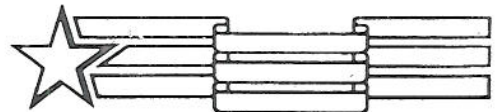




Ingersoll

**ATTACHMENT DRIVE CLUTCH
ELECTRIC
Service Manual 8-56430**

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QUALITY IN THE AMERICAN TRADITION

Ingersoll Equipment Co., Inc.

Winneconne, Wisconsin 54986-9576

BURNISHING CLUTCH

IMPORTANT: The clutch brake must be burnished before being placed into service using the following procedure:

1. Install the mower or other PTO driven attachment.
2. Run the engine at 50% throttle.
3. Engage and disengage the clutch 5 times. (10 seconds on, 10 seconds off).
4. Increase engine to 75% throttle.
5. Engage and disengage the clutch 5 more times. (10 seconds on, 10 seconds off).

TROUBLESHOOTING CLUTCH

STEP 1 MEASURE CLUTCH COIL RESISTANCE

1. Turn engine and PTO switch off.
2. Disconnect clutch wire connection.
3. Select meter to RX1 ohm scale.
4. Connect meter lead wires to A and B terminals in the clutch connector (See Figure 1).
5. If meter reads below 2.40 ohms or above 3.40 ohms, then the clutch has failed and needs to be replaced.

If meter reads between 2.40 and 3.40 ohms, proceed to Step 2.

STEP 2: MEASURE CLUTCH CURRENT DRAW

1. Turn engine off.
2. Disconnect clutch wire connection.

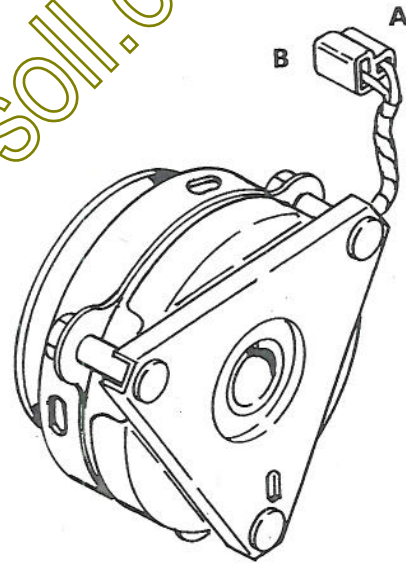


FIGURE 1

3. Select meter to check amps (10 amp scale).
4. Connect one meter lead wire to terminal in clutch connector at A (See Figure 2).
5. Connect the other meter lead wire to the corresponding terminal in the mating connector at C (See Figure 2).
6. Connect a short wire from D to B terminals in both connectors (See Figure 2).
7. Turn PTO switch on.
8. If meter reads below 3.5 amps, the problem would be in the electrical system leading to the clutch (battery, switch, wires, etc).

If meter read 3.5 amps or above, proceed to Step 3.

STEP 3: CHECK AIR GAP SETTING

1. Turn engine and PTO switch off.
2. Locate the three "windows" or "notches" where the air gap is checked (See Figure 3).
3. With feeler gauge check gap at all three locations (minimum of two).
4. Factory air gap setting is .010" - .025".
5. If gap doesn't fall between .010" - .025" then reset using a .017" feeler gauge.

Changing the air gap is achieved by tightening and/or loosening the three nuts.

If you find after completing Steps 1, 2 and 3 that:

1. The resistance falls between 2.40 and 3.40.
2. The amp draw is 3.50 or above.
3. The air gap is between .010" - .025" or reset to .017".

Then the electric clutch is within factory specifications and is not the source of the problem.

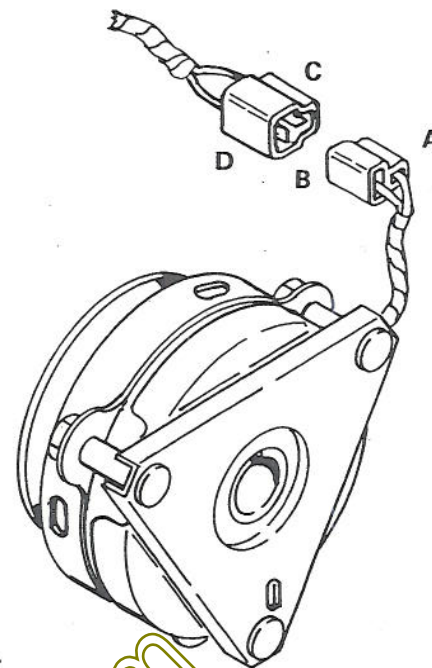


FIGURE 2

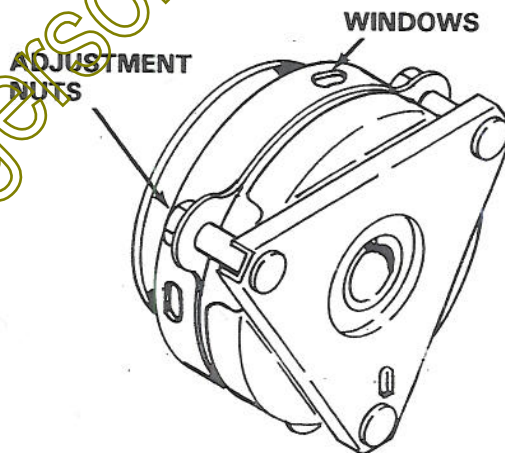


FIGURE 3

ELECTRIC ATTACHMENT DRIVE (PTO) CLUTCH SERVICE INSTRUCTIONS
FOR INGERSOLL MODEL 3000 and 4000 SERIES TRACTORS

IMPORTANT: The clutch brake must be burnished before being placed into service using the following procedure:

1. Install the mower or other PTO driven attachment.
2. Run the engine at 50% throttle.
3. Engage and disengage the clutch 5 times.
(10 seconds on, 10 seconds off).
4. Increase engine to 75% throttle.
5. Engage and disengage the clutch 5 more times.
(10 seconds on, 10 seconds off).

TROUBLESHOOTING THE CLUTCH

STEP 1: Measure Clutch Coil Resistance

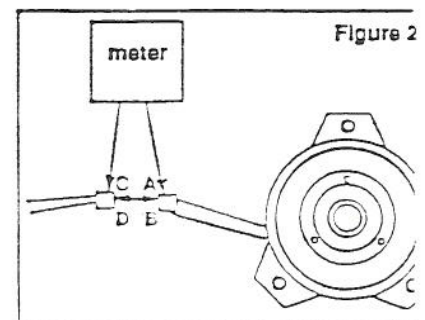
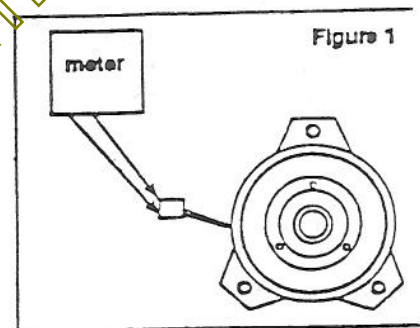
1. Turn engine and PTO switch off.
2. Disconnect clutch wire connection.
3. Select meter to RX1 ohm scale.
4. Connect meter lead wires to the wires in the clutch connector (See Figure 1).
5. If meter reads below 2.40 ohms or above 3.40 ohms, then the clutch has failed and needs to be replaced.

If meter reads between 2.40 and 3.40 ohms, proceed to Step 2.

STEP 2: Measure Clutch Current Draw

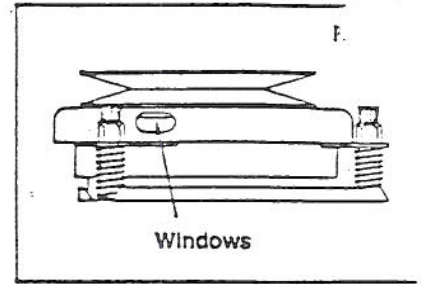
1. Turn engine off.
2. Disconnect clutch wire connection.
3. Select meter to check amps (10 amp scale).
4. Connect one meter lead wire to one wire in clutch connector at A (See Figure 2).
5. Connect the other meter lead wire to the corresponding wire in the mating connector at C (See Figure 2).
6. Connect a short wire from D to B in both connectors (See Figure 2).
7. Turn PTO switch on.
8. If meter reads below 3.5 amps, the problem would be in the electrical system leading to the clutch (battery, switch, wires, etc).

If meter reads 3.5 amps or above, proceed to Step 3.



STEP 3: Check Air Gap Setting

1. Turn engine and PTO switch off.
2. Locate the three "windows" or "notches" where the air gap is checked (See Figure 3).
3. With feeler gauge check gap at all three locations (minimum of two).
4. Factory air gap setting is .010"-.025".
5. If gap doesn't fall between .010"-.025" then reset using a .017" feeler gauge.



Changing the air gap is achieved by tightening and/or loosening the three nuts.

If you find after completing Steps 1, 2, and 3 that:

1. The resistance falls between 2.40 and 3.40
2. The amp draw is 3.50 or above
3. The air gaps is between .010"-.025" or reset to .017"

then the electric clutch is within factory specifications and is not the source of the problem.

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