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Using the Correct Oil

Oil is the lifeblood of the racing transmission and must be taken seriously. First, never use “Lightweight,” “Trick,” “Zero Weight,” Motor Oil, or Automatic Transmission fluid. These oils will not properly lubricate the spiral-bevel ring and pinion gears, causing rapid wear. Only use oils with GL-5, or “Extreme Pressure” ratings.

Second, the correct viscosity rating should be used. For low powered cars such as Formula Ford, a 75W80 rating is sufficient. For Formula 2000 use a 75W90 rating is the minimum. For more powerful cars, such as Formula Atlantic, 2-liter sport racers an 80W140 rated oil is recommended.

Third, the correct quantity of oil is imperative. Too little oil will result in rapid wear of both transmission gears and the ring and pinion. Too much oil will result in overheating due to oil being squeezed out the end of the gear teeth.

We have seen little difference in gearbox wear when either properly rated conventional synthetic or “dinosaur squeezing” oil is used. However, synthetic oil has the advantage of both lower cold viscosity and greater slipperiness, resulting in better shifting. *Redline “Shockproof”* oil is the only recent development we have seen that actually works, and we highly recommend it. If a natural oil is desired, we have had excellent results with Swepco products.

The following recommendations for oil quantity should be adhered to (Quantities in US Quarts):

Gearbox Type	Road Race		Oval Track	
	Fill	Gear Change	Fill	Gear Change
MK and Webster	1.5	1.0	2.0	1.5
Staffs w/o Pump	2.0	1.5	3.0	2.0
Staffs with Pump	1.5	0.5	2.0	1.5
LD200 4-Speed	1.5	1.5	2.0	2.0
FT200	2.0	1.5	2.5	2.0

Note that Hewland Manuals often show “Pints” or “Quarts.” Remember that these are Imperial units, which are larger than the US equivalent. Oil moves away from the ring and pinion on ovals, requiring more oil to ensure lubrication.