Cognito Tooling Kit for 2.375” Diameter Press-In Ball Joints

INSTALL INSTRUCTIONS:

Cognito Tooling Kit for 2.375” Diameter Press-In Ball Joints
SKU: 599-91168

PARTS LIST FOR SKU: 599-91168

QUANTITY	PART #	DESCRIPTION
1	6907	2.375” Ball Joint Pressing Tooling, Short
1	6908	2.375” Ball Joint Pressing Tooling, Long

WARNING

Please read this entire instruction sheet before beginning installation. Proper installation of these components requires a qualified mechanic. Always wear safety glasses when using power tools, and take appropriate precautions when working under a vehicle. If these instructions are not properly followed you may jeopardize your, and your passenger’s safety, and severe frame, suspension or tire damage may also result from improper installation.

INTRODUCTION

This tooling kit was designed to be used to press out and in the 2.375” diameter ball joints and uni-balls used in the Cognito SM Series Control Arms. The two-piece tool kit is precision machined and made from high grade steel to ensure proper fit and reliable performance use after use.

REQUIREMENTS

- Installation requires a qualified mechanic.
- Follow the OE specifications when replacing or re-installing OE fasteners, retainers, and hardware specified in the OEM manual.
- Always wear safety glasses when using power tools.
- When a lift is required to perform the installation of these products and always ensure the vehicle is properly supported before attempting installation or serious injury may occur.

TECH NOTES

- Installation requires a 10-ton press, or greater
- Read instructions carefully and study the pictures (if included) before attempting installation.
- If this product was purchased as part of a kit each kit, and options to kits, are packaged separately. Therefore installation procedures are covered in separate instructions. Familiarize yourself with each specific set of instructions before beginning.
- Check the parts and hardware packages against the parts list to assure that your kit is complete before starting.

INSTALLATION

1. Remove the control arm from the vehicle.
   - **NOTE:**
     Reference the install instructions originally provided with the Cognito control arms for how to remove the arms for the vehicle.
     If the original instructions have been lost, use the chart below to determine what install instructions to reference, the part number stamped on the arm will be used to identify the arms in the chart below.
     Install instructions can be found and download at cognitomotorsports.com, search the SKU part number provided to find the install instructions.

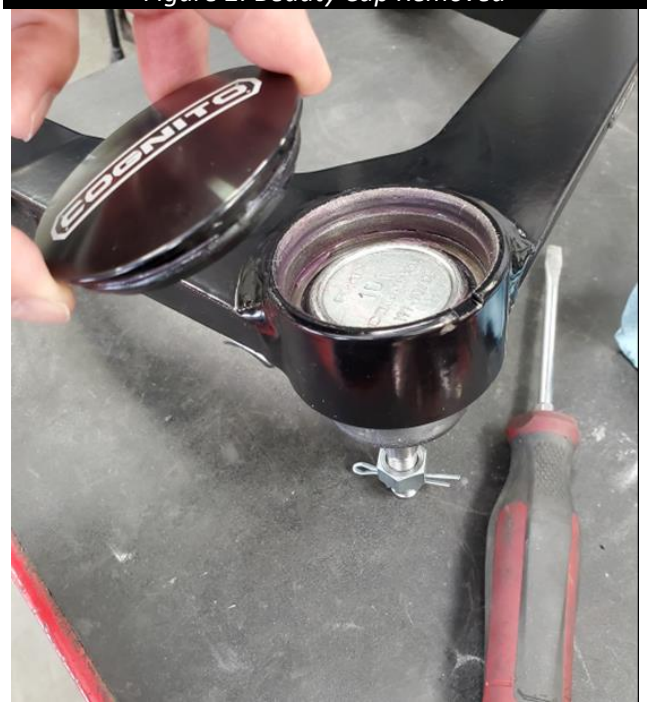
Table 1: Install Sheet Look Up

Stamped Part Number	SKU Part Number	Install Instruction Number
8644 / 8645	110-90784	INST8148
8689 / 8690	110-90910	INST7267
8778 / 8779	110-91071	INST7385
8800 / 8801	120-91056	INST7352
8802 / 8803	120-91057	INST7353

2. Using a medium to large size flat blade screwdriver, insert the blade into the slot in the ball joint cup. Twist the screwdriver to lift and remove the beauty cap.
   - **NOTE:**
     Place a bit of masking tape on the screwdriver blade to keep from damaging the coating of the arms and cap.

Figure 1: Ball Joint Cup Slot Location

Figure 2: Beauty Cap Removed



3. Using a small flat blade screwdriver or a pick tool, remove the internal retaining ring from the inside of the ball cup.

Figure 3: Internal Retaining Ring Removed

4. Flip the arm over. Using a hook pick tool, remove the wire retaining ring securing the dust boot to the ball joint and then remove the dust boot.

Figure 4: Dust Boot & Wire Retaining Ring Removed

5. Press out the ball joint. Place **6907**, the shorter of the two tools, down on the press table with the small end down. Place the control arm, upside down, on top of **6907**. The outer diameter of **6907** and the ball joint cup are the same size and shall be used to ensure the tooling and arm are aligned correctly. Next place **6908**, with the small end down, over the stud of the ball joint. Place something on top of **6908** that fully covers the top of **6908** and can be pressed on. Line up all items up axially and press the ball joint out of the control arm. The ball joint will fall into **6907** once pressed out.
    - **NOTE:**
      It is critical that the top of **6908** is protected during the removal process, the top of **6908** is precision machined to aid the installation process and must not be damaged.

Figure 5: Ball Joint/ Uni-ball Removal Tooling Configuration

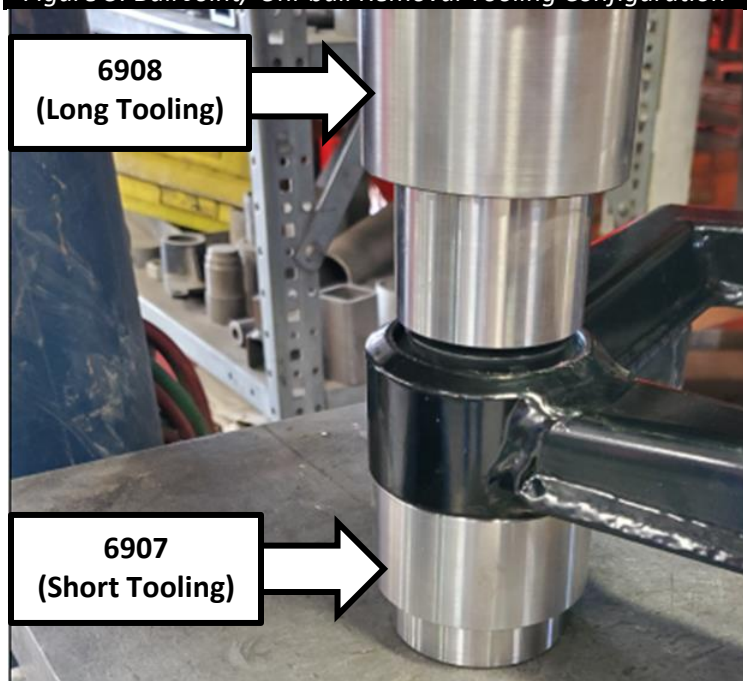
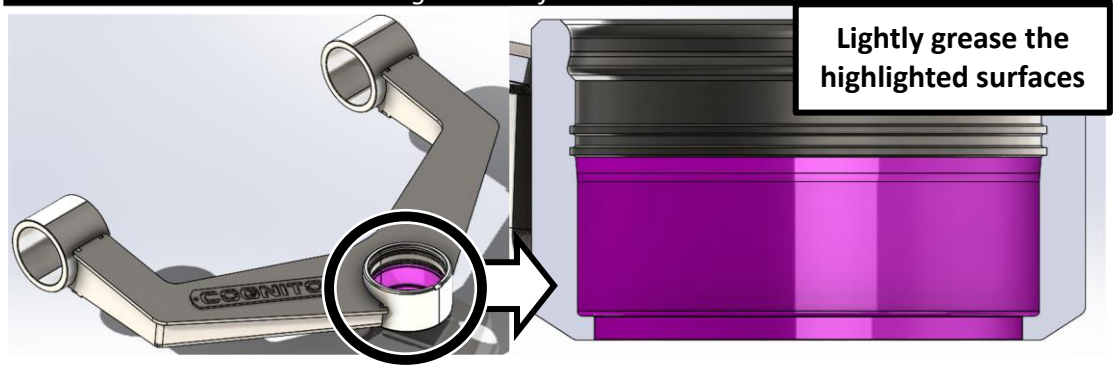


Figure 6: Ball Joint Pressed Out

6. Prep the arm for the instillation of the new ball joint. Ensure the ball joint cup is clean and free of debris. Lightly coat the bore and bottom lip of the ball joint cup with grease.

Figure 7: Surfaces to Grease



7. Locate the new ball joint, place it into the ball joint cup and pull the small end of the boot down a little, doing this helps keep the large end from getting pinched.
    - **NOTE:**
      The dust boot does not need to be removed for the instillation process.

Figure 8: Place New Ball Joint into Arm

Figure 9: Ball Joint prior to Pressing

8. Press in the new ball joint. Place **6908**, the longer of the two tools, down on the press table with the small end down. Place the control arm, right side up, on top of **6908**. The outer diameter of **6908** and the ball joint cup are the same and shall be used to ensure the tooling and arm are aligned correctly. Next place **6907**, with the small end down, over the top of the ball joint. Place something on top of **6907** that fully covers the top of **6907** and can be pressed on, this is done to prevent damage to the tooling. Line up all items up axially and press the ball joint into of the control arm. When the movement stops the ball joint is fully seated into the cup and **6907** will almost be touching the ball joint cup. ***DO NOT*** continue to press once movement stops, if the ball joint / uni-ball is not fully seated double check there the set up and make sure nothing is holding the ball joint/ uni-ball up.

Figure 10: Ball Joint/ Uni-ball Install Tooling Configuration

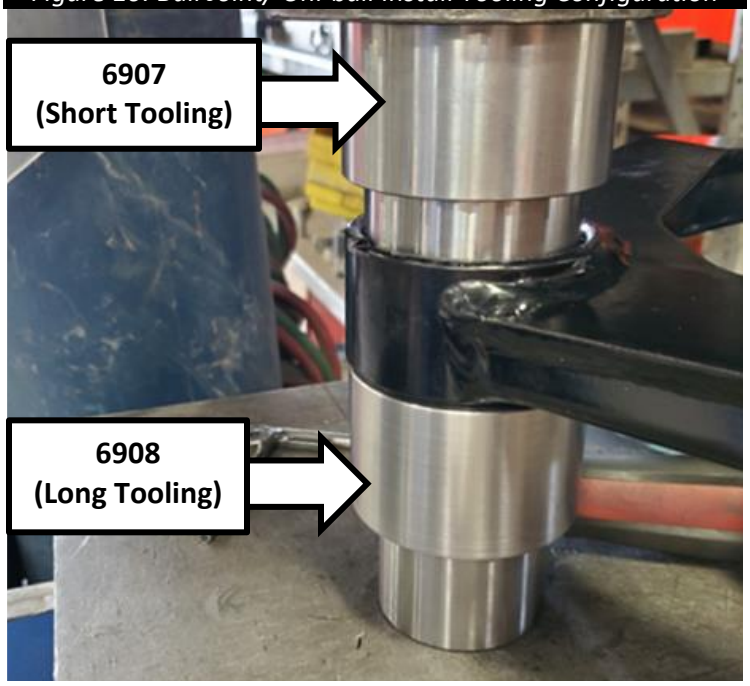


Figure 11: Ball Joint Fully Seated

9. Install the internal retaining ring, into the ball joint bore. Ensure the ring fully clips into the second groove, for ball joints and the first groove for uni-balls.
    - **NOTE:**
      If the retaining ring cannot reach the proper groove or will not snap into place then the ball joint/ uni-ball is not fully seated in the cup. The step above must be repeated to fully seat the ball joint once the retaining ring is removed.

Figure 12: Retaining Ring Install Locations

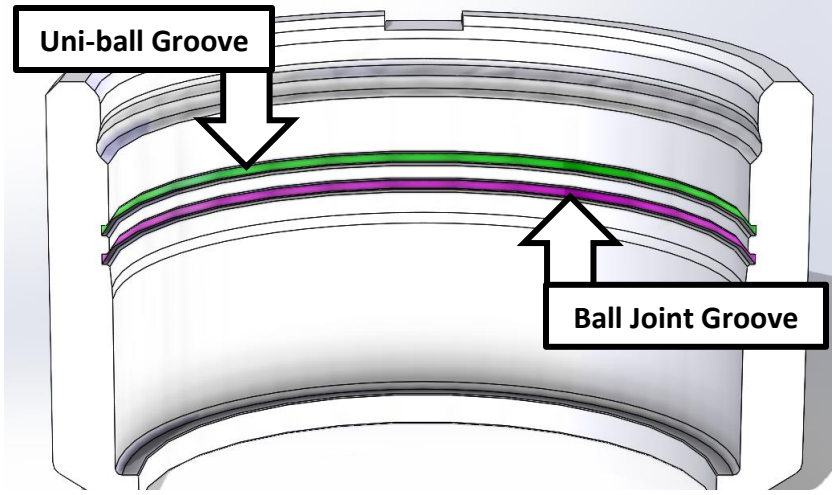


Figure 13: Ball Joint Retaining Installed

10. Lubricate the O-ring on the beauty cap, line up the Cognito logo with the pivots tube, and snap the beauty cap back into the arm.

Figure 14: Lubricate Beauty Cap O-Ring

Figure 15: Install Beauty Cap

11. The arm is now ready to be reinstalled into the vehicle.
    - **NOTE:**
      Reference the install instructions originally provided with the Cognito control arms for how to install the arms onto the vehicle. Table 1 at the beginning of the document will help find the instructions.

WARRANTY / RETURN POLICY / SAFETY

Cognito Limited Lifetime Warranty

Cognito Motorsports, Inc. hereinafter "Cognito," warrants to the original retail purchaser, that its suspension products are free from workmanship and material defects for as long as the purchaser owns the vehicle on which the product(s) were originally installed. This warranty will be void if any modifications are made to the components, including alterations to the surface finish, i.e.; painting, powder coating, plating, and/or welding, or if they are improperly installed. Cognito truck suspension products are not designed nor intended to be installed on "competition" vehicles used in race applications, stunt or for exhibition purposes that are outside of the intended operating conditions specified by the manufacturer. Racing and competition are defined as any contests between two or more vehicles; or vehicles competing individually on off road circuits in timed events (whether or not such contests are for an award or prize).

This warranty does not include coverage for police, taxi, government or commercial vehicles, and the warranty does not cover Cognito products sold outside of the USA. Cognito's obligations under this warranty are specified and applied at its sole discretion, and warranty coverage is limited to repair or replacement of the defective product(s). Any and all costs of removal, installation or reinstallation; freight charges, incidental or consequential damages associated with the covered products are expressly excluded from this warranty.

The following items are exempt from Cognito limited warranty coverage: bushings, bump stops, tie-rod ends (Heim joints) and limiting straps. These parts are "consumables" and designed to wear as a normal part of their duty cycle, therefore they are not considered defective when worn. The aforementioned products are warrantied separately against defects in workmanship, for 60 days from the date of purchase. As a condition of warranty validation, respective Cognito suspension components must be installed as a complete system (not combined with non-Cognito hardware or ancillary parts). Any substitutions or omission of required components will void the warranty. Some minor cosmetic wear and imperfections may occur to parts during shipping, which is not covered under this warranty. This limited warranty does not apply to any components that have been subjected to collision damage, negligence, alteration, abuse, or misuse, and coverage does not extend to products manufactured by third-party companies. Cognito reserves the right to supersede, discontinue, or change the design, finish, part number and/or application of its parts when deemed necessary, without notice.

Return Policy

Product returns will not be accepted without prior written approval from an authorized Cognito representative. All products being returned must be shipped via trackable, prepaid freight. Returned products are subject to a 25% percent restocking fee. The eligible return period for products purchased directly from Cognito is 30 days from the verified date when the product(s) were originally received by the purchaser.

Product Safety Advisory

The installation of Cognito steering and suspension components will modify your vehicle's original factory equipment and geometry, which may cause it to handle differently than a stock (unaltered) vehicle. Installation of these components is not intended to strengthen nor reinforce the vehicle's frame, nor are they designed to increase rollover protection. It is necessary to periodically inspect all suspension and drive train components for proper attachment, torque specifications, operation, and for any potential unusual wear or damage. Installation of these parts will modify the height of the vehicle and may raise the center of gravity. Modifying vehicle height combined with off road operation may increase your vehicle's susceptibility to rollover conditions, which may cause serious injury or death. Many states regulate allowable vehicle height modifications, and it is your responsibility to know and comply with the legal requirements specified by the laws where you reside. Modifications to your vehicle's ride height may also affect the ride quality, driver input response, trackability and handling, and wear to your vehicle's suspension components and tires.