

"What you Need in a Clutch"™

CLUTCH CHECKLIST

Before removing the clutch from the mower, identify the clutch symptoms:

Clutch doesn't engage or engagement is intermittent:

- Check battery, charging system, PTO switch and fuse of the mower.
- Check voltage at the clutch for 12V minimum.
- With power off, check for breaks in lead wires by running lead wires through fingers along entire length of wires.
- Check resistance at the clutch (refer to resistance chart below).
Ohm reading should remain constant even if wires are moved.
- Visually check if there is any physical damage to the clutch.
- Check if center bolt is securely tightened and the clutch does not move along the shaft.
- Check if washer is large enough to cover bearing inner race, is at least ¼" thick and is not deformed/cupped.
- Check back plate has approximately 1/16" of play axially and radially.
- Check that there is no oil on clutch.

Resistance values.....taken at room temperature, +/- 5%

Clutch Size	Resistance (Ohms)	Air Gap (inches)
GT1 / GT1A	2.88	0.012 ~ 0.024
GT2 / GT2.5 /GT2.75	2.40 ~ 2.88	0.014 ~ 0.024
GT3 / GT3.5	2.12 ~ 2.88	0.012 ~ 0.024
GT1.5	2.79 ~ 3.22	0.014 ~ 0.024

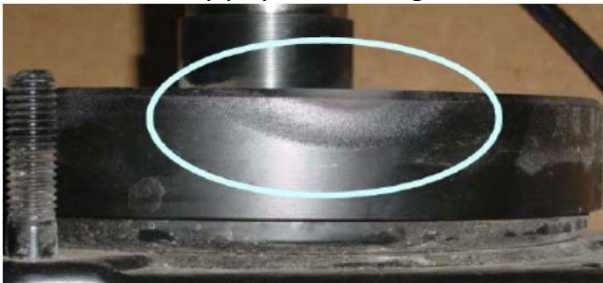
Clutch is noisy:

- Visually check for physical damage to clutch, mounting hardware, or anti-rotation bracket.
Also check for loose mounting bolt.
- Does the noise go away when the clutch is engaged (pulley bearing) or is it present all the time (coil bearing)?
- Check the air gap. (There could be drag on the brake shroud or rotor)

After removing the clutch from the mower

1) Conduct a Close Visual Check of the Clutch

- Look for any physical damage, heat marks/discolorations and other abnormalities.



CLUTCH CHECKLIST

After removing the clutch from the mower

- Confirm that there is no oil contamination on the clutch.
- Check the bearing seals for cracks, punctures, heat damage, etc.
- Spin the rotor with one finger to check the bearings for smooth operation.
- Inspect lead wires and connector for breaks, cracks, and exposed wires. Run leads through fingers with an ohm meter attached; watch for ohm meter fluctuations, indicating a break.
- Turn clutch upside down (backing plate up) and check the backing plate for bends over the air gap adjustment posts.
- Check anti-rotation hole for deformities

2) Check Braking Resistance

- Hold clutch body with one hand and rotate pulley. There should be some resistance when turning the pulley by hand when the unit is not powered up.

3) A. Check and Adjust Air Gap, Brake Shroud Models (GT1, GT2.5, GT3.5, etc.)



- Measure air gap through inspection slots on brake shroud.
- Adjust the air gap by turning the 3 adjustment nuts. Gap should be 0.012" ~ 0.024". Do not over tighten the nuts as this may cause an unsafe condition by forcing the rotor and armature into contact.
- After gap adjustment, the rotor should spin freely by hand with no power supplied. If there is drag, loosen the adjustment nuts ¼ turn until drag is removed.

B. Check and Adjust Air Gap, Brake Plate Models (GT1.5, GT2.75)

- Air gaps are not able to be adjusted, but when enough wear has occurred that the clutch no longer engages when supplied with 12V, the brake plates can be removed and flipped over to provide additional life.
- The brake plate flipping procedure can be found in the PTO Installation video linked below.

4) Check for Engagement

- If resistance and air gaps are within specification, power up the clutch to check for engagement by applying 12 volts. Proper engagement will result in a "click" when the clutch is energized.

5) Reinstall or Installing New Clutch

- Make sure the manufacturer's mounting hardware is used, including ground drive or spacer, proper retaining washer, and the center bolt tightened to specification.
- During installation, ensure the anti-rotation hardware allows free movement radially and axially of about 1/16".

PTO Installation



For additional information please check the following links

<https://www.youtube.com/watch?v=zn3XdoTFd1E>

<https://www.youtube.com/watch?v=LfeQalzWmhQ>

Troubleshooting

