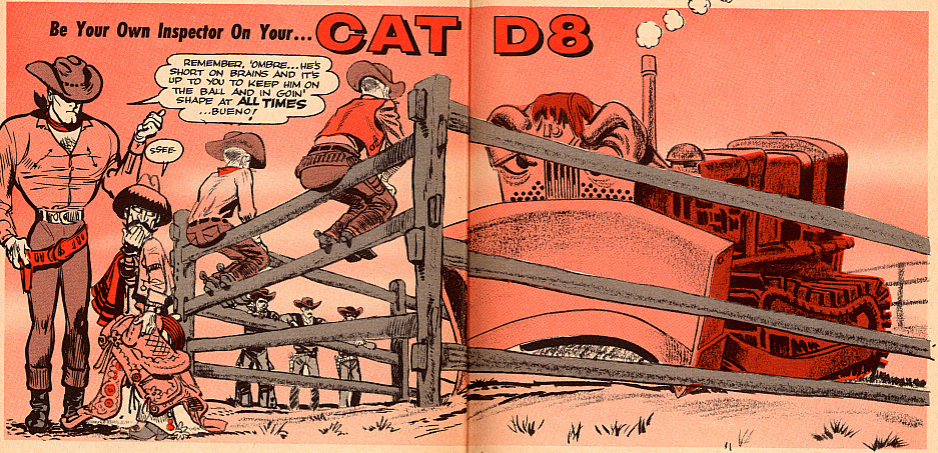


Like the rest of your Engineer construction equipment, your Caterpillar D8 tractor is built to tackle the toughest earthmoving job and stay with it until you can say "mission accomplished". A tough and rugged hunk of metal and machinery, but it's built without brains or the know-how to operate or take care of itself —that's where you come in.

You're the one that has to keep it ready to go at all times. Now, your Cat isn't tagged with any "fragile" or "handle with care" signs. Still, that's no reason to go lopping off eight of its nine lives by not maintaining or operating it right.

DEFICIENCIES

These are the things that might keep your Cat from purring happily. All you have to do is use your eyes, your ears, and your hands to spot 'em. If you can't handle 'em or don't have the okay to go ahead and fix 'em pass the word on the deficiencies back up the line. Your section chief wants to know about 'em—but quick.

About these deficiencies—there're two kinds . . . major and minor. The major ones are more serious than the others. They're the kind that could cause your rig to break down, make for extra wear and tear, or could make it unsafe to operate. You don't want to run your equipment if it has a major deficiency. AR 750-8 (27 Mar 58), Appendix II has the full scoop on this.

A minor deficiency is the kind that won't cause your rig to quit running right off, but if it isn't fixed it could lead to a major deficiency. Some of the items below are not necessarily minor deficiencies but they need some attention anyway. Be sure to check out all details in your Cat's TM.

Your major deficiencies are in **heavy type.**

GENERAL APPEARANCE

TAKE A WALK AROUND YOUR D8 AND GIVE IT A GANDER. GIVE A SPECIAL LOOK-SEE FOR:

LIGHTS—Glass broken, clouded, covered with mud or paint. **Wires broken, loose,** badly frayed. Lamp loose, burnt out. Mounting loose.

CHASSIS, HOOD, RADIATOR GUARD, INSTRUMENT PANEL, CONTROLS—Paint chipped, flaky; metal rusty.

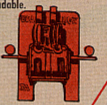
MUD—Caked on tractor, could lead to major deficiency when frozen solid.

WIRING — Badly **worn, frayed, cracked.** Insulation oil-soaked. **Connections loose, broken, corroded.**

MUFFLER—Holes.

EXHAUST—Loose. Not covered when Cat is stored outdoors. (This can lead to major deficiency). Flutter valve sticks. Check this one out, too . . . if the exhaust smokes a lot when you're operating your **Cat,** report it to your section chief right away.

U.S. ARMY, UNIT MARKINGS—Missing, incorrect, not readable.



SEAT—Cushions torn.

TOOL COMPARTMENT—Lid catch broken. Rusty.

TOOLS—Missing, rusty, broken. Here're the ones that SB 5-100 says you rate for your Cat D8:

Bar, Pinch: 26 in.	FSN 5120-224-1372 (ORD)
Grease Gun, Hand	FSN 4930-360-2801 (ORD)
Hammer, Hand	FSN 5120-224-4047 (ORD)
Lubrication Order Holder	FSN 7610-355-7130 (ENG)
Oiler, Hand: 16 oz.	FSN 4930-262-8868 (ORD)
Screwdriver, Flat Tip	FSN 5120-293-1038 (ORD)
Wrench, Fuel Pump	FSN 5120-362-7686 (ORD)

BODY NUTS AND BOLTS—Loose, missing. (This could be major.)

FRAME — **Bent, cracked.** (If higher echelon has deferred maintenance and said it's safe to operate, this would not be a deficiency.)

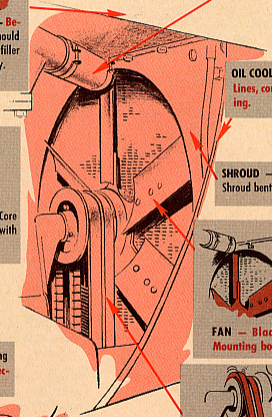
LEAKS — Look for source of **grease, oil slicks on ground underneath tractor.**

COOLING SYSTEM

ANTIFREEZE (WHEN REQUIRED) — Not enough for temperature, low.

RADIATOR HOSE — Leaking, spongy, swelled (when engine is running). Clamps missing, broken.

RADIATOR COOLANT — Below proper level. (Should be within 1 inch of filler neck.) Water dirty, rusty.



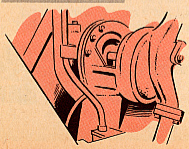
OIL COOLER — Leaking. Lines, connections leaking.

RADIATOR — Leaking. Core dirty, plugged, filled with twigs, leaves, mud.

SHROUD — Bolts loose. Shroud bent. Missing.

FAN — Blades bent. Mounting bolts loose.

WATER PUMP — Packing nut loose. Pump, connections leaking.



FAN BELTS — Too loose, too tight. (Should have 1- to 1½-in. deflection). Belts not matched; badly frayed, worn, greasy.

TRACK ASSEMBLY

SPRINGS & SUSPENSIONS—**Broken. Shifted leaves.** Loose U-bolts, shackle pins. Bushing worn.

TRACKS—**Too loose, too tight.** (Tension's right when track can be raised from 1½ to 2 inches above carrier roller or 1 to 1½ inches for the new model 9-A). Thin track rail, **loose track shoe bolts,** worn track pins and bushings.

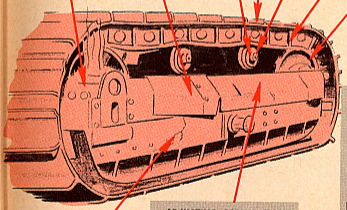
ROLLERS — **Sticking, need lube.** Flat spots **Leaking lube.** (Track carrier rollers have inverted lip type seal so lube showing at rear of roller means it's okay.)

IDLERS, UPPER AND LOWER ROLLERS—Excessively hot after operation.

ROCK GUARDS — Loose, missing. (Could be major, if in area where required). Mounting bolts, nuts missing or loose.

GROUSERS — Excessively worn. (Should not be allowed to wear below 1 inch of track shoe).

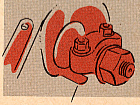
DRIVE SPROCKETS—**Excessive wear,** (Should not be worn more than 3/16 inch in thickness, measured at base of tooth before rebuilding). Movement.



LISTEN for **noises** from tracks, sprockets, rollers, and idlers that don't sound right.

Gages for determining wear on grousers, sprockets, rails, bushings are available through local purchase by ordering "Track Component Gage (D-8), 5H5624."

ADJUSTING SCREW CLAMP BOLTS—Loose.



TRACK FRAME — **Cracked, broken. Broken welds.**

INSTRUMENT PANEL

FIRE EXTINGUISHER—Not fully charged. Loosely mounted. Wire seal broken. Missing.

OPERATOR'S PUBS — TM, LO, SF 91 missing.

LUBRICATING OIL PRESSURE GAGE —Loose. Glass broken, missing. **Needle broken, missing. Gage not operating right when engine's running.** (Should show in the NORMAL range when operating).

VEHICLE ID PLATES—Missing, not legible. (Should be on left side of panel).

LUBRICATION HOLDER—Missing, ripped.

LIGHT SWITCH — **Does not operate.** Loose. Connections loose, broken.

INSTRUMENT LIGHT — Lamp missing, burnt out. Reflector missing, loose.

TEMPERATURE GAGE—Loose. Glass broken, missing. Needle broken, missing. Gage not operating right when engine's running. (Should show in the 175°-185°F range).

BULLDOZER

SHEAVES — Dirty, not lubed. **Excessive wear.** Loose, missing bolts. **Cracks, breaks.**

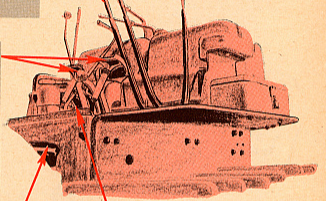
CABLES — Dirty, not lubed, **kinked, broken strands.**

CUTTING BLADE, END BITS -**Excessively worn.** (Closer than ¾ inch to moldboard). Holes, dents.

POWER TRANSMISSION UNITS

STEERING CLUTCHES—Not enough free movement at top of release levers. (Should be 3 inches on model 2U tractors. If you have the 9-A series, you'll have to experiment to see if this is right). **Oil below proper level in hydraulic control unit.** (Oil level should be at bead in strainer). **Control rod out of adjustment.** (Should be 1/32-in clearance between control rod and push rod in hydraulic-control unit). Pins, nuts, locks loose, missing from control linkage. **Grab, chatter when rig is operating.**

MASTER (FLYWHEEL) CLUTCH—Clutch fails to engage with snap, lever pulls easily (Model 9-A is hydraulically boosted and takes an easier pull than when stopped or engine is cold). **Won't stay engaged; grabs; chatters when engine's running.**



STEERING BRAKES—Fail to hold. (Should hold tight when pedal is pushed 3/4 way to floor plate on Model 2U rigs. If you've got the 9-A series, the brakes should be adjusted just tight enough so that the tractor will turn correctly when the steering clutch is released and the brake pedal is depressed between 5 1/2 to 7 1/2 inches.

CLUTCH HOUSING—Oil accumulated in bottom. (This doesn't go for late model tractors with oil clutches. You have to keep oil at right level then.) Drain plug missing, locked in place.

TRANSMISSION — Oil level low. **Transmission and bevel gears noisy during operation.** Gear selector lever hard to operate.

OUTERFRAME BEARING ASSEMBLY— Loosely mounted to track roller frame.

FINAL DRIVE-GEAR HUB BEARING — Adjusting lock-nut missing, loose.

STEERING CLUTCH COMPARTMENT—Oil, water accumulated. Model 9-A has an oil-type clutch, so oil in compartment is necessary. Drain plugs missing, locked in place.

FINAL DRIVE-GEAR CASES—Mounting bolts loose. **Leaks around oil seals and gaskets. Oil level low.** (Bring up to level of filler opening.) Oil dirty, contaminated.

STARTING ENGINE

FILLER CAP—Gas leaking. Loose, does not seat right.

GASOLINE TANK—Rusty, Leaks.

AIR CLEANER—Loose mounting. Oil below proper level. Wrong lubricant. Dirty, contaminated. (Sediment in cup more than ¼-in deep).

FUEL FILTER — Leaks. Dirty, clogged. Mounting loose.

GOVERNOR LINKAGE —Bent. Connections loose.

CRANKCASE BREATHER—Dirty. Fits loosely.

CYLINDER HEAD, MANIFOLD GASKETS—Cracked, leaks. Mounting bolts loose.

CARBURETOR, FUEL LINES — Leaks. Loose connections. Mounting bolt loose. Sediment bowl filled with sludge, water.

IGNITION — Wiring dirty, frayed, loose, broken.

SPARK PLUGS—Cracked, loose, dirty.

TRANSMISSION GEAR—Shifts hard.

MAGNETO — Loose connections, mounting loose.

CRANKCASE— Oil below proper level. (Should not be more than ¼-in below full mark on gage).

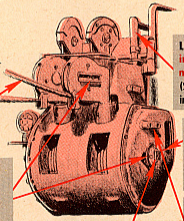
VALVE COVER GASKET — Worn, cracked. Cover fits loosely.

STARTER PINION — Fails to engage; fails to release promptly when engine starts. Latch spring adjusted too tight.

TRANSMISSION CASE — Leaks. Oil below proper level.

CABLE CONTROL UNIT

CABLES—Not lubed, unevenly wound, kinked, broken strands, dirty.



LEVER—Fails to hold blade in neutral. No free movement at top of lever. (Should have at least 4 inches of free play).

BRAKES — Fail to hold. Lining excessively worn. (Rivets touch drums). Oil, grease on lining.

GEAR HOUSING CASE — Loose mounting assembly bolts. Oil leaking.

SHEAVES, DRUMS—Not lubed. Excessively worn. Loose, missing bolts. Cracked.

CLUTCH—Grabs when engaged, chatters, fails to hold.

DIESEL ENGINE

GENERAL—Listen for unusual noises when you've got it knocking off the RPM. Get up in the saddle and give it a feel for power and response to controls.

FILLER CAP—**Loose.** Does not seat right. **Element missing,** dirty. Dirt, scum around filler hole.

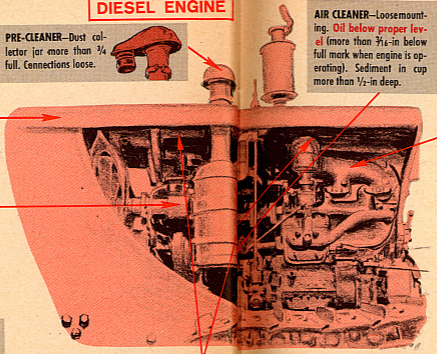
GENERATOR—Loose mounting. Connections loose.

FUEL TANK—Vent closed. Mounting bolts loose. **Leaking.** Rusty.

MAIN FUEL TANK VALVE—**Closed, fails to operate.**

FUEL PRESSURE GAGE—Not registering when engine's operating. Glass missing, broken. **Needle broken, missing.**

PRE-CLEANER—Dust collector jar more than ¾ full. Connections loose.



VALVES—**Chatter when tractor is operating.**

FUEL TANK GASKET—Worn, cracked.

AIR CLEANER—Loose-mounting. **Oil below proper level** (more than 3/16-in below full mark when engine is operating). Sediment in cup more than ½-in deep.

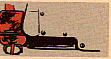
CRANKCASE—**Leaks. Oil below proper level.** (Level should be about 1 to 1½ inch above full mark when engine is not operating or not more than 3/16 inch below full mark when engine is operating).

CYLINDER HEAD, MANIFOLD, GASKETS—Cracks, leaks. Mounting bolts loose.

FUEL LINES—**Leaking. Loose connections.**

NOZZLES, INJECTOR PUMP—**Housing, lines, connections leak.** Oil not at proper level (Keep filled to top of filler elbow).

CRANKCASE BREATHER—Dirty, fits loosely.



DIESEL FUEL FILTER—Water, sediment in housing. **Leaks around housing, connections, when operating.**

SWITCHES—Loose. Connections loose, corroded.

OIL FILTER—**Leaking.** Extensive sludge in filter housing.

MODIFICATIONS

Before you call it a day, run down the list of MWO's for your D8 and see whether they've been applied. If there're any missing—let your section chief know right now.

Here're the ones that apply to your D8:

MWO ENG 3040-2 (28 JUNE 46)—Tells you how to use a piece of steel sheet to make a crankcase guard extension to protect the lower radiator casting and the radiator.

MWO ENG 3040-3 (7 MAR 55)—Eliminates radiator leaks in the shunt tubes by cutting the tubes and using brass plugs.

MWO ENG 3040-4 (12 JUNE 55)—Tapes the metal woven covering from generator to the voltage regulator to keep water from entering the regulator through the cover.

MWO ENG 3040-5 (26 JUNE 56)—Adds an extension to the starting crank on the starter engine. This doesn't apply to D8's with front-mounted starting cranks... or those with Caterpillar shaft assembly 140/4F3716 . . . or crank 4H4428.

MWO 5-3040-6 (12 DEC 56)—Tells how to make and install lifting attachments.