



Monolec® Gear Lubricant (703) & Duolec® Vari-Purpose Gear Lubricant (1604)

Bridger Bowl Ski Resort – Bozeman, Mont.

Snowcat Fleet

Customer Profile

Bridger Bowl is a ski resort located in Bozeman, Montana. They have been in business more than 50 years.

Application

All equipment in both the shop (rolling stock) and lift maintenance to include Bombardier snow cat fleet. Two QB 200's, one PB 240, two LMC 3700AC's and one BR 400MP.

Challenge

After purchasing a brand new BR 400MP, the commercial torque hub oil was changed out at the recommended 250-hour intervals. At these changes the oil was dark gray and smelled like rotten eggs. There also was approximately 1/8" of metallic fuzz on the magnetic plugs. In addition, the synthetic gear oil used in their Tiller gearboxes would turn milky, and they found water contamination in it about 40% of the time that they serviced them.

LE Solution

Jim Pezoldt, LE lubrication consultant, recommended Monolec® Gear Lubricant (703) and Duolec® Vari-Purpose Gear Lubricant (1604). Monolec 703 is a multi-viscosity extreme pressure oil. It exceeds requirements for all types of differentials and transmissions in highway fleets and off-road equipment. It is used for heavily loaded industrial enclosed gearboxes. Duolec 1604 is used for heavy-duty service in transmissions, differentials and industrial gearing. It is an extreme pressure, long lasting, water resistant, nonfoaming, and very adhesive lubricant. Duolec 1604 protects against corrosive wear and reduces overheating.



Results

After 1400 hours of operation without oil changes in the BR 400MP, Monolec 703 remained clear red (like new), retained its original smell and had less than half the amount of metallic fuzz on the magnetic drain plugs. In the Tiller gearboxes with 300-600 hours of operation, they have not found any milky gear oil, and no water contamination.

Other Products Used

- Monolec® Multiplex Lubricant (4622) is used throughout the snowcat fleet in wheel bearings, suspensions, spherical joints, tiller shaft bearings, torsion arms, pins and miscellaneous lube points. Previously 3 greases were used for the same applications. Bridger Bowl was one of the first customers to ever evaluate, use and then purchase this grease, a certified wheel bearing grease. Although it is an NLGI #2 grease, its pumpability in cold weather is excellent.
- BTU+ Power Supplement & Cleaner (2420) is used every season in the fuel storage tanks. Mixed at 1/1000 it is very inexpensive. In severe cold weather mixing has been increased to 1/800.



- Monolec® Hydraulic Oil (6520) has been evaluated in the resorts snowcats for the last two seasons. Using oil analysis and particle count readings, 6520 has gone 2,800 to 3,800 hours in various machines without an oil change being required. The snowcats have had little to no make-up oil added to them over this period of time. The particle count has averaged 16/14. During the summer, the resort filters the oil through a filter cart (3 micron absolute) and puts the cats into service the next season. Hydraulic oil use has been decreased by approximately 90 percent and the resort is very pleased with the performance of Monolec 6520.
- Monolec Ultra® Engine Oil (8800) has been in service for the last three years. Once again, intensive oil analysis was used to evaluate the use of LE Engine Oil. Through the use of LE Engine Oil, drain intervals were safely doubled from the conventional motor oil being used previously. This again greatly reduced the amount of oil used at the shop and provided needed flexibility to the shop's ability to manage their rolling stock, especially the snowcats. The snowcats work every night and on

demand. They accumulate hours quickly and the use Monolec 8800 has allowed the resort the ability to focus on production and not downtime.

- Duolec® Vari-Purpose Gear Lubricant (1605) has been utilized in most lift gearboxes along with Duolec® Vari-Purpose Gear Lubricant (1602), Monolec 4622, and Monolec 6520 in their hydraulic units. The addition of LE gear oils to lift maintenance was mainly based on the success of the gear oils in the rolling stock and at other resorts utilizing LE gear oils. Lift maintenance has various manufacturers for their lifts to include: Cone power drive reducers (Textron), Caterpillar final drives, Western gearboxes, Kissling gearboxes, and Eurodrive gearboxes and reducers.

Thank you to Paul Brock, shop manager, Don Roberts, lift maintenance manager, and to Jim Pezoldt, LE lubrication consultant (pictured), for providing the information used in this report.



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