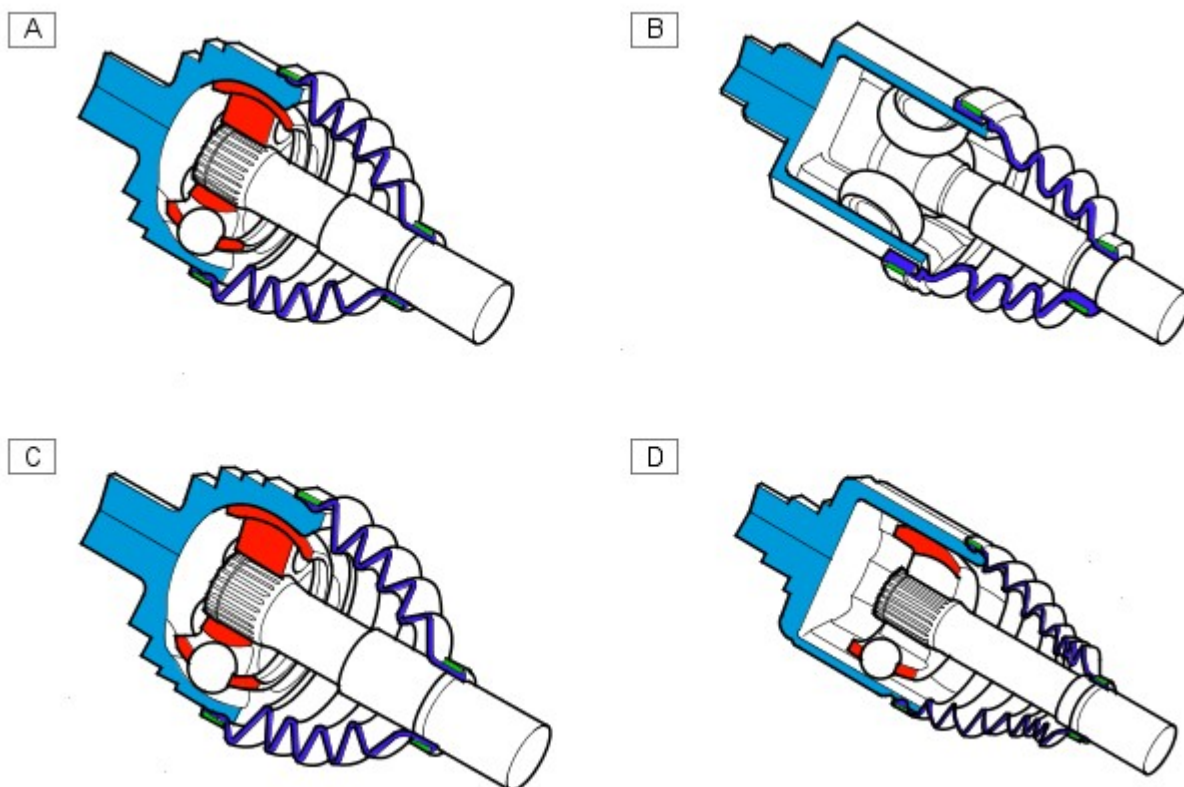


Front Drive Halfshafts - Halfshaft Joint

Description and Operation

Front Drive HalfShaft – Sectional Views



E50637

Item	Description
A	Front outboard halfshaft joint
B	Rear outboard halfshaft joint
C	Rear inboard halfshaft joint
D	Front inboard halfshaft joint

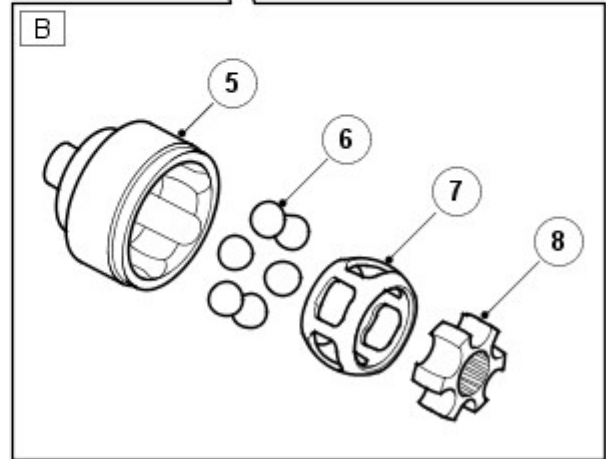
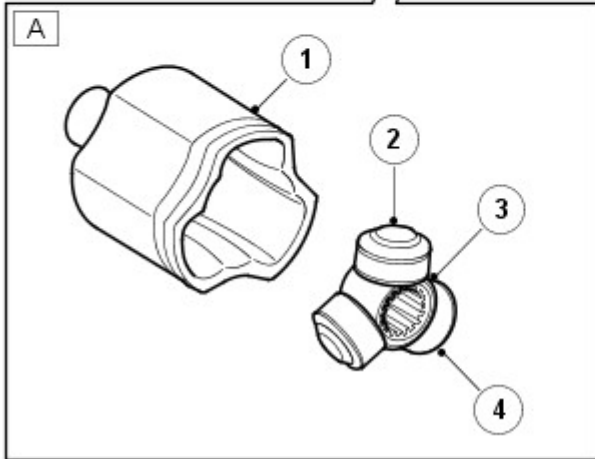
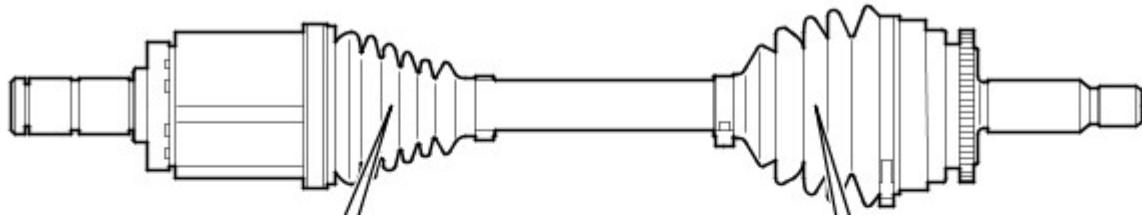
The outboard and rear inboard CV joints are of the Birfield design. This design uses longitudinal, elliptical grooves, which retain six steel balls. The balls are further retained by a cage. The constant velocity is achieved by the position of the steel balls. If a centre line is drawn through the balls and the driven hub or differential shaft, the two centre lines always bisect each other at the angle of drive. This condition allows the rotational speed of the driven shaft to be passed to the driven hub or differential shaft with no loss of rotational speed regardless of the shaft angle. The CV joints are packed with grease, which is retained in the joint by a synthetic rubber gaiter. The gaiter is retained at each end by a metal clamp, which provides a water tight seal to prevent the ingress of dirt and moisture. The CV joints are retained on their respective shaft or tube by an internal snap ring. The snap rings are located in a groove on each shaft or tube end and locate in a mating groove in the CV joint.



CAUTION: The inner hub is not retained in the joint body on this type of joint. The joint is held together in its unfitted state only by the boot. Pulling on the barshaft can therefore pull the hub out of the joint body. For this reason care must be taken when handling and fitting the front driveshafts.

The shaft is a sliding fit inside the outer tube, which allows for the small length changes, which occur with articulation of the suspension. The shaft is located in a ball cage, which is retained inside the outer tube. The ball cage ensures that the shaft is held rigidly in the outer tube whilst allowing it to freely move in and out of the tube as necessary. A sealing plug is pressed into the outer tube and retains grease around the balls in the cage.

The inner CV joints are similar in design and operation to the outer joints except that the inner joints use rollers rather than balls to transmit the drive.



E46396

Item	Description
A	Inner CV joint
B	Outer CV joint
1	Tulip outer race
2	Trunions (3 of)
3	Spider
4	Rollers (3 of)
5	Outer race
6	Steel balls (6 of)
7	Cage
8	Inner race

The front inboard joint is a 'tripode joint', having three 'feet' or 'podes'. The torque is transmitted from the outer race to the connecting shaft by means of rollers running on needle rollers around the trunions of the tripode spider. The roller tracks of the outer race enable the tripode assembly to move angularly and axially within the joint.

The inner CV joint shaft is splined and mates with splines in the front differential. There is no internal retaining mechanism for this type of joint so care must be taken during service as the shaft and CV joint can separate.