BAJAKITS
BY BRENTHEL INDUSTRIES

INSTALLATION MANUAL

Vehicle Application:
22-25 Toyota Tundra 4WD

Kit Part #:
BJK8121001 - Long Travel Front Prerunner Kit +3 in Width

Level 5 Install
Install Time: 6-8 hours (approximate)

**NOTE: This procedure is Extremely difficult. It is recommended that only experienced mechanics with the proper tools attempt the steps found in this instruction. Carefully read the instructions prior to attempting. If you feel you are not able to complete the steps outlined in these instructions please contact Baja Kits for assistance.

FOR ANY TECHNICAL QUESTIONS OR SUPPORT, PLEASE CONTACT BAJA KITS

Contact: Tel: 949.566.8615 • Tech-Baja@ridefox.com

BEFORE YOU START

Baja Kits recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known.

FOR YOUR SAFETY

Certain Baja Kits products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. Baja Kits does not recommend the combined use of suspension lifts, body lifts, or other lifting devices. You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

BEFORE INSTALLATION

- Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
- Secure and properly block vehicle prior to installation of Baja Kits components. Always wear safety glasses when using power tools.
- Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

BEFORE YOU DRIVE

Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.

Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure. Longer replacement hoses, if needed can be purchased from a local parts supplier.

Perform head light check and adjustment.

Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

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949.566.8615

tech-baja@ridefox.com

Item	Quantity	BJK81202
911-0006	2	Steering Extender: 2022+ Toyota Tundra - Steering Extender
B5159	1	Baja Kits: 2022 Toyota Tundra 24" Brake Line Extension - Bag Kit
912-0001	2	Brake Line: 24 in Brake Line Extension (BJK: 24 BL Ext)
912-0006	4	Brake Fitting: 10mm x 1 Brake Line Fitting
A5087	1	Baja Kits: 2022+ Toyota Tundra - Pre Runner - UCA - DS
A5088	1	Baja Kits: 2022+ Toyota Tundra - Pre Runner - UCA - PS
B5084	2	Baja Kits: 2022+ Toyota Tundra - Billet UCA - Misalign Kit
90128A247	8	Hardware: Bolt: 1/4 20 x 1 Socket Head Screw
906-0042	4	Misalignment: 1 x .563 x .740 Stepped Boss
906-0043	4	Misalignment: 1 x .563 x .959 Stepped Boss
92052A250	4	Hardware: Jam Nut: 3/4 16 Jam Nut
JMX12	4	Hardware: Rod Ends: 3/4" Rod End
B5085	2	Baja Kits: 2022+ Toyota Tundra - Billet UCA - Misalign Kit
37130	2	1/2-20 Nylock Nut Clear
8863T13	2	Hardware: Loop Clamp: 3/8 x 1 3/8 Loop Clamp
905-0011	2	Hardware: Washer: Toyota Tundra/LC300 - Stepped 1/2 Washer
905-0012	2	Hardware: UCA Cap: Billet UCA Uniball Cap
906-0001	2	Misalignment: Spherical, Sunk Misalignment 1/2" - SS
91306A354	8	Hardware: Bolt: 10-32 x 3/8 Button Head Hex Drive Screw
92949A537	2	Hardware: Bolt: 1/4 20 x .5 18-8 SS Button Head Hex Drive Screw
94173A346	2	Hardware: Bolt: 1/2 20 x 4.5 - 12 Point
9452K118	2	Hardware: O-Ring: 1/16 Width
906-0025	2	Misalignment: Toyota Tundra/LC300 - UCA Taper - SS
A5085	1	Baja Kits: 2022+ Toyota Tundra - Pre Runner - LCA - DS
A5086	1	Baja Kits: 2022+ Toyota Tundra - Pre Runner - LCA - PS
B5060	2	Baja Kits: 7" Badge Rivet Kit
1095K27	4	Hardware: 90 Deg Zerk Fitting 1/8 NPT
904-0002	2	Badge: Baja Kits Logo, 7" Rivet
97525A420	4	1/8in 18-8 Stainless Steel Band Rivet
B5088	2	Baja Kits: 2022+ Toyota Tundra - Pre Runner - LCA - Delrin Bushing Kit
903-0002	8	Bushing: Delrin Bushing 0.6”
909-0025	2	Sleeve: 2022+ Toyota Tundra - LCA Front Crush Sleeve
909-0026	2	Sleeve: 2022+ Toyota Tundra - LCA Rear Crush Sleeve
B5089	2	Baja Kits: 2022+ Toyota Tundra - LCA - Misalign Kit
905-0008	2	Hardware: Bolt: 9/16 18 x 4 - 12 Point
905-0017	2	Hardware: Washer: 2022+ Toyota Tundra LCA Stepped Washer 9/16
906-0004	2	Misalignment: Sperical, Sunk Misalignment 9/16" - SS
906-0039	2	Misalignment: 2022+ Toyota Tundra - LCA Taper
N96FPT	2	Hardware: 9/16 Fine Prevailing Torque Nut

Item	Quantity	BJK81202
B5090	1	Baja Kits: 2022+ Toyota Tundra - Pre Runner - LCA - Hardware Kit
37130	2	1/2-20 Nylock Nut Clear
90126A505	2	Hardware: Washer: 1/8 Washer
90631A006	2	Hardware: Nut: 5-40 Nylon-Insert Lock Nut
909-0027	2	Sleeve: 2022+ Toyota Tundra - Sway Bar Crush Sleeve
91255A822	2	Hardware: Bolt: 5-40 x .75 Button Head Hex Drive Screw
91286A381	2	Hardware: Bolt: 1/2 20 x 3 HHCS Grade 8
W12S	2	1/2in Washer
2954	2	Bump Stop Toyota Tundra
342702	1	Thread Locker: Vendor Number 21302 – Loose
910-0015	1	Axle: 2022+ Toyota Tundra - Pre Runner - 4WD Axle -DS
910-0016	1	Axle: 2022+ Toyota Tundra - Pre Runner - 4WD Axle -PS
86-5832	4	Universal CV Clamp - 14.5in Long
6865833	4	Constant Velocity (CV) Joint Boot Clamp
924-1004	1	Bolt Pack: 2022+ Toyota Tundra Ext Axles
116AC0005	2	Round Ret. Ring, 1.25 Bore Round

Special Tools

- Chop Saw w/ metal cutting blade or High Speed cut off tool with metal cutting blade.
- Table Vise w/ soft jaws
- Hammer
- Brass Punch
- Flat Head Screwdrivers
- 30 ton hydraulic press
- Safety Glasses
- Rubber Gloves
- Paper Towels or Rags
- Masking or Duct Tape
- Torque Wrench
- CV Axle Grease

INSTALLATION

1. Park vehicle on clean and level surface. Block the rear wheels for safety.
2. Raise the front of the vehicle with a hydraulic jack. Support the frame rails with jack stands.
3. Remove wheels/tires.
4. Disconnect battery.

DISASSEMBLY

1. Remove (4) Brake Line and ABS bolts from frame and knuckle. **Fig. 1, 2, 3, 4**

FIGURE 1

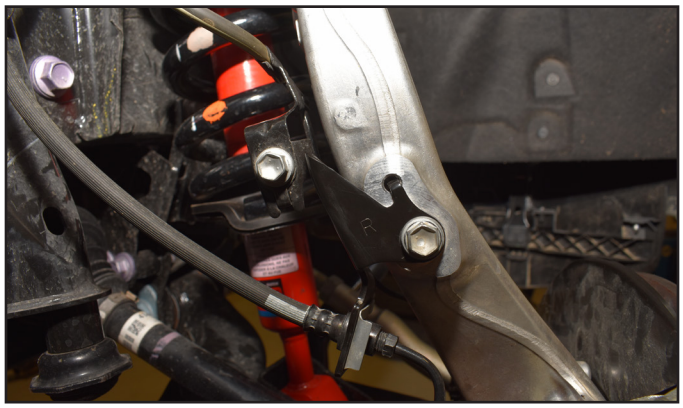

FIGURE 2

FIGURE 3

2. Remove ABS bracket bolt located on the upper control arm. **See Fig. 4**

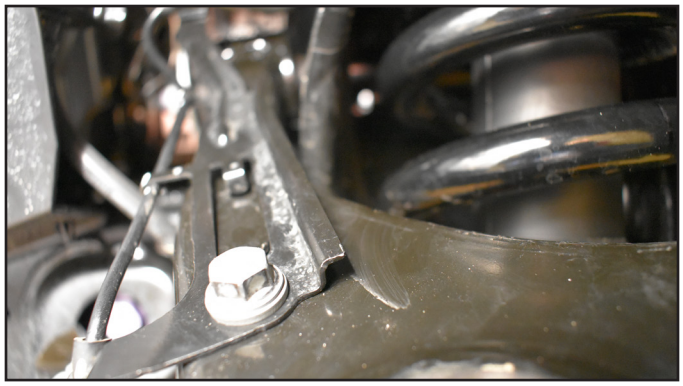

FIGURE 4

3. Remove factory plastic brake line shield. **Fig. 5**

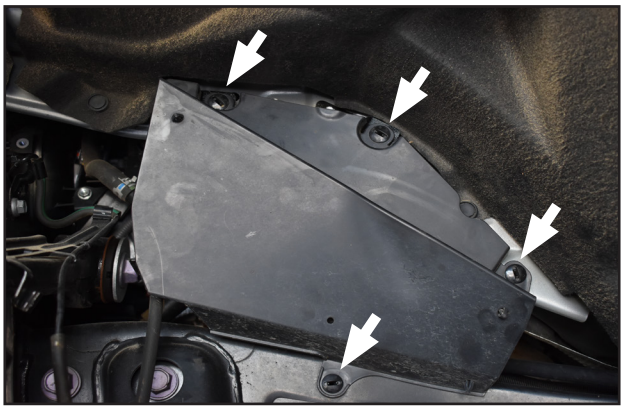

FIGURE 5

4. Remove the 2 bolts retaining the air valance to the air valance mechanism. **Fig. 6**

FIGURE 6

5. Remove sway bar link bolts attaching sway bar link to lower control arm. See **Fig. 7**

FIGURE 7

6. Remove factory skid plate if equipped.
7. Remove 4 bolts attaching sway bar to the frame.
8. Remove cotter key and nut from tie rod and disconnect from the knuckle. **See Fig. 8**

FIGURE 8

9. Next remove (2) caliper bolts attaching caliper to knuckle. Hang caliper with bungee, rope etc. to prevent damaging brake lines.
10. Remove brake rotor
11. Remove cotter key and CV nut retaining plate and nut. (Specialty tool required: 1-9/16” 12 point axle socket required for removal) **See Fig. 9**

FIGURE 9

12. Remove cotter key and loosen ball joint castle nut to the end of the threads. ***DO NOT REMOVE***. Separate the ball Joint from the knuckle using the recommended tool SST: 09628-62011. **See Fig. 10**

Note: Striking the aluminum knuckle to separate the ball joint could result in damaging the knuckle and/ or ball joint.

FIGURE 10

13. Loosen axle from wheel bearings using either an air hammer or a hammer and pumch. **See Fig. 11, 12**

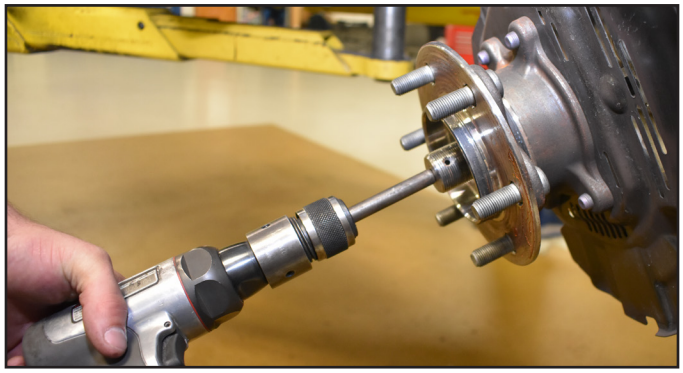

FIGURE 11

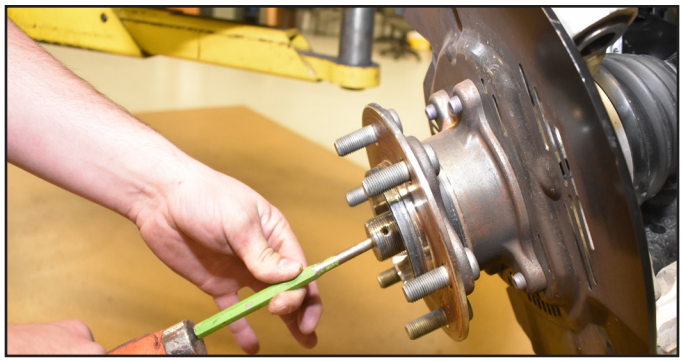

FIGURE 12

14. Remove 2 lower bolts attaching lower knuckle to main knuckle. With both bolts removed you can now remove the knuckle and wheel bearing assembly. **See Fig. 13**

It is recommended that you tie and or bungee the axle shafts up to prevent them from separating at the CV joint. See Fig. 14

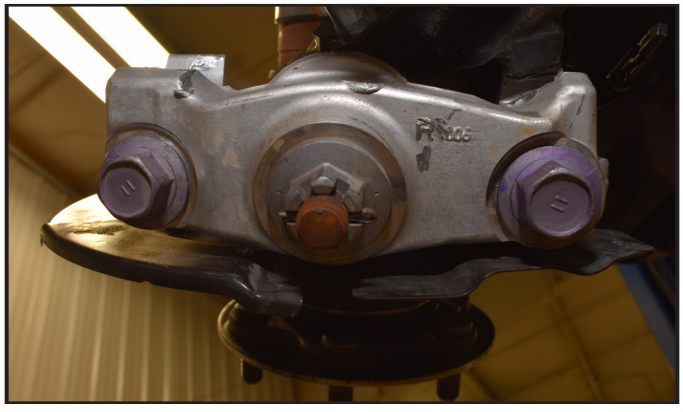

FIGURE 13

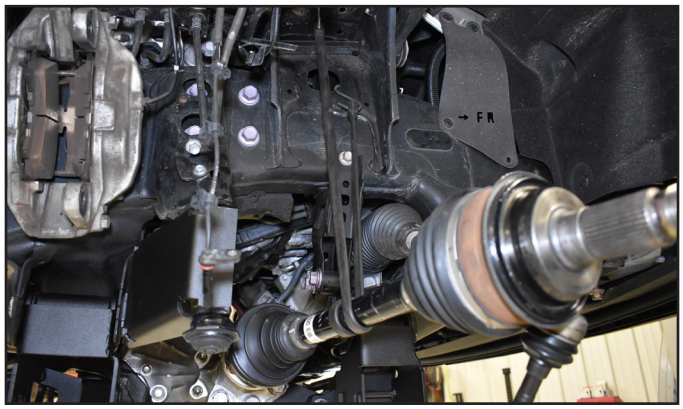

FIGURE 14

15. Loosen but DO NOT remove lower control arm nuts. See **Fig. 15**

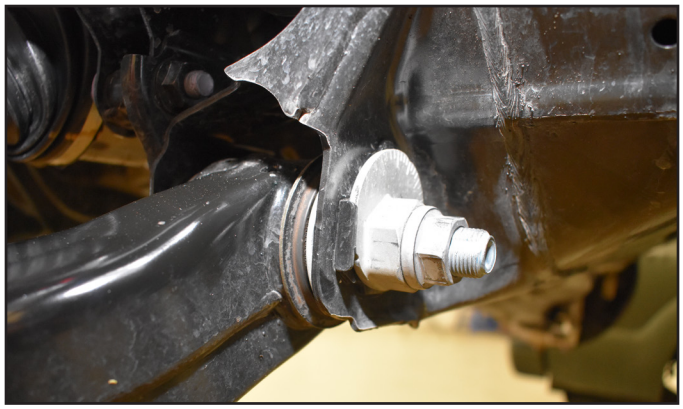

FIGURE 15

16. Remove lower strut bolt attaching lower control arm. Once bolt is removed lower control arm will swing down. **See Fig. 16**

FIGURE 16

17. Remove cam bolts from lower arm and remove lower control arm from vehicle. **See Fig. 17 & 18**

FIGURE 17

FIGURE 18

18. Remove (4) strut nuts attaching strut to top of frame. **DO NOT LOOSEN THE CENTER NUT**. Remove strut from vehicle. **See Fig. 19**

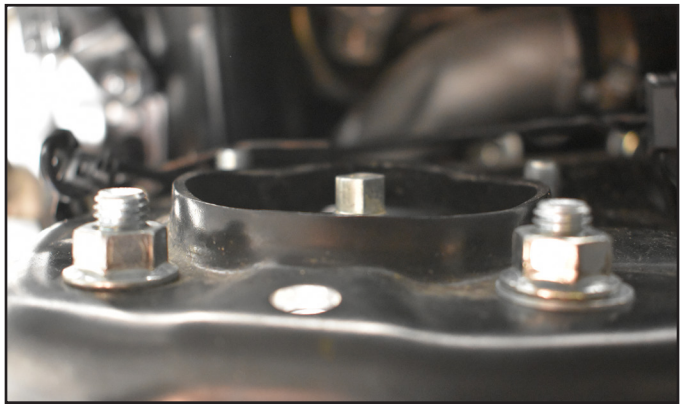

FIGURE 19

19. In order to remove driver side UCA(Upper Control Arm) bolt, the factory airbox and PCM must first be removed.
20. Disconnect wire harness from air box. **Fig. 20**

FIGURE 20

21. Loosen the breather hose clamp and disconnect. **Fig. 21**

FIGURE 21

22. Remove Air box by pulling up and out. **Fig. 22**

FIGURE 22

23. Remove PCM(Power Control Module) wire harness clip by pressing out on the clip tabs on both sides using a flat head screwdriver. **Fig. 23, 24**

FIGURE 23

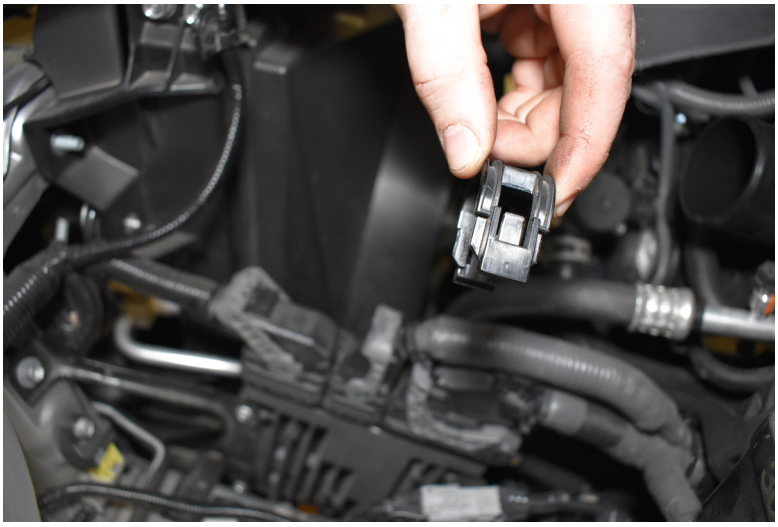

FIGURE 24

24. Remove the three PCM harness connectors by flipping the 3 gray locking switches. **Fig. 25**

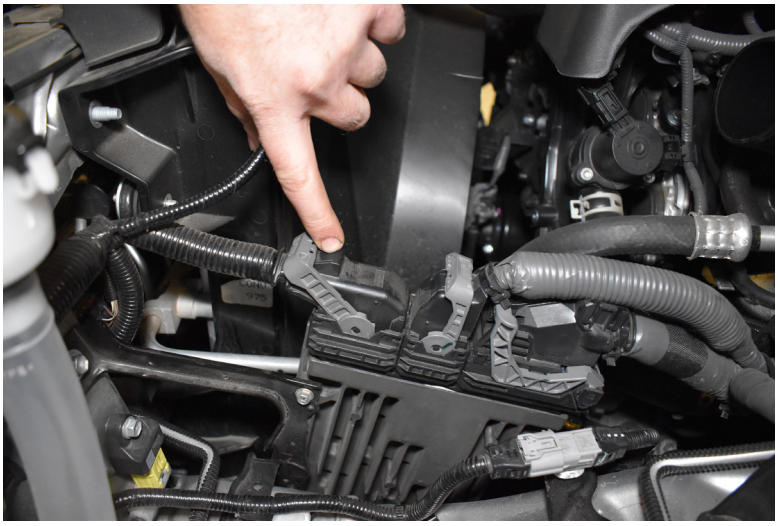

FIGURE 25

25. PCM harness connector 2. **Fig. 26**

FIGURE 26

26. PCM harness connector 3. **Fig. 27**

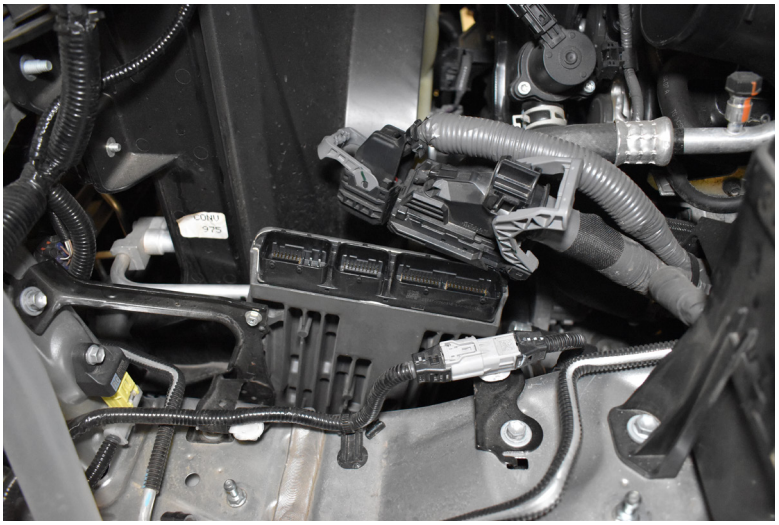

FIGURE 27

27. Remove 3 harness clips. **Fig. 28**

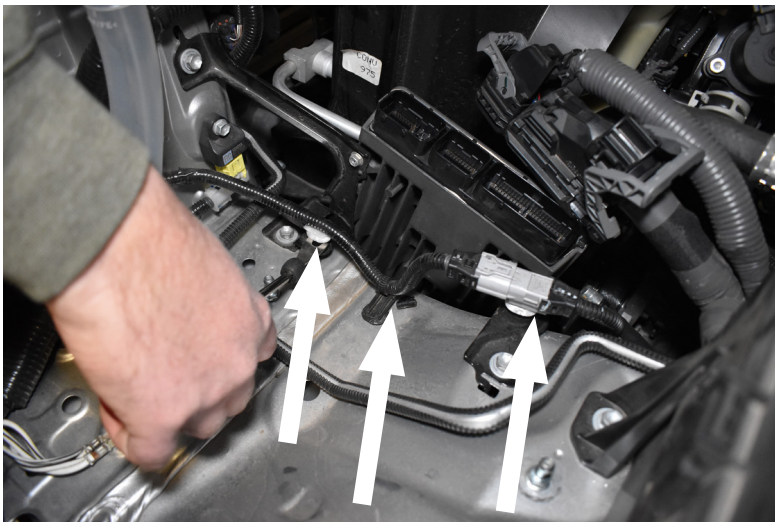

FIGURE 28

28. Remove the 3 PCM bracket bolts. **Fig. 29**

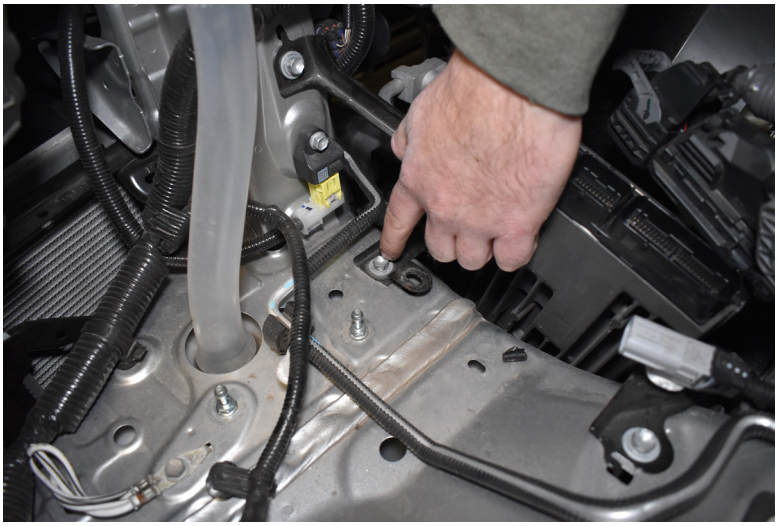

FIGURE 29

29. Carefully remove PCM and set aside in a secure location. **Fig. 30**

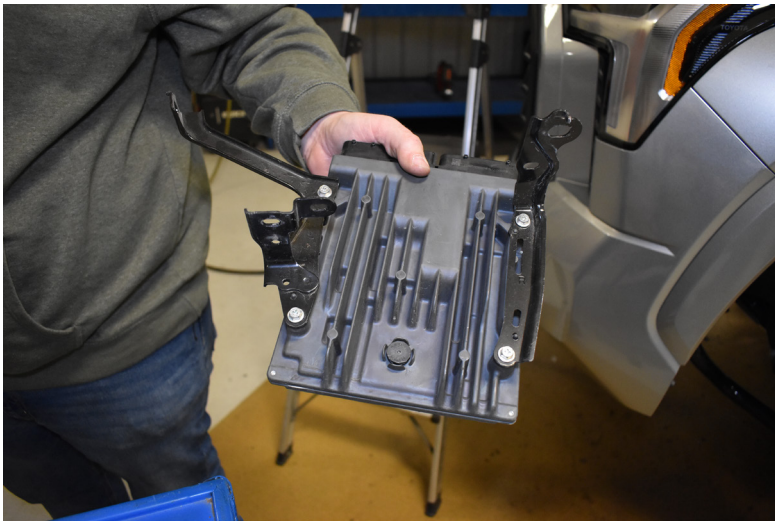

FIGURE 30

UPPER CONTROL ARM REMOVAL

30. Loosen the UCA bolt and nut. **Fig. 31, 32**

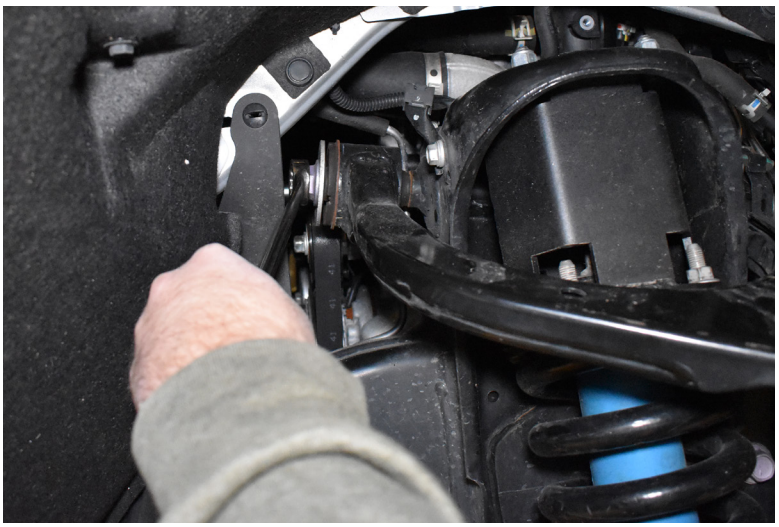

FIGURE 31

FIGURE 32

31. Remove UCA bolt and feeding bolt out and into the space made by the removal of the PCM and air box. Retain bolt, nut and washers for reuse. NOTE: Bolt can be reinstalled in opposite direction during reassembly to ease any need for future removals. **Fig. 33, 34**

FIGURE 33

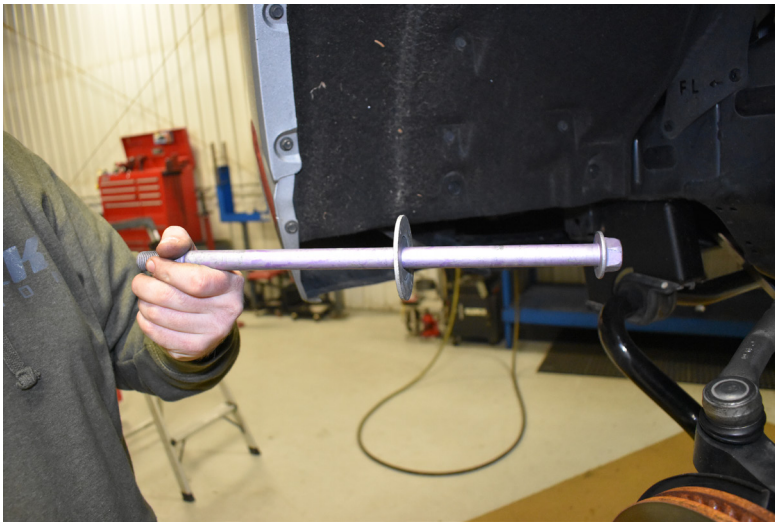

FIGURE 34

UCA ASSEMBLY

32. Assemble heims by installing jam nut. Anti-seize is recommended - **Fig. 35, 36**

FIGURE 35

FIGURE 36

33. Install heims into arms, measure from the arm to the end of threads should be 1-11/16” **Fig. 37**

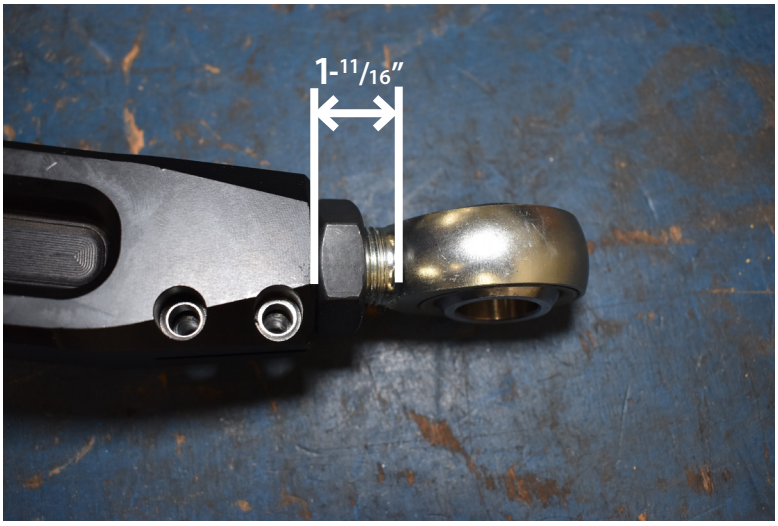

FIGURE 37

34. The wider Inner pivot misalignments are installed on the inside of the arms. **Fig. 38A, 38B**

FIGURE 38A

FIGURE 38B

35. Using the OE UCA Bolt, temporarily install through the arm ends to keep the from spinning when tightening the jam nut. **Fig. 39**

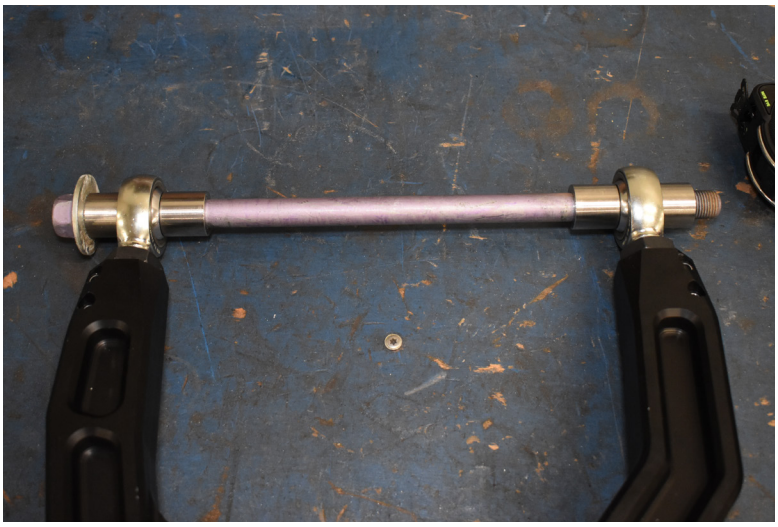

FIGURE 39

36. Loctite then Install and tighten the 4 - pinch bolts into arm. 107in.lbs. **Fig. 40, 41**

FIGURE 40

FIGURE 41

37. Use the OE UCA bolt to keep the heims from turning. Tighten the jam nuts. **Fig. 42**

FIGURE 42

CV AXLE DISASSEMBLY

38. Remove Axles from vehicle using a flat punch and hammer to tap it free from the transmission. **Fig. 43**

FIGURE 43

Note: It is important to have a clean work area to perform this procedure.

39. Cover threads with tape to protect from damage. **Fig. 44**

FIGURE 44

40. Place CV in a vice with the large assembly housing up. **Fig. 45**

FIGURE 45

41. Remove the inner CV boot clamps. **DO NOT DAMAGE THE BOOTS as it will be re-used.** Replacement clamps are provided. **Fig. 46A, 46B**

FIGURE 46A

FIGURE 46B

42. Slide boot down to expose the inside of the CV housing assembly. It is recommend that you clean out as much grease from inside the housing as possible. This will help in finding the snap ring on the inside lip of the housing. **Fig. 47**

FIGURE 47

43. With the inside of the CV assembly sufficiently cleared of grease, use a pick to pry out the snap ring. **Fig. 48A, 48B**

FIGURE 48A

FIGURE 48B

44. Remove CV axle bearing assembly from housing. Remove the 6 large ball bearings and store in a clean container until re-assembly. With the ball bearings removed the bearing cage can be slid down the axle exposing the bearing race on the axle. **Fig. 49**

FIGURE 49

45. Remove the snap ring from the end of the axle. **Fig. 50A, 50B**

FIGURE 50A

FIGURE 50B

46. With axle in a vice. Tap upward on the bearing race with a brass hammer to remove from axle. **Fig. 51A** Note that the inside bevel goes to the inside. **Fig. 51B**

FIGURE 51A

FIGURE 51B

47. With the bearing race removed the bearing cage can now be removed from the axle. **Fig. 52A** Note the correct orientation of the race for re-assembly. The large end of the bearing cage is out. Remove boot. **Fig. 52B**

FIGURE 52A

FIGURE 52B

48. With the boot, race and bearing cage removed, clean off as much grease as possible.

49. Rotate CV in the vice to the small side housing. Remove the boot clamps and slide the boot down to and off the axle to expose the inside of the CV housing. **Fig. 53**

FIGURE 53

50. Clean up as much of the grease as possible.
51. Tape off housing to prevent any debris from getting in the housing. Tip: Once taped use zip ties to help secure the tape to the CV housing. **Fig. 54**

FIGURE 54

52. Cut axle off close to the housing with a chop saw or cut off wheel. **Fig. 55**

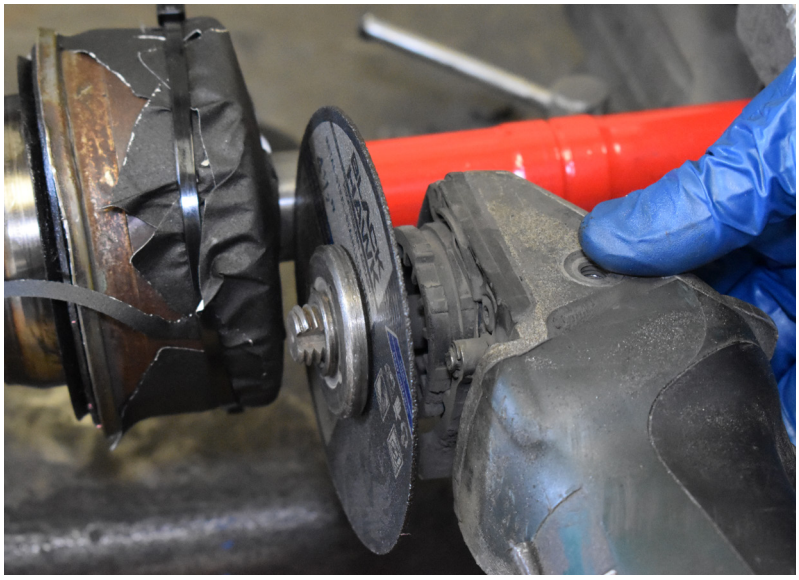

FIGURE 55

53. Remove the tape and zip ties if used.
54. Tap the cut off end of the axle with a brass hammer or brass punch to rotate towards 90°. Remove ball bearings and save in a clean container. **Fig. 56A, 56B, 56C**

FIGURE 56A

FIGURE 56B

FIGURE 56C

NOTE: Take note of the CV Star housing orientation. The thinner lip fits to the inside.

55. Remove the bearing cage from the housing by rotating and aligning the cage holes and axle housing slots. Remove the race from the cage.

NOTE: It is important to keep a clean and organized work space. With the parts disassembled its recommended that you organize the parts and clean them thoroughly before moving on.

56. Using a 30 ton minimum hydraulic press, press the remaining part of the axle from the bearing race. It will be necessary to use sufficient force to break the hidden snap ring inside the race to remove the axle piece. **Fig. 57**

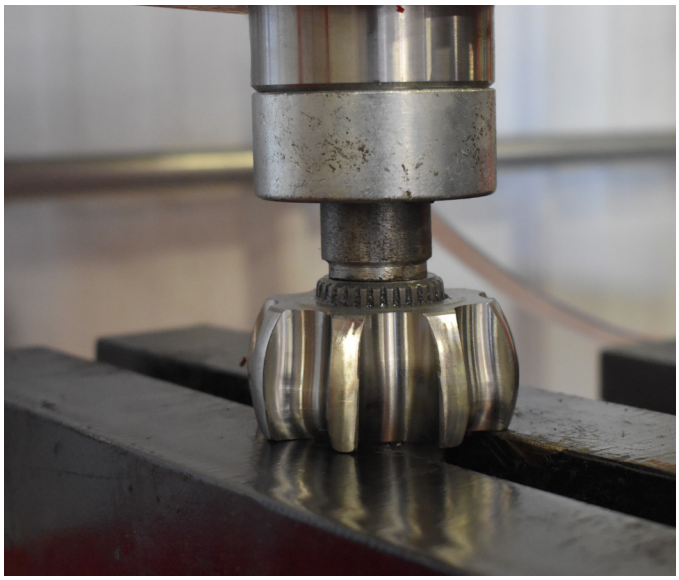

FIGURE 57

57. Once the axle shaft is removed from the bearing race, check for and remove any remaining pieces of the snap ring from the inside of the star.

RE-ASSEMBLY

58. Clean housing, bearing cage, bearing race and ball bearings thoroughly to ensure no debris got into the grease.
59. Place drive side bearing assembly in a vice. Protect the threads and spline surfaces by using a soft jaw or rag. **Fig. 58**

FIGURE 58

60. Add Grease to inside of housing. **Fig. 59**

FIGURE 59

61. Install the bearing race into the cage. 007 - Verify previously noted orientation. **Fig. 60**

FIGURE 60

62. Slide assembly into the inside bearing housing. **Fig. 61**

FIGURE 61

63. Partially install the the bearing assembly into the housing and install the ball bearings. **Fig. 62**

FIGURE 62

64. Set aside the drive side bearing assembly.
65. Install the cage and bearing race assembly to the axle, tap into place and install snap ring. **Fig. 63, 64**

FIGURE 63

FIGURE 64

66. Install the cage/bearing race and axle into the transmission side housing and angle the cage to install the ball bearings. **Fig. 65**

FIGURE 65

67. Re-Install the snap ring. **Fig. 66, 67**

FIGURE 66

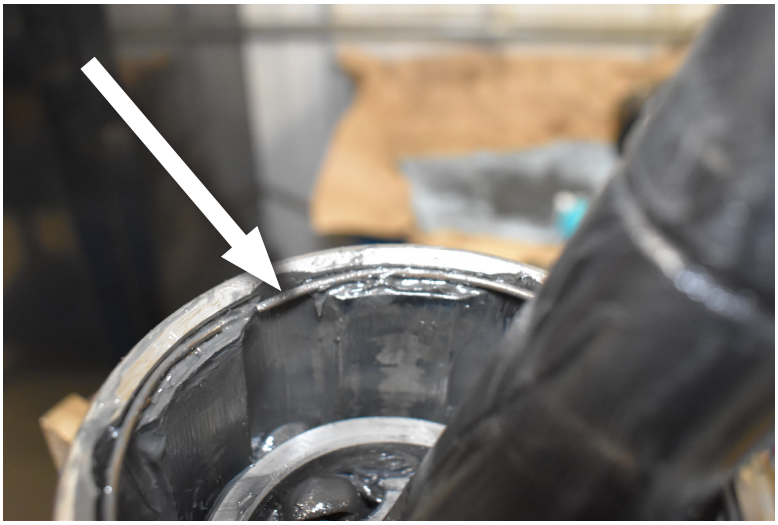

FIGURE 67

68. Add more grease to housing. **Fig. 68**

FIGURE 68

69. Clean up the lip of the housing of any grease and slide on the boot. Note: It's the boot with the 3 ribs on the collar. **Fig. 69**

FIGURE 69

70. Install the boot clamps. **Fig. 70, 71**

FIGURE 70

FIGURE 71

71. Install boot for the drive end of the axle. **Fig. 72**

FIGURE 72

72. Place provided axle in a vice with outside splines up. It is recommended that you wrap the axle with a shop towel or rag to prevent scratching. Install the snap ring. **Fig. 73, 74**

FIGURE 73

FIGURE 74

NOTE: MAKE SURE AT THIS POINT YOU HAVE INSTALLED BOTH RUBBER BOOTS ONTO THE AXLE.

73. Align the splines of the drive side bearing assembly and the splines on the axle. Tap assembly onto the axle shaft. Add grease to assembly. Before clamping the rubber to the axle and assembly, clean grease from those areas to ensure the boot does not slip on the CV. **Fig. 75**

FIGURE 75

74. Slide boot over assembly and install provided boot clamps. **Fig. 76, 77**

FIGURE 76

FIGURE 77

75. Re-Install CV Axles. Support axles (ie. with bungee cords) until knuckle is installed as to not overextend the joints.

LCA ASSEMBLY

76. Grease and install LCA bushings and sleeves using either a large vice or press. **Fig. 78, 79**

FIGURE 78

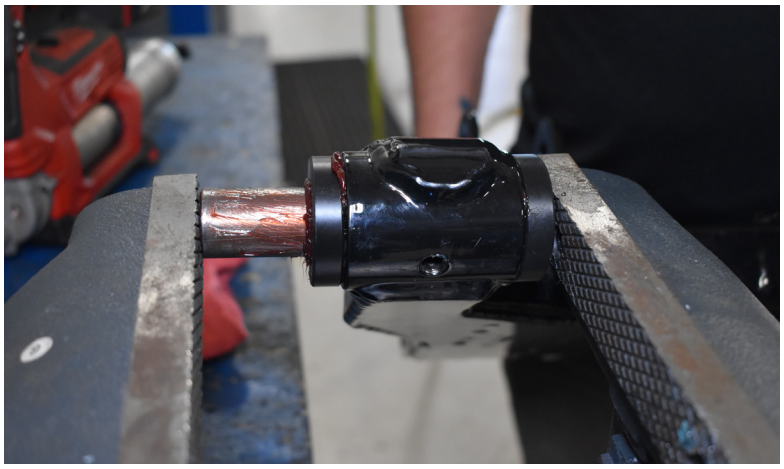

FIGURE 79

77. Install LCA grease zerks facing out when the arm is in the up and installed positions.

78. Install LCA using OE cam bolts. Cam bolts are installed from the inside out. Nuts should be on the outside of the brackets. **Fig. 80, 81**

FIGURE 80

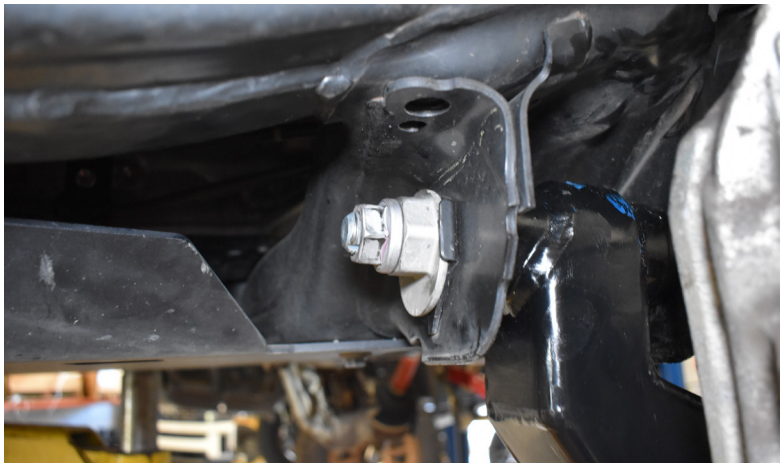

FIGURE 81

At this point in the Installation it is recommend that you install the coil over per manufacturers instructions.

SWAY BAR LINK INSTALLATION

79. If installing on the TRD-PRO use the BajaKits links (BJK8108002) See link instructions for installation.
80. If installing on TRD Non-PRO use provided sleeve, Bolt, washer and nylock nut. **Fig. 82, 83, 84**

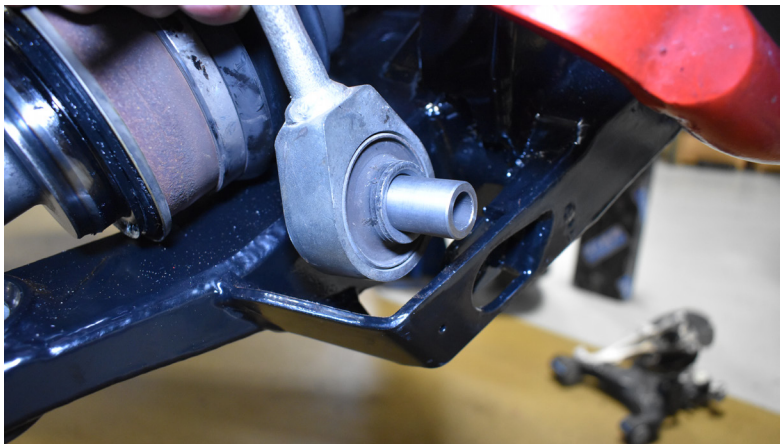

FIGURE 82

FIGURE 83

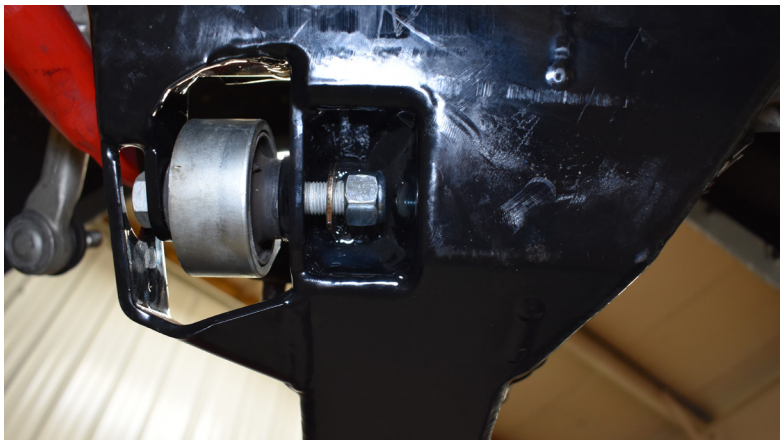

FIGURE 84

81. Remove LCA knuckle reciever from OE LCA. Remove cotter key, Remove castle nut. **Fig. 85**

FIGURE 85

82. Install Uniball bolt and sunk misalign into LCA uniball. **Fig. 86**

FIGURE 86

83. Attach Knuckle receiver to tapered sleeve and bolt using the step bushing and Nylock nut. Snug but do not tighten 12pt, 9/16” bolt and 22mm socket. You will need play in the joint later in the installation so it is important to not tighten the uniball at this time. **Fig. 87, 88, 89**

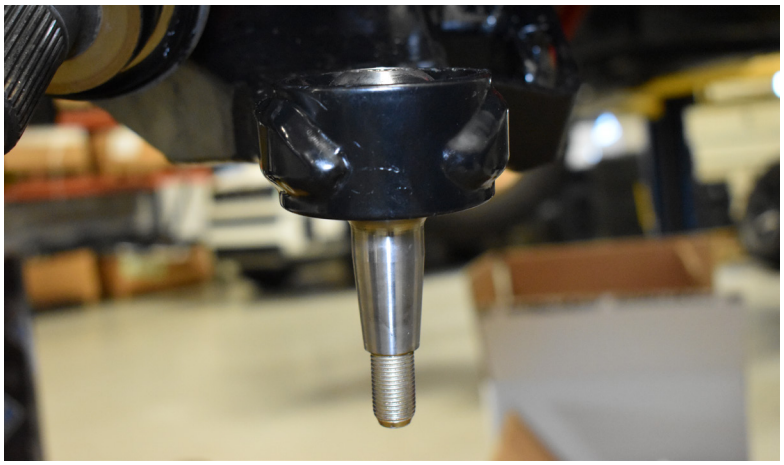

FIGURE 87

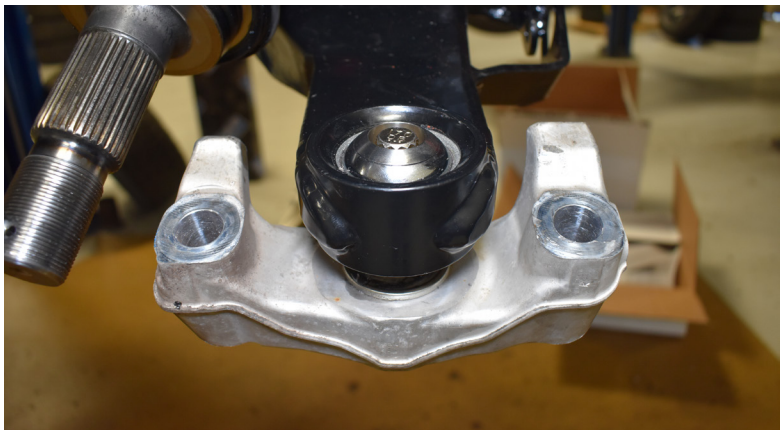

FIGURE 88

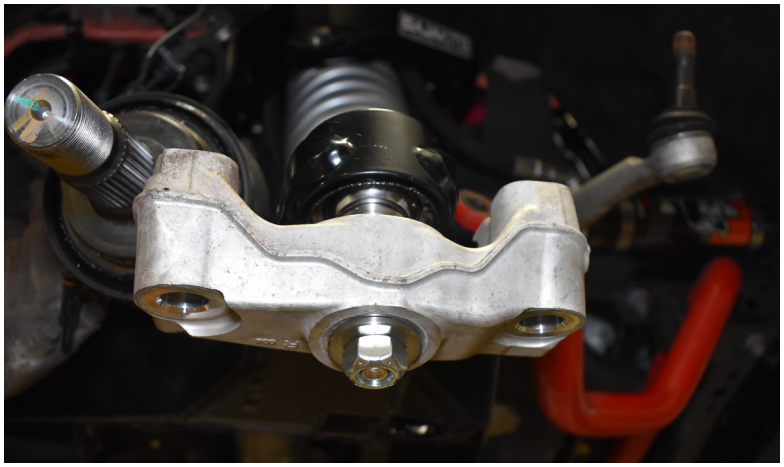

FIGURE 89

84. Attach knuckle to LCA receiver using the OE bolts. Loctite bolts prior to install. **Fig. 90**

FIGURE 90

85. Torque LCA Uniball to spec.

UPPER CONTROL ARM INSTALLATION

86. Install new UCA using factory bolt and nut. ***NOTE: DO NOT RE-USE OE WASHERS.*** **Fig. 91**

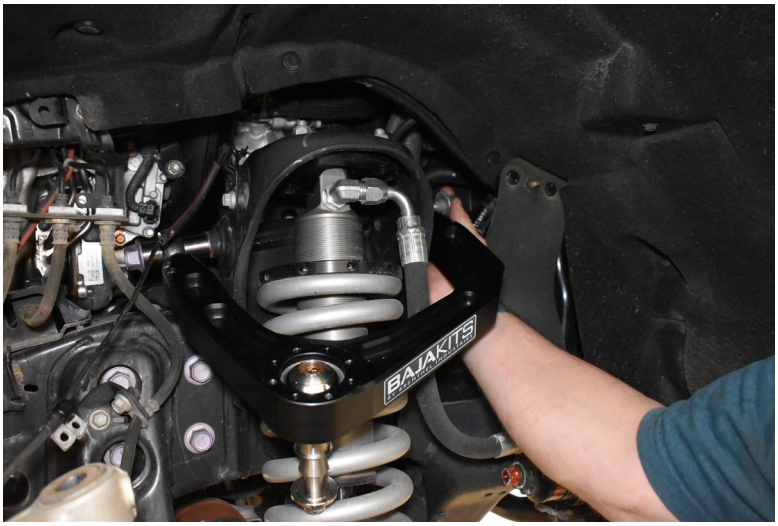

FIGURE 91

87. Install sunken misalignment into the top of the UCA uniball and run provided 12pt bolt through misalignment. **Fig. 92**

FIGURE 92

88. Install the tapered misalignment into the bottom of the UCA uniball. **Fig. 93**

FIGURE 93

89. Insert axle into knuckle wheel bearing.
90. Align the uniball up with the knuckle and insert the taper into the knuckle. **Fig. 94**

FIGURE 94

91. Place step washer with steps upward onto bolt. **Fig. 95**

FIGURE 95

92. Attach UCA ball joint to knuckle using provided nylock nut. Torque to 80 ft-lb. **Fig. 96**

FIGURE 96

93. Remove ABS line from the ABS bracket by bending the bracket loop tabs. Discard bracket. **Fig. 97, 98**

FIGURE 97

FIGURE 98

94. Attach ABS line to UCA using provided cable loops, bolt and washer found in bolt pack 390. Slide line up to so that sheathing is held by the clamp. **Fig. 99, 100**

FIGURE 99

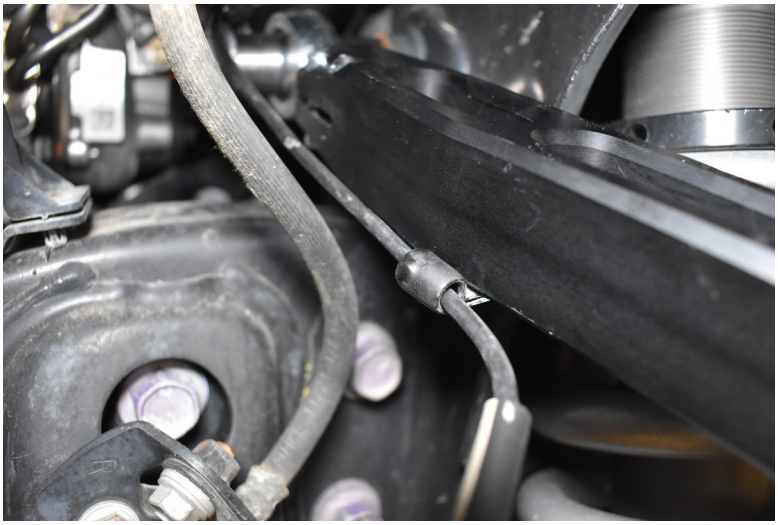

FIGURE 100

95. Install uniball cap, align holes, loctite and install 4 - socket screws. **Fig. 101**

FIGURE 101

STEERING EXTENDER INSTALLATION

96. Remove outer tierod from inner tie rod by breaking loose jam nut.. Unthread outer tie rod and remove. Do not remove jam nut. **Fig. 102, 103**

FIGURE 102

FIGURE 103

97. Use threadlocker on the extension threads both internal and external. **Fig. 104**

FIGURE 104

98. Install extension to the inner tie rod, then the tie rod end to the extension. **Fig. 105**

FIGURE 105

99. Install provided brake lines. Use components in B5159.
100. Re-install the brake line shield.
101. Re-install PCM by reversing steps 14-8. Torque PCM bolts to OE specifications.
102. Re-install Airbox and Airbox Hose by reversing steps 7-5
103. Reinstall wheels and torque lug nuts to factory specifications.
104. Repeat procedures on passenger side. (Passenger side UCA bolt can slide out without major component uninstallation.)
105. Replace wheels and torque lug nuts to OE specifications.
106. Lower vehicle to the ground.
107. An alignment will be required.