

5 October 2001

John Deere Turf Care

BIODEGRADABLE OIL UPDATE

All Golf & Turf Equipment

Complaint or Symptom:

- Can Bio HY-GARD oil be used in John Deere Golf and turf Equipment?

Situation:

Original recommendation stated Bio HY-GARD, or any other biodegradable oil was NOT to be used in any piece of John Deere Golf & Turf equipment.

Solution:

1. When use of a biodegradable lubricant is desired or required, Bio HY-Gard is preferred. Bio Hy-Gard may be used in the following machines under normal mowing conditions:

- 2243 and 2243D
- 2653 and 2653A
- 3365
- 365
- 3215 - Machines with SN TC3215A60540 and later, including all "B" Models
- 3225 -All Machines
- 3225 - Machines with SN TC3235A60208 and later, including all "B" Models
- 2500 Tri-Plex Greens Mowers - All Machines

2. DO NOT USE biodegradable lubricants in the following equipment and/or operations:

- Any machine used for scalping procedures.
- Any verticut operation in temperatures exceeding 90° F.

3. Bio HY-GARD should be changed every 400 hours or annually. Drain intervals can be extended

through the use of the Oilscan monitoring process.

4. Biodegradable oils, other than Bio HY-GARD, are not recommended.

Additional Information:

Bio HY-GARD should be used only in cases where the benefits of its use offsets the extra initial cost, the increased oil change cost, and the potential increased maintenance costs for hydraulic systems with high temperatures and heavy loads.

- If the natural color of the fluid has become black, it is possible an overheating problem exists. The fluid should be changed.

- If the fluid becomes milky, water contamination may be a problem. Investigate the source of the contamination.

- Take fluid level reading when system is cold.

- Mixing of biodegradable oil and mineral oil will reduce the biodegradability of the lubricant in the machine. Mixing of HY-GARD® and Bio HY-GARD will not result in performance deterioration.

Systems being converted from HY-GARD® to Bio HY-GARD should follow the procedure listed below to obtain maximum lubricant biodegradability.

1. Park machine on a level surface.
2. Lower cutting units, stop engine, set parking brake and remove key from ignition.
3. Drain hydraulic reservoir.
4. Replace hydraulic filter.
5. Fill reservoir with Bio HY-GARD to appropriate level.
6. Start engine and bring to medium idle.

7. Turn steering wheel full stroke several times and cycle cutting units several times.
8. Stop engine and check hydraulic oil level. Add Bio HY-GARD to appropriate level.
9. Operate machine under normal operating conditions for a minimum of two (2) hours.
10. Repeat Steps 1 through 7.
11. Follow recommended maintenance schedules.

- Precautions should be taken if Bio HY-GARD containers or equipment are stored for long periods of time in extremely cold temperatures. Freezing should be expected if Bio HY-GARD is subjected to the following temperatures:

- Stored for 6 months at - 20^o to -23^o C (-1^o to -10^o F).
- Stored for 7 days at - 23^o to -26^o C (-10^o to -15^o F).
- Stored for 3 days at - 26^o to -29^o C (-15^o to -20^o F).
- Stored for 2 days at - 29^o to -35^o C (-20^o to -30^o F).
- Stored for 1 day at - 35^o to -(30^o F) and below

If freezing of Bio HY-GARD is suspected, the container or equipment **MUST** be warmed to at least 0^o C (32^o F) and maintained for 24 - to 48 hours to insure the fluid has reached a safe operating viscosity.

IMPORTANT:

Equipment should not be started or any operation attempted during this period.

Parts:

Part No.	Qty	Description
TY22043	1 Gal.	Bio HY-GARD
TY22044	5 Gal.	Bio HY-GARD
TY22063	55 Gal.	Bio HY-GARD