

OPERATION IN SNOW AND ICE (continued):

- d. Give signals sooner.
- e. Apply brakes sooner to give early warning of intention to stop. This will help to avoid skidding.
- f. Maintain double the normal distance from the machine ahead.
- g. Keep windshields, mirrors, lights, gages and indicators clean and free of snow and ice.
- h. If approaching a difficult stretch of road, stop and inspect the road carefully before driving on it.
- i. Select Transmission gear range that best suits the road condition. Use differential lock as required

STOPPING.

- a. Ease up on accelerator, leaving machine in gear.
- b. Apply service brakes lightly and evenly. DO NOT pump service brake pedal.
- c. Always avoid sudden braking.

PARKING

- a. If parking on icy, slushy, wet or muddy surfaces place Boards, brush or other materials under the tires to keep them from freezing to the ground or pocketed in ice and will provide some traction when starting out the next time.
- b. Clean off all snow and ice. Cover the cab and engine, if possible.

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130G SERIES GRADER **COLD WEATHER OPERATION**

This abbreviated checklist is not to used as a replacement for the -10 series Tech Manuals or any Other PMCS guide.

FM 9-207 Operation and Maintenance of Ordnance Materiel in Cold Weather contains detailed instructions for operation and maintenance of equipment in Cold Weather. FM 31-70 BASIC COLD WEATHER MANUAL contains Detailed instructions for living and working in cold weather Conditions. TM 5-3805-261-10 contains detailed PMCS instruction for Proper maintenance and operation.

NOTE: A very high standard of maintenance is essential to long term operation under conditions of extreme cold. Cold temperature can cause early failure of systems. Constant checking is necessary to prevent failures.

GENERAL Extreme cold causes:

- a. Lubricants to thicken/congeal
- b. Batteries may freeze
- c. Electrical insulation may crack and cause short circuits

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GENERAL Extreme cold causes (continued):

- d. Fuel may not readily atomize for combustion
- e. Materials will become hard, brittle, and easily damaged.
- f. Fuels, lubricants, and antifreeze compounds to require special storage and handling.

OPERATE ENGINE IN EXTREME COLD

- a. Check coolant level
- b. Check that the fuel is thin enough to flow
- c. Check that the oil in the engine, transmission and Tandems are thin enough to flow.
- d. Hold hydraulic unloading valve down when starting
- e. Keep hydraulic unloading valve down for two minutes After the engine starts.)
- f. With engine at low idle, release the hydraulic unloading valve slowly to allow the pump to be loaded gradually with the cold thickened oil.
- g. Run engine at low idle only long enough to circulate the oil through the engine and hydraulic pump. Increase engine speed and warm up the engine.
- h. Cover radiator if needed to bring engine up to operating temperature.

MAINTAIN BATTERIES IN EXTREME COLD

- a. Check for breaks or cracks in battery cables, wiring harness and wiring.
- b. Keep batteries charged and warm
- c. Save the batteries, use lights and other electrical Equipment as little as possible.

FUEL TANK

- a. Clean snow and ice from around the fuel filler opening before refueling.
- b. Keep fuel tank full. This will reduce water condensation in the fuel tank.

LUBRICATION Use oil that applies to the lowest expected temperature. Reference PMCS Charts.

MACHINE OPERATION

- a. Test brakes and vehicle controls carefully.
- b. Move all implement controls slowly to warm the hydraulic oil. Cycle each control several times normal warm-up period in extreme cold is 30 minutes.
- c. Operate under a light load for the first five minutes.
- d. Start driving very slowly for about 100 yards. Report any problems.

PARKING MACHINE

- a. Park in a sheltered area out of wind.
- b. Do not park with radiator facing the wind.
- c. Keep tires out of water and mud use high ground, planks or brush.
- d. Ensure tires are properly inflated.

OPERATION IN SNOW AND ICE: Follow the cold weather Instructions and the following:

- a. Clean snow and ice away from outside indicators.
- b. Drive at slower speeds.
- c. When starting out engage differential lock and accelerate slowly to avoid spinning tires.