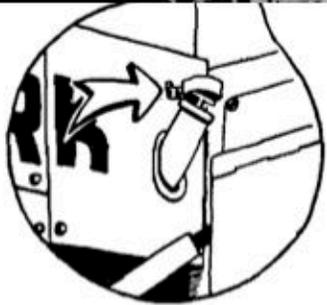




BEST AMBIENT/SHOEGAZER REVERB PEDALS



BEST SHOEGAZER PEDALS OF 2019

HOW TO SABOTAGE



VEHICLES AND HEAVY EQUIPMENT

The classic act of monkeywrenching is messing around with a bulldozer. Probably the best known technique is pouring sugar or Karo syrup in the gas tank or oil system. But this doesn't really work! It just clogs the fuel or oil filter. There are better—and simpler—ways to “decommission” that piece of heavy equipment threatening your special place. The 'dozer is a tool of destruction. But like David against Goliath, a little ingenuity and moxie can go a long way toward stopping a monster.

There are, of course, more incendiary ways to take out one of these behemoths. You can totally dismember one with a cutting torch. Or you can just barbecue one.

Be careful when doing this kind of “night work.” People who own expensive equipment don't take kindly to having unauthorized maintenance done on their rigs and will encourage the police to do their best to find the culprits.

With the detailed instructions and clear illustrations presented here, even “mechanical idiots” such as your good editors can accomplish nighttime maintenance on heavy equipment.

1. A similar delayed ignition method is to pour brake fluid over swimming pool cleaner. After several minutes (perhaps as many as 15) the mix should burst into flames. Experimentation would be necessary to determine the proper quantities of each for the optimum delay. One mix has been field tested: Put 3 tsp. of dry chlorinator in a paper cup and cover it with 2 tsp. of brake fluid. The delay time is about one and a half minutes. If you cool the brake fluid first, there will be a greater delay in ignition. Using warm brake fluid causes less delay. Brake fluid is cheaper than SCORE.

2. HTH swimming pool cleaner will spontaneously combust with regular everyday oil. Try putting it into the oil fill cap of an engine sometime. At the very least, the oxidation will destroy the lubrication integrity of the oil. HTH pool chlorine is very nasty stuff and can cause severe chlorine burns in the lungs if inhaled. Working with it at night or under stressful conditions could be disastrous. **Therefore, the editors do not recommend any of the suggested techniques using it.**

3. A simple but effective time fuse can be made with a cigarette, a book of matches, and a rubber band. Spread the heads of the two lines of matches apart, light the cigarette, put it between the lines of match heads, close the match book, and put the rubber band around it to hold it shut. The time delay can be adjusted up to 7 minutes by how much of the cigarette has to burn before it lights the matches. In case this time fuse fails, you don't want your fingerprints on the book of matches. Get your book matches from a hotel, bar, or restaurant where a basket of match books with advertising is displayed. Pick up several books at once, touching only the two on the end of the stack. In this way only the end books have your prints.

4. An untested delayed-ignition method is to use a “gag” candle for birthday cakes—one that can't be blown out once it is lit. Make a hole in a ping-pong ball the diameter of the candle. Put the candle in the hole so that most of it is above the surface of the ping-pong ball. Place the device where ignition is wanted. Light the candle. When the candle burns down to it, the ping-pong ball, being highly flammable, is supposed to burn fiercely.

5. A much more dependable and longer-lasting delayed fuse than SCORE can be made as follows: Empty the powder out of four or five shotgun shells into a small paper matchbox. Cut a notch vertically in the middle of one end of the box, big enough to hold a cigarette. In the other end, cut a larger notch. Now soak a long strip of rag in diesel or kerosene (or in solvent alcohol). It should be soaked lightly so that it will not drench the gunpowder.

At the work site, place one end of the rag through the larger notch and into the gunpowder at that end of the box. Then lay the rag out over to the object to be burned. In the smaller notch at the other end of the box, place a burning, long, unfiltered cigarette so that the non-burning end just barely pokes through the notch into the gunpowder.

You now have a good 8 to 15 minutes to vacate the area, the exact time depending on the kind and length of cigarette, wind, and humidity. This technique is much simpler than it sounds, and with a little practice works almost every time.

—Smokey Bear

Diesel fuel, unlike gasoline, is not explosive. It is denser than gasoline and burns longer but not as hot. It is much safer to use but much more difficult to ignite—especially in cold weather. It sometimes will not even ignite when a match is held to it. A Molotov cocktail can be used to ignite diesel, but a safer way would be to simply use a rag soaked in solvent, or denatured alcohol, which readily burns but is not explosive. (The second edition of *Ecodefense* mistakenly suggested using a rag soaked in rubbing alcohol. Rubbing alcohol does not readily burn.)

Preparing A Machine For Burning

To keep the diesel fuel from running off the bulldozer or other object to be burned, soak rags (cotton are better than synthetics) in diesel fuel. Other absorbent materials—like sawdust or straw—can also be used. Stuff the soaked rags in the engine if it is accessible, under exposed wiring, hoses, and gauges, in treads or around tires, and in the cab under the dash. As little as two gallons of diesel may be enough if used in this way. Place the rag soaked in solvent alcohol on the diesel-soaked rags and light it.

Getting Diesel Fuel

An ideal place to get diesel fuel is right out of the machine you are about to burn. Use a short piece of hose to siphon fuel onto the machine, into a container, or onto nearby machines. Soak everything well. If there is a tank of diesel on site (there often is), cut the padlock off with a large set of bolt cutters, and use a 12 inch crescent wrench (if necessary) to open the valve clockwise. Be very careful as the fuel may be under pressure and could spray out of the valve. You can also bring your own diesel fuel (or kerosene which has similar burning properties) in plastic jugs (don't fill them all the way or they may leak). Put the empty jugs where they will burn along with everything else.

Or you can take the drain plug out of the fuel tank on the machine to be burned, drain the tank under the machine, and light it. **DO THIS ONLY WITH DIESEL FUEL WHICH IS NON-EXPLOSIVE AND NOT WITH GASOLINE WHICH WILL BLOW YOU TO SMITHEREENS!**

Security

If you get diesel fuel on you, you will smell like diesel for a long time. This could be incriminating. Wear an old pair of coveralls (from Goodwill) which you can safely dispose of after the action. Don't use rags from your home because they might be traceable. Goodwill is a good source. Be very careful not to pollute a nearby stream or area of vegetation with run-off diesel fuel. Make sure the machine(s) to be burned will not catch the forest on fire—burn only in the open. Punishment for arson is severe; practice all standard security measures rigorously. Leave no evidence!

Delayed Ignition

There are a number of simple ways to light a fire after you are safely away from the scene. Experiment with any delayed ignition technique several times before using it to burn a machine or other target. One such method is the use of SCORE hair dressing and swimming pool cleaner described in the section Billboard Burning in the Propaganda Chapter. Others include:

DISABLING MOTOR VEHICLES OF ALL KINDS

All (motorcycles, cars, trucks, heavy equipment):

1. **Pour sand in the crankcase.** *Sugar and syrup are ineffective in gasoline or diesel fuel tanks and oil reservoirs. At best, they will merely clog the filter. A handful or more of sand in the fuel tank or oil is much more effective and much easier. Also, with sand you need not carry incriminating items like sugar or a bottle of Karo syrup.*

2. Jam door and ignition locks with slivers of wood, a hard tough cement like "super glue," or silicone rubber sealant.

3. Pour a gallon or more of water or brine into the fuel tank.

4. Pour dirt, sand, salt, or a grinding compound (like Carborundum) into the oil filler hole. If there is a filter (often present on heavy equipment), pour the sand, etc. down the dipstick tube and use the dipstick to ram it down. If possible, remove the outside oil filter and add the grit. (Very fine grit may go through an oil filter, though.)

5. Pour water into the oil filler hole. Amount needed depends on engine size—at least 2 quarts for a V-8. Use enough so that the oil pump will draw only water. The water should maintain "oil" pressure without lubricating at all.

6. Slash tire sidewalls. Sidewall stabs cannot be effectively patched, whereas tread stabs can be. On some tires, cutting the valve stems is an easy way to flatten them. Be careful: tires on some heavy equipment are filled with water under very high pressure and it can be dangerous to slash or cut these. Bullets ricochet off them, too!

7. Smash fuel pump, water pump, valve cover, carburetor, distributor, or anything else except the battery (for your safety) or brake system (for their safety). Use a sledge and a steel bar for precision blows.

8. Pour water and/or dirt into the air intake (usually the big hole right under the air cleaner). The more, the better.

9. Pour gasoline or other fuel into the oil reservoir. It will break down the oil and the oil filter will not remove it.

10. Put battery acid or some other corrosive in the radiator.

11. Put Carborundum or other small abrasive particles in the gearbox.

12. Pour a box of quick rice in the radiator.

13. Use a pair of bolt cutters on anything possible (except battery cables, other live wires, and brake cables).

14. Ferric chloride and some other etching compounds used in electronics have the interesting characteristic of eating away copper. If added to the water in a radiator, the radiator will fall to bits in a couple of days.

HEAVY EQUIPMENT

Large machines, in the form of earth moving and logging equipment and haul trucks, are the most pervasive tools of land rape. Because of their purchase and maintenance costs, they are extremely attractive targets for monkeywrenching. Downtime for repairs can exceed fifty dollars an hour, and a proper job of sabotage can idle a machine for weeks.

There are hundreds of different types and models of heavy equipment, from the classic bulldozer to the highly specialized harvesting and handling equipment found in the logging industry. Regardless of their specific use, they all have diesel engines and hydraulic systems that are the targets of the experienced monkeywrencher.

A good first step for the equipment saboteur is gaining basic familiarity with the more common types of machines. Effective teamwork can entail dispatching a friend to work on "that loader over there," or to see if "that's a security guard parked behind that scraper." A common nomenclature can minimize confusion and enhance your safety and security. Study illustration 5.1, keeping in mind that the descriptive names are somewhat imprecise, due to the tremendous variety of machine types.

Basic Tool Kit

Effective sabotage may require nothing more than a handful of sand on the spur of the moment. More often, it entails planning plus a basic tool kit. In illustration 5.2 you will find the basic elements with which to begin. Since most of this mechanical work will be conducted under the cover of darkness, a good flashlight for each team member and rigid discipline in the use of the light are critical. The military surplus angle-head flashlight (A) is a good buy at most surplus stores. The red lens stored in the base, when mounted over the light, can increase your security. The red light is less noticeable from a distance, and will not ruin your night vision. A cheap acrylic artist's red paint (B) will do in a pinch, as will some red cellophane, if you can find it. As always, wipe clean of fingerprints all parts of the flashlight, including the lenses, bulbs, and batteries. Do not use your flashlight indiscriminately. Cup your hand over the end, allowing only a thin sliver of light to illuminate the area on which you are working. Similarly, use your body to block the light from view. Use a lightweight cord as a lanyard, to hang the flashlight around your neck and avoid dropping and losing it.

A lightweight bag keeps your tools together (C) so that you don't inadvertently leave them as evidence at the scene. Nylon can be noisy, so canvas (like cheap army surplus) is usually best.

Lightweight running shoes (D) allow silent movement and quick escape. Deck shoes, with their relatively smooth, pebbly soles, leave a minimum of distinctive footprints for matching with evidence at other monkeywrenching scenes. Never wear slip-on tennis shoes since they won't stay on when you

BURNING MACHINERY

The section on Burning Machinery in previous editions of *Ecodefense* had some errors. For that reason it has been replaced with the following simple guidelines and cautions.

Pros And Cons Of Burning

There are two main advantages of burning machinery and heavy equipment: It can utterly destroy the bulldozer, yarder, or whatever. And, a machine that has its engine compartment, oil intake, and so on protected by locks can still be burned.

Disadvantages include:

- 1) It is difficult to achieve a hot enough and extensive enough fire.
- 2) A fire is very noticeable and quickly attracts attention.
- 3) Burning something is considered arson and may carry stiffer legal penalties than non-arson ecotage. Law enforcement agencies may make a higher priority of investigating arson than sand in the crankcase.
- 4) Arson elicits a more negative reaction among the public than other methods of damaging heavy equipment.
- 5) Setting fire to a piece of heavy equipment is potentially dangerous to the monkeywrencher.
- 6) There is a chance that a burning piece of equipment could cause a forest fire.

Any Earth defender contemplating burning instead of other methods of decommissioning bulldozers and other heavy equipment should carefully consider these negative aspects of burning machinery.

Igniting Machinery

Burning a large metallic object requires dousing it with a flammable fluid. Gasoline is highly explosive and very dangerous to work with. Anyone who uses gasoline to start a fire is risking self-immolation. Also, gasoline drips off surfaces and won't stay where it is poured. Mixed with soap flakes (use Ivory Snow, not a detergent) gasoline turns into jellied gasoline or napalm. In this condition, it is still very volatile but is more stationary. The classic method of using jellied gasoline is in a "Molotov cocktail," a glass bottle of gasoline and soap flakes with a denatured alcohol-soaked rag stuffed in the mouth of the bottle. The end of the rag outside of the bottle is lit and the Molotov cocktail is immediately thrown against the target from as far away as possible. The bottle shatters upon impact and the gasoline ignites. If this is all that is done to a large machine, the gasoline in the bottle may be all that burns and relatively little damage may be done. If the targeted machine is previously soaked in diesel fuel or, more dangerously, jellied gasoline, complete destruction is far more likely.

A Molotov cocktail is a very dangerous tool. Anyone contemplating its use should be very careful. Because of the inherent danger, the use of Molotov cocktails is not encouraged.

booby traps, such as tear gas or even firearms, have been used to protect heavy equipment in areas rife with monkeywrenching. BE CAREFUL!

Also, if you are carrying a portable CB for communication with lookouts or your driver, switch it on before breaking into the machine. An intermittent tone lasting 5 to 10 seconds can indicate an alarm transmitter trying to signal a pager in the possession of a guard.

If you chose to strike shortly after the end of the work day (often before a security guard arrives), watch for the maintenance crew. These fellows usually drive a truck loaded with fuel and lubricants. It is their job to top off the diesel fuel tanks to prevent water condensation overnight. Often they check and adjust the levels of lubricating oil. Because of this, they may work a couple of hours to service a large number of machines.

—Al Pinkerton

FIELD NOTES

* After repeated sabotage of heavy earth moving equipment, some companies have mounted heavy steel plates over engine and cab access points and secured them with padlocks. Lock jamming methods described elsewhere in this book can create lengthy and costly delays when operators arrive for work. A series of lock jammings, randomly occurring over a long period of time can cause the company to abandon this security measure or employ more costly and time consuming methods, such as extra guards, fenced and lighted compounds for overnight parking, or complete removal of all equipment from the site each night. Any additional security precautions impose financial burdens on the opposition and therefore help to accomplish the monkeywrencher's objectives.

* If the engine compartment is padlocked, remember that the hood is both hinged and locked to a panel that bolts on. Slip the jaws of an 8 inch crescent wrench over the brass body of the lock and twist. You can rip off the hasp or its panel.

* Many semitrailer trucks have their oil filler hole in the grill. This is convenient for those who wish to add abrasives to the oil.

* It is possible that both the oil filler pipe and the dipstick tube on heavy machinery will have locked caps. It may be possible to punch or drill a small hole (large enough for the tip of your funnel) in the filler pipe, dipstick tube, or their locked covers. If this is done in an inconspicuous place and well camouflaged, it might not be discovered until too late to save the machinery.

* Barbed wire can do a lot of damage if it gets into the undercarriage of a bulldozer or other heavy equipment, especially on the newer models. So cautions an instructor in bulldozer operation. Although we don't have more specific information—what kind of damage and the like—this may be an important approach considering the security devices standard on newer model 'dozers which limit access to fuel and oil intakes, for example.

* Heavy equipment operators and mechanics can identify sabotage to their machines and may then guard them in the future. So do it right the first time when the risk of detection is lowest.



*Bulldozer
(ripper on rear)*



*Bulldozer or
Crawler Tractor*



*Small Crawler
Tractor*



*Loader, Front Loader
or Front-end Loader*



*Articulated Loader
(pivots in center)*



*Grader or
Road Grader*



*Wheeled Tractor
(w/loader & backhoe attachments)*



*Scraper
(w/2-wheeled tractor)*



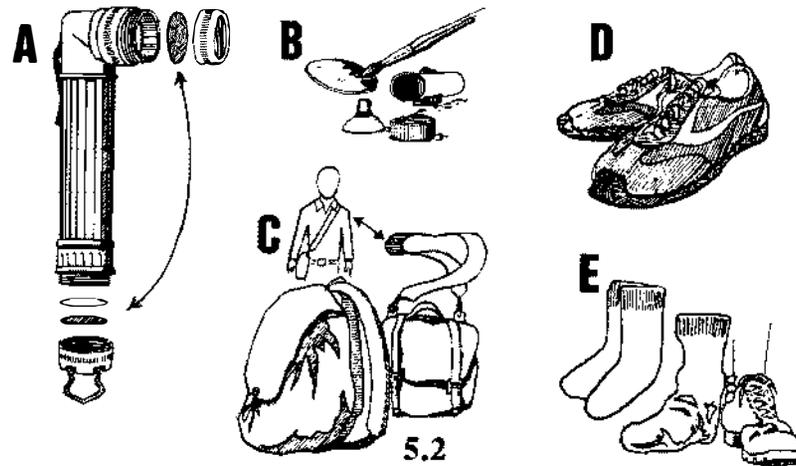
Hydraulic Excavator



Power Shovel



Backhoe



run. If the terrain requires boots, cover them with large socks (E) to obscure their distinctive waffle print.

Your basic tool kit is shown in illustration 5.3. Cheap cloth gloves (a) can be purchased at almost any hardware or variety store. Dispose of them after a single job, or after a few jobs, depending on the frequency of your monkey-wrenching. Buy only one or two pairs at a time, and get different gloves from different stores to further confuse the trail of evidence (in case a cloth pattern imprints on a greasy surface or a few fibers snag on a sharp edge or rough surface).

A common one-gallon plastic jug (b) is ideal for transporting abrasive material like sand to the equipment. The cut-away bottle makes a good shovel-like scoop if sand can be found near the equipment parking area. If, on the other hand, abrasive material must be transported in, any plastic bottle, cleaned with soap, dried, and wiped free of fingerprints will suffice. A screw-type cap is your best insurance against accidental spillage.

Lastly, a cheap plastic funnel, available at most grocery stores (or variety, hardware, and auto parts stores) as seen in illustration (c) will allow you better access to the essential motor parts, some of which are not easily reached otherwise.

The advanced saboteur's kit includes a can of spray lubricant (d), to wash away telltale signs of abrasive grit, and a spray handle for same (e) to improve your aim in the dark of night. In addition, a crescent wrench (f), wrapped in black electrical tape to eliminate its shiny metallic look and to silence it from banging inside your bag, is useful for gaining access to sensitive areas like oil filters that are rarely protected by padlocks. (Wear gloves when you apply the tape, as it makes an ideal surface for fingerprints.) Also useful for getting into diesel filter systems is a socket wrench and a selection of sockets (g) and an oil filter wrench (h) carefully wrapped with tape to prevent it from leaving telltale scratches on an oil filter housing.

can cause an accident. Do not sabotage brakes, lights, or any other safety equipment.

—Frank Duryea

Related Targets

CONVEYORS — Construction and mining operations frequently use conveyor belt systems to move and sort material. The belts are similar in composition to automobile tires, with thick rubber reinforced by fiber cords. The simplest form of sabotage is slashing with a sharp, thin-bladed knife. A common hardware store item, the “utility” knife, is ideal. Blades are inexpensive, replaceable, and usually can be stored inside the handle.

Since cuts that run straight across the belt are easily repaired, all your slashes should be at an angle, and as long as you can make them. Do not attempt to cut completely through the belt. A number of deep cuts at different points will cause the belt to deteriorate rapidly under use. Breakdown and early replacement become necessary.

MAINTENANCE FACILITIES — If you can gain access to garages, fuel trucks, or maintenance yards, contaminate any fuel and oil you find. Add water to diesel and dirt and sand to oil. Also, put diesel into any lubricating oils you find.

Remember that guards often hang around garages and maintenance yards.

—Hank Frick

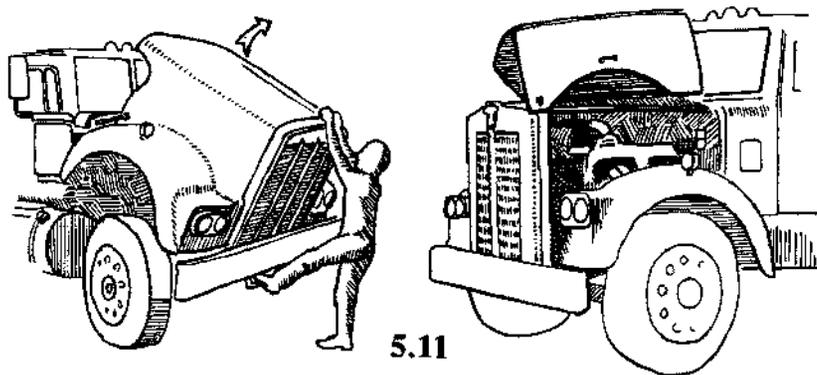
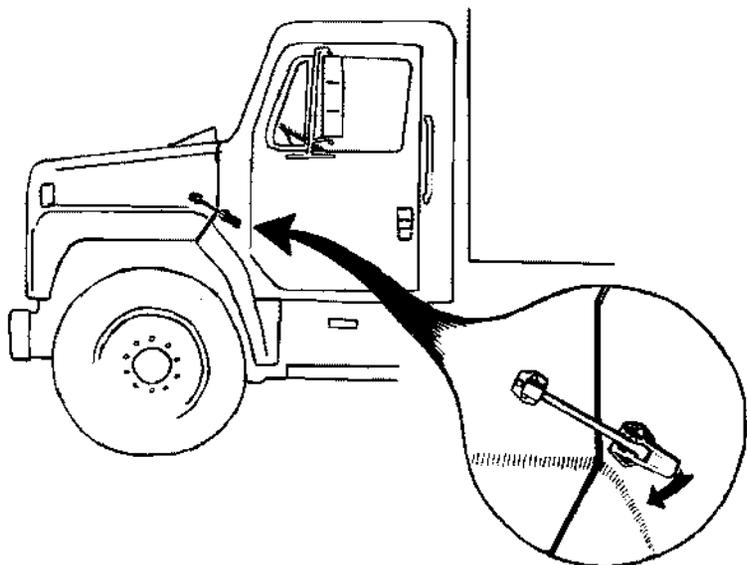
Security And Heavy Equipment

Because of the high cost of heavy equipment and its extreme vulnerability to sabotage, security efforts are often concentrated on its protection. Always be alert for guards around machinery. A security guard might park his pickup truck amongst the equipment.

Often these machines are brought together at night where they can be more effectively guarded. They might be parked alongside a busy road so that passing traffic alone will discourage monkeywrenching. Or they might be parked in a special compound, with the protection of a fence, lights, and possibly even a guard dog. Remember that every security measure adds to the costs of raping the planet. Even driving the machines to and fro every morning and night adds to lost work time.

If you suspect a guard is present, you might want to force him to reveal his presence by using the decoying methods described elsewhere.

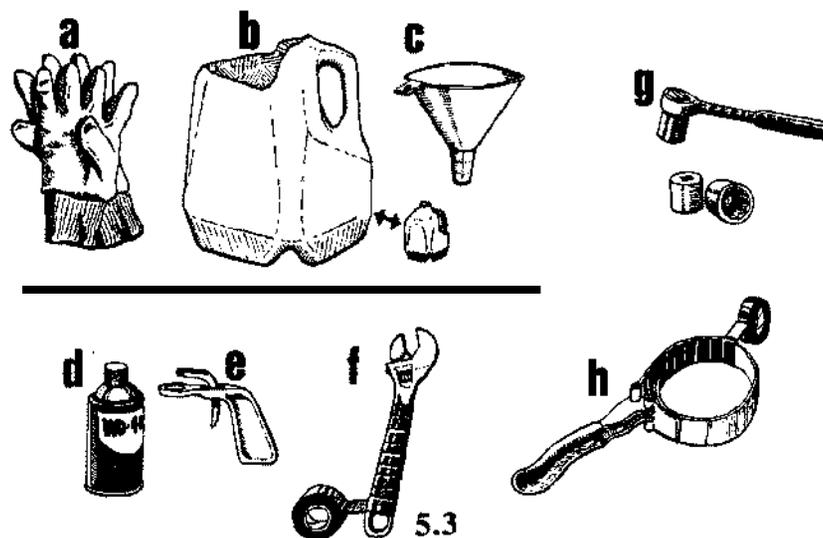
In addition, it is possible to wire heavy equipment with a “pager” type alarm system that will summon a guard by radio signal if someone tries to break into the cab. If you plan to force your way into the cab of a machine (perhaps to smash the instrument panel), check first for any antennas, and snap them off at the base when you find them. This will greatly diminish the transmitting range of the alarm system and limit its effectiveness. This type of alarm system has received some attention in logging magazines. (Potentially dangerous



them around. Illustration 5.11 shows a typical hood lock and a couple of hood configurations. Many truck hoods are made of lightweight plastic or fiberglass and are easily opened. As illustrated, handles, and even hood ornaments, are used to open hoods for access to the engine. Look closely at some trucks, as if out of curiosity, before attempting clandestine access.

The engines in these trucks are the same or similar to the diesel power plants found in heavy equipment, so the same principles of introducing abrasives apply here. They also have large numbers of tires waiting to be flattened.

Never tamper with the air hoses or electrical wires that connect truck and trailer. These operate safety equipment, and careless drivers (the majority) who don't check their vehicles thoroughly before heading out in the morning



Abrasives

We will assume that you have studied the other operational methods described in this book, and are now standing beside a large mass of slumbering steel. At this point, you can vent your frustrations and attack it in every conceivable way, cutting hydraulic hoses, pulling out electrical wires, hammering at delicate parts, slashing the operator's seat.... At no small risk to yourself, you will probably cripple the beast for only a few days, and the repairs will go rather quickly once the parts arrive.

But if you are a serious saboteur who wants to have maximum impact, you will work in silence, and when you leave, no one will know you have been there. At least not for a day or two. When your trail has gone cold, and evidence of your presence has been destroyed or hopelessly contaminated, the engines of destruction will literally grind to a halt. Only major shop work can repair them. You will have succeeded.

Experienced monkeywrenchers generally agree that the best and surest way to cripple heavy equipment is to introduce abrasives into the lubricating system. Illustration 5.4 shows typical filler caps. The glove in (A) will give you an idea of their approximate size. Be aware that many filler caps have nothing to do with the lubricating system. One that does is the dipstick shown in (B). However, the narrowness of this access point limits the volume of abrasives one can introduce; and an experienced operator's quick check of the oil level first thing each morning may reveal signs of grit on the dipstick. In (C) is a typical radiator cap, in (D) we see a filler cap on a small hydraulic reservoir, and (E) illustrates one of many styles of fuel tank cover, most noticeable for their large size.

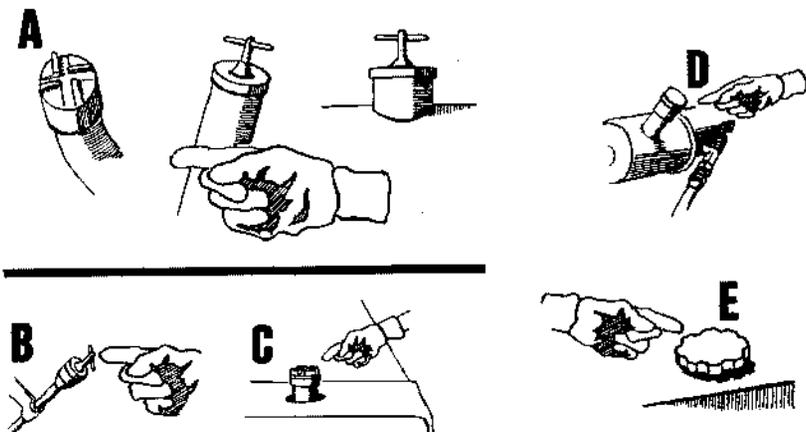
Once you have found the oil filler cap, it is usually simple to pour in dry sand with the aid of a plastic funnel. Illustration 5.5 shows the best procedure for those machines that combine the large oil filler cap with the dipstick (a significant minority of heavy equipment). Unscrew and remove the cap/dipstick (a). Pour in abrasive sand (b). Apply liberal amounts of spray lubricant to wash any trace of sand down into the bowels of the engine (c). Re-insert the dipstick and pull it out again to make sure there is no revealing sand adhering to its surface. Many operators check their fluid levels first thing in the morning so you must leave no sign of your work. (Indeed, some companies now require checks of all fluid levels each day before starting equipment.)

Gaining Access

Some equipment owners whose toys are parked in vulnerable areas use padlocks to secure every cap on the machine. Many manufacturers design caps that easily accept these padlocks. This will not stop the dedicated monkeywrencher. Illustration 5.6 shows how to use a crescent wrench to gain access to the oil filter housing of a Caterpillar bulldozer. The filter element can be removed and disposed of well away from the site. In its place goes a liberal dose of abrasive. Be careful not to get any abrasive in the tube marked (B). If this becomes clogged, you will not be able to re-insert the threaded rod that secures the lid onto the filter housing.

In 5.7 is another type of oil filter set-up. First use your socket wrench or crescent wrench to remove the small drain plugs (1). Use your open top plastic bottle to catch the oil and keep it from spilling everywhere. Next unscrew the filter case bolts (2) and the filter housing will drop into your hand. Dispose of the filter (3), pour in your abrasive (4), and re-assemble. Number (5) shows an exploded view of the parts involved.

Another filter type is the screw-on variety. These are gradually replacing the



5.4

goes over. And be sure it will not cause damage to native vegetation or other natural elements.

TURKEY BASTER — Use a common kitchen turkey baster to suck acid out of the battery and squirt it into the fuel system. Two squirts should do.

ACID — Any acid corrosive to metal would do much damage if left overnight or longer in the delicate parts of an engine. A couple of quarts or more poured into the carburetor would probably get through to the pistons and rings and would certainly mess up everything in between! Some of the advantages of acids are quietness, relatively instant damage, and easy availability.

Some potential acids to use:

√ Hydrochloric — available at chemical suppliers. Don't breathe the fumes.

√ Muriatic — just half-strength hydrochloric acid, used in swimming pool water and as metal etch, rust remover, etc. Look for this at hardware stores, swimming pool suppliers, auto body and repair suppliers, etc.

√ Sulfuric — used in car batteries. Buy from chemical suppliers or auto parts stores. In a pinch, one might use a machine's own battery juice. Weighs about twice as much as water. Upon reaction with metal, the fumes are poisonous.

Avoid breathing all acid fumes. Wear rubber gloves and goggles.

CROSS BOW — If heavy equipment or trucks are parked inside a fenced, locked compound, it is possible, from outside the fence, to shoot metal bolts (arrows) from cross bows into the radiators. For a bolt costing two bucks, several hundred dollars worth of damage can be done. In one historic night, an entire fleet of vehicles being used in a nefarious development down South was temporarily put out of commission this way.

RADIO CABLE PIN — Logging trucks and other vehicles and heavy equipment often are equipped with CB or other two-way radios. These are easily sabotaged with a simple straight pin (as used in sewing). Merely stick the pin through the Coax cable and snip off the exposed parts of the pin with wire cutters. The radio will short out when used, but the cause will not be apparent. Several radios may be replaced before the cable is checked. The Coax cable is a special round cable used for CBs. It has both an inner and an outer conductor. Both must be touched with the pin to short out the cable. This can be done by aiming the pin at the center of the cable.

FIELD NOTE

* Use caution and appropriate gloves, eye and facial protection (safety glasses or goggles) when cutting hoses or tubing or removing filler caps or otherwise gaining entry to pressurized systems (cooling and hydraulic systems). Diesel engines run hot and there may be pressure in those systems several hours after the machine is shut off. Be aware that light reflected from safety glasses or goggles may be visible far away.

Trucks

Often neglected by monkeywrenchers are the fleets of haul trucks used in earth moving and logging operations. Frequently these trucks are parked in a more secure area than the other heavy equipment, due to the ease of moving

WRENCHES AND SCREWDRIVERS — With these, remove all fittings, bolts, plugs, filters, large hoses, pumps, and such. After damaging or disposing of the extracted items, damage the threadings and sides of the various orifices. Then for good measure throw sand or dirt in all of them.

POTATOE — This one's for Dan Quayle. To disable cars and trucks quickly and easily, press a large raw potato into the end of the exhaust pipe so that it forms a plug inside the pipe. Use a stick to force the plug in and out of sight. When the driver starts the motor, it will cough and quit. After about three days, the potato will shrink and be blown out if the vehicle is started. This technique has been used since World War II and can baffle even skilled mechanics.

GELSCAPE — Viterra Gelscape is "a granular, organic, super-absorbent hydrogel designed to increase the water-holding capacity, drainage, and aeration of soils" according to the manufacturer. Since this stuff will turn water to Jell-O within minutes (and will repeat the same performance up to a hundred times after drying out again), it might be useful where quick, unexpected plugs are needed. It is not permanent and could eventually be flushed from a system. However, in interrupting water flow where related damage might ensue, or in plugging fine nozzles such as in irrigation or snow-making equipment (possibly in hydroelectric turbines as well, with enough quantity) results could be gratifying. For instance, in a truck radiator, it would let things heat up enough so serious damage (heads warping, gaskets blowing, valves cracking, etc.) occurs. The following procedure might work:

- 1) Package the Gelscape in water-soluble capsules, such as gelatin diet supplements are sold in.
- 2) Fit into a hose leading to the engine block (either from the radiator or the heater). With good timing the gelscape will be in the block when it hydrates. (If it's simply put in the radiator, the core can be replaced—troublesome, time-consuming, but not very expensive.)

Gelscape costs about \$108 for 15 pounds. One ounce will make a cup of water chewable. Calculate how much you need to do the job. Figure about one pound per gallon of water for a rubbery consistency. Experiment. You can also flush your time capsules down toilets, sinks, in sump pumps and wells. Troublesome and non-toxic.

HACKSAW — One good way to damage equipment is by hacksawing. Large hacksawing jobs become faster, easier, and quieter with the use of cutting oil. An assistant who would maintain a steady stream of oil (used motor oil is just dandy) on the blade would make large cutting jobs possible. Use top of the line hacksaw blades and new horizons in monkeywrenching will emerge.

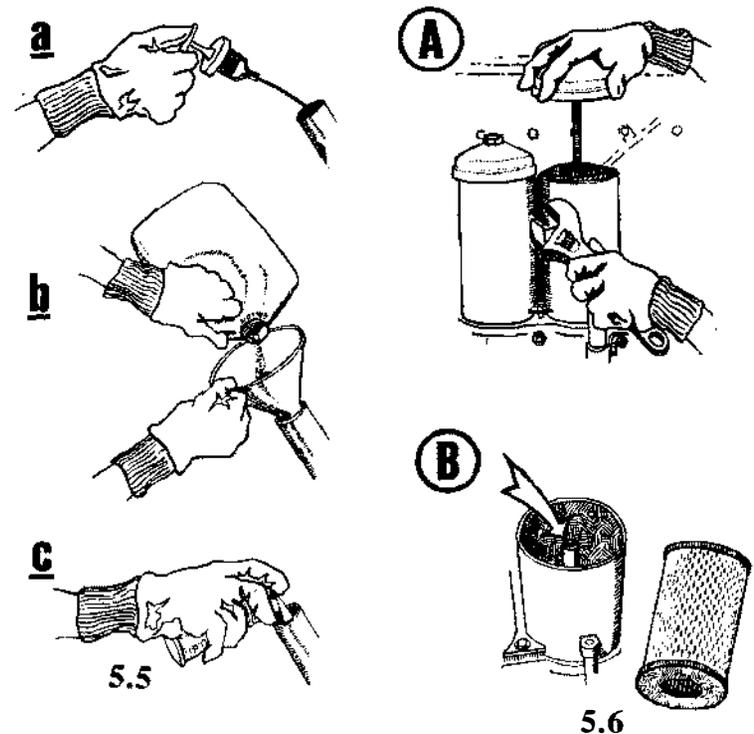
TAKE A RIDE — If you know what you are doing, an effective way to destroy a piece of heavy equipment is to take it for a ride. Hayduke drove a bulldozer off a cliff into "Lake" Powell, remember. In 1989, someone drove a 38,000 pound, \$70,000 log loader off a steep road in the Nantahala National Forest in North Carolina. A local newspaper quoted one logger as saying, "If I'da known it'd be this much trouble trying to log, I'da sold watermelons and hot dogs instead." Of course, be sure you can safely dismount the behemoth before it

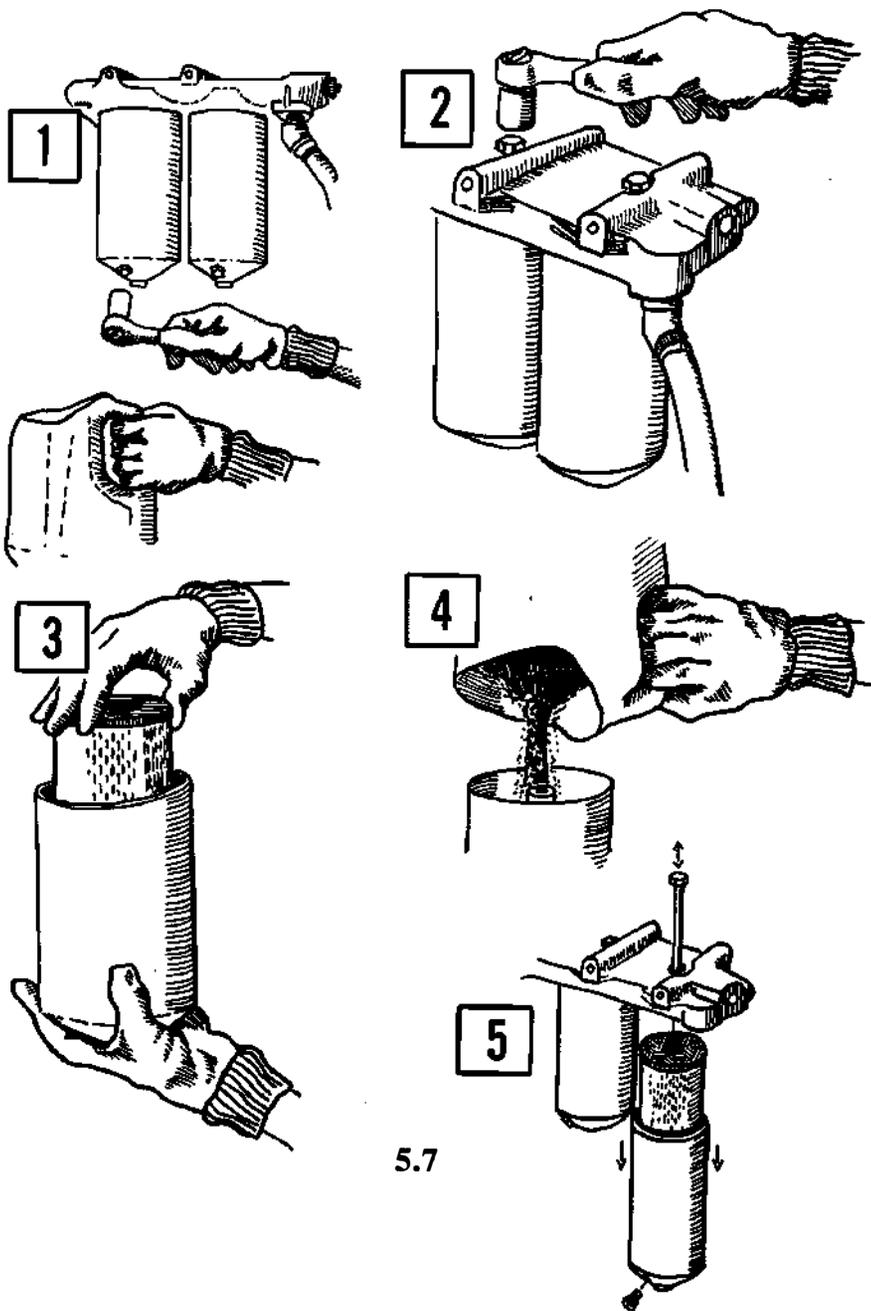
filter elements just illustrated. This type is removed with a good quality oil filter wrench found at any auto parts store. It's as easy as changing the oil in your car. If you don't know how to change the oil in your car, have a friend show you how. Once you learn this, you can adapt it to your heavy equipment night work.

Be careful to avoid too much oil spillage when removing the screw-type filter. Carry it well away from the machine before scratching out a shallow hole to receive the quart or more of oil inside the filter. Pour out the oil slowly and cover the hole to leave no trace. Fill the inside of the filter about 3/4 full of abrasive and screw it back on to the engine.

Oil-Access Points

Because of the large number of equipment manufacturers and the various models produced, it would be all but impossible to illustrate all of the oil-access points. The remaining illustrations provide a cross-section that will enable you to quickly learn what to look for. By all means, study whenever possible. When you walk by a piece of equipment, stop for a moment and practice spotting the oil filter cap. Keep your distance, though, so no one will suspect you





use a folding pocket knife, it should have a good lock to prevent it from closing on your hand while you are slicing through the tough sides of a tire. Remember that a knife blade cut can be matched back to a blade as evidence. Don't use your favorite blade or a good quality knife you would hesitate to throw away if circumstances demanded proper disposal of evidence. You can use a chisel to start the break in the sidewall of a large tire, and then insert a knife. *Be careful when puncturing high-pressure tires.* High-pressure, water-filled tires on heavy equipment are dangerous and are better left alone. You can also cut valve stems, or even pull the valve stem out with a pair of pliers. Large tires on heavy equipment may have metal valve stems, which could be cut with bolt cutters. Or chop off the valve stems with hammer and chisel. (See the various suggestions for flattening tires in the Roads and Tires chapter.)

COOLING SYSTEM — Common table salt and drain-opening compounds like "Drano" will cause corrosion inside an engine. Introduce through the radiator cap. A small amount will not do, as these big engines have large coolant capacities. The engine must be cold before you remove the radiator cap. Dry rice can be added to a radiator as well. The small grains distribute throughout the system and when they swell with water, the system becomes thoroughly constipated. Or cut a #6 rebar with a chisel point and ram it into the usually accessible radiator. You can do this very quickly and comparatively quietly, if you cover all but the six inches at the point of the rebar with rubber or hose to deaden the sound.

OTHER CONTAMINANTS — Each system of an earth mover requires different fluids to insure proper operation. The wrong viscosity of oil in the hydraulic system can cause serious damage. Diesel oil or gasoline added to lubricating oil will cause oxidation and loss of lubrication. Gasoline in excess of 90 octane will do serious engine damage if added to diesel fuel. Even simple overfilling of transmission fluid or engine oil can cause damage through lack of effective lubrication. A little anti-freeze/coolant (like you put in your car's radiator) will destroy main bearings in short order if put in the engine oil.

WATER — If sand is not handy, you can add water to either the oil or diesel fuel (see the section Water And Big Yellow Machines later in this chapter). One advantage of water is that it can be poured down the dipstick spout.

SUGAR — Sugar or Karo syrup in the fuel does little more than clog the filters and is a relatively worthless method of sabotage.

BOLT CUTTERS — Besides destroying the hydraulic system, a good pair of bolt cutters (at least 24" long) can be used to:

- √ Cut locks to gain access.
- √ Cut through or damage bolts, gauges, clamps, rods, linkages, pipes, hoses, hose fittings, grease fittings, wires, and anything else that can be fit between a bolt cutter's jaws. (Think of the machinery as food for hungry bolt cutters.) It is amazing how much can be cut on most machines.
- √ With the heavy jaws of the bolt cutters, smash windows, mirrors, headlights, taillights, reflectors, display panels, gauges, the front of the radiator, etc.

one pound of each with half a gallon of motor oil. Pour the mixture into the oil system of a bulldozer, earth mover, logging truck, or whatever. This will turn any piece of heavy equipment into a boat anchor.

* It has been suggested that sandblasting aggregates have definite potential for monkeywrenchers. One possibility is a product named "Black Beauty," which sells for about \$6 for a 100-lb. bag at industrial supply outlets. While not as hard as quartz, it should still wear metal quickly. It also flows easily, and may camouflage better in dirty oil because of its dark color.

* The precursor of the CIA, the OSS, during World War II created a clever device to destroy engines. It was called a "Caccolube," and consisted of a condom filled with abrasive powders and crushed walnuts. It was dropped into an engine crankcase. The OSS manual reported that the condom would deteriorate after the engine was started and after 30 or 50 miles the engine would be damaged beyond repair.

* Pouring sand into the oil reservoir of a big yellow machine can be a difficult endeavor, as you try to stuff grit into a one inch hole inside a cramped engine compartment. Spills lead to telltale signs of tampering, and tight spots lead to general frustrations for the midnight mechanic. To remedy this we invented the *sand bong*.

At your local hardware store buy a large common household funnel and two (2) feet of clear plastic tubing which will fit snugly over the end of the funnel. Bring this contraption on site with you and stick the open end of the tube deep down inside the oil intake of the machine to be serviced. Hold the funnel high and outside the engine compartment; pour fine, dry sand or other grit into the funnel, down the hose, and deep into the oil. Clean the oil off the tubing with a rag, stuff it all into a plastic bag, and put that into a day pack when you are finished and ready to leave.

This method is simple, easy, and leaves no sand stains. The only problem is the incriminating evidence of carrying this plumbing with you, but who's really going to notice tubing and a funnel?

—The Bong Inventor

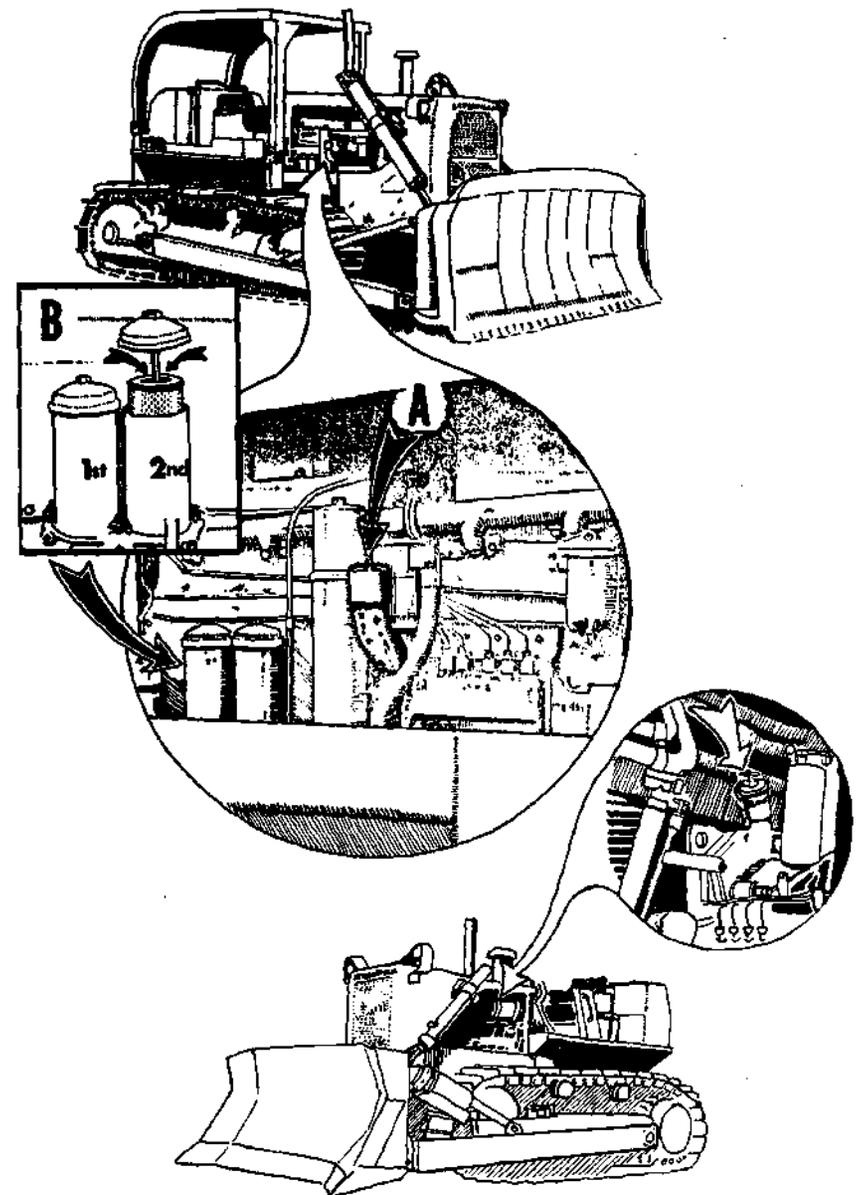
Other Sabotage Methods

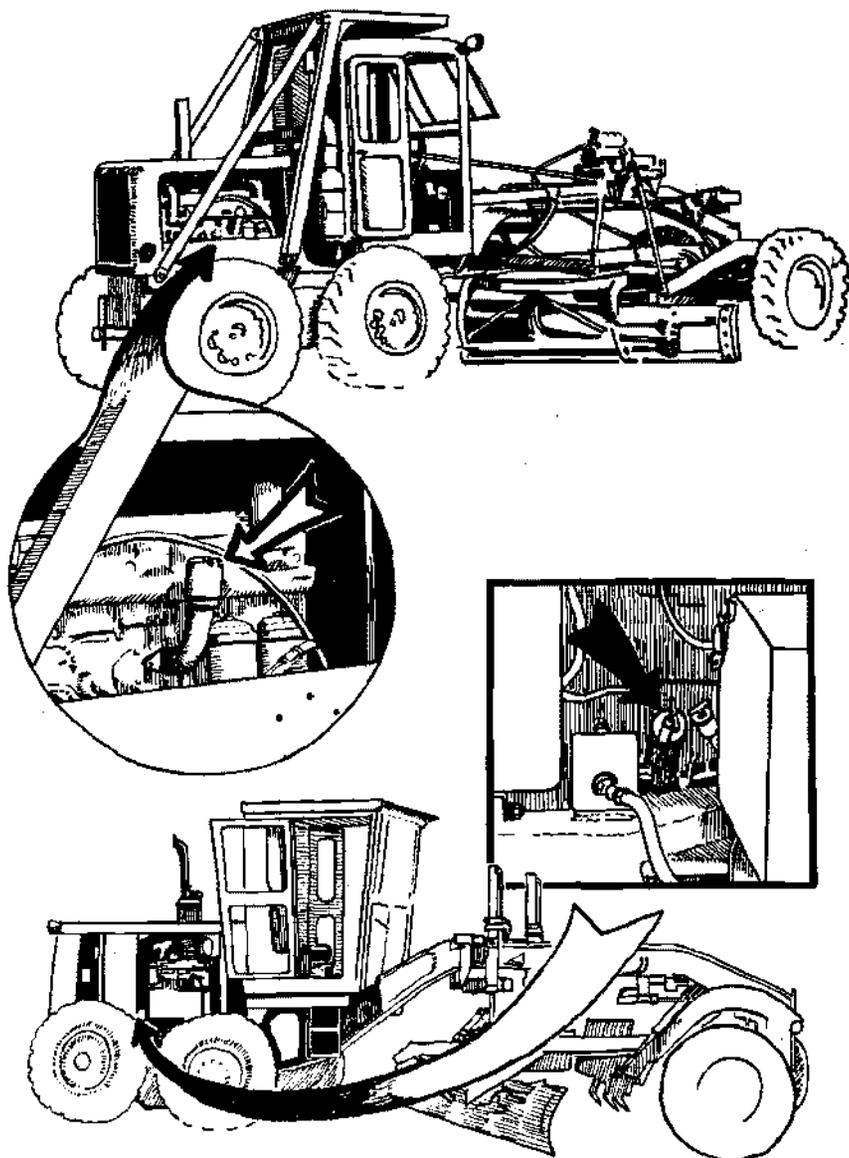
None of the following methods are as effective as adding abrasives to lubricating oils, but are mentioned for the monkeywrencher who wants to break up her pattern by using differing techniques, or who is stymied by locking mechanisms on lubrication fillers. These ideas come from dozens of experienced ecodefenders.

HYDRAULIC SYSTEM — Cut hoses with cable cutters or bolt cutters (a knife won't work because of steel reinforcements in the hoses). Smash hydraulic pistons and fittings with a sledge. *Don't tamper with the brake system.*

FUEL SYSTEM — Smash fuel injectors with a sledge and steel bar. These are expensive and very hard to remove when effectively smashed "in situ."

TIRES — Use a sharp knife blade to puncture the sidewalls of tires. A good-sized cut is not repairable, and those large tires are quite expensive. If you





A little goes a long way. With just a quart canteen full of grit on your belt, you can decommission a whole fleet of Earth wreckers, while appearing to be nothing more than an innocent hiker.

For security reasons, take the usual precautions when buying this stuff, and don't leave any of it lying around your home.

—Henry Ford

* Aluminum oxide (very fine—grit sizes of 180 or higher) is almost as hard as silicon carbide, and is much more effective as a cutting agent on ferrous metals. There is probably no better abrasive for night work. Stock up on it before it is outlawed! Do not touch with your skin or breathe the powdery abrasive. Be careful when you pour it (you may want to even wear a face mask or bandanna).

Abrasive works by embedding itself in the softer metal (in machinery, parts that touch must be of different metals) and cutting out bits of the harder metal, which also begin circulating and causing more havoc. So the particles need only be large enough to stick up out of the oil film, which is approximately .000001 - .000001 inch thick. The oil filter catches particles down to about .001 - .003 inch diameter, so it is good to use grit sizes above 180 (.0034"). Size 400 has particles of .0009", and size 600, .00033". These may seem too fine, but they will last long and continue cutting. Sand, even quartz, isn't much harder than steel, and so isn't as effective. However, a lot of sand could potentially clog up the oil filter and cause the bypass valve to open up, allowing sand to get into the works. Removing the oil filter may be unwise—it may cause the oil pressure warning light to come on.

Abrasive put into the fuel is good because it is pumped into the top of the engine and enters the cylinder compartment. Abrasive in the oil may or may not get picked up by the oil pump. If the engine is not moved around much (for example, on a large crane), the grit may stay in the bottom of the oil pan. This is why it is good to use very fine grit that will stay in suspension. The oil pump has a screen that excludes only large particles. Its intake generally floats on top of the oil.

Apparently, grit inserted via the oil filler hole doesn't show up on the dipstick until after the engine has been running, and even then could be missed by a careless operator.

—Ransom Olds

* For best results with silicone carbide (rock polishing grit), mix together different coarsenesses of the grit—from fine powder to fine sand in size. Mix 1 part grit to 4 parts motor oil in screw-on, plastic quart oil bottles or pocket-sized, plastic squirt bottles of various kinds. Pour the mixture in the oil filler, transmission filler, hydraulic reservoir, fuel, or squirt it down the dipstick hole. A mere half pint of the mixture is enough to destroy a large engine in a few hours.

* An excellent cheap material for introducing into oil systems of big yellow machines is titanium oxide, which is available in 5 pound bags at rock shops or lapidary suppliers. Purchase bags of both coarse and fine titanium oxide. Mix

Various types of oil filler caps found on wheel hubs can be seen in (C) through (F).

In (G) is a plug in a differential through which lubricating oil (and abrasives) is introduced. A neat job will ensure that even if the operator checks, abrasives will not be immediately apparent.

Selection of Abrasives

Common sand is the cheapest abrasive for equipment sabotage. Ideally, it is dry and free of organic matter like leaves and twigs. You can use a small piece of window screen or fine mesh hardware cloth to remove rocks and gravel that would otherwise prevent smooth flow or even jam a filler tube on an engine. Simply pour the sand through the screen and into your plastic bottle.

You should not use sand from near your home. Forensic laboratory analysis might reveal the approximate source area the sand came from. This is done by comparing it to samples collected in various drainages where differing rock formations may lead to slight variations in the composition of the sand. Although this is a complex laboratory procedure not likely to be employed, it is best to take the extra precaution. By scouting ahead of time, you may locate a source of clean sand in the vicinity of the equipment parking area.

For the sake of variety, and to make it appear as though separate groups of monkeywrenchers are at work, you can purchase abrasive compounds from suppliers in big cities. Look for a medium-grit silicon carbide. Lapidary supply houses are a good source of top-notch abrasives which are used to polish stones in tumblers.

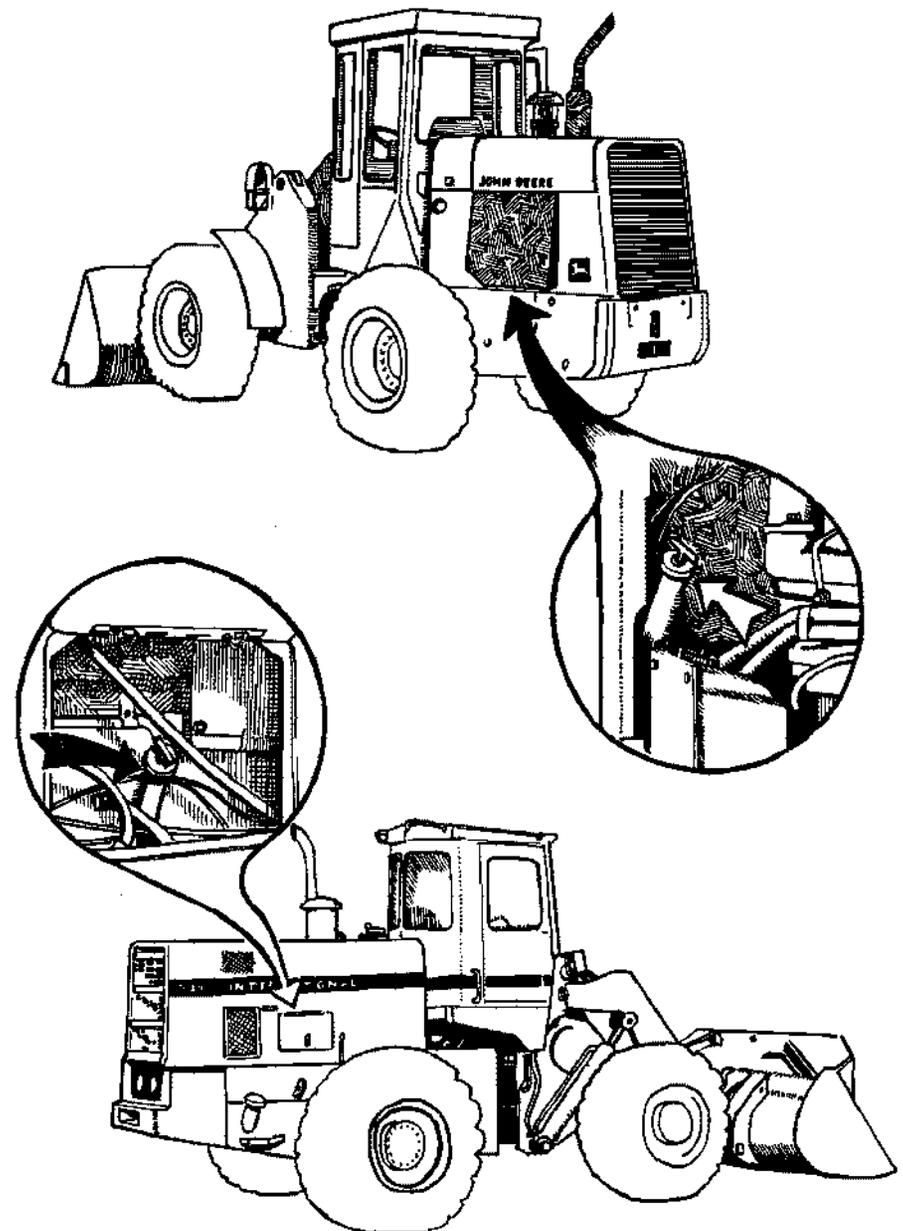
—T.O. Hellenbach

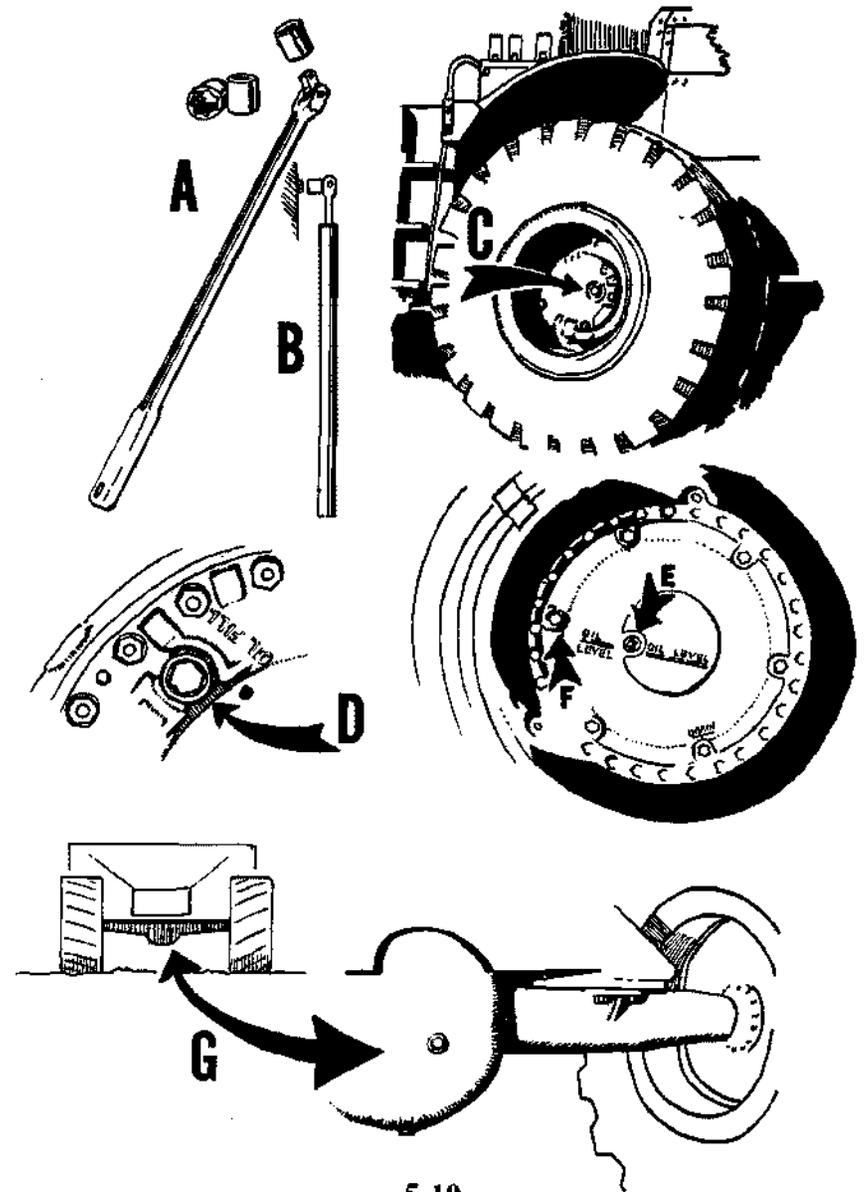
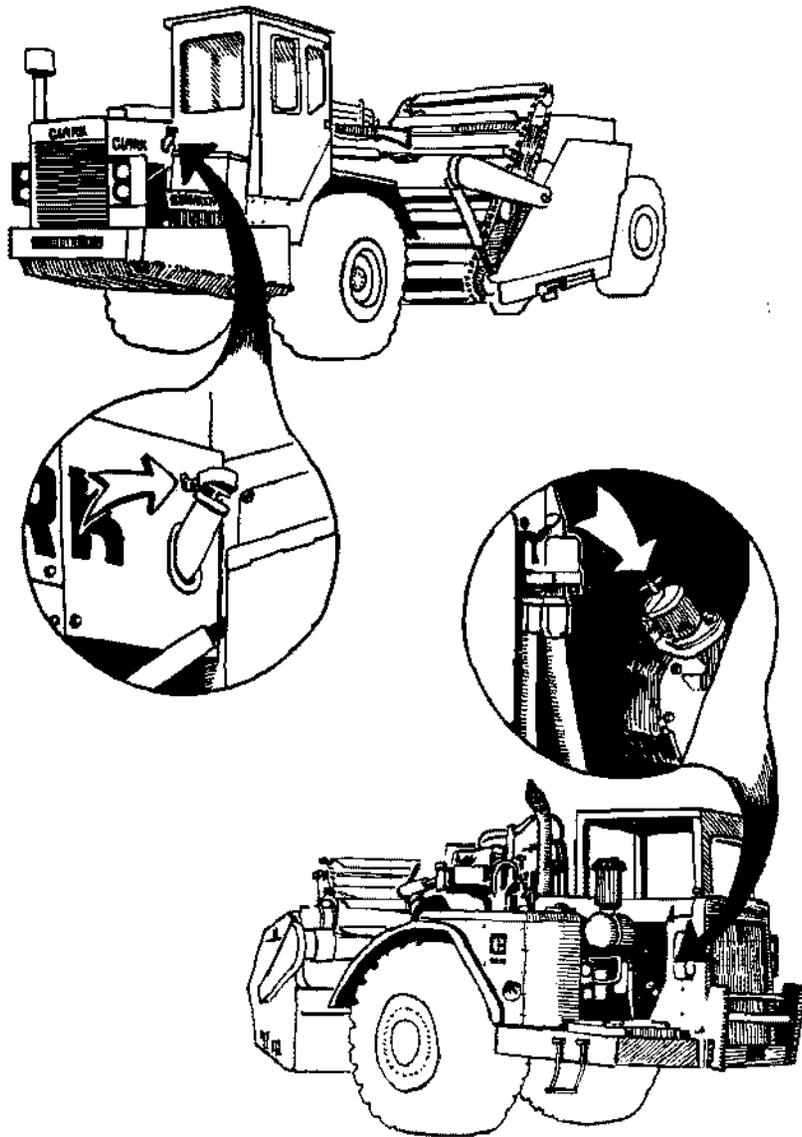
FIELD NOTES

Many Earth defenders have experimented with various abrasives and methods of introducing them into heavy equipment. We report their ideas here, despite some redundancy and some disagreement over what is best. Pick what seems to work best for you.

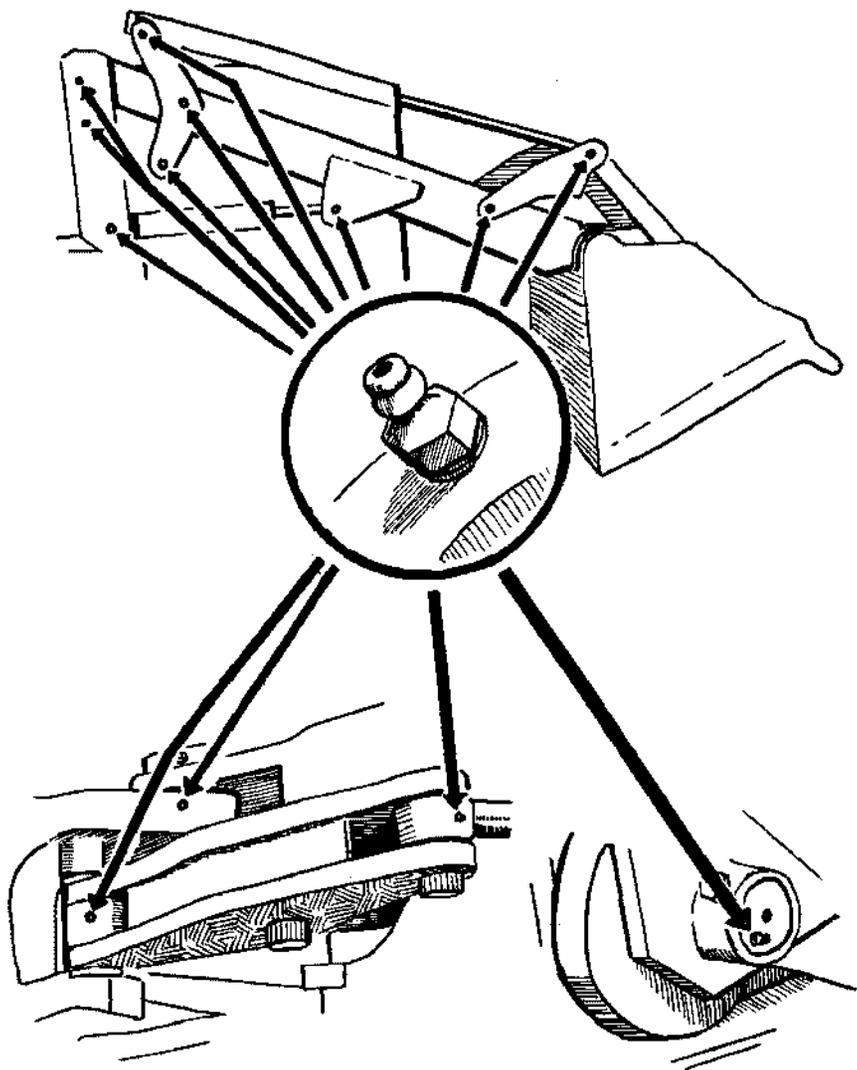
* Silicon carbide or "tumbler abrasive material" (available at "rock shops" which cater to hobbyists) is more effective than sand as an engine abrasive. Enough grit to destroy the largest engine can be carried in a pants pocket, and if used just right it is not as messy as sand. *Very fine* grit is so powdery that it feels like white flour. It will mix thoroughly with oil, so it's easy to pour down an oil filler or dipstick hole. It also stays in suspension for a long time, so it will circulate nicely throughout the entire oil system to get into all of those little cracks. It can also be used in fuel tanks, because the tiniest particles are so small that they'll go through filters, and in transmissions, hydraulic systems, and lubrication points.

Silicone carbide is also the easiest grit to transport and use. Dry, it pours well. Mixed with oil or other liquid (1 part abrasive to 4 parts liquid), it pours down the smallest pipes and goes through strainers, even filters. (Immediately prior to use, be sure to stir or shake well because the grit will separate out and harden on the bottom of the container.) Mix fine and course silicone carbide together for best results.

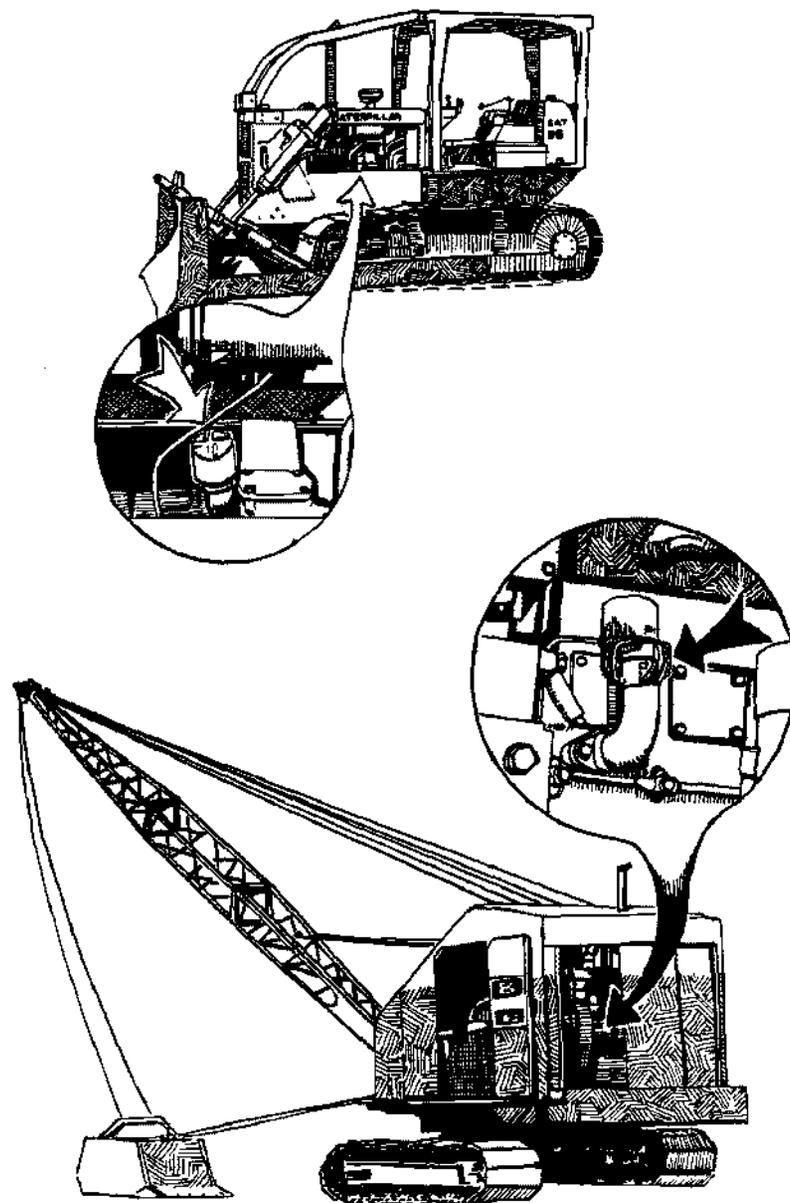


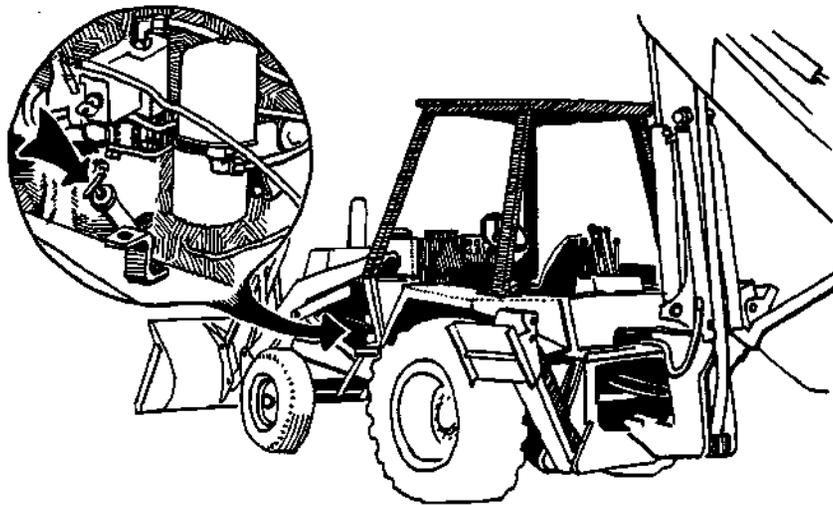


5.10



5.9





of tampering. Once you have correctly identified a dozen or so filler caps, the rest come easily.

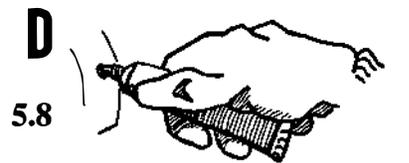
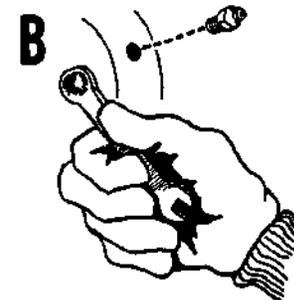
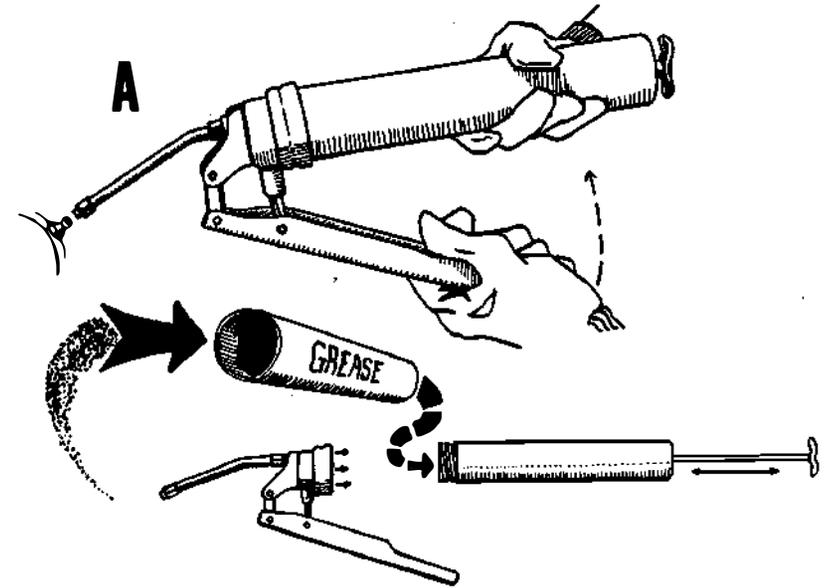
Remember that your equipment sabotage must not be noticed until the machines begin to break down. Carry a few dark colored rags to clean up any messes like accidental oil spills that may occur when removing filters. Don't leave things spotless, however, as an extremely clean area on an otherwise greasy, dirty machine is also a giveaway.

Lubrication Points

In addition to the oil filler caps, other lubrication points can be creatively sabotaged. Even when the machines are locked up and you are denied access to the points previously discussed, you may be able to destroy the monsters through other weak spots.

Every moving joint must have some type of lubrication to prevent overheating and premature wear out. At any auto parts store you can find a grease gun (see illustration 5.8A), and with it you can introduce abrasives to these moving parts. First, remove about half of the grease from a standard grease tube. Replace this grease with sand or another abrasive and stir it to a smooth blend with a metal rod or dowel. You are now ready to "unlubricate" a machine at a dozen or more points. Look for the "zerk" fittings at every pivot point. Illustration 5.9 gives a close-up view of these grease fittings and shows a variety of locations where they can be found on typical machines.

A simple end wrench or box wrench can also provide access to these grease fittings. Begin by unscrewing the fitting as seen in (B). Use a stick or nail to remove some of the grease (C). After making room inside the hole, add a squeeze of highly abrasive "valve lapping compound" (found in auto parts stores). These handy little tubes are easy to use and allow for precision application.



Other moving parts that must be kept properly lubricated are wheel hubs and transmission differentials. While simply draining the differential lubricant could cause substantial damage, operators in areas where sabotage has occurred have been known to even check *these* before firing up in the morning, so it is better to introduce abrasives into the lubricant. If you can reach the machine, you can reach these points, since no one has devised a means of locking out access.

The most important tools for this work are the "breaker bar" and sockets seen in 5.10A. The long handle provides the leverage needed to unscrew the caps. A short length of common pipe, called a "cheater" (B) can be slipped over the breaker bar handle to provide the leverage of an even longer handle.