

# FIATAGRI BIG 90 SERIES

INCLUDING OPTIONAL  
**Power  
shift**



**FIATAGRI**

**FIAT** 115-90

**FIAT** 130-90 turbo

**FIAT** 140-90 turbo

**FIAT** 160-90 turbo

**FIAT** 180-90 turbo

**FIAT** 115-90 dt

**FIAT** 130-90 dt turbo

**FIAT** 140-90 dt turbo

**FIAT** 160-90 dt turbo

**FIAT** 180-90 dt turbo

**Power shift**

**FIAT** 130-90 dt turbo

**FIAT** 140-90 dt turbo

**FIAT** 160-90 dt turbo

**FIAT** 180-90 dt turbo



# The Big 90 Series Tractors

OPTIONAL  
**Power  
shift**

Tractor	HP DIN	FIAT Engine	No. of Cylinders	Bore mm	Stroke mm	Capacity c.c.
115-90	115	8065.05	6	104	x 115	5861
130-90	130	8065.25	6T	104	x 115	5861
140-90	140	8065.25	6T	104	x 115	5861
160-90	160	8365.25	6T	115	x 130	8102
180-90	180	8365.25	6T	115	x 130	8102

## More Comfort and Safety

A distinctive feature of the 90 Series is the special attention paid to the comfort and safety of the driver. The superb, one-piece, supercomfort cab, fully complies with O.E.C.D. Standards for rollover protection and noise level and includes:

- Safety hatch.
- Fully glazed access doors.
- Semi-open position door check.
- Top-hinged side and rear windows opening outwards.
- New washable interior upholstery in sound absorbing material.
- Superb visibility.
- Two-speed electric wiper and tinted windows.
- Air conditioning system with air filter.
- Direct access to the air filters from the outside.
- Four ancillary floodlights for night work.

The cab is mounted on rubber pads to reduce noise and vibration and the driver's position is ahead of the rear axle for a more comfortable ride. The new Super-deluxe upholstered seat with arm rests is fully adjustable to match the needs of every driver. It can be swivelled through 10° to improve the driver's comfort and working visibility. Other features:

- Hydrostatic steering operating from a separate circuit, new steering wheel fully adjustable for driver comfort and control.

With power steering cylinders mounted behind the axle, these models are very easy to manoeuvre and drive.



# Controls

- Dashboard with new "Check Control" panel, including:
- Rev. counter and speed in top gear dial.
- Fuel gauge and water temperature gauge.
- Multi-function control panel, with 8 light emitting diodes and 12 warning lights and indicators. The instruments provide a constant check on battery charge; brake fluid level; engine oil pressure; air and oil filters; engine, gearbox and transmission oil and cooling circuit levels.
- PTO engaged warning; differential lock indicator (rear, two-wheel drive; front & rear four-wheel drive); hand brake; front wheel drive indicator.



# The New BIG 90 Engines

The new power units fitted to these tractors have been designed to give good practical performance, coupled with considerable torque reserve.

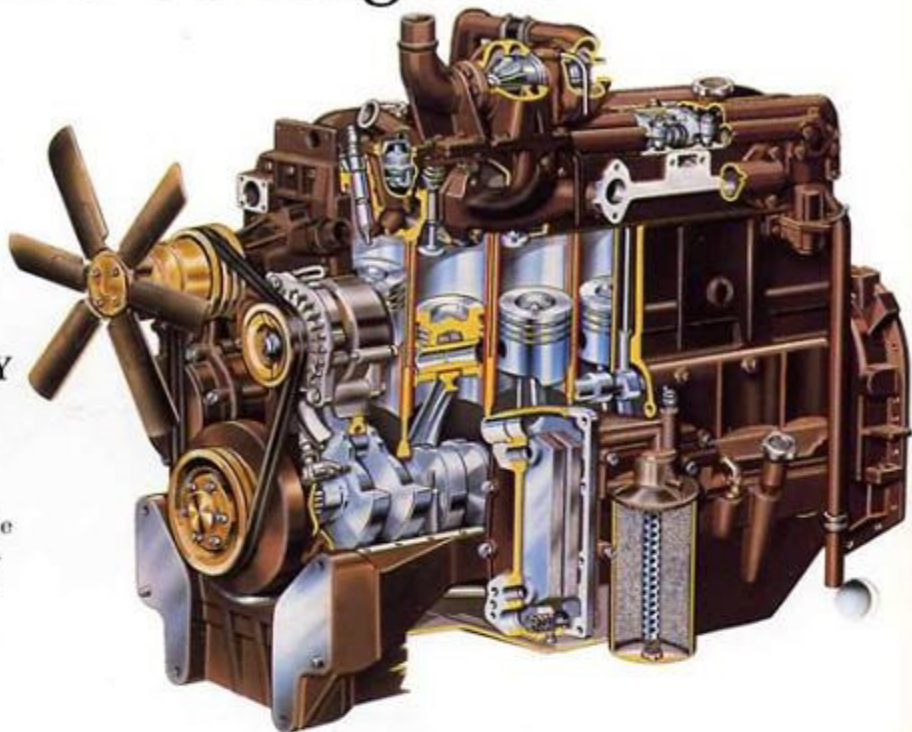
Adoption of the new Fiat 8000 diesel engines also means:

- Lower fuel consumption; lower operating costs.
- Efficient fuel burning and low emission levels.

## MODELS 160/180-90 ONLY

### ENGINE AND GEARBOX OIL HEAT EXCHANGER

The engines are fitted with a new double heat exchanger serving both the engine oil and the gearbox oil circuits. Cooling the oil not only gives a longer service life, but also assists the oil to retain its quality longer and prevents early deterioration.



# Turbocharging

The turbocharged engines used on all the Big 90 Power shift range offer the following benefits:

### HIGHER TORQUE

Fuel is injected and burnt more efficiently to give higher torque.

### LOWER RUNNING COSTS

because the installation is simple and

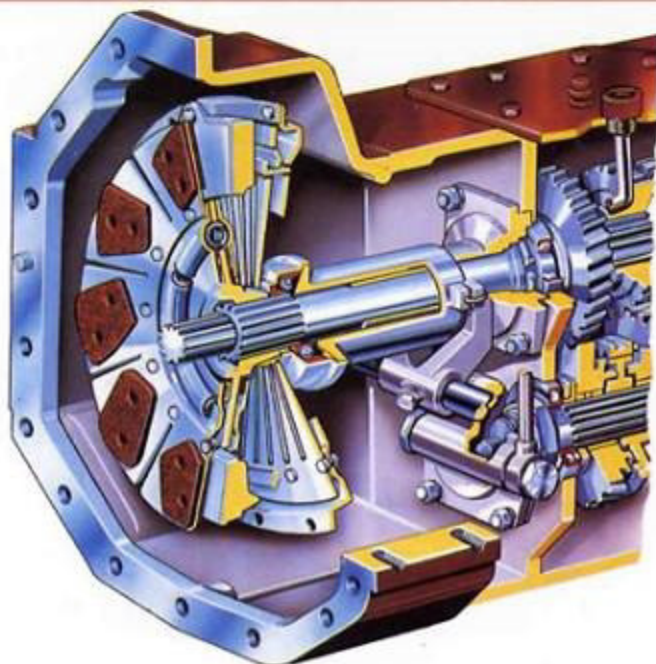
the turbocharger requires no maintenance.

Fiatagri's superior manufacturing technology produces reliable precision-made parts.

CONSTANT EFFICIENCY AND LOWER SPECIFIC CONSUMPTION FIGURES

due to better and more complete combustion.

EFFICIENT BURNING AND BETTER POWER OUTPUT unaffected by high altitudes.



# Clutch (MANUAL ONLY)

## Transmission

### Model 115/130/140-90

- Hydraulic, pedal-operated, for the transmission 14" Cerametallic plate with antiwear buttons.

### Model 160/180-90

- Hydraulic, pedal-operated, for the transmission Twin 12" Cerametallic plate, with antiwear buttons.

# PTO

## Model 115/130/140/160-90

Full independent operation. Engagement through multiplate, hydraulically operated clutch. Two speeds: 540 rpm and 1000 rpm. The changeover from one speed to the other is made by simple substitution of the 540 (6 spline) and 1000 (21 spline) stub shafts.

## Model 180-90

PTO: 1000 rpm only.

# Differential

Located in the rear axle are four planetary pinions, with oversized housing. The hydraulic actuated differential lock is operated by a foot pedal, and disengaged with a touch on the brake pedal.

The foot pedal simultaneously operates the hydraulic actuated differential lock in the front axle of 4 wheel drive tractors.



# Four-Wheel Drive

Four wheel drive has always been one of Fiatagri's strengths, and the company has, for many years, been the world's largest manufacturer of four wheel drive tractors. The advantages are:

- Excellent weight distribution over both axles.
- Large sized epicyclic final drives housed in the wheel hubs that take up little room and are easy to get at.
- Greater flotation, due to the possibility of fitting large-diameter, very wide wheels.
- Multiple front track settings, readily obtainable with either pressed steel wheel rims, or variable track with the PAVT helical cam system.
- Centrally mounted transmission shaft, coaxial with the gearbox, fully protected, with no universal joints.
- Integral cast front axle, with full oscillation to cope with uneven ground.
- Centrally mounted compact front differential, for better ground clearance and helical gears for more efficient operation.
- Hydraulic front differential lock, operated at the same time as that on the rear differential, with no torque loss.
- Can be engaged under load, even when the tractor is moving.



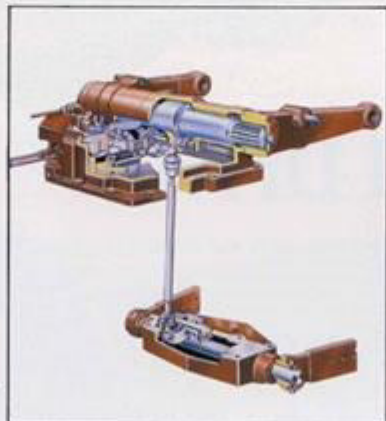
# Hydraulic Lift



With draft, position and mixed control. The draft control operates through an oilbath flexion bar housed inside a separate assembly mounted under the rear part of the transmission. The hydraulic system is an original Fiat design and monitors the operation of the implement under all conditions, even under varying loads and soil resistance.

These are two hydraulic control systems for selection according to the type of ground and implement. The lift is operated by two levers which enable the implement to be positioned for any type of job. It is fitted with a threepoint linkage, complete with quick couplings, fitted with adjustable sway restrictors, so that even the heaviest implements can be linked up without difficulty.

A new control – the LIFT-O-MATIC is on the right-hand side next to the driver. It provides automatic lifting or lowering of the lower links without having to restore the setting of the draft or position control levers and so simplifies turning at headlands. It is also possible to operate the position of the linkage from the ground while standing at the rear of the tractor.



Two auxiliary rams are provided as standard on the 130/140/160/180-90. These result in high maximum liftable loads on the 160/180-90 tractors up to 7420 kg.

Three auxiliary control valves, convertible for single or double acting implement remote control, complete with quick coupling under pressure. Possibility of float position and automatic kick-out.

Hydraulic trailer braking synchronised with the service brake pedal is standard.

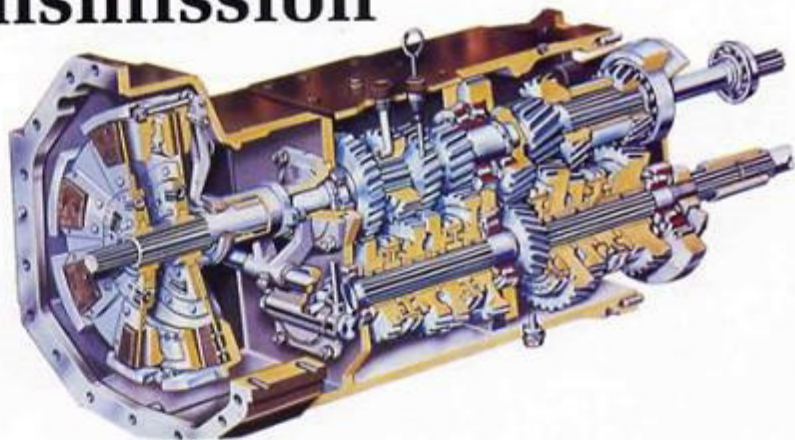


# Manual Transmission

The new Big 90 series offers different types of transmission to give full coverage for every working need:

- 16 forward + 16 reverse, with mechanical reverse gear and overlapping ranges. It offers eight speeds suitable for all field work, evenly divided into the two middle ranges, plus 4 slower and 4 faster speeds in the low and high ranges. The mechanical reverse gear is ideal for situations in which continuous changes of direction must be carried out quickly.

Each type of gearbox is fitted with forced lubrication, helical gears for a more even distribution of gear tooth loading and quieter operation. Synchronisation of the ranges and a maximum speed of 30 kph are provided on each type.



## Optional gearboxes

- 12 forward - 4 reverse, fully synchronised overlapping ranges.
- 24 forward + 8 reverse, including super-reduction unit for creeper speeds, fully synchronised, overlapping ranges. This

transmission offers a range of creeper speeds that enable the full power output of the engine to be used through the PTO particularly on trench-diggers or special harvesting machinery.

# Power shift

## POWER TRAIN

### Master clutch

Master clutch is replaced by a metallic damper coupling.

### Power-shift transmission

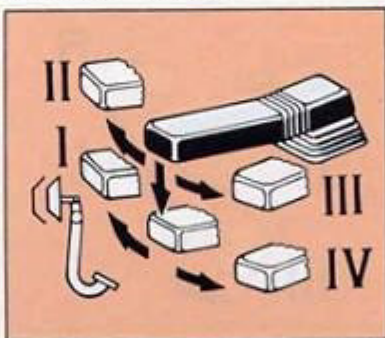
4 multidisc oil bath hydraulic clutches.

### Power-shift transmission

4 multidisc oil bath hydraulic clutches.

Transmission provides four gear ratios (1,2,3,4).

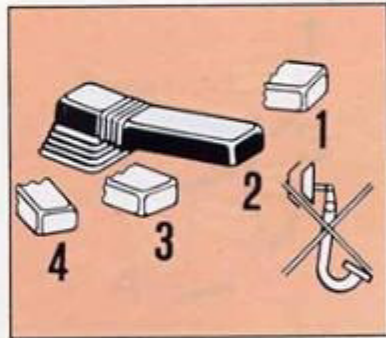
## REVERSER VERSION



Splitter provides four forward ranges:

- I = Creeper;
- II = Low;
- III = Normal;
- IV = High;

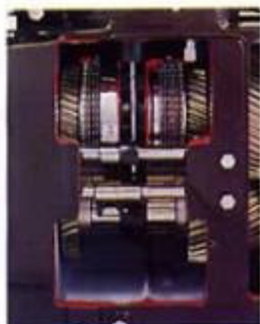
Thus, sixteen forward and sixteen reverse speeds are available.



## Operation

To change range without stopping the tractor, depress master clutch pedal (gear lever will automatically shift into first gear) and move splitter lever to engage the desired range. Slowly release master clutch pedal. Range shifting is synchronised.

To change up and down in the same range, without depressing master clutch pedal, move gear lever backwards or forwards pressing lightly downward.

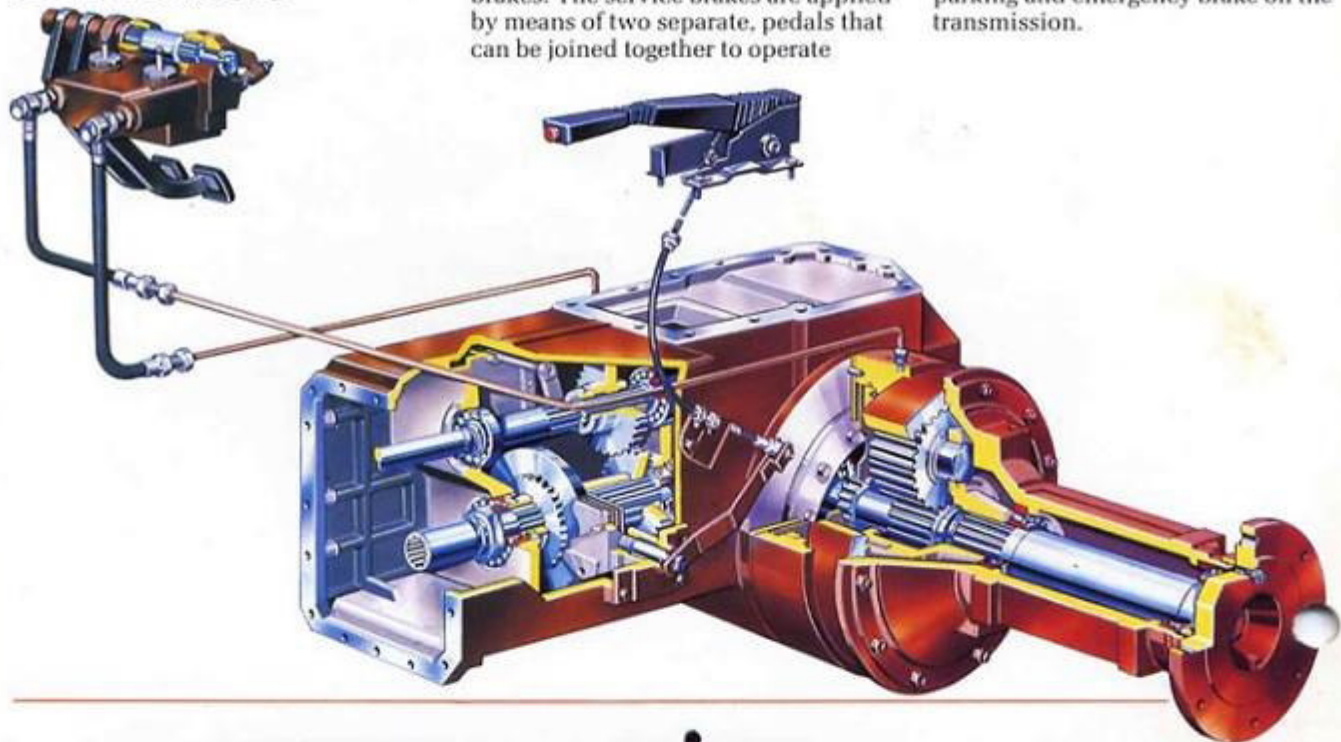




# Brakes

All Big 90 series models are fitted with hydrostatically operated oilbath disc brakes. The service brakes are applied by means of two separate, pedals that can be joined together to operate

simultaneously. There is also a separate, handoperated, parking and emergency brake on the transmission.



## FIATAGRI BIG 90 SERIES

DEALER



## FIATAGRI

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