John Deere Riding Lawn Equipment - Deck Belt Quality Story
Riding Lawn Equipment Deck Belt

- Designed, Engineered, and Tested
- Aramid Cords
- Double Wrap – Abrasion-resistant cover fabric
- Rubber Core
Double wrap fabric

- Double Wrapped High Flex – Abrasion-resistant cover fabric – Increases belt life with belts designed for rigors of PTO engagement. When you engage the PTO, it produces a significant amount of force through the belt drive. Aggressive PTO engagements reduces the belt life due to the shock loading. The wrap molding fabric enables a softer PTO engagement which reduces wear on the belt.
  - Specially designed fabric provides a greater range of flexibility and reduces the stress on the aramid cords
  - The fabric wrapping is capable of dissipating heat better than the rubber compound. By providing that layer of protection, the rubber core is less likely to crack due to heat generated as a result of the belt being used.
  - Prevents damage to the rubber compound in the belt from abrasion or nicks reducing down time and early belt failure
  - The reduced down time and costs of replacing the belt are driven in part by the added protection provided by double wrapped fabric belt
Aramid Cords

- Aramid Cords – provide the strength to withstand heavy loads without breaking and resists to stretching
  - Aramid Cords provides a higher tensile strength than polyester cords
  - Aramid cords stretch less in comparison to polyester cords. When cords stretch they can lose the benefits of a belt's dimensional design qualities causing belts to slip off pulleys or not provide the same amount of power.
  - The aramid cords in John Deere belts are made of the same material as some bulletproof vests
  - Aramid cords results in a stronger belt during normal operations and PTO engagement and disengagement
Rubber Core

- Made of from a premium rubber compound to resist heat and cracking
- Holds the aramid cords in the correct alignment and position which provides the belt with the strength it was designed to have
- The rubber core is also designed specifically to handle the bends that is put on it during use. Rubber cores that are too stiff or too flexible can both have negative impacts on the performance of the belt.
Designed, Engineered, and Tested

- John Deere belts are engineered for your application. Engineering a John Deere belt involves the collaboration of the belt supplier, application engineer, and John Deere design engineers throughout the whole design process.

- **Creating the belt “rough draft”**
  - Belt supplier application engineer and John Deere design engineers collaborate using Drive Pro Program Software, which facilitates a consistent and repeatable process.
  - By inputting the specific belt drive parameters (pulley locations, engine power), Drive Pro recommends the optimum belt length, cross section, and materials

- **Revising the design**
  - Engineers analyze the drive system application and determine the number of cords needed and the diameter of these cords.
  - Number of cords and cord diameters are determined by the drive layout and stress distribution on the cords.
  - Determine cover fabric and rubber core material to be used based on drive layout

- **Testing**
  - John Deere belts are not tested on a generic drive system. They are lab tested on the specific drive system they were designed for, and must meet rigorous durability requirements.
  - John Deere belts are field tested in many conditions (hot, cold, wet, dry, sandy, etc) and must meet performance and durability requirements
Why John Deere Deck Belts

- Double Wrapped High Flex – Abrasion-resistant cover fabric
  - The wrap molding fabric enables a softer PTO engagement which reduces wear on the belt
- Aramid Cords – provide the strength to withstand heavy loads without breaking and resists to stretching
- The aramid cords in John Deere belts are made of the same material as some bulletproof vests
- Rubber core holds the aramid cords in the correct alignment and position
- Engineered for your application
- John Deere belts go thru extensive lab and field testing. These test were developed to meet the rigorous durability requirements and conditions (hot, cold, wet, dry, sandy, etc.) experienced by our customers.