

MassCAR Auto Repair Training



Massachusetts Office of
Technical Assistance &
Technology

What is MassCAR?

- *Was Collision Repair Auto Shop Help (CRASH) Course*
- *Now Massachusetts Clean Auto Repair (MassCAR)*
- *Was only Auto Body*
- *Now both Auto Body & Auto Repair*

MassCAR Goals

- Understand and achieve compliance with environmental, health and safety requirements.
- Learn about and implement pollution prevention and other best management practices.
- Shops that provide feedback or participate in trainings will receive a MassCAR certificate to acknowledge their efforts and contributions to this program and the environment.

The Massachusetts Clean Auto Repair Partnership (MassCAR)

Recognizes

[Company Name]

for its commitment to developing sustainable operations.
We appreciate your assistance with the
MassCAR guidance.



Massachusetts Office of Technical Assistance and Technology,
Executive Office of Energy and Environmental Affairs
Commonwealth of Massachusetts

What is in the MassCAR Guide

MassCAR checklist

- Actions you can take to ensure that you stay in compliance and protect your workers and the environment

MassCAR fact sheets

- Information about key auto body and repair topics identified by the project partners.

MassCAR Environmental Achievement Statement

- A downloadable self-certification document that you can use to advertise and celebrate your environmental practices.

MassCAR Checklist Tips

- Basic federal, state, and local requirements are marked with a ✓ and are in **bold**.
- Your city / town may have additional local requirements not listed on this checklist.
- Print & date the checklist.
- Keep old checklists to demonstrate ongoing compliance efforts.
- Show checklists to inspectors to document your efforts to stay in compliance.

MassCAR Checklist Content

- ☑ Permits
- ☑ Industrial Wastewater (IWW) Discharge
- ☑ Hazardous Waste Identification
- ☑ Hazardous Waste Storage/Accumulation
- ☑ Hazardous Waste Container Management
- ☑ Hazardous Waste Documentation and Transport
- ☑ Aboveground and Underground Storage Tanks
- ☑ OSHA Requirements and Best Practices
- ☑ Spray Booth
- ☑ Storage of Flammable Chemicals
- ☑ Mixing Room
- ☑ Refrigerant and Antifreeze Recovery
- ☑ Fire Prevention and Emergency Planning

How to be Ready for an Inspection

Have book / binder ready with the following:

- All permits / licenses
- Tax ID number
- Hazardous waste storage / transportation records
- Written plans for emergencies / fires / spill control
- Employee licenses / training records / certifications
- Documents from previous inspections
- Spray booth records on filter changes / organic materials
- SDS (safety data sheets) for all chemicals

Permits and Things You Need

State

- Register your shop with the Division of Standards every 3 years
- Surety Bond
- Worker's Compensation Insurance
- Appraiser's License
- Hazardous Waste Registration
- Under / Above Ground Storage Tank Registration

Local

- Business Registration
- Occupancy and / or Use of Premises Permit
- Indoor Vehicle Storage Permit
- Flammable Storage Permit
- Cutting Torch Permit and / or Oxygen, Acetylene Storage Permit
- Towing License
- Other

Common Hazardous Wastes

- Lead Acid Batteries
- Lead Wheel Weights
- Saturated Rags / Sorbent Pads
- Un-deployed Air Bags
- Sanding Dust
- Waste Oil
- Parts Washer Solvent

Hazardous Waste Generator's Status

Status	Per Month	On Site	Store
LQG (Large Quantity Generator)	$\geq 1000\text{kg}$	no limit	90 days
	$> 270\text{ gal}$		
	$> 5\text{ drums}$		
SQG (Small Quantity Generator)	100-999 kg	6000 kg	180 days
	27-270 gal	1500-1620gal	
	5 drums	27 drums	
VSQG (Very Small Quantity Generator)	$< 100\text{ kg}$	1000 kg	No Limit
	$< 27\text{ gal}$	270 gal	
	$\frac{1}{2}\text{ drum}$	5 drums	

Most Common Hazardous Waste Violations - *paperwork*

- Facility not registered
- Facility “acting out of status”
- Improper generator ID
- Manifest records missing (keep 3 years)
- No recycling permit

Most Common Hazardous Waste Violations – *shop floor*

- Hazardous Waste Accumulation Area
- Container Management
- Labeling



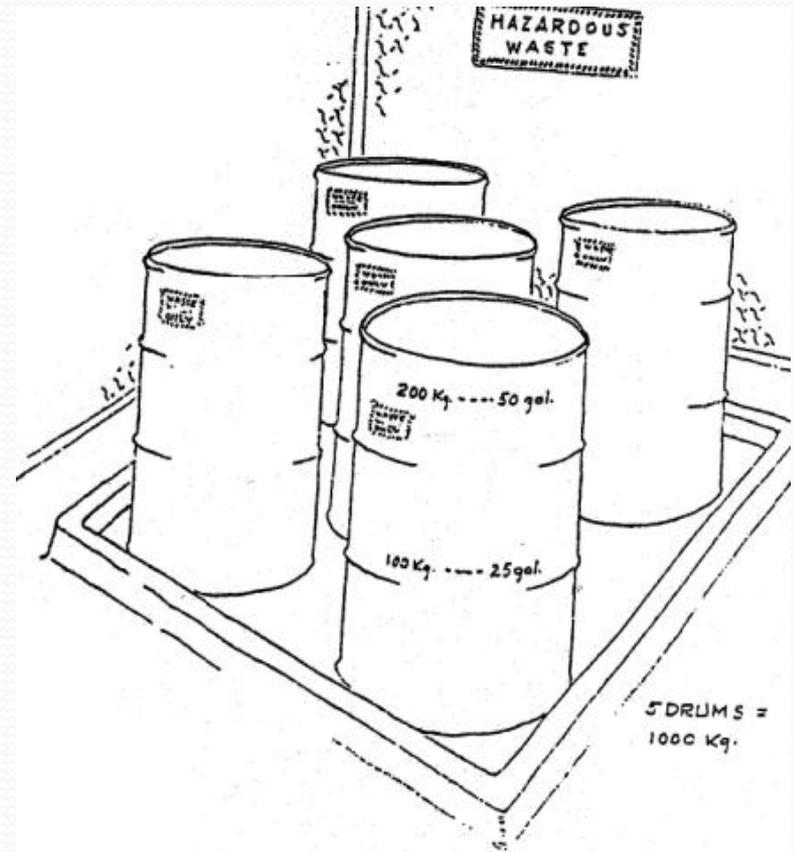
Hazardous Waste Accumulation Area

- Accumulation area posted
 - “Hazardous Waste” - at least 1”
- Accumulation area marked
 - Painted line, clearly visible demarcation
- Impervious surface
- Sufficient aisle spacing
 - Sufficient to conduct inspections
- Is accumulation area secure?
 - Is it accessible by appropriate staff only?

Hazardous Waste Accumulation Area

An **outdoor** area must have secondary containment, such as a berm or dike, which will hold any spill or leaks at:

- **10% of the total volume of the containers, or**
- **110% of the volume of the largest container, whichever is larger.**



Container Management

- Are Drums/Tanks Labeled?
- Are all Drums Closed?
- In good condition?
- Wastes of different types must be segregated.
- Inspect containers at least once a week (for leaking or deterioration).
- Hazardous wastes must be separated from recyclable materials



Labeling Containers and Tanks

- “HAZARDOUS WASTE”
- Name – e.g., “Waste Oil”, “Solvent”
- Hazard Associated with Waste – e.g., “Ignitable”, “Corrosive”, “Reactive”, “Toxic”
- Date Accumulation Started – for SQG and LQG

Satellite Container

- At or near point of generation (not next room)
- One per waste stream (55 gallon max. or one quart of acutely hazardous waste)
- Are must be managed by person who is directly responsible for process producing the waste
- Date the label when the container is full
- 3 days to move container to accumulation area

OSHA Requirements

Engineering Controls and Workplace Requirements

- Safety Data Sheets (SDS)
 - Stored in a **known** single location accessible to all employees
- Emergency Plans
 - More than 10 employees – Required written plan
 - Less than 10 employees – Not written, but employees must know what to do in case of emergency
- Flammable Storage Cabinets

OSHA Requirements

Employers Responsibility for Personal Protective Equipment (PPE) under 29 CFR 1910.132

Employers are responsible for

- Assessing workplace hazards
- Identifying, providing, and training employees on the use and maintenance of PPE
- Enforce that proper PPE is used

OSHA Respiratory Protection Requirements

Tasks:

Painting / Sanding /
Welding / Other

Owner Must:

- Develop Respiratory Protection Program
- Select Appropriate Respirators
- Know How to Properly Store & Care for Respirators
- Train Employees
- Enforce Program

Workers Must:

- Be Medically Approved
- Be Annually Fit Tested
- Participate in Trainings
- Know How to Properly Store & Care for Respirators



Other OSHA PPE requirements



Eyes	Hands	Ears
Welding	Welding	Sanding
Sanding	Sanding	Power Tools
Handling Chemicals	Handling Chemicals	Compressed Tools
Other	Other	Engine Noise
		Other



Auto Repair Toxics

- Volatile Organic Compounds (VOCs)
- Brakes
 - ☠ *Asbestos*
- Brake Cleaner
 - ☠ *Perchloroethylene, xylene, toluene*
- Parts Washer
 - ☠ *Xylene, toluene*
- Wheel Weights
 - ☠ *lead*
- Wheel Wash
 - ☠ *Hydrofluoric Acid*
 - ☠ *Penetrates skin to target bones*
 - ☠ *Fatalities*

Choosing Less Toxic Alternatives

- Volatile Organic Compounds (VOCs)
 - ☑ Ask your vendor / Look at SDS
- Brakes
 - ☑ Ask your vendor for asbestos-free / Look at SDS
- Brake Cleaner
 - ☑ Move to wet cleaning / water-based system
 - ☑ Ask your vendor for non-perc or safer alternatives
- Parts Washer
 - ☑ Move to wet cleaning / water-based system
 - ☑ Ask your vendor for non-perc or safer alternatives
- Wheel Weights
 - ☑ Move to an adhesive non-lead system
- Wheel Wash
 - ☑ Choose Non-HF Wheel Wash

Lead Wheel Weights – The Problem

- Wheel weights commonly made of lead
- One of the largest releases of lead into the environment in the US
- Fall off cars and end up in storm drains or on crushed on the street
- Lead exposure can affect every organ in your body
- Lead poisoning well known for causing permanent brain damage

Salcedo Auto Center Moves to Lead-Free Wheel Weights

Lead-Free Wheel Weights:

Removed 83 lbs of lead / year from environment

3M provided equipment with purchase of wheel weights

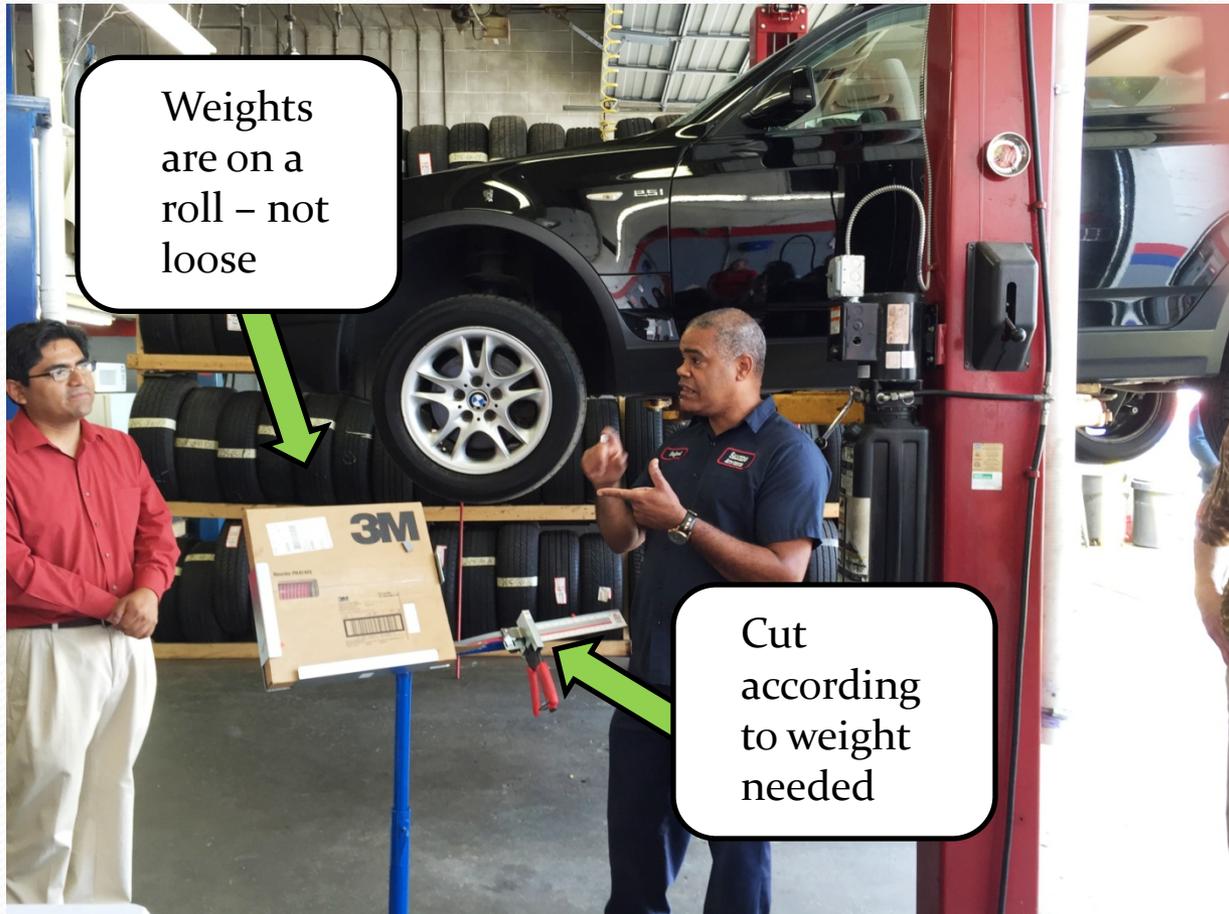
Weights come on a roll – no loose pieces

Neater and more efficient

No lead exposure!



Lead-Free Wheel Weights



Positive Recognition



Antifreeze Recycling

Options for Spent Antifreeze

Send to Off-site Recycler

Hire Company to Provide On-site
Recycling

Purchase a Coolant Exchange System

Coolant Exchange Systems

Make sense if you use / recycle a lot of coolant

Reduce antifreeze purchasing costs

Reduce hazardous waste disposal costs

Restores antifreeze to useable condition



Make sure car warranties allow for recycled antifreeze.

Refrigerant Recycling (Air Conditioner)

Must use EPA-approved refrigerant recovery system

Reduce the need to purchase new refrigerant

Reduce air pollution



Oil Filter Crushers

- Oil filters must either be drained for at least 12 hours or handled as hazardous waste
- Crusher quickly drains spent filter oil
- Spent filters no longer hazardous waste

Oil Filter Crusher

Quickly drains oil

Spent filters can
be recycled as
scrap metal

Simplifies work

Reduces hazardous
waste costs



Water-Based Brake Cleaning

Process:



- Wet the brake/clutch with hose or spray bottle to prevent dust from getting in the air
- Wipe the wet area with a damp cloth to collect dust

Water-Based Brake Cleaning

Benefits:

- Eliminates toxic chemicals
- Reduces exposure to asbestos & other harmful dusts
- Can double as a water-based parts washing sink
- Save money
- Not flammable
- Reduction in solid waste (aerosol cans) disposal cost
- Reduction of VOCs released

Water-Based Brake Cleaning

Asbestos in Brakes and Clutches:

- Buy brakes and clutches labeled as “asbestos-free”
- Ask vendor if your brakes have asbestos
- Use a “wet cleaning” methods during brake and clutch jobs
- Protect your lungs by wearing an N-95 dust mask

Never:

- Use compressed air for cleaning yourself or the work area
- Clean with dry rag, brush (wet or dry), or garden hose
- Use ordinary wet/dry vac without HEPA filter to vacuum dust
- Take work clothing inside the home
- Wash clothes with children’s / women’s clothes

Alternative Parts Cleaning

Solvent Based Parts Cleaning:

- Parts Washing Sinks
- Aerosol Cleaners

Contain Chemicals: - perchloroethylene (“perc”, PCE, tetrachloroethylene), methylene chloride

Safer Alternatives:

- Water – Based Solution
- Microbial Solution

Alternative Parts Cleaning

Benefits:

- Water-based parts cleaning sink – doubles as a water-based brake washing sink
- Less expensive than one-time use aerosol cans
- Nonflammable
- Aerosol cans disposal cost eliminated
- Can last as long as 2-3 years
- Improve worker and community health (exposure to dangerous chemicals and VOC release)

Alternative Parts Cleaning

Things to Consider:

- Drying time – prompt drying and adding rust inhibitor
- Aqueous parts cleaning system
 - payback – from 3 months to 5 years
- Spent filters, liquids and wastes must always be handled and disposed of as hazardous wastes

Alternative Parts Cleaning

Maximizing lifespan of cleaning solution:

- Pre-clean parts
- Skim free-floating surface oil
- Filter to remove solids
- Maintain solution concentration according to manufacturer directions
- Change solution only when performance declines
- Keep shop chemicals away from the sink
- Never dump to the sink

Toxics Use Reduction Institute (TURI) Testing

Product*	Effectiveness	EHS Rating	Example Costs
Acrastrip U.S. Polychemical 800-356-5530	92%	2.9	\$189/5 gallon pail from U.S. Polychemical, expected duration 6 years
Oil Vanish Clift Industries 800-996-9901	93%	3.1	\$11.50/12 oz. can from Home Depot
LPS®T91 Non-Solvent Degreaser LPSlabs.com, 800-241-8334	84%	3.3	\$38.73/5 gallon pail from Amazon.com
Bio-circle CB 100 Walter Surface Technologies 860-298-1100	96%	3.6	\$152/5 gallon pail from Amazon.com expected duration 6 years
Grime Off Foaming Cleaner and Degreaser Nutekgreen.com 440-996-2114	92%	3.6	\$11/12 oz. can from Amazon.com
ZEP 70 Penetrating Lubricant – ZEP Industries 877-842-1551	86%	4.9	\$12.99/12 oz. can from superkleendirect.com

Toxics Use Reduction Institute (TURI)

Resources

- Lab Testing effectiveness of chemicals
- Grant money to try safer alternatives
 - **Mike's Auto Body** (Fall River) will adopt safer alternatives for wheel weights, wheel cleaning, paint gun washing, and other applications
- Grant money to demonstrate safer alternatives
 - **912 Auto Center** (Dorchester) opened its doors to show off and demonstrate safer paint gun wash
- State House Recognition
 - **Allston Collision Center** (Allston) recognized at state house for being one of the first MA shops to use water based paint

Toxics Use Reduction Institute (TURI)



TURI

Joy Onasch

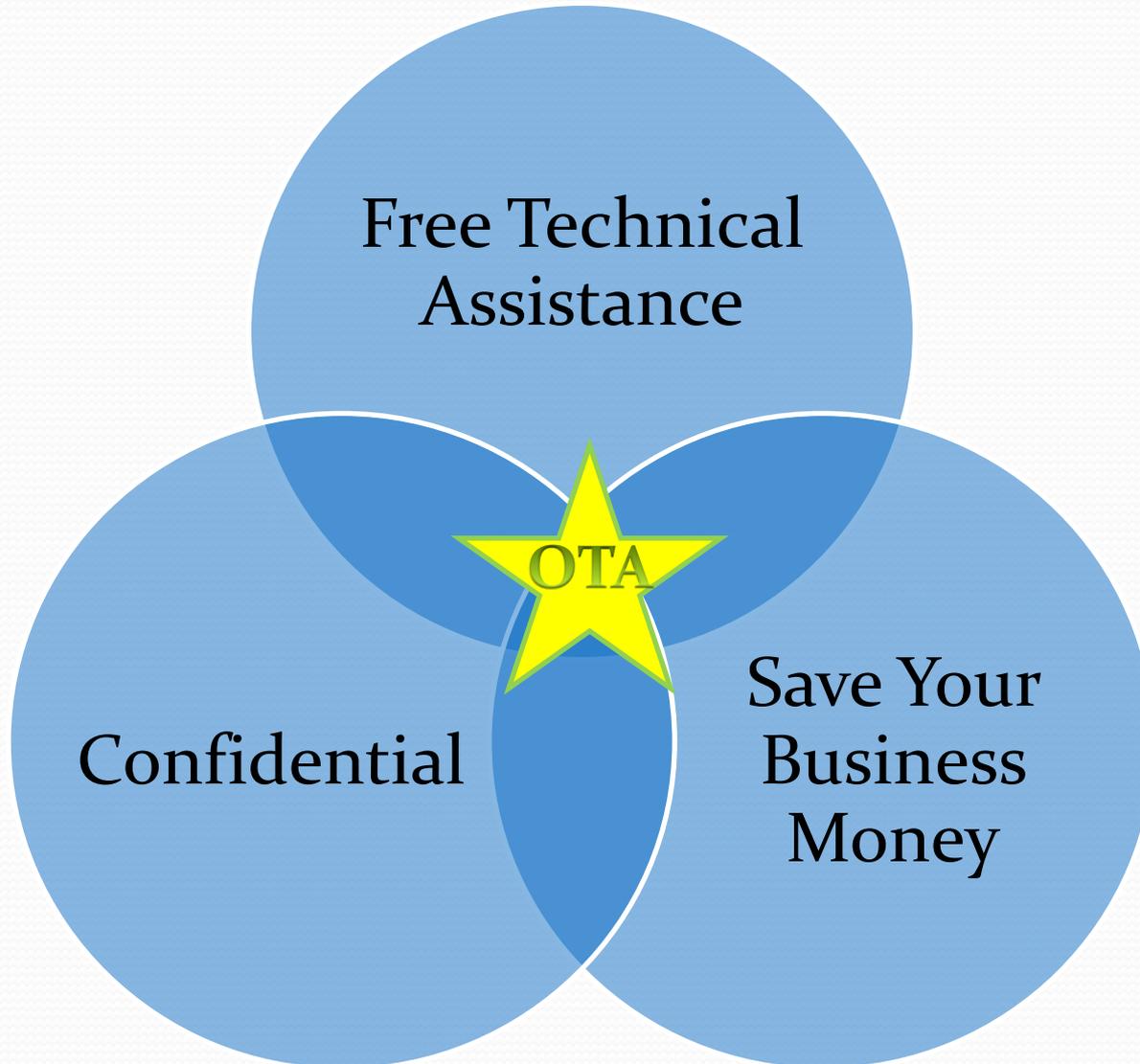
978-934-4343

joy@turi.org

www.turi.org



Why You Want to Work with OTA



Items in the MassCAR Guide not Covered Today

General Auto Shop

- Spill Prevention
- Vehicle Fluid Evacuation Caddies
- Waste Oil Management

Auto Repair Specific

- Hybrid Safety

Did We Miss
Anything?

SURVEY!



Massachusetts Office of Technical Assistance

Thank you!

Tiffany Skogstrom

617-626-1086

Tiffany.Skogstrom@state.ma.us

Questions?

