

DYNATRAC

BALL JOINTS FOR JL & JT



INSTALLATION INSTRUCTIONS

DYNATRAC Ball Joint Installation Instructions V1.0



WARNING: This product is designed for use in specified axles and should not be used for custom applications. Any non-approved application will risk your safety and the safety of others around you. Any non-approved use will void the warranty of the product.



WARNING: Improper use or installation of this product can cause major failures that could lead to injury or death.



WARNING: There are knock off axle products that are not made to Dana specifications. Dynatrac will not be accountable for the tolerances of non-Dana/Jeep axle products on the market.



WARNING: Only perform this installation if you are an experienced, fully equipped mechanic.



WARNING: Always wear proper safety equipment including safety glasses and gloves while working with tools. Improper use of tools and equipment can cause injury or death.

①**INFORMATION:** Dynatrac ball joints are sold in a fully assembled condition, ready to install in your vehicle. Install the ball joints as if they are standard OEM replacement parts. Refer to your vehicle or axle service manual or contact a competent auto repair or alignment shop to properly install the ball joints on your vehicle. Press tools are required when installing ball joints, and it is recommended that you use an experienced shop. There are ball joint press tool kits available online, or at auto stores.

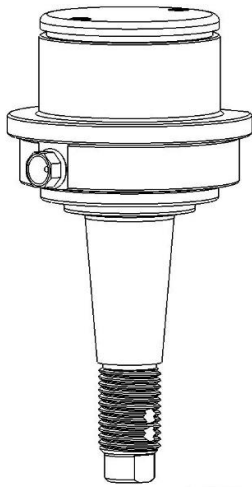
Dynatrac recommends using a press kit in conjunction with kit JP44-1X3050-J supplied by Dynatrac. Other ball joint installation kits besides the listed Miller kit are available; however, Dynatrac has not tested them.

Note: Dynatrac strongly recommends buying the JP44-1X3050-J ball joint installation kit sold separately. The included tools kit will prevent damage to the ball joints during installation.

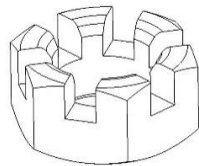
Common Tools Which Will be Required for Installation

- 10mm, 13mm, 21mm & 22 mm Socket
- 13mm 12 Point Socket
- T30 Torx Driver
- 5mm Allen Key
- Calibrated Torque Wrench
- Pry Bar
- 5lb Metal Hammer
- Wire Brush
- Ball Joint Press Kit
- 4 Quarts of Gear Oil (Optional)
- Basic Mechanics Tool Set
- Anti-Seize
- Snap Ring Pliers
- Safety Glasses
- Sandpaper or File

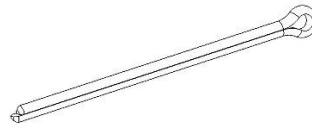
What's in the Box



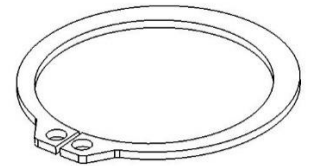
**BALL JOINT
QTY (4)**



**CASTLE NUT
QTY (4)**



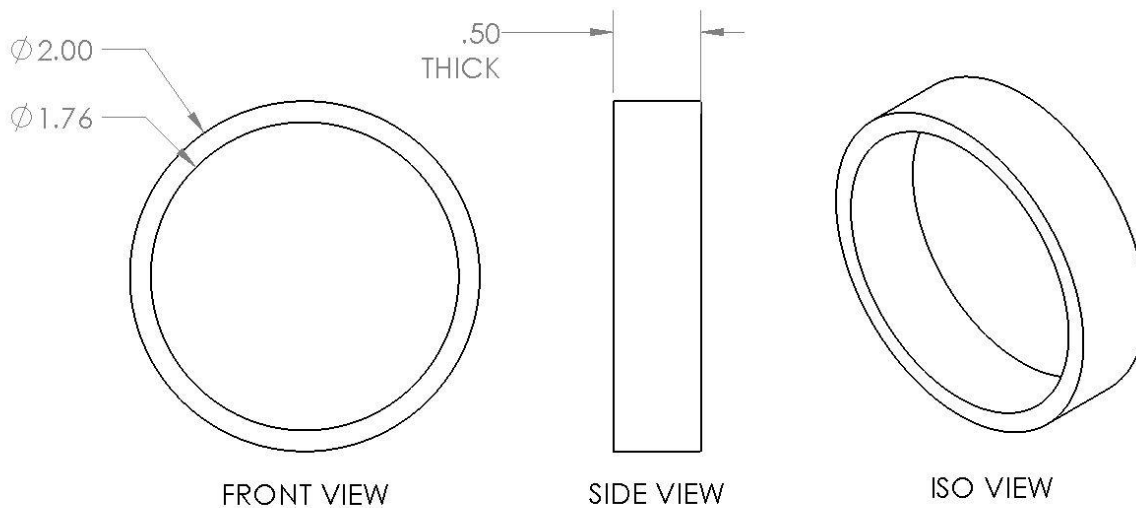
**COTTER PIN
QTY (4)**



**SNAP RING
QTY (2)**

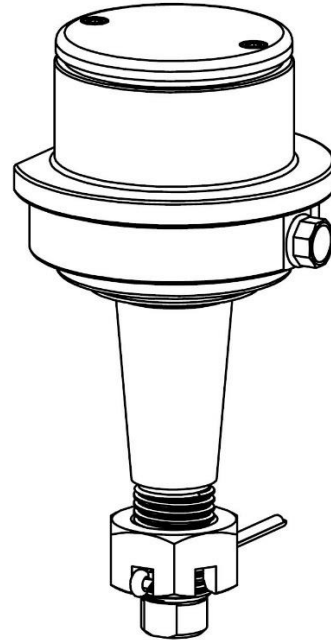
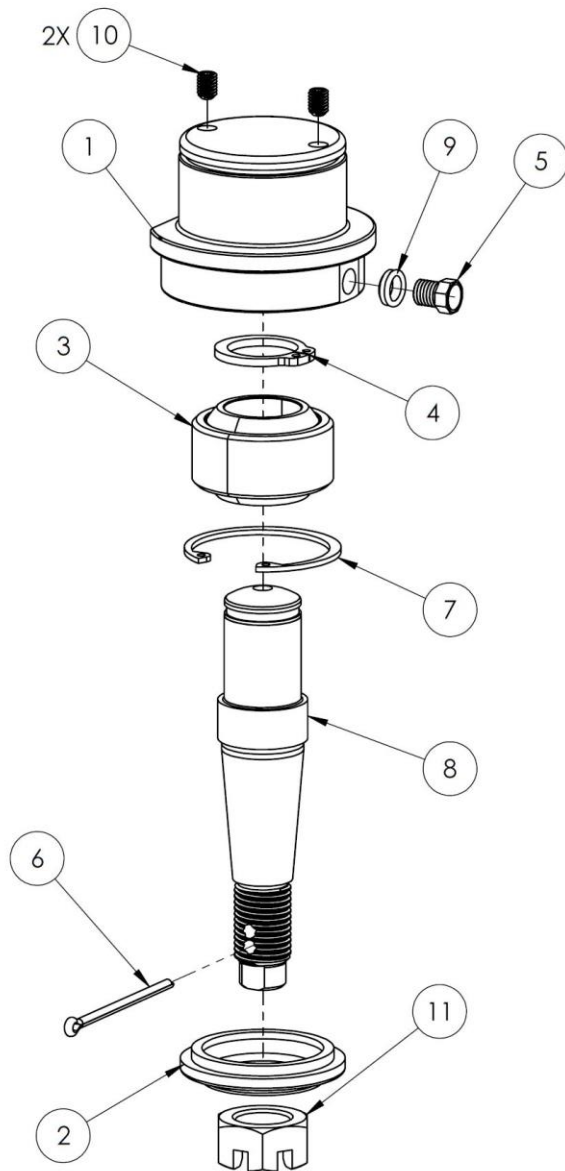
Dynatrac Ball Joint Installation Tool

QTY (2) included in install kit JP44-1X3050-J, (Sold Separately)



Dimensions in Inches

JL/JT Pro Steer Ball Joint Overview



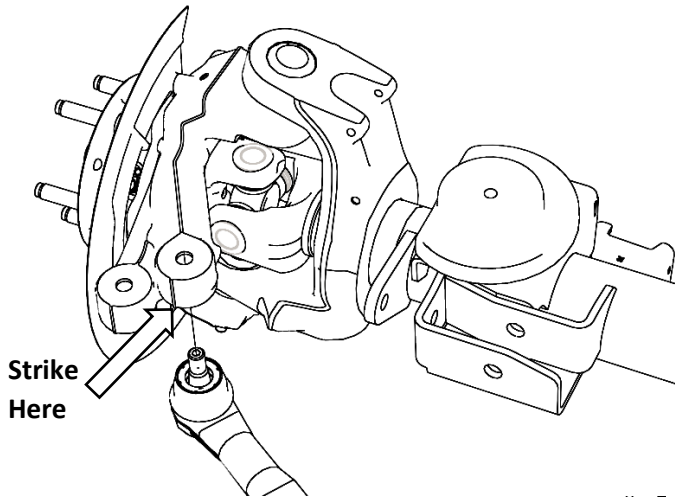
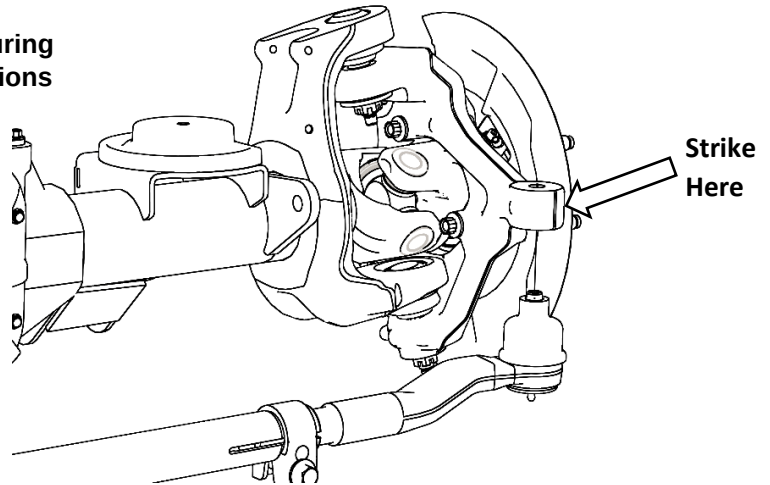
ITEM	PART NUMBER	DESCRIPTION	QTY
1	JP44-3050-AC	CUP, BALL JOINT, JL/JT	1
2	DA60-3049-J	DUST SEAL	1
3	DA60-3049-L	SPHERICAL JOINT, 1.375"	1
4	DA60-3049-G	SNAP RING, HEIM	1
5	DA60-3049-N	BUTTON ZERK FITTING	1
6	DA60-3049-K	COTTER PIN	1
7	DA60-3049-H	SNAP RING, STUD ASSY	1
8	JP44-3050-AD	STUD, BALL JOINT, JL/JT	1
9	JP44-3050-E	NYLON WASHER	1
10	JP44-3050-I	SET SCREW, 10-32 X 1/4", PLUG	2
11	JP44-3050-AG	CASTLE NUT, LOW PROFILE, M14 X 1.5	1

Installation Instructions

1. Raise vehicle in and support front axle with jack stands. Ensure that vehicle is in park or in gear, parking brake is engaged, and rear wheels are chocked. Remove wheels. Remove brake calipers and support with hanger. Unfasten rotor retaining screws and remove rotors.

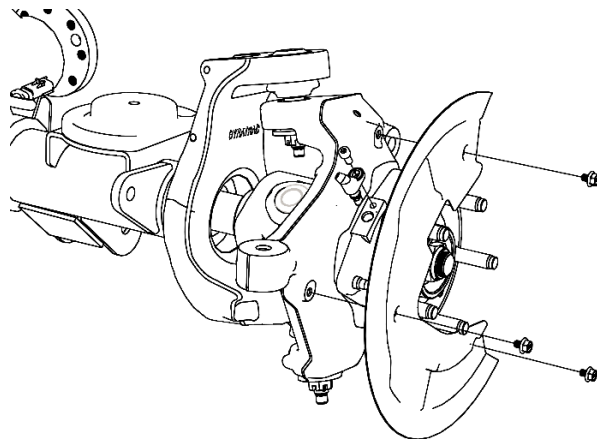
Note: Safety glasses must be worn during striking, sanding and pressing operations

2. Remove tie rod. Unfasten nut and strike the tie rod arm on knuckle with a metal hammer to unseat tapered stud. Repeat on opposite side. Remove steering stabilizer if necessary.

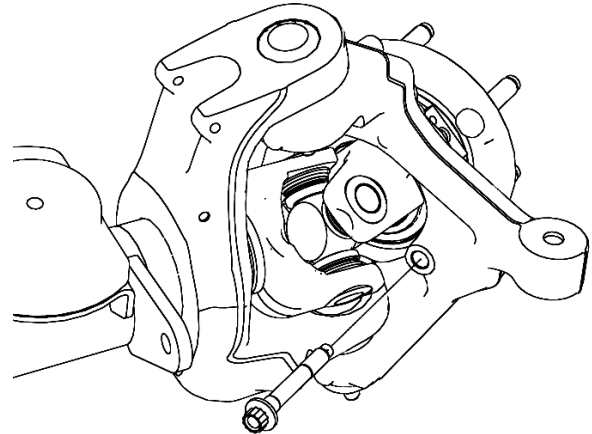
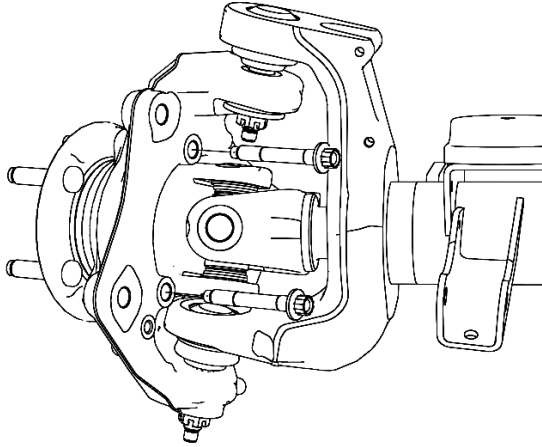


3. Remove drag link. Unfasten nut and strike the drag link arm on knuckle with a metal hammer to unseat tapered stud.

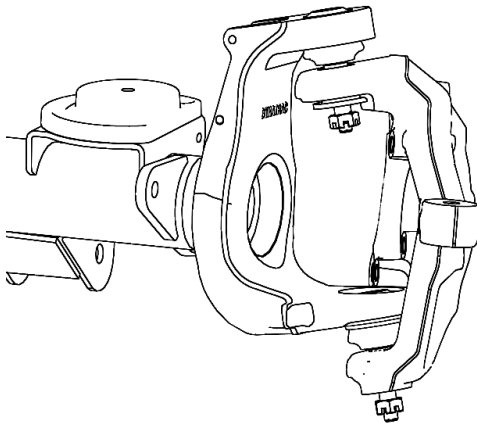
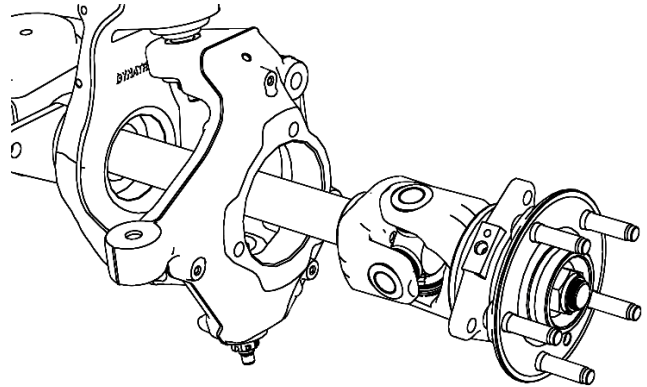
4. Remove dust shield and wheel speed sensor (WSS) from knuckle. It is recommended to unfasten the bent wire cable retainer from the end forging in order to move the WSS cable safely out of the workspace.



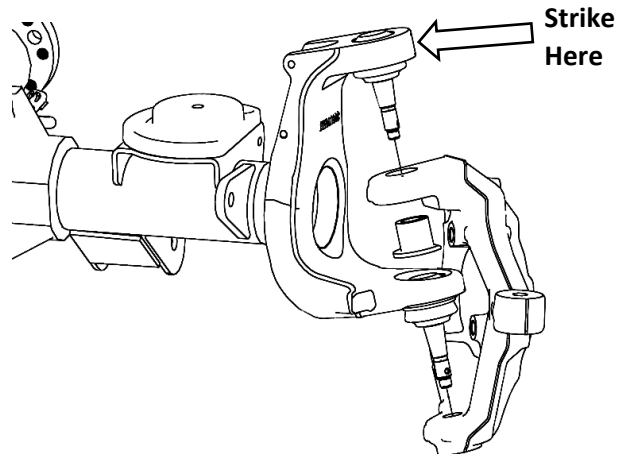
5. Remove the three hub bolts with 13mm 12 point socket. Turn knuckle as required to access fasteners.



6. Remove the unit bearing and shaft. Support the shaft during removal to avoid damage to inner axle seal and shaft seal surface. Wrap shaft seal surface with rag to prevent damage. Plug the axle tube with a rag to prevent debris from entering and keep excess oil from dripping out.

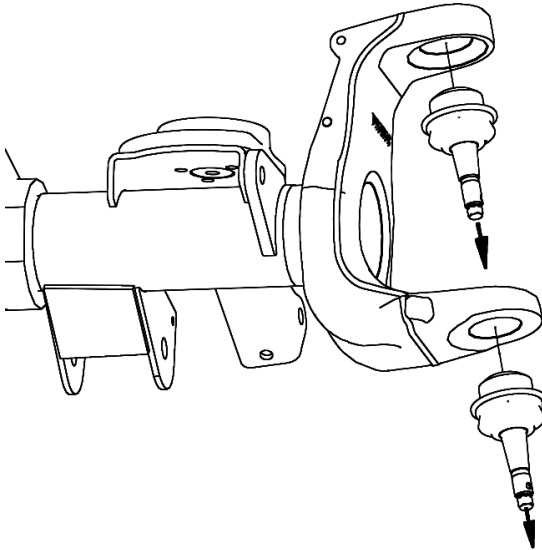
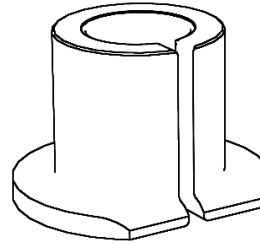


7. Remove cotter pins and loosen the castle nuts to create a space for knuckle to break loose from the ball joints. Do not completely remove castle nuts as they will prevent knuckle from falling



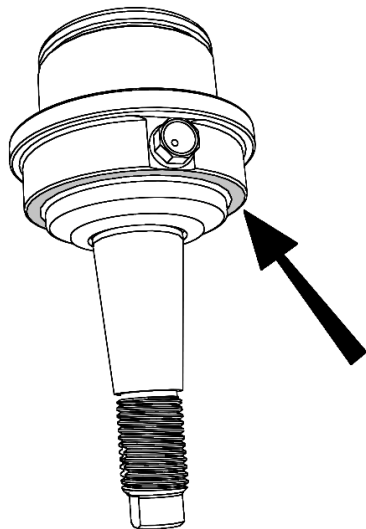
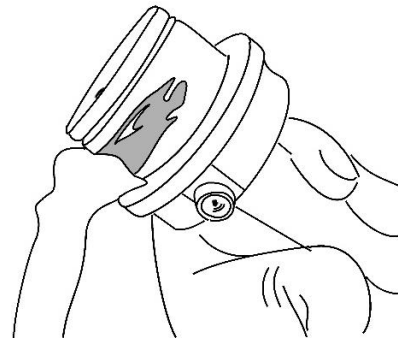
8. Strike the end forging (inner c) with a metal hammer until knuckle breaks loose from ball joint tapered studs. Unfasten castle nuts and remove the knuckle.

**9. Do not discard upper ball joint sleeve.
This component will be reused.**



10. Use ball joint press to remove the upper and lower ball joints

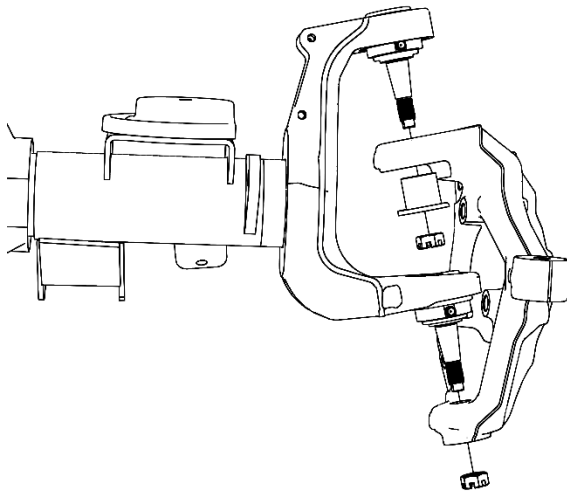
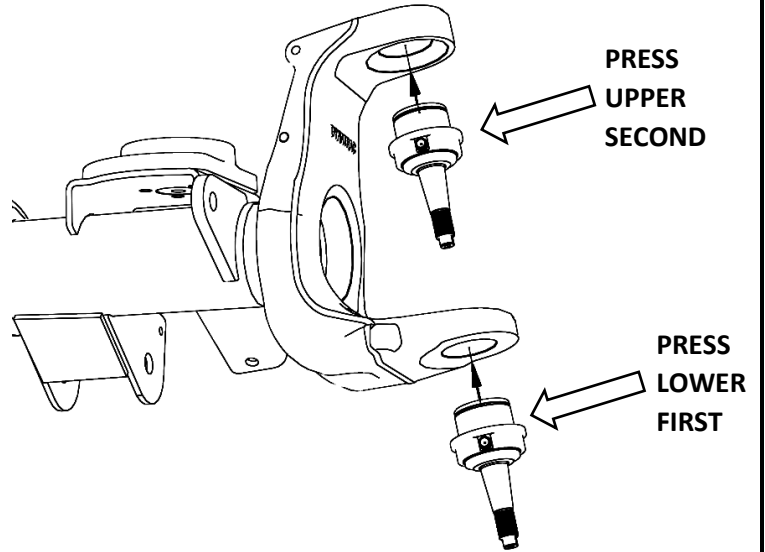
11. Clean end forging ball joint bores and outer surface of ball joint cup. Use sandpaper or file to ensure end forging bores are free of burrs and sharp edges. Apply a thin layer of anti-seize to ball joint cup.



12. When installing Dynatrac JL/JT ball joints, press on ball joint cup shoulder shown. It is recommended to use press tool detailed on sheet 3 (included in install kit JP44-1X3050-J). Do not press on seal or stud.

13. Orient grease fittings toward the front of the axle. Press in the lower ball joint first and then the upper. Ensure ball joint flange seats flush with end forging. Install snap ring in groove on upper ball joint

Note: All four Dynatrac ball joints are identical and can be used in both top and bottom position



14. Reassemble knuckle onto axle using upper ball joint sleeve from step 9.

Torque Procedure:

- Torque lower castle nut to 15 ft-lbs to seat stud.
- Torque upper castle nut to 55 ft-lbs and advance to line up castle nut slot with hole in stud. Install cotter pin in upper hole in stud.
- Torque lower castle nut to 35 ft-lbs and advance to line up castle nut slot with hole in stud. Install cotter pin.

Note: If stud spins and prevents from reaching torque, use a pry bar or jack to apply force pushing knuckle upward while torqueing nut.

15. Reassemble front axle. Support shafts during installation to prevent damage to inner axle seal and shaft seal surface. Re-install tie rod, drag link, wheel speed sensor, brakes and wheels using manufacturer's recommended torque specs.

GREASE NOTE: Ball joints come with grease installed and there is no need to grease them upon initial install. The grease and seal are present to keep debris from accessing the spherical joint which does not require grease to function. It is recommended to replenish grease every 10,000 miles or after submerging in water. One pump is typically sufficient to fill while minimizing risk of seal damage.

JL/JT Front Axle Torque Specs for Reference	
Unit Bearing Bolts	75 ft-lbs
Drag Link Nut	47 ft-lbs
Tie Rod Nuts	47 ft-lbs
Front Rotor Screw	15 ft-lbs
Front Brake Caliper Adapter Bolt	148 ft-lbs
Front Wheel Speed Sensor Bolt	5 ft-lbs
Wheel Lug Nuts	130 ft-lbs