FORD **FOCUS RS** – FORD PERFORMANCE ALL-WHEEL-DRIVE

Go Further

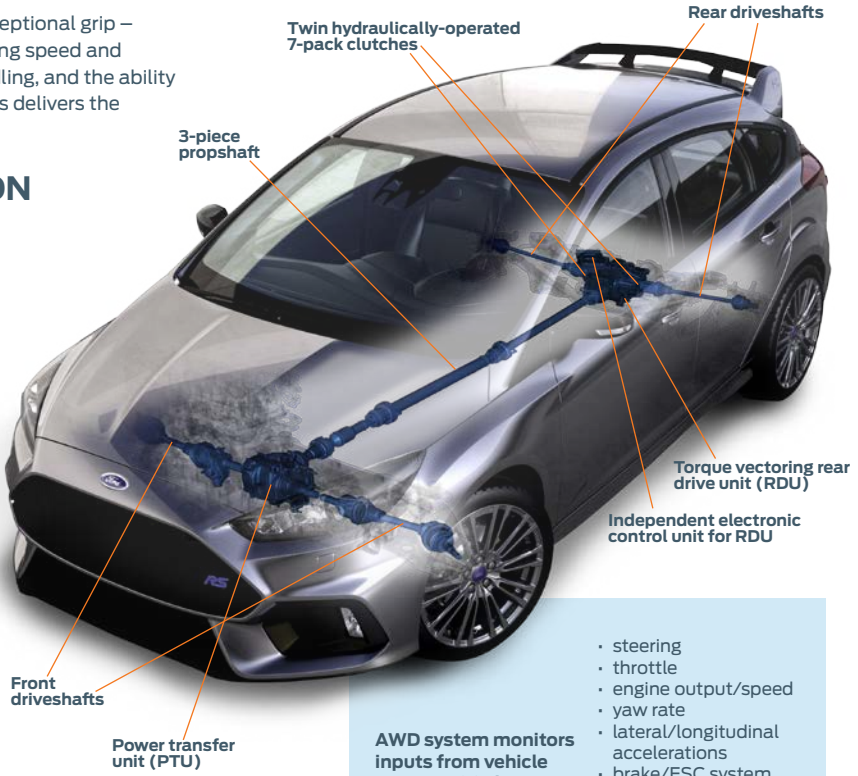
The innovative Ford Performance All-Wheel-Drive system with Dynamic Torque Vectoring introduces a new level of handling capability and driver enjoyment, combining outstanding traction and grip with unmatched agility and cornering speed.

The Ford Performance AWD system has been tuned to deliver exceptional grip – with lateral acceleration exceeding 1 g – and class-leading cornering speed and acceleration out of a bend. With neutral and adjustable limit handling, and the ability to achieve controlled oversteer drifts at the track, the system helps delivers the ultimate fun-to-drive experience.

TORQUE VECTORING AWD IN ACTION

The ground-breaking Ford Performance AWD system features innovative technology to deliver outstanding driving dynamics:

- twin electronically-controlled clutch packs on each side of the rear drive unit (RDU) manage the front/rear torque split – and the side-to-side torque distribution on the rear axle
- independent RDU control unit continuously varies the front/rear and side-to-side torque distribution to suit the current driving situation
- intelligent system monitors multiple vehicle sensors 100 times per second
- a maximum of 70 per cent of the drive torque can be diverted to the rear axle; up to 100 per cent of the available torque at the rear axle can be sent to each rear wheel
- during cornering, the RDU pre-emptively diverts torque to the outer rear wheel immediately based on inputs such as steering wheel angle, lateral acceleration, yaw and speed
- to optimise handling and stability, the car's brake-based Torque Vectoring Control is tuned to work in parallel with the torque vectoring AWD system
- AWD hardware is compact and weight-efficient to maximise vehicle performance



AWD system monitors inputs from vehicle sensors 100 times per second:

- steering
- throttle
- engine output/speed
- yaw rate
- lateral/longitudinal accelerations
- brake/ESC system
- wheel speeds
- PTU and RDU temperatures

FORD PERFORMANCE AWD v CONVENTIONAL AWD

- More agile and adjustable handling
- Reduced understeer
- Increased corner exit speed
- More fun to drive!

WHAT IS TORQUE VECTORING?

Torque vectoring is the ability to vary the amount of torque being delivered to each side of a drive axle, so that one side receives a greater proportion of the available torque.

This effect – which can be achieved by special axle units or by brake-based systems – can achieve significant benefits for vehicle dynamics.

During cornering, transmitting increased torque to the outer drive wheel helps to improve agility, stability and avoid understeer.

FOCUS RS: EXAMPLE OF TORQUE DISTRIBUTION DURING CORNERING (LEFT HAND BEND)