

# Guide to engine and transmission



## AVTOVAZ

**1 Togliatti, Russia (engine and transmission)** – 1.4-, 1.6-, 1.7-, 1.8-liter multipoint-injection gasoline engines (Lada); 5-speed manual transmissions (Lada)

## AVTOZAZ-MOTOR

**1 Melitopol, Ukraine (engine)** – 1.2-, 1.3-liter multipoint-injection gasoline engines (ZAZ Slavuta and pick up cars); 1.3-liter MPI gasoline engines (ZAZ Sens); 1.4-liter MPI gasoline engines (ZAZ Lanos)

## BMW

- 1 Hams Hall, UK (engine)** – 4-cylinder gasoline engines (1-, 3-, 5-series models, X3; Z4); 4-cylinder gasoline engines (Mini)
- 2 Munich, Germany (engine)** – 6-cylinder gasoline engines (1-, 3-, 5-, 6-, 7-series models; X3; X5; X6; Z4); 6-cylinder high-performance gasoline engines (Z4 M roadster, Z4 M coupe); 8-cylinder high-performance engine (new M3); 8-cylinder gasoline engines (5, 6, 7 series); 10-cylinder high-performance gasoline engines (M5, M6); 12-cylinder gasoline engines (7 series, Rolls-Royce Phantom); 8-cylinder diesel engines (7 series)
- 3 Steyr, Austria (engine)** – 4-cylinder diesel engines (1-, 3-, 5-series models, X3); 6-cylinder diesel engines (3, 5, 6, 7 series; X3; X5; X6); 6-cylinder gasoline engines (1-, 3-, 5-, 6-, 7-series models; X3; X5; X6; Z4)

## DAIMLER

- 1 Affalterbach, Germany (engine)** – 8-, 12-cylinder gasoline engines (Mercedes AMG models)
- 2 Berlin-Marienfelde, Germany (engine)** – 6-cylinder diesel engines (Mercedes S-, E-, C-, CLK-, CLS-, M-, R-, G-, GL-class models, Chrysler, Sprinter, Viano); 8-cylinder diesel engines (Mercedes S-, E-, M-, GL-class models); 12-cylinder gasoline engines (Mercedes S-, SL-, CL-class models, Maybach)
- 3 Gaggenau, Germany (transmission)** – 6-speed manual transmissions (Mercedes A-, B-class models; light commercial vehicles; Chrysler models)
- 4 Untertürkheim, Germany (engine and transmission) (includes production at nearby plants in Bad Cannstatt, Zuffenhausen, Mettingen, Hedelfingen, Sirmau and Brühl)** – 4-cylinder gasoline engines (Mercedes SLK-, E-, C-, CL, CLK-, A-, B-class models, Sprinter); 6-cylinder gasoline engines (Mercedes S-, SLK-, SL, E-, C-, CLC, CLK-, CLS-, M-, R-class models, Viano, Sprinter); 8-cylinder gasoline engines (Mercedes S-, SL-, E-, C- (only AMG), CL-, CLK-, CLS-, G-, GL- M-, R-class models); 4-cylinder diesel engines (Mercedes A-, B-, C-, CLK-, CLC, E-class models); 5-, 7-speed automatic transmissions (Mercedes cars and light commercial vehicles); 5-, 6-speed manual transmission (Mercedes cars and light commercial vehicles)
- 5 Kölleda, Germany (engine)** – 3-, 4-cylinder gasoline engines (Mitsubishi Colt, Colt CZC); 3-cylinder diesel engines (Smart ForTwo, Mitsubishi Colt)

## FIAT POWERTRAIN TECHNOLOGIES

- 1 Bielsko-Biala, Poland (engine) (Fiat 50%, GM 50%)** – 1.3-liter common-rail turbodiesel engines (Fiat 500, Doblo, Grande Punto/Punto, Idea, Linea, Panda; Lancia Musa, Ypsilon; Opel/Vauxhall Agila, Corsa, Meriva, Tigra TwinTop; Suzuki Ignis, Swift)
- 2 Foggia, Italy (engine)** – 4-cylinder 2.3-, 3.0-liter turbodiesel engines (Fiat Ducato); Iveco Daily light commercial vehicles)
- 3 Mirafiori, Italy (transmission)** – C514 5- and 6-speed manual transmissions; 5-speed automated manual transmissions (Fiat, Lancia); 5-speed AWD transmissions
- 4 Pratola Serra, Italy (engine)** – 4-, 5-cylinder 1.6-, 1.8-, 2.0-, 2.4-liter gasoline engines; 1.6-, 1.9-, 2.4-liter turbodiesel engines (Alfa Romeo 147, 159, Brera, GT, Spider; Fiat Bravo, Cromo, Doblo, Grande Punto, Multipla, Multiwagon, Sedici, Stilo; Lancia Musa, Thesis; Suzuki SX4; Opel/Vauxhall Astra, Vectra, Zafira)
- 5 Termoli, Italy (engine and transmission)** – 1.1-, 1.2-, 1.4-, 1.6-liter FIRE gasoline engines (Fiat 500, Bravo, Doblo, Grande Punto/Punto, Idea, Panda, Seicento, Stilo Multiwagon; Lancia Musa, Ypsilon); C510 5-speed manual and AMT transmissions; C546 6-speed manual and AMT transmissions; C513 5-speed manual transmissions (Alfa Romeo, Fiat and Lancia)
- 6 Verrone, Italy (transmission)** – C530 5-, 6-speed manual and AMT transmissions (Alfa Romeo, Fiat, Lancia)

## FIAT GROUP

**1 Maranello, Italy (engine and transmission)** – (Ferrari, Maserati)

## FORD OF EUROPE

- 1 Bridgend, UK (engine)** – 1.25-, 1.4-, 1.6-liter 4-cylinder Zetec gasoline engines (Ford Fiesta, Fusion, Focus, C-Max, Mondeo; Volvo S40/V50/C30; Mazda 2); 3.5-, 4.2-, 4.4-liter V-8 gasoline engines (Jaguar XF, XJ, XK; Land Rover Discovery 3; Range Rover Sport; Range Rover); 3.0-, 3.2-liter 6-cylinder gasoline engines (Land Rover Freelander 2; Volvo S80, V70, XC70, XC90)
- 2 Dagenham, UK (engine)** – 1.4-, 1.6-, 1.8-, 2.0-, 2.2-, 2.4-liter 4-cylinder diesel engines (Ford Fiesta, Fusion, Focus, C-Max, Transit Connect, Fiesta Pickup, S-Max, Galaxy, Mondeo, Transit; Jaguar X-Type; Mazda2; LDV); 2.7-liter V-6 diesel engines (Jaguar XF, XJ); Land Rover Discovery 3, Range Rover Sport; Peugeot 407; Citroen C5, C6); 3.6-liter V-8 diesel engines (Land Rover Range Rover, Range Rover Sport)
- 3 Cologne, Germany (engine)** – 4.0-liter V-6 SOHC gasoline engines (Ford Explorer, Explorer Sport Trac, Ranger, Mustang; Mazda B-Series; Mercury Mountaineer [North America only]; Land Rover Discovery); 4.3-liter V-8 gasoline engines (Aston Martin Vantage); 6.0-liter V-12 gasoline engines (Aston Martin DBS, DB9)
- 4 Skovde, Sweden (engine)** – 2.4-, 2.5-liter 5-cylinder gasoline engines (Volvo S40, V50, S60, C70, V70, C30, S80, XC90; Ford Focus, S-Max); 2.4-liter 5-cylinder diesel engines (Volvo C30, S40, V50, S60, V70, XC70, S80, XC90); 2.0-liter 4-cylinder diesel engines (Volvo S40, V50, C30, V70, S80, Focus, Focus C-Max, Focus Coupe Cabriolet)
- 5 Inonu, Turkey (engine and transmission) (Ford-Otosan Engines: Ford 41%, Koc Holding**

41%, public 18%) – 7.3-liter 6-cylinder diesel engines (Ford Cargo), 9.0-liter I6 diesel, 3.2-liter 5-cylinder engines; 2.4-liter 4-cylinder diesel engines (Ford Transit); MT75 manual transmissions (Ford Transit)

- 6 Valencia, Spain (engine)** – 1.8-liter 4-cylinder Duratec HE (Ford Focus, Focus C-Max, Mondeo); 2.0-liter 4-cylinder Duratec HE (Ford Mondeo and S-Max)
- 7 Craiova, Romania (engine and transmission)** – 1.5-, 1.6-liter gasoline engines; 5-speed manual transmissions (Daewoo, AvtoZAZ)

## GAZ GROUP

- 1 Nizhny Novgorod, Russia (engine and transmission) (Nizhny Novgorod Motors LLC)** – 4-, 5-speed manual transmissions (GAZ); 2.1-liter diesel engines (under license from Steyr)
- 2 Ulyanovsk, Russia (engine) (JSC Ulyanovsk Engine Plant)** – 2.4-liter, 4-cylinder gasoline engines (UAZ); 2.9-liter, 4-cylinder gasoline engines (UAZ light commercial vehicles)
- 3 Yaroslavl, Russia (engine and transmission) (JSC Avtodizel) Diesel** – 6-, 8-, 12-cylinder V-shape diesel engines; 6-cylinder inline diesel engines; transmissions; generators; 4-, 6-cylinder inline diesel engines YMZ-530 family (investment project).

## GM POWERTRAIN EUROPE

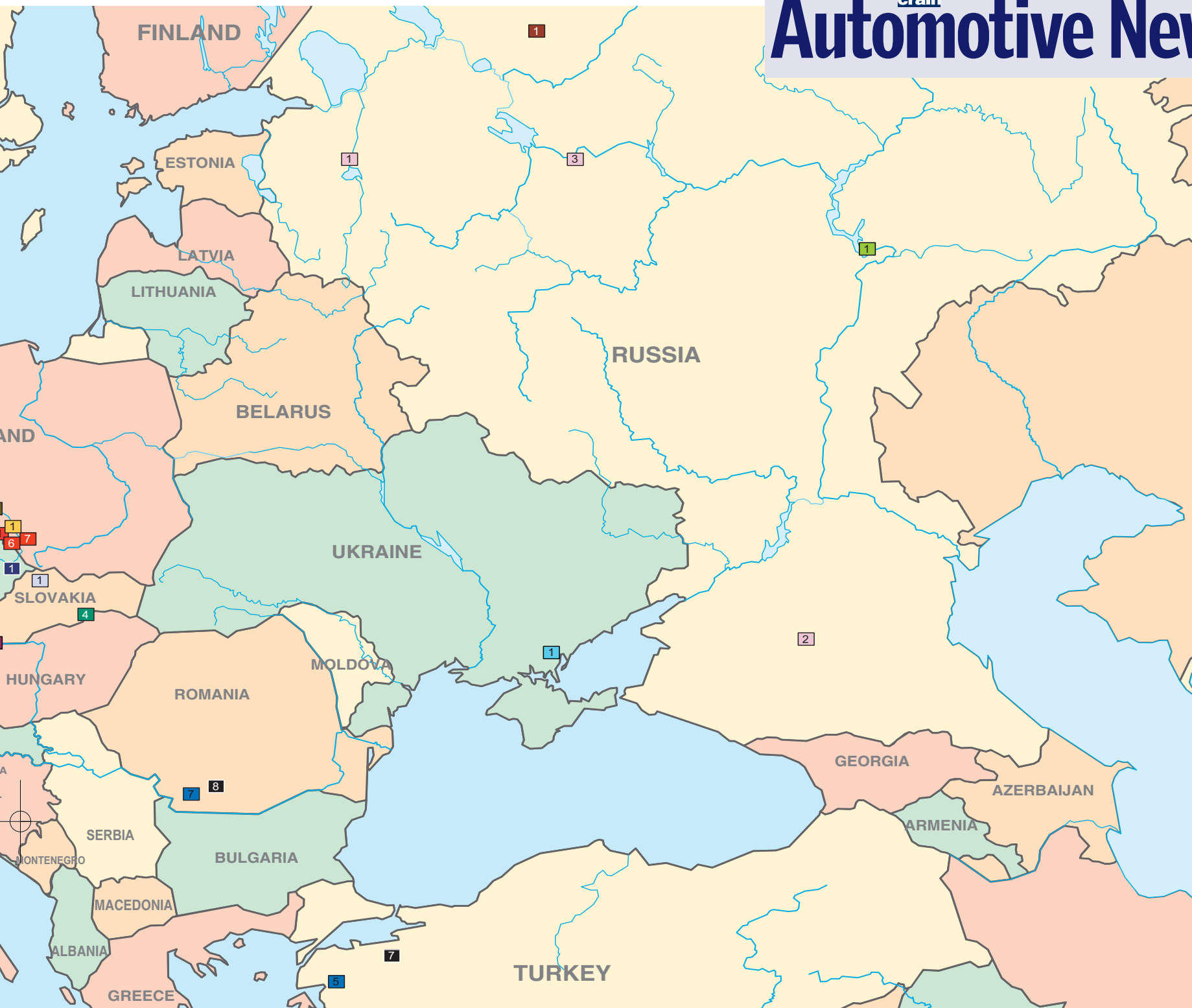
- 1 Bochum, Germany (transmission)** – 5-speed manual transmissions (Opel/Vauxhall)
- 2 Kaiserslautern, Germany (engine)** – 2.0-, 2.2-liter gasoline engines (Cadillac, Opel/Vauxhall, Saab, Fiat); 1.9-liter common-rail diesel engines (Cadillac, Opel/Vauxhall, Saab)
- 3 Rüsselsheim, Germany (transmission)** – 6-speed manual transmissions (Cadillac, Opel/Vauxhall, Saab, Fiat)
- 4 Gothenburg, Sweden (transmission)** – 5-speed manual transmissions (Chevrolet, Saab)
- 5 Soedertälje, Sweden (engine)** – 2.0-, 2.3-liter 4-cylinder gasoline engines (Saab)
- 6 Bielsko-Biala, Poland (engine) (Fiat 50%, GM 50%)** – 1.3-liter common-rail diesel engines (Opel/Vauxhall, Chevrolet, Fiat, Lancia, Suzuki)
- 7 Tychy, Poland (engine)** – 1.7-liter diesel engines (Opel/Vauxhall)
- 8 Aspern, Austria (engine and transmission)** – 3-, 4-cylinder, 1.0-, 1.2-, 1.4-liter gasoline engines (Opel/Vauxhall); 5-, 6-speed manual transmissions, MTA transmission variants (Opel/Vauxhall, Fiat, Saab)
- 9 Strasbourg, France (transmission)** – 5-speed and 6-speed automatic transmissions (BMW, GM)
- 10 Szentgotthard, Hungary (engine and transmission)** – 1.6-, 1.8-liter 4-cylinder gasoline ECOTEC engines (Opel/Vauxhall, Saab); 6-speed and 7-speed automatic truck transmissions

## GETRAG Group

- 1 Ludwigsburg, Germany (transmission)** – (6-speed manual transmissions)
- 2 Neuenstein, Germany (5- and 6-speed manual and automated manual transmissions, 7-speed dual-clutch transmissions)**
- 3 Rosenberg, Germany (6-speed manual transmissions)**
- 4 Modugno, Italy (5- and 6-speed manual transmissions)**

# on plants in Europe

## Automotive News Europe



### GETRAG FORD

- 1 Cologne, Germany** – 5- and 6-speed manual transmissions (Ford Focus, Focus C-Max, Galaxy, Mondeo, S-Max, Tourneo Connect, Transit Connect; Jaguar X-Type, Land Rover Freelander; Mazda3; Volvo C30, S40, V50)
- 2 Bordeaux, France** – 5-speed manual and AMT transmissions (Ford Ranger, Explorer, Mustang, Falcon)
- 3 Halewood, Liverpool, UK** – 5- and 6-speed manual and 5 speed AMT transmissions (Ford Fiesta, Fusion, Ka, Transit; Land Rover Defender; Mazda2)
- 4 Kechneč, Slovakia** – 6-speed dual-clutch transmissions (Ford Focus, Focus C-Max; Volvo C30, C70, S40, V50)

### HONDA

- 1 Swindon, UK (engine)** – 1.8-, 2.0 and 2.4-liter gasoline engines (Honda CR-V); 1.8-, 2.0-liter gasoline engines (Honda Civic); 2.2-liter 4-cylinder diesel engines (Honda Civic, CR-V)

### HYUNDAI

- 1 Nosovice, Czech Republic (transmission)** – (Starts 2008)

### ISUZU

- 1 Polska, Poland (engine)** (GM 60%, Isuzu 40%) – 1.7-liter 4-cylinder direct-injection diesel engines; (Opel/Vauxhall)

### KIA

- 1 Zilina, Slovakia (engine)** – 1.4-, 1.6-liter gasoline engines; 1.6-, 2.0-liter diesel engines

### MAGNA POWERTRAIN

- 1 Ilz, Austria** – (transmission) – manual transmissions (Renault Kangoo 4X4) also transfer cases (BMW, Chrysler Dodge, Land Rover, Mercedes); front and rear axle drives (Chrysler, Dodge, Mercedes, VW group)
- 2 Lannach, Austria** – (transmission) – manual transmissions (Renault Kangoo 4X4) also transfer cases (BMW, Chrysler Dodge, Land Rover, Mercedes); front and rear axle drives (Chrysler, Dodge, Mercedes, VW group)
- 3 Roitzsch, Germany** – (transmission) – transfer cases (Land Rover, Porsche, VW)

### NISSAN

- 1 Barcelona, Spain (engine and transmission)** – 2.5-liter turbodiesel engines (Navara, Pathfinder), 5-speed manual transmission (Cabstar, Atleon), 6-speed manual transmission (Pathfinder, Navara)
- 2 Sunderland, UK (engine)** – 1.2-liter (Micra), 1.4-liter (Micra, Micra C+C, Note)

### PORSCHE

- 1 Zuffenhausen, Germany (engine)** – V-8 (Cayenne); Flat 6 (Boxster, Cayman, 911)

### PSA/PEUGEOT-CITROEN

- 1 Douvrin, France (engine)** (Française de Mecanique – PSA 50%, Renault 50%) – 1.1-, 1.4-, 1.6-liter gasoline engines (Citroen Nemo, Fiat Fiorino, Peugeot Bipper); 1.4-liter HDI diesel engines (Ford, PSA Toyota); 3.0-liter V-6 engines – (PSA, Renault); 1.4-, 1.6-liter gasoline engines – (BMW, PSA)
- 2 Herimoncourt, France (engine)** – 1.9-liter diesel engines; 2.0-liter gasoline engines
- 3 Metz, France (transmission)** – Manual transmission and Automated manual transmission (Citroen Nemo, Fiat Fiorino, Peugeot Bipper); Manual transmission (Fiat, PSA)
- 4 Tremery, France (engine)** – 1.8-, 2.0-, 2.2-liter gasoline engines – (Fiat, PSA); 1.6-liter diesel engines (BMW, PSA); 2.0-, 2.2-liter diesel engines (Fiat, Ford, Mitsubishi, PSA)
- 5 Valenciennes, France (transmission)** – manual transmissions (Fiat, PSA); automatic transmissions (Renault, PSA); automated manual transmissions (PSA)

### RENAULT

- 1 Cleon, France (engine and transmission)** – 2.0-, 2.0-liter turbocharged gasoline engines; 1.9-, 2.0-, 2.5-liter dCi diesel engines; 5-, 6-speed manual transmissions; 5-, 6-speed automated manual transmissions
- 2 Douvrin, France (Française de Mécanique France – Renault 50%, PSA 50%) (engine)** – 1.0-, 1.2-liter gasoline engines; 3.0-liter diesel engines
- 3 Ruitz, France (Societe de Transmissions Automatiques – Renault 80%, PSA 20%) (transmission)** – automatic transmissions
- 4 Seville, Spain (transmission)** – 5-, 6-speed manual transmissions
- 5 Valladolid, Spain (engine)** – 1.6-liter gasoline engines; 1.5-liter diesel engines
- 6 Cacia, Portugal (transmission)** – 5-, 6-speed manual transmissions
- 7 Bursa, Turkey (engine and transmission)** – 1.4-, 1.6-liter gasoline engines; 5-speed manual transmissions
- 8 Pitesti, Romania (engine and transmission)** – 1.4-liter gasoline engines; 5-, 6-speed manual transmissions

### TOYOTA

- 1 Jelcz-Laskowice, Poland (engine)** – 2.2-liter diesel engines (Auris, Avensis, Corolla Verso), 2.0-liter diesel engines (Auris, Avensis, Corolla Sedan)
- 2 Walbrzych, Poland (engine and transmission)** – 1.0-liter gasoline engines (Citroen C1, Peugeot 107, Toyota Aygo, Yaris); manual transmissions for engines from 1.0- to 1.8-liter for Auris and Avensis (TMUK), for Auris and Corolla Verso (TMMT), for Corolla (TSAM) and for Citroen C1, Peugeot 107 and Toyota AYGO (TPCA); multimode transmission for Citroen C1, Peugeot 107, Toyota Aygo
- 3 Valenciennes, France (engine)** – 1.3-liter VVT-i gasoline engines; 1.4-liter D-4D diesel

engines (Toyota Yaris)

- 4 Deeside, UK (engine)** – 1.4-, 1.6-, 1.8-liter VVT-i gasoline engines; plus machined parts for global export and local assembly

### VM MOTORI

- 1 Cento, Italy (engine)** (VM Motori/Penske Group 50%, GM 50%) – 2.5-, 2.8-liter, 4-cylinder diesel engines (Chrysler Voyager, Jeep Cherokee, Jeep Wrangler, Dodge Nitro, London Taxi LTI TX4, LDV Maxus and BMC Megastar commercial vans) Manufacturing licences sold in China to Jiangling and Guatai.

### VOLKSWAGEN

- 1 Chemnitz, Germany (engine)** 1.9, 2.0-liter 4-cylinder diesel engines; 1.4, 1.6-liter 4-cylinder gasoline engines (VW)
- 2 Kassel, Germany (transmission)** – 4-speed automatic transmissions; 5-, 6-speed manual transmissions; 6, 7-speed dual-clutch and continuously variable transmissions
- 3 Salzgitter, Germany (engine)** – 3-, 4-, 5-, 10-cylinder diesel engines; 4-, 6-, 12-, 16-cylinder gasoline engines (VW)
- 4 Bratislava, Slovakia (transmission)** – 5-, 6-speed manual transmissions (Skoda)
- 5 Gyor, Hungary (engine)** – 4-, 6-, 8-, 10-, 12-cylinder gasoline and diesel engines (Audi)
- 6 Mlada Boleslav, Czech Republic (engine and transmission)** – 3-cylinder gasoline engines; 5-speed manual transmissions (Skoda)
- 7 Polkowice, Poland (engine)** – 1.9-liter 4-cylinder diesel engines (VW)
- 8 Prat, Spain (transmission)** – 5-, 6-speed manual transmissions (Seat)
- 9 Sant'Agata Bolognese, Italy (engine)** – 10-, 12-cylinder gasoline engines (Lamborghini)
- 10 Crewe, UK (engine)** – 8-, 12-cylinder gasoline engines, (Bentley)

### ZAVOLZHYE MOTOR WORKS

- 1 Zavolzhje, Russia (engine)** (SeverstalAvto 100%) – 2.3-, 2.4-, 2.9-, 4.3, 4.7-liter carburetor gasoline engines (GAZ mid-sized passenger cars, light trucks, off-road vehicles, medium trucks, medium cross-country vehicles; PAZ buses, UAZ cross-country vehicles); 2.3-, 2.5-, 2.7-liter multipoint injection gasoline engines (GAZ light trucks, minibuses, UAZ Patriot, Hunter off-road vehicles); 2.2-liter diesel engines (mid-sized passenger cars, light trucks, minibuses and off-road vehicles with total weights up to 3.5 tons); 2.3-liter direct injection turbo diesel (Iveco F1A for Fiat Ducato local production)

### ZF FRIEDRICHSHAFEN

- 1 Brandenburg, Germany (transmission)** – 6-speed manual transmissions; 7-speed double clutch transmissions (BMW, Land Rover, Porsche, VW)
- 2 Saarbrücken, Germany (transmission)** – 4-, 5-, 6-speed automatic transmissions (Alpina, Aston Martin, Audi, Bentley, BMW, Hyundai, Jaguar, Land Rover, Maserati, Porsche, PSA, Rolls-Royce, Skoda, VW)