NEW HOLLAND TN75FA TN85FA TN95FA Tractor

SERVICE MANUAL



87675643

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TN75FA, TN85FA, TN95FA
REPAIR MANUAL
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The following pages are the collation of the contents pages from each section and chapter of the TNFA Series Repair manual. Complete Repair part # 87675643.

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 TNFA Series Tractors.

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BOOK 1 - 87675644

Chapter 1 - General

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Chapter 1 - Engine

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SECTION 10 - ENGINE

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Chapter 1 - Engine (Continued)

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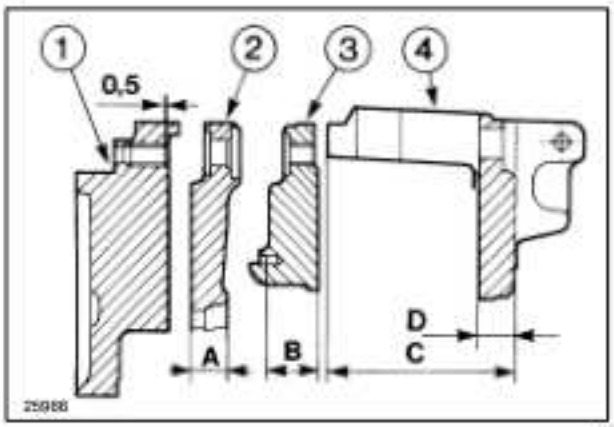
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CHECKS, MEASUREMENTS AND REPAIRS - DUAL CLUTCH

WARNING

Handle all parts carefully. Do not put your hands or fingers between parts. Wear suitable safety clothing – safety goggles, gloves and shoes.

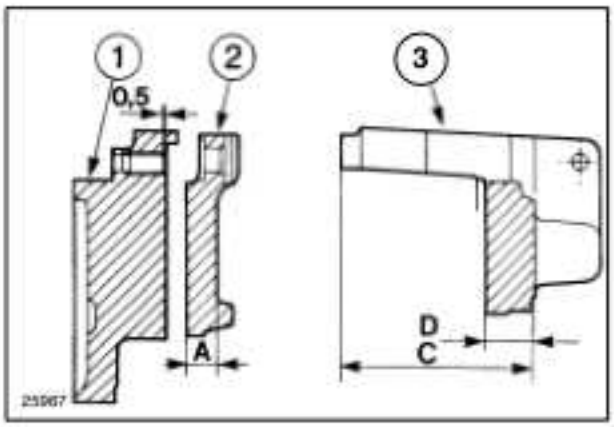


33

Minimum permissible dimensions after refacing of parts subject to wear in the 11"/11" dual clutch

A 15.5 mm (0.6102 in.); B 22.7 mm (0.8937 in.); D 15.8 mm (0.6220 in.).

1. Flywheel.
2. PTO clutch pressure plate.
3. Main clutch pressure plate.
4. Clutch cover.



34

Minimum permissible dimensions after refacing of parts subject to wear in the 11" single clutch

A 15.5 mm (0.6102 in.); C 15.8 mm (0.6220 in.).

1. Flywheel.
2. PTO clutch pressure plate.
3. Clutch cover.

- Check the degree of wear on the PTO disk (11, fig. 2) and gear, replacing them if the linings have worn down (or are nearly worn down) to the rivet heads.
- Replace the disk when the oil has soaked into the organic agglomerate surfaces.

Minimum permissible dimensions after refacing of parts subject to wear in the 11"/11" dual clutch and 11" single clutch.

- Check the friction surface conditions of the pressure plates and the clutch cover.
  Generally, by means of turning, up to 1 mm of material can be removed from the cast iron friction surfaces of the clutch cover (3), the pressure plate ring (2) and the flywheel (see Section 10).

When parts (1, 2, 3 and 4 fig. 33) are to be repaired by removing material, proceed as follows:

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***NOTE**:In this section, the Auto ECM FWD error codes are divided into two main pages, which face each other. One page describes the error code, and the conditions, causes, tests, effects, recovery, and other pertinent information of the error code, while the second page displays a flow chart for troubleshooting. Becoming familiar with both the error code description page and the flow chart page, as well as using them together when performing diagnostic testing on the Auto FWD, will improve repair capability, and reduce the time spent on troubleshooting. In addition, a third page identifies the connectors involved with that error code.*

FAULT CODE 11 – ECM 12 VOLT FUSED (F9) SUPPLY.

Conditions:

- When the ignition switch is on, ECM detects voltage at ECM connector pin 19 drops below 12 volts or not present.

Causes:

- Faulty wiring; circuit is short to ground or open between Battery and Key Switch. Or between Key Switch and Fuse F9, or across fuse, or between Fuse F9 and ECM connector, pin 19.
- Faulty Fuse.
- Faulty ECM.

Tests:

- H9, Channel 8 value is below 1000 counts.

Effects:

- FWD stays engaged.
- Front PTO is disengaged.
- FWD control is critically disabled; but can be re-enabled by cycling the Ignition Switch, (shutting off the tractor).

Recovery:

- Cause must be resolved and error must be cleared using the CDU or EST, HF Menu.

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3. Armature insulation can be checked by connecting an ohmmeter (1) between switch segments and armature shaft. This reading should show infinity, i.e. there should be no continuity.

4. To test there are not short circuits, use an appropriate testing device. The only alternative is to try changing the armature.

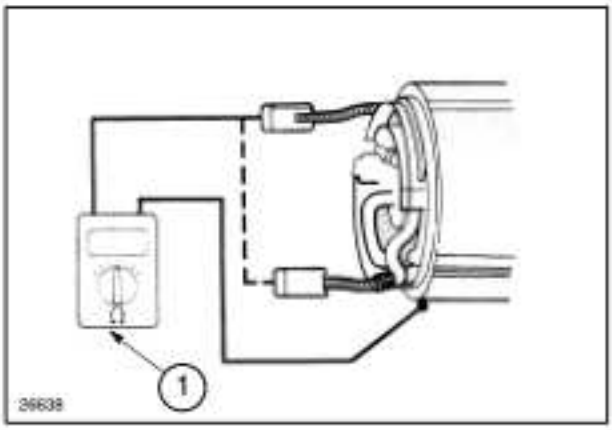
5. If the armature circumference has obviously been in contact with the pole pieces, the pole bearings are probably too worn. First check the pole piece are fixed and that the armature spins well in a lathe. If necessary, change the armature bearing.

FIELD WINDINGS (Fig. 11)

1. To test field winding insulation, connect an ohmmeter to each of the coil brushes in turn and to a clean and unpainted area of the casing. There should be no readings, i.e. there should be no continuity.

2. To test coil continuity, connect an ohmmeter to each of the coil brushes in turn and to the main power clamp (biggest braided wire). The reading should be 1 Ω.

3. If there is a fault in the field windings, change the whole box and field winding system.



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BEARING BUSHING

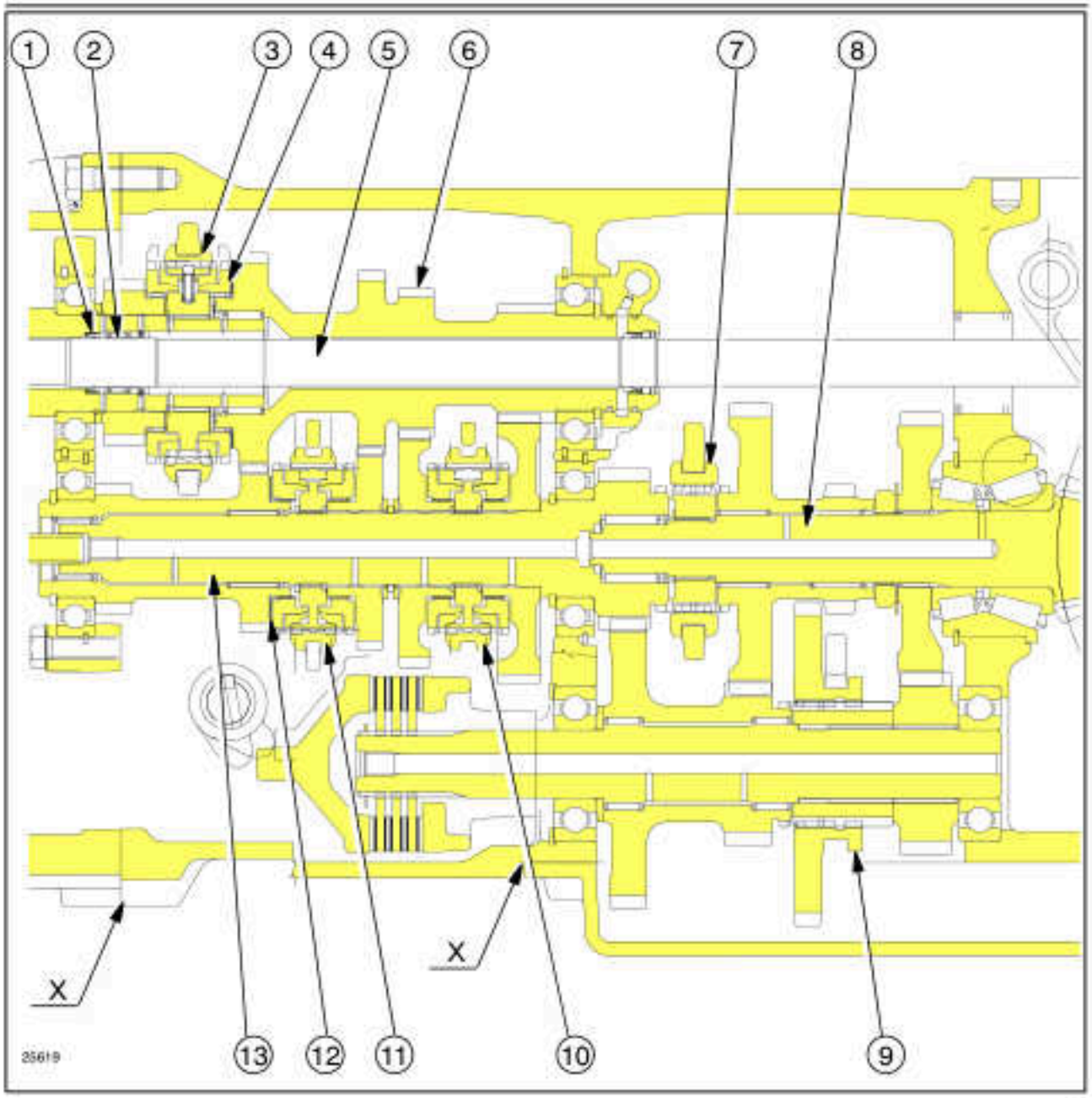
1. Check if the bushing on the brush plate and the box on the drive pinion side are worn. Assemble the armature shaft and note play. Change the bushing if there is too much play. Check the field poles to see is there is any signs scraping against the casing. This could also be caused by a worn bushing.

DRIVE PINION

1. Check roller clutch operation. The pinion must spin clockwise only. If the pinion is either locked, or spins in both ways, or if the pinion teeth are damaged, assemble a new control unit.

If there is clear evidence of damage to pinion teeth, check flywheel ring gear, as described in section 10.

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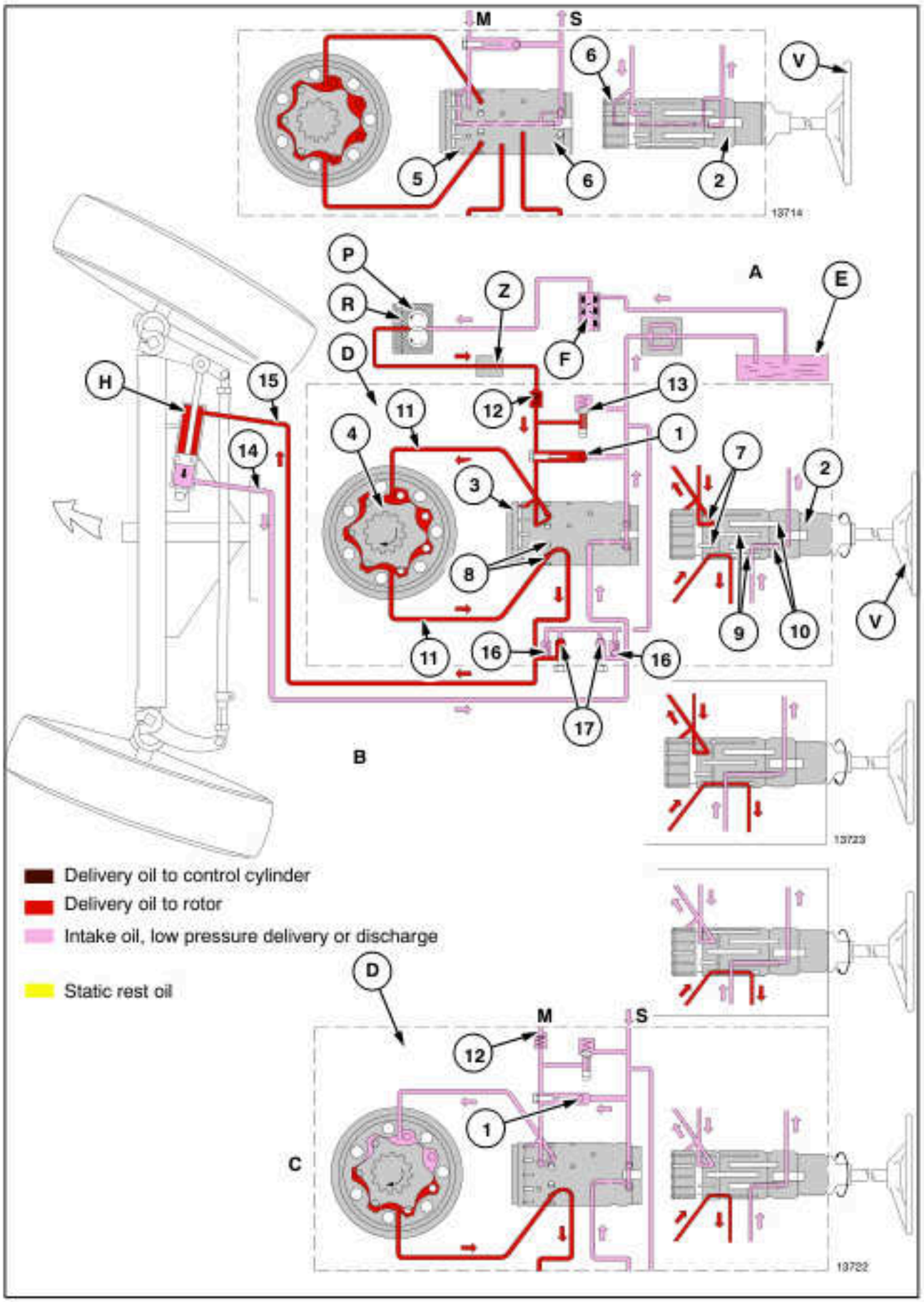
6

Longitudinal cross-sectional view of gearbox and gear range (16 + 16 Synchro-Command)

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

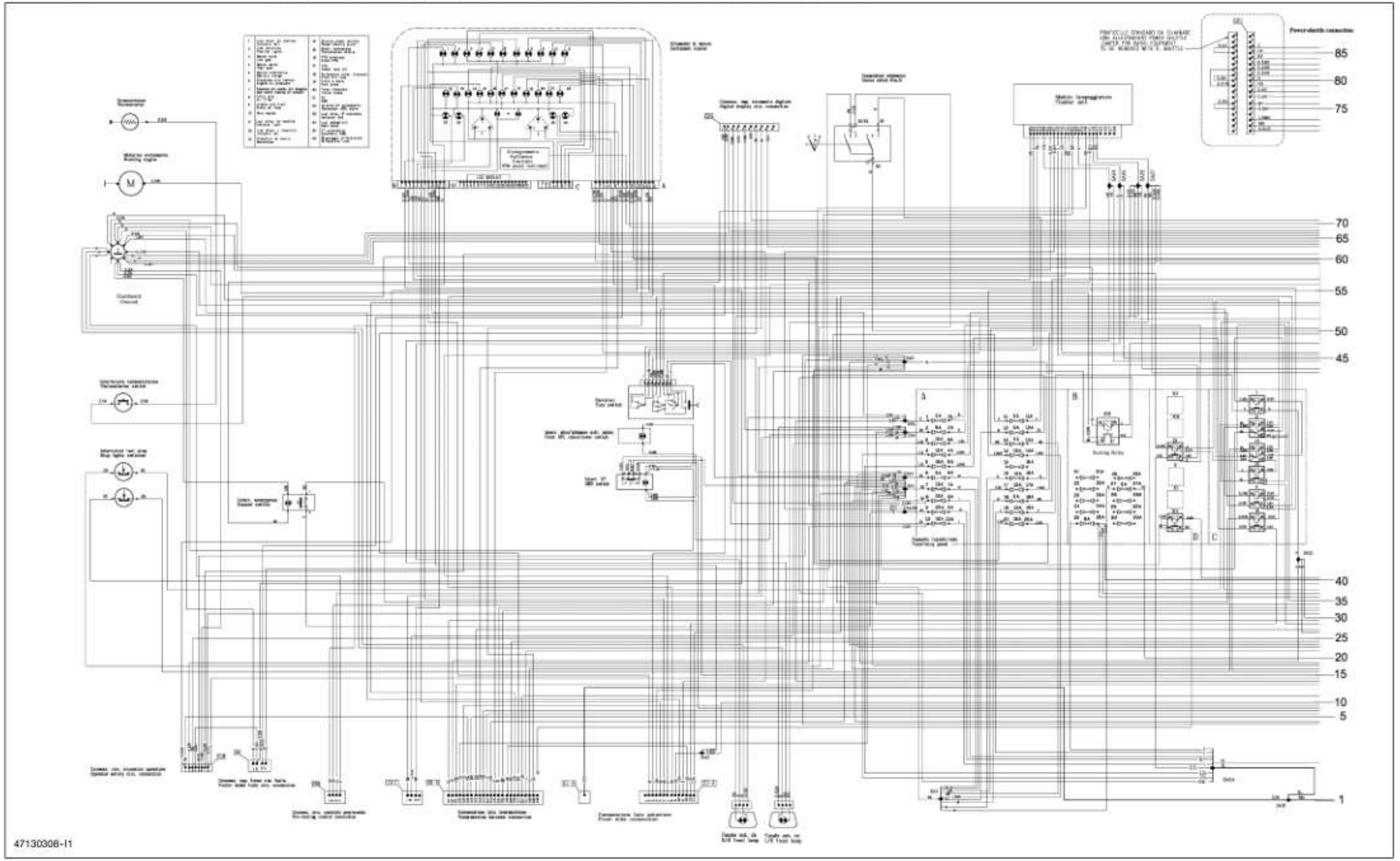
NOTE: *On assembly apply sealing compound to surfaces* ***X*** *as shown on page 34.*

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DIAGRAM I-1 **AUTO 4WD / HYDRAULIC DIFF LOCK / MECHANICAL LIFT / MAIN HARNESS / LESS CAB**



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