



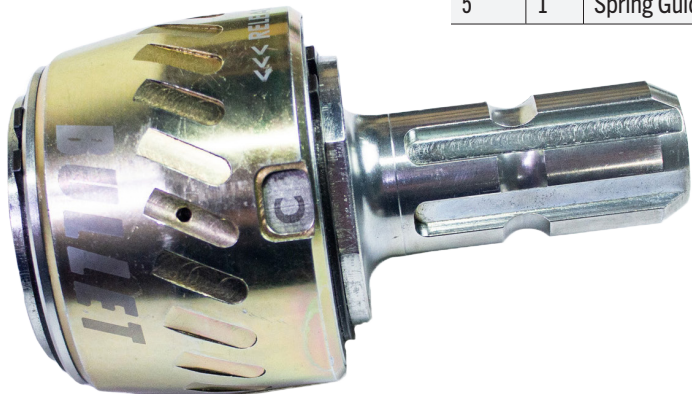
PTO Coupler Adapter IP6050

INSTALLATION AND OPERATION INSTRUCTIONS

PTO Coupler Adapter IP6050

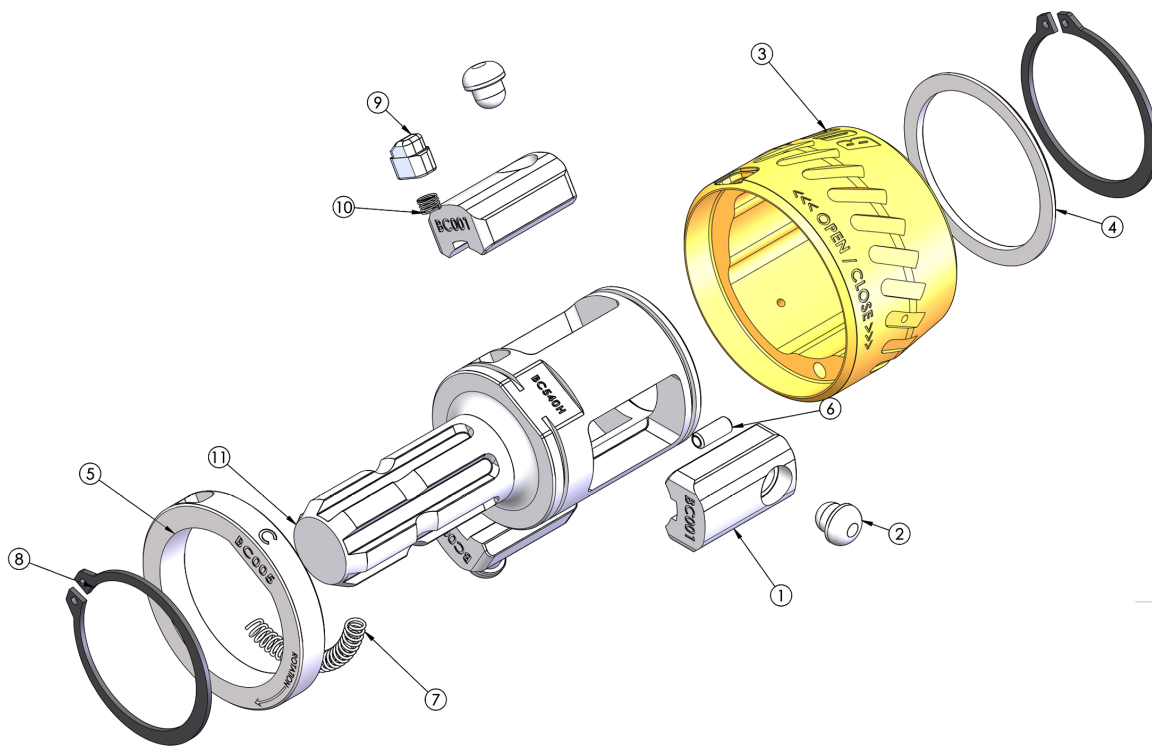


Please verify that all hardware and parts are included in your package. For replacement parts, visit www.motoalliance.com



Part#	Qty	Item Description	Part#	Qty	Item Description
1	3	540 Spline Jaw	6	1	Spring Pin
2	3	Floating Detent	7	1	Comperssion Spring
3	1	Locking Cam Ring	8	2	External Retaining Ring
4	1	Spacer Ring	9	1	Lock/Release Button
5	1	Spring Guide Ring	10	1	Button Spring
			11	1	Drive Hub - 6 Spline Male

Components



INTRODUCTION

The Bullet PTO Coupler Adapter makes it easier to connect implements to your PTO shaft by eliminating some of the challenges that come with the process.

The Bullet PTO coupler system has a unique design. In place of the standard machined splines found in most 1-3/8" 6 spline 540 RPM receiving female coupler ends, the Bullet PTO coupler mechanism utilizes spline cut jaws. These jaws are fully floating, allowing them to recess into the coupler housing when in the opened position. Within the full floating jaws are the integrated ball detents, also full floating. They connect with the tractors PTO shaft splined groove to lock it in place when installed onto the tractor's PTO end. The lock/release button holds the coupler in the open position for you while the jaws and detents simply push out of the way allowing for a smooth bore connection prior to lining up the splines.

This coupler helps manage the weight when connecting a driveline by allowing the operator to use both hands. Maneuvering to connect a driveshaft single handedly is difficult, especially in tighter spaces while holding a release button or handling a push/pull collar. Being able to have the coupler set in place first so the weight of the driveline is supported, makes the alignment of the splines easier.

FEATURES AND BENEFITS

- Compact and visually pleasing design
- Single unit construction, no secondary components to install
- Familiar operation
- No specialty installation tools required
- Being able to lock the coupler in the open position allows you to use both hands when connecting your driveline
- Servicable, it can be disassembled and re-assembled in a few minutes which makes for easy cleaning
- 3.5" outer diameter so you can keep your tractor safety shield in place and still access what you need
- Rated for up to 150 PTO horsepower on 1-3/8" 6 spline PTO shaft at 540 RPM
- Designed to fit most tractors from sub compact to larger tractors up to 150 horsepower
- Easy access for lubrication maintenance, even when the adapter is installed

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INSTALLATION INSTRUCTIONS

1. Before installation, read below warning first and instructions in their entirety.
2. **WARNING:** The Bullet PTO coupler adapter will add approximately 4.25 to 5 inches in length to your driveline, refer to the specifications, page 7, for more information. Prior to using this product, you must measure your implements driveline to verify if it will accommodate the additional length. Using this product may require cutting the driveline to the correct length. Should it be required to cut your implements PTO shaft, refer to your equipment/attachments/driveshaft OEM owners manual or contact your equipment dealer for the correct procedure and instructions on how to cut your driveshaft to the proper length. The Bullet coupler when installed tractor side will decrease the distance from its spline shaft end to the drawbar hitch hole. This may have an operational affect on your pull type equipment driveline angles and you may be required to adjust your drawbar length (if adjustable) or run a drawbar or hitch extender to keep this distance within the operational parameter required by your equipment manufacturer. Consult your equipment manufacturer prior to using the Bullet coupler adapter with your pull type equipment to ensure you are able to do so without issue. This coupler is designed for use on rear PTOs only, do not attempt to install or run on any mid or front mounted PTOs. The Bullet PTO coupler adapter must only be rotated clockwise as indicated on the back of the adapter.
3. With your tractor off and parked securely. Clean any dirt, debris and rust off of your tractors PTO shaft and from the female receiver coupler of your implement shaft. Also, check for any burrs or abnormalities on the tractor PTO shaft and female receiver coupler on your implements driveshaft that may cause issues with connecting. It is recommended to always keep your PTO shaft components clean and lubricated and inspected for any problems that might cause connectivity issues.
4. Lubricate your tractors PTO shaft and the receiver coupler on your implements driveline with spray oil, or lubricant to ease connectivity. If your equipment is brand new, initial connections may be tight and will loosen up as components wear in after use, including your Bullet PTO coupler adapter.
5. Prior to installing your Bullet coupler adapter, lubricate your bullet coupler adapter. Use light oil or spray lube ie: Fluid Film or similar. *Do not use grease on the internal components of the coupler.* There are three lubrication access holes on the locking cam ring, page 6, Fig. 1.0. Rotate and test the coupler to ensure lock/release button is functioning to hold the locking cam ring in the open position. Press lock/release button to release the locking cam ring allowing it to return to the locked or closed position. Cycle a few times to ensure smooth operation. Lock/release button may be lubricated when coupler is in the open position by spraying directly into the button cavity, page 6, Fig. 1.1. Wipe off any excess lubrication.
6. With your tractor still off and parked securely, install your Bullet PTO coupler adapter splined shaft male end into the female receiving coupler on your implements driveshaft. Confirm it is locked into place.
7. Rotate the locking cam ring until the Lock/Release button detent is holding the collar in the open position, Page 6, Fig. 1.0.

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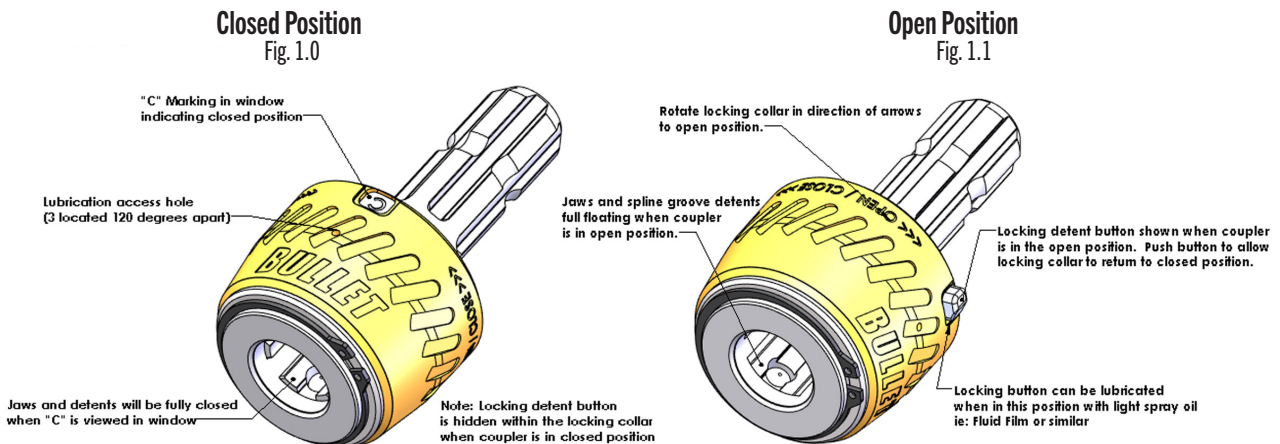
8. Using both hands, proceed to hook up to your tractors PTO shaft, pushing the coupler onto the shaft all the way so the weight of the shaft is now supported by the tractor PTO shaft.

9. Press the lock/release button to release the locking cam ring to begin the closing function of the coupler, Page 6, Fig. 1.1.

10. Rotate the implement PTO shaft or your tractors PTO stub shaft, if it spins freely, to align the splines with the spline cut jaws inside the coupler. Alternatively, if you don't have enough room to turn your tractors PTO stub shaft, you may push the coupler on half way instead of all the way as indicated in step 8, then follow step 9 and 10. Instead of pulling back the coupler in step 11 you can push the coupler forward slowly and complete the rest of the step as indicated in step 11.

11. Once splines are aligned, pull the coupler back slowly to where the ball detents line up with the ball groove on your tractors PTO stub shaft where the locking ring moves completely into the closed position. Tug on the shaft to ensure the coupler is locked and verify the window on locking cam ring that you can see the letter "C" which indicates the coupler is closed. NOTE: The Bullet coupler will not be locked until splines are aligned and the ball detents are in position to line up with the ball groove on the tractors PTO shaft. Do not operate unless you have confirmed and verified coupler is locked in the closed position, Page 6, Fig. 1.0.

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OPERATION INFO, GUIDELINES & MAINTENANCE

1. Read and follow all installation instructions and this manual in its entirety prior to operation.
2. Prior to operation ensure you have measured, adjusted, and cut where necessary to confirm that your driveshaft overall length will accommodate the additional length added by the Bullet PTO coupler adapter while allowing the drive shaft telescoping tube to function as it should. Refer to your OEM manuals or contact your equipment dealer for equipment and driveshaft telescoping requirements and for proper procedure on cutting to length. Read the warning as listed on page 2.
3. Do not circumvent or modify your Tractors, OEM equipment/implements, driveshaft safety protection systems, or shields and ensure they are in proper working condition as per their OEM specifications. If a slip clutch is used in your driveline, ensure that it is properly adjusted, and in good working order to protect your driveline and the Bullet PTO coupler adapter. DO NOT use shear bolts rated higher in strength than your OEM equipment and driveshaft specifications require. Adhere to all safety recommendations and practices in your OEM equipment manuals.
4. Do not exceed the Bullet coupler adapters max 150 PTO horsepower rated capacity on any tractor or equipment as per the Bullet coupler specifications found on page 7.
5. Do not exceed 540 rpm.
6. Do not attempt to align the coupler adapter splines with your tractors PTO shaft by using your tractor running to rotate it or damage may occur and void your warranty.
7. Do not hook up or disconnect your Bullet PTO coupler adapter and /or implement driveline while your tractor is running.

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8. To open the Bullet PTO coupler adapter, rotate the locking cam ring in the direction as indicated until the lock/release button pops up through the locking window and holds the locking cam ring in the open position, Fig. 1.1. Push the lock/release button inward to allow the locking cam ring to release and move back to the closed position, Fig. 1.1. When installed onto the tractor PTO shaft, you must verify the "C" marking indicating the coupler is closed is showing in the window prior to operation, Fig. 1.0.
9. Lubricate every 8-10 hours of operation through lubrication access holes, Fig. 1.0. Also spray lubricant into the lock/release button cavity to ensure smooth operation, Fig. 1.1. Wipe off any excess lubrication.
10. Failure to follow these guidelines and the entire content of this manual may result in damage to your Bullet PTO coupler adapter, equipment damage, personal injury or worse and void your warranty.

SPECIFICATIONS

WARNING: The Bullet Coupler Adapter will increase length when installed to existing PTO shaft by approximately 4.25 inches (ball groove to ball detent (ref 2.0) and 5 inches overall from ball groove to face of the coupler (ref 2.1). Always check your PTO driveline length prior to use of any adapter as in some cases, it may be required to cut your implement PTO shaft to the proper length to accommodate the additional length added by the adapter.

Weight: approx. 6.72 lbs

Max Diameter: 3.5 inches O.D.

Overall length: 6.5 inches

PTO HP rating: up to 150 PTO HP at 540 RPM

For use on tractors with 540 RPM PTO, 1.375" 6-Spline. Clockwise rotation only (ref 2.2) (when standing at rear of tractor looking at the end of the PTO stub shaft on the tractor)

For use with only rear mounted PTO *do not use on front or mid point PTO

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CONNECTION GUIDE FOR FREE SPINNING PTO SHAFTS



Bullet PTO coupler adapter connection method Guide - **for tractors with free spinning PTO shaft.** Read your owners manual in additon to using this guide.

Step 1 - The coupler is shown in the open position with button in view. You may rotate the collar to the open position at any time through Steps 1 through 4.

Step 2 - Insert your Bullet coupler adapter by pulling back the collar or pressing the button on your implements PTO shaft female receiver.

Step 3 - Insert your Bullet coupler adapter all the way in ensuring your adapter clicks into place and is locked securely, give a tug to make sure it is fully connected.

Step 4 - Bring your Bullet coupler adapter that is now connected to your implement's driveshaft to your tractors PTO shaft and begin to make the connection referring to Step 5.

Step 5 - There are a couple options here, you may push it on all the way or push it on half way. With either method, push the button to release the locking cam ring to allow the coupler to start to move toward its closed position. In the case of non free spinning tractor PTO shafts/ PTO brakes, we recommend pushing the coupler on all the way.

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Step 6 - You will see the button as it appears in picture 6 if your splines are not aligned.

- If you have a free spinning PTO shaft on your tractor, gently lift up on the back of the Bullet coupler or your driveline coupler to relieve any pressure on the tractors' PTO shaft preventing you from turning it by hand. Rotate the tractors PTO shaft until the collar rotates slightly and you see no sign of the button as in picture 7.

- If you have a non free spinning PTO shaft on your tractor, rotate your implements driveshaft until the jaws line up with the splines on your tractor's PTO shaft which should come to a stop. It should appear as though the window is clear as in picture 7. Depending on the action taken in step five, either push or pull the unit gently to line up the ball detents with the tractor's PTO shaft spline groove.

At this point, rotate the locking cam ring toward the closed position. The assistance of the spring will help with this. Rotate the rest of the way until you see the letter C indicated in the window shown in picture 8. This indicates a complete connection, the coupler is safely closed and ready for work. Do not operate your equipment if you do not see the letter C in the window.

NOTE: It is recommended when connecting to machines with free spinning PTO shafts, if it is difficult to access or turn the tractor's PTO shaft by hand as instructed in Step 6, adjust the PTO with your machine and secure from turning. This will ease the process of connecting by rotating the implements PTO shaft. On tractors where space is limited, rotating the implements' driveshaft to align the splines instead of turning the tractors shaft by hand may be preferred.

When connecting machines with non free spinning PTO shafts, it may be helpful to disengage or adjust the PTO shaft selector to neutral for connecting the driveline and leverage techniques for free spinning PTO shafts.

In both cases, remember to return the PTO selector to its proper off position prior to starting the tractor. The tractor may not start unless this has been properly adjusted.