Tyres for the Ferret

See <u>Car Bibles</u> for modern nomenclature. The ply rating indicates the strength of the tyre, not necessarily the number of carcass plies in the tyre. The 9.00 refers to the width of the tyre, the 16 to the diameter of the wheel rim in inches. <u>This link</u> explains more about tyre anatomy; and this <u>Wikipedia page</u> on tyre codes/speed ratings.

A modern radial tyre has the following nomenclature: $205/60R15 \ 91V$. 205 = Section Width in millimeters; 60 = <u>aspect ratio</u>, the height of the tyre expressed as a percentage of the width; R = radial construction; 15 = rim diameter in inches; 91 = load index; V = max. <u>speed symbol</u>. The radial equivalent would be a 230/100R16. [16+(230x1.00x2)/25.4] = 16+18 = 34" which is equivalent to 100% aspect of 9.00x16 = 16+9+9 = 34".

<u>TT stands for Tube Type tyres with inner tubes; TL stands for TubeLess</u>. The air pressure in non-runflat tyres with inner tubes bears 90% of the load, whereas the tyre wall bears the remaining 10%. Tubeless tyres fit perfectly against the special elevated edge (hump) of tubeless wheel rims, which helps to create an air-tight seal. These tyres lose air gradually if there is a leak in the carcase – caused by, for example, a nail. As a result, vehicle handling will also decrease gradually, which helps to improve safety.

You have to put inner tubes into modern (non-runflat) tyres for the Ferret. You need 900 x 16 with the long bent valve. 8.25x16 inner tubes will also fit. These inner tubes are common to tractors, so probably available in rural areas. The sidewall of the Trakgrip gives you the runflat capability, not the insert. The bead spreaders (also called <u>run flat inserts</u>) are used in ordinary tyres which don't need to be thick walled. The function of the <u>bead spreader</u> is to keep the beads from moving away off the rim edge thus causing the tyre to collapse. If not using the bead spreaders, but a conventional tyre instead, tyre flaps or tyre bands should be used so that the tube is not pinched in the rim, it also protects the valve stem from chaffing.

Original Ferret tyres

The original tyres were Dunlop "Trakgrip" <u>Runflats</u> T24 design (lazy S-shape tread) bias (crossply) design with the heavy bead spacer. The 9.00 refers to the width of the tyre, the 16 to the diameter of the wheel rim. The tyres are marked for the size and type of rim they fit: 6.50H. There is also a 6.50L rim, but the Ferret is 6.50H. The tyres must be 16-ply tyres as the only safe rating – other tyres of lesser ply won't take the weight or the speed. If the tyres don't have 'RF' in big letters on the sidewall, they won't be runflats. Later, larger NATO vehicles changed to the then standard NDCC 'Bar Grip'. Non Directional Cross Country type tyres have a rounder tread profile than the squarer profile Non Directional Tread design. Some consider Bar grips, which are good for off-road muddy conditions, to be worse in wet weather because they don't have sipes cut into the tread.

Ferret tyres are mounted onto a divided rim, comprising two parts which are clamped together by bolts, often painted a warning red colour on their ends. The inner bolts (white tipped) secure the wheel disc to the hub. Divided rims are used for massive tyres (Ferret tyres weigh about 120 lbs. each) designed to run at low pressure, rather than simply pulling the tyre off the wheel. A slight (5°) angle is evident towards the bead shoulder on the rim edge. The Ferret Trakgrip tyre has the bead diameter of the standard US bead rim, i.e. 15 3/4", rather than an older 16" War Department bead with a 0° bead. That's why Ferret rims are narrower than the older WWII British/Canadian WD rims. Built-in treadwear indicators, or "wear bars," which look like narrow strips of smooth rubber across the tread will appear on the tyre when the tread is worn down to one-sixteenth of an inch.

Ferret wheel nuts

A right-hand thread on the right-hand (offside) turning clockwise, because this tends to naturally tighten; otherwise a left-hand thread would work loose. (My wife remembers it by 'righty-tighty, lefty-loosie'). A left-handed thread, turning anti-clockwise, is used on the left-hand (nearside) to tighten the nuts onto the wheel bolts.

Ferret tyre pressures

The manual states	30 psi at the front and 36 psi at the rear.
The driver's user manual also states	Normal General Use 25 psi front and rear;
	Continuous Road Use = 30 psi front/rear;
	Cross-country 18 psi (front) and 21 psi (rear).

UK tyre suppliers (a worldwide list is given here)

<u>Grays Automotive</u> and <u>Milweb advert</u> (John Gray) 7 Ainsty Rd Wetherby LS22 7QN stocks Malhotra (MRF) tyres – these are bar grip <u>MTT-905</u>

Petlas tyres website – not the Military tyres, but the Agricultural NT/3 and NT/30

Corint (Germany) Michelin XZL 255/100 R16 9.00 R16

<u>Totec tyres</u> and <u>Milweb advert</u> Summerhurst Farm Berks RG19 8LR (Donald Smith) for Malhotra (MRF) tyres. These are bar grip <u>ML-869</u> RG19 8LR 01635 269220

Big Tyres (Nottingham) also for Malhotra MTT-905 TT tubed (<u>134A8</u>) NG3 4GN 0115 994 0900

Be aware that MRF manufactures *two* different types of <u>9.00-16 NDMS tyres</u>: but **check the ply rating**. (1) **"to fit flat base rim only" (6" wide rim)**. This tyre has a 0° bead taper, but more importantly, a **¼" larger bead diameter** than the tyre listed under (2)- These fit British/Canadian WD 16" split rims without any hassle like trimming the bead or turning down the rim.

(2) to fit a 5° taper bead (6.5" wide rim). This tyre has a 5° bead taper, but more importantly, a ¼" smaller bead diameter than the tyre listed under (1). These are the ones required for the Ferret.

Simex do not make a 16-ply tyre any more.

Codes on the PDF tables:

Size = tyre width and wheel rim diameter

PR = ply rating (must be 16 ply)

Type = runflat or tube type (TT)

Rec. Inch = recommended wheel rim width (must be 6.50H)

Alt.inch = Alternative wheel rim width (not recommended for Ferret)

- O.D = overall diameter (in millimetres)
- R.C = rolling circumference (in millimetres)

SS = safe speed or speed index

S.W = section width (in millimetres)

SLR = static loaded radius (in millimetres)

LI = load/inflation (kgs@kgs/cm²) or <u>load index</u>

XL = extra weight

Disclaimer: (this especially applies to anything arising from you working on your tyres and brakes as a result of reading this website!) I am a pro-Ferret enthusiast. This site is self-published to spread what I've learnt and to share my passion with friends and family. By reading these pages, you agree to indemnify, defend and hold harmless myself as the author, any sponsors, clubs I'm a member of and/or site providers against any and all claims, damages, costs or other expenses and liabilities that arise directly or indirectly from you fiddling with your vehicle as a result of what you read here. If you hurt your vehicle or yourself, don't blame me.