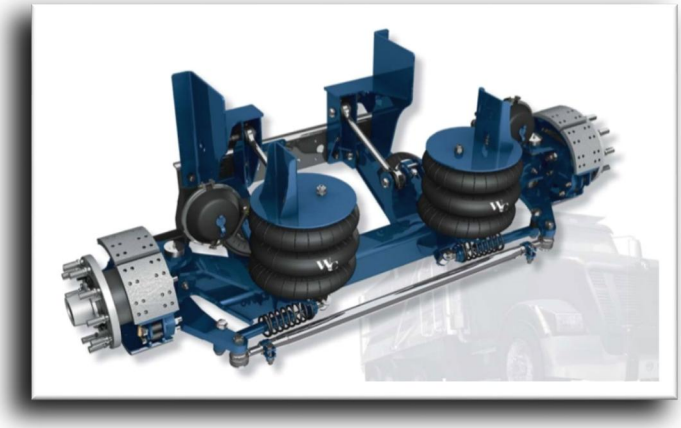
OWNER'S MANUAL

SL20K Steerable Axle Lift Suspensions

Installation Manual and Maintenance Manual

TABLE OF CONTENTS



1. Introduction

This publication is to acquaint and assist you in installing and operating the Watson & Chalin Auxiliary Steerable Liftable Air Ride Suspension Product Line and is intended for use only with this Product Line.

This manual includes installation and operating information on Watson & Chalin model numbers:

SL-2065

Watson & Chalin reserves the right to change its products or manuals at any time. Contact Watson & Chalin at 1.800.445.0736 for information on recent changes to products.

Defective components should be returned to Watson & Chalin with a pre-arranged Returned Goods Authorization (RGA) number through the warranty department. If the defect is in compliance with warranty conditions, the defective component may then be replaced.

If the part is damaged in shipment, please contact the freight company to file a claim. The freight company is responsible for any damage to components during shipment.

IMPORTANT

The entire manual must be read and understood before proceeding with installation or service of any components.

This manual should be used in conjunction with corresponding drawings that come with Watson & Chalin suspensions upon delivery.

The vehicle manufacturer must approve any changes to the vehicle frame before the changes are done. Cutting or altering the vehicle's frame is normally not permitted by the manufacturer and affects the manufacturer's warranty coverage.

1.1 Installer Responsibility

The installer of the suspension system must:

- Ensure that the vehicle functions properly with the increased weight of an additional axle.
- Determine the correct location of the suspension to provide the proper vehicle load distribution as to not exceed the rated capacity of the components involved.
- Ensure the installation of the correct brake system components to guarantee proper braking performance. Brake installation must comply with FMVSS121 specifications.
- Ensure that proper clearance exists between the drive shaft and the auxiliary axle.
- Ensure suspension operates within run range.

2. Before You Begin

Before you begin to install the Watson & Chalin suspension system, you must:

- Check specifications on suspension systems to be sure that the correct suspension system was chosen for the vehicle.
- Verify the vehicle frame width is within the allowable mounting range of the suspension and that the vehicle crossmembers are correctly positioned.
- Mark the location of the suspension side rails and check for interferences with existing bracketry and components.
- Check for interference between the axle and drive shaft.

- Ensure suspension operates within the run range.

2.1 Safety Explanations

Watson & Chalin uses the following types of notes to warn against possible safety problems and to give information that helps to prevent damage to equipment.

IMPORTANT

An important message indicates a procedure that should be followed exactly.

WARNING

A warning indicates hazards or unsafe practices that could result in severe personal injury or death, if the procedure is not followed exactly.

WARNING

All safety statements should be read carefully to prevent bodily injury, to assure that parts are assembled properly and to retain the manufacturer's warranty.

2.2 Warning

WARNING

Proper axle attachment required for safe operation of the vehicle.

WARNING

No alteration of any Watson & Chalin suspension components is permitted without proper authorization from qualified Watson & Chalin personnel.

WARNING

No welding of any suspension components is permitted except when specified by Watson & Chalin.

2.3 Identifying Your Model

IMPORTANT

It is important that you know what model number has been assigned to your assembly in case you ever need to contact Watson & Chalin.

Identification Plate

Each suspension assembly has an identification plate located on the left side rail assembly. This is on the driver's side of the vehicle. The plate includes the model number, serial number and capacity in pounds for the assembly. It is important to record the model and serial number for future reference.

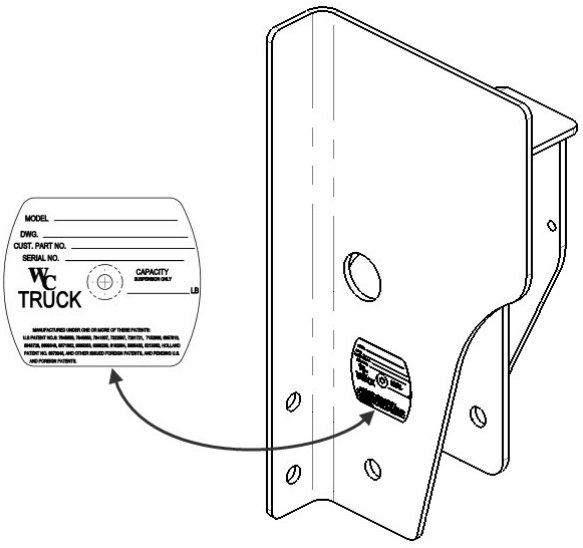


FIG – 1 Identification Plate

3. Ride Height

Ride Height, also referred to as Run Height, is the distance between the suspension mounting surface, or the bottom of the vehicle frame and the spindle center of the auxiliary lift able axle in the lowered run position. It is one of the most important dimensions to obtain and when set properly, allows for the optimum amount of lift that the axle can achieve.

IMPORTANT

A correct installation requires that the suspension ride height be within the range specified on the corresponding drawing when the vehicle is in its loaded condition.

Watson & Chalin provides numerous different SL series suspension systems to accommodate different vehicle ride heights and capacities.

3.1 Calculating Ride Height

Proper Ride Height is calculated with the following equation:

Ground to Bottom of Vehicle Frame (loaded) _____

Static Loaded Tire Radius – _____

Ride Height = _____

** The SL2065 series is equipped with the W&C quick-change ride height system. If it is determined above that a ride height change is necessary and the resulting run height falls within a designed allowable range, refer to the Quick-change Ride Height section on page 21 for details on changing spacers.

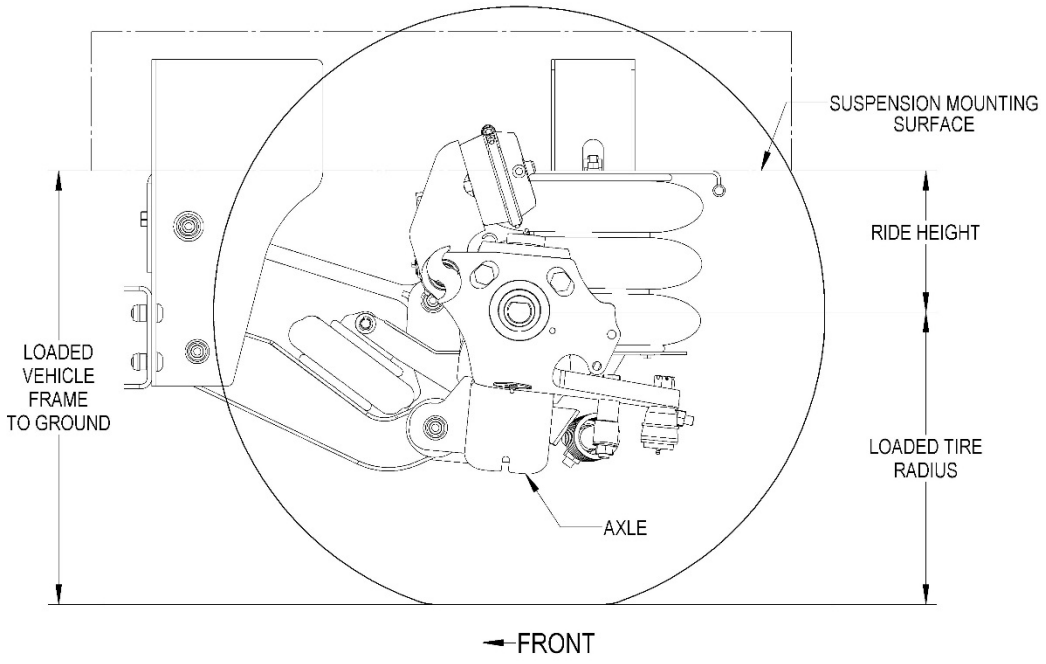


FIG – 2 Ride Height

4. Installation

The following instructions are for installing the components of the Watson & Chalin SL Series Suspension systems. All model numbers in the series are installed using the same set of instructions. Watson & Chalin assumes that the correct auxiliary suspension and axle were chosen based on the individual design criteria.

The suspension systems must be installed with the proper amount of tire-to-ground clearance to ensure trouble free operation of the vehicle. If there is too much ground clearance, the suspension will not carry its share of the load, straining the other suspension components. When there is too little ground clearance or if the suspension is overloaded, the vehicle will bottom out while going over bumps and damage can be done to the suspension components or other components on the vehicle.

4.1 Mounting the Suspension

Before mounting the suspension, you must:

- Confirm that the proper suspension and axle was chosen based on your company's specifications.
- Ensure the chassis frame has the proper crossmember reinforcement in the area where the auxiliary axle hanger/rail is located. See Figure 4.
- If the vehicle frame was predrilled for mounting the SL series axle prior to purchase, be sure to align to and use these fastener positions.
- Also remember to remove the associated bolts from the frame prior to axle alignment and installation.

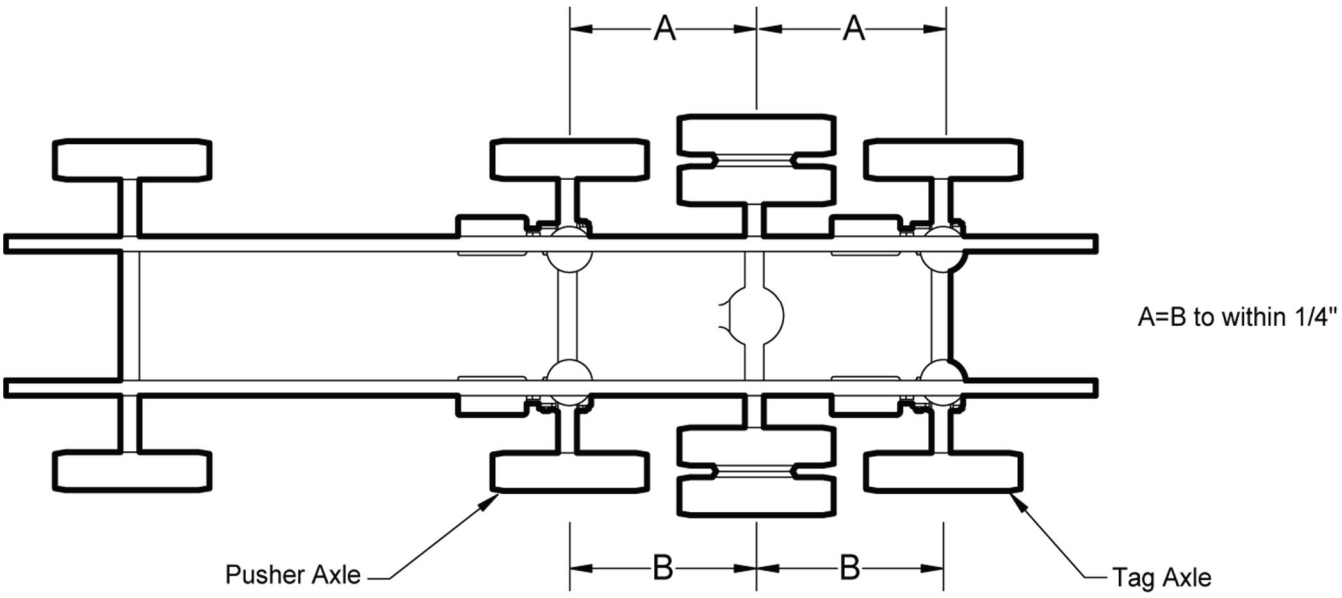


FIG – 3 Pusher and Tag Axle Alignment

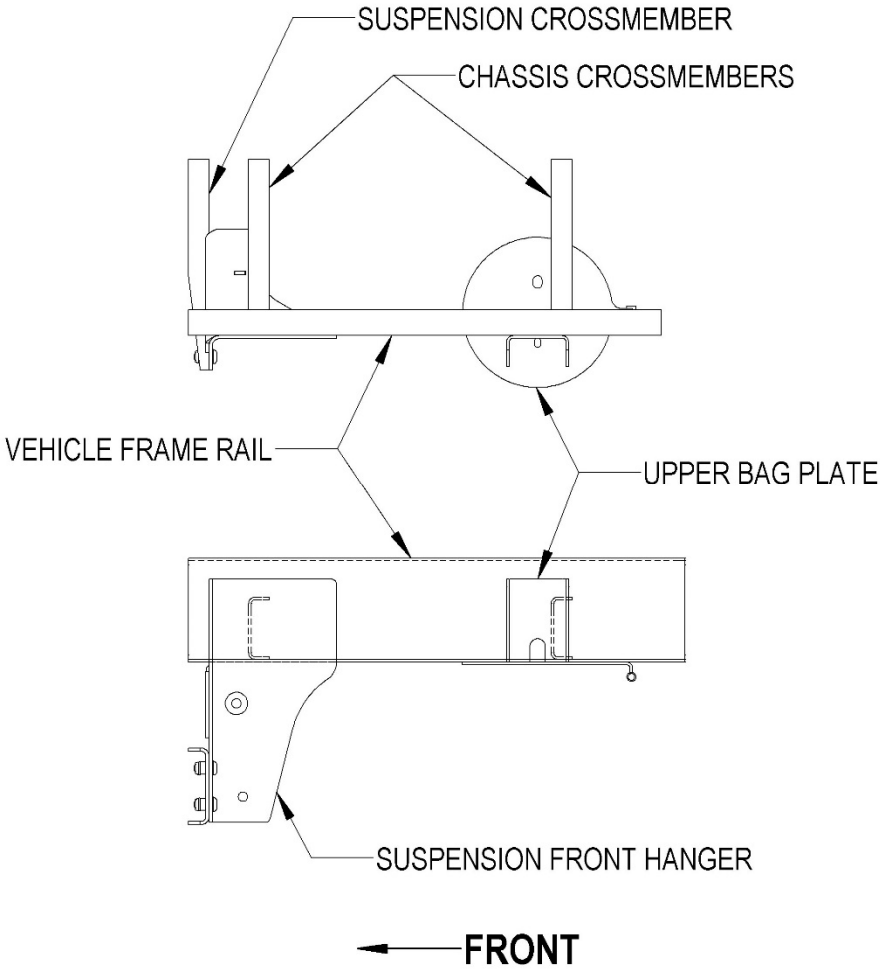
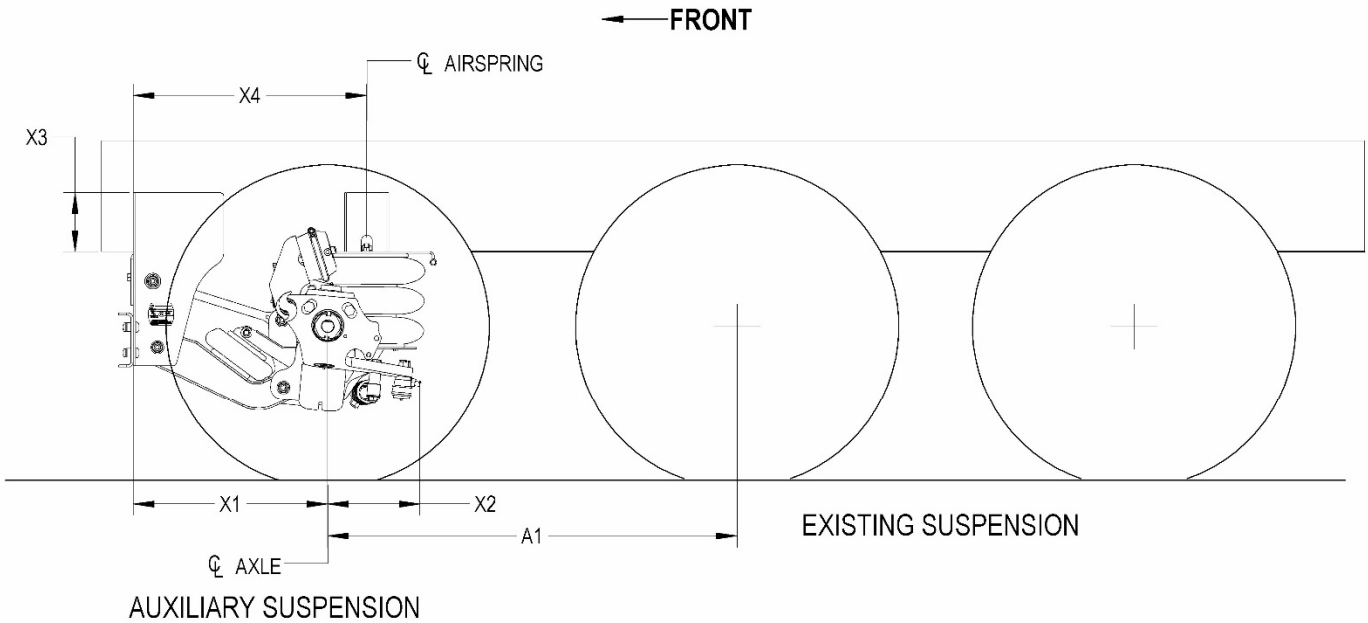


FIG – 4 Chassis Crossmember Reinforcement

NOTE

Throughout the installation process you must check frequently for suspension clearance problems while mounting the suspension.

To mount the suspension to the vehicle:



A1 = Dimension of axle location (customer supplied)

X1 = Axle centerline to suspension front

X2 = Axle centerline to rear of tie-rod

X3 = Bottom of chassis frame to top of side rail

X4 = Front of hanger to centerline of air spring

FIG – 5 Suspension Mounting Position

1. Place the vehicle on a level surface.
2. Mark the approximate location of the suspension side rail assemblies on the vehicle frame rails.
3. Check for interference with any existing brackets or mounting bolts.
4. Locate the auxiliary axle mounting position.
5. From the centerline of the axle at the wheel center, mark the location of this axle measurement on the outside of the vehicle frame rail.
6. Raise the back end of the frame using either a lift, jack or driving the rear axles and tires onto a lift.
7. Raise the suspension into position using the marked axle, front hanger rail and upper bag plate center line as locators.

NOTE

If, while raising the SL series suspension into place, the hangers get stuck on the frame because they are too narrow, loosen the bolts on one side of the crossmember. This will allow the hangers to separate enough to move into position. If you have a welded crossmember you will not be able to loosen in this way.

8. Using clamps, clamp the suspension rail to the vehicle frame rail.

IMPORTANT

Both the side and bottom mounting surfaces must sit flush with the side and bottom of the vehicle frame rails or spacers, or the suspension warranty is invalid. See Figure 6.

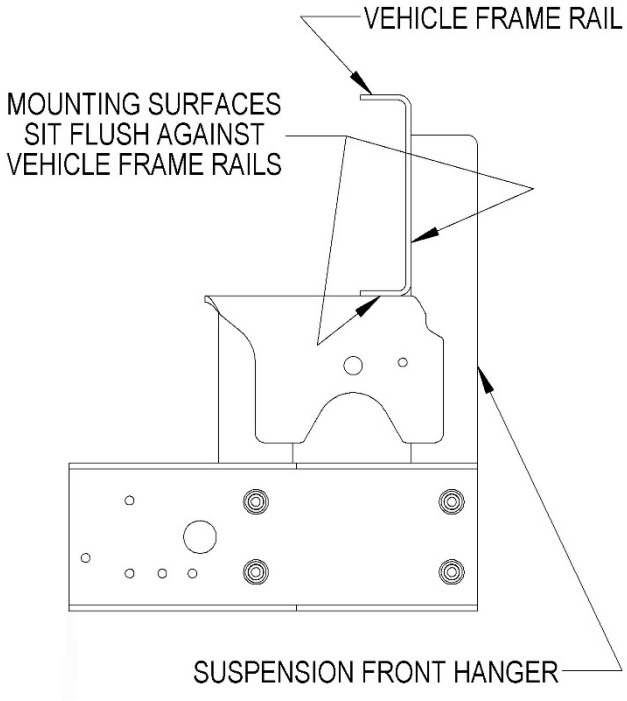


FIG – 6 Frame Alignment

9. Mark the location of the mounting holes on the outside of both suspension frame rails.

10. Inspect vehicle frame rails for any items that may cause drilling obstructions.

WARNING

Welding, drilling or bolting through the bottom flange of the suspension frame or vehicle rails voids the manufacturer's warranty.

NOTE

3/4" SAE Grade 8 UNF fasteners required to attach the SL2065 suspension to the vehicle frame.

11. Drill two 13/16" holes through each suspension rail and vehicle frame rail.

12. Fasten each suspension side rail to the vehicle frame using the appropriate size/grade fastener specified above, flat washer and lock nut. Use at least 2 bolts per side.

13. Drill remaining mounting holes per side rail. See Figure 7 or the supplied suspension drawing for recommended fastener quantities and locations.

14. Install the remaining bolts, washers and lock nuts and tighten cap screws to proper torque. See "Torque Requirements" on page 13 for details.

15. Drill a minimum of two 13/16" diameter holes through the upper air spring mounting brackets and chassis frame.

16. Fasten each bag plate assembly with two ¾" SAE grade 8 UNF fine thread cap screws, flat washers and lock nuts as seen in figure 7.

NOTE

Hangers must be parallel to one another to ensure proper operation.

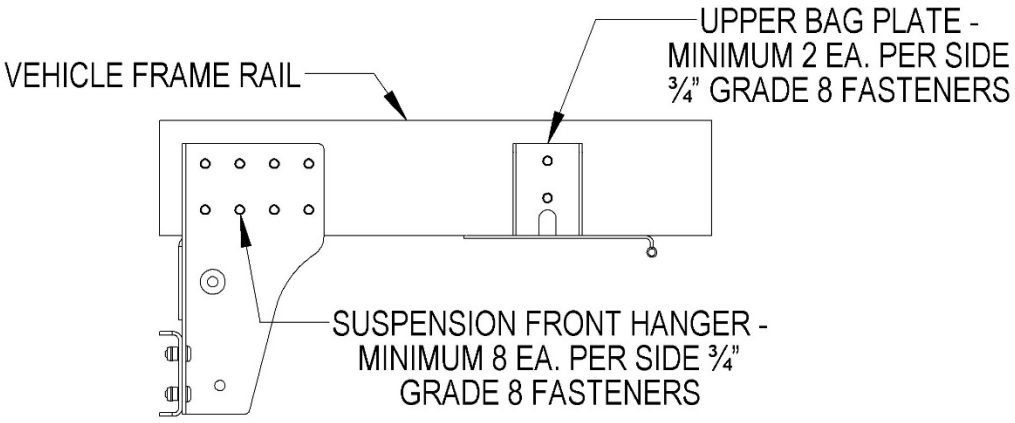


FIG – 7 Recommended Fastening Method

17. Attach crossmember to the suspension front hangers with supplied fasteners and tighten to specified torque values.

18. Remove the clamp from the vehicle frame rails.

4.2 Adjusting Maximum Turn Angle

This section is used to check and adjust, if necessary, the maximum turn angle of your SL2065 suspension system in order to obtain proper clearance.

To adjust the maximum Turn Angle:

1. Measure the current Turn Angle.

2. The maximum turn angle for SL2065 Series model is normally set at the maximum 25º. Some applications may require less turn angle.

3. If the turn angle needs to be adjusted, adjust the stop bolt until the correct angle is obtained on both sides.

4. To obtain the maximum Turn Angle:
   a. Loosen the stop bolt jam nut as seen in Figure 8.
   b. Adjust the turn angle by adjusting the stop bolt in or out.
   c. Tighten the jam nut to 50-75 lbs. /ft.

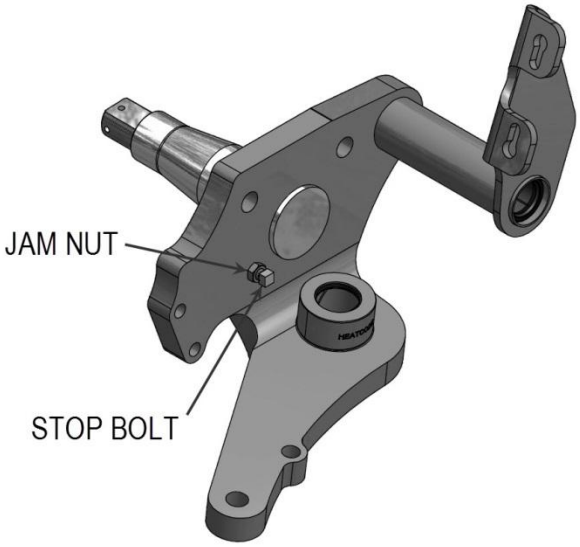


FIG – 8 Stop Bolt Location

WARNING

Do not turn the stop bolt so much that the bolt end protrudes past the brake spider as this can cause damage to other components.

4.3 Adjusting Wheel Toe-in

Toe-in is the relationship of the distance between the front and rear of the tires or the amount at which the front wheels point inward. Toe-out is the amount at which the tires point outward. When the front distance is less than the rear distance, the wheels are in a “toe-in” condition. Most tire wear is caused by incorrect toe settings. Toe-in must be verified and adjusted, if required, during suspension installation.

To adjust wheel Toe-in:

1. Place the vehicle on a level surface.
2. Lift the axle until tires are free to spin.
3. Use paint or chalk to mark the horizontal center of tires around the complete outer surface of the tire.
4. Place the pointers of a trammel bar on the marks of each tire and rotate the tires making sure a straight line has been marked.
5. Measure and record the distance at the back of the tires.
6. Measure and record the distance at the front of the tires.
7. Use the following calculation to determine the Toe-in measurement.

Distance between back tires (R) _____

Distance between front tires (F) –_____

Toe-in must be “0.09” + or – “0.03”. = _____

NOTE

A positive result is considered Toe-in and a negative result is considered Toe-out.

8. If the Toe-in measurement is not at the specified distance:

- Loosen clamp bolts and nuts at each end of the tie rod.
- Turn tie rod tube with a pipe wrench to adjust wheel Toe-in.
- Tighten clamp bolts to the proper torque.

9. Repeat step 1 through step 8 until correct Toe-in is obtained.

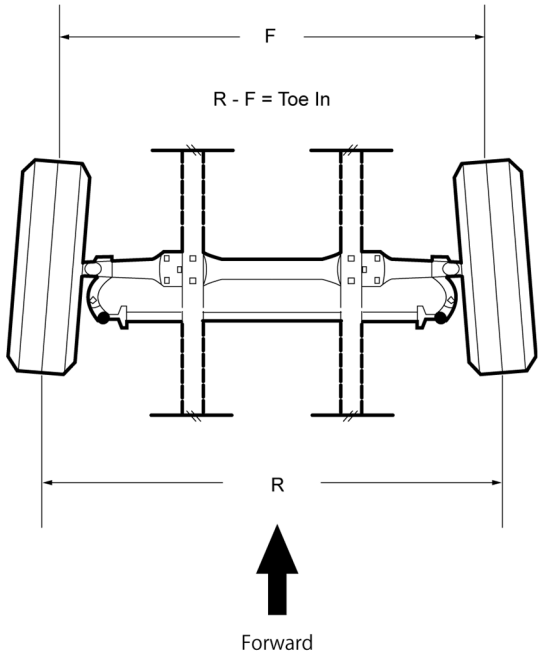
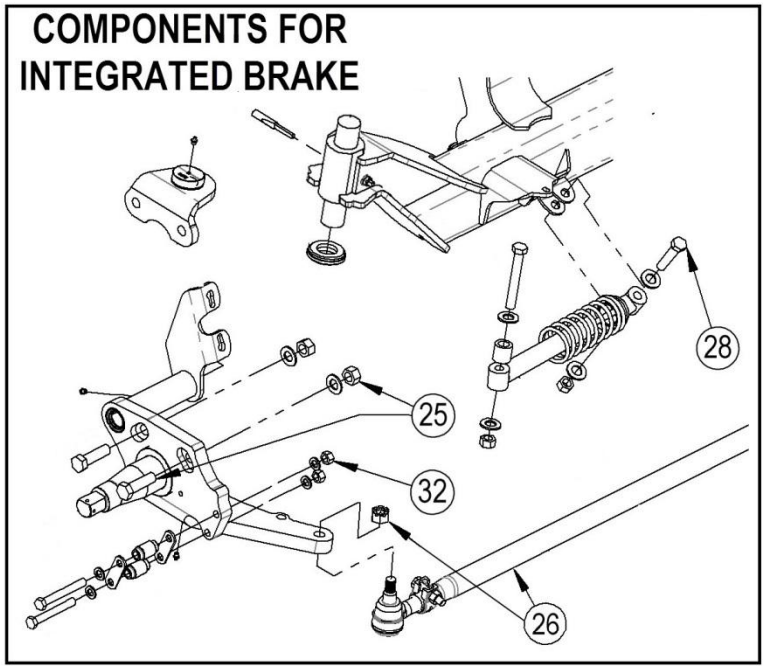


FIG – 9 Toe-in

5. Torque Requirements

Torque specifications listed in the following tables are applied to nuts, but not bolts. All torque requirements are for lubricated threads only. A lubricated thread is defined as a bolted connection that has some form of friction modifier or lubricant applied to the thread surfaces, which provides a lower torque requirement.



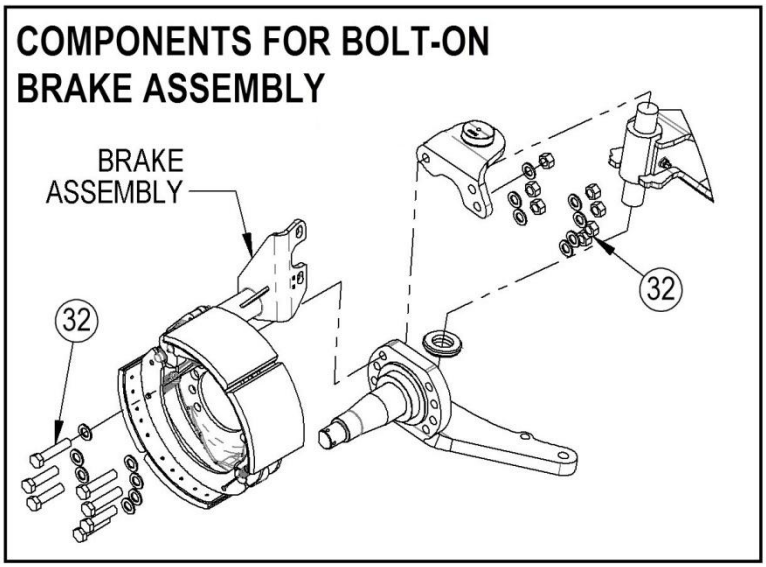


FIG – 10 Knuckle Component Torque Illustration

5.1 Torque Guidelines

The following table shows the proper torque requirements for the cap screws and nuts described. Each type of cap screw and nut is shown in the following Tables according to the item number.

Torque Requirement Procedures

All fasteners should be re-torqued according to the following schedule.

- After 30 days
- Every 6 months thereafter

Table 1

Item #	Description	Size	Torque Range (lb.-ft.)
25	Backbone/Upper Kingpin Assembly Nut	7/8”-14	425
26	Tie-Rod End to Tie-Rod Arm Castle Nut	7/8”-14	160-300
28	Stabilizer Shock Nut	3/4”-16	200-250
32 (Integrated Brake)	Anchor Pin Nut	5/8”-18	175
32 (Bolt-on Brake)	Attachment Nut	3/4”-16	200 – 225
	Draw Key Nut	7/16”-20	30-45
	Grease Fitting	1/8” NPT	10
	Cross Tube Clamp Nut	5/8”-11	60-80
	Stop Screw Lock/Jam Nut	1/2”-13	50-75

NOTE

Torque values in Table 2 do not apply to air springs or lower grade fasteners.

Table 2, Cap screw/bolt (Grade 8 UNF) Torque Requirements **

Table 2

Cap screw/bolt Size	3/8”	1/2”	5/8”	3/4”	3/4" (Stabilizer Shock Stud)	7/8”	1”	1 1/8”
Torque minimum ft./lbs.	25	50	150	300	200	500	700	900
Torque maximum ft./lbs.	35	75	200	350	250	550	800	1000

**Torque values shown apply only to W&C supplied fasteners. If other fasteners are used, follow torque specifications listed in vehicle manufacturer’s service manual.

U-bolt Torque Instructions

To re-torque U-bolts: See Table 3

1. Partially tighten bolts #1 and #2 according to figure 11.
2. Partially tighten bolts #3 and #4.

Using the same sequence, torque to the proper torque as specified below.

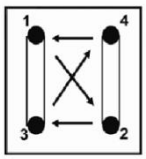


FIG – 11 U-Bolt Torque Pattern

U-Bolt (Non-Plated Clean Lubricated Thread) Torque Requirements.

Table 3

UNF Grade 8 Size	3/8”	1/2”	5/8”	3/4”	7/8”	1”	1 1/8”
U Bolt minimum ft./lbs.	15	40	120	200	400	650	800
U Bolt maximum ft./lbs.	20	60	150	250	450	750	900

Airspring Torque Requirements.

Table 4

Size	Description	Max Torque Requirement (ft. /lbs.)
3/8”	UNC Blind Nuts	50
1/2”	UNC Bolt or Stud	25
3/4”	UNC Stud	55
3/4”	UNF Combo Stud	50

Airspring Air Fitting Torque Requirements.

Table 5

Size	Max Torque Requirement (ft. /lbs.)
1/4” NPTF	50
1/2” NPTF	25
3/4” NPTF	55

6. Air Pressure vs. Load Guide

The following tables describe the proper air pressure settings and run heights for each SL series model number.

SL2065 Series Pressure Chart

Table 6

Indicates target Ride Height for this tabulation

		6000	8000	10000	12000	14000	16000	17000	18000	19000	20000	Output at Ground
Model number	**Ride Height**	PSI required to achieve Output at Ground										
SL2065-10	8	18	27	35	44	52	61	65	70	74	78	
	9.25	19	28	37	46	55	65	69	74	78	83	
	10.5	20	30	40	49	59	68	73	78	83	88	
SL2065-11	9	18	27	35	44	52	61	65	70	74	78	
	10.25	19	28	37	46	55	65	69	74	78	83	
	11.5	20	30	40	49	59	68	73	78	83	88	
SL2065-12	10	18	27	35	44	52	61	65	70	74	78	
	11.25	19	28	37	46	55	65	69	74	78	83	
	12.5	20	30	40	49	59	68	73	78	83	88	
SL2065-13	11	18	27	35	44	52	61	65	70	74	78	
	12.25	19	28	37	46	55	65	69	74	78	83	
	13.5	20	30	40	49	59	68	73	78	83	88	

Some capacities shown may not be best suited for the suspension based on too much brake force for the applied load. Therefore, braking capacity may have to be downsized to accommodate.

Pressure requirements are approximations and will need to be calibrated on a weigh scale capable of handling the Output at Ground forces in the above chart.

Weight of the axle, hubs and drums based on 385/65R22.5 tires, steel wheels, and cast hubs and drums ----------1800

7. Parts List

The following section shows the exploded view of the SL2065 series lift axle. This view and corresponding parts list in the following table is intended to help you identify parts and part numbers that may need to be replaced.

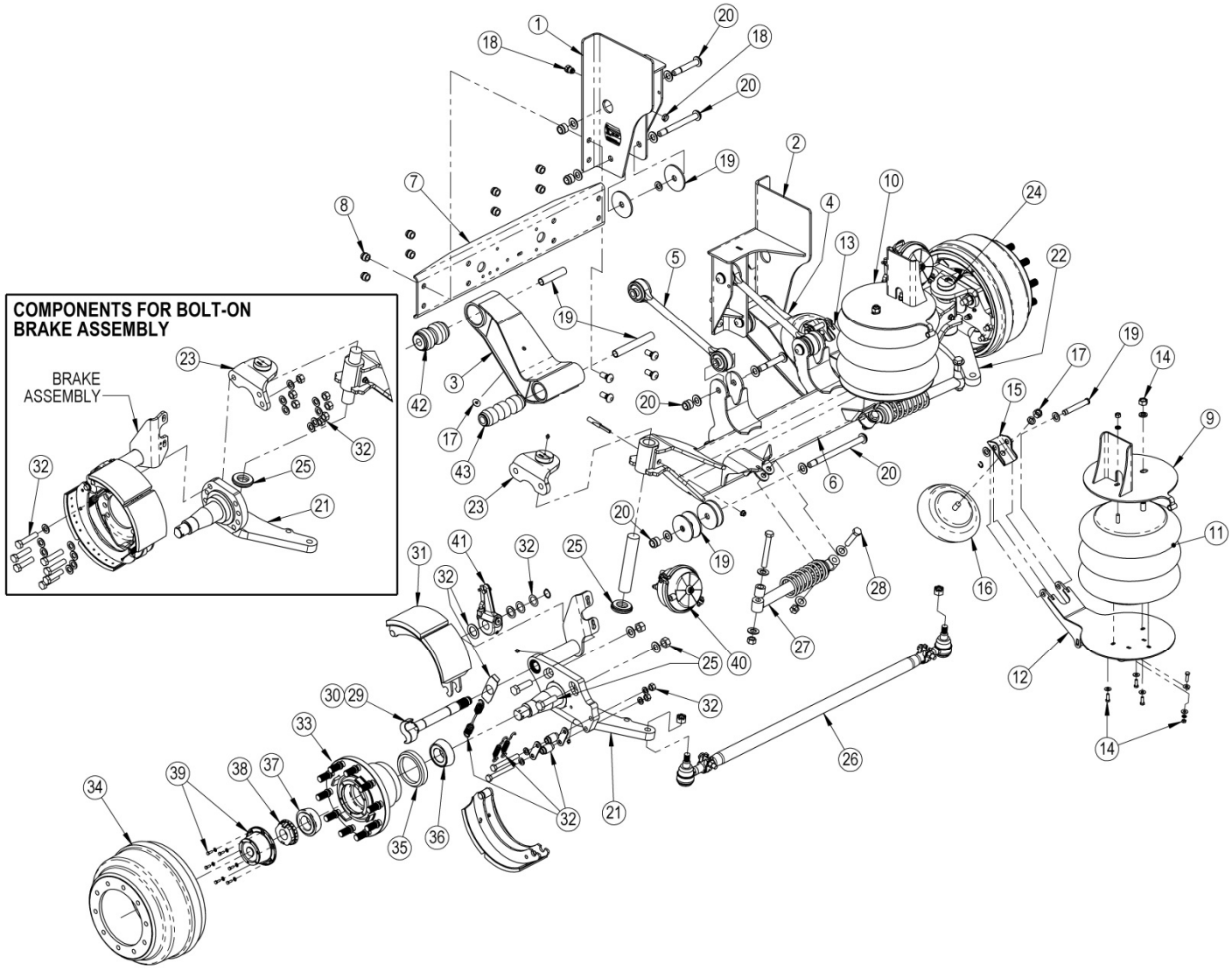


FIG - 12 - SL2065 Exploded View

ITEM NO.	QTY	PART NO.	DESCRIPTION
1	1	CHART 1	HANGER ASSEMBLY L.H.
2	1	CHART 1	HANGER ASSEMBLY R.H.
3	1	930274-10	ARM ASSY LH
4	1	930274-20	ARM ASSY RH
5	2	17832	TORQUE ROD
6	1	160131	AXLE ASSEMBLY
7	1	CHART 2	CROSSMEMBER
8	1	HPCM16093	CROSSMEMBER HARDWARE PACK
9	1	CHART	UPPER BAG PLATE LH
10	1	CHART	UPPER BAG PLATE RH
11	2	AS0222	AIR SPRING LOAD
12	1	CHART 3	LOWER BAG PLATE LH
13	1	CHART 3	LOWER BAG PLATE RH
14	1	HPLD2055	AIRBAG HARDWARE PACK (LOAD)
15	2	50193-01	LIFT BAG PLATE
16	2	AS0058C	AIR SPRING LIFT (6897)
17	1	HPLT16085	LIFT BAG HARDWARE PACK
18	1	CHART 4	LIFT BAG PLUMBING KIT/HARDWARE
19	1	CHART 2	SL2055 COMMON PVT HDWE
20	1	HPPT16094	PIVOT CONNECTION PACK
21	1	011707-1	BACKBONE LH 20K (INT. BRAKE)
		012137-1	BACKBONE LH 20K (BOLT-ON BRAKE)
22	1	011707-2	BACKBONE RH 20K (INT. BRAKE)
		012137-2	BACKBONE RH 20K (BOLT-ON BRAKE)
23	1	009957	UPPER KINGPIN ASSY LH (INT. BRAKE)
		011918-1	UPPER KINGPIN ASSY LH (BOLT-ON BRAKE)
24	1	009957	UPPER KINGPIN ASSY RH (INT. BRAKE)
		011918-2	UPPER KINGPIN ASSY LH (BOLT-ON BRAKE)
25	1	HPKN20KF	KNUCKLE HARDWARE KIT (INT. BRAKE)
	2	T1822SGX	THRUST BEARING (BOLT-ON BRAKE)
26	1	990188-06	TIE ROD ASSY
27	2	11418	SHOCK STEERING STABILIZER
28	1	HPSS2065	SL2065 STEER STABILIZER HARDWARE
29	1	006703-1L	S-CAM LH (SHOWN) (INT. BRAKE ONLY)
30	1	006703-1R	S-CAM RH (INT. BRAKE ONLY)
31	4	010113	BRAKE SHOE (INT. BRAKE ONLY)

32	1	HPBH20KF	BRAKE HARDWARE KIT (INT. BRAKE)
		HPBH20KF-01	BRAKE HARDWARE KIT (BOLT-ON BRAKE)
33	2	REF. ONLY	HUB ASSEMBLY
34	2	REF. ONLY	BRAKE DRUM
35	2	REF. ONLY	SEAL
36	2	REF. ONLY	INNER BEARING
37	2	REF. ONLY	OUTER BEARING
38	2	REF. ONLY	SPINDLE NUT
39	2	REF. ONLY	HUB CAP
40	2	REF. ONLY	BRAKE CHAMBER
41	2	REF. ONLY	SLACK ADJUSTER
42	2	10050	TRAILING ARM BUSHING, FRONT
43	2	11938-91	TRAILING ARM BUSHING, REAR

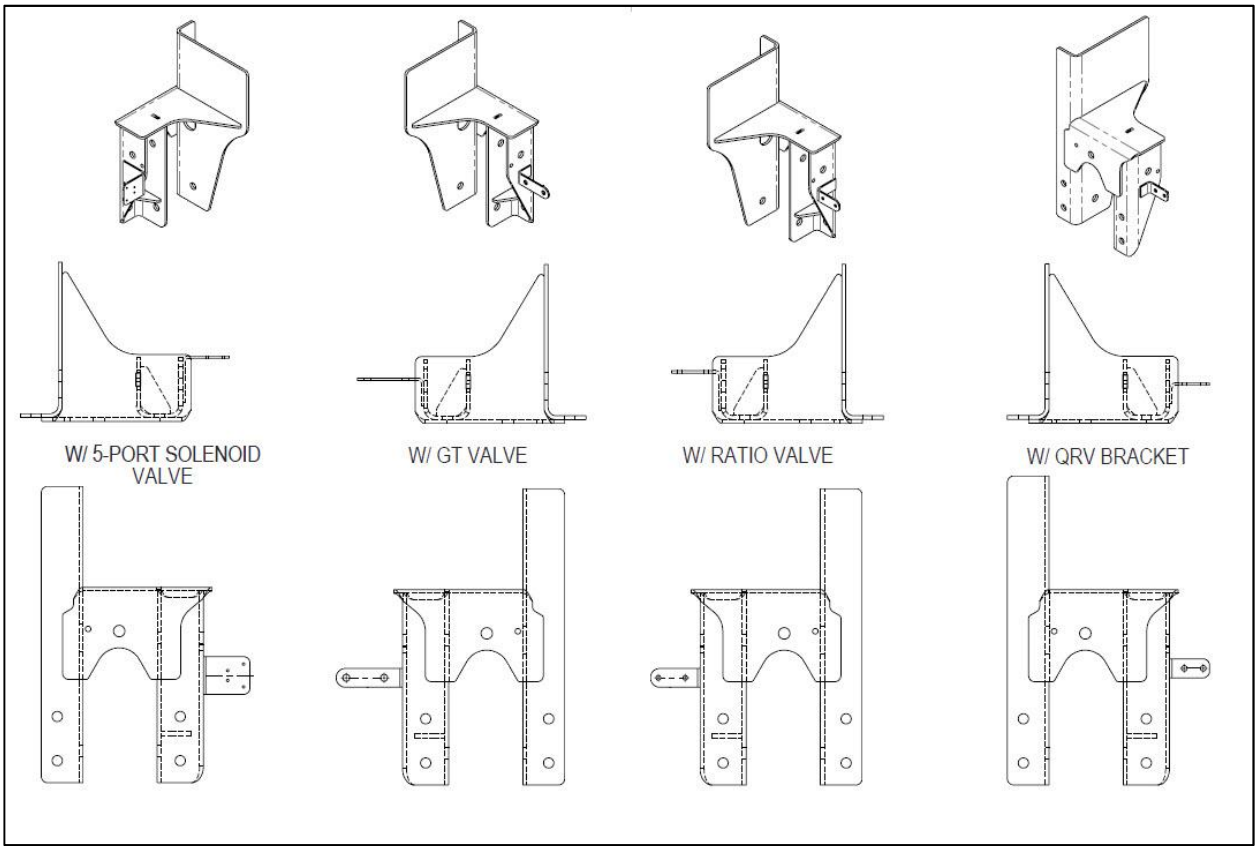
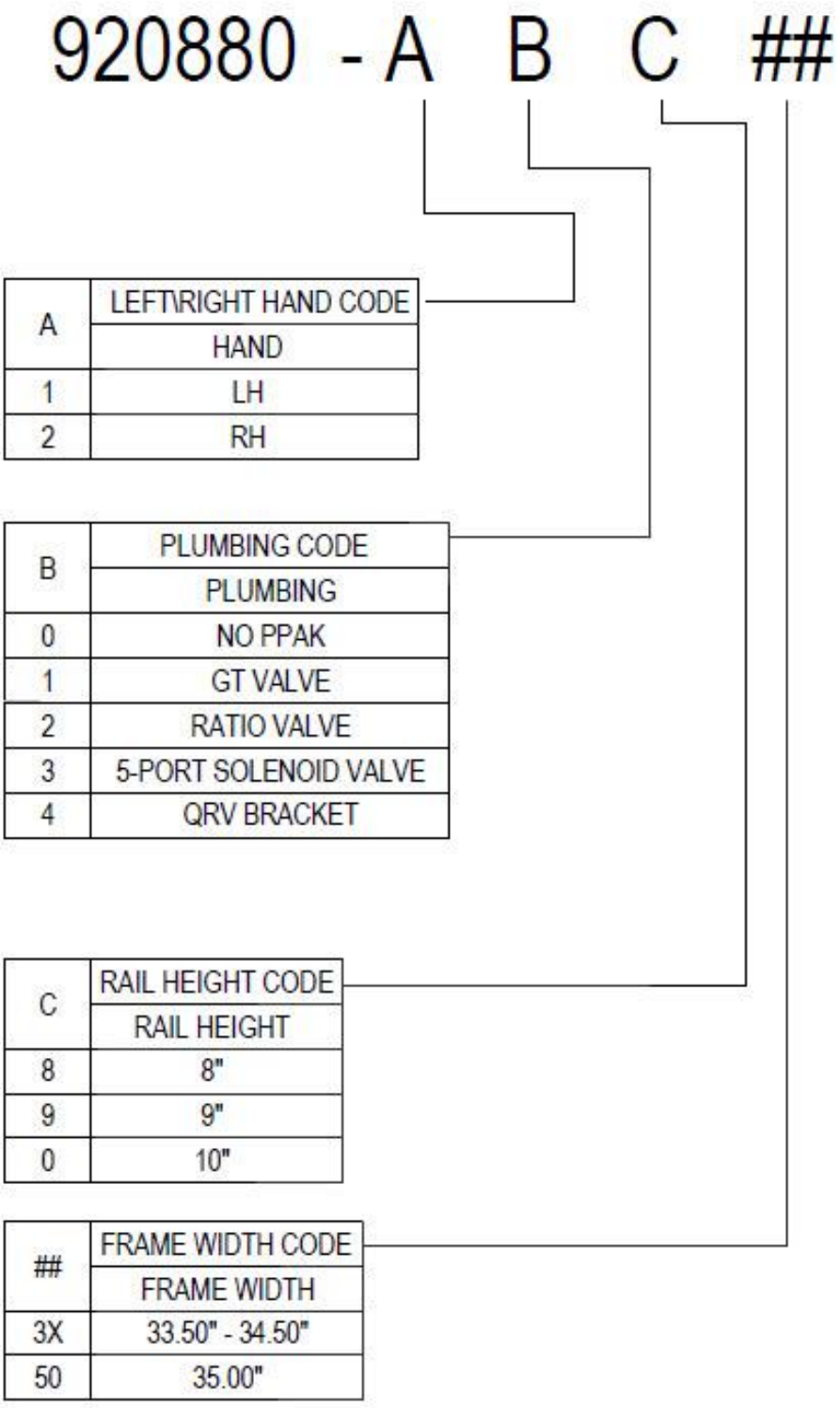


FIG - 13 - SL2065 Hanger Configurations View



A	LEFT\RIGHT HAND CODE
	HAND
1	LH
2	RH

B	PLUMBING CODE
	PLUMBING
0	NO PPAK
1	GT VALVE
2	RATIO VALVE
3	5-PORT SOLENOID VALVE
4	QRV BRACKET

C	RAIL HEIGHT CODE
	RAIL HEIGHT
8	8"
9	9"
0	10"

##	FRAME WIDTH CODE
	FRAME WIDTH
3X	33.50" - 34.50"
50	35.00"

CHART 1 - SL2065 Hanger Configurations Chart

BB	FRAME WIDTH CODE				
	FRAME WIDTH	ITEM #1	ITEM #2	ITEM #7	ITEM #19
35	33.50	920880-1XX	920880-2XX	91841-01	HPPT2055EX
40	34.00			91841	
45	34.50			91841-02	
50	35.00	920880-1XX35	920880-2XX35	91841-03	HPPT2055EX.35

CHART 2 - SL2065 Frame Width Chart

CC	SIDE RAIL HEIGHT CODE				
	SIDE RAIL HEIGHT	ITEM #1	ITEM #2	ITEM #9	ITEM #10
A	8.00	920880-1X8##	920880-2X8##	950262-10	950262-20
B	9.00	920880-1X9##	920880-2X9##	950262-12	950262-22
C	10.00	920880-1X0##	920880-2X0##	950262-13	950262-23

CHART 3 - SL2065 Side Rail Height Chart

AA	RUN HEIGHT CODE				
	MODEL NUMBER	DWG NUMBER	ITEM #12	ITEM #13	ITEM #18
10	SL2065XX X-10	SL2065-2	950310-12	950310-22	HPLT021
11	SL2065XX X-11	SL2065-3	950310-13	950310-23	HPLT023
12	SL2065XX X-12	SL2065-4	950310-14	950310-24	HPLT024
13	SL2065XX X-13	SL2065-5	950310-15	950310-25	HPLT024

CHART 4 - SL2065 Run Height Chart

8. Service Kits

Torque Rod Kit

SRK2055-1 – Torque Rod Kit. Contains parts for 2 torque rods.

QTY	PART NO.	DESCRIPTION
8	17010	WASHER FLAT .88X1.5
4	11457	NUT LOCK .88-14 GRC
4	17238-5	CAPSCREW .87 X 5.00
2	17832	TORQUE ROD 20K TT HOLLOW BALL P00-0230

SRK2055-1-01 – Torque Rod Kit. Contains parts for 1 torque rod.

QTY	PART NO.	DESCRIPTION
4	17010	WASHER FLAT .88X1.5
2	11457	NUT LOCK .88-14 GRC
2	17238-5	CAPSCREW .87 X 5.00
1	17832	TORQUE ROD 20K TT HOLLOW BALL P00-0230

Bushing Kit

SRK2055-2 – Trailing Arm Bushing Kit. Contains parts for 2 trailing arms.

QTY	PART NO.	DESCRIPTION
2	10050	TRAILING ARM BUSHING, FRONT
2	11938-91	TRAILING ARM BUSHING, REAR
4	11457	NUT LOCK .88-14 GRC
8	17010	WASHER FLAT .88X1.5
2	17238-8	CAPSCREW .87 X 8.00 UNF
2	17238-11.5	CAPSCREW .87 X 11.50 UNF
2	19721-05	DELRIN LINER 1.13X5.00"
12	11222-02	WASHER FLAT .91X4.25X.25

Kingpin Kits

SRK107 – (With kingpin) Contains parts for 1 side of axle.

QTY	PART NO.	DESCRIPTION
2	11448	GREASE FITTING
1	7X1002	DRAW KEY
1	143699-0062	NUT - LOCK PIN
2	R-004725	KING PIN BUSHING
2	R-002593	KING PIN SEAL
1	19690-006	KING PIN
3	19690-014	SHIM
1	T1822SGX	THRUST BEARING

SRK107-01 – (Less kingpin) Contains parts for 1 side of axle

QTY	PART NO.	DESCRIPTION
2	11448	GREASE FITTING
1	7X1002	DRAW KEY
1	143699-0062	NUT - LOCK PIN
2	R-004725	KING PIN BUSHING
2	R-002593	KING PIN SEAL
3	19690-014	SHIM
1	T1822SGX	THRUST BEARING

R-010300 – (With Kingpins) – Same as SRK107, only this kit contains upper/lower castings with bushings pressed in. Contains parts for 1 complete axle.

R-010300-1 – (Less Kingpins) – Same as SRK107-01, only this kit contains upper/lower castings with bushings pressed in. Contains parts for 1 complete axle.

9. Quick-change Ride Height

The SL2065 suspension series is equipped with the W&C quick-change ride height system. The lower bag plate spacers are easily removed to change to a different height spacer, which changes the run height range of the suspension. The basic procedure is shown below.

WARNING

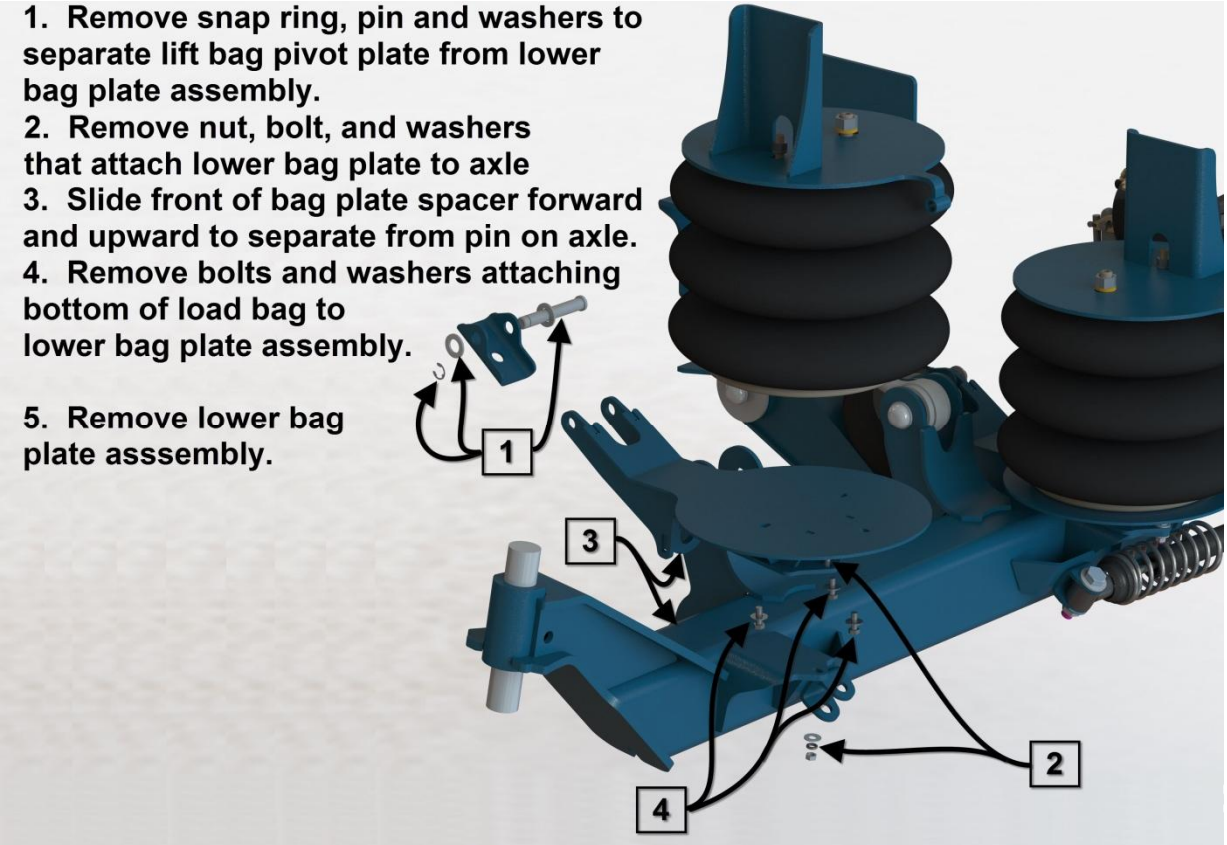
Lift axle activation and movement may vary depending on the brand, configuration, and operating condition of the lift axle control system and/or other factors. Read, understand, and comply with all applicable operating instructions and safety information provided by the lift axle control system manufacturer and vehicle manufacturer.

WARNING

Ensure all personnel are clear of lift axle before and during vehicle loading and lift axle activation up or down.

WARNING

Exhaust all pressure in lift axle air springs and vehicle air system before working on or around lift axle. Failure to do so can cause severe personal injury or death.



10. Preventive Maintenance

Daily/Pre-trip Operator Inspection

Daily or before each trip, inspect lift axle and all adjacent components for proper operating condition. Identify and repair any loose or damaged components.

NOTE

Replace any safely decals that are faded, torn, missing, illegible, or otherwise damaged. Contact Watson & Chalin to order replacement labels.

General Inspection

Following appropriate inspection procedures is important to help ensure the proper maintenance and operation of the suspension system and component parts function to their highest efficiency.

Fasteners — Inspect for any loose or damaged fasteners on the entire lift axle suspension. Make sure all fasteners are tightened to the specified torque. Refer to Torque Requirement Procedures if fasteners are supplied by W&C. For non-W&C fasteners, refer to the vehicle manufacturer's specifications. Use a calibrated torque wrench to check torque in a tightening direction. As soon as the fastener starts to move, record the torque value. Correct the torque if necessary. Replace any worn or damaged fasteners.

Air springs —Visually Inspect suspension for debris rubbing against air springs or chaffing. Clear debris and/or replace as necessary.

Brake Components – Visually inspect for damage to any components and to ensure all mounting fasteners are tight and properly aligned. Brake adjustment should be checked weekly. Brake operational check interval and component inspection interval with drum removed should never exceed 3 months of service. All brake service should be performed according to the brake manufacturer's specifications or TMC Recommended Practices.

Air Plumbing and Components – Visually inspect for damage to any components, loose fasteners or kinked or rubbing air lines.

Recommended Practices

Watson & Chalin, Mfg. encourages all maintenance professionals to refer to TMC Recommended Practices (RP's) that pertain to vehicle suspensions and their components. The following are some of the referenced recommended practices (current revision designations not shown):

RP607 – Preventive Maintenance and Inspection of S-Cam Foundation Brakes
RP609 – Self-adjusting and Manual Brake Adjuster Removal, Installation, and Maintenance
RP618 – Wheel Bearing Adjustment Procedures
RP622 – Wheel Seal and Bearing Removal, Installation and Maintenance
RP631 – Recommendations for Wheel-end Lubrication
RP640 – Alternate Wheel Bearing Adjustment Systems
RP645 – Tie Rod Inspection and Maintenance Procedure
RP651 – Steer Axle Maintenance Guidelines
RP652 – Service and Inspection of Air Disc Brakes

Recommended Maintenance Intervals

Note: The following intervals are recommended minimums based on harsh service applications (Logging, oil field, construction, heavy haul, residential refuse). Severe applications will require more aggressive maintenance intervals.

COMPONENT	INITIAL BREAK-IN	INTERVALS AFTER INITIAL BREAK-IN	PROCEDURE
Wheel Bearings	5,000 mi.	8,000 mi. or every 2 months, whichever comes first	Check for excessive endplay at wheel-end (criteria is between 0.001" and 0.005") adjust as required; grease or oil
Tie Rod Ends		10,000 mi. or monthly, whichever comes first	Verify torque, inspect for leaking or damaged boots; grease
Kingpin Bushings		10,000 mi. or 6 months, whichever comes first	Check for wear; grease
Pivot Connections		5,000 mi. or as needed, whichever comes first	Verify torque
Stabilizer shocks			Verify torque, Check for oil leaks and adequate return
Brake Camshafts and adjusters		During normal chassis lubrication or 3 months whichever comes first.	Check for wear and excessive movement, verify adjustments; grease. (ref. manufacturer's documentation for service specifics)

Recommended Lubrication Specifications

COMPONENT	PROCEDURE
Kingpins	NLGI-1 or NLGI-2 grease
Tie Rod Ends	NLGI-1 or NLGI-2 grease
Wheel Bearings	NLGI-1 or NLGI-2 grease; GL-5 gear lubricant; NLGI-00 Semi-fluid grease. (Reference original spec)
Brake Camshafts, anchor pins, roller journals, and adjusters	NLGI-1 or NLGI-2 grease