# Twelve-Four Saloon

*SLIDING HEAD*
*Price* . . . £187 10s.
*Folding luggage grid* 30s. *extra. Metal spare wheel cover on Fixed Head Saloons* 20s. *extra.*
*(All prices ex Works.)*

*Obtainable in:* All Black cellulose with red upholstery, Blue/Black cellulose with blue upholstery, Green/Black cellulose with green upholstery, Red/Black cellulose with red upholstery, Grey/Black cellulose with blue upholstery.

*The sliding head saloons have leather upholstery.*

# SPECIFICATION

**FRAME.** The chassis frame is of unique design and incorporates a portion of the body flooring, forming an exceptionally rigid structure which is further strengthened by three pressed steel cross members and one central cross tube. The body is rigidly attached to the chassis, and the two together form a double box-sectioned structure of outstanding strength. The track is 4 ft. 2 in. and the wheelbase 8 ft. 4 in.

**ENGINE.** The four-cylinder engine of the Morris Ten-Four has a bore of 63.5 mm. (2.5 in.), a stroke of 102 mm. (4.0 in.) and a cubic capacity of 1292 c.c. (78.84 cu. in.), Treasury rating 10 h.p., Tax £7 10s.; and the Morris Twelve-Four engine has a bore of 69.5 mm. (2.73 in.), a stroke of 102 mm. (4.0 in.), and a cubic capacity of 1550 c.c. (94.59 cu. in.), Treasury rating 11.9 h.p., Tax £9.
The cylinders are cast in one with the skirt of the crankcase, which is extended well below the crankshaft centre and liberally reinforced with internal webs to provide a structure of great strength and rigidity. The crankshaft is of the three-bearing type, with bearings of large diameter and generous length. Every crankshaft is carefully balanced to very close limits. The main bearings are die-cast white metal. The steel connecting rods are equipped with white metal big-end bearings of the full-ring type, and are individually balanced to a very high degree of accuracy. The aluminium pistons are fitted with four rings, and the complete assemblies of rods and pistons are equalised in weight to within .2 oz. (best aero engine practice). The side-by-side valves are operated by a large diameter three-bearing camshaft through adjustable tappets carried in removable guides. The cylinder head is detachable. The camshaft is driven by duplex roller chain from the crankshaft. An important feature of the induction system is the A.C. air cleaner and silencer, which also collects and consumes all fumes discharged from the crankcase breather, so that they are prevented from finding their way into the car interior.

**SYNCHROMESH GEARBOX.** The three-speed gearbox is provided with synchromesh mechanism for top and second gears. The gearbox is provided with an accessible filling orifice and dipstick oil level indicator and protected by a thick dustproof rubber cover.

**LUBRICATION.** A spur gear pump supplies oil under pressure to all main and big-end bearings, camshaft bearings and clutch. The oil is filtered before recirculation by a generous tray type filter covering the full area of the sump. Chassis lubrication is by Enots high-pressure oilgun in conjunction with accessible nipples.

**COOLING SYSTEM.** The cooling water circulates by thermo-syphon action. It is passed from the cylinder head through carefully positioned ports which ensure an even temperature distribution and absence of steam pockets. The radiator is fan assisted.

**ELECTRICAL EQUIPMENT.** The distributor for the 12-volt coil and battery ignition is driven from the upper end of the diagonal oil pump drive shaft, and has fully automatic advance and retard. The large dynamo is belt driven and of the ventilated type with three charge rates. The starter motor is of the sliding pinion type and located on the side of the gearbox. Full five-lamp equipment is provided, including headlamps with dip and switch mechanism with single acting foot-operated switch which dips the lights with one depression and raises them on the next depression. All switches are accessibly mounted on the instrument panel with the exception of the horn push and Trafficator switch, which are conveniently mounted in the centre of the steering wheel. An easily controlled electric windscreen wiper mounted on the lower screen rail ensures clear vision in bad weather. Twin batteries are mounted below the front seats and are readily accessible.

**CARBURATION.** An S.U. automatic piston-type carburetter with adequate control over mixture strength supplies the mixture. The controls are conveniently situated on the facia board. The petrol feed is by a large S.U. automatic electric pressure pump.

**PETROL TANK.** The petrol tank is mounted at the rear of the chassis and has a capacity of 7 gallons. Its contents are clearly indicated to the driver by an electrically-operated scale on the instrument panel.

**TRANSMISSION.** A clutch of the cushioned hub single-plate type with cork inserts in the driven plate, automatically fed with oil from the crankcase, provides smooth engagement with the minimum of attention. A Spicer tubular propeller shaft, with Spicer needle type universal joints at each end, transmits the drive to the silent spiral bevel final reduction gears and differential in the rear axle. The axle shafts are of the three-quarter floating type.

**THE FOUR-WHEEL BRAKES.** Fully compensated four-wheel brakes of the internally expanding type, operated by the Lockheed hydraulic system, ensure the maximum braking efficiency. Their certainty of action is maintained under all conditions as there are no bearings to wear or need lubrication. The centrally disposed horizontal hand brake lever operates on the rear wheels by independent mechanism, and is provided with instantaneous adjustment from the driver's seat.

**STEERING.** The steering gear is of the Bishop cam type, providing extremely light and safe operation with accurate controllability. The rubber mounted spring steering wheel reduces shocks on the driver to a minimum.

**CONTROLS.** The accelerator pedal is located on the extreme right, and the brake pedal and clutch pedal are positioned to provide ample foot clearance. They are both mounted on the frame and isolated from engine vibrations.

**SUSPENSION.** Long semi-elliptic springs are fitted fore and aft and are controlled by Armstrong hydraulic shock absorbers with special cold weather regulation. The spring eyes are provided with flanged non-squeak bushes to reduce side play.

**WHEELS.** Five detachable wire wheels fitted with 4.75—18 Dunlop low pressure tyres are provided. They are held in position by six studs with nuts of the reversible type. The spare wheel is carried at the rear of the car and, in the case of the Saloon, is sunk into the panelling.

**VENTILATION.** Particular care has been taken to ensure adequate and draughtless ventilation. The windscreen has top hinges, is infinitely adjustable up to a wide angle, and is carefully sloped to give maximum visibility with the minimum air resistance. The front door-windows are of the extractor type providing a vertical opening behind the door pillar and are fitted with louvres. Additional ventilation is provided by scuttle air scoop.

**SEATING ACCOMMODATION.** Generous seating accommodation is provided for four people within the wheelbase, ensuring the highest possible comfort, and there is room for a fifth person in the rear seat on emergency.

**BUILT-IN JACKING SYSTEM.** The Morris Ten-Four and Twelve-Four Series II models are permanently fitted with Jackall hydraulic jacks, which enable all four wheels to be lifted from the ground simultaneously, or alternatively the front wheels or back wheels only when desired. They can be actuated without leaving the car and without effort or difficulty.

**LUGGAGE ACCOMMODATION.** The Saloon models are provided with generous luggage accommodation behind the rear seat, access to which is achieved by raising the hinged seat back, and a folding luggage grid is available at a small extra charge when required. The Coupé body has an exceptionally large inbuilt luggage container at the rear which can be loaded through a large weather-tight hinged cover, and has a folding luggage grid as standard.

**GENERAL EQUIPMENT.** Toughened Triplex glass single-panel adjustable windscreen; sun visor; winding ventilating door-windows; Jackall permanent hydraulic jacks; steering wheel controls for direction indicators and horn; direction indicator warning light; Lockheed hydraulic four-wheel brakes; rubber-inserted pile carpets; pedal rubbers; gearbox draught excluder; pedal draught excluders; large speedometer with special 30 m.p.h. marking; oil gauge; dash-reading electric petrol gauge; clock; ammeter; S.U. electric pressure petrol pump; electric windscreen wiper with bottom mounting; licence holder; interior driving mirror; concealed rear blind with remote control; art silk door pulls; private locks on doors; adjustable bucket type front seats; roof-lamp; bumpers front and rear; inbuilt luggage container; pressure chassis lubricating gump; ashtray; high frequency electric horn; electric lighting and starting; tail and stop light; headlamps with foot operated dip and switch mechanism; sidelamps; ignition warning light; scuttle ventilators; hydraulic shock absorbers with cold weather release; door pockets; five detachable Magna type wire wheels; five Dunlop cord tyres; spare wheel carrier; tyre pump; kit of tools in locker.

**Additional Equipment on Sliding Head Saloons.** Pytchley sliding head; toughened Triplex glass door and quarter-light windows; metal spare wheel cover.

**Additional Equipment on Special Coupes.** Pytchley sliding head; toughened Triplex glass door-windows; folding luggage grid; metal spare wheel cover.

# CHASSIS

For the convenience of those who wish to have their cars fitted with special coachwork to suit their individual requirements, Morris Ten-Four and Twelve-Four chassis are obtainable separately. These chassis are exceptionally well equipped and include such items as wings, running-boards, headlamps, instruments, spare wheel and complete tool kit; in short, they are all ready for the coachwork.

## Morris Ten-Four Chassis

*General specifications as on page 10.* The chassis equipment includes: Steel dash, instrument panel, clock, speedometer, electric petrol gauge, splashers, pedal rubbers, front wings, stays and rear wings (enamelled), headlamps with dipping mechanism, sidelamps, rear lamp with stop light, batteries, front and rear bumpers, front and rear number-plates, oil gauge, ammeter, electric horn, kit of tools, spare wheel and tyre, hydraulic shock absorbers front and rear, hydraulic four-wheel jacks, bonnet complete with fasteners, running-boards.

**Price** *(ex Works)* ... ... ... ... ... ... ... **£135**

## Morris Twelve-Four Chassis

*General chassis specification as on page 10.* The chassis equipment includes:— Steel dash, instrument panel, clock, speedometer, electric petrol gauge, splashers, pedal rubbers, front wings, stays and rear wings (enamelled), headlamps with dipping mechanism, sidelamps, rear lamp with stop lamp, batteries, front and rear bumpers, front and rear number-plates, oil gauge, ammeter, electric horn, kit of tools, spare wheel and tyre, hydraulic shock absorbers front and rear, hydraulic four-wheel jacks, bonnet complete with fasteners, running-boards.

**Price** *(ex Works)* ... ... ... ... ... ... ... **£140**

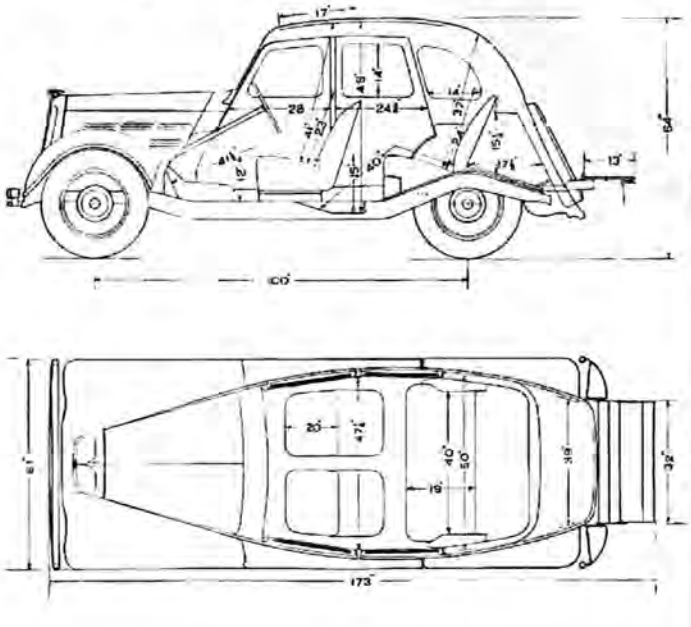
*Purchasers of Morris chassis are requested carefully to note paragraph 3(f) of Guarantee. No variation in the above chassis specifications can be made.*

# GENERAL DATA

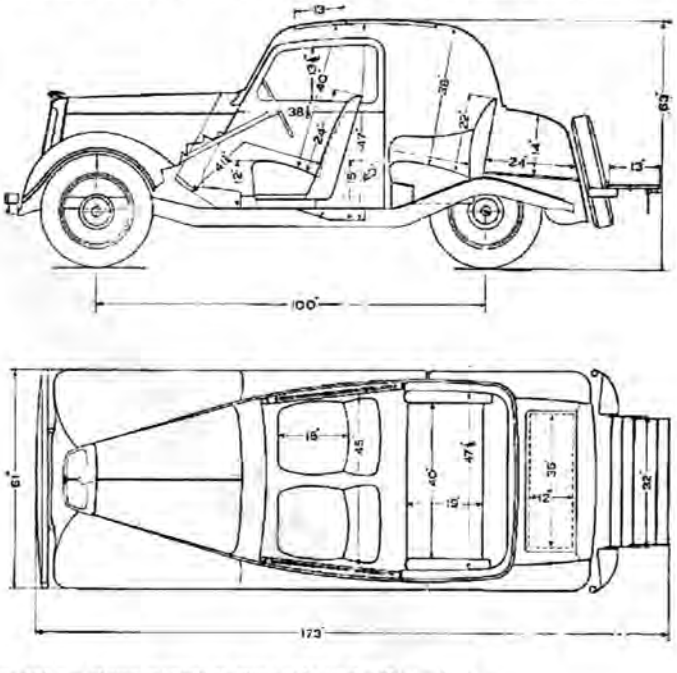
| | | Morris Ten-Four | Morris Twelve-Four |
|---|---|---|---|
| Number of cylinders | ... | Four | Four |
| Bore | ... ... ... | 2.5 in. (63.5 mm.) | 2.73 in. (69.5 mm.) |
| Stroke | ... ... ... | 4.01 in. (102 mm.) | 4.01 in. (102 mm.) |
| Cubic capacity | ... ... | 78.84 cu. in. (1292 c.c.) | 94.59 cu. in. (1550 c.c.) |
| R.A.C. rating | ... ... | 9.99 | 11.98 |
| Tax | ... ... ... | £7 10s. | £9 |
| Number of gears | ... | Three and reverse | Three and reverse |
| Gear ratios Synchromesh | First ... | 17.63 | 17.65 |
| | Second | 7.08 | 7.08 |
| | Third | 4.875 | 4.875 |
| | Reverse | 22.18 | 22.18 |
| Turning circle | ... ... | R.H. 42 ft. L.H. 37 ft. | R.H. 42 ft. L.H. 37 ft. |
| Wheel size | ... ... | 3.0 by 18 | 3.0 by 18 |
| Tyre size | ... ... | 4.75—18 | 4.75—18 |
| Wheelbase | ... ... ... | 8 ft. 4 in. (2.54 m.) | 8 ft. 4 in. (2.54 m.) |
| Track | ... ... ... | 4 ft. 2 in. (1.27 m.) | 4 ft. 2 in. (1.27 m.) |
| Petrol tank capacity | ... | 7 gallons (32 litres) | 7 gallons (32 litres) |
| Engine oil capacity | ... | 1 gallon (4.5 litres) | 1¼ gallons (5.1 litres) |
| Gearbox oil capacity | ... | 1¼ pints (.65 litres) | 1¼ pints (.65 litres) |
| Rear axle oil capacity | ... | 2 pints (1.14 litres) | 2 pints (1.14 litres) |
| Total water capacity | ... | 18 pints (10.22 litres) | 20 pints (11.36 litres) |

# SEATING DIMENSIONS

## TEN-FOUR AND TWELVE-FOUR SALOONS




## TEN-FOUR AND TWELVE-FOUR SPECIAL COUPÉS




**The front seats are provided with a range of adjustment of 8 inches and are shown midway in this range in the illustrations. The legroom is therefore capable of considerable adjustment on either side of the dimensions indicated.**