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› HD Switch GT1A-EH01V Billet Pulley Clutch & PTO Switch Instruction Manual

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For Dixie Chopper Zee-2 & Zee2 HP Zero Turn Mowers (42", 48", 54" Decks)

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your HD Switch GT1A-EH01V Billet Pulley Clutch and accompanying 10AMP PTO Switch. This product is designed as a direct replacement for specific Dixie Chopper Zee-2 and Zee2 HP zero-turn mower models, offering enhanced durability and performance.

The HD Switch clutch features a machined billet pulley, a replaceable C3 rated bearing, and a high-torque coil for reliable blade engagement. The composite material used in the coil design promotes efficient heat dissipation, contributing to extended product life.

2. PRODUCT FEATURES

- **Billet Pulley Design:** Machined from solid steel, these pulleys are designed to resist damage and maintain consistent blade speed under load. The design also allows for bearing replacement.
- **High Torque Coil:** Features additional windings to provide maximum gripping strength, reducing micro-slipping during operation.
- **Cool Coil Technology:** Utilizes a proprietary composite material for the coil, which dissipates heat more effectively than standard plastic, extending clutch and bearing life.
- **Premium C3 Rated Bearings:** Engineered with C3 clearances and high-temperature synthetic grease to withstand heat and ensure durability.
- **Replaceable Bearing:** The billet pulley design incorporates a snap ring, allowing for easy replacement of the bearing, making the clutch rebuildable.
- **10AMP PTO Switch Upgrade:** Includes an upgraded PTO switch for reliable power take-off engagement.

3. COMPATIBILITY

This HD Switch Billet Pulley Clutch and PTO Switch is a direct replacement for the following models:

- Dixie Chopper Zee-2 & Zee2 HP Zero Turn Mowers

- Deck Sizes: 42", 48", 54"
- Model Years: 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022
- Replaces OEM part numbers: GT1A-EH01V, 500144, 4174684, 500016, GT1A-EH01

No modifications are required for installation on compatible models.

4. INSTALLATION (SETUP)

Safety First: Before beginning any installation, ensure the mower engine is off, the spark plug wire is disconnected, and the battery is disconnected. Wear appropriate personal protective equipment, including gloves and eye protection.

1. **Prepare the Mower:** Park the mower on a flat, stable surface. Engage the parking brake.
2. **Access the Clutch:** Depending on your mower model, you may need to remove the mower deck or other components to gain access to the existing clutch.
3. **Disconnect Wiring:** Carefully disconnect the electrical wiring from the old clutch. Note the routing for reinstallation.
4. **Remove Old Clutch:** Loosen and remove the bolt securing the old clutch to the engine crankshaft. The clutch may be tight; use appropriate tools for removal.
5. **Install New Clutch:** Slide the new HD Switch GT1A-EH01V clutch onto the engine crankshaft. Ensure it seats properly. Secure it with the crankshaft bolt, tightening to the manufacturer's specified torque.
6. **Connect Wiring:** Reconnect the electrical wiring to the new clutch. Ensure connections are secure.
7. **Install PTO Switch:** If replacing the PTO switch, carefully remove the old switch from the control panel and install the new 10AMP upgrade switch, ensuring all connections are correct.
8. **Reassemble Mower:** Reinstall any components removed to access the clutch.
9. **Final Checks:** Before starting the mower, double-check all connections and ensure no tools or debris are left near moving parts.

It is recommended to consult your mower's specific service manual for detailed installation procedures and torque specifications.

5. OPERATION

The HD Switch Billet Pulley Clutch and PTO Switch control the engagement and disengagement of your mower's cutting blades.

- **Engaging Blades:** To engage the mower blades, activate the PTO switch. This sends an electrical signal to the clutch, causing it to engage and transfer power from the engine to the mower deck.
- **Disengaging Blades:** To disengage the mower blades, deactivate the PTO switch. This releases the clutch, stopping power transfer to the mower deck.

Always ensure the engine is running at the recommended RPM before engaging the PTO for optimal clutch performance and to prevent excessive wear.

6. MAINTENANCE

Regular inspection and proper operation contribute to the longevity of your HD Switch clutch. While the clutch is designed for durability, consider the following:

- **Belt Inspection:** Periodically inspect the mower deck belt for wear, cracks, or damage. The billet pulley design helps reduce belt wear, but belts still require attention. Replace worn belts promptly.
- **Cleanliness:** Keep the clutch area free from grass clippings, dirt, and debris. Excessive buildup can hinder heat dissipation and affect performance.

- **Bearing Replacement:** The HD Switch clutch features a replaceable bearing. If you notice unusual noise or excessive play from the pulley bearing, it can be replaced using the snap ring design, extending the life of the entire clutch assembly.
- **Wiring Connections:** Ensure all electrical connections to the clutch and PTO switch remain clean and secure.

7. TROUBLESHOOTING

If you experience issues with your clutch or PTO system, consider the following common troubleshooting steps:

- **Clutch Not Engaging:**
 - Check all electrical connections to the clutch and PTO switch for looseness or corrosion.
 - Ensure the PTO switch is functioning correctly.
 - Verify the mower's safety interlock systems (e.g., seat switch, parking brake) are engaged as required for PTO operation.
 - Inspect the clutch wiring for damage.
- **Clutch Slipping or Weak Engagement:**
 - Inspect the mower deck belt for proper tension and wear. A loose or worn belt can cause slipping.
 - Ensure the engine RPM is at the recommended level before engaging the PTO.
 - The HD Switch clutch is designed with a high-torque coil to minimize slipping. If persistent, inspect for external obstructions or damage.
- **Unusual Noise from Clutch:**
 - Check for debris caught in the clutch assembly.
 - Inspect the pulley bearing for wear. The replaceable bearing design allows for servicing if needed.
 - Ensure the clutch is securely mounted to the crankshaft.

If issues persist after troubleshooting, it is recommended to consult a qualified service technician.

8. SPECIFICATIONS

Feature	Specification
Model Number	GT1A-EH01V
Replaces OEM Part Numbers	GT1A-EH01V, 500144, 4174684, 500016, GT1A-EH01
Compatibility	Dixie Chopper Zee-2 & Zee2 HP (42", 48", 54" decks, 2013-2022)
Material	Stainless Steel (Billet Pulley), Composite (Coil)
Bearing Type	Premium C3 Rated, High-Temperature Grease, Replaceable
Torque Output	110 ft-lbs (compared to OEM 95 ft-lbs)
PTO Switch Rating	10 AMP Upgrade
Item Dimensions (L x W x H)	25 x 25 x 25 millimetres (approximate, for clutch assembly)

9. PRODUCT VISUALS

High Torque Performance



HITORQUE **110** *ft-lbs* **(OEM is 95)**

WHY IS TORQUE IMPORTANT?

WHEN A CLUTCH SLIPS, IT CAUSES THE TEMPERATURE TO RISE RAPIDLY. THIS CAN LEAD TO OVERHEATING AND PREMATURE FAILURE. BECAUSE OF THIS, WE ADD A FEW MORE WINDINGS TO OUR HIGH TORQUE SERIES CLUTCHES. OUR STRONGER HIGH TORQUE CLUTCHES ARE DESIGNED TO HOLD IN THE TOUGHEST OF CONDITIONS, LEADING TO A MORE RELIABLE AND LONGER LASTING CLUTCH.

HD CLUTCH
ENGINEERED PERFORMANCE
A DIVISION OF HD SWITCH, INC.

This image illustrates the enhanced torque output of the HD Switch clutch, rated at 110 ft-lbs, surpassing the OEM standard of 95 ft-lbs. The graphic explains that higher torque is crucial to prevent clutch slipping, which can lead to increased temperatures, overheating, and premature failure. The HD Switch design incorporates more windings in its coils to ensure maximum gripping strength, resulting in a more reliable and durable clutch.

Robust Bearing Design

BIG BEARING

HD CLUTCH
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#1 REASON CLUTCHES FAIL

WHEN A CLUTCH IS ENGAGED THE INNER AND OUT RACE OF THE PULLEY BEARING TURN TOGETHER AND THE BALL BEARINGS INSIDE STOP MOVING.

THE PULLEY BEARING ACTS LIKE A BUSHING WHEN THE CLUTCH IS ENGAGED, WORKING HARDEST, AND HOTTEST. THE HD SWITCH DESIGN USES A BIGGER TOUGHER AND REPLACEABLE PULLEY BEARING TO EXTEND CLUTCH LIFE.

This image focuses on the "Big Bearing" feature of the HD Switch clutch. It explains that the primary reason clutches fail is due to the ball bearings inside stopping movement when the clutch is engaged, causing the pulley bearing to act like a bushing and generate extreme heat. The HD Switch design addresses this by using a larger, tougher, and replaceable pulley bearing to significantly extend clutch life.

Durable Billet Pulley

TOUGH BILLET PULLEY

OUR TOUGH BILLET PULLEYS ARE FORGED AND MACHINED FROM SOLID STEEL.

EVEN THE SMALLEST NICK, BEND OR ANY DAMAGE TO THE STANDARD OEM FORMED PULLEY WILL WEAR YOUR BELT 3600 TIMES A MINUTE. BILLET PULLEYS ARE IDEAL FOR PTO CLUTCHES BECAUSE THEY ARE NEARLY IMPOSSIBLE TO DAMAGE AND EASY ON YOUR BELT AND WALLET.

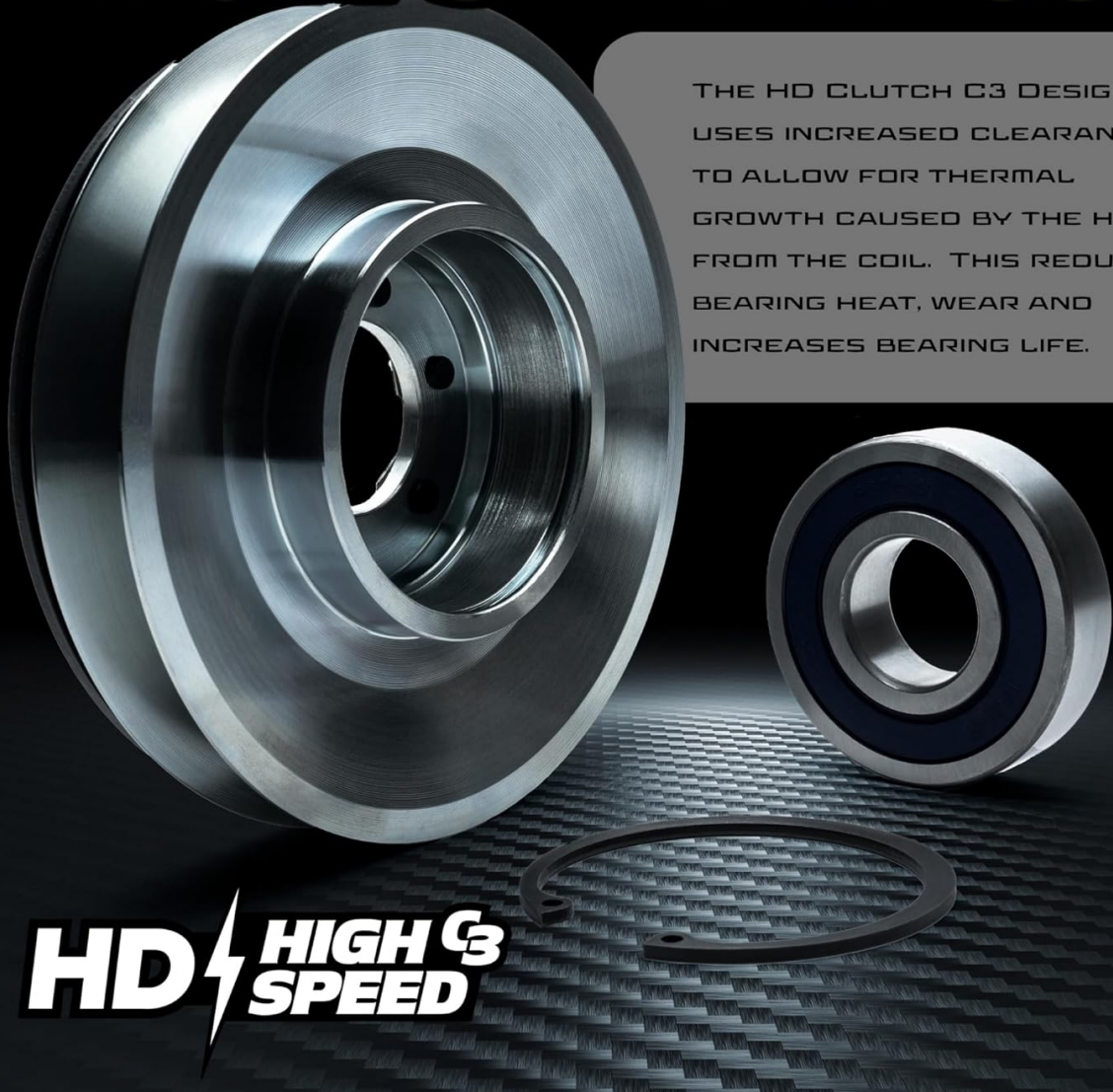


This visual highlights the "Tough Billet Pulley" feature. It details that these pulleys are forged and machined from solid steel, making them highly resistant to damage. Unlike standard formed pulleys, which can easily nick or bend and wear belts rapidly, billet pulleys are ideal for PTO clutches due to their durability and minimal impact on belt longevity.

High Speed C3 Bearings

HIGH SPEED C3

THE HD CLUTCH C3 DESIGN USES INCREASED CLEARANCES TO ALLOW FOR THERMAL GROWTH CAUSED BY THE HEAT FROM THE COIL. THIS REDUCES BEARING HEAT, WEAR AND INCREASES BEARING LIFE.

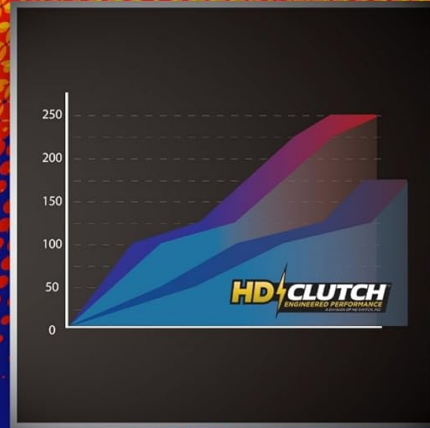


HD **HIGH C3**
SPEED

This image showcases the "High Speed C3" bearing design. The HD Clutch C3 design incorporates increased clearances to accommodate thermal expansion caused by heat generated from the coil. This engineering choice significantly reduces bearing heat, wear, and ultimately increases the overall lifespan of the bearing.

Cool Coil Technology

HD CLUTCH IS COOLER



ALL ELECTROMAGNETIC CLUTCHES RUN VERY HOT. MOST COMPETITIVE CLUTCHES RUN ABOUT 220 DEGREES. THE HD PROPRIETARY COMPOSITE COIL CAN RUN AS LOW AS 175 DEGREES.

LESS HEAT

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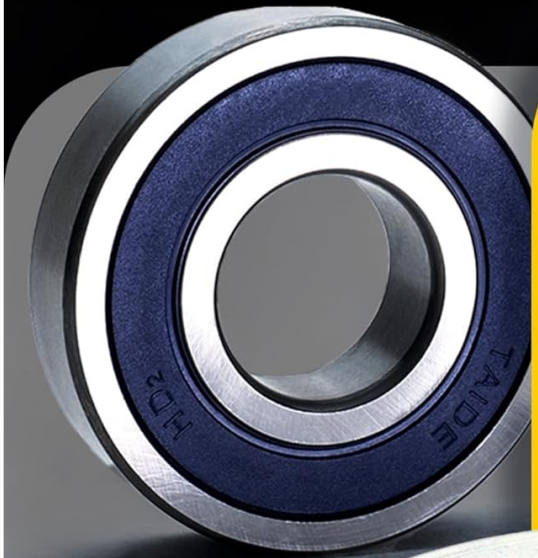
This visual highlights the "HD Clutch is Cooler" feature, emphasizing "Less Heat." It explains that all electromagnetic clutches generate significant heat during operation. While most competitive clutches run around 220 degrees, the HD proprietary composite coil can operate as low as 175 degrees. This superior heat dissipation directly translates to a longer lifespan for both the bearing and the clutch itself.

Replaceable Bearing Feature

REPLACEABLE BEARING

THE PULLEY BEARING TAKES A LOT OF PUNISHMENT. THE COMPETITION CRIMPS THE BEARING IN; MAKING IT IMPOSSIBLE TO REPLACE.

THE HD CLUTCH BILLET PULLEY DESIGN ADDS A SNAP RING, MAKE THE BEARING REPLACEABLE.



HD CLUTCH
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This image demonstrates the "Replaceable Bearing" feature. It notes that the pulley bearing endures significant stress. Unlike competitors who crimp bearings in, making replacement impossible, the HD Clutch Billet Pulley design includes a snap ring. This allows for easy and convenient replacement of the bearing, making the clutch rebuildable and extending its service life.

10 AMP PTO Switch Upgrade

10 AMP UPGRADE



This image displays the included 10 AMP upgrade PTO switch. This robust switch is designed for reliable engagement and disengagement of the power take-off function, complementing the high-performance clutch.

PTO Switch Connections



This close-up image shows the electrical terminals on the back of the HD Switch 10 AMP PTO switch, indicating its robust construction and readiness for connection within the mower's electrical system.

10. WARRANTY & SUPPORT

For warranty information or technical support regarding your HD Switch GT1A-EH01V Billet Pulley Clutch and PTO Switch, please refer to the documentation provided with your purchase or contact HD Switch customer service directly. Ensure you have your product model number and purchase details available when seeking support.