NEW HOLLAND



TN60VA
TN75VA
TN95VA
Tractor

REPAIR MANUAL

NEW HOLLAND AGRICULTURE

SERVICE

87382279

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TN60VA, TN75VA, TN95VA
REPAIR MANUAL
COMPLETE CONTENTS

SECTION 00 - GENERAL 2

SECTION 10 - ENGINE 2

SECTION 18 - CLUTCH 7

SECTION 21 - TRANSMISSIONS 11

SECTION 23 - FWD TRANSFER BOX AND AUTO FWD 13

SECTION 25 - FRONT AXLE MECHANICAL TRANSMISSION 15

SECTION 27 - REAR AXLE MECHANICAL TRANSMISSION 19

SECTION 31 - MECHANICAL POWER TAKE-OFF 20

SECTION 33 - BRAKES 21

SECTION 35 - HYDRAULIC SYSTEMS 22

SECTION 41 - STEERING 25

SECTION 44 - AXLES AND WHEELS 27

SECTION 50 - CAB CLIMATE CONTROL 28

SECTION 55 - ELECTRICAL SYSTEM 30

SECTION 90 - PLATFORM, CAB, BODYWORK 38

The following pages are the collation of the contents pages from each section and chapter of the TNVA Series Repair manual. Complete Repair part # 87352279.

The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.

The sections listed above are the sections utilized for the TNVA Series Tractors.

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SECTION 00 - GENERAL

BOOK 1 - 87352280

Chapter 1 - General

CONTENTS

Section	Description	Page
	General Instructions	3
	Health and Safety	5
	Precautionary Statements	15
	Safety	16
	Ecology and the Environment	19
	Minimum Hardware Tightening Torques	20
	Federal Emissions Warranty	22
	Consumables	25

SECTION 10 - ENGINE

BOOK 1 - 87352280

Chapter 1 - Engine

CONTENTS

Section	Description	Page
	Specifications	3
	Engine Type	3
	Timing System	4
	Valve Timing Gears	4
	Crankcase and Cylinder Block	5
	Crankshaft and Bearings	6
	Connecting Rod	7
	Piston	8
	Tappet	8
	Rocker Arm and Valve	9
	Rotating Counterweight Dynamic Balancer	9
	Cylinder Head	10
	Tightening Torques	11
	Special Tools	12

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SECTION 10 - ENGINE

BOOK 1 - 87352280

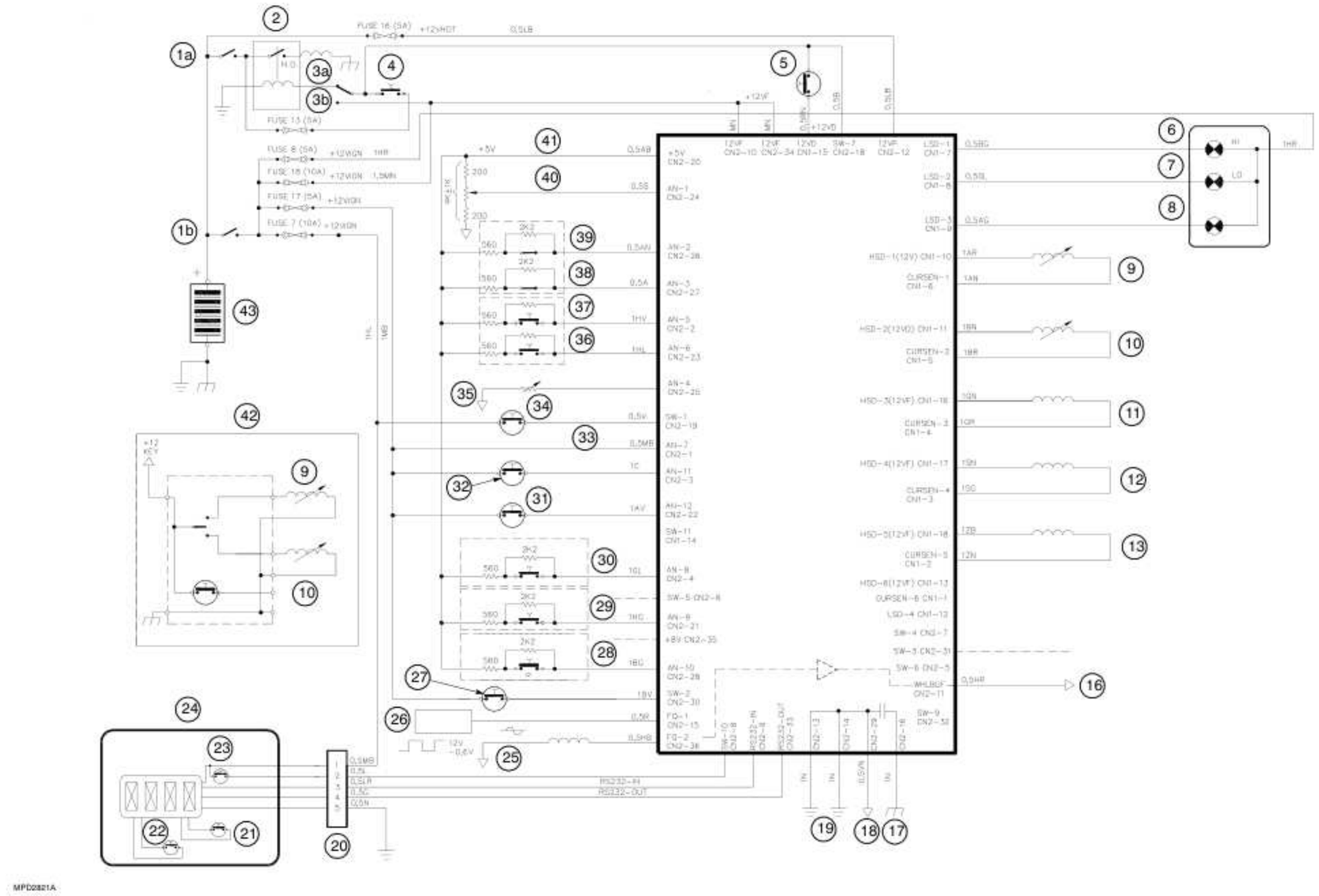
Chapter 1 - Engine (Continued)

CONTENTS

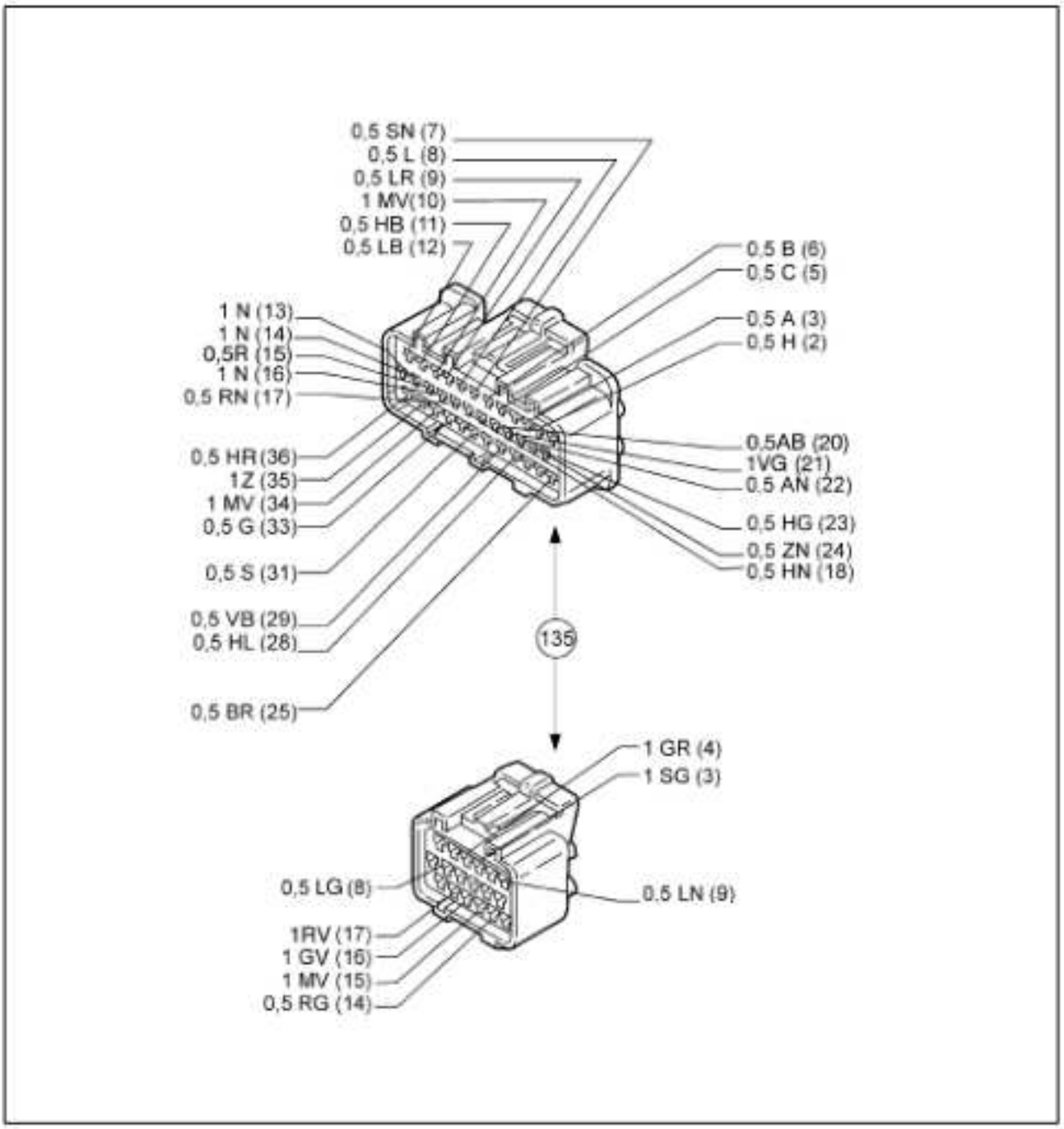
Section	Description	Page
	Description and Operation	14
	Sectional Views	14
	Troubleshooting	18
	Overhaul	22
	Engine	22
10 001 10	Removal	22
	Installation	28
10 001 30	Compression Test	29
10 001 54	Disassembly	30
	Assembly	46
	Crank, Main Bearings and Thrust Rings	46
	Rear Cover with Seal and Engine Flywheel	48
	Synchronizing the Timing Gears	49
	Bosch Injection Pump	50
	Cylinder Head	50
	Valve and Rocker Arm	51
	Fuel Injectors	52
	Cooling System Belt	53
	Cylinder Block	54
	Inspection	54
	Crankshaft and Main Bearings	56
	Crankshaft Inspection	56
	Main Bearing Inspection	58
	Main Bearing Cap Bolt Inspection	58
10 102 70	Crankshaft Front Oil Seal	59
	Removal	59
	Installation	60
	Engine Flywheel	61
	Refacing	61
	Flywheel Bolts	61
	Inspection	61

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POWER SHUTTLE ELECTRONIC CONTROL UNIT INPUT/OUTPUT WIRING DIAGRAM (32 + 16 and 44 + 16)



FAULT CODE 91



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BATTERY CHECKING AND MAINTENANCE

RELATIVE DENSITY

The relative density of the battery electrolyte shows the charge level of the battery. When the battery is fully charged, the relative density of the electrolyte is at least 34.30 to 77 °F (1.280 to 25 °C).

Alternatively, the approximate charge status can be measured by using a digital voltmeter (± 0.01V), as follows:

Less than 10.5 V battery unusable*
Less than 11.8 V Battery flat
Less than 12.3 V Battery half-charged
More than 12.6 V Battery fully-charged

* See the notes under the "TESTS" heading for instructions on how to recuperate a slightly sulphated battery.

The battery voltage must be measured on a flat battery, considering the following:

A. The battery must have been flat for at least four hours.

B. If the vehicle has been used recently, switch the headlamps on for two minutes.

When a battery is flat, the sulphuric acid in the electrolyte combines chemically with the plates and this decreases the relative density of the solution.

A battery densimeter will determine the relative density of the electrolyte in an element, and the quantity of sulphuric acid not used in the solution indicates the degree of charge of that element.

Low temperatures require a higher battery charge to operate. For example: a battery with a relative density of 34.20 to 80.6 °F (1.225 at 27 °C) can activate the starter motor at ambient temperatures, but will fail to do so if the temperature drops as a result of poor battery performance levels.

Table 1 shows the effect of temperature on battery performance.

Table 1

Temperature	Efficiency of a Fully Charged Battery
25.0 °F (25.0 °C)	100%
-23.9 °F (-4.5 °C)	82%
-12.1 °F (-24.0 °C)	64%
-17.5 °F (-27.5 °C)	58%
-23.8 °F (-31.0 °C)	50%
-30.1 °F (-34.5 °C)	40%
-35.5 °F (-37.5 °C)	33%

Maximum battery life can be achieved by taking care of and regularly checking the battery. The energy capacity output must not be exceeded by a constant/excessive overload and charging requirements must be respected.

BATTERY MAINTENANCE

CAUTION

Batteries contain sulphuric acid and generate a highly explosive hydrogen and oxygen mix during charging.

- *Never use devices that produce flames or sparks whilst checking the electrolyte level.*
- *Always protect hands and eyes before removing the battery caps.*

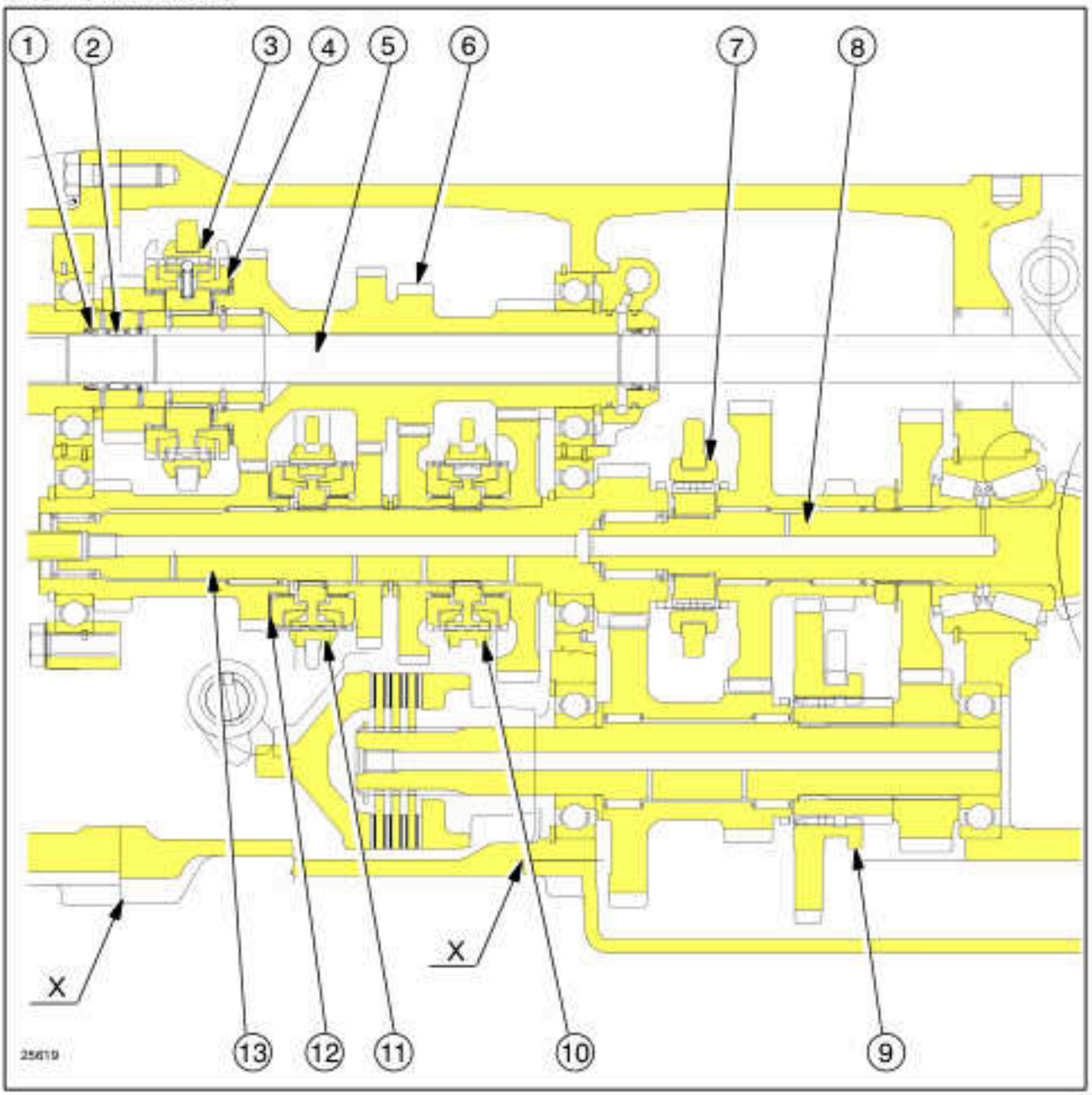
During battery maintenance, follow the steps below:

1. Keep the electrolyte at the recommended level of 0.6692 in. (17 mm) over the plates. If this level is not respected, the acid concentration will increase, which could cause damage to the separators and diminish plate performance.
2. Only use distilled or demineralized water, never overfill or use tap/rain water or other sources of water.
3. Keep the battery 75% charged (at least) to avoid plate sulphurisation, performance loss and possible freezing at low temperatures.
4. Avoid overcharging the battery, as excessive charge will generate high internal heat, causing grid deterioration water leaks.
5. During rapid recharging, make sure that the battery temperature does not exceed 122 °F (50 °C).
6. Do not add sulphuric acid to an element unless electrolyte has been spilled. Before topping up, make sure that the solution has the correct relative density. Slow recharge is the only way to recharge the battery completely. Use a high amperage battery charger to charge the battery with high current intensity for short periods of time, but this must be followed by a slow charge to achieve full capacity battery performance.

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DESCRIPTION AND OPERATION

SECTIONAL VIEWS



7

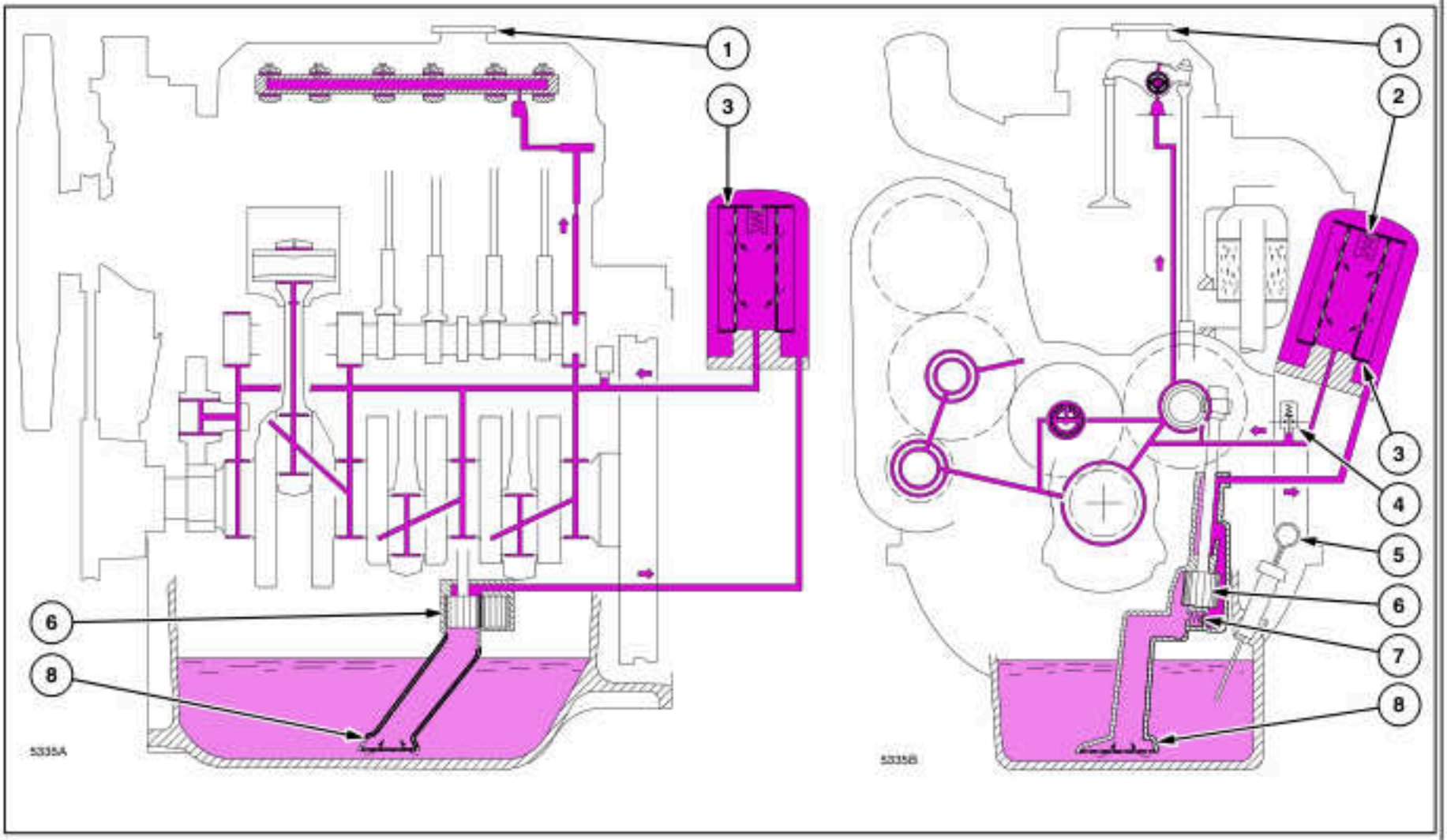
Longitudinal cross-sectional view of gearbox and gear range

1. Seal.
2. Power take-off shaft support roller bearings.
3. Reverser control synchroniser.
4. Gearbox driving gear clearance adjusting thickness.
5. Power take-off shaft.
6. Gearbox driving gear.
7. Selector sleeve for high or medium-low speeds.
8. Pinion shaft.
9. Selector sleeve for low or medium-high speeds.
10. Synchroniser for 1st and 2nd speed.
11. Synchroniser for 3rd and 4th speed.
12. Gearbox driven shaft gear clearance adjusting thickness.
13. Gearbox driven shaft.

NOTE: *On assembly apply a bead of sealing compound to the surfaces* ***X*** *as indicated on page 29.*

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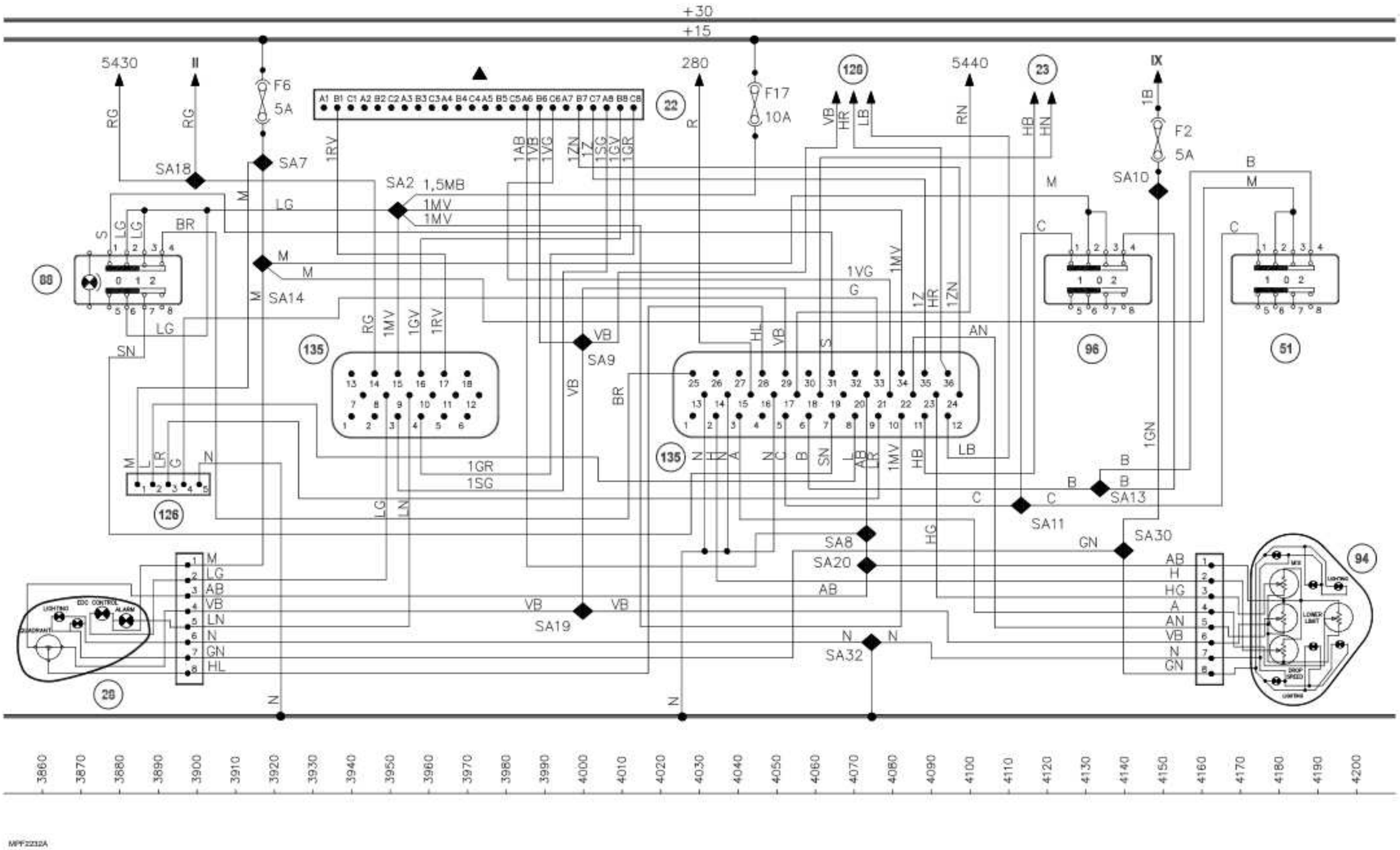


Engine lubrication system diagram (Naturally Aspirated Engine Shown) 1

1. Oil filler cap - 2. Filter safety valve (opens when oil pressure at filter inlet exceeds the outlet pressure by 1.5-1.7 bar/cm^2) - 3. Filter - 4. Engine lubrication oil low pressure indicator lamp switch (located on the dashboard) - 5. Dipstick - 6. Pump - 7. Oil pressure limiting valve - 8. Mesh filter on intake

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REAR ELECTRONIC LIFT CIRCUIT - DIAGRAM L



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