ridetech

Installation Instructions

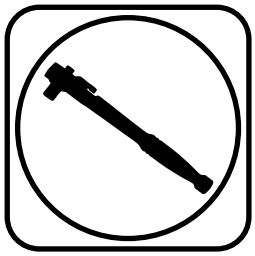
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1965-1979 Ford F100 Front Suspension System



Recommended Tools









65-79 Ford F100 Front Suspension

Installation Instructions

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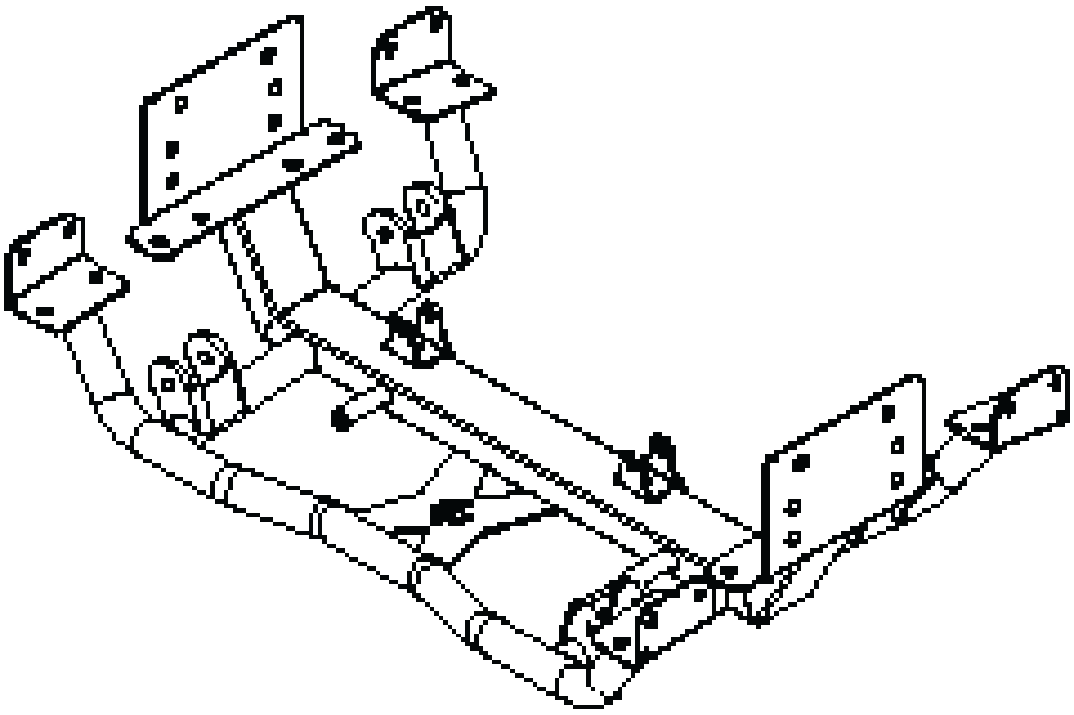
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Major Components Assembled .....In the box

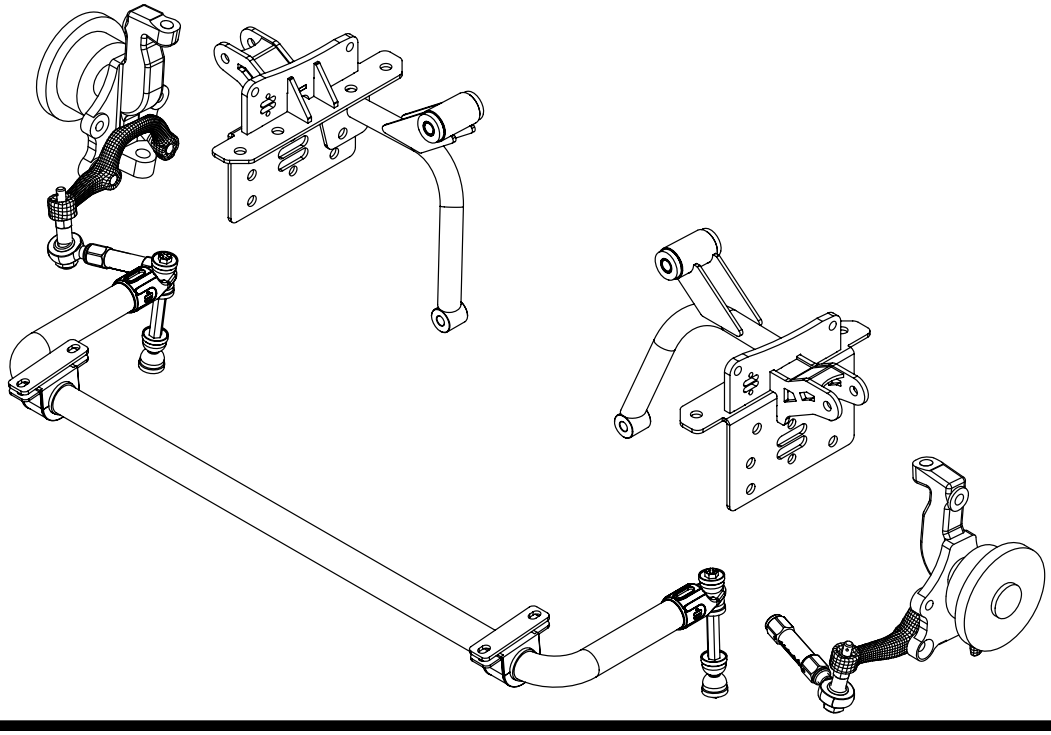
CRADLE ASSEMBLY

Exploded Vi



CRADLE COMPONENTS

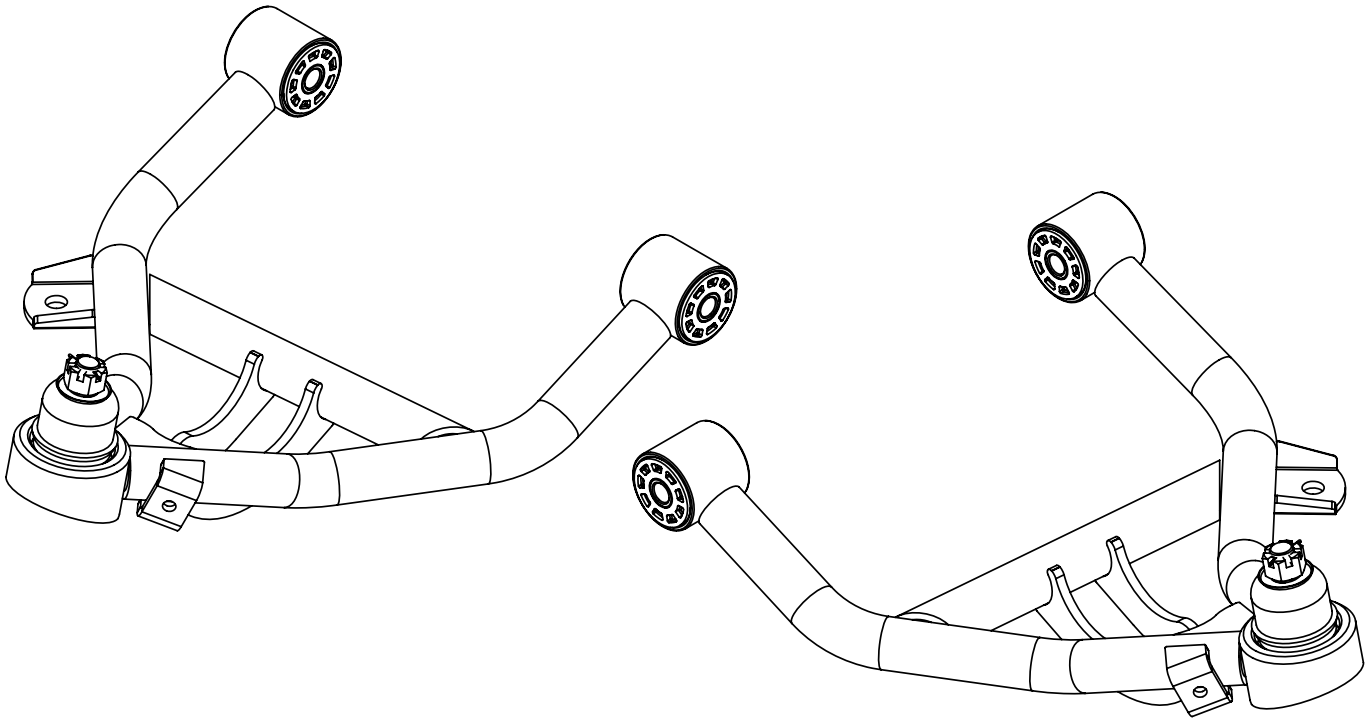
Exploded View on Page 5



Major Components Assembled .....In the box

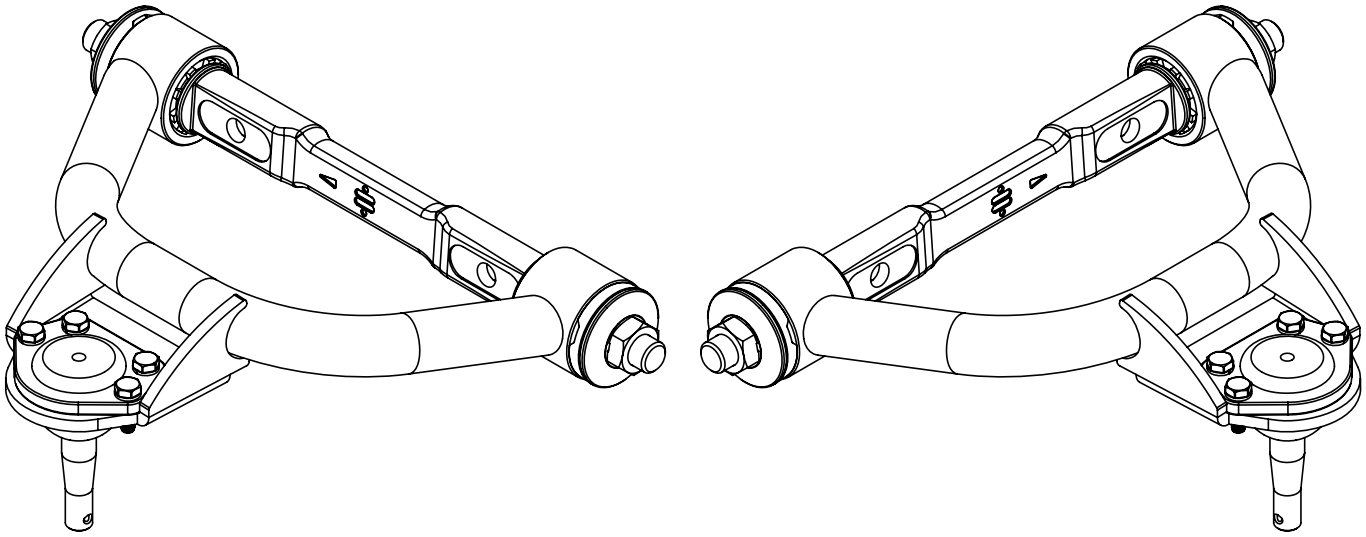
LOWER CONTROL ARM ASSEMBLIES

Exploded View on Page 6



UPPER CONTROL ARM ASSEMBLIES

Exploded View on Page 6

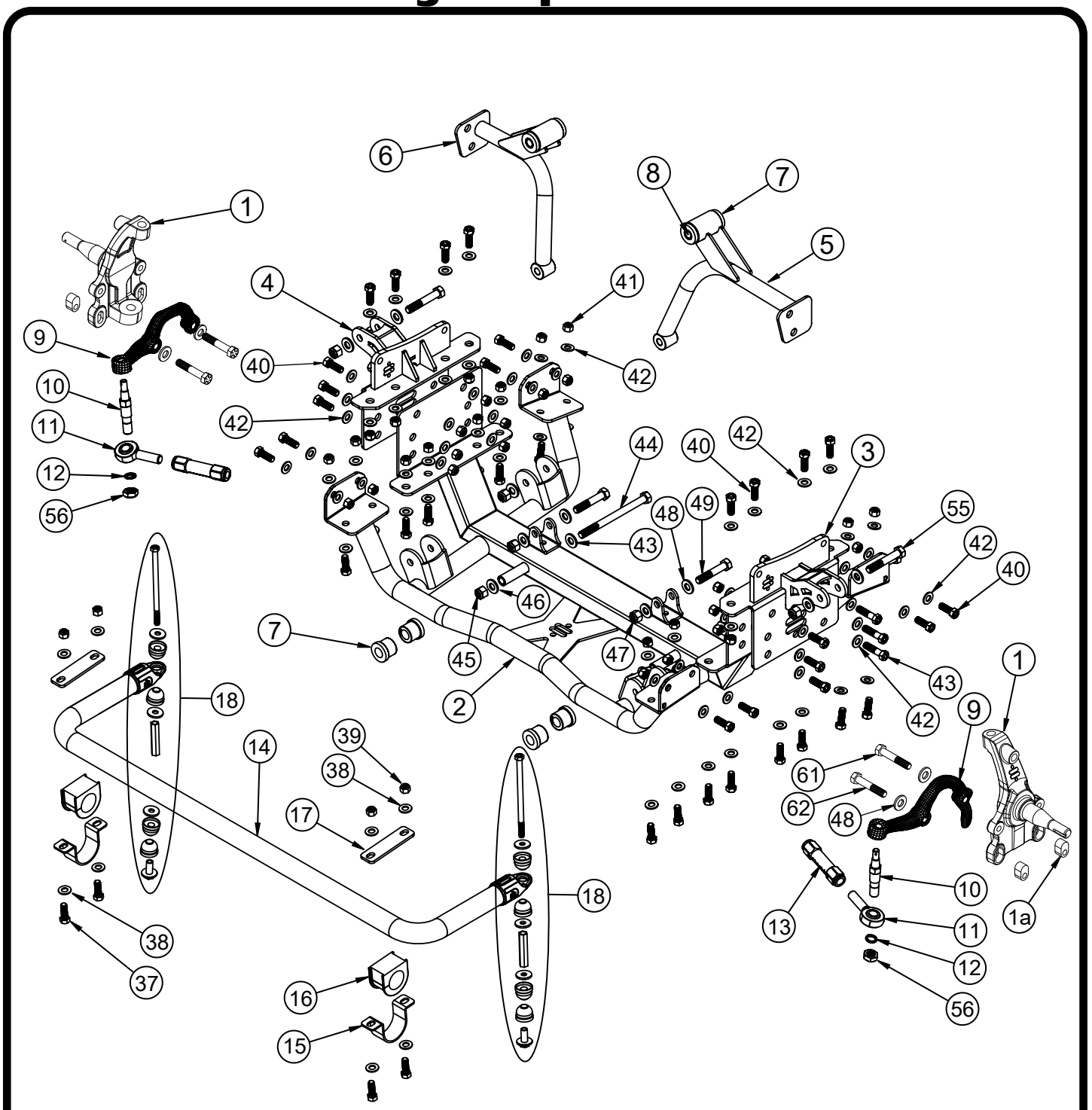




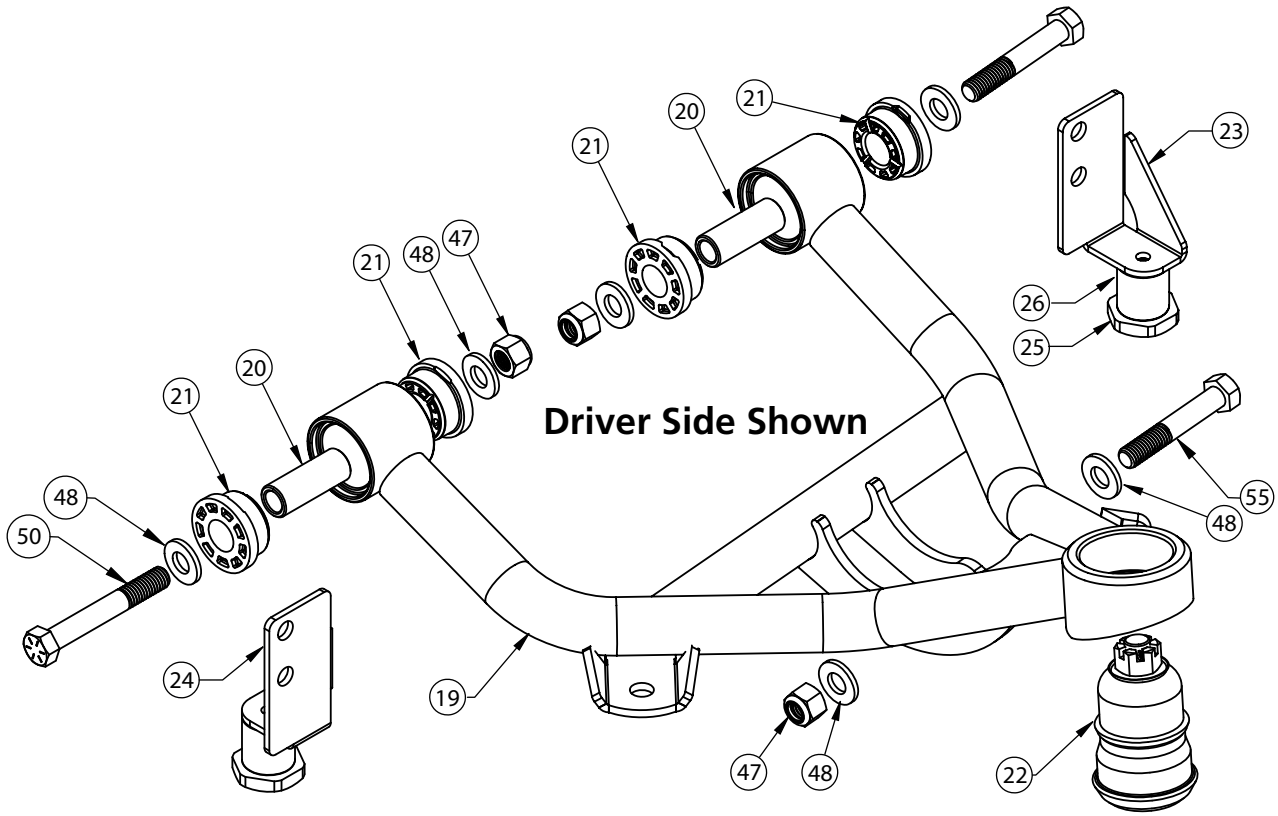
Upper Control Arm Components .....In the box

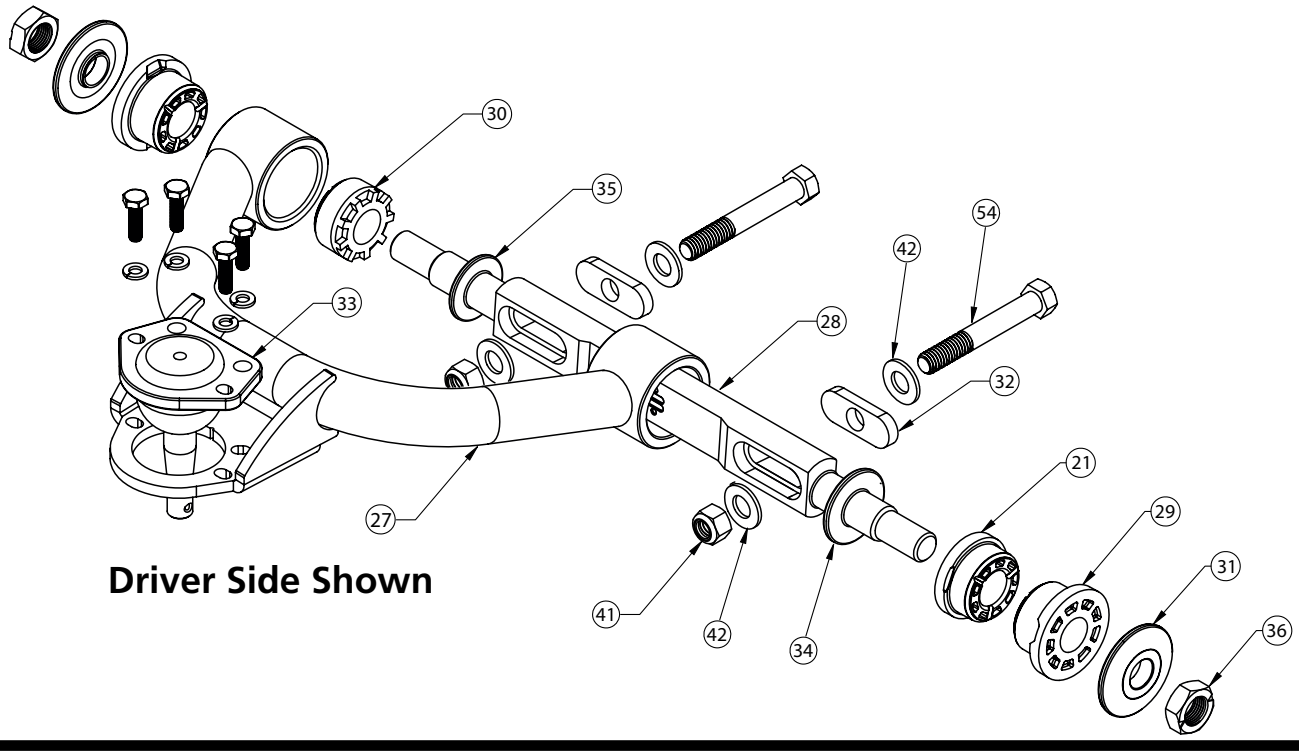
Item #	Part Number	Description	QTY
1	70015970	Ridetech Tall Spindle	2
1a	90003535	Threaded Insert	4
2	90003386	Cradle Assembly	1
3	90003387	Upper Control Arm Mount - Driver	1
4	90003388	Upper Control Arm Mount - Passenger	1
5	90003395	Motor Mount - Driver	1
6	90003396	Motor Mount - Passenger	1
7	70015348	Poly Bushing (Pack of 4)	2
8	90002672	Inner Sleeve - 9/16" ID x 3.0" long	2
9	90003000	Steering Arm Kit - Driver and Passenger	1
10	90003399	Tie Rod Stud	2
11	90001582	Heim End - 5/8"-18 LH x 5/8" Bolt	2
12	90002676	1/8" Tie Rod Spacer	2
13	90003400	Tie Rod Adjuster - 5/8"-18 LH & 9/16"-18 x 4 1/2" Long	2
14	90003397	Sway Bar	1
15	90001346	Sway Bar Bushing Mount	2
16	70015016	1 1/2" ID Lined Sway Bar Bushing	2
17	90003398	Sway Bar Mount Spacer	2
18	90002934	Sway Bar End Link Kit	2
19	90003391	Driver Lower Control Arm **(Shown)**	1
19	90003392	Passenger Lower Control Arm	1
20	90000549	Inner Bushing Sleeve	4
21	70010827	Delrin Control Arm Bushing, 1.75" Shoulder	8
22	90000898	Lower Ball Joint Assembly	2
23	90003393	Bump Stop Mount-Driver	1
24	90003394	Bump Stop Mount-Passenger	1
25	70013322	Bump Stop	2
26	90000472	Bump Stop Spacer	2
27	90003389	Driver Upper Control Arm **(Shown)**	1
27	90003390	Passenger Upper Control Arm	1
28	90003375	Upper Control Arm Cross Shaft	2
29	70010759	Delrin Control Arm Bushing, 2.0" Shoulder	4
30	70010826	Delrin Control Arm Bushing, No Shoulder	2
31	90002737	Aluminum T-Washer	4
32	70010882	Caster Slug	4
33	90000894	Upper Ball Joint Assembly	2
34	90003934	Washer; 1.70 OD	2
35	90003933	Washer; 1.45 OD	2
36	99622005	5/8"-18 Thin Top Lock Nut	4

Cradle and Steering Components .....In the box



Control Arm Components .....In the box





Hardware Kit Lists .....In the boxes

HARDWARE KIT: 99010192			
Item #	**Part #**	**Description**	**Qty**
SWAY BAR TO FRAME			
37	99371005	3/8"-16 x 1 1/4" Hex Bolt	4
38	99373002	3/8" Flat Washer	8
39	99372001	3/8"-16 Nylok Nut	4

HARDWARE KIT: 99010201			
Item #	**Part #**	**Description**	**Qty**
CRADLE/UPPER ARM MOUNT TO FRAME			
40	99431021	7/16"-14 x 1 1/4" Hex Bolt	38
41	99432010	7/16"-14 Nylok Nut	44
42	99433005	7/16" Flat Washer	88
43	99431023	7/16"-14 x 1 3/4" Hex Bolt	6
RACK TO CRADLE			
44	99121017	M12-1.75 x 170mm Bolt	2
45	99122009	M12-1.75 Nylok Nut	2
46	99123002	M12 Flat Washer	4
MOTOR MOUNT TO CRADLE			
47	99502009	1/2"-13 Nylok Nut	2
48	99503014	1/2" SAE Flat Washer	4
49	99501064	1/2"-13 x 2 3/4" Hex Bolt	2

HARDWARE KIT: 99010204			
Item #	**Part #**	**Description**	**Qty**
LOWER CONTROL ARM TO CRADLE			
47	99502009	1/2"-13 Nylok Nut	4
48	99503014	1/2" SAE Flat Washer	8
50	99501005	1/2"-13 x 3 1/2" Hex Bolt	4
BUMP STOP TO BRACKET			
51	99371001	3/8"-16 x 3/4" Hex Bolt	2
52	99373003	3/8" SAE Flat Washer	2
53	99373005	3/8" Split Lock Washer	2

HARDWARE KIT: 99010205			
Item #	**Part #**	**Description**	**Qty**
UPPER CONTROL ARM TO MOUNT			
54	99431039	7/16"-14 x 3" Hex Bolt	4
41	99432010	7/16"-14 Nylok Nut	4
42	99433005	7/16" Flat Washer	8
SHOCK TO SHOCK MOUNTS			
55	99501004	1/2"-13 x 3" Hex Bolt	4
47	99502009	1/2"-13 Nylok Nut	4
48	99503014	1/2" SAE Flat Washer	8

HARDWARE KIT: 99010206			
Item #	**Part #**	**Description**	**Qty**
TIE ROD STUD			
56	99622006	5/8"-18 THIN Lock Nut	2
57	99432005	7/16" Castle Nut	2
58	99952002	3/32" Cotter Pin	2
TIE ROD ADJUSTER			
59	99562002	9/16"-18 Jam Nut	2
60	99800003	5/8"-18 LH Jam Nut	2

HARDWARE KIT: 98019024			
Item #	**Part #**	**Description**	**Qty**
STEERING ARMS			
61	99501043	1/2-13 X 2 Hex Bolt Gr.8	2
62	99501026	1/2-13 X 2 1/4 Hex Bolt Gr. 8	2
48	99503014	1/2 SAE Flat Washer Gr.8	4
-	90002263	Red Loctite Tube; 2ml Tube;	1
SPINDLE NUT			
-	90002743	Spindle Nut Kit	1
CALIPER BRACKET			
-	99501062	1/2-13 X 1 1/4 Hex Bolt Gr. 8	4
-	99621001	5/8"-18 x 1" Hex Bolt GR8	2
-	99503014	1/2 SAE Flat Washer Gr.8	4

Important Notes

This kit requires removal of the engine. It can not be installed with the engine in the truck.

If using the factory steering column, you will need U-Joint Kit # 12319505. If using an aftermarket column, the required components will differ depending on the column manufacturer.

This kit requires a Ridetech Motor Mount Kit. We have different kits for different engines.

Small Block Ford	12319501
Ford Modular Motor 4.6/5.4/ Coyote	12319503
Ford FE	12319504
GM Small Block/ Big Block/ LS	12319502

This suspension kit is designed to use a 1979-1993 Ford Mustang Rack and Pinion.

If your truck has drum brakes, a disc brake master cylinder will be required.

The OEM front crossmember needs to be cut out of the truck.

The radius arm crossmember will remain in the truck.

Ridetech offers Wilwood brake kits for this suspension kit with 5 on 4 1/2", 5 on 4 3/4", or 5 on 5 1/2" wheel patterns.

This F100 Suspension package uses a GM Spindle used on 67-69 F body, 64-72 A body, and 68-74 X body. Any brake kit designed to fit the OEM disc brake spindle of the listed cars will fit the spindle in your suspension kit.

Wheel Fitment: If you are planning on running more than 4 1/2" back spacing, this kit will require at least an 18" diameter wheel.

Disassembly

1. Remove the engine from the truck. The transmission can be left in the truck, but will need to be supported.

2. Remove the entire front suspension and steering from the truck. Refer to the factory service manual for disassembly procedure.

3. Remove the OEM steering box from the truck.

Disassembly



4. Remove the OEM engine mount stands.



5. The bottom rear of the OEM crossmember may have a bolt instead of a rivet. If so, remove the bolt.



6. The OEM upper coil spring and I-beam mounts need be removed from the frame rail. This can be done by either drilling the rivets out or removing the rivet heads and driving them out. We remove the rivet heads by cutting a " + " in the head with a die grinder then we cut the head off with a hammer and chisel or with an air chisel. Once the head is removed, the rivet can be driven out with a hammer and punch.

Disassembly



7. Remove the side and bottom rivets from the frame mounts.



8. Remove the coil spring mount from the frame. Do this for both sides.



9. The OEM i-beam cross member will need to be cut out of the truck. It needs to be cut out even with the top of the frame rail. We also cut the cross member in the center for easier removal. We used a saw-z-all to cut the cross member out of the truck.

Disassembly



10. ***Image 10*** shows the cross member cut on the drivers side.



11. ***Image 11*** illustrates the cross member removed from the truck frame.

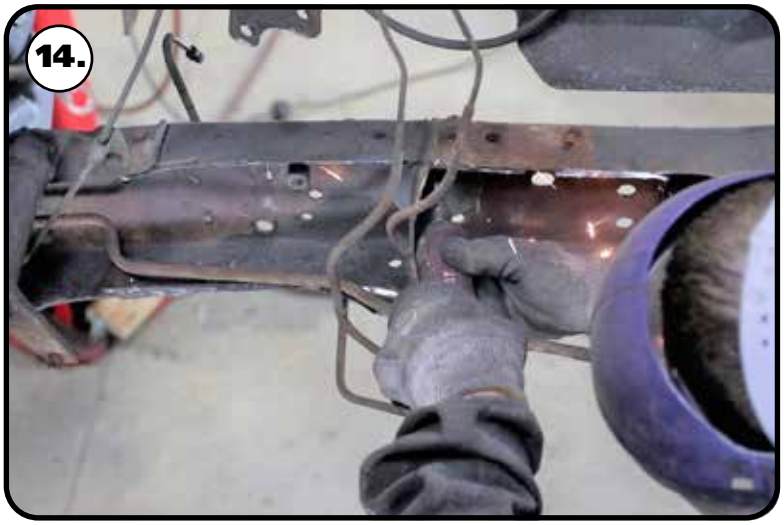


12. Cut the OEM steering box mount out of the frame by cutting it along the top and bottom frame rail.

Disassembly



13. Remove the steering box inner spacer. This mount can be removed by straightening the (2) tabs that stick through the frame.



14. The vertical sections that are inside the frame rail need to be removed. The frame surface needs to be flat. We cut these out using a die grinder and cut off wheel.



15. We grind the top of the cross member back to the frame rail.

Disassembly



16. The inside of the frame rails need to be ground smooth.



17. Your truck may have a brake line bracket right behind the coil spring mount that will need to be removed from the frame rail. This mount usually attaches with a rivet and bolt. Remove the bolt and rivet to remove the mount.



18. There is a pin that sticks down from the bottom of each frame rail that needs to be removed. These pins are in front of the OEM cross member. These need to be cut off even with the frame rail.

Disassembly



19. Smooth the outside of the frame rail. If you are planning to paint the frame rail, now is a good time to do it.

73-79 F100 ONLY!!! Cradle Installation

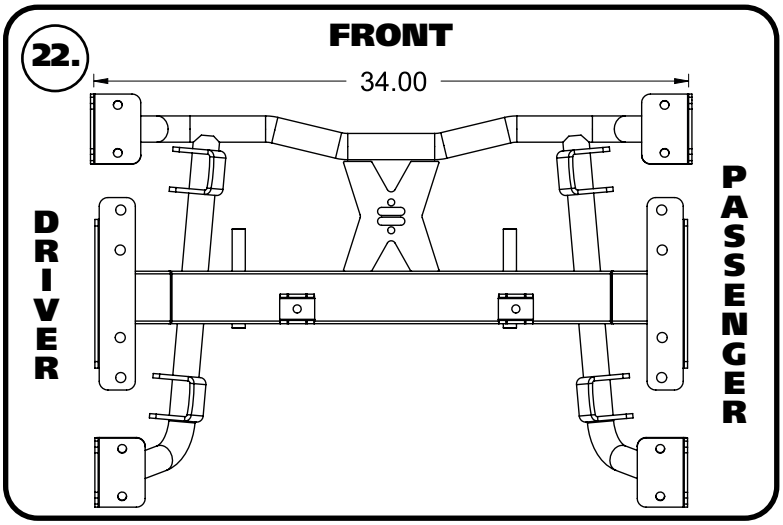


20. The 73-79 F100 trucks passenger frame rail has a section of the frame bent downward. This bent down area is in the location of the rear crossmember mount. This area needs to be flattened for cradle installation. The cradle can be lifted in position to mark the area that needs flattened.



21. We used an adjustable wrench to bend the flange flat. Tighten the adjustable wrench tight to the rail and use the wrench to bend it upward. You will need to work up and down the frame rail bending it up to get the frame rail flat.

Cradle Installation



22. ***Diagram 22*** shows a top view of the cradle to illustrate which way it goes in the truck. The round tube of the cradle is to the front of the truck.

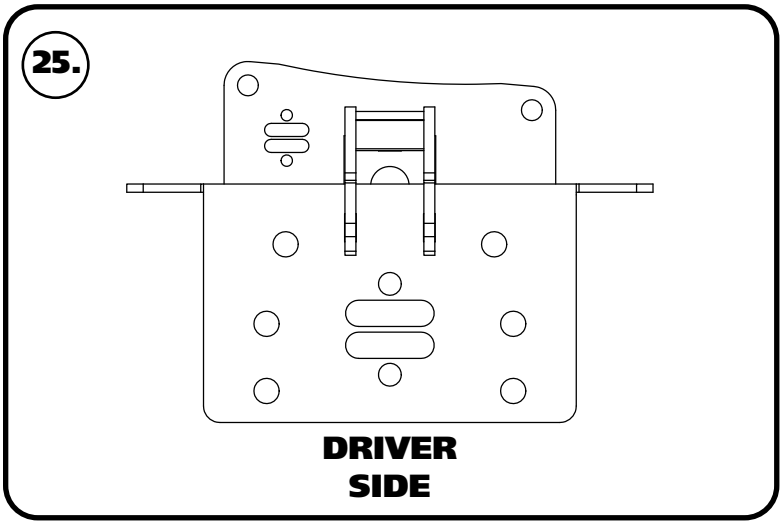


23. Raise the cradle up into position. The (6) holes in the large side plates will align with the (6) OEM rivet holes.



24. Position the cradle so that the (6) holes of the side plate align with the rivet holes in the frame.

Cradle Installation



25. ***Diagram 25*** illustrates the Driver side upper control arm mount. This mount is mounted on the outside of the frame, over top the cradle The (6) holes of the upper control arm mount, align with the cradle and frame holes.



26. Install a 7/16" flat washer on each of (3) 7/16"-14 x 1 /4" hex bolts. Insert a bolt in the front (3) bolt holes. Install a 7/16" flat washer and 7/16"-14 nylok nut on the threads of the bolt. This will help keep everything aligned. Do this for both sides.



27. The kit contains a Driver and Passenger side engine mount. The frame side of the engine mount will align with the top (2) holes of the rear set of holes. The bushing side of the engine mount gets inserted into the mounts on the cradle tube. Position the engine mounts in place. Install a 1/2" flat washer on each of (2) 1/2"-13 x 2 3/4" hex bolts. Insert the bolt through the cradle mounts and bushings. Install a 1/2" flat washer and 1/2"-13 nylok nut on the threads of each bolt. Leave the hardware loose until later.

Cradle Installation



28. Install a 7/16" flat washer on a 7/16"-14 x 1 3/4" hex bolt. Insert the bolt in the top hole of the rear (3) bolt holes. This bolt will go through the upper control arm mount, cradle plate, & engine mount. Install a 7/16" flat washer and 7/16"-14 nylok nut on the threads of the bolt. DO NOT INSTALL A BOLT IN THE LOWER HOLE OF THE ENGINE MOUNT HOLE AT THIS TIME.



29. The bump stop mount attaches to the (2) lower holes of the rear (3) holes.. The kit includes a Driver & Passenger bump stop mount. The gusset of the mount goes to the rear of the truck. Install a 7/16" flat washer on (2) 7/16"-14 x 1 3/4" hex bolts. Align the bump stop mount with the bottom (2) holes of the rear (3) holes. Insert the bolts in the mounting holes. The top bolt will go through the bump stop mount, upper control arm mount, cradle plate, & engine mount. The bottom bolt doesn't go through the engine mount. Install a 7/16" flat washer and 7/16"-14 nylok nut on the threads of the bolts. Do this for both sides. Thread the bump stop into the aluminum spacer. Attached the bump stop/spacer to the mount using a 3/8"-16 x 3/4" bolt, lock washer, and flat washer.



30. Install a 7/16" flat washer on each of (2) 7/16"-14 x 1 /4" hex bolts. Insert the bolt/ washers in the remaining bottom (2) bolts holes of the front (3) bolt holes. Install a 7/16" flat washer and 7/16"-14 nylok nut on the threads of the bolts. Do this for both sides. Snug the hardware, but do not torque the hardware at this time.

Cradle Installation



31. There are (8) mounting holes in the bottom mounts of each side of the cradle. All but (2) of these will need to be drilled with a 7/16" drill bit. (2) of the holes will align with factory holes.



32. Install a 7/16" flat washer on each of (8) 7/16"-14 x 1 /4" hex bolts. Insert a bolt/washer in each bottom (8) holes. Install a 7/16" flat washer and 7/16"-14 nylok nut on the threads of the bolts. Again, snug the hardware down, but do not torque the hardware at this time. Do this for both sides.



33. Drill the (4) holes for the front & rear side frame mounts using a 7/16" drill bit.

Cradle Installation



34. Install a 7/16" flat washer on each of (4) 7/16"-14 x 1 /4" hex bolts. Insert a bolt/washer in each of the (4) holes. Install a 7/16" flat washer and 7/16"-14 nylok nut on the threads of the bolts. Again, snug the hardware down, but do not torque the hardware at this time. Do this for both sides.

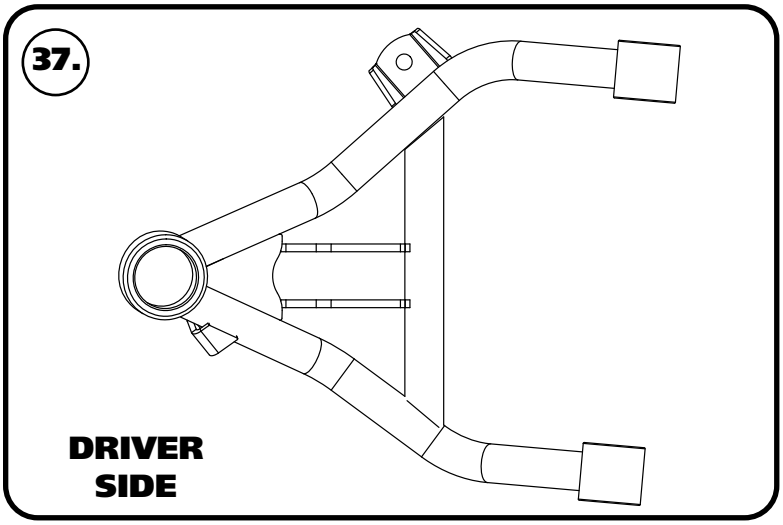


35. The top flange of the upper control arm mount has (4) mounting holes. (2) of these mounting holes will align with OEM holes. (2) need to be drilled with a 7/16" drill bit.



36. Install a 7/16" flat washer on each of (4) 7/16"-14 x 1 /4" hex bolts. Insert a bolt/washer in each top (4) holes. Install a 7/16" flat washer and 7/16"-14 nylok nut on the threads of the bolts. Torque all 7/16" cradle hardware to 70 ft-lbs. Torque the 1/2" engine mount hardware to 75 ft-lbs.

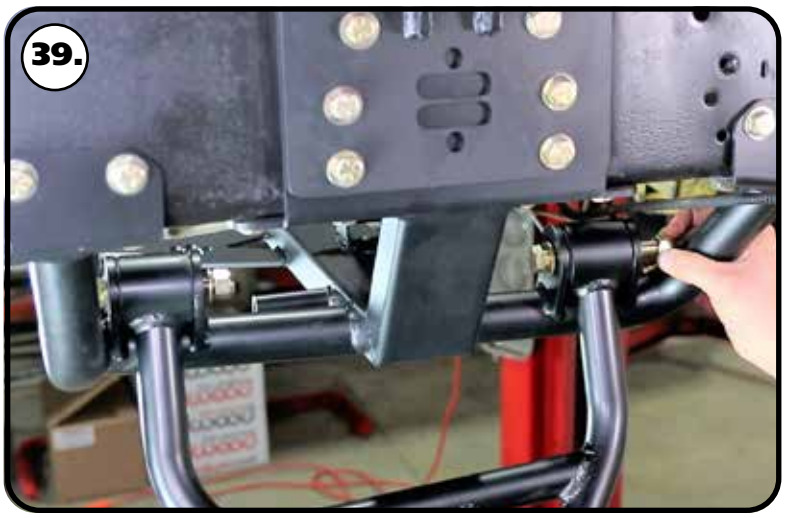
Lower Control Arm Installation



37. The lower control arms are marked "D" for Driver and "P" for Passenger. The ball joint pin points up and the sway bar mount is on the front side of the arm. **Diagram 37** shows a top view of the Driver lower control arm.

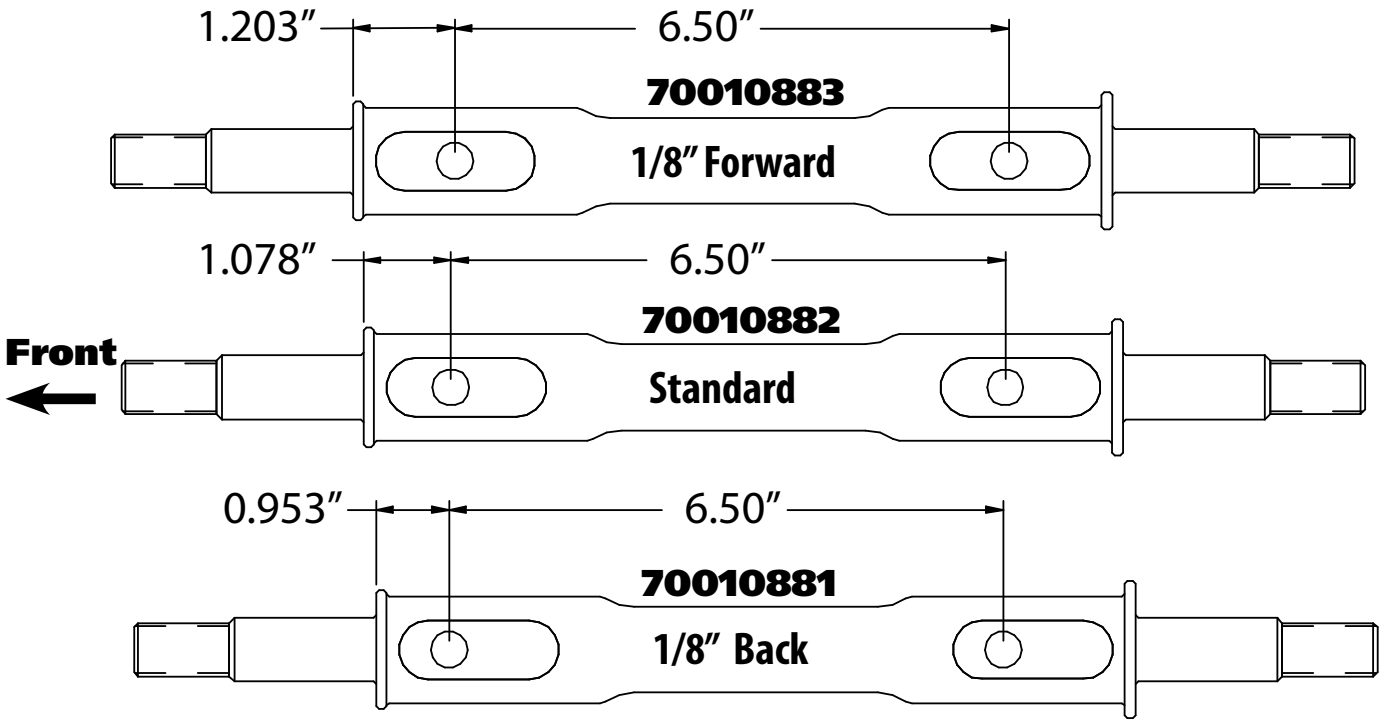


38. Insert the lower control arm in the mounts built in the lower cradle. Align the mounting holes of the lower mounts with the through hole of the bushing sleeves.



39. Install a 1/2" flat washer on each of (2) 1/2"-13 x 3 1/2" hex bolts. Insert the bolt/washer in the aligned holes with the threads to the rear of the truck. Install a 1/2" flat washer & 1/2"-13 nylok nut on the threads of the bolts. Re peat on the passenger side control arm. Torque the mounting bolts to 75 ft-lbs.

Caster Explained



These StrongArms come equipped with a changeable caster slug setup. This allows you to add or remove caster from the front suspension, if desired. The caster slugs that come supplied in the kit are standard (70010882). The caster slugs allow you to add or remove caster without having to use a stack of shims. If more or less caster is desired, optional slugs can be purchased from Ridetech or your Ridetech dealer.

1/8" Forward = 70010883
1/8" Back = 70010881

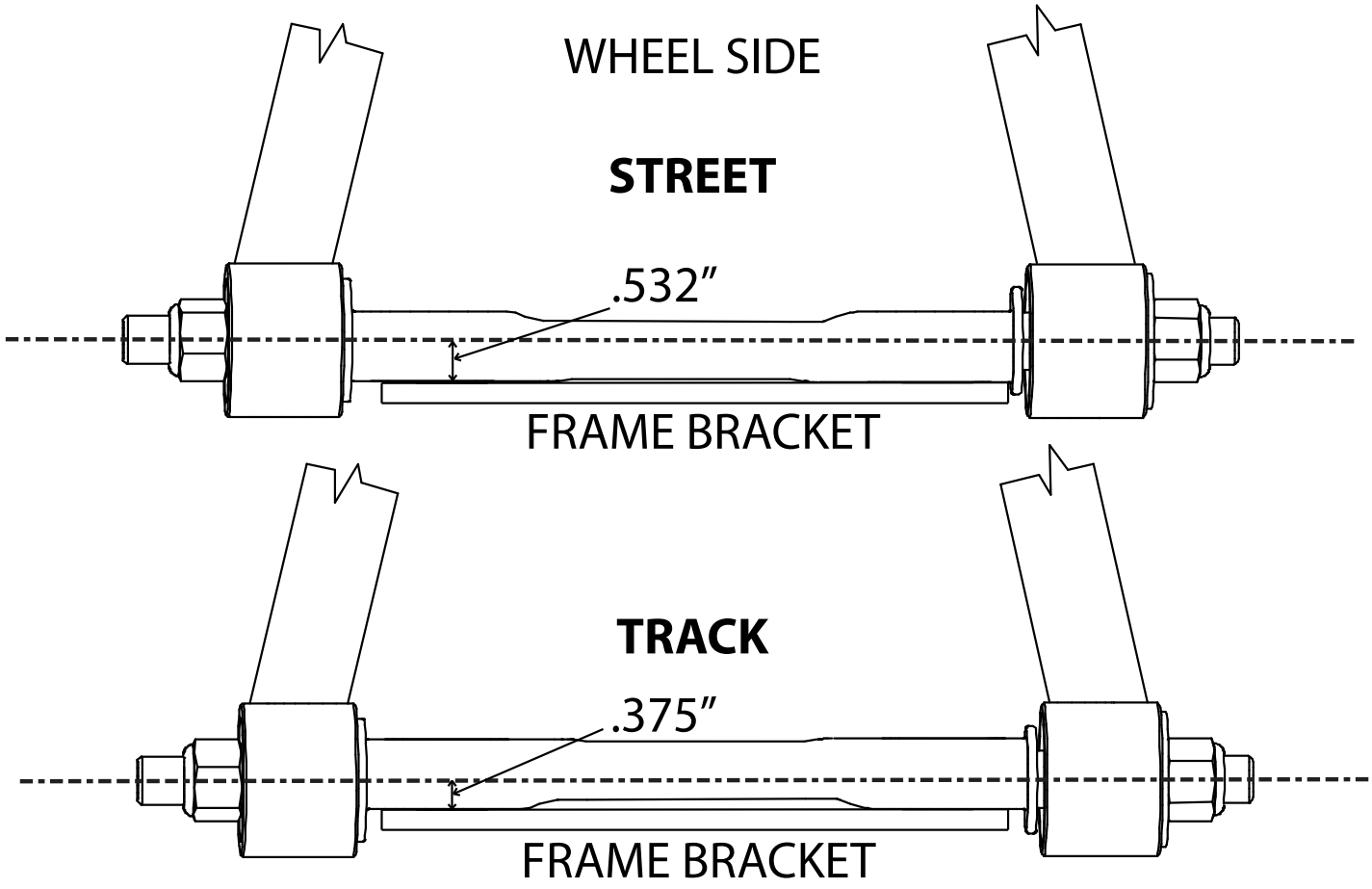
Caster Explained:

To understand caster you need to picture an imaginary line that runs through the upper ball Joint and extends through the lower ball Joint. From the side view the imaginary line will tilt forward or backward. The tilting of this imaginary line is defined as caster.

Caster is measured in degrees by using a caster gauge. If the imaginary line described above tilts towards the back of the vehicle at the top, then you have positive caster. If the imaginary line tilts forward then you have negative caster.

Positive caster provides the directional stability in your vehicle. Too much positive caster will make the steering effort difficult. Power steering will allow you to run more positive caster. Negative caster requires less steering effort but will cause the vehicle to wander down the highway

Offset Upper Control Arm Shaft

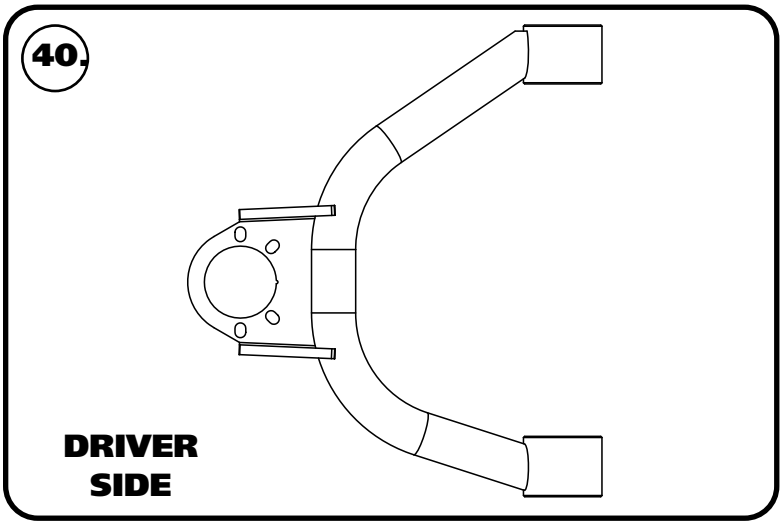


The cross shaft that is used in the upper control arms is offset. The offset combined with the caster slug option allows you to achieve the alignment setting you desire with minimal shims. To change the direction the Icon faces simply spin the cross shaft in the control arm.

If you are after a **Street Alignment** bolt the upper control arm to the frame mount with the arm offset to the outside of the truck. The Ridetech Icon will be facing the wheel.

If a more aggressive **Track or Autocross** alignment is desired, bolt the control arm to the frame bracket with the arm offset to the inside of the truck. The Ridetech Icon will be facing the frame rail.

Upper Control Arm Installation



40. The upper control arms are marked "D" for Driver and "P" for Passenger. The ball joint pin points down and the ball joint is to the rear of the truck. ***Diagram 40*** shows a top view of the Driver upper control arm.



41. Install a 7/16" flat washer on each of (2) 7/16"-14 x 3" fully-threaded hex bolts. Insert a bolt/washer in each bottom (2) upper control arm mounting holes.

Note: 73-79 F100s might require you to push the inner fender out of the way to install the front upper bolt.



42. Insert the caster slug into the cross shaft using the guide on ***Page 21*** as a guide. ***The long side of the caster slug will be to the rear of the control arm.*** Slip the upper control arm onto the mounting bolts using ***Page 22*** as a guide for cross shaft orientation. Install a 7/16" flat washer & 7/16"-14 on the threads of each bolt. Torque the bolts to 70 ft-lbs.

Shock Installation



If installing CoilOvers, refer to the CoilOver instructions for shock assembly.

43. Insert the shock bearing t-bushings into the bearing of the eyelet. The small outside diameter of the t-bushing will insert into the shock bearing.



44. Insert the eyelet of the shock into the frame mount with the adjuster know toward the outside of the truck. Align the mounting holes with the through hole of the shock eyelet.



45. Install a 1/2" flat washer on a 1/2"-13 x 3" hex bolt. Insert the bolt/washer into the mount/shock. Install a 1/2" flat washer & 1/2"-13 nylok nut. Torque the hardware to 75 ft-lbs.

Shock Installation



46. Insert the shock bearing t-bushings into the bearing of the shock body. The small outside diameter of the t-bushing will insert into the shock bearing.



47. Swing the lower control arm up to the shock. While swinging the control arm up, insert the shock body into the shock mount of the control arm. Align the mounting holes with the through hole of the shock body.



48. Install a 1/2" flat washer on a 1/2"-13 x 3" hex bolt. Insert the bolt/washer into the mount/shock. Install a 1/2" flat washer & 1/2"-13 nylok nut. Torque the hardware to 75 ft-lbs.

Rack Installation



49. Install one half of a poly rack bushing on the rack mounting bung of the cradle. The bushing needs to be installed on the bung with the large diameter against the cradle. Install a bushing on each mounting bung.



50. Install the rack on the bushing half. The steering shaft will be on the drivers side with the shaft pointing toward the cab.



51. Insert the 2nd half of the rack bushings into the rack. Do this for each mount.

Rack & Spindle Installation



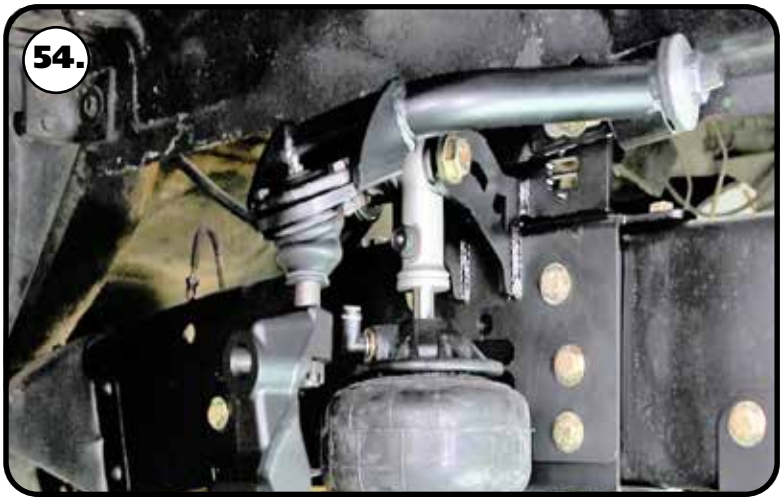
52. Install a M12 flat washer on a M12-1.75 x 170mm hex bolt. Insert the bolt/washer into the rack mount. Install a 1M12 flat washer & M12-1.75 nylok nut. Torque the hardware to 93 ft-lbs.



53. THESE SPINDLES ARE SYMMETRICAL. THEY AREN'T SIDE SPECIFIC UNTIL THE STEERING ARM IS BOLTED ON. Install the spindle on the lower ball joint. Install the ball joint castle nut on the stud of the ball joint.

Torque Specs:
Lower Ball joint - 65 ftlbs and tighten to line up cotter pin.

Install the Cotter Pin after tightening the ball joint nut.

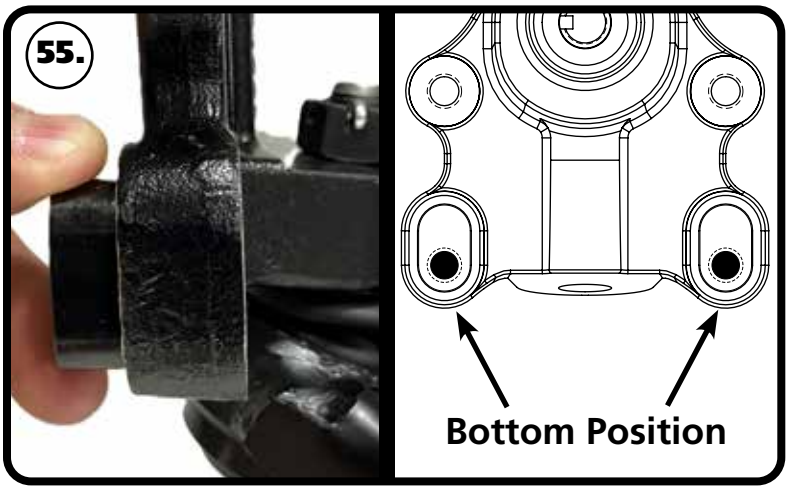


54. Insert the top ball joint into the spindle.

Torque Specs:
Upper Ball Joint - 50 ftlbs and tighten to line up cotter pin.

Install the Cotter Pin after tightening the ball joint nut.

Steering Arm & Linkage Installation



55. Insert the steering arm threaded inserts into the spindle. The threaded hole in the insert should be in the bottom position as shown.



56. Bolt the steering arm to the spindle using the supplied 1/2" hardware. The arms angle toward the rack, and the tie rod mounting holes are to the front of the truck.
The mounting bosses of the steering arm are 2 different thicknesses. The thicker boss uses a 1/2"-13 x 2 1/4" hex bolt. The thin boss will use a 1/2"-13 x 2" bolt. Install a 1/2" SAE flat washer on each bolt, apply red loctite on the threads of each bolt and install through the steering arm bosses and thread into the threaded inserts.
Torque the steering arm bolts to 80 ft-lbs.



57. Install the stud with the hex into the steering arm with the taper going into the steering arm. Install the 7/16"-20 castle nut onto the tie rod stud. Torque the nuts to 35 ftlbs and tighten as needed to align cotter pin hole and install cotter pin.

Steering Linkage Installation



58. The tie rod adjusters have (2) different thread sizes, 5/8"-18 LH & 9/16"-18. The left hand threaded heim will thread into the 5/8"-18 end. The rack threads into the 9/16"-18 end. Install the 5/8"-18 LH jam nut on the heim end. Install a 9/16"-18 jam nut on the threads of the rack. Thread the heim into the adjuster and thread the adjuster onto the rack.



59. Next, slip the heim end onto the tie rod stud.



60. Install a 1/8" thick aluminum on the bottom side of the heim end followed by a 5/8"-18 thin nylok nut on the stud. Torque the nut to 45 ft-lbs.

Sway Bar Installation



61. Use a tape measure to put a mark on the frame ***4 1/4"*** from the front edge of the cradle mount. Align the back edge of the sway bar mounting strap with the mark on the frame. Hold the mounting strap in the center of the frame and mark the center of each mounting hole. The mounting holes need to be marked on each frame rail.



62. Drill the holes using a 3/8" drill bit.



63. Open the sway bar bushing at the split and slip it onto the sway bar. Do this for both bushings.

Sway Bar Installation



64. Install the bushing mounting strap on the sway bar bushing.



65. The sway bar includes a backer plate that needs to be installed on the top side of the frame flange. Align the backer plate holes with the holes drilled in the frame.



66. Install a 3/8" flat washer on each of (4) 3/8"-16 x 1 1/4" hex bolts. Hold the sway bar in place and insert a bolt in the mounting hole of the mounting strap. Install a 3/8" flat washer & 3/8"-16 nylok nut on the threads of the bolt. Repeat this on remaining mounting holes. Do NOT tighten the mounting bolts at this time. They need to left loose until the sway bar linkage has been attached to the lower control arm.

Sway Bar Installation



67. Install the end links using **Diagram 67** as a reference. Install both end links before tightening the end link hardware.



68. Tighten the end link barrel nut until it is flush with the end of the bolt, and then tighten it 2-3 more complete rounds. Torque the frame bolts to 45 ft-lbs.

Finishing & Alignment

69. Double check the hardware to make sure everything is tight.

70. Attached the steering column to the rack and pinion.

71. Install your front brake kit.

72. Attach the correct engine mounts to the engine and reinstall the engine.

73. The truck will need to be aligned.

Suggested Alignment Specs:

Camber:	Street:	-.5 degrees
Caster:	Street:	+3.0 to + 5.0 degrees
Toe:	Street:	1/16" to 1/8" toe in