SERVICE MANUAL

8010 / 9010

Tractor

Part number 47866579

English

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NEW HOLLAND AGRICULTURE

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Clutch - Troubleshooting

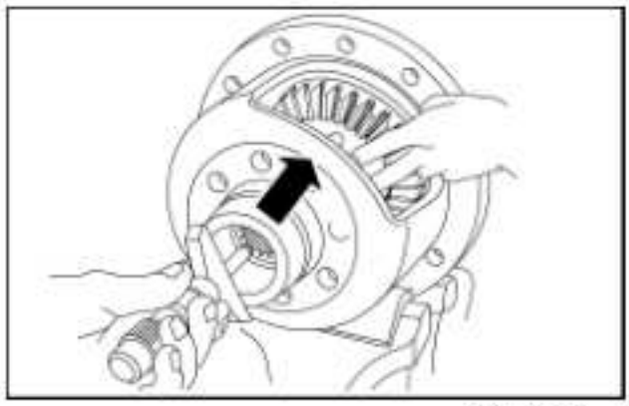
Problem	Possible Cause	Correction
Clutch slips	Clutch disc, pressure plate and/or flywheel wear	Replace clutch disc; replace clutch if necessary and grind the flywheel
	Damaged or bent or broken fingers	Replace finger assembly
	Oil or grease on friction material	Replace clutch disc; repair leak of lubricant in to clutch housing; thoroughly clean friction surfaces
Clutch grabs	Stiff external control linkage	Check and lubricate linkage pivot points
	Warped clutch disc	Replace clutch disc
	Clutch disc with damaged damper springs or loose hub	Replace clutch disc
	Oil or grease on friction material	Replace clutch disc; repair leak of lubricant in to clutch housing; thoroughly clean friction surfaces
	Finger springs broken	Replace finger springs
Clutch noise at engagement and /or disengagement	Warped clutch disc	Replace clutch disc
	Damaged clutch disc damper springs	Replace clutch disc
	Excess backlash on clutch disc to hub meshing splines	Replace clutch disc and shaft, as necessary
	Worn clutch release bearing	Replace bearing
Clutch control pedal hardness	Hard pedal	Check and lubricate linkage.
	Broken or disconnected clutch return spring.	Replace or hook up clutch return spring.
Clutch fails to disconnect and drags	Warped clutch disc	Replace clutch disc
	Damaged clutch release bearing	Replace clutch release bearing
	Damaged finger spring	Replace finger springs

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Differential - Adjust

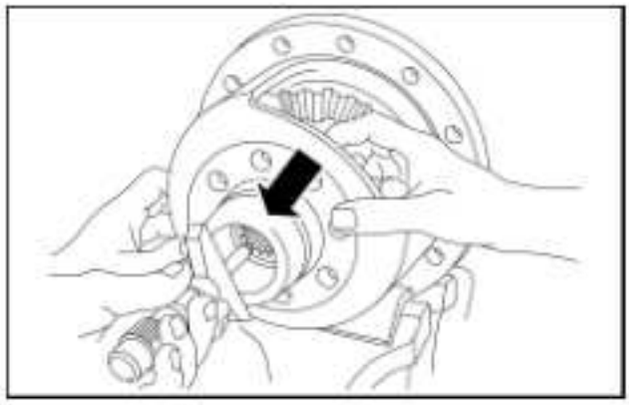
Differential pinion and side gear backlash adjustment

1. Fit the two side gears in the differential carrier without the shims.
2. Install differential pinions complete with thrust washer and journal and tighten bolts a few turns to prevent journal work out.
3. Bring left-hand side gear into full contact with differential pinion.
4. Using a depth gauge measure dimension at two diametrically opposed points and average the two readings.



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5. Then push side gear into contact with differential carrier and measure dimension.
6. Repeat the same operations on right-hand side gear. End float of each side gear without the baulk ring must be:
   Gs or Gd = H1 - H2
   where:
   Gs = Left-hand side gear end float.
   Gd = Right-hand side gear end float.
   H1 and H2 = Dimensions measured on left-hand side or right-hand side gears.
   Normal differential pinion and side gear backlash is **0.15 mm** (**0.01 in**).
   Note that the average ratio normal backlash to the equivalent side gear end float is 1 to 1.7.
   Side gear end float corresponding to normal backlash will be:
   0.15 x 1.8 = **0.250 mm** (**0.010 in**).
   Consequently the shim thickness required in the differential carrier is given by:
   Ss = Gs - 0.25 (for left-hand side gear)
   Sd = Gd - 0.25 (for right-hand side gear)
   Available shims are **1.200 - 2.000 mm** (**0.047 - 0.079 in**).
   Install closest to calculated thickness.



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Wiring harnesses - Repair

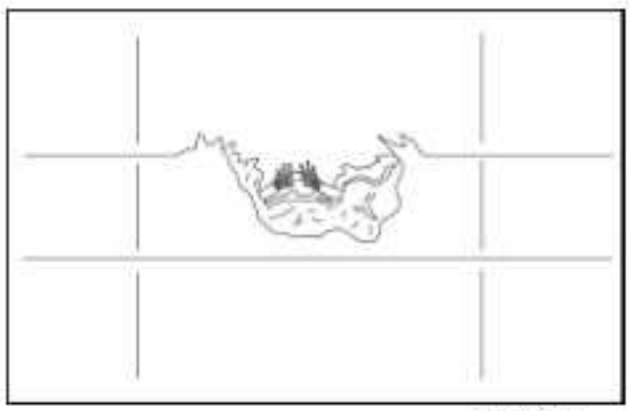
Temporary wiring harness repair

The following method to repair wiring is a temporary expedient only. Wiring should be replaced as soon as possible. Replacement of temporary repaired cables with new is particularly important if the tractor is to be used for puddling, spraying etc, as water/chemicals can enter the repaired area, travel up the cable and damage electrical components. Do not attempt to repair the wire on any system sensors as these are sealed and should only be replaced with a new component.

NOTE: *When conducting a cable repair it is important that only resin cored solder is used.Use of other types of solder may result in further cable damage.*

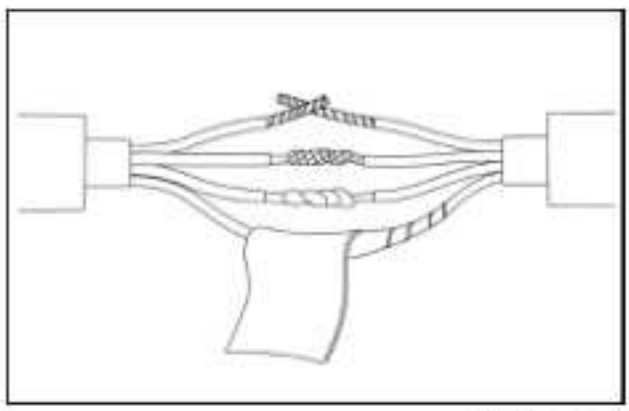
To carry out a temporary repair, proceed as follows:-

1. Locate damaged portion of cable then cut away outer protective cover on both sides of the damaged area.



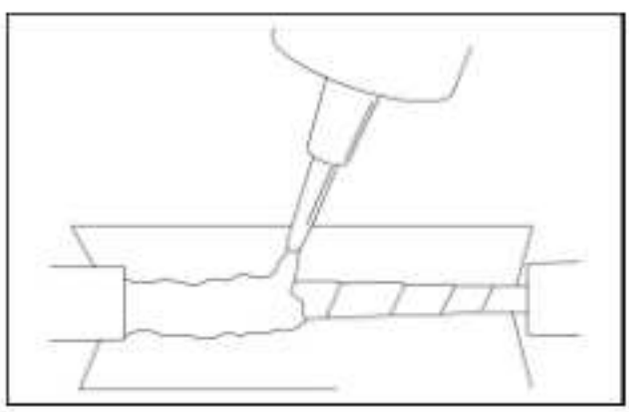
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2. Peel back the cable from both ends of the damaged area and carefully cut away the inner cable cover at the damaged area and strip about **13.00 mm** (**0.51 in**) of insulation from the wires. Do not cut away any wire strands.
3. Using a suitable solvent, clean about **50.00 mm** (**1.97 in**) from each cover end. Clean the grey cable cover and the individual leads.
4. Twist two bare leads together for each damaged lead, being careful to match wire colors, then solder the leads using resin cored solder. Tape each repaired lead with vinyl insulation tape, figure **2**.



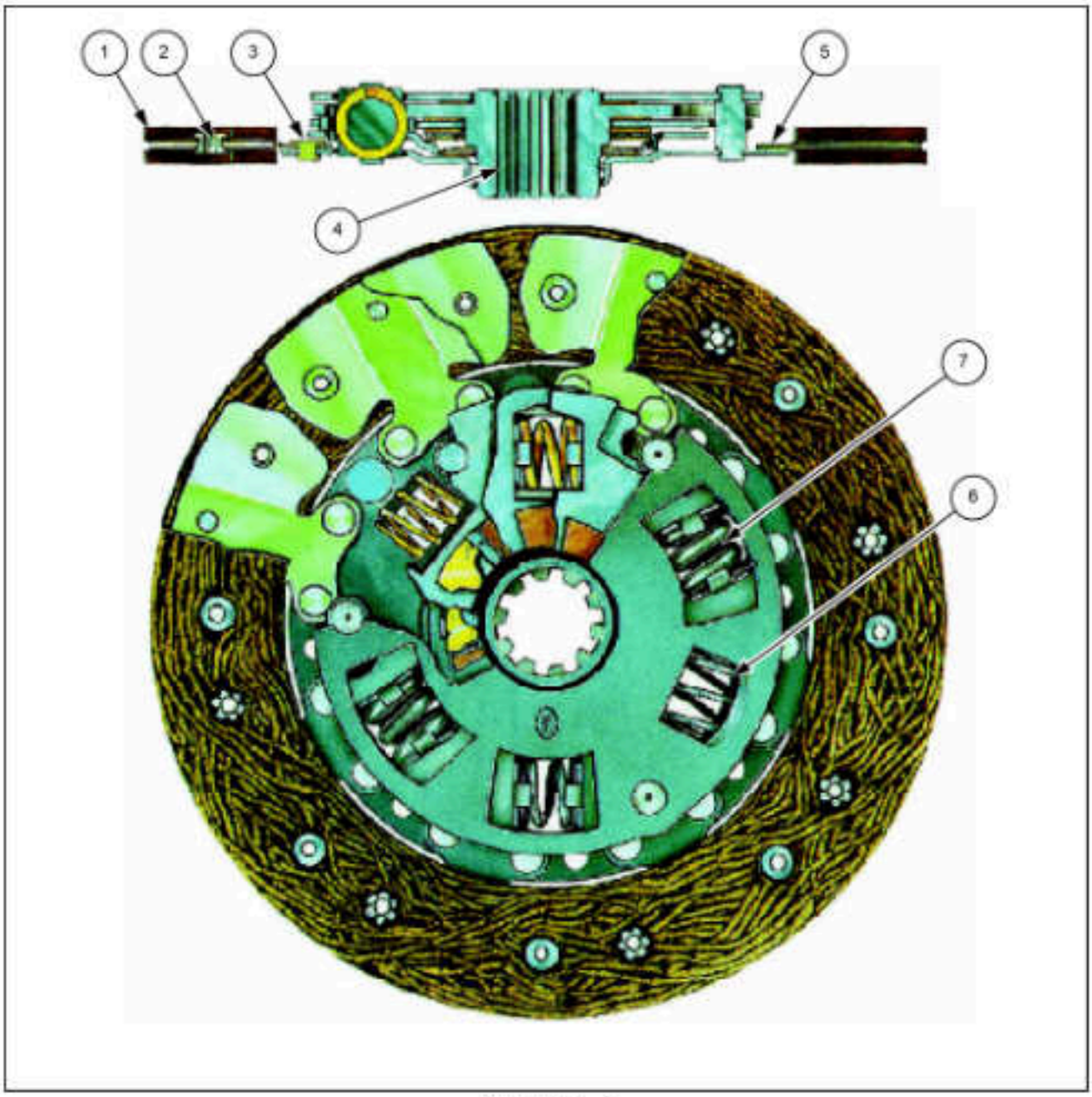
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5. Wind a layer of vinyl insulation tape up to the grey cable cover at each end of the repair section. Make a paper trough, figure **3**, then apply silicon rubber compound (non hardening sealant) over the repaired section up to the cover ends. Sufficient sealant must be used to fill the ends of the cut away area.



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Mechanical version

1. Clutch facing
2. Facing rivet
3. Segment rivet
4. Hub
5. Segment
6. Idle damper spring
7. Main damper spring

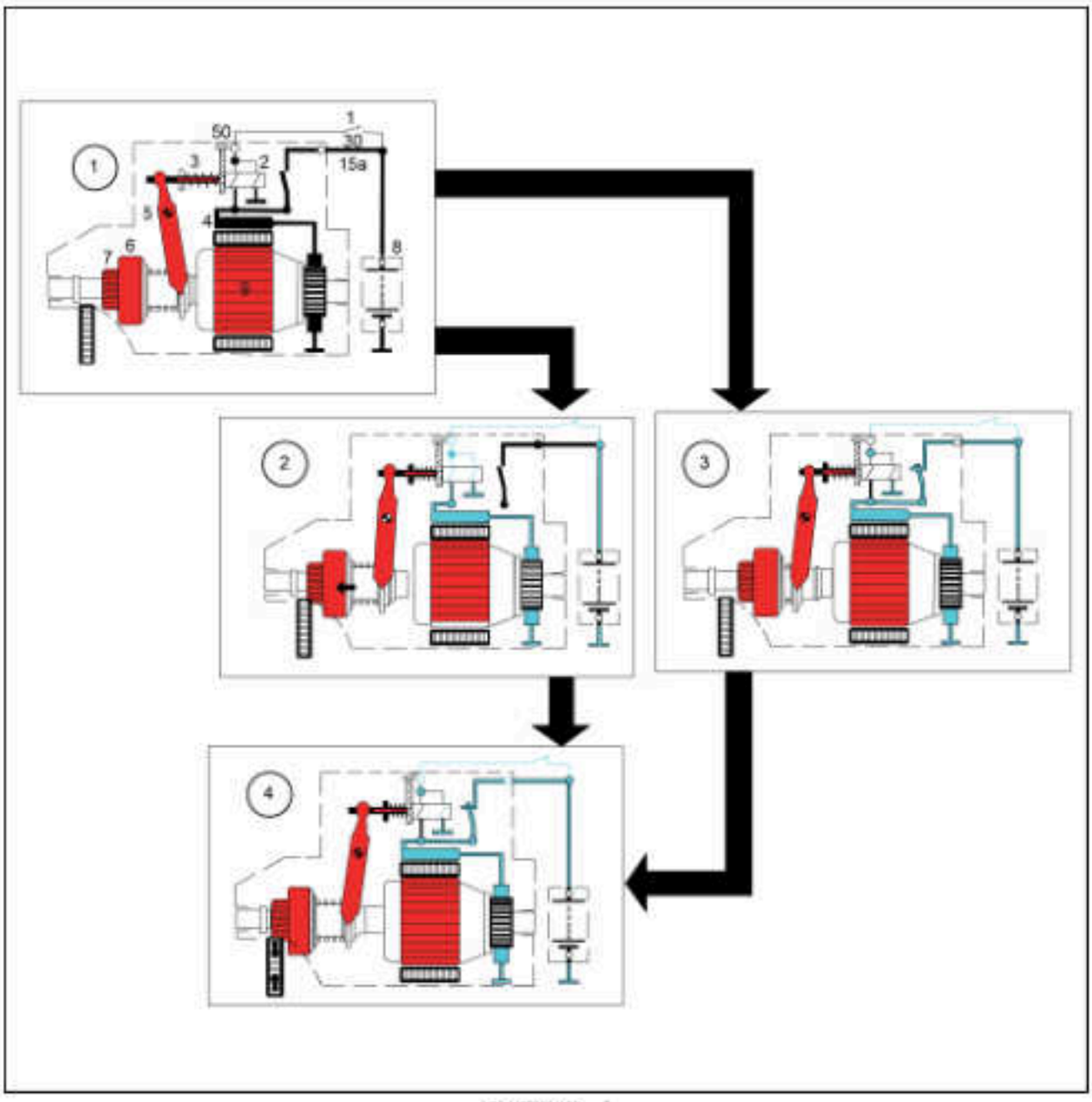
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Engine starting system - Overview

Tractor is fitted with a **12 V**, solenoid operated pre-engaged type starter.

When the key is turned to the start position, an electrical circuit is made, from the key switch, through gearbox mounted safety start switch to the starter solenoid. The electricity in this circuit energies the solenoid coils and the solenoid plunger is magnetically attracted into the solenoid core. This movement, transmitted through a mechanical linkage pulls the drive pinion to mesh with the flywheel ring gear. When the pinion gear is fully meshed with the ring gear the solenoid plunger reaches the end of its travel and contacts with a switch connecting the battery directly to the starter motor. This switch directs battery power directly to the starter motor, which causes it to rotate and as a consequence, the engine is cranked to start.

When the key switch is released, battery power to the solenoid is removed. The solenoid plunger returns to rest position (aided by the solenoid plunger spring) and the starter pinion is released from the flywheel ring gear, this also breaks the battery connection. To protect the starter motor from high engine speed, an over run clutch is fitted between the starter motor and pinion gear.



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