

# TRACKSTER

## SERVICE BULLETIN

Service Dept. CUSHMAN MOTORS Lincoln, Nebraska



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### TRANSMISSION OIL

The automotive-type F transmission fluid used in all TRACKSTER transmissions and originally recommended for all temperatures has proven to be unsatisfactory for operation in below 0° F. temperatures. These temperatures will thicken the oil to the point where it will not circulate. Damage to the transmission can result.

The transmission fluid in all TRACKSTER vehicles operating in below 0° F. temperatures must be changed.

Two recommended fluids are:

Texaco Aircraft Hydraulic Oil AA  
and  
Mobil Aero Hydraulic Oil HFA

These fluids should be available at Texaco and Mobil bulk distributors and most airports.

**NOTE:** These fluids are satisfactory for use in temperatures up to 50° F. For operation in temperatures above 50° F. it is imperative that the fluid be changed back to type F.

At least 6 quarts of fluid must be removed when changing from one type of fluid to another. To assure complete drainage, measure the oil removed. This can best be accomplished by the following method:

1. The transmission fluid must be at room temperature.
2. Raise and support the right side of the vehicle approximately 12" off the floor.
3. Remove the lower screw securing the left axle filler panel to the body. This will allow the fluid to drain from the body.
4. Remove both filters, place them upside down in a warm place and allow them to drain completely. Be sure they are warm enough to melt any possible ice accumulation.
5. Disconnect the wire from the temperature sending unit located on the lower left side of the transmission housing.
6. Remove the oil temperature sending unit. **CAUTION:** The unit can be unscrewed (counterclockwise) using a 15/16" deep socket. Use extreme care to prevent breaking the unit.
7. Disconnect the black wire at the connector just below the amplifier. The engine can now be cranked without starting for approximately 10 seconds to allow the fluid to drain from the hydrostats.
8. Reinstall the sending unit using Copper-Coat sealer and connect the wire. Reinstall the axle filler panel screw.



9. Apply oil to each filter seal and reinstall filters. Tighten hand tight only.
10. Lower the right side of the vehicle to the floor.
11. Install 5 quarts of new oil through the dipstick tube.
12. Reconnect the black wire at the amplifier.
13. Start the engine and allow it to idle for approximately 3 minutes to circulate the fluid.
14. Stop the engine and check the fluid level on the dipstick. Add fluid as required to bring the level to the full mark on the dipstick.
15. Test drive the vehicle and check for proper operation.

A vehicle which fails to move when the T-handle is advanced, pulls to the right or left when the T-handle is in the straightforward position or has a lack of power may have an air leak in the drive system.

**CAUTION:** When a vehicle shows indications of an air leak, cease operation immediately. Damage to the hydrostats can result from continued operation since the system pumps air rather than oil.

To determine if an air leak is existent, run the engine for 2 or 3 minutes to thoroughly circulate the system, shut the engine off and take a reading on the dipstick. Allow the vehicle to set for approximately 30 minutes and again observe the fluid level on the dipstick. If there is a rise in the fluid level between the first and second reading, an air leak is allowing the fluid in the heat exchanger to drain back into the transmission reservoir. Since an air leak in the TRACKSTER drive system is air entering the system rather than air escaping, the soap water test cannot be used.

A convenient way to detect an air leak is with the use of a mechanic's stethoscope with the probe and diaphragm removed, leaving only the ear plugs and hose. With the engine cover and heat exchanger cover removed, run the engine for a few minutes to circulate the system. With the engine shut off, the stethoscope will sufficiently magnify the air leak to make positive identification.

Air leaks may occur at the filters, at the connections leading into the hydrostatic transmissions, at the hose connections, at the heat exchanger inlet, at the heat exchanger outlets or in the heat exchanger itself.

After an air leak has been detected and repaired, start the engine to recirculate the system and again check for a rise in the fluid level to be sure another leak was not missed through the original test.

No bleeding of the system is necessary, start the engine and run at idle speed for 2 or 3 minutes to allow full circulation of fluid to all components. Test drive the vehicle to check for proper operation.

**REMINDER:** Arctic fluid is satisfactory for use only in temperatures up to 50° F. When the temperature goes above 50° F., change back to type F fluid until the temperature drops below 0° F.

Always record the type of fluid being used. Attach an automotive-type service decal or tag to the cover near the dipstick.