



SIMPLY SUPERIOR.

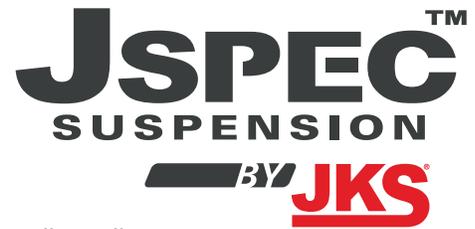
**3" SUSPENSION SYSTEM
1997-2006 JEEP WRANGLER TJ
JSPEC3301/3302**

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RV. 072717

GETTING STARTED

Read all warnings, instructions, notes and cautions before you begin the installation.



WHO SHOULD INSTALL THIS?

We recommend that this system be installed by a professional mechanic. The installer will need professional knowledge of special tools required for installation as well as assembly and disassembly procedures.

STAYING SAFE AND LEGAL

- If you fail to drive your lifted and modified vehicle safely it may result in serious injury or death.
- Never disconnect the swaybar when operating vehicle on public roads.
- Exercise caution: A lifted vehicle is at greater risk for rollovers or loss of control, especially during abrupt maneuvers.
- Always wear your seat belt, reduce your speed and avoid sharp turns.
- Never operate your vehicle under the influence of drugs or alcohol.
- Consult local and state laws for the legality of your ride height.

BEFORE YOU BEGIN INSTALLATION

- Needed items: OE service manual for your vehicle, safety glasses, and any special tools as indicated in these instructions as well as the following tools: assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands.
- Ride Height: Measure the initial ride height of your vehicle prior to installation. Final ride height may vary depending on the factory height of your vehicle.
- Tires and rims: Larger tire and rim combinations can increase leverage and cause additional stress to suspension, steering, and related components. When installing larger than OE tires and rims, the following components should be inspected for wear every 2500-5000 miles: ball joints, tie rod ends, wheel bearings, track bar bushings, pitman arm.
- Drive line vibrations: Some vehicles may experience drive line vibration after installation of this suspension system. Possible remedies for this include: tuning angles, replacement of slider on shaft, lengthening or truing of shaft, and/or replacing u-joints.
- Installation without a hoist: We recommend completing the rear alterations first if no hoist is available.

THANK YOU FOR CHOOSING JSPEC SUSPENSION

TIRE FITMENT

33 x 12.50 on 15x8 with 3.75" max backspacing

SPECIAL TOOLS REQUIRED

Torque Wrench
Torx bits - T40, T50, T55
5/16", 3/8", 9/16" Drill Bit
8mm & 1/4" Allen Socket

INSTALLATION TIME

Approximately 6 hours



01. PRE-INSTALLATION

- a. Measure from the center of the wheel up to the bottom edge of the wheel opening.

| | Drv | Pass |
|-------|----------------------|----------------------|
| Front | <input type="text"/> | <input type="text"/> |
| Rear | <input type="text"/> | <input type="text"/> |

02. REAR DISASSEMBLY

- Disconnect the track bar from the passenger side frame rail bracket (15mm & 18mm).
- Raise and support the vehicle. Place a hydraulic jack under the axle to support it. Remove the wheels.
- Disconnect the sway bar links from the sway bar and frame. (15mm & 18mm).



- d. With the axle well supported, remove the shock absorbers. Use penetrating oil on the upper bar pin bolts (13mm) to help prevent the bolts from breaking.
- e. Lower the axle until the spring is free from its upper mount. Remove the coil spring from the vehicle.

03. REAR TRACK BAR BRACKET

Rear track bar bracket installation will require bolt pack J112 and 94 sleeve

- a. Remove the track bar to axle Torx mounting bolt (T55). Temporarily remove the track bar from the vehicle.
- b. Remove and discard the plastic axle mount cover and x-mas tree clips.
- c. Position the provided track bar bracket on the axle mount and temporarily hold it in place lining up the original track bar hole with the one in the bracket. Using the bracket as a template, mark the bottom, top, and driver's side lower mounting hole positions to be drilled. The bottom and top holes should line up close to the existing holes left from the plastic cover clips.



- d. Remove the bracket and drill a 3/8" hole at the 3 locations.
- e. Reinstall the bracket and loosely fasten the bracket to the axle mount at the drilled locations. Use 5/16" hardware at the top and side holes and the 3/8" hardware at the lower hole.
- f. Insert the provided 12mm x 80mm bolt through the original track bar hole with the provided 3/4" x 1.58" spacer sleeve mounted inside of the axle bracket. Use the factory nut tab, or if not available, use the provided nut and washer.
- g. With all of the hardware installed, torque the 5/16" hardware to 20 ft-lbs, 3/8" to 35 ft-lbs, and the 12mm hardware to 80 ft-lbs.
- h. Install the track bar in the new bracket and fasten with the provided 12mm x 80mm bolt, nut, and washers. Leave loose.

04. REAR BUMP, SWAY BAR LINK, COIL SPRING, AND SHOCK INSTALLATION

Bump stops 2296 will require 10mm x 80mm bolts. Sway Bar links will require 709 bolt pack.

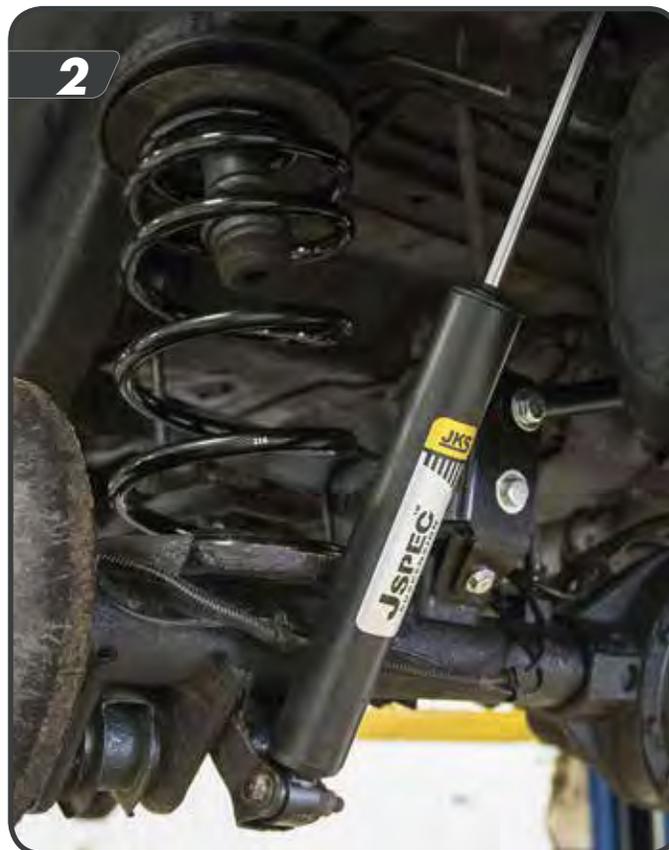
- a. Carefully pry the factory bump stops from the cup, normally this can be done by hand, but use some channel locks if necessary.
- b. Remove the bolt (15mm) that attaches the cup to the frame.
- c. Install the provided bump stop extension between the frame and bump stop cup and attach them to the frame using the provided 10mm x 80 mm bolts. No washer is necessary.

04. REAR BUMP, SWAY BAR LINK, COIL SPRING, SHOCK INSTALLATION (CONT.)

- d. Reinstall the factory bump stops into the cup.



- e. Install the JSPEC coil spring with the number on the spring legible and facing towards the rear.
- f. Install shocks using the factory hardware with the sticker facing rearward. Anti-seize is recommended on the upper bolts. Tighten the upper bolts to 26 ft-lbs and the lower hardware to 74 ft-lbs.



- g. Attach the new sway bar links to the sway bar and frame using the provided 10mm x 60mm bolts located in bolt pack 709. Torque bolts to 4 ft-lbs.

05. J-FLEX REAR UPPER CONTROL ARM INSTALLATION

- a. Raise and support the rear axle housing with a hydraulic jack.
HINT: The axle housing should be evenly supported, with the suspension at normal ride height. Do not attempt removal or installation with the suspension extended, or the axle drooped, as this will place tension on suspension arm mounting hardware.
- b. Remove the parking brake cable and ABS wiring (if equipped) from upper suspension arm.
- c. Remove the rear upper suspension arm nut and bolt from the axle housing bracket. Retain the original mounting hardware.
- d. Remove the nut and bolt from the chassis rail bracket. Retain the original mounting hardware.
- e. Remove original rear upper suspension arm.
- f. Set the length of both J-Flex rear upper control arms to 13-½". This will be a good starting point. further adjustment may be required once the lift is complete to help tune out driveline vibration.
- g. The control arms are side specific. The flex end will be mounted to the frame with the brake line tab facing towards the center of the vehicle and pointing slightly down.
- h. Mount the flex end of the control arm to the chassis rail bracket with the grease fitting facing down using the original mounting bolt. Leave loose.
- i. Mount the rubber bushing end of the control arm to the axle housing bracket using the original mounting bolt. Leave loose.
HINT: If mounting bolt is difficult to install due to misalignment of the control arm bushing with mounting bracket, either adjust height of axle housing with hydraulic jack or move axle housing into position with a heavy-duty ratchet strap
- j. Attach the parking brake cable and ABS wiring (if equipped) to the upper control arm with the factory hardware.
- k. Repeat control arm installaton on the opposite side.

06. FINAL REAR INSTALLATION STEPS

- a. Lower the vehicle to the ground until coil springs are supporting the full weight of the vehicle.
- b. Tighten the upper control arm bolts to 55 ft-lbs.
- c. Tighten J-Flex control arm jam nuts. Use care to ensure the the flex end remains square to the chassis bracket.
- d. Connect the track bar to the passenger frame rail bracket using the OE hardware, a buddy is useful to push on the body to get the hole lined up. A ratchet strap can also be used. Tighten the frame and axle track bar bolts to 80 ft-lbs.

07. FRONT DISASSEMBLY

- a. Disconnect the front track bar from the axle using a T50 Torx bit. Save bolt and nut tab.



07. FRONT DISASSEMBLY (CONT.)

- b. Raise and support the vehicle. Place a hydraulic jack under the axle to support it. Remove the wheels.
- c. Remove the brake lines from the frame rail (T40) on both sides.
- d. Disconnect the sway bar links from the axle and sway bar (18mm). Discard links and hardware.



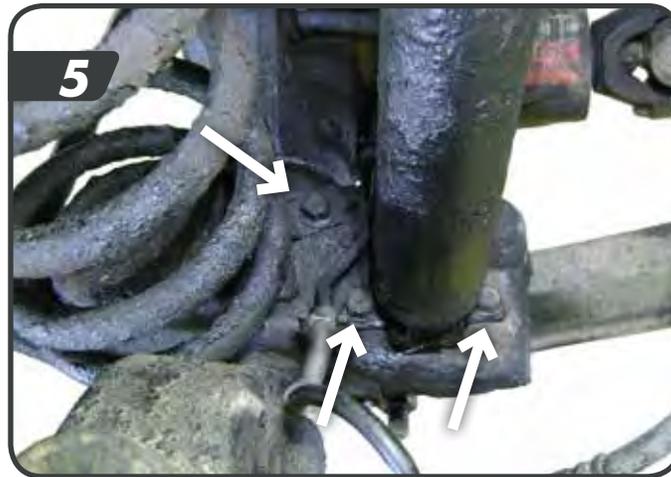
Note: If difficult to remove the sway bar link from the sway bar, an air chisel or pickle fork can be used.

- e. Disconnect the track bar from the frame rail bracket. Remove the cotter pin and nut (21mm) and thread it back on a few turns. Strike the track bar frame mount with a hammer to release the tapered seat. Remove the track bar.



07. FRONT DISASSEMBLY (CONT.)

- f. With the axle well supported, remove the shocks. Also remove the coil spring retainer located at the rear of the driver side coil mount.



- g. Remove the front lower control arms from the vehicle. Save hardware.



- h. Lower the axle enough to remove the factory coil springs. Take care to ensure all hoses have adequate slack and the steering isn't binding. The drag link can be disconnected if necessary.

08. FRONT COIL SPRING, BUMP STOP & SHOCK INSTALLATION

Bump stops 3296 will require bolt pack J107

- a. Locate the center of the coil mount on the axle and drill a 5/16" hole. Using the provided 3/8" x 1" self-tapping bolt, tap the hole and remove the bolt. A lower bump stop extension will be installed here when the coil spring is installed.



- b. Install the provided new front coil springs in the vehicle. When installing the coils, insert a 2" bump stop spacer (large diameter) in the coil before placing it on the axle mount. Fasten the bump stop spacer with a 3/8" x 2-1/2" bolt and washer. Torque to approx. 25 ft-lbs.
- a. Lower the axle far enough to install the JSPEC coil spring. Rotate the spring to seat it in the lower coil mount. Raise the axle enough to bring the spring in to contact with both the upper and lower mounts. Take care to ensure all hoses have adequate slack and the steering isn't binding.
- b. Raise the axle enough to loosely install the front shocks to the upper stem mount followed by the lower bar pin mount using the factory hardware. Tighten the stem mount until the bushings begin to swell. Re-install the coil spring retainer. Tighten the lower bolts to 20 ft-lbs.



09. J-LINK FRONT LOWER CONTROL ARM INSTALLATION

- a. Raise and support the rear axle housing with a hydraulic jack.

HINT: The axle housing should be evenly supported, with the suspension at normal ride height. Do not attempt removal or installation with the suspension extended, or the axle drooped, as this will place tension on suspension arm mounting hardware.

- a. Install the arms in the frame and axle mounts so that the bend is down and closer to the front axle.
- b. Install the original mounting bolts and center the cam adjusters if equipped. Leave loose, final torque will be done with the weight of the vehicle on the suspension.

HINT: If mounting bolt is difficult to install due to misalignment of control arm bushing with mounting bracket, either adjust the height of the axle with a hydraulic jack or move the axle housing into position with a heavy-duty ratchet strap.

10. BRAKE LINE BRACKET INSTALLATION

Brake line brackets 03193/03194 require bolt pack 452

- a. Install the brake line drop brackets to the frame using the 8mm button head bolts so the wide part of the bracket is forward.
- b. Install the brake lines to the brackets with the 8mm button head bolts and nuts. Torque the bolts to 18 ft-lbs.



11. ADJUSTABLE FRONT TRACK BAR

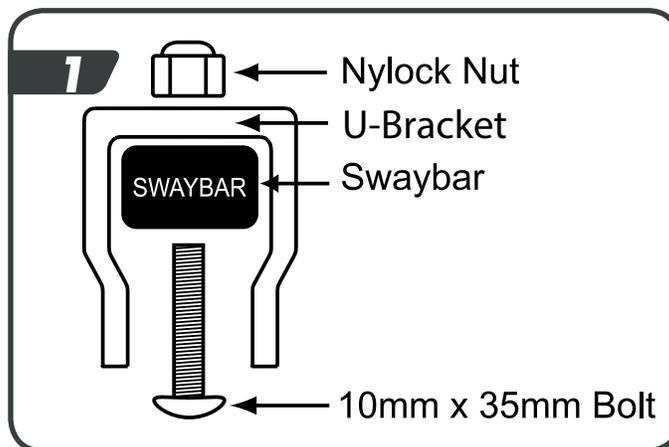
- a. Using a 9/16" drill bit, enlarge the factory tapered mounting hole at the frame.
- b. Adjust the track bar to approximately 32" center of the flex eye to center of the bushing eye. Leave the jam nut loose. Final adjustment will be made once the vehicle is on the ground.
- c. Locate the provided 9/16" bolt and insert it through the flex eye followed by the tapered split cone with the narrow end facing away from the track bar. Fasten the track bar to the frame mount with the provided, 9/16" nut, no washer is used. Tighten the bolt to 100 ft-lbs.

Note: Leave the axle end out of the axle, this will be attached w/ the vehicle on the ground.



12. QUICKER DISCONNECTS

- a. Mount the U-bracket on the top of the sway bar with the threaded hole to the inside using the supplied 10mm x 35mm button head bolt upward through the sway bar and fasten w/ the nylock nut. Torque bolt to 40 ft-lbs.



- b. Install the tapered posts to the lower sway bar mount so they point inward. Tighten the posts to 65 ft-lbs so the click pin holes are horizontal. Slide the offset bushing onto the post.

Note: A small phillips head screwdriver or punch inserted in the click pin hole can be used to prevent the post from rotating when tightening the nylock nut.

- c. Adjust the length of the sway bar links to 9" and install the sleeve into the male side of the sway bar link.
- d.

12. QUICKER DISCONNECTS (CONT.)

- e. Apply the supplied loctite to the end of the 10mm x 50mm button head bolt and install it with the external tooth lock washer through the U-bracket and male end of the sway bar link so the grease fittings face forward. Tighten to 40 ft-lbs using a 6mm Allen head socket.



- f. With both sway bar links installed, rotate the sway bar and link up so the female end of the sway bar link is close to the center of the frame rail. Mark this location for the storage pin.
- g. Drill a hole using a 17/64 or F size (.257") drill and tap the hole using the provided 5/16" self tapping bolt.
- h. Install the storage pin using the supplied 5/16" x 1-1/2" socket head bolt. With the first side on the storage pin, repeat the pin installation on the other side.

13. TRANSFER CASE DROP INSTALLATION

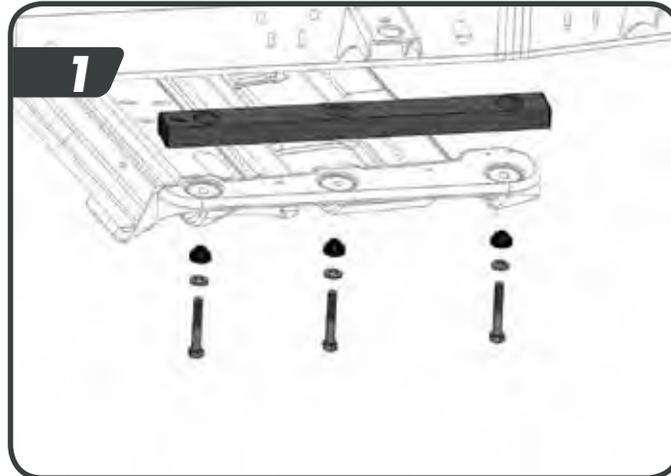
ALL MODELS

- a. Locate and loosen the 4 nuts (13mm) mounting the transmission mount to the transfer case skid plate. Do not completely remove the nuts.
- b. Support the transfer case skid plate with a hydraulic floor jack.
- c. Loosen, but do not remove all six skid plate mounting bolts.

13. TRANSFER CASE DROP INSTALLATION (CONT.)

97-02 MODELS

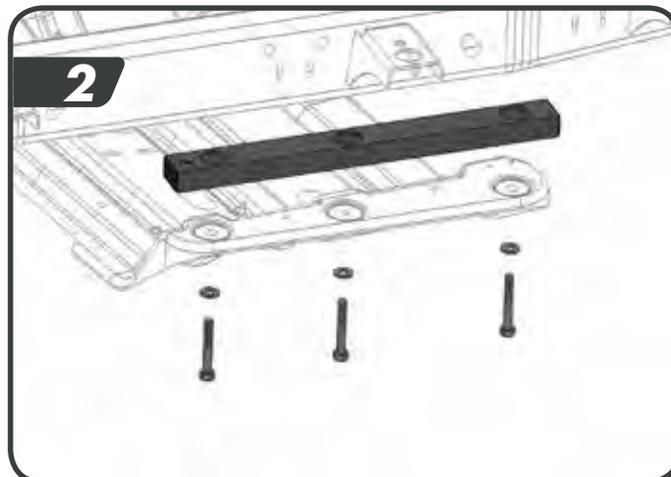
- d. Remove the three skid plate mounting bolts on the driver's side and slowly lower the skid plate from the frame just enough to install the provided transfer case drop tube between the frame and the skid plate. The longer tube installs on the driver's side with the large holes towards the frame and the "F" towards to front of the vehicle.
- e. Attach the skid plate to the frame with the provided 1/2" bolts, flat and conical washers as shown.



- f. Repeat the transfer case drop tube installation on the passenger side.

03-06 MODELS

- g. Remove the three skid plate mounting bolts on the driver's side and slowly lower the skid plate from the frame just enough to install the provided transfer case drop tube between the frame and the skid plate. Both tubes are the same and install with the large holes towards the frame and the "F" towards to front of the vehicle.
- h. Attach the skid plate to the frame with the provided 12mm bolts and washers as shown.



- i. Repeat the transfer case drop tube installation on the passenger side.

ALL MODELS

- j. With both tubes installed, torque bolts to 65 ft-lbs.
- k. Torque the 4 transmission mount nuts to 18 ft-lbs.

14. TRANSFER CASE SHIFTER LINKAGE BRACKET

- a. Locate the transfer case shift linkage pivot bracket mounted to the underside of the floor on the driver's side, next to the transfer case. The bracket is mounted to the floor with four bolts that are accessed under the carpet in front of the driver's seat. Pull the carpet up and remove the bolts. Save hardware.



- b. Working underneath the vehicle, slide the pivot bracket down and off of the pivot rod running from the transfer case. Remove the bracket assembly from the vehicle.
- c. Remove the two bolts that fasten the pivot bushing plate to the bracket. Remove the bushing plate and gasket (when equipped). Save hardware.
- d. Attach the provided pivot bushing relocation bracket to the factory bracket with the original hardware. The studs in the new bracket should point out away from the main factory bracket. Torque bolts to 10 ft-lbs.
- e. Attach the pivot bushing plate and gasket (when equipped) to the studs on the new plate with the provided 1/4" nuts and washers. Torque nuts to 10 ft-lbs.
- f. Install the modified pivot bracket assembly in the vehicle by sliding the linkage rod into the relocated pivot bushing. Reattach the bracket to the floor with the original hardware. Torque nuts to 15 ft-lbs.



- g. Check transfer case shift operation to see that all positions engage completely. Adjust the shift linkage as necessary. The linkage adjustment is located near the pivot bracket.

15. ENGINE MOUNT SHIM INSTALLATION

- a. Position a floor jack under the transmission bellhousing with a block of wood to distribute the engine weight

Note: Do not jack up the engine on the oil pan.

- b. Carefully raise the jack just enough to remove the weight of the engine from the motor mounts.
- c. The two bolts that attach each engine mount to the frame need to be loosened enough to raise the engine $\frac{1}{4}$ " to provide clearance to insert the engine mount shims. One bolt is accessed from the top and the other is accessed from the bottom (15 mm). Loosen these bolts.



- d. With all 4 engine mount bolts loose, raise the engine just enough to slide both motor mount shims between the engine mount and the frame.
- e. With the shims in place lower the engine and tighten bolts to 30 ft-lbs.

09. FINAL INSTALLATION STEPS

- a. Lower the vehicle to the ground.
- b. Slide the quicker disconnects over the lower tapered posts and install the click pins.
- c. Tighten the front lower control arm axle bolts to 85 ft-lbs and the control arm to frame bolts to 130 ft-lbs.
- d. Install the front track bar into the axle with the factory bolt and nut tab.
- e. Check to see if the front axle is centered by measuring the distance between the tire and chassis on both sides. If the measurement varies, adjust the track bar by half the difference of the measurements and re-install.
- f. Torque the front track bar axle bolt to 50 ft-lbs.
- g. Check all fasteners for proper torque.
- h. The vehicle will need a front end alignment.
- i. Align headlights.
- j. Check all fasteners after 500 miles.
- k. Grease J-Flex control arms along with normal vehicle maintenance schedule.

KIT CONTENTS

JSPEC3300 COIL SPRINGS - 3"

| Part No. | Qty | Description |
|----------|-----|--------------------|
| 034303R | 2 | Front coil springs |
| 034309R | 2 | Rear coil springs |

JSPEC3301/C3302 COMPONENT BOX KIT

Adjustable Track Bar

| Part No. | Qty | Description |
|----------|-----|--------------------------------|
| A1021 | 1 | Adjustable Track Bar |
| 516 | 1 | Grease Zerk Fitting |
| 03050 | 1 | Tapered Split Cone |
| 18271 | 1 | 9/16"-18 x 4-1/2" Bolt |
| N96FPT | 1 | 9/16"-18 Prevailing Torque Nut |

Quicker Sway Bar Disconnects

| Part No. | Qty | Description |
|-------------|-----|------------------------------------|
| A1024 | 2 | Quicker Disconnect Links |
| 03029 | 2 | Sleeve |
| 03005 | 2 | Quick Pin |
| M03212 | 2 | Poly Spacer |
| A1046 | 2 | Stainless Steel Tapered Post |
| 03014 | 2 | Storage Post |
| 03012 | 2 | Quicker Disconnect U-Bracket |
| 23259 | 2 | 5/16"-18 x 1-1/2" Socket Head Bolt |
| 10598-00499 | 2 | M10-1.5 x 35mm Button Head Bolt |
| 10598-01212 | 2 | M10-1.5 x 50mm Button Head Bolt |
| 40167 | 2 | M10-1.5 Nylock Nut |
| 40515 | 2 | M10 external tooth lock washer |

Front Brake Line Brackets

| Part No. | Qty | Description |
|----------|-----|----------------------------------|
| 03193 | 1 | TJ Front Brake Line Brkt - Drv |
| 03194 | 1 | TJ Front Brake Line Brkt - Pass |
| 452 | 1 | Bolt Pack - Front Brake Lines |
| | 4 | 8mm-1.25 x 16mm button head bolt |
| | 2 | 8mm-1.25 nylock nut |

J-Flex Rear Upper Adjustable Control Arms

| Part No. | Qty | Description |
|----------|-----|---------------------------------|
| A1040 | 1 | J-Flex Rear UCA Assembly - Drv |
| A1041 | 1 | J-Flex Rear UCA Assembly - Pass |

JSPEC3301/3302 COMPONENT BOX KIT (CONT.)

J-Link Front Lower Control Arms

| Part No. | Qty | Description |
|----------|-----|---------------------------|
| A1039 | 2 | J-Link Front LCA Assembly |

Bump Stop Extensions

| Part No. | Qty | Description |
|----------|-----|---------------------------------|
| 3296 | 2 | Front Bump Stop Extension |
| | 1 | Bolt Pack J107- Front Bump Stop |
| | 2 | 3/8"-16 x 2-1/2" bolt |
| | 2 | 3/8" SAE Flat Washer |
| | 1 | 3/8" Self Tapping Bolt |
| 2296 | 2 | Rear Bump Stop Extension |
| B1080G5 | 2 | 10mm x 80mm Bolt |

Rear Track Bar Bracket

| Part No. | Qty | Description |
|----------|-----|---------------------------------|
| 01326B | 1 | Rear Track Bar Bracket |
| 94 | 1 | Track Bar Bracket Sleeve |
| J112 | 1 | Bolt Pack - Track Bar Bracket |
| | 2 | 5/16"-18 x 7/8" bolt |
| | 2 | 5/16-18 prevailing torque nut |
| | 4 | 5/16" SAE washer |
| | 2 | 5/16" USS washer |
| | 1 | 3/8"-16 x 1" bolt |
| | 1 | 3/8"-16 prevailing torque nut |
| | 2 | 12mm-1.75 x 80mm bolt |
| | 2 | 12mm-1.75 prevailing torque nut |
| | 4 | 1/2" SAE washer |

Driveline Correction

| Part No. | Qty | Description |
|----------|-----|-------------------------------|
| 03188 | 1 | 97-02 Drop Tube Pass (C3301) |
| 03192 | 1 | 97-02 Drop Tube Drv (C3301) |
| 03187 | 2 | 03-06 Drop Tube (C3302) |
| 9474K45 | 2 | Tube Cap |
| B12X365 | 6 | 1/2"-13 X 3" Bolt (C3301) |
| B1250G5 | 6 | 12mm x 50mm Bolt (C3302) |
| YJTC6 | 6 | Tapered Washer (C3301) |
| W76USS | 6 | USS Flat Washer |
| 01420 | 1 | Transfer Case Linkage Bracket |
| 704 | 1 | Bolt Pack - Linkage |
| | 2 | 1/4"-20 lock nut |
| | 2 | 1/4" flat washer |