DSOC
Defense Safety Oversight Council

Motorcycle Mentorship Module 11

Motorcycle Cleaning "Do's and Don'ts"

Warning: Incorrect or inaccurate information could lead to tragic results on the road. If a question arises that is not covered in the guide and you don't know the answer from your own experience and training, simply state, "That is a great question, I'll get back to you with the answer."

Your Service Safety Center will help with these types of questions should they arise. Their numbers are as follows:

US Army Driving Directorate: **334.255.3039**

USMC Safety Division: **703.604.4459**

US Navy Shore Safety: **757.444.3520 x7165**

US Air Force Safety Center: **505.846.0728**

USCG Safety Division: **202.475.5206**

U.S. ARMY COMBAT READINESS/SAFETY CENTER

Preface

About: The Defense Safety Oversight Council (DSOC) Motorcycle Mentorship Modules are a set of thirty six (36) facilitation modules designed for the purpose of increasing rider knowledge on various aspects of riding and providing additional capability for self-policing within peer groups. The modules are intended as a mechanism to further decrease motorcycle related mishaps and fatalities within Department of Defense (DoD) by encouraging riders to talk, live, and think about the topic.

Using the Module: The module content enclosed is intended as a facilitation guide to assist you with discussing the topic. However, it is still critical to use your skills and talent to engage participants and develop "buy-in" on this subject from your group. To maximize this, motivate and moderate your participants, control the accuracy of participant feedback, and be mindful of their time.

Facilitation Guide for DSOC Mentorship Modules

It is recommended that this Mentorship Module be conducted in a facilitation style. Using the information provided in this Mentorship Module, you, as the facilitator, will lead a discussion on the subject. *You should not be conducting a lecture!* The facilitator's role is to help with how the discussion is proceeding. Participants will have much more "buy in" and connectivity with the information if they have input. One of your roles as the facilitator is to control the accuracy of the input and control the time. From the Mentorship Module, generate questions which will lead to group discussion. The more you let the group participate, the more success you will have.

Competencies of a Facilitator:

- Prepare prior to the event
- Make sure everyone gets a chance to participate and help members to express themselves
- Ask rather than tell
- Honor the group, display respect for the members, and acknowledge participant contributions
- Ask for others' opinions
- Listen without interrupting
- Demonstrate professionalism and integrity

The key characteristic distinguishing facilitation from other types of leadership, like scripted training, is that the outcomes are never predetermined in a facilitative setting. Although the background information provided with this Module remains the same, the result will depend on the participants, the knowledge and experience they bring, and the information that they feel they need to take away. The group uses the activities provided by the facilitator to unlock expertise, ensure thorough discussion, stay focused and reach decisions that are better than those any individual could come up with alone.

At the beginning of each Mentorship Event, discuss why the participants are there and what they will receive as a result of participating. Adults have limited time and they want to know "What's in it for me?" A facilitator should make training fun. Encourage humor and laughter in your Mentorship Event.

Principles of Adult Learning:

- ➞ Adult Learners want material that is relevant to them. "What's in it for me?" "What will I get out of this that will make a difference to me?"
- ➞ Adult Learners come to training events with varying amounts of experience. They like to share their experiences. If you have minimal or no motorcycle experience, you can still draw from your group.
- ➞ Even if you have motorcycle experience, you should draw from your group because people tend to remember what "they" said longer than what you said. Information that they "own" is more valuable to them.
- ➞ Facilitators are not always subject matter experts; nor do they need to be. Facilitators may draw on the existing knowledge of the participants and the information provided in these Modules.

Section I: Module Overview

Time Frame: One 20-30 minute facilitator-led discussion

Level of Prior Knowledge: Participants should have basic familiarity with motorcycles.

Synopsis: The purpose of this Motorcycle Cleaning Module is to foster discussion and to disseminate information on proper care and maintenance of motorcycles with an emphasis on safety and reliability.

Learning Objectives:

- Introduction to basic techniques and methods for basic care and cleaning of motorcycles
- Define and illustrate generally accepted best practices and techniques for motorcycle upkeep, maintenance and inspection
- Participants discuss and understand the need for essential care of the various components of a motorcycle
- Participant should comprehend and recall presented information. Additionally, participant may offer alternative perspectives, contribute to discussions and share personal experiences.

Suggested Environment/Props/Handouts:

Handout 1: T-CLOCS Inspection Checklist

Section II: Module Discussion

Introduction: Facilitate discussion: Is it really important to clean your motorcycle?

Definition: Cleaning a motorcycle usually involves great attention to detail covering all external parts of a motorcycle. This attention involves time and proximity that are very helpful in inspection and maintenance to keep a motorcycle safe and reliable as opposed to simply clean.

Open discussions with participant-centered activities. Have attendees introduce themselves (or each other) and share their current motorcycle make and model. All activities should encourage participant interaction and develop camaraderie and a willingness to participate in discussions. Ask for and encourage participant sharing of experiences related to the module topic.

Sample questions may include:

- ➤ How detailed oriented are you when you clean your bike?
- ➤ Do you have any special tools or equipment for that task?
- ➤ Do you enjoy the process of cleaning and detailing your motorcycle?
- ➤ Are there any unique or unusual techniques you use?
- ➤ Are there any common mistakes you've seen in the process of someone cleaning their motorcycle?
- ➤ What are some other benefits of cleaning your bike, beyond simple cleanliness?

Suggested Discussion Areas:

Discussion Area 1: Purpose

Facilitation Questions:

- Why do you clean your motorcycle?
- Is the cosmetic shine and cleanliness its own reward or is it an inspection opportunity?
- How can cleaning improve the reliability of your equipment?

1. Removal of dirt, grit and road grime takes away tiny abrasives and a number of corrosive chemicals.
2. More than just cosmetic appearance, cleaning is an excellent opportunity to get close and inspect all those parts that are not often looked at up close.
3. Finding small problems (nail in a tire, fatigued or over-stressed metal components, cracked fairings, etc.) can allow repair in the comfort of the home garage or transport to the shop before you're stranded on the side of a desolate road.

Discussion Area 2: Cleaning Methods; Traditional Soap and Water vs. Waterless Cleaning

Facilitation Questions:

- Should you use a pressure washer on your bike's painted areas? What about using a regular garden hose?
- Are either of these methods acceptable for use on electrical components?

1. Many people go through the entire ownership of their motorcycle without ever using a traditional bucket of soapy water and a garden hose. Waterless cleaning is a good alternative, although not necessarily better.
2. Soap and water work great but care should always be taken to avoid spraying water under pressure into sensitive electrical and electronic components and devices. Never direct a stream of water toward the air filter area.
3. Remember that some soaps and other cleaning agents will dissolve chain lubricant if your motorcycle is chain driven. Remember to carefully inspect your chain after cleaning to ensure the chain doesn't need to be re-lubricated.

Discussion Area 3: Inspection of Critical Components and Systems (T-CLOCS Handout)

Facilitation Questions:

- What is the purpose of the Motorcycle Safety Foundation's 'T-CLOCS' and what does each letter mean?
- What are the three most common types of drive mechanisms for motorcycles?
- Does your drive mechanism determine which cleaning methods, tools or products are needed?
- How do you inspect tires and wheels?
- Are Cleaning and Inspection of the engine externals necessary?

1. T-CLOCS is a memory device to help remember the various parts and components to be inspected: Tires and wheels, Cables and controls, Lights and electrical, Oil and other fluids, Chassis (frame and suspension) and Stands, (side stand or center stand).
2. Almost all motorcycles are driven by one of three systems: chain, belt, or drive shaft. Each has its own pluses and minuses but the basic care for them will be detailed in the motorcycle owner's manual. Proper tension on chains and belts and proper lubrication for chain and shaft drive, are critically important. Failure of the drive system renders a motorcycle completely inoperative.
3. Tire and wheels should be looked at closely and inspected for signs of excessive wear or damage. Never use sidewall dressing on motorcycle tires.
4. Looking closely at all the various parts and components of a motorcycle will eventually pay off with a problem being discovered before it becomes a bigger issue.

Discussion Area 4: Polishing and Conditioning

Facilitation Questions:

- Once clean, what is the best polish/protectant for painted surfaces?
- How do you polish aluminum and chrome?
- What about the care and maintenance of carbon fiber parts?
- Do plastics and vinyl require special care?
- What can be done for leather?

1. After cleaning, painted surfaces require protection from the damaging effects of sun and chemicals encountered on a daily basis. The best/most cost effective protection is regular applications of a good automotive carnauba wax.
2. Most metals respond well to over-the-counter polishes designed for the purpose or specific metal at hand. Read labels. For chrome always choose a polish specifically designed for chrome to avoid scratching the chrome surface. Also remember the chrome exhaust on a motorcycle get very hot and you need to read the polish directions to be sure the polish your using can with stand the extreme temperatures often associated with chrome exhaust.
3. Carbon fiber is usually treated with a clear-coat finish, which is essentially a specialized paint. Carbon fiber can be polished with the same carnauba-based automotive wax used on any of the bike's other painted surfaces.
4. Plastics and vinyl should be cleaned with products specifically recommended for those materials. Use of harsh chemicals or solvents can damage plastic or vinyl items. When in doubt, read the label. Many may have heard the expression, "You shouldn't spray petroleum products on your expensive motorcycle parts." But the fact is that plastics and vinyl ARE petroleum products and another petroleum product is often the best way to treat these components.
5. Leather cleaning and conditioning usually require two separate products. Leather cleaner is for removing the bugs and other thing which accumulate on the surface and conditioner penetrates the surface of leather to restore suppleness and weather resistance.

Discussion Area 5: Lubrication of Appropriate Moving Parts

Facilitation Questions:

- Can you, or should you, lubricate a chain with WD-40?
- When and how should chain lube be applied?
- How do you lube clutch or throttle cables?
- Where can you find a chart for the lubrication points on your motorcycle?

1. WD-40 is primarily meant for water displacement and, while it is an excellent cleaner for greasy, oily surfaces it is not considered to be an acceptable chain lubricant, particularly for high

performance O-ring chains such as those found on sport bikes. If WD-40 is used for cleaning, be extremely careful to avoid overspray on tires!

2. Chain lube should be applied to a warm chain. A center-stand, if you're lucky enough to have one is the best way to get the wheel off the ground for chain maintenance. An alternative is to have a friend roll the bike for you while you spray the chain. Avoid over-spray and getting it on the rear tire.

3. A special small tool for lubricating cables is available inexpensively online and in motorcycle shops. A cable lube tool will make short work of getting lubricant inside the cable sheathing.

4. A chart or list of lubrication points, intervals, appropriate lubes, and application tips for any motorcycle should be in the motorcycles owner's manual.

Discussion Area 6: Tips and Supplies

Facilitation Questions:

- Do you have any tips or tricks that make cleaning or detailing a motorcycle easier?
- Are you familiar with any regular household products that can be useful?
- When is it a good idea to stick with proven products that are designed for automotive/ motorcycle use?

1. Some tips: Hydrogen peroxide from your medicine cabinet does an excellent job of removing bugs without damaging the bikes finish. Old toothbrushes are great for cleaning small areas where you can't reach – paint brushes are a larger version of the toothbrush approach and it will get into deeper crevasses. Your lawn leaf blower makes a perfect bike dryer.

2. A clean old sock makes a great mitt for buffing wax. Good quality lemon furniture polish is almost as versatile a cleaner, polish and light lube as WD-40, and it will work on plastics and vinyl without damage. Baking soda mixed with a small amount of water to make a paste will clean and neutralize the corrosive stuff that builds up on your battery terminals. Apply petroleum jelly to the terminals after cleaning and the corrosion won't come back.

3. Most dish soaps, because of the grease cutting chemicals, are too harsh for painted surfaces. Liquid hand-soaps usually have skin moisturizers that can create an oily film. Use a soap that is made specifically for washing motorcycles or cars. Don't use glass cleaners on the clear Lexan of your windshield or visors. Those products use many of the same grease cutting agents that are in dish soap and those chemicals will damage plastics such as Lexan.

Wrap-Up:

- ➤ Ask participants if this discussion has changed the way they look at cleaning their bike.
- ➤ Have they learned anything new and helpful?
- ➤ Do they have additional proven tips of their own to add to the list of helpful hints?

Distribute copies of the DSOC Motorcycle Mentorship Module Evaluation form to all participants and request that they deliver or mail the completed form to the Command or Command Safety Office for processing.

Remind everyone to ride safe and see you at the next Mentorship Meeting.

DSOC Motorcycle Mentorship Feedback Form

Presenter Name:	Date:
Topic/Title:	Unit Number:

Please review each statement below and check the response that closely matches your experience in the Mentorship Module today:

1. Please rate the presenter's performance:

☐ Prepared ☐ Not Prepared | ☐ Engaging ☐ Not Engaging | ☐ Led Discussion ☐ Lectured

Comments:

2. I was given opportunities to participate in the module's discussion

☐ Never ☐ Only Once ☐ 2-4 Times ☐ Many Times Throughout Discussion

Comments:

3. With regard to my personal riding experiences, this discussion was:

☐ Relevant ☐ Not Relevant | ☐ Interesting ☐ Not Interesting

Comments:

4. This discussion topic has provided me with specific learning points that I can use to be a safer, better informed rider

☐ None ☐ One Idea or Fact ☐ 2-4 Learning Points ☐ 5 or More

Comments:

5. I would be interested in participating in other Motorcycle Mentorship Module discussion topics

☐ Never Again ☐ Willing to Try Another Module ☐ Would Like to Do Modules Regularly

Comments:

Thank you for your participation. Please make note of any other suggestions or comments below (continue on the back if needed):

Deliver or mail this completed form to the Command or Command Safety Office for processing. Please do not return this form directly to the Module Presenter.

Resources

Continued Reading:

Persig, Robert M. (1974). *Zen and the Art of Motorcycle Maintenance*. Bantam Books, USA

Comer, Rosie (2012). *How to Clean Your Motorcycle*. Axel Publishing

Cleaning Your Motorcycle:
www.cyclepedia.com/motorcycle-cleaning/

How to Properly Clean your Motorcycle:
http://www.howtocleananything.com/category/automotive-tips/motorcycles/

Handout 1: T-CLOCS Inspection Checklist

Source:
Motorcycle Safety Foundation

T-CLOCS ITEM	WHAT TO CHECK	WHAT TO LOOK FOR	CHECK-OFF	
T-TIRES & WHEELS				
Tires	Condition	Tread depth, wear, weathering, evenly seated, bulges, embedded objects.	Front	Rear
	Air Pressure	Check when cold, adjust to load.	Front	Rear
Wheels	Spokes	Bent, broken, missing, tension, check at top of wheel: "ring" = OK — "thud" = loose spoke	Front	Rear
	Cast	Cracks, dents.	Front	Rear
	Rims	Out of round/true = 5mm. Spin wheel, index against stationary pointer.	Front	Rear
	Bearings	Grab top and bottom of tire and flex: No freeplay (click) between hub and axle, no growl when spinning.	Front	Rear
	Seals	Cracked, cut or torn, excessive grease on outside, reddish-brown around outside.	Front	Rear
Brakes	Function	Each brake alone keeps bike from rolling.	Front	Rear
C-CONTROLS				
Levers and Pedal	Condition	Broken, bent, cracked, mounts tight, ball ends on handlebar levers, proper adjustment.		
	Pivots	Lubricated.		
Cables	Condition	Fraying, kinks, lubrication: ends and interior.		
	Routing	No interference or pulling at steering head, suspension, no sharp angles, wire supports in place.		
Hoses	Condition	Cuts, cracks, leaks, bulges, chafing, deterioration.		
	Routing	No interference or pulling at steering head, suspension, no sharp angles, hose supports in place.		
Throttle	Operation	Moves freely, snaps closed, no revving when handlebars are turned.		
L-LIGHTS				
Battery	Condition	Terminals; clean and tight, electrolyte level, held down securely.		
	Vent Tube	Not kinked, routed properly, not plugged.		
Headlamp	Condition	Cracks, reflector, mounting and adjustment system.		
	Aim	Height and right/left.		
	Operation	Hi beam/low beam operation.		
Tail lamp/brake lamp	Condition	Cracks, clean and tight.		
	Operation	Activates upon front brake/rear brake application.		
Turn signals	Operation	Flashes correctly.	Front left	Front right
			Rear left	Rear right
Mirrors	Condition	Cracks, clean, tight mounts and swivel joints.		
	Aim	Adjust when seated on bike.		
Lenses & Reflectors	Condition	Cracked, broken, securely mounted, excessive condensation.		
Wiring	Condition	Fraying, chafing, insulation.		
	Routing	Pinched, no interference or pulling at steering head or suspension, wire looms and ties in place, connectors tight, clean.		
O-OIL				
Levels	Engine Oil	Check warm on center stand on level ground, dipstick, sight glass.		
	Hypoid Gear Oil, Shaft Drive	Transmission, rear drive, shaft.		
	Hydraulic Fluid	Brakes, clutch, reservoir or sight glass.		
	Coolant	Reservoir and/or coolant recovery tank — check only when cool.		
	Fuel	Tank or gauge.		
Leaks	Engine Oil	Gaskets, housings, seals.		
	Hypoid Gear Oil, Shaft Drive	Gaskets, seals, breathers.		
	Hydraulic Fluid	Hoses, master cylinders, calipers.		
	Coolant	Radiator, hoses, tanks, fittings, pipes.		
	Fuel	Lines, fuel valve, carbs.		
C-CHASSIS				
Frame	Condition	Cracks at gussets, accessory mounts, look for paint lifting.		
	Steering-Head Bearings	No detent or tight spots through full travel, raise front wheel, check for play by pulling/pushing forks.		
	Swingarm Bushings/ Bearings	Raise rear wheel, check for play by pushing/pulling swingarm.		
Suspension	Front Forks	Smooth travel, equal air pressure/damping, anti-dive settings.	Left	Right
	Rear Shock(s)	Smooth travel, equal pre-load/air pressure/damping settings, linkage moves freely and is lubricated.	Left	Right
Chain or Belt	Tension	Check at tightest point.		
	Lubrication	Side plates when hot. Note: do not lubricate belts.		
	Sprockets	Teeth not hooked, securely mounted		
Fasteners	Threaded	Tight, missing bolts, nuts.		
	Clips	Broken, missing.		
	Cotter Pins	Broken, missing.		
S-STANDS				
Center stand	Condition	Cracks, bent.		
	Retention	Springs in place, tension to hold position.		
Side stand	Condition	Cracks, bent (safety cut-out switch or pad equipped).		
	Retention	Springs in place, tension to hold position.		

ACKNOWLEDGMENTS

This module was developed collaboratively through the Defense Safety Oversight Council's (DSOC) Private Motor Vehicle Accident Reduction Task Force (PMV TF), Service Safety Centers, Line Leaders, Military Riders, National Safety Council, and the Motorcycle Safety Foundation. The DSOC wishes to recognize the organizations and the Service Men and Women who made this Motorcycle Mentoring Module possible.

Some of the principal contributors to this effort include the following:

Mr. Joseph J. Angello, Jr., DSOC Executive Secretary
Major General Margaret Woodward, USAF, PMV TF Chair
Colonel John "Odie" Slocum, USAF, PMV TF Vice-Chair
Major Alejandro Ramos, USAF, PMV TF Executive Secretary
Mr. Jerry Aslinger, DSOC Program Manager

Captain Richard D. Jones, US Naval Safety Center
Mr. Walter Beckman, US Army Ground Driving Task Force
Mr. Peter Hill, HQMC SD, PMV-2 Working Group Chair
Mr. John Waltman, HQMC SD
Mr. Dave Kerrick, US Naval Safety Center
Mr. Don Borkowski, US Naval Safety Center
Mr. Bill Parsons, USAF Safety Center
Mr. Mark Erpelding, USAF Safety Center
Mr. William Walkowiak, USAF Safety Center
Mr. Arthur Albert, USAF Safety Center
Mr. Dale Wisnieski, USCG Traffic and Recreational Safety
Ms. Wendy Medley, US Joint Bases Subject Matter Expert
Ms. Debra Ann Ferris, National Safety Council
Dr. Ray Ochs, Motorcycle Safety Foundation
Ms. Karen F. Nelson, Concurrent Technologies Corp.
Mr. Robert A. Gardiner, Concurrent Technologies Corp.
Mr. Steve Kurtiak, Global Support Services
Mr. Zack Sionakides, Cape Fox Professional Services

MILITARYRIDER
THE RIGHT SKILLS>THE RIGHT TRAINING>THE RIGHT ATTITUDE

DSOC
Defense Safety Oversight Council