



Rancho **LEVEL IT** System

RS66504R7 Fits 2018-2014 Ford F150 Pickup

Recommended optional Rancho Alignment Cam Kit RS886509

READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION

This suspension system was developed using 35X12.5R18 tires. Before installing any other size tire, consult your local tire and wheel specialist.

Parts List

P/N	DESCRIPTION	QTY.
RS7837	Rancho Monotube Strut	2
RS176782	Sway Bar Spacer	2
RS860804	Hardware Kit	1
RS7875	HHCS, 10MMX1.50X50MM GR 8.8	4
RS7755	Washer, 3/8 USS	4
RS770064	Washer, M10	4
RS89502	Instruction	1

STRUT REMOVAL

- 1) Park the vehicle on a level surface. Set the parking brake and chock rear wheels. Measure and record the distance from the center of each wheel to the top of the fender opening. See Illustration 1.

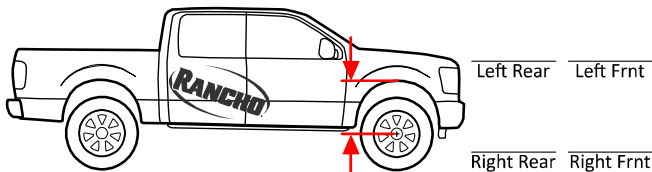


Illustration 1

- 2) Raise the front of the vehicle and support the frame with jack stands. Remove the front wheels and set them aside.
- 3) Disconnect sway bar at end links. Push bar up off end links See Illustration 2
- 4) Remove brake hose and ABS wire brackets from steering knuckle and frame. See Illustration 3 and Illustration 2
- 5) Loosen outer tie rod stud nut. Using appropriate puller, separate then remove tie rod stud from steering knuckle. See Illustration 3

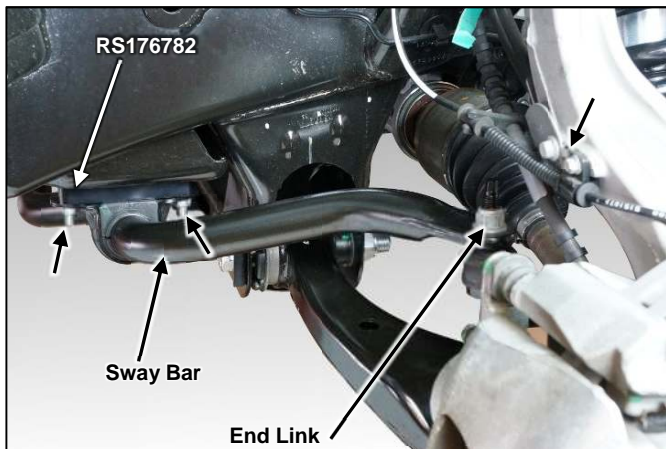


Illustration 2

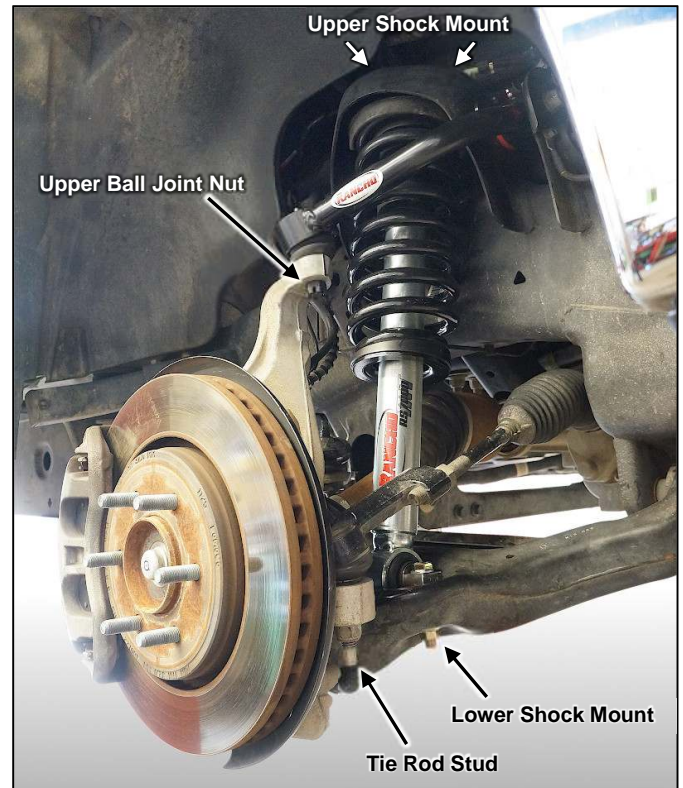


Illustration 3

- 6) Remove upper strut mounting nuts. Loosely re-install one of the upper strut mounting nuts. See Illustration 3

CAUTION: Do not turn center strut rod nut!

- 7) Remove lower strut mounting nuts. See Illustration 3
- 8) Mark location of lower control arm mounting bolts in the frame slots, or if equipped, mark location of alignment cams.
- 9) Support lower control arm with jack and remove lower control arm mounting bolts.

10) Lower jack and swing lower control arms down and out of frame mounts and off of strut mounting studs. See Illustration 4.

NOTE: Studs may need to be pried out of control arm



Illustration 4

11) Remove strut from vehicle.

12) Loosely re-attach lower control arm to frame mounts using OE hardware or cam bolts and bracket from optional Rancho alignment cam kit RS886509.

13) Use jack to raise lower control arm until the spindle to-fender measurement is 2" greater than OE measurement.

14) Align lower control arm bolts with previously made marks and tighten to OE specifications.

15) Loosen but do not remove upper ball joint stud nut. If required, Use puller to separate upper ball joint stud from steering knuckle. See Illustration 3

⚠ WARNING: CONTROL ARM WILL SPRING UP WITH GREAT FORCE WHEN BALL JOINT SEPARATES FROM KNUCKLE. USE PRY BAR TO HOLD DOWN AND SLOWLY LIFT BALL JOINT STUD OUT OF KNUCKLE. WHEN REMOVING BALL JOINT STUD NUT

16) Pry down on upper control arm, remove ball joint nut, and remove ball joint stud from knuckle.

17) Remove jack from under lower control arm

STRUT REPLACEMENT

1) Reference mark top mount, coil spring and strut. See Illustration 5.

⚠ WARNING: SPRING IS UNDER COMPRESSION LOAD WHEN INSTALLED. ATTEMPTS TO REMOVE SPRING WITHOUT PROPERLY RESTRAINING THIS LOAD MAY RESULT IN INJURY. NEVER REMOVE THE CENTRAL LOCK NUT OF THE UPPER MOUNTING PARTS BEFORE THE SPRING IS COMPRESSED.

IF A SUITABLE SPRING COMPRESSOR TOOL IS NOT AVAILABLE, OR A QUALIFIED OPERATOR IS NOT AVAILABLE, MOST REPAIR SHOPS CAN SWAP THE COIL FOR A SMALL CHARGE.

2) Using a suitable spring compressor tool, compress spring slightly to relieve initial tension.

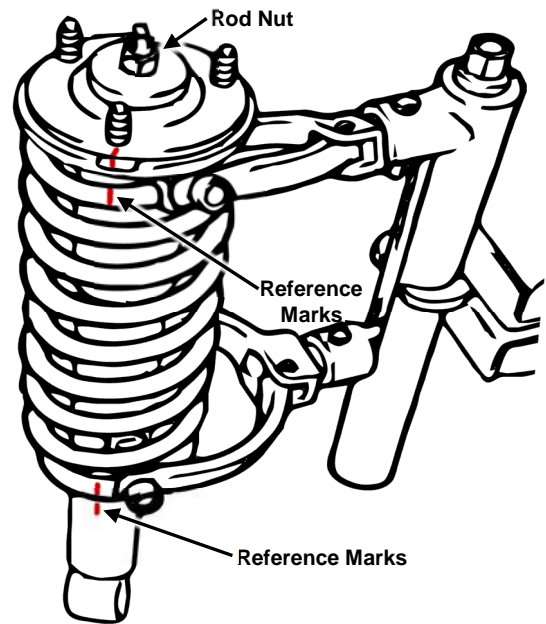


Illustration 5

3) With initial spring tension relieved, loosen rod nut slightly compress spring until loose from lower spring seat and then completely remove nut. See Remove all upper mounting parts and spring from strut assembly; save for reuse. Inspect all original parts as removed for wear and damage. Obtain replacements when necessary.

4) Note position of all parts as removed to ensure proper installation of replacement parts.

5) Install supplied lower spring seat and retainer on new Rancho RS7000MT strut.

CAUTION: Follow instructions and warnings supplied with strut.

6) Install strut on spring and upper mount assembly using reference marks to align components. Spring may need to be compressed more to fit new Rancho strut. Tighten center rod nut to OE specifications.

⚠ WARNING: DO NOT OVER TIGHTEN ROD NUT. EXCESSIVE TORQUE CAN DAMAGE THE THREADS ON THE NUT OR PISTON ROD. USE TORQUE VALUE FROM OE MANUFACTURER.

7) Loosely install strut in upper mount using OE hardware.

8) Pry lower mount into position and attach to lower control arm using supplied M12 hardware. Install bolts with threads to the bottom. Use a jack under the control arm if needed. Tighten upper and lower strut mounting hardware to OE specifications.

CAUTION: Take care not to damage CV boot.

9) Pry down upper control arm and attach upper ball joint stud to steering knuckle using OE hardware. Tighten hardware to OE specifications.

10) Attach outer tie rod end to steering knuckle with OE hardware. Tighten hardware to OE specifications.

11) Re-install brake hose and ABS wire brackets in original locations.

SWAY BAR SPACER INSTALLATION

1) Re-attach sway bar to end links and tighten to OE specifications.

2) Loosen all four sway bar bracket to frame mounting nuts. See Illustration 2.

3) Remove driver side sway bar bracket and studs.

4) Loosely install driver side sway bar mount with spacer RS176782 between mount and frame. Use supplied M10-1.50X50MM bolts, larger USS washers under bolt head, and OE nuts. See Illustration 2.

5) Repeat steps 3-4 for passenger side sway bar mount.

6) Torque hardware to OE specifications.

LOWER VEHICLE

1) Install front wheels.

2) Turn the front wheels completely left then right. Verify adequate tire, wheel, and brake hose clearance. Inspect steering and suspension for tightness and proper operation.

3) Inspect and rotate all axles and drive shafts.

4) Lower vehicle to ground.

5) Tighten lug nuts to 150 ft. lbs.

FINAL CHECKS & ADJUSTMENTS

1) Turn the front wheels completely left then right. Verify adequate tire, wheel, and brake hose clearance. Inspect steering and suspension for tightness and proper operation.

2) Inspect and rotate all axles and drive shafts.

3) Ensure that the vehicle brake system operates correctly.

4) Readjust headlamps and have vehicle aligned at a certified alignment facility.

NOTE: Alignment cam kit may be required to align vehicle.

Recommended Alignment Specifications

Caster (degrees): $3.60^{\circ} \pm 1.00^{\circ}$

Camber (degrees): $-0.10^{\circ} \pm 0.75^{\circ}$

Sum Toe In (degrees): $0.2^{\circ} \pm 0.2^{\circ}$ or $0.10" \pm 0.10"$

5) Park the vehicle on a level surface. Set the parking. Measure and record the distance from the center of each wheel to the top of the fender opening. See Illustration 6.

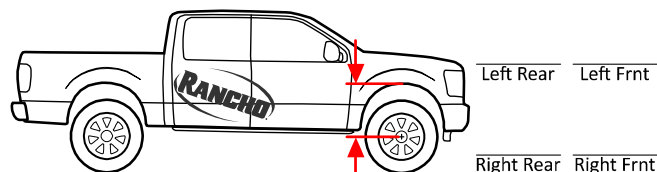


Illustration 6

Torque Specifications

Lower Control Arm	240 lb-ft.
Strut Rod Nut	41 lb-ft.
Upper Strut Mounting Nuts	30 lb-ft.
Lower Strut Mounting Bolts	66 lb-ft.
Tie Rod End Ball Stud Nut	76 lb-ft.
Upper Ball Joint Nut	46 lb-ft.
Sway Bar End Links	59 lb-ft.
Sway Bar Mounting Bolts	41 lb-ft.
Wheel Lug Nuts	150 lb-ft.



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