

NEW HOLLAND

REPAIR MANUAL

TB100
TB110
TB120
Tractor

NEW HOLLAND AGRICULTURE

SERVICE

87046217

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The following pages are the collation of the contents pages from each section and chapter of the TB100, TB110, TB120, and TB120 Mudder Tractor Repair manual. Complete Repair part # 87046217.

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 TB100, TB110, TB120, and TB120 Mudder Tractors.

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SECTION 00 - GENERAL

BOOK 1 - 87046218

Chapter 1 - General

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Chapter 1 - Diesel Engines

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- Place the circular bar from Tool No. FNH04775 across the two bearing bores in the support casing, Figure 72 and use a depth gauge to measure and record as dimension 'B'.
- Use the recorded measurements and the formula below to determine the required thickness of shim needed:

C = B – 25.0 mm (0.98 in.) [Diameter of bar] + 1/2 A

The difference between calculation 'C' and the dimension etched on the head of the pinion results in the actual shim thickness.

Example:

C = 104.1 mm – 25 mm +1/2 (90 mm) = 124.1 mm

Etched on the pinion is 121.0 mm

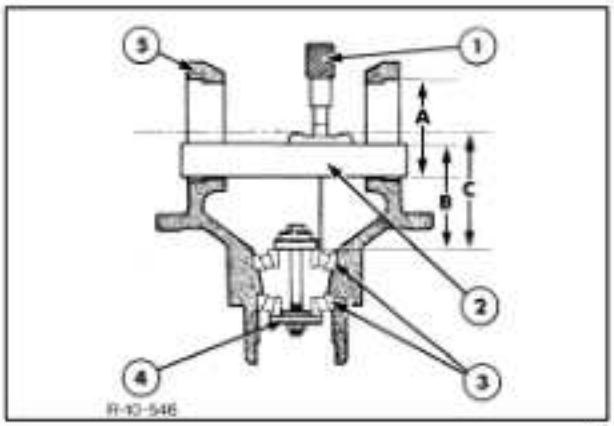
124.1 mm – 121.0 mm = 3.1 mm (shim thickness)

Select the calculated shim thickness from the range available, (See Specifications). Install on the pinion shaft with the chamfer adjacent to the pinion gear.

3. Press the inner bearing onto the pinion shaft until completely seated, Figure 73.

IMPORTANT: *Use a new collapsible spacer on the pinion shaft. DO NOT use the old part.*

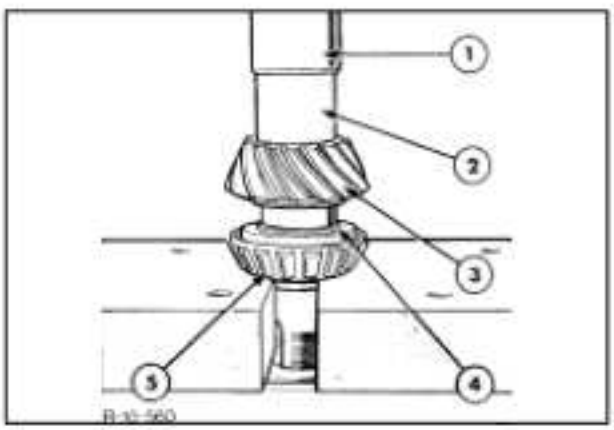
4. Assemble the pinion bearing and spacer assembly into the differential support casing and install the outer bearing and retaining nut. Eliminate bearing free-play by tightening the nut, using Wrench, Tool No. FTC 307978.



72

Measuring Dimension 'B'

1. Depth Gauge
2. Bar Gauge
3. Pinion Shaft Bearings
4. Pinion Setting Gauge
5. Differential Support Casing



73

Pressing Inner Bearing onto Pinion

1. Press
2. Protector
3. Pinion
4. Shim
5. Inner Bearing Race

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FAULT FINDING

IMPORTANT: *To avoid repeat failures, investigate and correct the cause of the defect when making repairs to the steering system.*

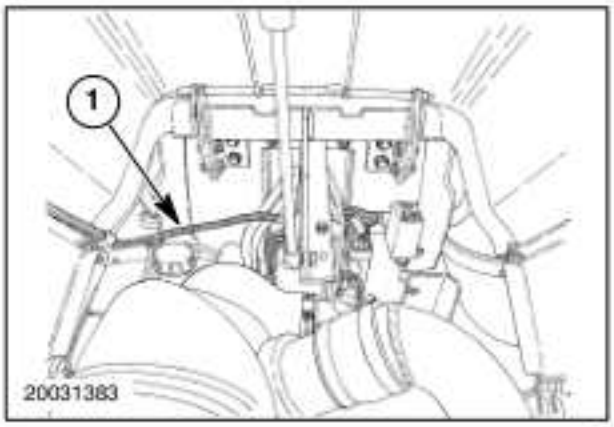
STEERING SYSTEM

Problem	Probable Cause	Remedy
No steering available, or excessive effort required to steer	Oil level incorrect	Replenish oil with the correct grade and quantity
	Air in system	Tighten loose connections. Bleed air from system
	Relief valve malfunctioning	Test relief valve and overhaul or replace if necessary
	Steering pump malfunctioning	Test pump and overhaul if required
	Steering cylinder leaking	Tighten connections or overhaul cylinder
	Steering column shaft damaged	Repair or replace
	Control valve spool sticking or worn	Repair or replace
	Metering unit malfunctioning	Repair or replace
Steering wanders	Linkage or ball joint excessive play	Check for correct torque, Repair or replace defective components
	Steering cylinder leaking	Tighten connections or overhaul cylinder
	Metering unit malfunctioning	Repair or replace
	Control valve spool sticking or worn	Repair or replace
	Control valve return springs worn	Replace springs
	Tire pressures not equal	Service both tires to correct pressure
	Toe-in out of adjustment	Adjust toe-in
	Torsion bar worn (2WD)	Repair or replace
	Valve shimming incorrect	Check for correct amount of shims and modify accordingly
Front wheels surge when steering	Steering cylinder leaking	Tighten connections or overhaul cylinder
	Control valve spool sticking or worn	Repair or replace
	Control valve return springs worn	Replace springs
	Metering unit malfunctioning	Repair or replace
High steering system noise	Wrong filter installed on steering pump, causing cavitation and vibration in piping to steering motor	Verify steering pump filter contains correct part number, and that it is correctly installed (Refer to ASIST 3572)
	Oil level incorrect	Replenish oil with the correct grade and quantity
	Air in system	Tighten loose connections. Bleed air from system
	Oil contains water	Replace oil

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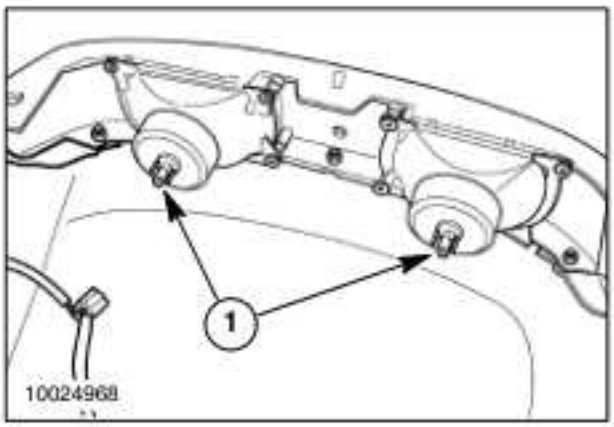
Front Headlamp Harness - Description and Location

The grille mounted headlamp harness (1) connects to the rear-main harness at the firewall of the engine compartment.



1

The harness clamps to the hood assembly and connects to each headlamp (1).



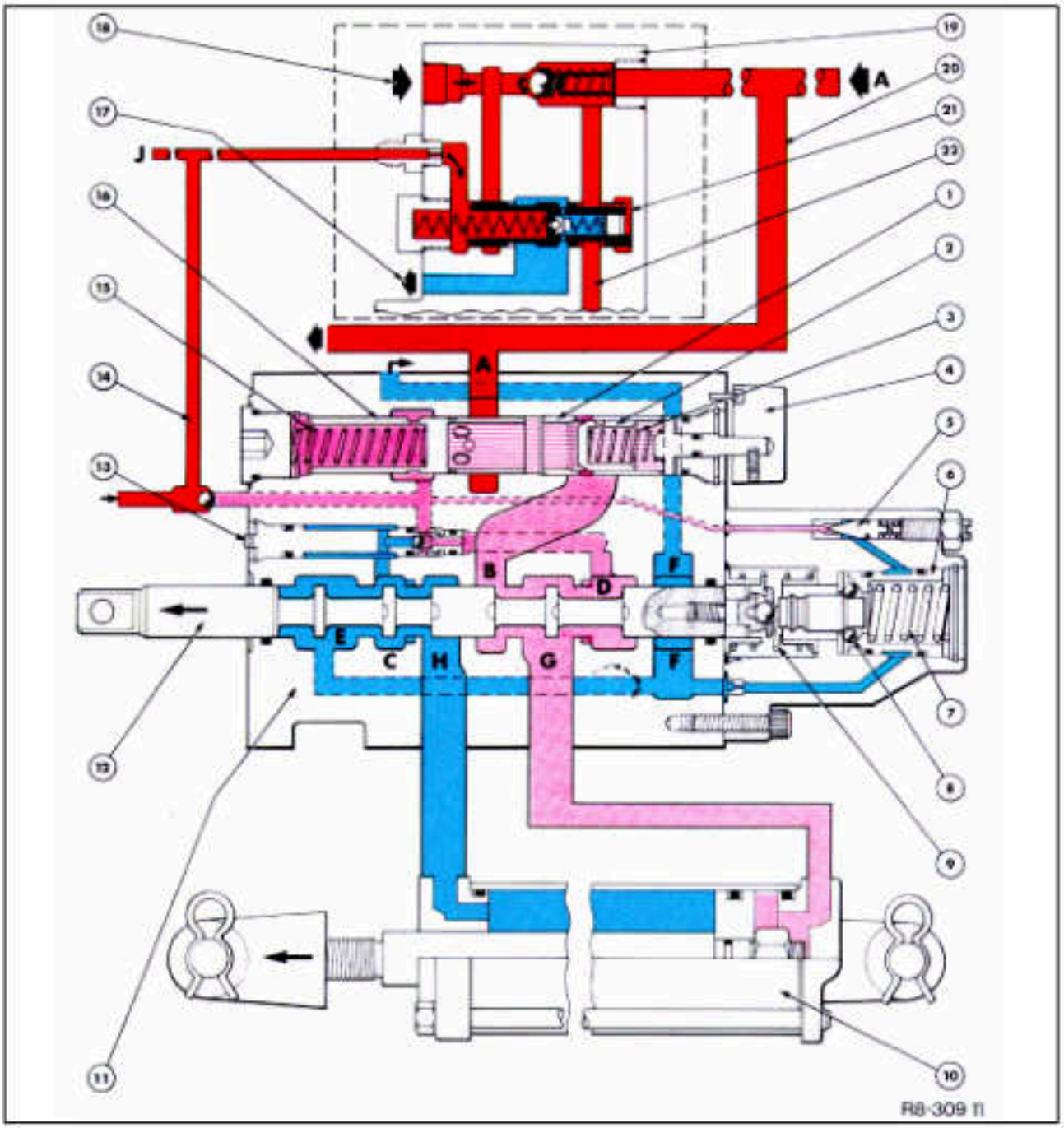
2

The electrical system of the TB series tractor consists of the following harnesses:

- Front Headlamp Harness
- Front Main Harness
- Rear Main Harness
- FWD & Dual Power Harness [where installed]
- Rear Lights Harness

Each harness contains the necessary connectors for attaching electrical components over a wide range of models. When a component is uninstalled for any reason, secure the unattached harness connector away from hot engine components, and moving parts.

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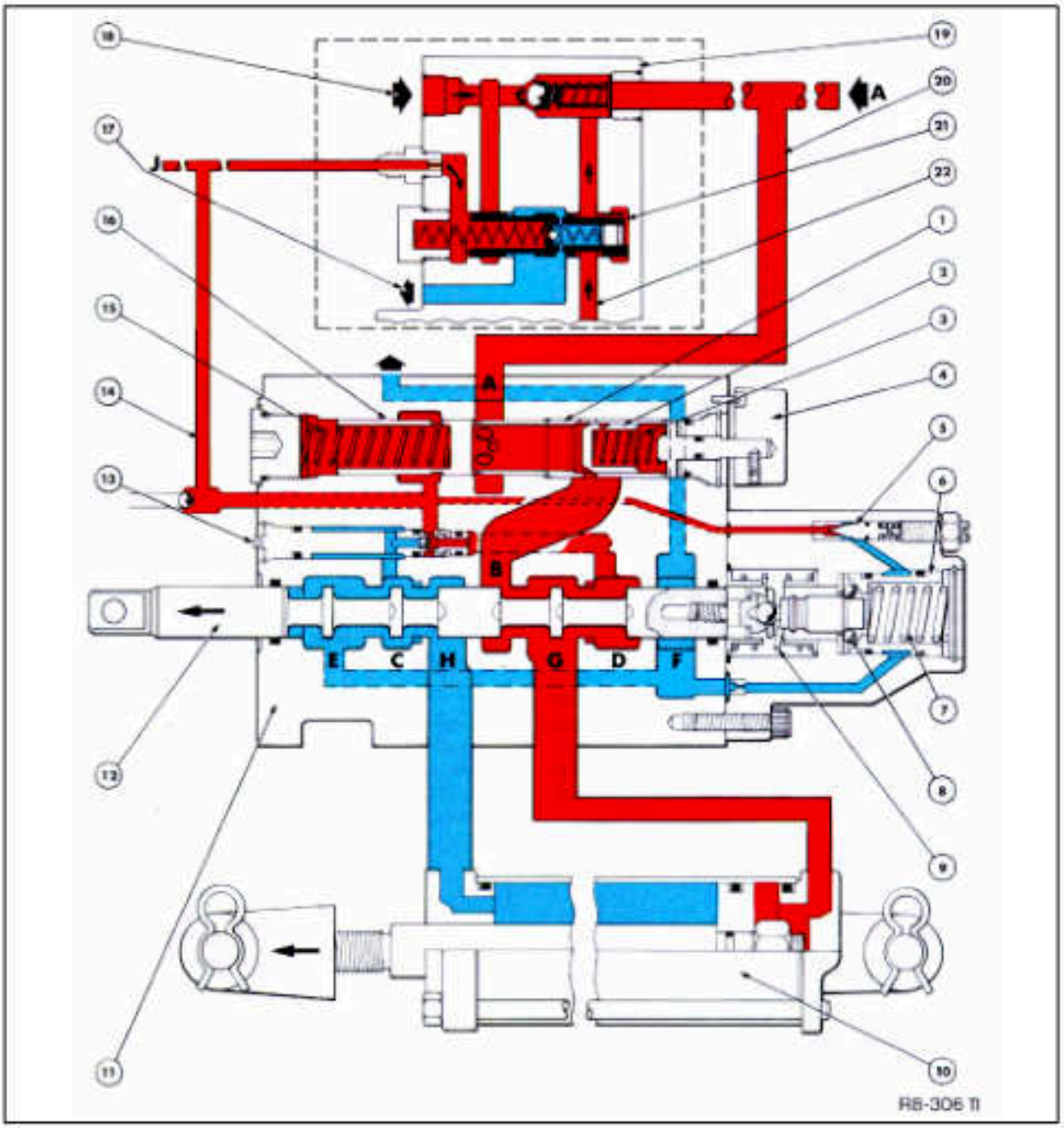
7

Double Remote Control Valve Operation

Pump Pressure Oil | Controlled Oil Flow | Reduced Oil Flow | Exhaust Oil

1. Flow Control Restrictor
2. Load Check Valve
3. Check Valve Spring
4. Flow Control Knob
5. Detent Regulating Valve
6. Detent Spool
7. Detent Plunger and Spring
8. Detent Balls
9. Centering Spring
10. External Cylinder
11. Valve Body
12. Control Valve Spool
13. Shuttle Check Valve
14. Load Sense Line (Pilot Line)
15. Flow Control Spring
16. Flow Control Spool
17. Return to Sump
18. Auxiliary Pump Supply
19. Hydraulic Priority Valve Assembly
20. Supply to Remote Valve
21. Combining (Sequencing) Valve
22. Main Pump Supply via Combining Valve

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4

Single Remote Control Valve Operation-Raising

Pump Pressure Oil

Exhaust Oil

1. Flow Control Restrictor
2. Load Check Valve
3. Check Valve Spring
4. Flow Control Knob
5. Detent Regulating Valve
6. Detent Spool
7. Detent Plunger and Spring
8. Detent Balls
9. Centering Spring
10. External Cylinder
11. Valve Body
12. Control Valve Spool
13. Shuttle Check Valve
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