

Special Build Programme from Ford Advanced Vehicle Operations



Rallye Sport Special Build Programme

Ford Motor Company Limited are the first major manufacturer to offer you, the customer, a comprehensive range of factory fitted parts that have been developed specifically with competition usage in mind.

Ford Advanced Vehicle Operations through the Ford Rallye Sport Dealer network already offer a wide variety of options on the Escort RS 1600 and Escort Mexico but now it is possible to specify your requirements from a wide range of performance parts. Although these parts have been developed primarily for competition, many of them have either special visual or comfort qualities which make them suitable for use on luxury street cars. Suggested combinations of parts from this programme to build three exciting cars—an International Rally Car, a Club Rally Car and a Hi-Series Street Car are included at the end of this brochure.

New items are being added to this programme as Ford competition experience grows and all modifications are carried out with the full engineering resources, back-up and experience of Ford Motor Company Limited. A detailed list of what is currently available can be obtained from your Rallye Sport Dealer who should always be consulted for advice and the latest list of specifications and prices. The modifications have been grouped together into broad categories which are described in this brochure.

Body Modifications

Wheel arch extensions are the major items in this category. Essential when wider than standard wheels and tyres are fitted, not only to overcome any problems of body foul by the wheels and tyres, but also to allow an easy passage and escape route for rocks and large stones thrown up by the wheels during off-road use. The original wheel arches are cut away and stressed steel extensions welded in their place retaining all the original strength of the body. The extensions are faired smoothly into the body work and resprayed to the original paint specification.

Where the car is to be used under extreme conditions another useful modification is available; this provides for additional welding to strengthen even further the already heavy duty body shell. Other items in this category include fireproof rear bulkhead, and bonnet pins and boot catches which are advisable additions for anyone intending to use the car competitively.

Safety and Protection Modifications

Two types of roll bar are available, a Clubman type bar, and a full roll cage that complies with FIA regulations. The Clubman roll bar consists of a simple protective hoop with floor and 'B' pillar mounting points. With this bar you can have either static or full safety harness seat belts; where a full safety harness is specified rear seat space is restricted because one of the three mounting points for each harness is behind the rear seats.

The FIA roll cage is available only with full safety harness seat belts and so the same limitations as above apply. The rear bracing has been designed to minimise the loss of rear seat space as far as possible and is detachable; the cross brace necessary to fulfil the regulations for racing is included with this roll cage.

The magnesium alloy sump shield, developed and proved over countless miles of rough competition motoring is another item in the programme and provides extra protection for the engine, steering rack and front suspension. This sump shield is available with either the standard cross member or a special heavy duty cross member which includes redesigned heavy duty engine mounts.

Suspension and Steering Modifications

There are four types of suspension available which are all based on the gas/oil damping system that Ford used to win the World Cup rally. The front struts are specially designed to withstand excessive strains and in addition they have a gas compartment as well as the usual oil compartment. This gas which is at a very high pressure is separated from the oil chamber by a moveable piston; thus the oil in turn is under constant pressure which helps to eliminate the formation of oil foam, something which occurs during periods of excessive strain and leads to poor damping performance. The rear shock absorbers are

of the same gas/oil type with similar advantages. This method of damping is much less subject to fade than normal systems; because of this, a softer initial setting can be used which not only improves ride and comfort but also roadholding.

All suspension systems with the exception of the 'Clubman Suspension' include a turret kit. The turret kit is a body modification permitted under Group II regulations which allows the rear shock absorbers to be relocated vertically nearer the wheels to give maximum damping efficiency, under the most severe conditions. A longer shock absorber is used which in turn means that the length of the damping stroke is increased, another advantage when it comes to soaking up bumps.

The difference between the suspensions lies in the choice of front and rear springs; these have been carefully selected in the light of Ford's competition experience as being the best combinations available to suit the required specifications. To aid fast precision driving and increase "driver feel" other items available in this category include high ratio steering rack and heavy duty stabiliser bar brackets.

Transmission Modifications

Two types of gearbox and two types of back axle are available. The Bullet gearbox, available for Mexico only, has close ratio gears for competition use; first gear is very high which makes it unsuitable for a road car.

The other type of gearbox, the Rocket box, is available for both Escort Mexico and Escort RS 1600 with two types of propshaft, one to mate-up with the standard axle and the other to mate-up with an Atlas axle. This box has been developed from the Mark III Cortina gearbox with special internals; the gears are close ratio and the gearbox is strong enough to handle power outputs of up to 170 BHP.

Next is the rear axle. A range of limited slip differentials with ratios from 3.54:1 to 5.1:1 is available to fit the standard axle. A limited slip differential combines the basic elements of a conventional differential with a device containing friction clutches so that the greater proportion of power is transmitted to the wheel with greater adhesion. Because of their method of operation, limited slip differentials tend to be noisy at low speeds.

The second type of rear axle, the Atlas axle, has been developed from the Capri 3000E unit and is capable of taking much greater power through-puts than the standard axle; fitted with a limited slip differential and available with ratios from 4.11:1 to 5.14:1, it increases track by 1 in. and is only available with a Rocket gearbox. Fitting an Atlas axle also requires fitting wheel arch extensions and one of the special suspension systems which include a turret kit.

Wheel and Tyre Modifications

A wide range of wheels and tyres are available. Wheels go from 5½ in. wide to 7 in. wide and are manufactured either from magnesium alloy or aluminium alloy. There are tyres to suit all applications both for on and off the road use; wheels over 5½ in. rim width require wheel arch extensions to be fitted and you should consult your Rallye Sport Dealer for a comprehensive list of options.

Electrical Modifications

The first item in this category is the Super Rally Lighting Pack consisting of two Super Oscar driving lamps and two Oscar fog lamps on 'up and down' brackets with all associated relays, fuses and switches. These Quartz Halogen lamps are complete with plastic covers to protect them when they are not in use; the driving lamps have a range of over a quarter of a mile in clear conditions, and the fog lamps produce a flat top beam with an 80° spread.

To cope with the increased power demand a heavy duty 57 amp hour battery is available as is the Marathon alternator kit; this kit replaces the standard 35 amp alternator with a 44 amp unit. It has been found that under very rough competition conditions, vibrations are sometimes set up which can damage the diode pack in the alternator; in the Marathon kit the diode pack is mounted separately from the alternator to minimise the risk of damage by vibration.

Interior Modifications

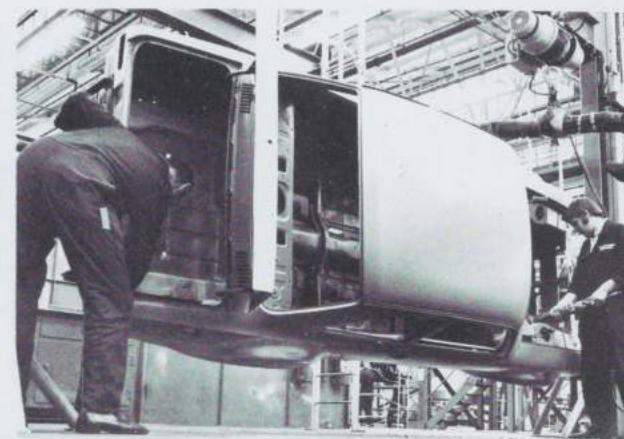
Driving long distances fast and cornering hard you need to be comfortable and you need a seat that gives extra support in the right places. Competition front seats have been included in this programme; these seats have been designed in consultation with the Work's rally drivers. The seat frame and sub frame are both produced from steel tubing which makes the whole assembly strong enough to withstand rough treatment. The seats are trimmed in breathing, black, brushed Bri-Nylon* fabric which has been treated with Scotchguard* fabric protector. The rear seat is trimmed to match. Most dirt and stains just wipe off with a damp cloth and normal vacuuming will keep the fabric fresh. The drivers seat has a fixed back and gives excellent lateral support during hard cornering; the passenger seat is fully reclining and fitted with a headrest. Both the wear and comfort qualities of these seats were proved over 16,000 gruelling miles of World Cup rally.

It should be noted however that rear leg room is restricted when these seats are specified, and where a roll bar is fitted the clearance between the roll bar and the seat does not permit easy access to the rear.

There are numerous other items in the programme which are not detailed above; new items and improvements are frequently being added to this

programme and you should consult your Rallye Sport Dealer for the latest details.

Overleaf are suggested basic specifications for an International Rally Car, a Club Rally Car and a Hi-Series Street car, based on either Escort RS 1600 or Escort Mexico.



* Bri-Nylon is a registered trade mark of ICI.

* Scotchguard is a trade mark of Minnesota Mining and Manufacturing Company.

* The car illustrated on the front cover is a special build vehicle and is finished in a non standard colour which is not available ex-factory.

Suggested specifications for:—

Hi-Series Street Car

Escort RS 1600/Escort Mexico Custom Pack with Quartz-Iodine Headlamps and a pushbutton radio, fitted with the following Special Build items:—

Wheel Arch Extensions

Upgraded Road Suspension with Turret kit

6 in. Wide RS Alloy Road Wheels with 185-70 x 13 Road Tyres

Competition Front Seats, passenger reclining with rear seat trimmed in fabric to match

Club Rally Car

Escort RS 1600/Escort Mexico Clubman Pack with Quartz-Iodine Headlamps, fitted with the following Special Build items:—

Bonnet Pins and Boot Catches

Fireproof Rear Bulkhead

Roll Bar (Clubman Type) with Full Safety Harness

Sump shield

Competition Brake Lining Material

High Ratio Steering Rack

Heavy-Duty Stabiliser Bar Brackets

Heavy-Duty Clutch

Limited Slip Differential

5½ in. Wide RS Alloy Road Wheels with 165 x 13 SP44 Tyres

Heavy-Duty Battery

International Rally Car

Escort RS 1600/Escort Mexico with Quartz-Iodine Headlamps fitted with the following Special Build items:—

Wheel Arch Extensions

Additional Welding for Body Strengthening

Safari Suspension with Turret kit

Bonnet Pins and Boot Catches

Fireproof Rear Bulkhead

Roll Bar (FIA type) with full Safety Harness

Sump Shield with Heavy-Duty Crossmember and Engine Mounts.

Competition Brake Lining Material

High Ratio Steering Rack

Heavy-Duty Stabiliser Bar Brackets

Rocket Gearbox

Atlas Axle with Limited Slip Differential

7 in. wide Magnesium Wheels with 195-HR70 x 13 High Speed Rally Special Tyres

Marathon Alternator Kit with Remote Diode Pack

Super Rally Lighting Pack

Heavy-Duty Battery

Heated Rear Window

Competition Front Seats, passenger reclining with rear seat trimmed in fabric to match

Ford policy is one of continuous improvement and the right to change prices, specifications and equipment at any time, without notice, is reserved.



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Published by Ford Motor Co. Ltd.
Advanced Vehicle Operations
Arisdale Ave, South Ockendon
Essex RM15 5TJ

Photography by Ford Motor Co. Ltd.
Designed by Shape, Brentwood
Printed in England by
Netherton & Worth Ltd, London & Truro