



Protecting Florida's  
Environment

# Removing Mercury from Florida's Auto-Salvage Yards

This document was published to help educate the public on hazardous waste management issues. The suggested options will help individuals to operate in an environmentally appropriate manner. Business owners are responsible for obtaining complete information about applicable regulations. Misinterpretations by the reader or omissions by the Florida Department of Environmental Protection or AERC Recycling Solutions do not relieve any person from any requirement of Federal regulations or Florida law.

## Why Worry about Mercury?

Mercury is a naturally occurring element that is highly toxic. It's very dense, expands and contracts evenly with temperature changes, and has high electrical conductivity. It is these properties that make mercury useful in thousands of industrial, agricultural, medical, and household applications.

The toxic nature of mercury can cause serious problems to human health and the environment. Mercury is a persistent toxic substance that bioaccumulates. This means the concentrations of mercury accumulates in organisms as it goes up the food chain.



**Liquid Mercury**

It is because of these health and environmental concerns that mercury has become the focus of initiatives to reduce its use. Some of the initiatives target the use of mercury in automotive applications.

## Mercury in Automotive Applications

Some of the typical applications for mercury in automobiles can be found in lighting switches, anti-lock brake systems (ABS), and ride control systems. In addition, mercury can be found in HID lamps used for headlights and in the fluorescent lamps in Virtual Image Instrument Panels.

Of the above mentioned applications, the two most common are the tilt switches found in the hood and trunk lighting systems and in switches in ABS systems. The tilt switches typically contain small, bullet capsules that are usually made of steel or glass, which contains the elemental mercury. Hood and trunk tilt switches account for about 87 percent of the total mercury in 1999 or older vehicles.

Manufacturer	Vehicle	Year
<b>Pontiac</b>	Sunbird	1984-1990
	Sunfire	1997-2002
	Trans Sport	1993, 1996
	Vibe	2002
<b>Oldsmobile</b>	88	1990-1991, 1993, 1997
	98	1983, 1985, 1988, 1990, 1992, 1994
	98 Regency	1985
	Achieva	1992-1993
	Aurora	2001
	Bravada	2000-2001
	Calais	1977-1991
	Ciera	1977-1991, 1993-1995
	Cutlass	1977, 1983, 1988, 1990-1992, 1996
	Cutlass Cruiser	1986, 1988, 1992
	Cutlass Supreme	1977-1996
	Delta 88	1977-1995
	Intrigue	1999
	Omega	1980
Royale	1982, 1986, 1989	
Regency	1977-1990	
Toronado	1977-1990	
Toronado Trofeo	1987-1988	
Wagon	1991	
<b>Saab</b>	9000/900	Pre-1992
<b>Nissan</b>	SER	1993
<b>Porsche</b>	944	1985-1991
<b>Toyota</b>	Celica GT	1990
	SR5	1986
<b>Volkswagon</b>	Weekender Van	Not specified

Manufacturer	Vehicle	Year
Chevrolet	Lumina	1981-1995, 1998
	Lumina Euro	1990
	Lumina Z-34	1992
	Malibu	1997
	Monte Carlo	2000
	Passport	1989
	Pick up	1988, 1989, 1991-1996, 1998, 2000-2002
	S-10 Pickup	1998, 2000
	Silverado	1999
	Suburban	1990-1991, 1994-1995, 1997-2002
GMC	Tahoe	1995-1998
	4x4	1997-1998
	Denali	2000
	Envoy	1998-2001
	G-20 Van	1995
	Jimmy	1991, 1993, 1994, 1996, 1998-2001
	Luxury G-Van	2002
	Pick up 1500	1993
	Savanna Van	2000-2002
	Sonoma	1994
Pontiac	Yukon	1998
	6000	1988
	6000 LE	1990
	Bonneville	1984-1991, 1994, 1995, 2002
	Firebird	1989, 1994-1995, 2002
	Grand Am	1984-1999
	Grand Prix	1985-1986, 1988-1996
	Parisienne	1982

## Who needs to Remove Mercury Switches?

Anyone who plans to dismantle, crush, shred, bale, or shear a vehicle. One of the best times to remove mercury containing switches and ABS modules is when an incoming vehicle is inspected. Remove the switches, ABS module, battery, and air conditioning refrigerant ("Freon"), while incoming vehicles are inventoried and inspected for leaks before storage.

## Where are Mercury Switches Located?

Many varieties of light assemblies use mercury switches. While the use of mercury switches is being phased out, assume that any American made automobile, model year 2003 and earlier, may have hood and trunk light switches, as well as ABS modules that contain mercury. A list of vehicle makes and models that contain mercury switches is attached. This list is based on the best available information and does not cover all vehicles. A good rule-of-thumb to follow is to assume that the light switches in all vehicle hoods and trunks contain mercury.



Mercury bullets

## Removing Tilt Light Switch Assemblies

Removing and recycling of mercury switch assemblies can be done using the following steps:



- Locate the small light assembly beneath the vehicle trunk or hood.
- Disconnect the power supply that is attached to the base of the light assembly.
- Remove any fasteners so you can separate the entire light assembly from the vehicle.

## Removing Tilt Light Switch Assemblies, Cont.

Once lamp assembly is out of the vehicle, the lamp assembly will need to be dismantled in order to identify and remove the mercury switch.



Dismantling can be done using the following steps:

- Find the snap, clip, or latch that holds the light assembly together. Use a screwdriver, wire cutters or other suitable hand tool to remove or open the snap, clip, or latch. When the light assembly is open, look for a small, bullet-shaped mercury switch. See the above picture for an example. If the light assembly is molded together and cannot be opened, clip the wires as close to the light assembly as possible.
- Use a suitably sized, flathead screwdriver to remove the mercury switch from the light assembly.
- After removing the mercury switch, place it in a properly labeled non-metal container for storage and transportation. Labeling and storage requirements will be discussed later in the brochure. If the rest of the lighting assembly is not contaminated with mercury, it can be disposed of as non-hazardous waste.

Manufacturer	Vehicle	Year
Cadillac	Escalade	2000; 1998-2003
	Seville SLS/STS	1998-2003
	Standard	1986, 1996
Chevrolet	98	1983, 1985, 1988, 1994
	250	1998
	1500	1989, 1994
	2500	1997
	1500 4x4	1996, 1998
	3/4 Ten Pick up	1994
	3500 4x4	1997
	Avalanche	2001
	Beretta	1981-1990
	Blazer	1987, 1989, 1993-1994, 1997, 1999-2002
	Blazer 1500	1991
	Blazer S-10	1989-1992, 1994, 1996-1998, 2000-2002
	C3500 Pick up	1989, 1991
Camero	1984, 1989	
Caprice	1981-1991	
Caprice Classic	1984, 1988	
Cavalier	1988-1991, 1993, 1995-1996, 2000-2002	
Celebrity	1986-1987, 1996-1997	
Cheyenne	1996	
Corsica	1988-1993	
Express Van	2000-2002	
Impala	2001	
K1500	1996, 1998	
K2500 Pick up	1991, 1994	
K3500 Pick up	1993	

Manufacturer	Vehicle	Year
<b>Mazda</b>	Pick up	1996
	RX-7 Turbo	1990
<b>Mercury</b>	<b>Cougar</b>	1974-1990, 1995
	Grand Marquis	1985-1986, 1993, 1997
	Mountaineer	1996-2001
	Topaz	1987, 1990, 1992
	Tracer	1988
	Villager	1993, 2000
	XR4TI	1987
	<b>Buick</b>	Electra
Century	1977-1992, 1994, 1996, 1998, 2002	
Celebrity	1997-1990	
Fifth Avenue	1985	
Firenza	1977-1990	
LeSabre	1974-1994, 1996-2000	
LeSabre Custom	1989	
Park Avenue	1974-1991, 1998-1999, 2002	
Regal	1974-1994, 1996	
Regal Limited	1991	
Riveria	1986-1990, 1993	
Roadmaster	1992	
Skyhawk	1977-1990	
Skylark	1977-1990, 1993, 1994, 1996, 1998	
Ultra	1998	
<b>Cadillac</b>	Brougham	1987, 1989
	Cimarron	1979, 1998-2003
	DeVille	1979-1991, 1996, 2000-2002; 1998-2003
	El Dorado	1982, 1991, 1992, 2001
	Escalade	2000; 1998-2003

## Removing ABS Modules

To remove an ABS switch assembly, perform the following steps:

- Locate ABS module. Typically the modules are located in the floor board behind the drivers front seat. Carpet and seats may need to be removed to gain access to the module. Once located, release the wiring harness from the assembly.
- Remove retaining bolts or hardware.
- Place the entire assembly into a properly labeled container.
- On Jeep Grand Cherokees, the module can be found under the left rear seat along the center drive tunnel.
- On Ford Explorers, Mountaineers, and Rangers, the module can be best removed while vehicle is on a lift. The module can be found on the left frame rail under the drivers seat.



## How do I Manage my Waste Mercury Switches?

Currently, the State of Florida Department of Environmental Protection is asking that the switches be managed as hazardous waste and stored in a 5-gallon, or smaller container with closable lid and labeled "Hazardous Waste, Mercury Switches".

Some other items to consider when collecting and storing mercury switches:

- The storage container needs to be in good condition. Make sure there is a tight-fitting lid to cover the container. Do not use metal containers for storage of mercury switches. Elemental mercury can react with the metal, as well as leak through the seams.
- Store the container in a designated accumulation area. The accumulation area should be in an area indoors out of the weather and out of frequently trafficked areas.
- Keep the container closed at all times except when filling.
- Label the container with the words "Hazardous Waste Mercury Switches".

## How do I Dispose of my Mercury Switches?

Mercury switches must go to an authorized "destination facility" where the mercury is recovered from the switches and recycled. Contact your Florida Department of Environmental Protection District Office or you can contact AERC Recycling Solutions for assistance in the proper disposal of your mercury switches.

Manufacturer	Vehicle	Year
Ford	Escort SE	1999
	Escort Wagon	1997
	Excursion	2000-2001
	Expedition	2000-2001
	Explorer	1991-2002
	F-Series	1988, 1990-1991, 1993, 1996-1998, 2000-2002
	F-150	2001
	F-250	1988-1991, 1994-1995; 2000-2002
	F-350	1988, 1996, 1999-2001
	F-150 Supercrew	2000
	Grand Marquis	1985; 2001
	Mustang	1986, 1989, 1992, 1995, 1996
	Ranger	1974-1997, 1998; 1995-2001
	Ranger XLT	1995, 1997
	Probe	1989, 1993, 1994
Super Duty	1992	
Taurus	1974-1994, 1996	
Tempo	1974-1994, 1996	
Tempo GL	1988, 1993	
Thunderbird	1974-1994	
Van	1988, 1993, 1995	
Windstar	1996; 2000	
Lincoln	Blackwood	2001
	Continental	1988-1991, 1994-1995; 2000-2002
	Mark 7	1988
	Navigator	2000-2002
	Town Car	1994;2002
	LTD	1974-1994





## For More Information

### FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

#### Hazardous Waste Section

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400  
(850) 245-8774

#### Northwest District

160 Government Center  
Pensacola, FL 32501  
(850) 595-8360

#### Southwest District

3804 Coconut Palm Drive  
Tampa, FL 33219  
(813) 774-6100

#### Northeast District

7825 Baymeadows Way  
Suite 200B  
Jacksonville, FL 32256  
(904) 807-3371

#### Southeast District

400 N. Congress Avenue  
West Palm Beach, FL 33401  
(561) 681-6600

#### Central District

3319 Maguire Blvd., Suite 232  
Orlando, FL 32803  
(407) 893-3323

#### South District

2295 Victoria Avenue  
Fort Myers, FL 33901  
(239) 332-6975



Manufacturer	Vehicle	Year
Dodge	Ram Pick up	1997-1998, 2001
	Ram Pick up 1500	1997
	Roadstar	1988
	Shadow	1974-1994
	Spirit	1990-1991, 1994, 1996
	Stratus	1996
	Voyager	1986-1987, 1991
Eagle	Medallion	1989
	Premier	1988-1989
	Vision	1994
Jeep	Cherokee	1998-1999
	Cherokee Sport	1996
	Grand Cherokee	1993, 1995-1999
	Wagoneer	1989
	Wrangler	1992, 1994, 1999
Plymouth	Acclaim	1986, 1990-1992, 1994
	Reliant	1975-1994
	Sundance	1975-1994
Ford	Aerostar	1989
	Bronco	1986
	Bronco II	1974-1994; 1993-1997
	Crown Victoria	1974-1994, 1997, 2000-2001
	E-350	1993; 2000
	Escort	1974-1995, 1998
	Escort GT	1991
	Escort LX	1991, 1992, 1995, 1997
	Escort Pony	1991
	Escort S/W	1995

## For Additional Information

### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

RCRA, Superfund, and EPCRA Call Center  
(800) 424-9346

### AERC RECYCLING SOLUTIONS

4317-J Fortune Place  
West Melbourne, FL 32904

## Links for More Information

<http://www.epa.gov/region5/air/mercury/autoswitch.htm#remove>

<http://www.dtsc.ca.gov/HazardousWaste/Mercury/>

<http://www.dep.state.fl.us/waste/categories/mercury/default.htm>

<http://www.epa.gov/epaoswer/hazwaste/mercury/st-car-switch.htm>

<http://www.epa.gov/region5/air/mercury/autoswitch.htm>

<http://epa.gov/glnpo/bnsdocs/hgsbook>

<http://www.cleancarcampaign.org>

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## Automotive Information

Manufacturer	Vehicle	Year
BMW	7-Series	Prior to 1992; 1995-2002
	Rolls Royce	Prior to mid-1960's
Chrysler	Ades	1975-1994
	Concorde	1993-1996
	Cordoba	1975-1994
	E Class	1983
	K Car	1987
	Laser	1975-1994
	LeBaron	1975-1994
	New Yorker	1975-1994
	Pacifica	1998;2003
	Dodge	2500 4x4
2500 Pick Up		1995
3500 Van		1998
Aries		1975-1994
Aspen		1976
Caravan		1987-1989, 2000
Caravio		1992
Dakota		1993-1994, 1998
Daytona		1987, 1988, 1990
Durango		1998, 2000
Duster		1990
Dynasty	Dynasty	1982, 1989-1992
	Intrepid	1994, 1996
	Lancer	1986
	Landan	1989
	Laser	1975-1994
	Neon	1998, 2000