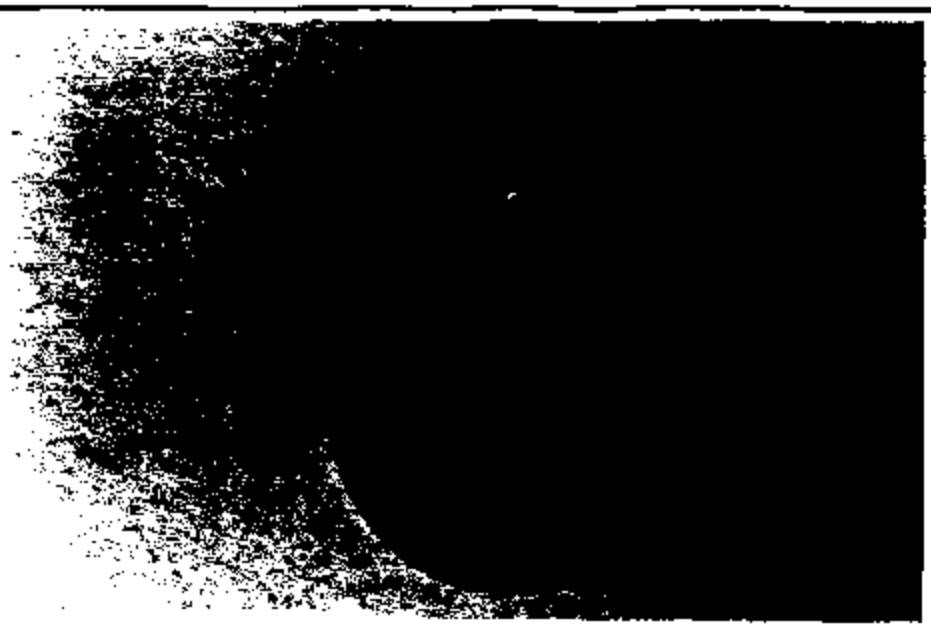
Figure 2: Photograph showing cup, Kapton seals, and header after disassembly at Texas Instruments (N. LaPointe).

~2X

Figure 3: Photograph showing hexport after disassembly at Texas Instruments (N. LaPointe).

~1.8X

Figure 4: Photograph showing Kapton seals after disassembly at Texas Instruments (N. LaPointe).



~3.5X

Figure 5: Photograph showing gasket after disassembly at Texas Instruments (N. LaPointe).

~3.5X

Figure 6: Photograph showing gasket (opposite side of that shown in Figure 5) after disassembly at Texas Instruments (N. LaPointe).

~3.4X

Figure 7: Photograph showing Kapton seal #1 (closest to hexport) after disassembly at Texas Instruments (N. LaPointe).

~3.4X

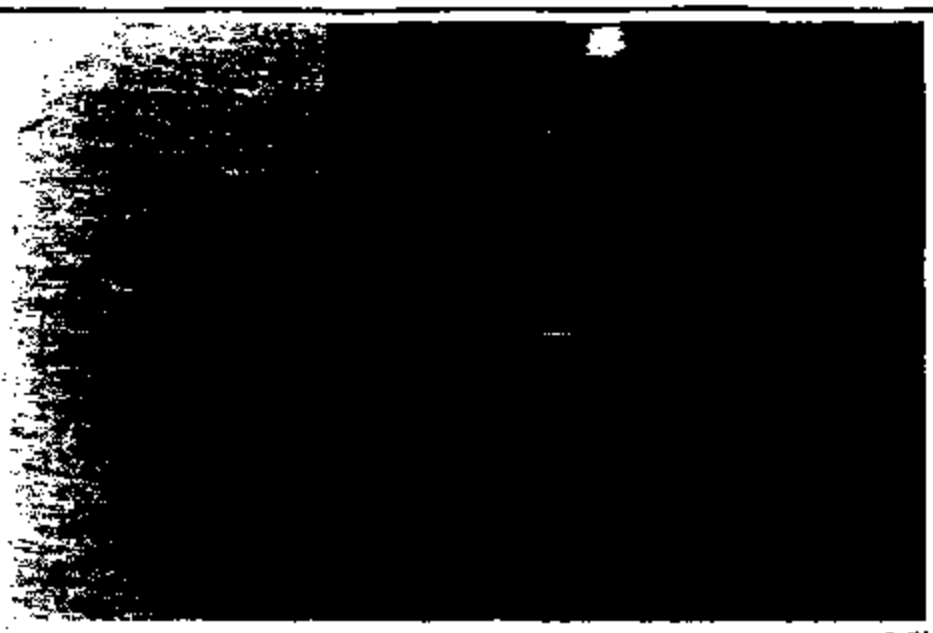
Figure 8: Photograph showing Kapton seal #1 (opposite side of that shown in Figure 7) after disassembly at Texas Instruments (N. LaPointe).

~3.4X

Figure 9: Photograph showing Kapton seal #2 after disassembly at Texas Instruments (N. LaPointe).

~3.4X

Figure 10: Photograph showing Kapton seal #2 (opposite side of that shown in Figure 9) after disassembly at Texas Instruments (N. LaPointe).



~3.4X

Figure 11: Photograph showing Kapton seal #3 (closest to washer) after disassembly at Texas Instruments (N. LaPointe).

~3.4X

Figure 12: Photograph showing Kapton seal #3 (opposite side of that shown in Figure 11) after disassembly at Texas Instruments (N. LaPointe).

~1.5X

Figure 13: Photograph showing face of washer after disassembly at Texas Instruments (N. LaPointe).

~1.4X

Figure 14: Photograph showing internal surfaces of cup, connector/disc, and washer after disassembly at Texas Instruments (N. LaPointe).

Figure 15: Image showing grey seal.

Figure 16: Image showing white deposit in cavity below grey seal.

Figure 17: Image showing condition of red seal.

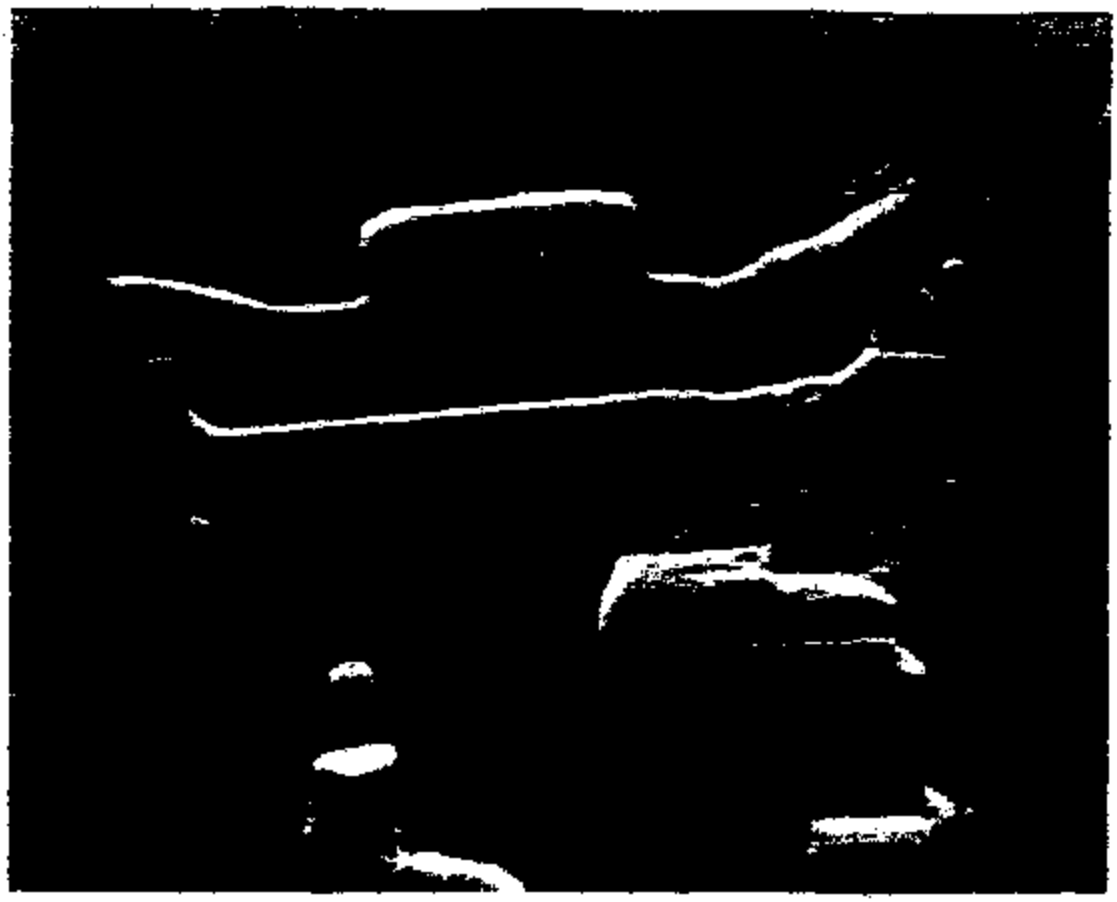
Figure 18: Image showing transfer of red seal material to switch base.

~6.9X

Figure 19: Image showing tarnished condition of wires below insulation.

~3.7X

Figure 20: Photograph showing contacts, bases, and terminals after removal from switch base.



~8.5X

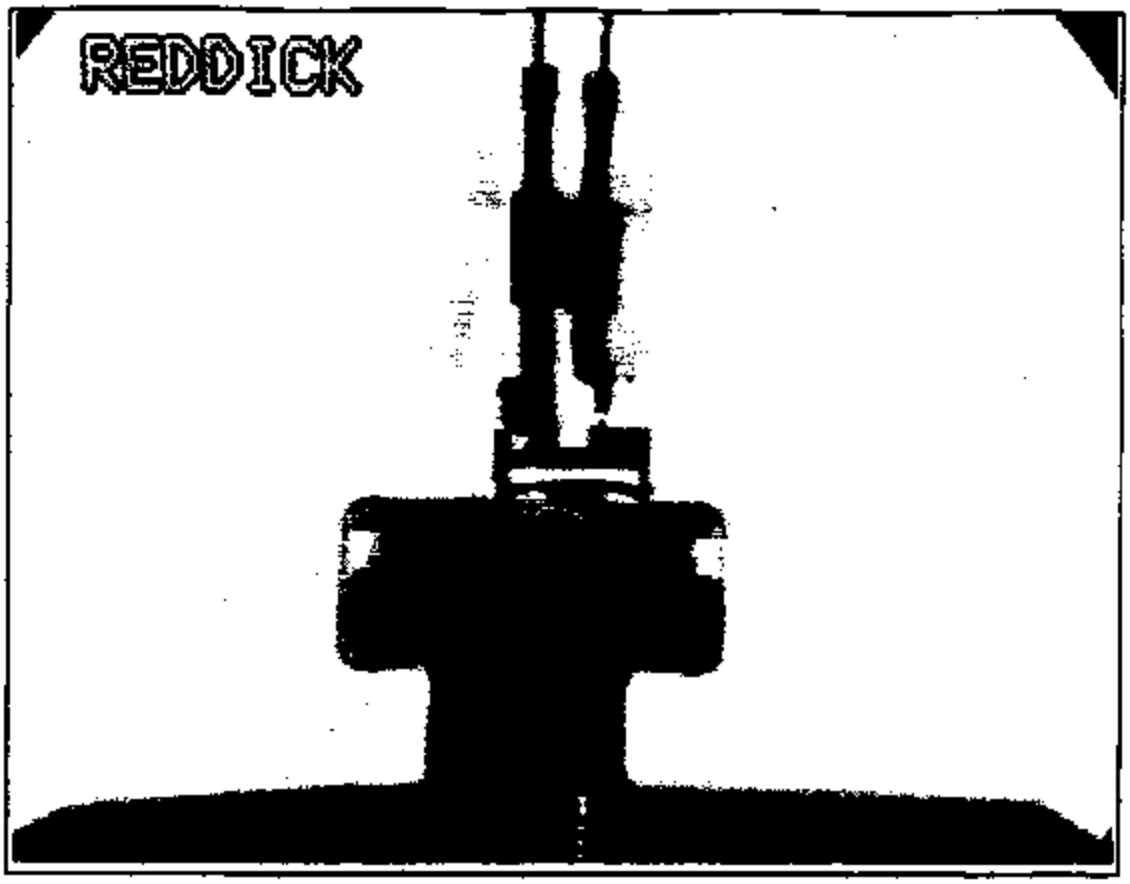
Figure 21: Fluoroscopic image showing cracks and loss of material in stationary contact.

Note: Nominal magnifications given for photomicrographs.

~4.9X

Figure 22: Fluoroscopic image showing cracks and loss of material in stationary contact.

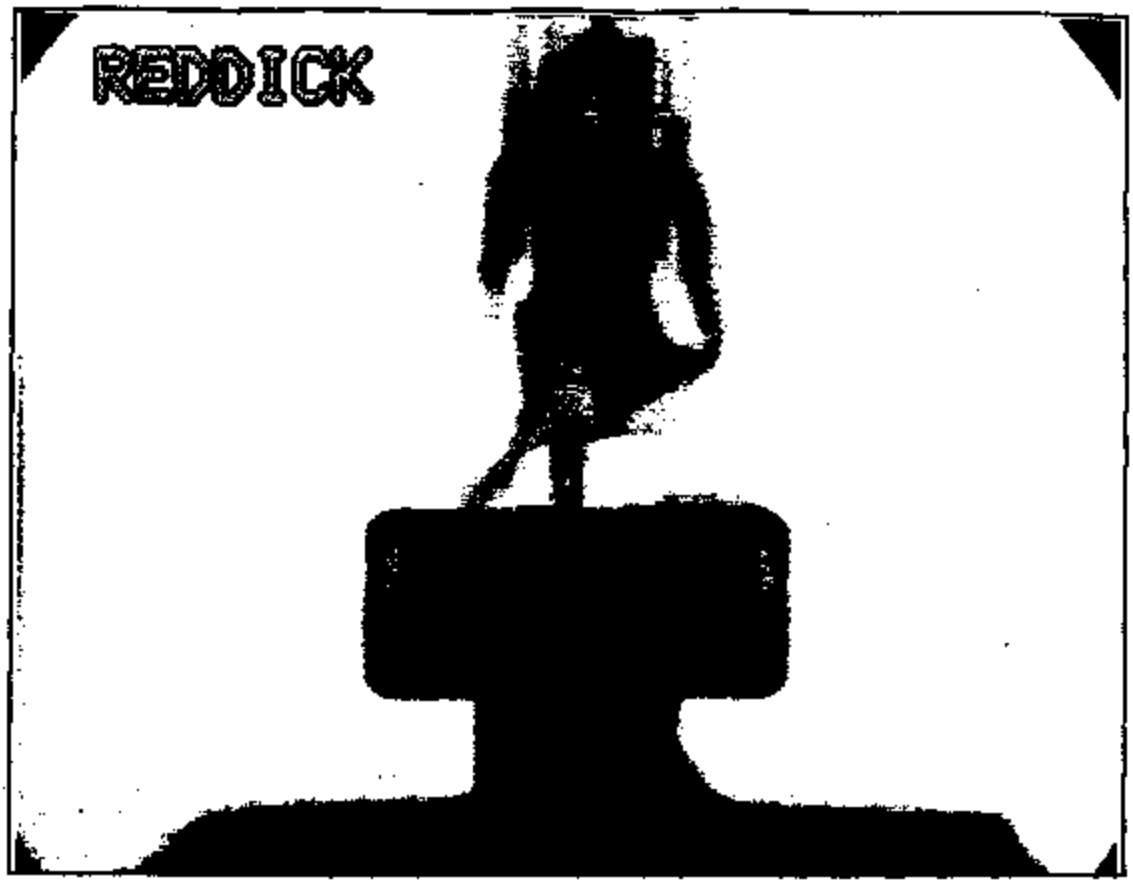
Note: Nominal magnifications given for photomicrographs.



~1.8X

Figure 23: Fluoroscopic image showing switch base and pressure side of switch placed together. Note base of movable contact terminating in large globule.

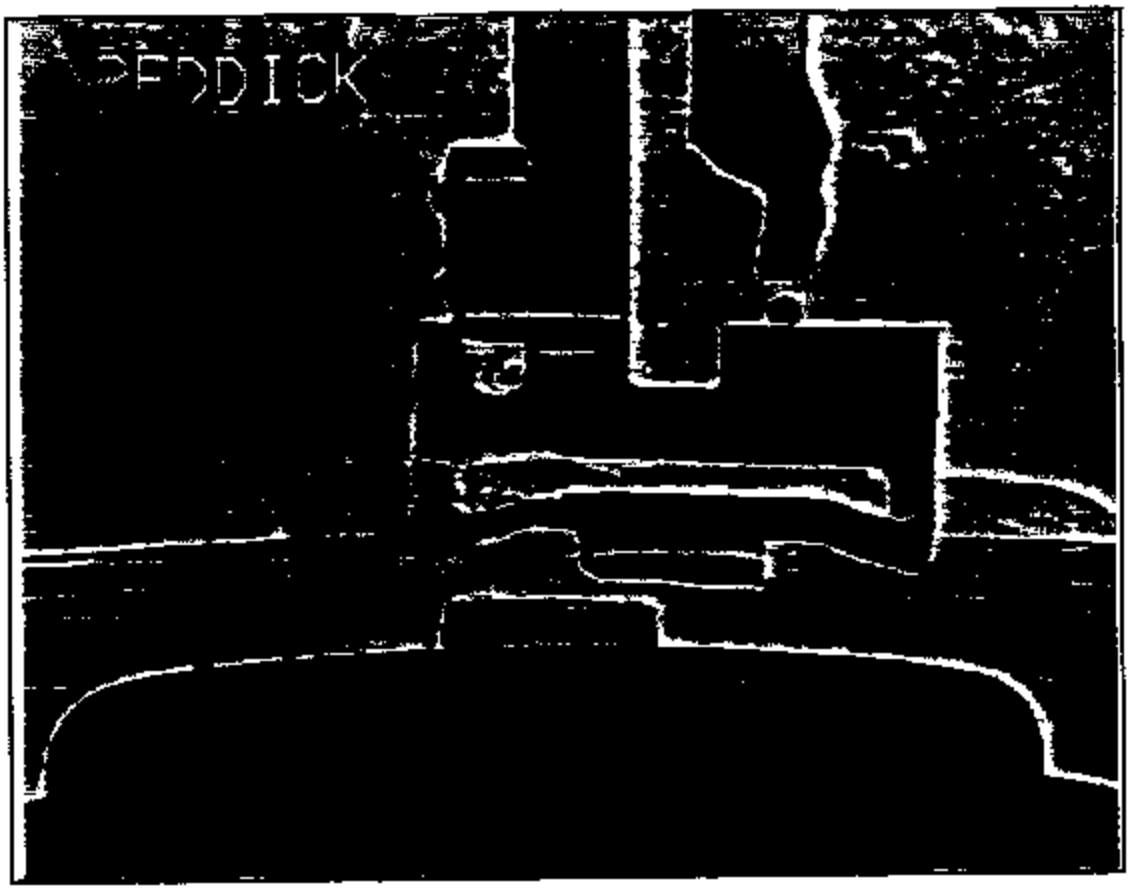
Note: Nominal magnifications given for photomicrographs.



~1.9X

Figure 24: Fluoroscopic image showing switch base and pressure side of switch placed together.

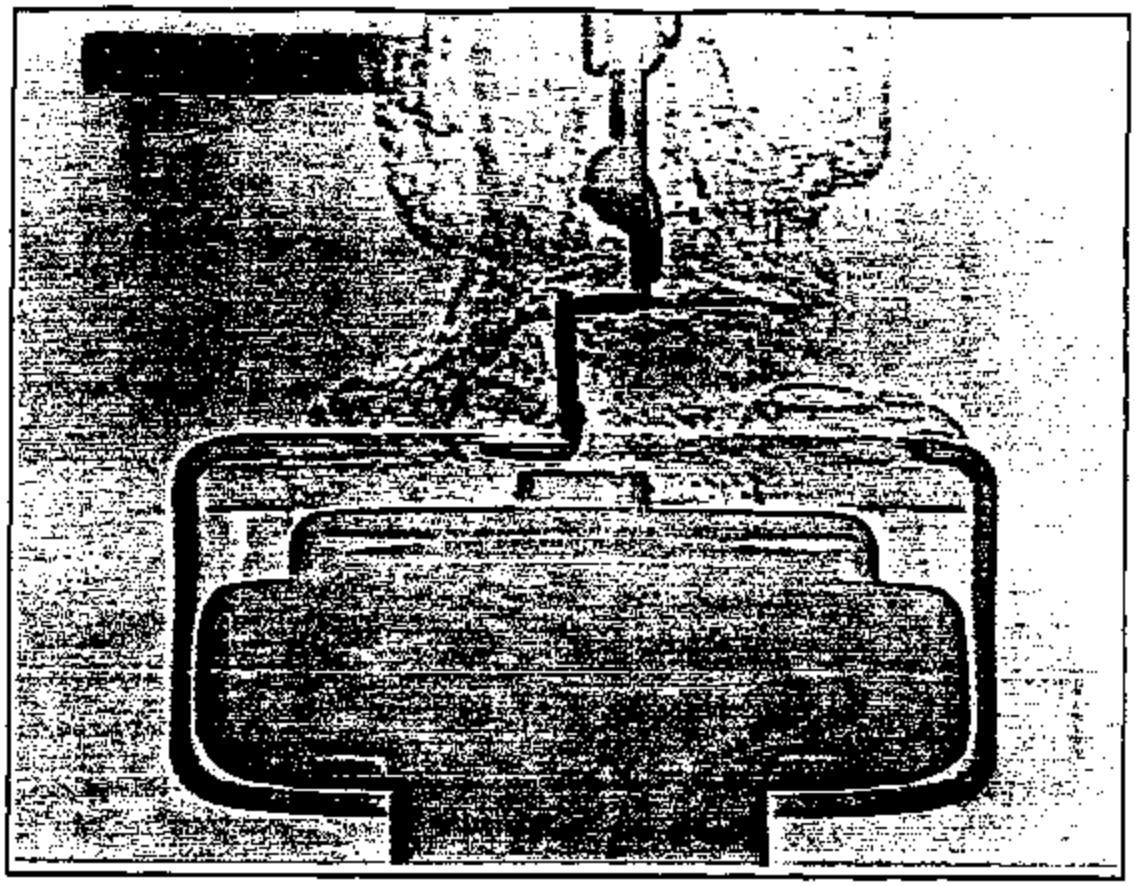
Note: Nominal magnifications given for photomicrographs.



~5.2X

Figure 26: Fluoroscopic image showing switch base and pressure side of switch placed together.

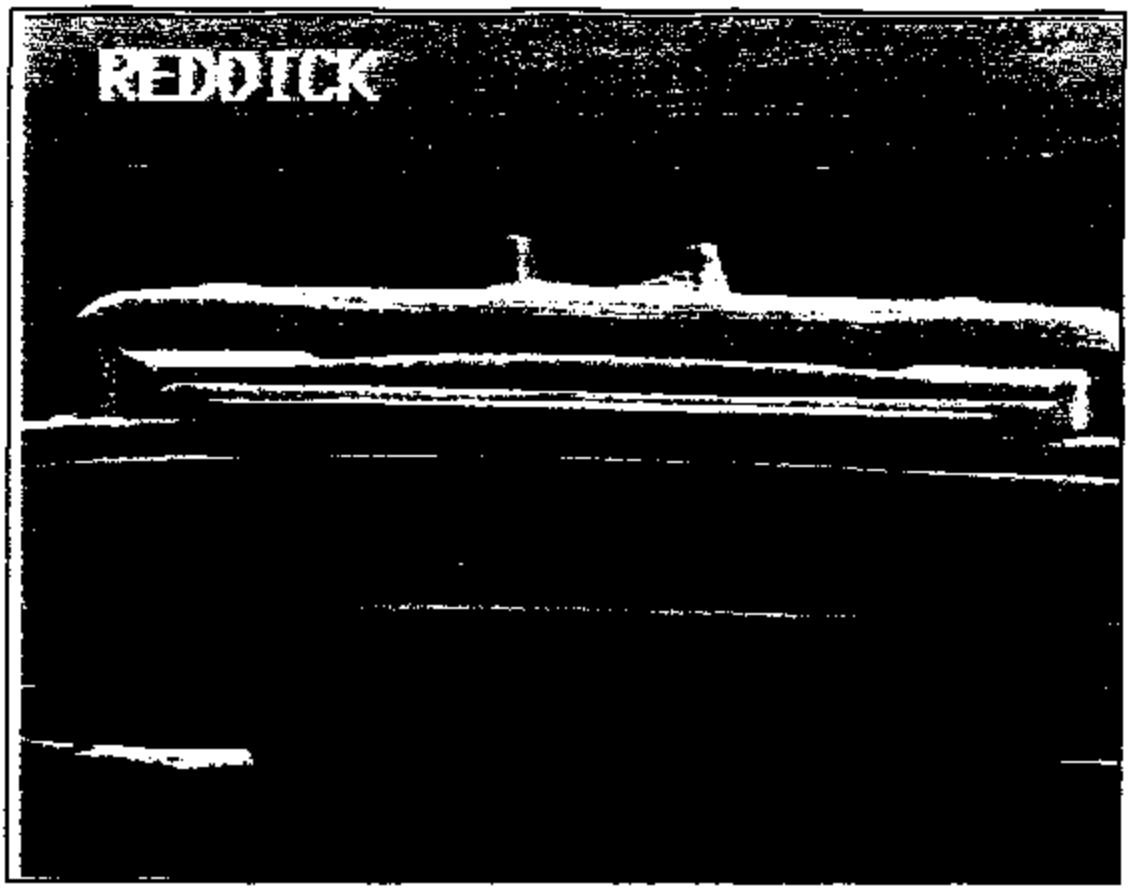
Note: Nominal magnifications given for photomicrographs.



~3.7X

Figure 26: Fluoroscopic image showing switch base and pressure side of switch placed together.

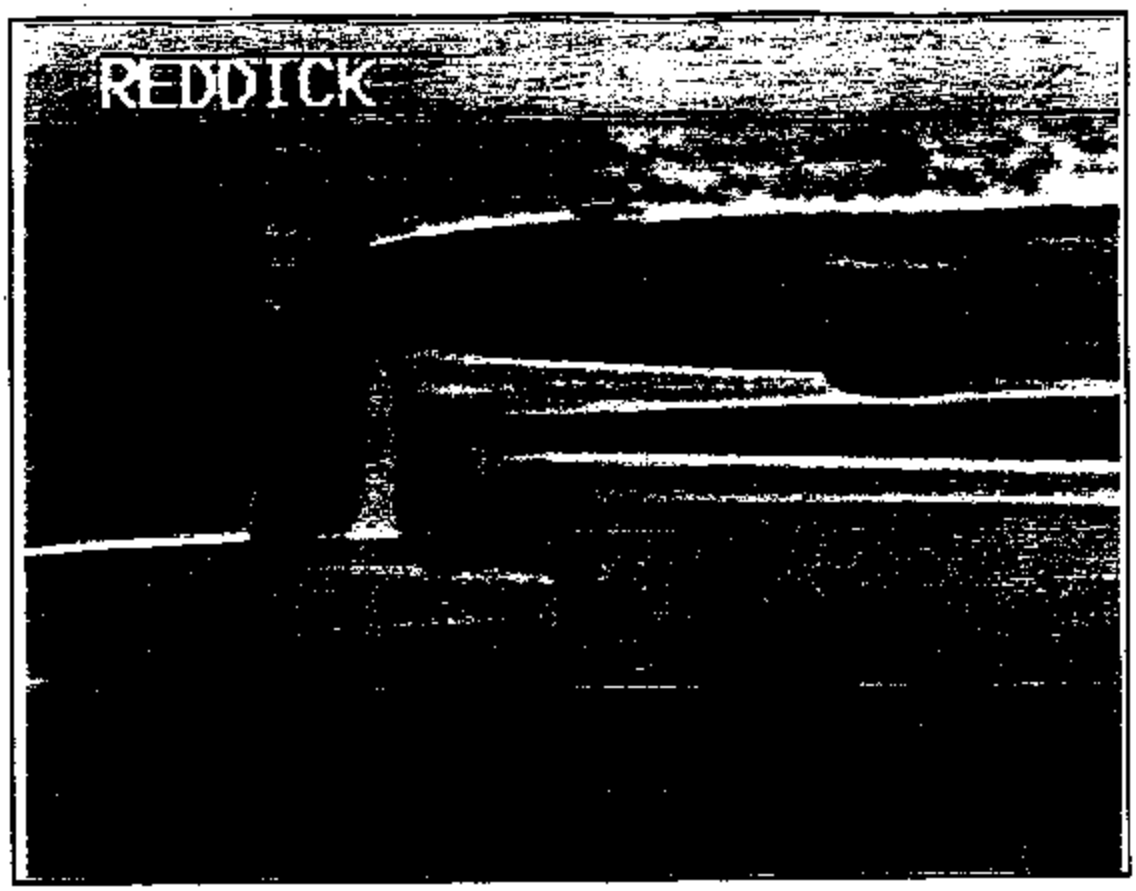
Note: Nominal magnifications given for photomicrographs.



~5.9X

Figure 27: Fluoroscopic image of washer, converter, and disc in place.

Note: Nominal magnifications given for photomicrographs.



-18X

Figure 28: Fluoroscopic image showing converter and disc in place.

Note: Nominal magnifications given for photomicrographs.

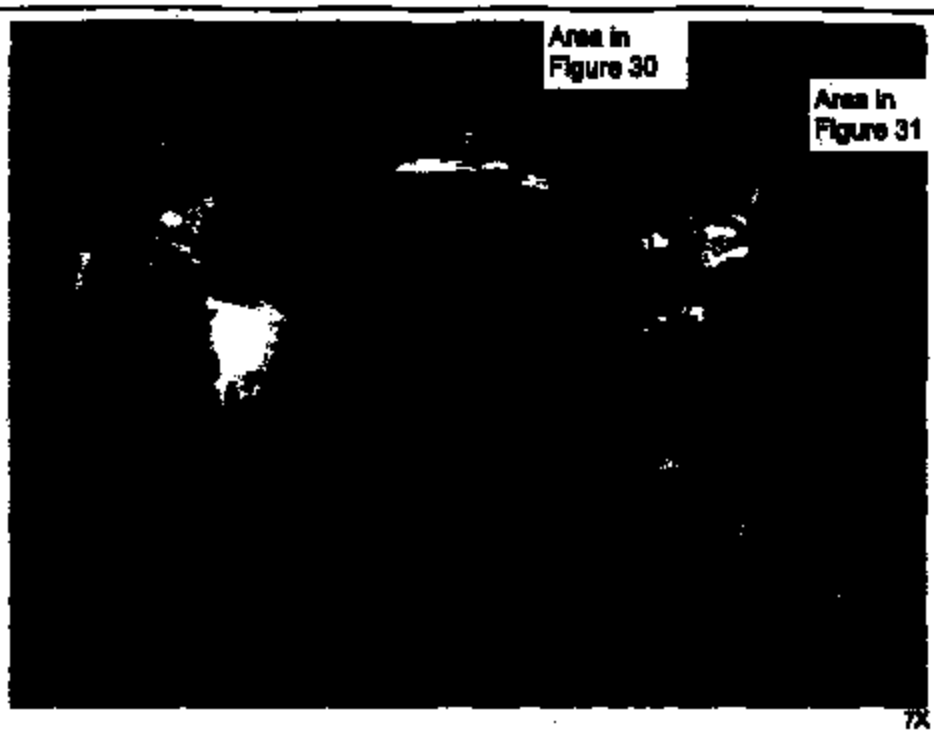
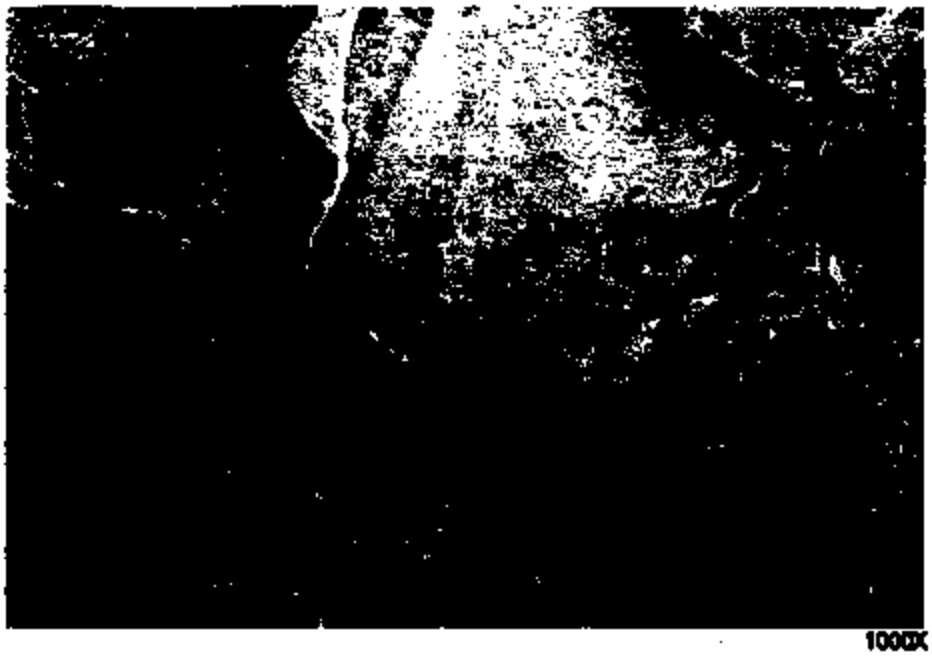


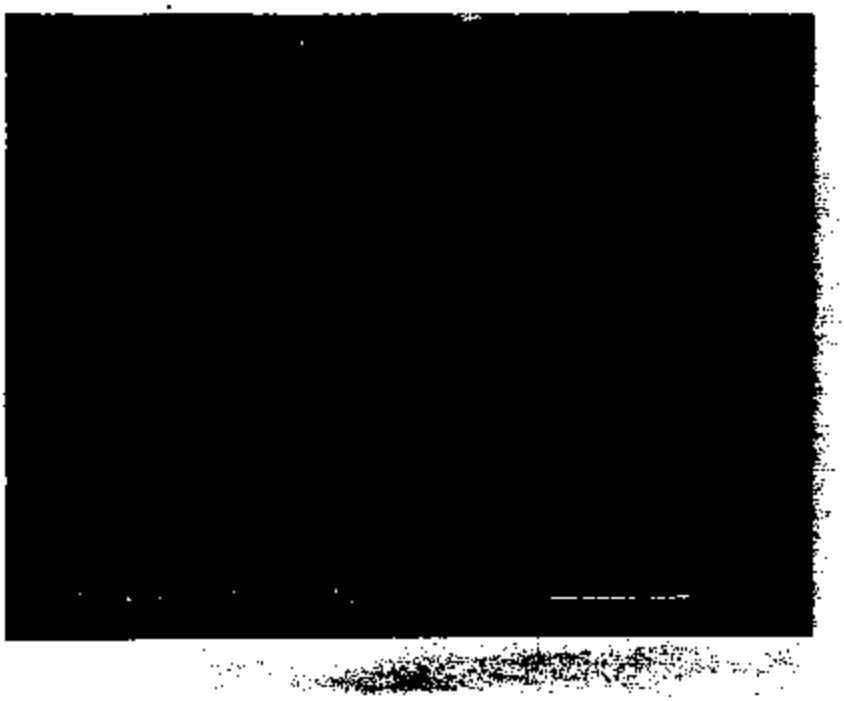
Figure 29: Image showing typical damage to Kapton seals. Kapton Strip (Teflon Layers Removed) Closest to Washer with Concave Side Down

Figure 30: SEM photomicrograph showing brittle crack in Kapton seal. Crack appears to have propagated away from the washer. The direction of propagation is perpendicular to the plane of the page



1000X

Figure 31: SEM photomicrograph showing brittle crack in Kapton seal. Direction of propagation is perpendicular to plane of page.



200X

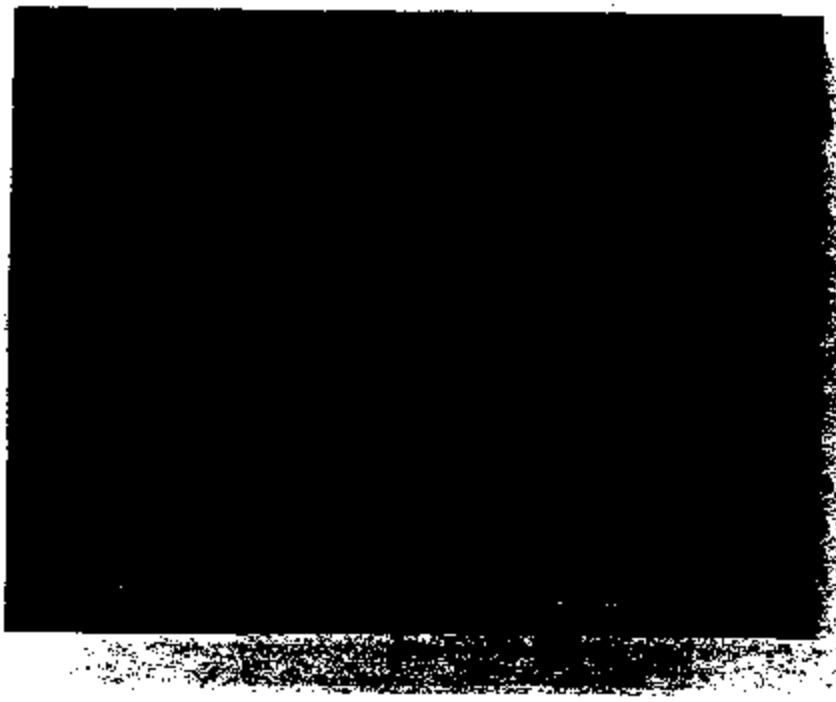
Figure 32: SEM photomicrograph showing apparent corrosion damage to surface of stationary contact.

1000X

Figure 33: SEM photomicrograph showing what appears to be localised arc damage to corner of stationary contact.

75X

Figure 34: SEM photomicrograph showing intergranular crack in stationary contact.



750X

Figure 35: SEM photomicrograph showing intergranular crack in stationary contact.

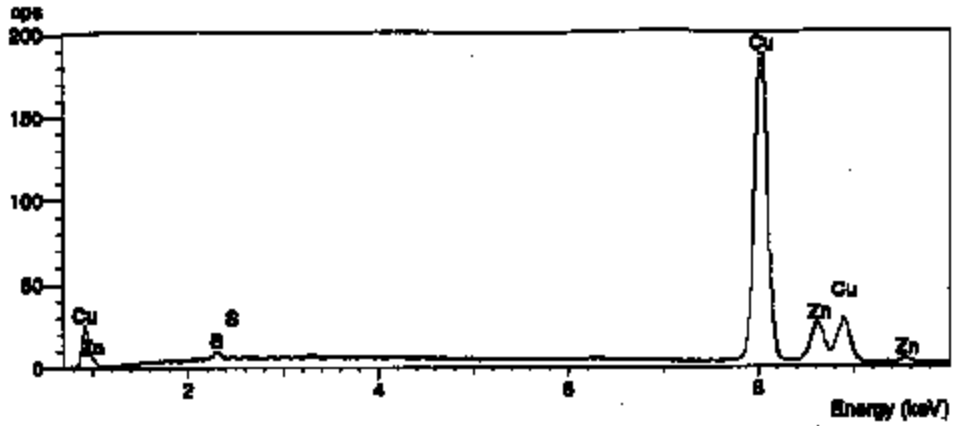


Figure 36: EDS X-ray spectrum of material scraped from the side of the stationary contact body.

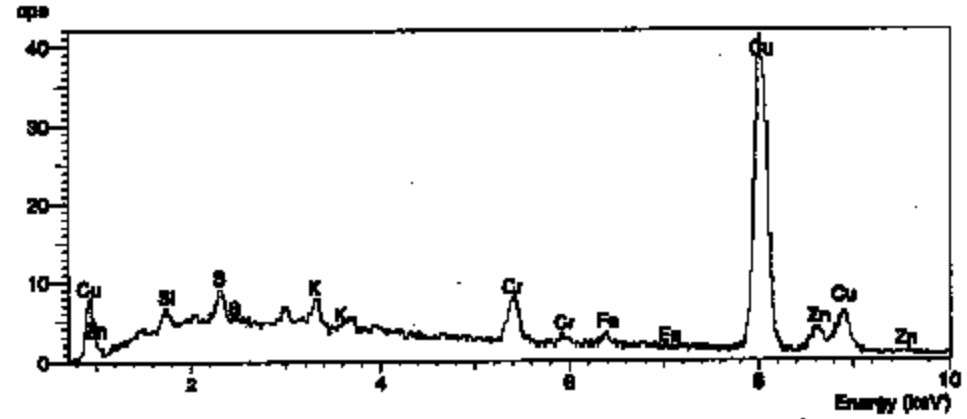


Figure 37: EDS spectrum of greenish compound scraped from the cup region.

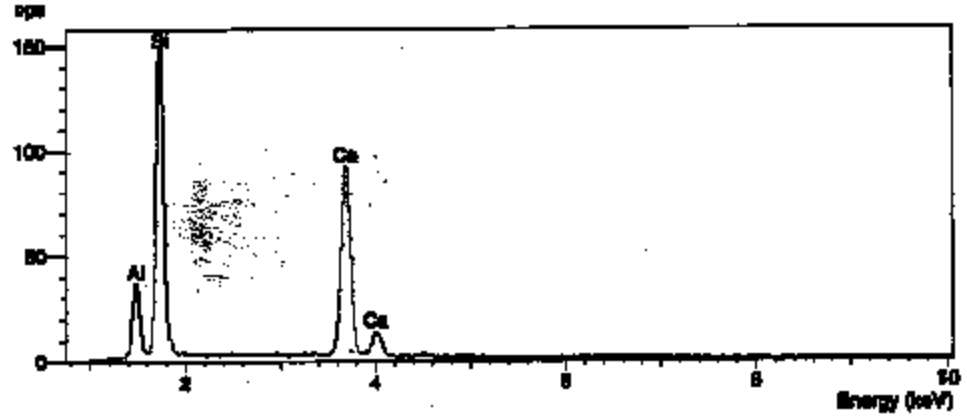


Figure 38: EDS X-ray spectrum of fibrous material scraped from the cup region.

Note: Nominal magnifications given for photomicrographs.

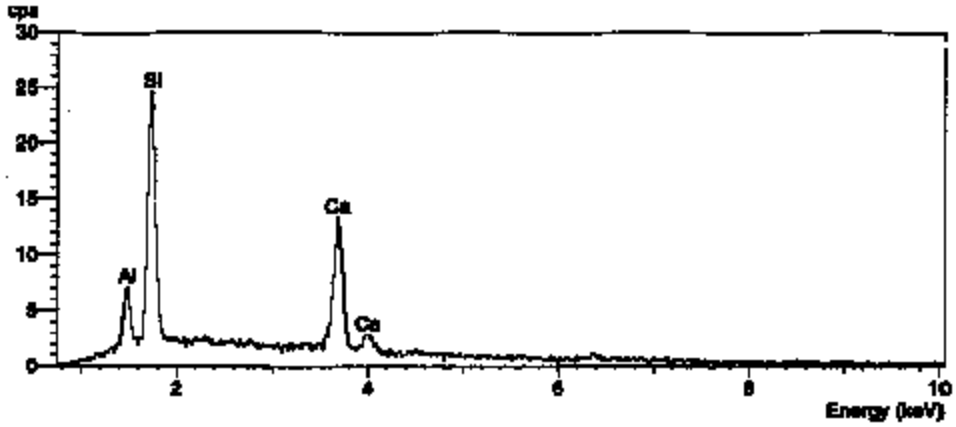


Figure 39: EDS X-ray spectrum of material shaved from a new base.

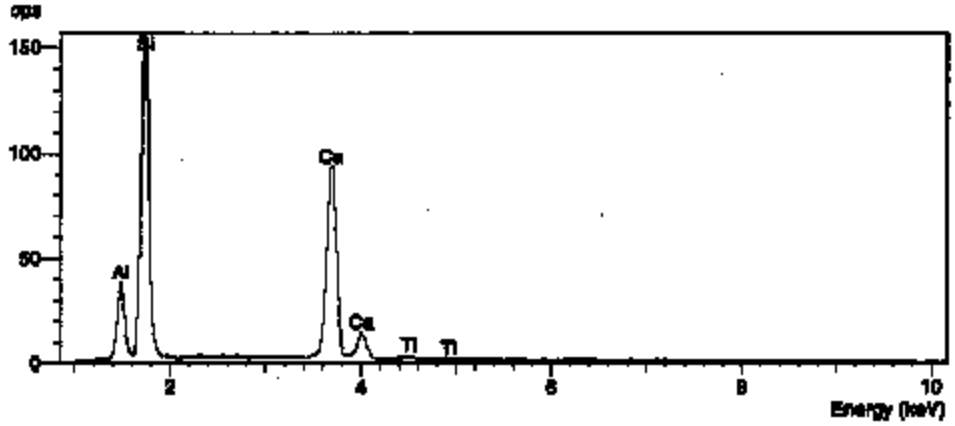


Figure 40: EDS X-ray spectrum of fibrous material scraped from the old base.

Note: Nominal magnifications given for photomicrographs.

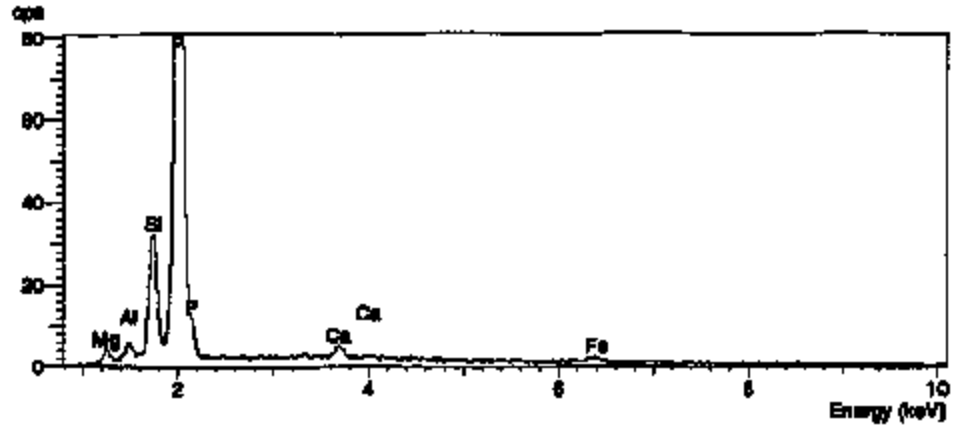


Figure 41: EDS X-ray spectrum of one of three samples of the white powder taken from the connector cavity below the wire seal.

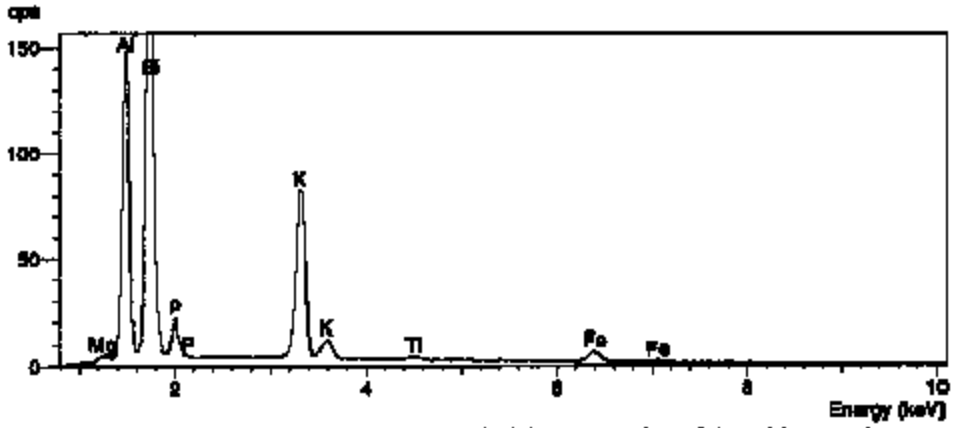


Figure 42: EDS X-ray spectrum of the second of three samples of the white powder.

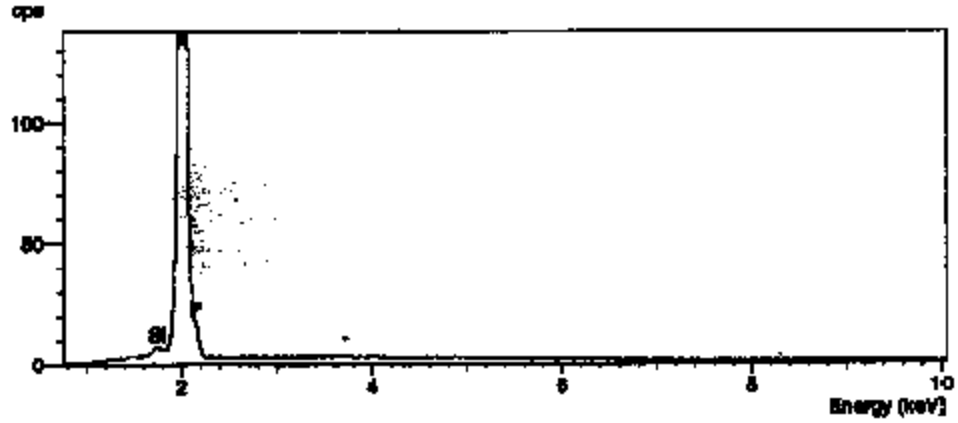


Figure 43: EDS X-ray spectrum of the third of three samples of the white powder.

Note: Nominal magnifications given for photomicrographs.

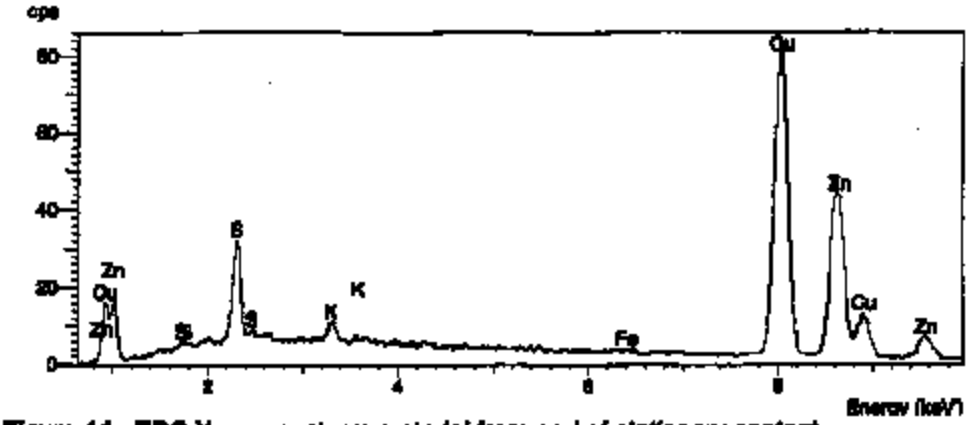


Figure 44: EDS X-ray spectrum material from pad of stationary contact.

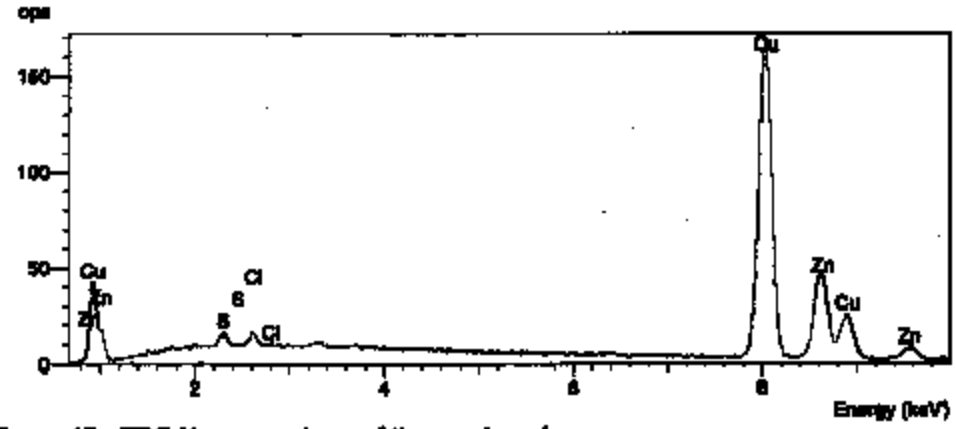


Figure 45: EDS X-ray spectrum of the crack surface.

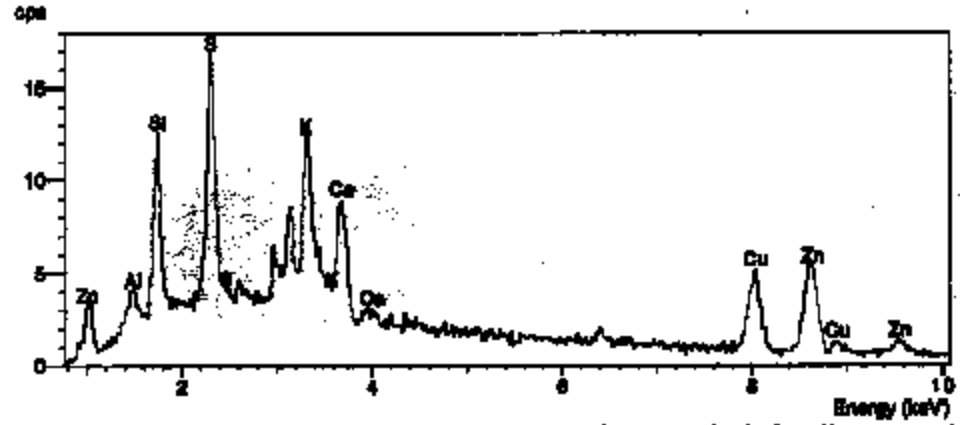


Figure 46: EDS X-ray spectrum of the green deposit from terminal of stationary contact.

Note: Nominal magnifications given for photomicrographs.

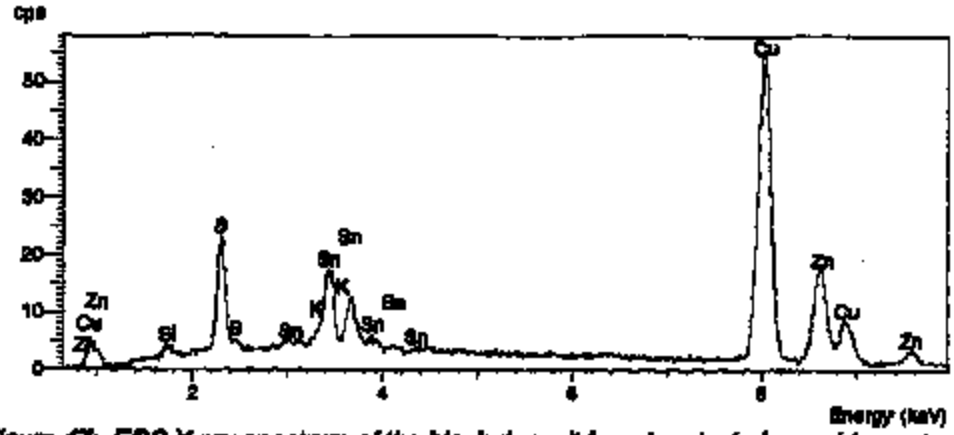
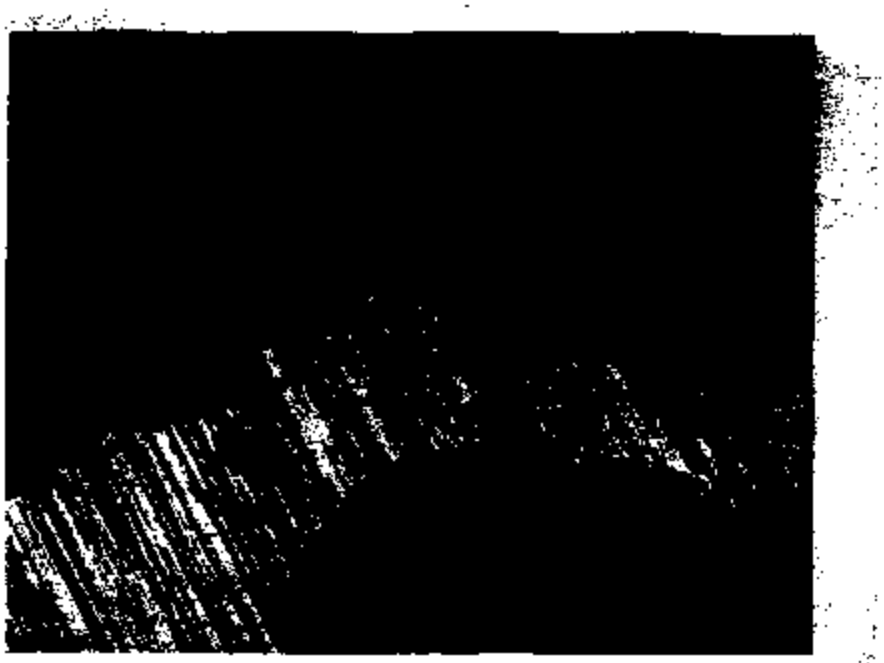


Figure 47: EDS X-ray spectrum of the black deposit from terminal of movable contact.

Note: Nominal magnifications given for photomicrographs.



As-polished 60X

Figure 48: Photomicrograph showing decholloation in stationary contact.

As-polished 600X

Figure 49: Photomicrograph showing decholloation in stationary contact.

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 009804106
Date of Request: 12/17/1998 10:50:33 AM
Print Date: 01/04/1999 01:36:52 PM

Request Description: SPEED CONTROL CUT-OFF SWITCH

Requestor Information:
Primary Contact: STEVENS, GREG - 10006 Phone: (313) 323-8686 PROFS ID: GSTEVEN1 Fax: (313) 390-7224
Secondary Contact: LA POINTE, NORM - 10075 Phone: (313) 594-2686 PROFS ID: NLAPOINT Fax: (313) 337-8256

Send Report to: MD 6006/2G065, AVT MATERIALS, BLDG. #6
Bill to: Acctg.Location: 5100
Dept: T113
Work Task: XQG04

Sample Information:
Total Number of Containers: 1 Sample Handling: Return after test
Source: Not specified Supplier Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CPSC Code	Supplier
SPEED CONTROL CUT-OFF SWITCH	1	BURNED CONNECTOR *	F2VV-9F924-A	NA	18.06.00	TEXAS INSTRUMENTS

Investigation Information:
Nature of Investigation: Requestor Info. Box: Mail typed report
Fax preliminary results
HIGH PRIORITY - POSSIBLE LEGAL

Additional Sample Information/Testing Requirements:
SAMPLE ID: BURNED CONNECTOR & PRESSURE ACTUATOR (REDDICK)

DETERMINE CAUSE
OF BURNED CONNECTOR - RADIOGRAPH, PHOTOGRAPH, PRESSURE TEST
DIAPHRAGM

EVALUATE/UNDERSTAND CIRCUITRY OF NEW SWITCHES.

ATTN S LA
ROUCHE - SAMPLE IN LAB

NOTE ALL COMMUNICATIONS/REPORT, ETC. TO BE DUAL
(I E N LA POINT)

Reporting Directions:
Date customer would like report 01/13/1999
Date customer must have report 01/14/1999

Report Format(s)

Log-In Information:
Initial Routing: Metallurgy
Accepted for Central Laboratory by: Morton, Jacqueline R. Phone: 59-47064

Program Name: KALISLab Engr Module
Program Version: Version: 2.0.6

View your test status at: 'HTTP //bd4web.pd7.ford.com/kalis'

3713 2630

Central Laboratory
15000 Century Drive
Dearborn, MI 48120-1267
FAX (313) 322-1614

Report 9804105

January 6, 1999

To: G. Stevens (313) 32-39695 (313) 39-07224 FAX

From: P. J. Nellos (313) 33-75356

Subject: Speed Control Cut-Off Switch
Part Number: F2VY-9F924-A
Specification: Not Provided
Supplier: Texas Instruments

Received: Particle scrapings were taken from four areas of a used switch (contact, cup, base, and a white residue) as well as from a new base on January 5, 1999.

Object: Perform EDS analyses on each of the five areas.

Conclusion: The results are listed below in the Data and Analysis section.

Data and Analysis:

Surface Analysis
(Visual Examination, Scanning Electron Microscopy (SEM),
Energy Dispersive X-ray Spectroscopy (EDS)

Scrapings were taken from the side of the stationary contact body, the cup region, the base and a white residue from the connector cavity below the wire seal on a used speed control cut-off switch. A sliver of material was taken from a new base as well. Each sample was examined on a scanning electron microscope (SEM) using Energy Dispersive X-ray Spectroscopy (EDS). The following elements were detected, in decreasing order of elemental concentration (Figures 1 - 8).

Contact	Cup 1	Cup 2	New Base	Old Base
Copper	Copper	Silicon	Silicon	Silicon
Zinc	Zinc	Calcium	Calcium	Calcium
Sulfur	Chromium	Aluminum	Aluminum	Aluminum
Potassium	Sulfur	Titanium		Titanium
	Potassium	Copper		
	Silicon	Iron		
	Iron			
	Aluminum			

White Residue 1	White Residue 2	White Residue 3
Phosphorus	Silicon	Phosphorus
Silicon	Aluminum	Silicon
Calcium	Potassium	
Iron	Phosphorus	
Aluminum	Iron	
Magnesium	Titanium	
	Magnesium	

Surface Analysis (continued)

The material from the stationary contact body is most likely an oxide of a high copper brass (approximately 85% copper) base material with possibly a sulfate.

The material from the cup is blue-green colored, and is probably a combination of oxide of brass contact material, possibly a sulfate, and fibers from the base.

The new base spectrum is similar to the old base spectrum. The old base has fillers (fibers) along with a binder material present.

The white residue is a combination of materials. It is primarily a high phosphorus material, with some plates of Si-Al-K-rich material mixed in. These are typically found in dry chemical fire extinguishers.

By: Patrick J. Nailos (PNAILOS)
Laboratory Specialist

Enclosures: Figures 1 - 8
PJN/pjn

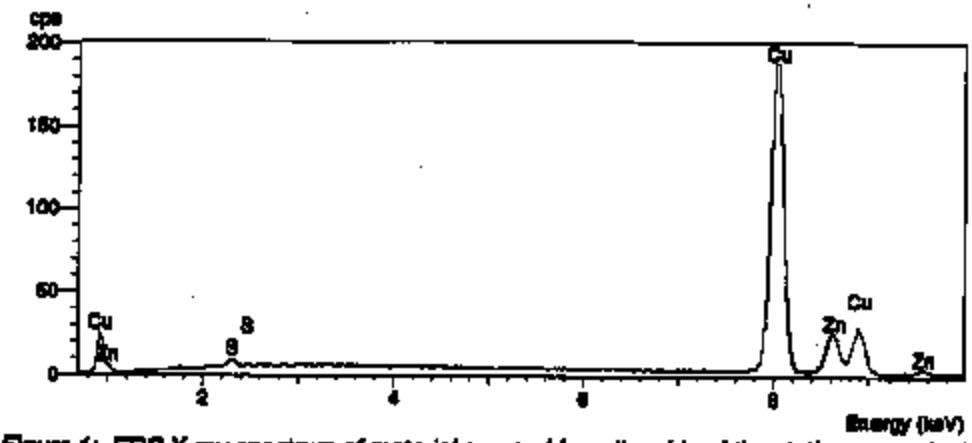


Figure 1: EDS X-ray spectrum of material scraped from the side of the stationary contact body.

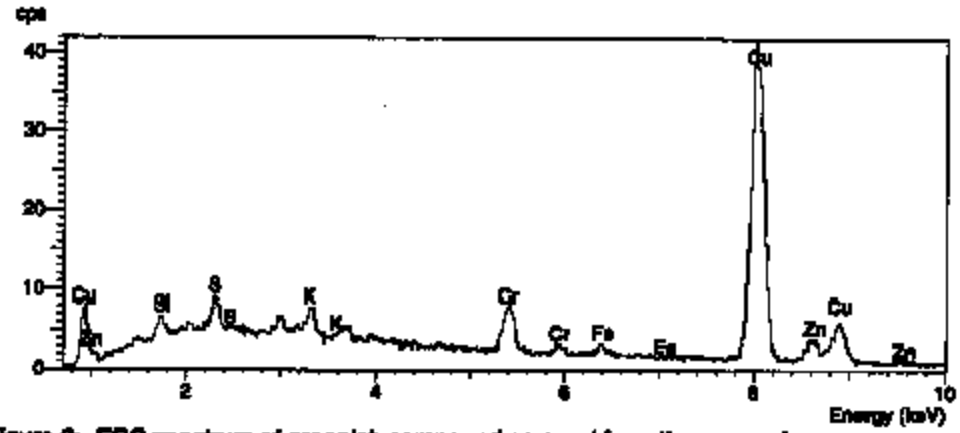


Figure 2: EDS spectrum of greenish compound scraped from the cup region.

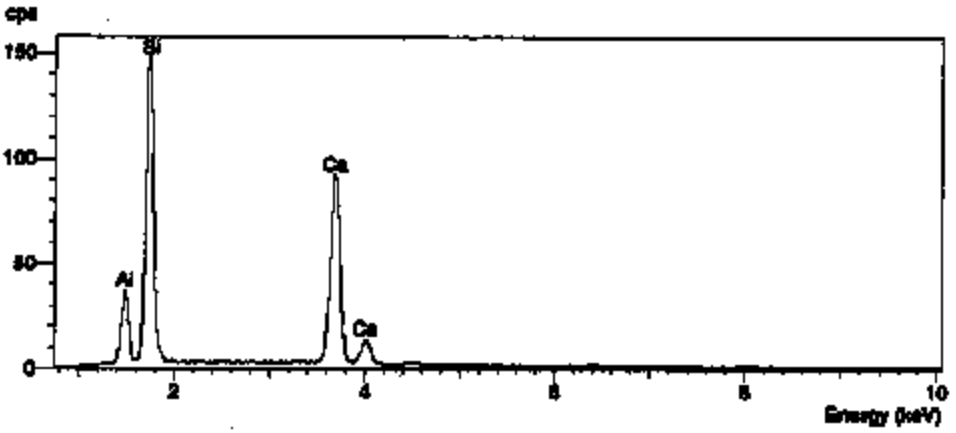


Figure 3: EDS X-ray spectrum of fibrous material scraped from the cup region.

Note: Nominal magnifications given for photomicrographs.

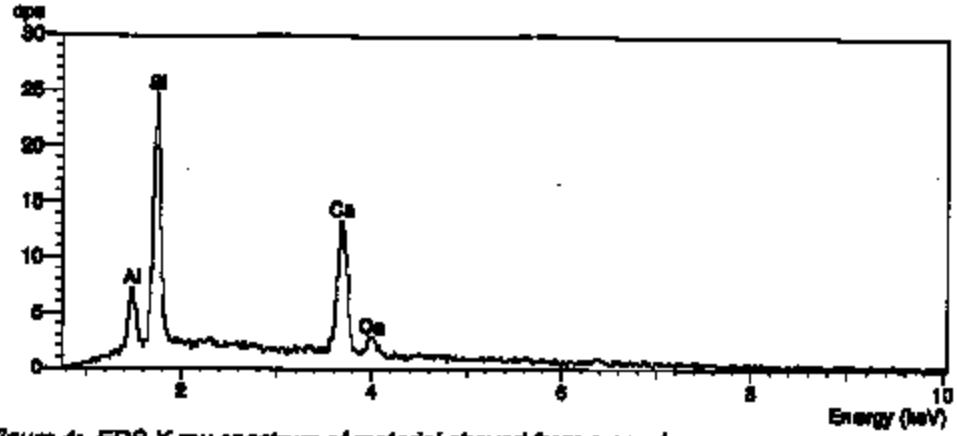


Figure 4: EDS X-ray spectrum of material shaved from a new base.

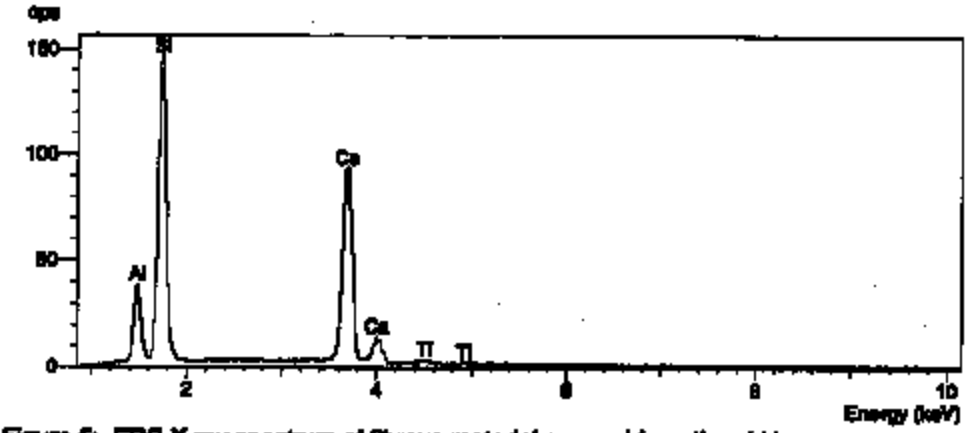


Figure 5: EDS X-ray spectrum of fibrous material scraped from the old base.

Note: Nominal magnifications given for photomicrographs.

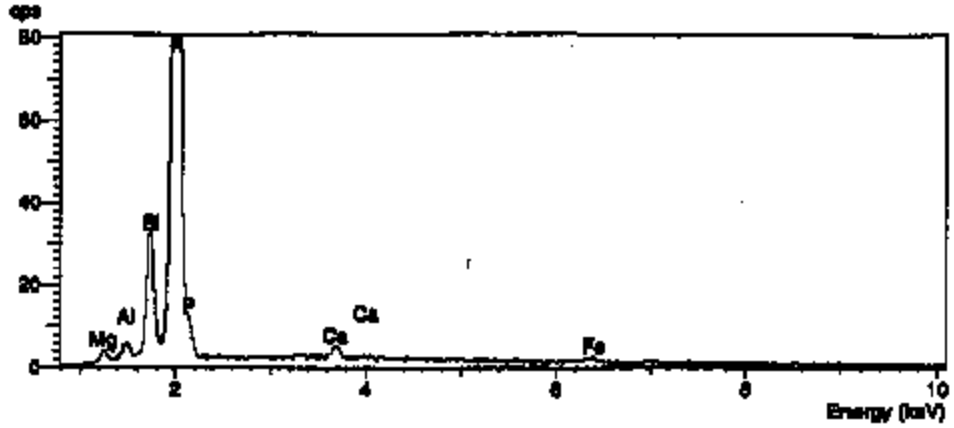


Figure 6: EDS X-ray spectrum of one of three samples of the white powder taken from the connector cavity below the wire seal.

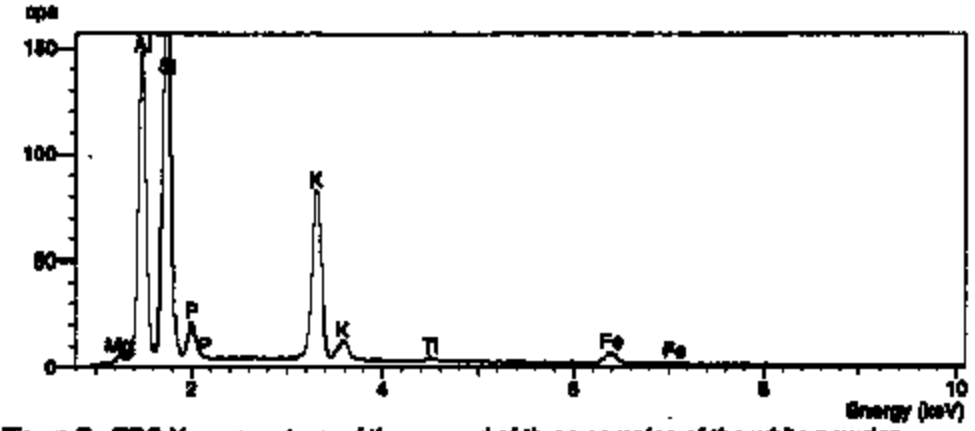


Figure 7: EDS X-ray spectrum of the second of three samples of the white powder.

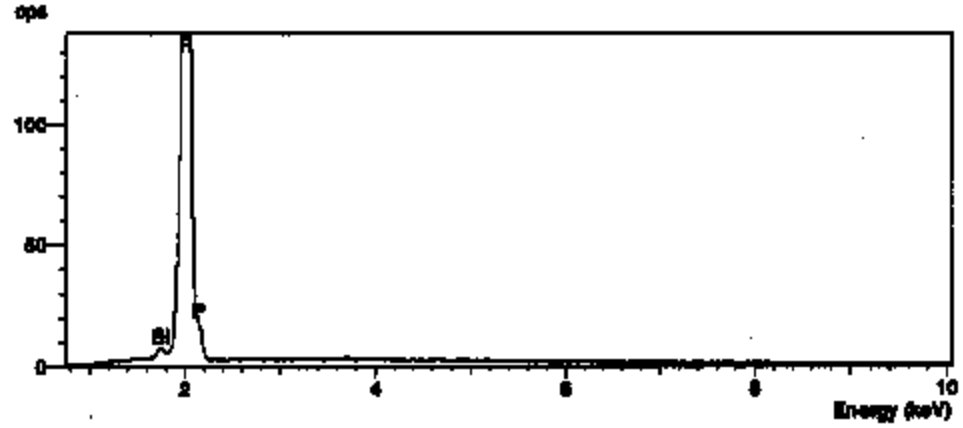
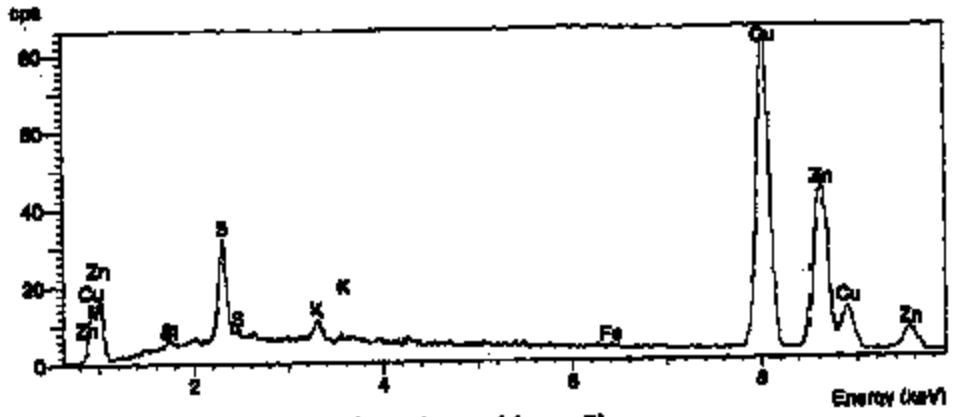
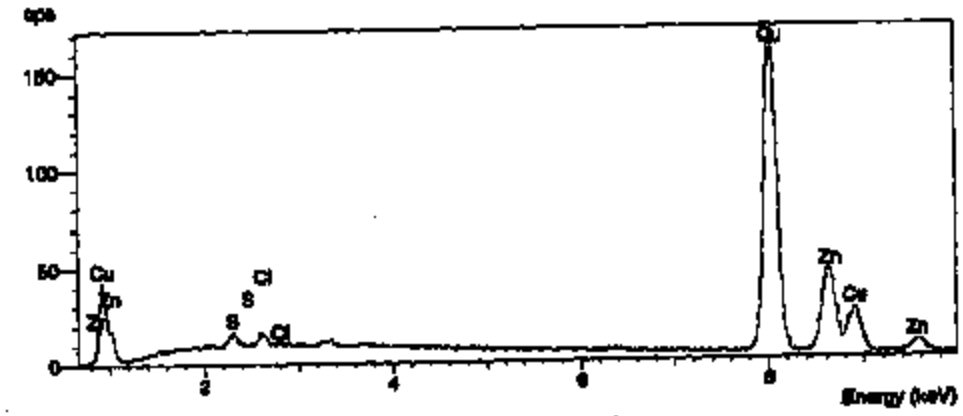


Figure 8: EDS X-ray spectrum of the third of three samples of the white powder.

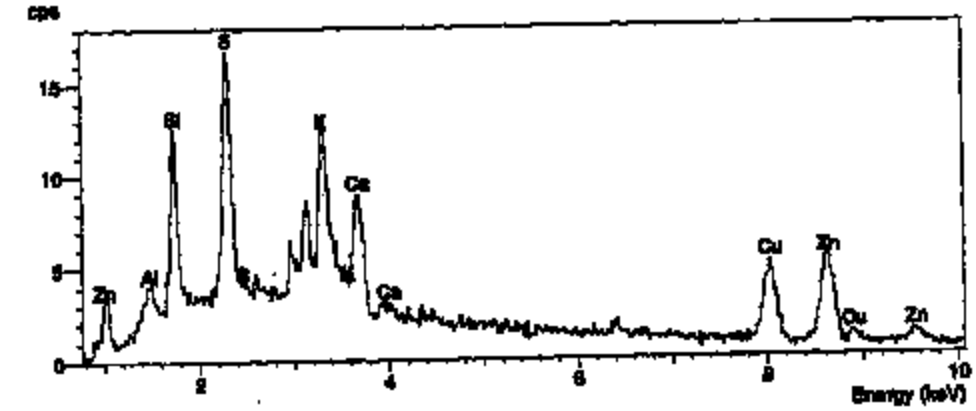
Note: Nominal magnifications given for photomicrographs.



EDS X-ray spectrum material from the pad (area 3).

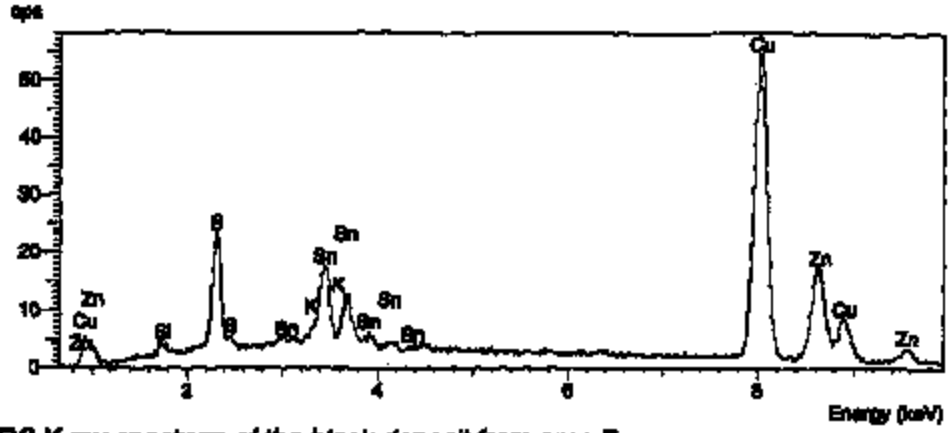


EDS X-ray spectrum of the fracture surface (area 4).



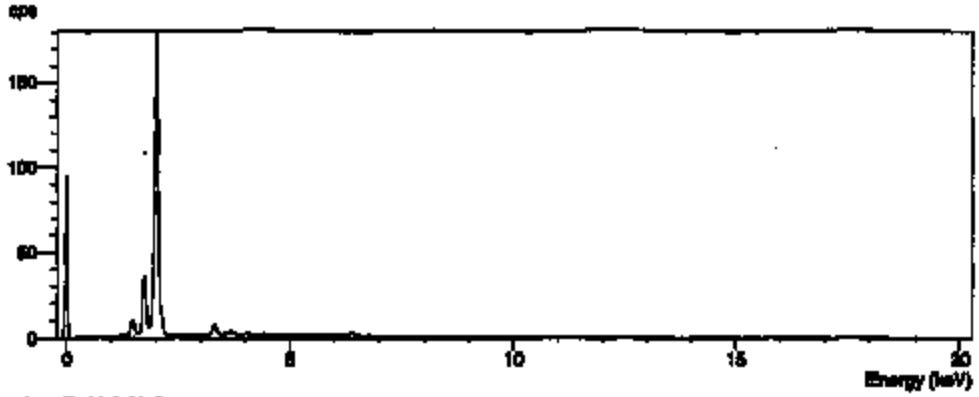
EDS X-ray spectrum of the green deposit from area 5.

Note: Nominal magnifications given for photomicrographs.



EDS X-ray spectrum of the black deposit from area 7.

Note: Nominal magnifications given for photomicrographs.



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Job : 9804105
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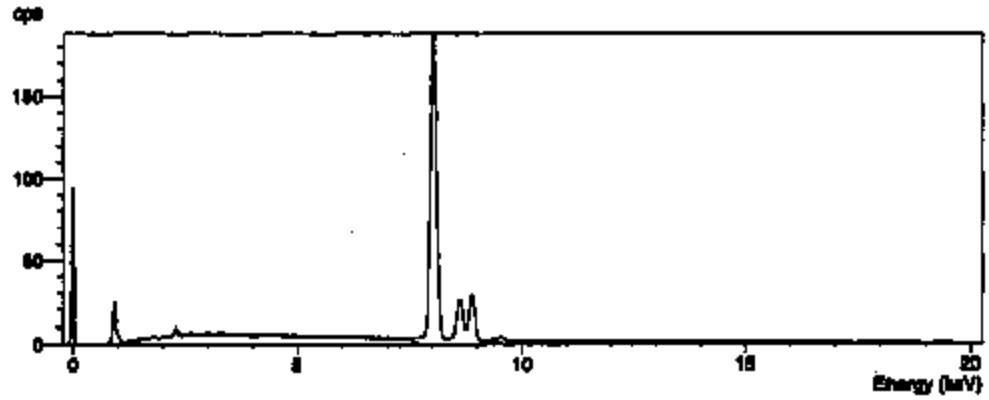

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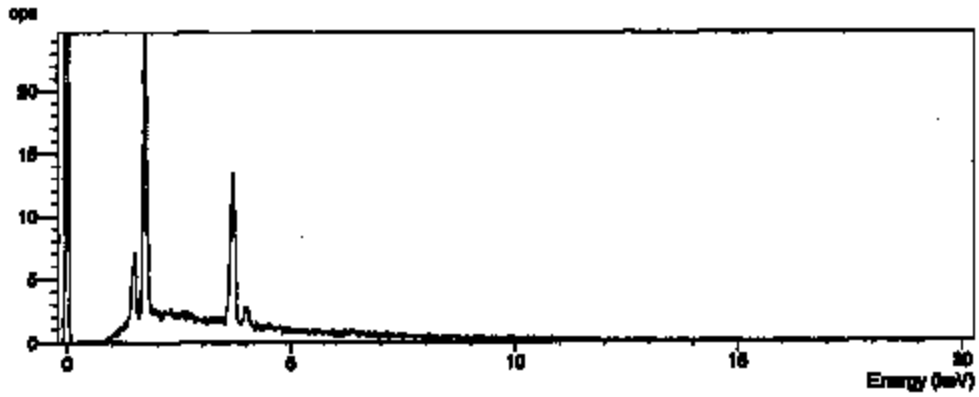
Client : Greg Stevens
Job : 9804105
Contact 1 (1/6/99 09:29)



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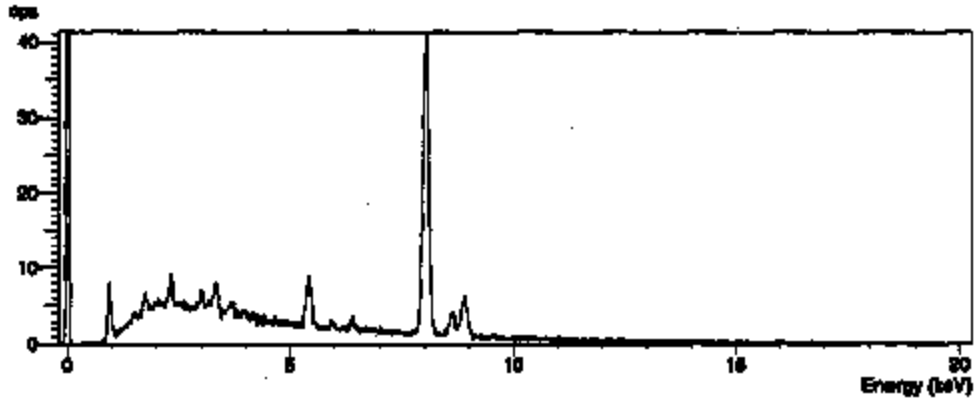
Client : Greg Stevens
Job : 9804105
Housing New 1 (1/6/99 09:31)

Operator : Patrick Nallos
Client : Greg Stevens
Job : 9804105
Housing Old 1 (1/8/98 08:32)



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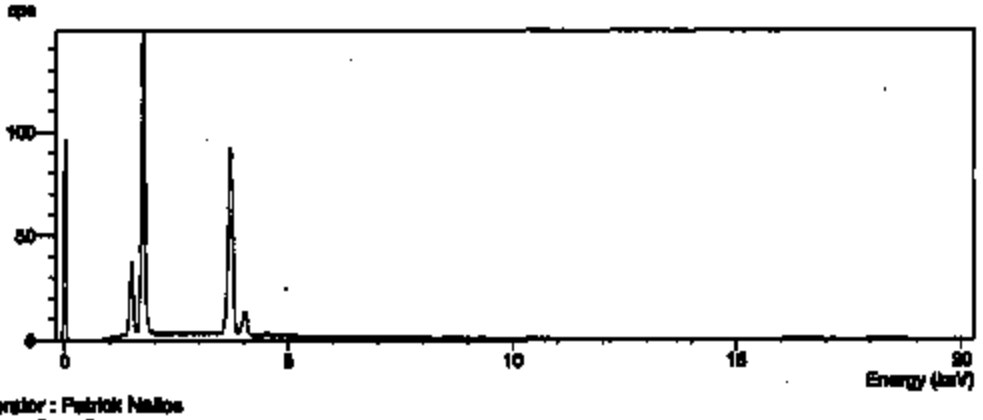
Cup 1 (1/8/98 08:36)



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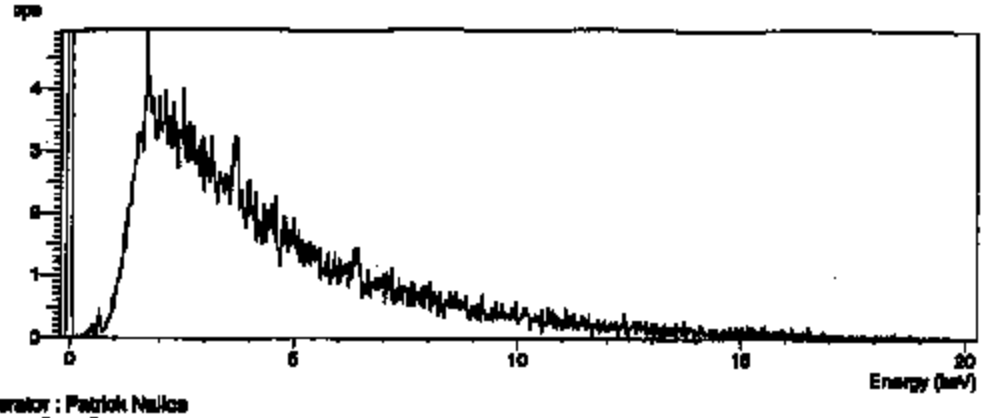
Client : Greg Stevens
Job : 9804105
Cup 2 (1/8/98 08:37)



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Client : Greg Stevens
Job : 9804105
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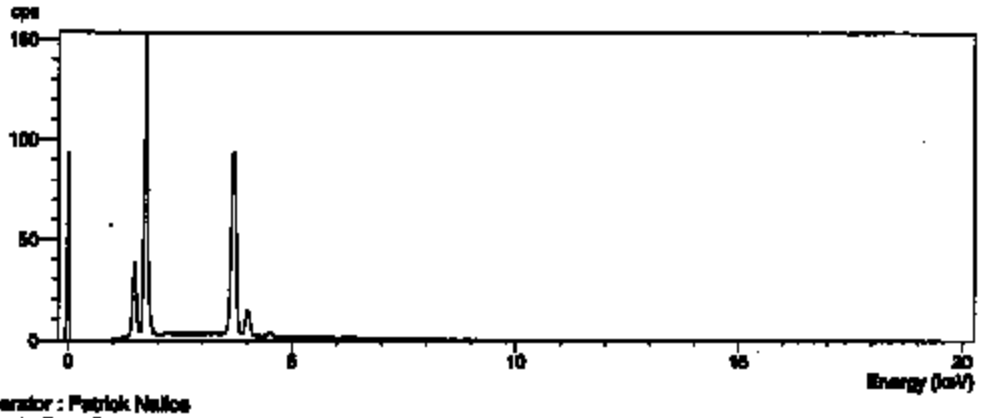

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Job : 9804105
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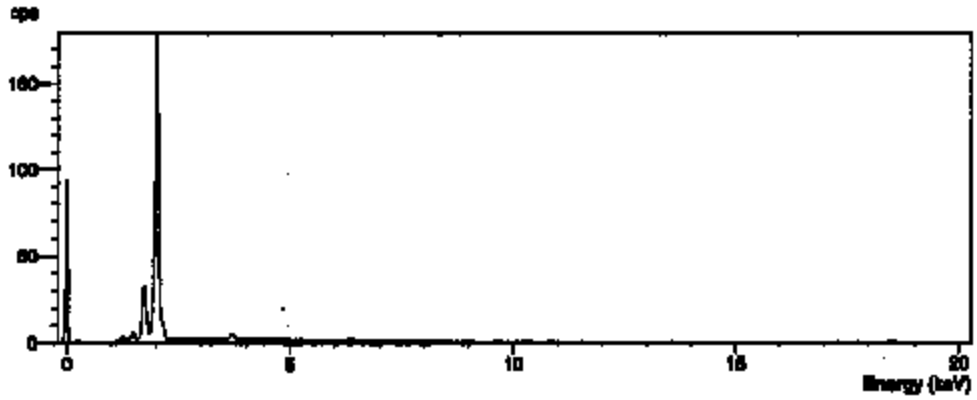

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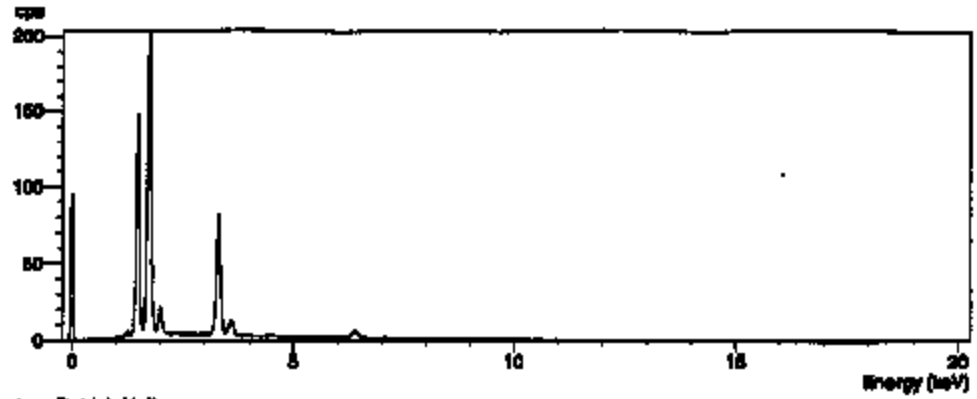
White Powder 2 (1/6/98 09:14)



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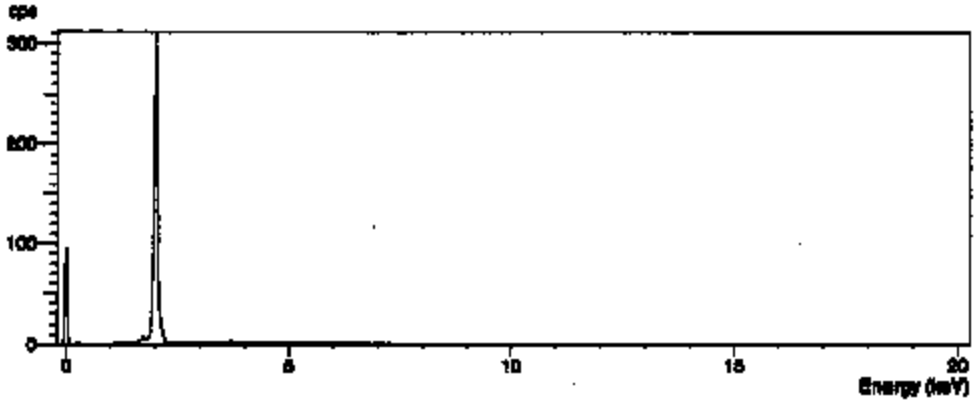

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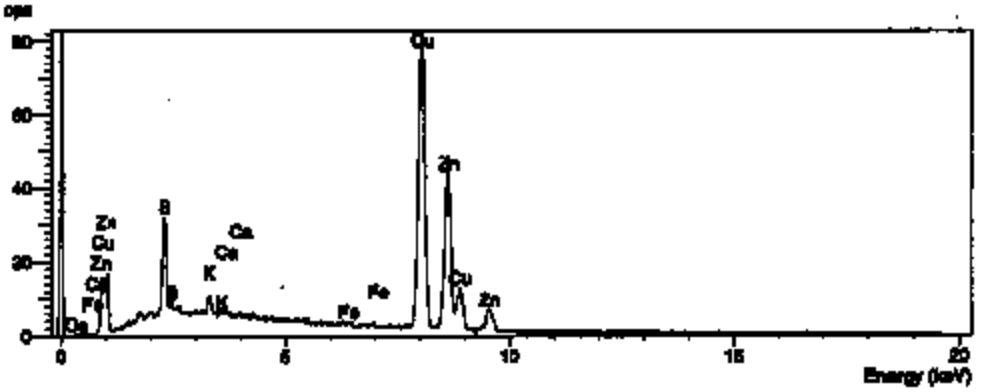
White Powder 4 (1/8/99 09:32)



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Job : 9804105
3a (1/14/99 15:03)