2-Stroke Oil – FMR recommendations – by David Garner

MESSERSCHMITT CABIN SCOOTER

RECOMMENDED LUBRICANTS

For the engine, mix oil with petrol in the ratio 1 : 24 unless otherwise shown.
For the running-in period use any of the following oils in ratio 1 : 16.

	REGENT	ESSO	CASTROL	MOBIL	SHELL	BP
Engine	Regent Motor Oil 2T	Esso Two-Stroke 2T Motor-Oil (1 : 20) or Essolube 40 (1 : 25)	Castrol Two-Stroke Oil (1 : 16) or Castrol XXL	MobilMix TT (1 : 16) or Mobiloil BB	Shell 2T Mixture or Shell 2T Two-Stroke Oil	BP-Zoom or Energol Two-Stroke Oil
Gearbox & Rear Chain Case	Thuban 90	Esso Gear Oil ST 90	Castrol ST	Mobilube C 90	Shell Dentax 90	Energol SAE 90

U.K. CONCESSIONAIRES: CABIN SCOOTERS (ASSEMBLIES) LTD.,
11, SOUTH WHARF ROAD, LONDON, W.2.

In 1960/61, FMR issued a separate sheet in the Owner's manual for the KR200 that changed the previous advice for 2 Stroke Oil. Before 1960, owners were advised to use a 'branded quality mineral oil' with a viscosity index rating of SAE 40. This type of oil is still available from Morris Oils and others (http://www.morrislubricantsonline.co.uk/golden-film-sae-40-classic-motor-oil.html), and I have used it in recent years. SAE 40 is quite viscous and does not mix easily with petrol but was a requirement for the Sachs engine where piston lubrication at higher temperatures is important. Two Stroke oil then, as now, is much less viscous and it should be noted from the FMR sheet that a higher concentration of oil was necessary than the 25:1 ratio recommended for SAE 40 oil. It should be noted that in all cases during the running in period, Two Stroke oil was to be used at a ratio of 16:1 and this is because the Sachs engine is very prone to piston seizure with a new engine or re-bored cylinder.

Modern 2 Stroke Oil has a number of properties that make them superior to those available 50 years ago and the most significant advantage is the detergent that reduces the need for frequent de-coke to remove carbon build up in the exhaust and transfer ports. Adding to that is the reduced smoke emissions compared to standard oil and there is then a clear advantage in using it.

What type of 2 Stroke Oil should be used?

As a conventional 2 Stroke engine, the Sachs 200 AZL-R does not need any special oil and there is no advantage to be gained from using a synthetic oil that is anyway intended for very high revving engines. So the cheapest type of regular 2-stroke oil will work well and this is an example: http://www.morrislubricantsonline.co.uk/golden-film-classic-2-stroke.html. Note that it is specially formulated for older air-cooled 2 stroke engines. Download the data sheet that gives the specification for you to seek similar oils from other suppliers.

What oil ratio should be used today?

Many Messerschmitts are still running with the original big-end bearing crankshaft that is more than 50 years old. With this type, it is essential that the big-end bearing has good lubrication and with modern (non synthetic) two stroke oils a ratio of 20:1 should be used. Big-end bearing failure can destroy the engine casing so maintaining this oil ratio is important.

How should the oil be mixed with fuel?

There is no need to mix the oil and petrol separately when re-fuelling. Just turn the fuel tap to the off position and pour oil directly into the tank. With fuel measured in Litres, it is easy to add half a

litre and then add 10 litres of fuel to the tank. Remember, the worst that can happen with too much oil is that excess smoke will be emitted but too little oil will wear the engine or cause catastrophic failure!

Gear Oil

Morris Lubricants also supply the correct SAE 90 gearbox oil: http://www.morrislubricantsonline.co.uk/golden-film-ag-90-gear-oil.html. Download the data sheet that gives the specification for you to seek similar oils from other suppliers.