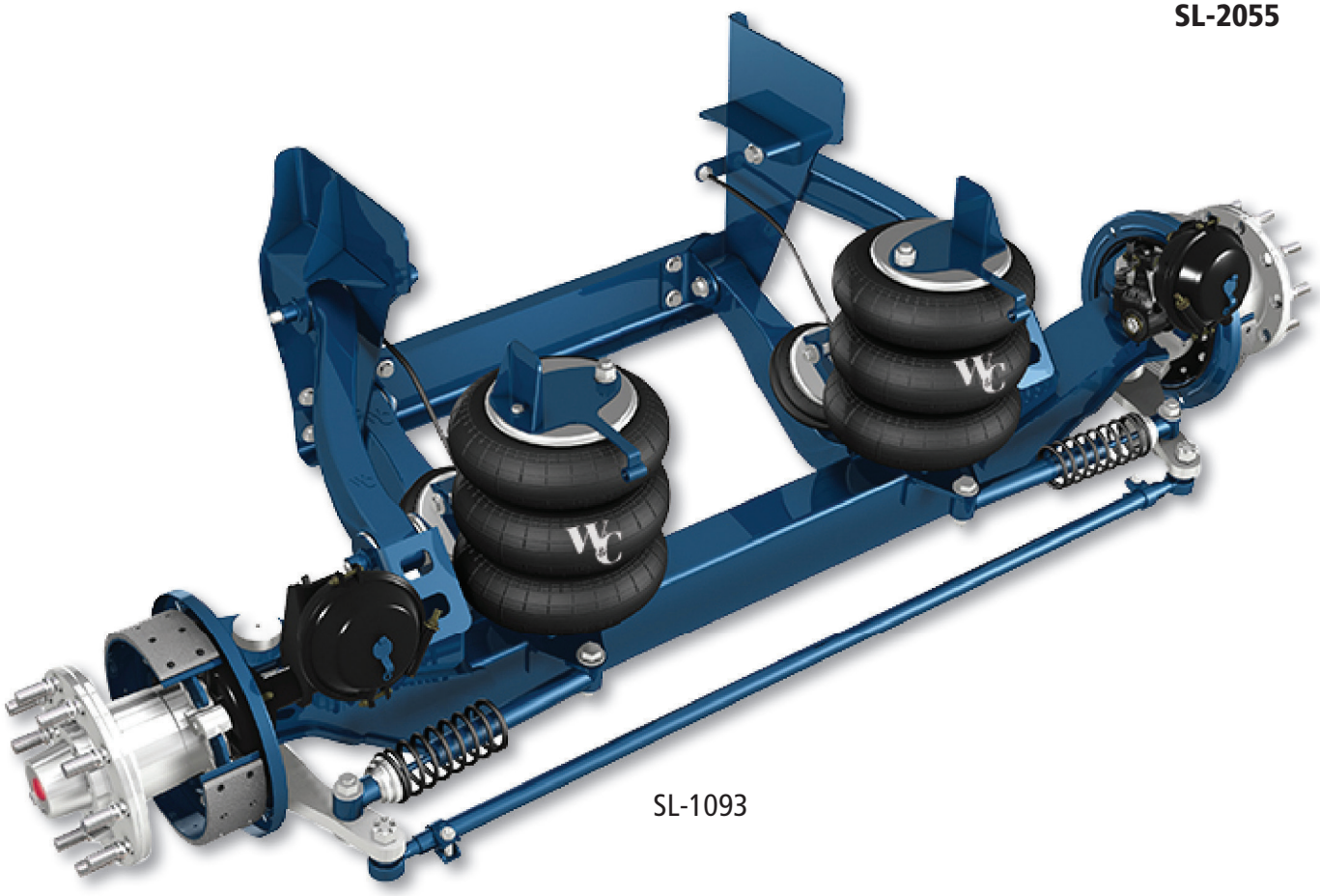
INSTALLATION AND OPERATION MANUAL

STEERABLE LIFT AXLE SYSTEMS

SL SERIES

SL-089X
SL-1093
SL-1190
SL-2055



SL-1093

Delivering Suspension Solutions

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Literature # W&C138

REV 2/17/2012

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-089X
SL-1093
SL-1190
SL-2055

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.

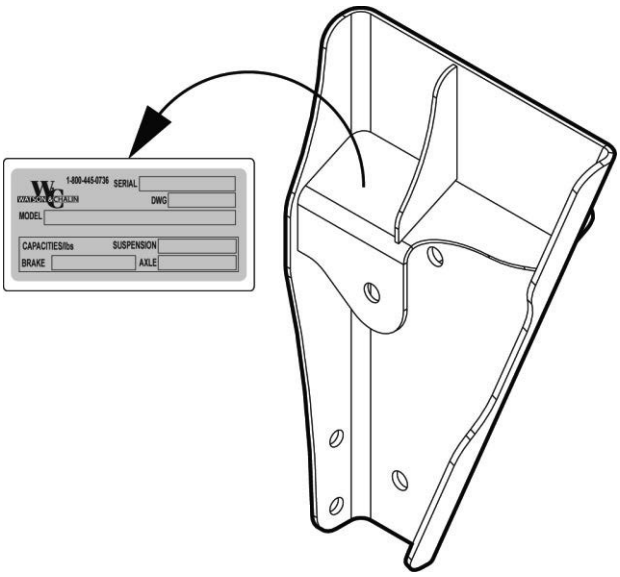


FIG – 1 Identification Plate

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 = _____

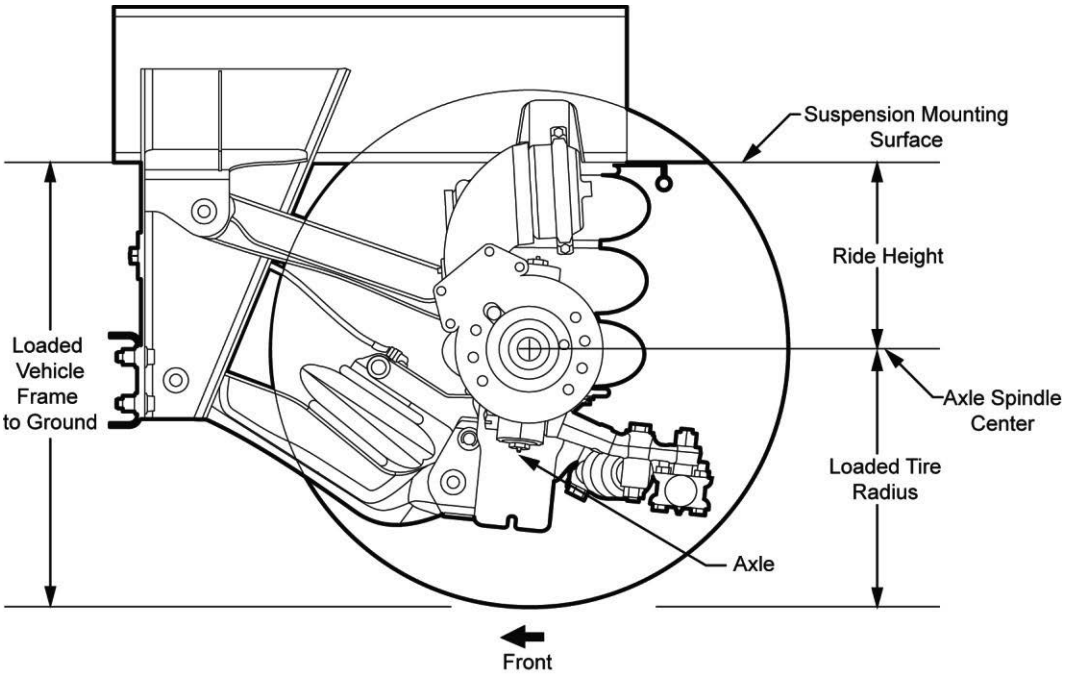


FIG – 2 Ride Height

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.
- If you had the vehicle frame predrilled for mounting the SL series axle prior to purchase, make sure to align to these bolt positions.
- Also remember to remove the associated bolts from the frame prior to axle alignment and installation.

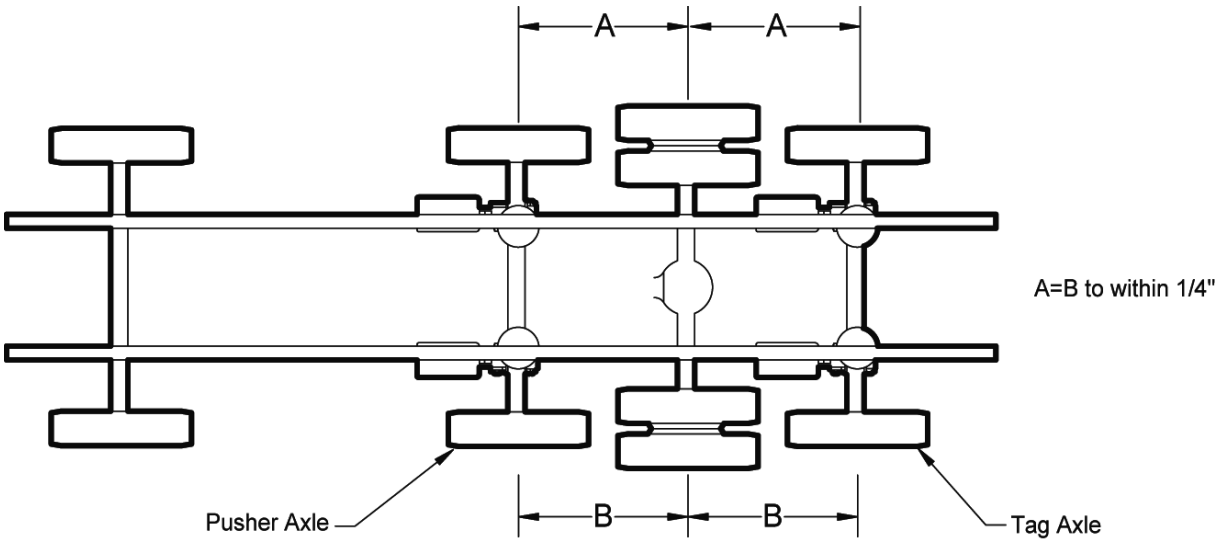


FIG – 3 Pusher and Tag Axle Alignment

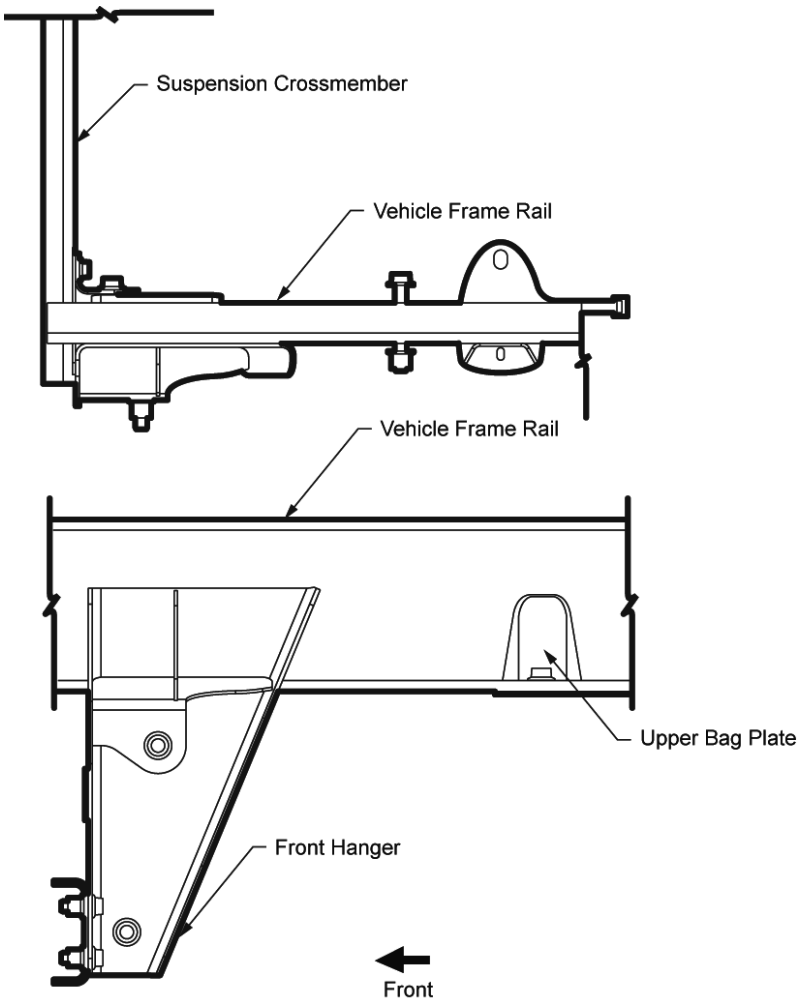
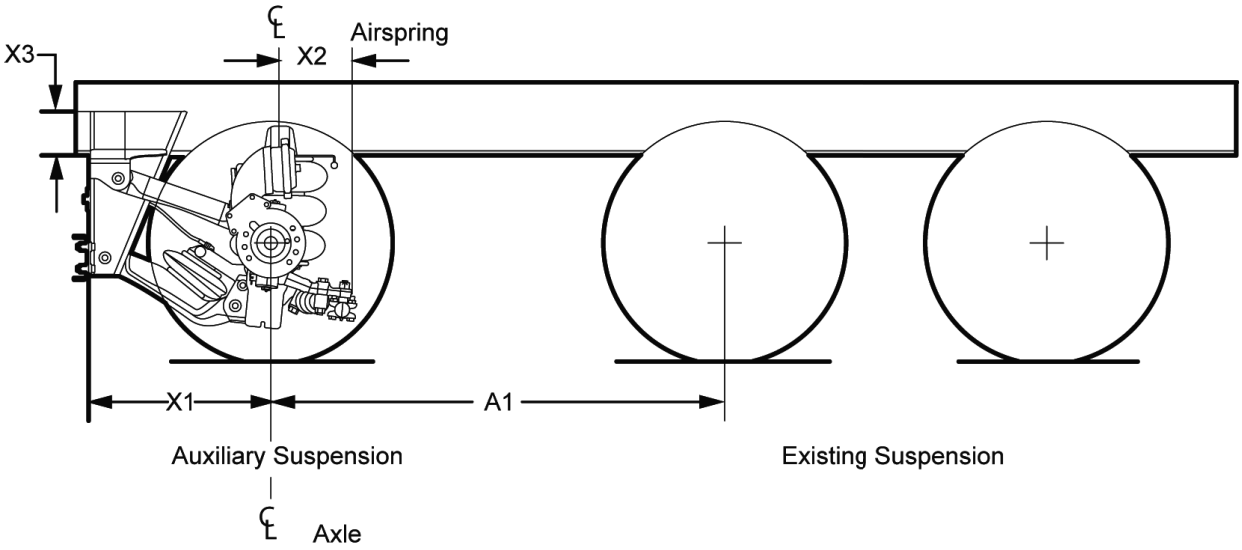


FIG – 4 Chassis Crossmember Reinforcement

NOTE

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

To mount the suspension to the vehicle:



A_1 = Dimension of axle location (customer supplied).

X_1 = Axle center line to suspension front dimension (located on suspension assembly drawing).

X_2 = Axle center line to rear of stabilizer shock dimension.

X_3 = Bottom of chassis frame to top of side rail.

Front

FIG – 5 Suspension Mounting

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.

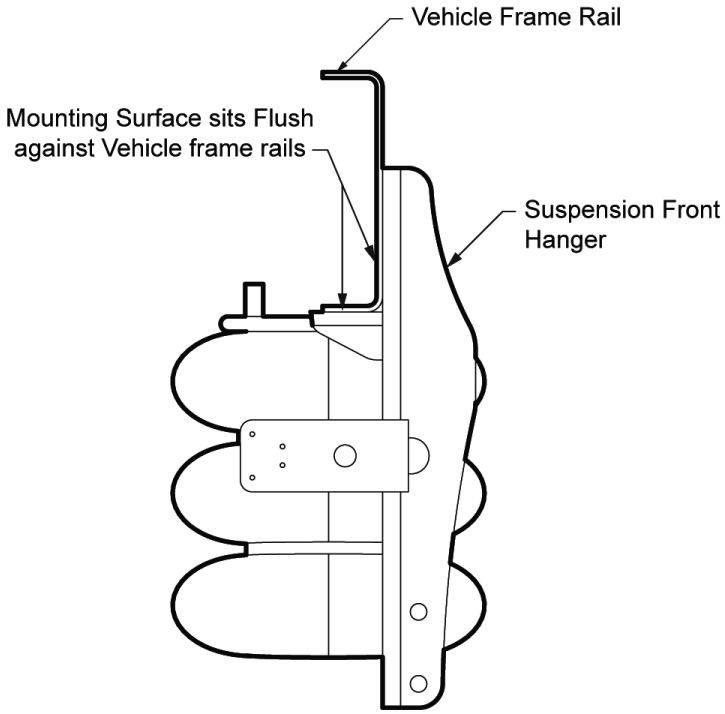


FIG – 6 Frame Alignment

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

5/8" SAE Grade 8 UNF fasteners for the SL089X and SL1093, and 3/4" SAE Grade 8 UNF fasteners for the SL1190 and SL2055 suspensions.

11. Drill two holes (21/32" diameter for 5/8" fastener, 13/16" diameter for 3/4" fastener) 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 furnished 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 one 21/32" diameter holes through the upper air spring mounting brackets and chassis frame.

16. Fasten each bag plate assembly with 5/8" SAE grade 8 UNF fine thread cap screws, flat washers and lock nuts as seen in figure 7.

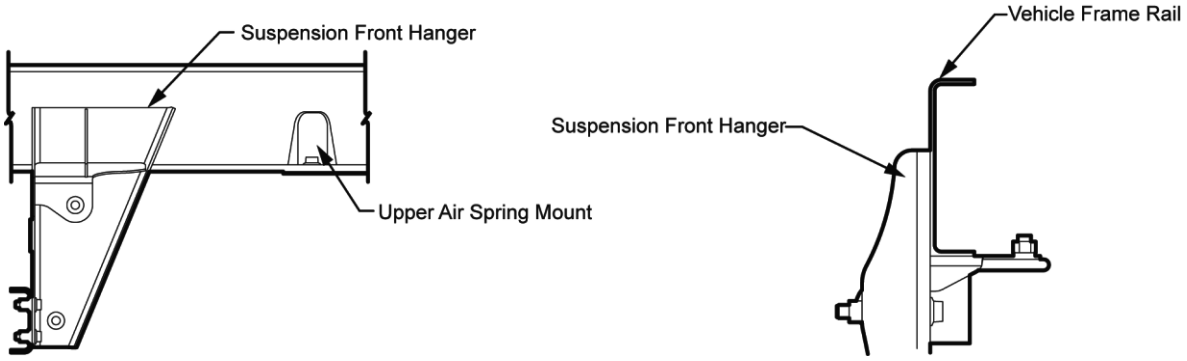


FIG – 7 Recommended Fastening Method

17. Check the front hanger for proper arm centers.

18. Align the crossmember with side rail.

NOTE

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

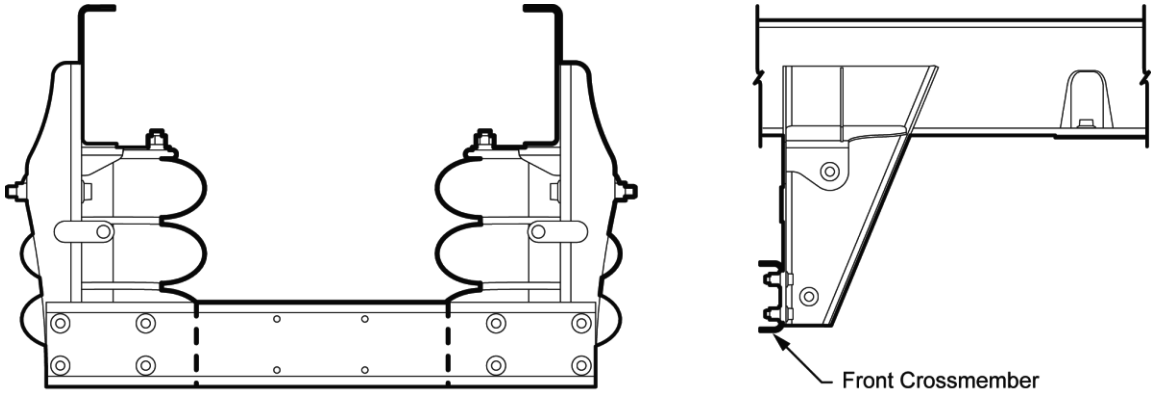


FIG – 8 Front Lower Crossmember

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

20. 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 SL Series suspension systems in order to obtain proper clearance.

NOTE

SL 089X, SL 1093, SL 1190 Suspensions have permanent Non-Adjustable Stops.

To adjust the maximum Turn Angle:

1. Measure the current Turn Angle.

2. The maximum turn angle for SL Series models is normally set at the maximum 25º. Some suspensions may require less turn angle.

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

4. To obtain the maximum Turn Angle:

   a. Loosen the stop bolt jam nut as seen in figure 9.

   b. Adjust the turn angle by adjusting the stop bolt in or out.

   c. Tighten the jam nut to 65-85 lbs. /ft.

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.

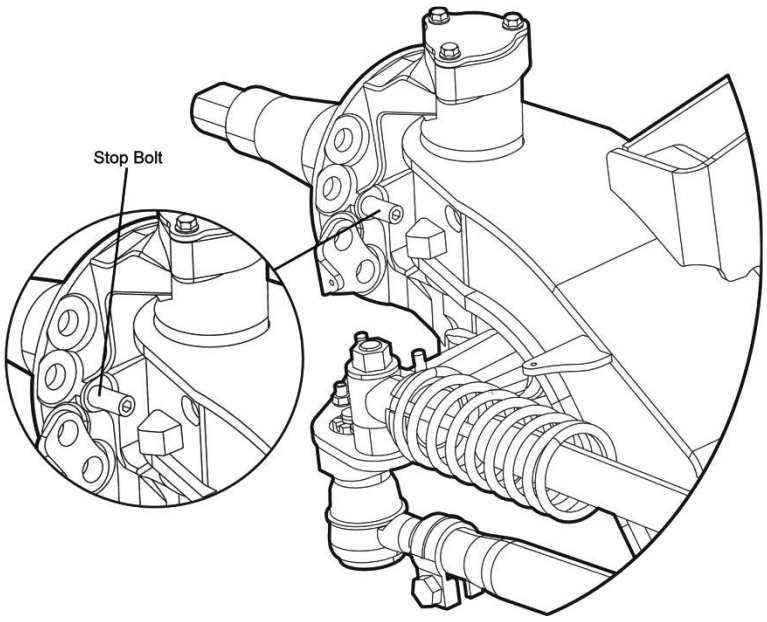


FIG – 9 Stop Bolt Location

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.

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.

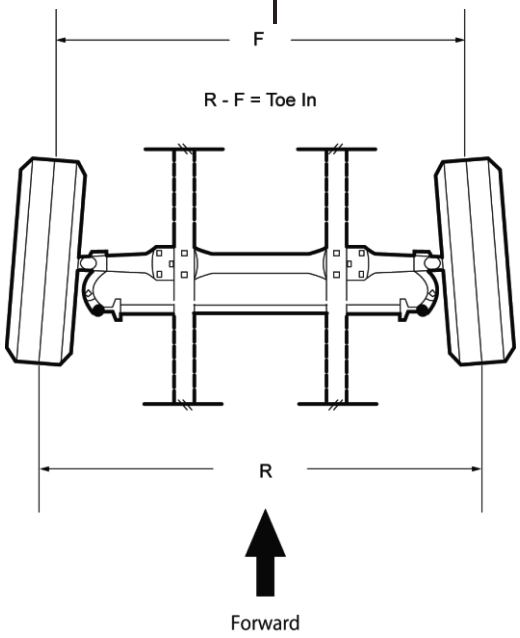


FIG – 10 Toe-in

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.

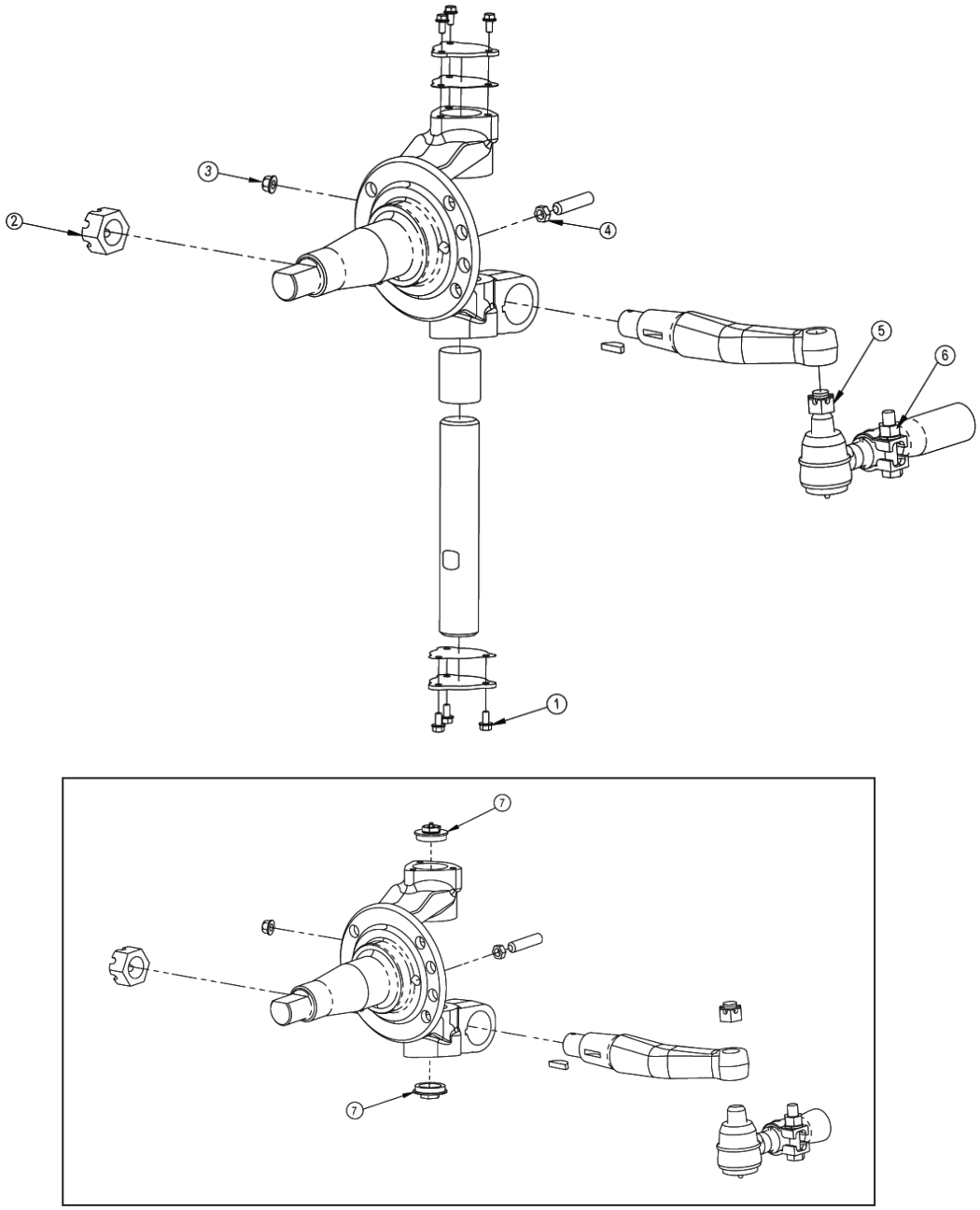


FIG – 11 Knuckle Component Torque Illustrations. See Table 1 for Torque Values

Torque Guidelines

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

Table 1

Item #	Description	Size	Torque Range (lb.-ft.)
1	Knuckle Cap screw	5/16"–18	20–30
2	Tie Rod Arm to Knuckle Nut	7/8"–14	160–300
		1"–14	390–725
		1 1/8"–12	550–1025
		1 1/4"–12	775–1450
3	Draw Key Nut	7/16"-20	30-45
4	Stop Screw Lock/Jam Nut	5/8"–18	65-85
5	Tie Rod Arm to Tie Rod End Nut	7/8"–14	250-450
6	Cross Tube Clamp Nut	5/8"–11	40–60
		3/4"-10	155-175
7	Threaded Knuckle Cap	1 5/8"-20	70-90
		2"-20	

NOTE

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

Torque Requirement Procedures

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

- After 30 days
- Every 6 months thereafter

Table 2, Suspension Capscrew/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

U-bolt Torque Instructions

To re-torque U-bolts: See Table 3

1. Partially tighten bolts #1 and #2 according to figure 12.
2. Partially tighten bolts #3 and #4.

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

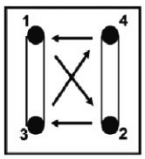


FIG – 12 U-Bolt Torque Pattern

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 Capscrew Torque Requirements.

Table 4

Size	Description	Max Torque Requirement (ft. /lbs.)
3/8”	UNC Blind Nuts	15-20
1/2”	UNC Bolt or Stud	25
3/4”	UNC Stud	55
3/4”	UNF Combo Stud	50

6. Air Pressure vs. Load Guide

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

SL-0890 Series

Table 6

Indicates target Ride Height for this tabulation

		2000	3000	4000	5000	6000	7000	8000	Output at Ground
Drawing number	**Ride Height**	PSI required to achieve Output at Ground							
100401-1	13.00	11	19	27	35	43	52	60	
	14.00	12	20	29	38	47	56	65	
	15.00	13	23	33	43	53	62	72	
100401-2	14.00	11	19	27	35	43	52	60	
	15.00	12	20	29	38	47	56	65	
	16.00	13	23	33	43	53	62	72	
100401-3	15.00	11	19	27	35	43	52	60	
	16.00	12	20	29	38	47	56	65	
	17.00	13	23	33	43	53	62	72	
100401-4	16.00	11	19	27	35	43	52	60	
	17.00	12	20	29	38	47	56	65	
	18.00	13	23	33	43	53	62	72	
100401-5	17.00	11	19	27	35	43	52	60	
	18.00	12	20	29	38	47	56	65	
	19.00	13	23	33	43	53	62	72	

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 215/75R 17.5 tires, steel wheels, and cast hubs and drums ----------700

SL-0893 Series

Table 7

Indicates target Ride Height for this tabulation

		2000	3000	4000	5000	6000	7000	8000	Output at Ground
Drawing number	**Ride Height**	PSI required to achieve Output at Ground							
100351-1	11.00	11	19	27	35	43	52	60	
	12.00	12	20	29	38	47	56	65	
	13.00	13	23	33	43	53	62	72	
100351-2	12.00	11	19	27	35	43	52	60	
	13.00	12	20	29	38	47	56	65	
	14.00	13	23	33	43	53	62	72	
100351-3	13.00	11	19	27	35	43	52	60	
	14.00	12	20	29	38	47	56	65	
	15.00	13	23	33	43	53	62	72	
100351-4	14.00	11	19	27	35	43	52	60	
	15.00	12	20	29	38	47	56	65	
	16.00	13	23	33	43	53	62	72	
100351-5	15.00	11	19	27	35	43	52	60	
	16.00	12	20	29	38	47	56	65	
	17.00	13	23	33	43	53	62	72	

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 215/75R 17.5 tires, steel wheels, and cast hubs and drums ----------700

SL-1093 Series

Table 8

Indicates target Ride Height for this tabulation

Drawing number	Ride Height	2000	3000	4000	5000	6000	7000	8000	9000	10000	Output at Ground
		PSI required to achieve Output at Ground									
SL1093-13	11.00	9	17	25	34	42	50	58	66	74	
	12.00	10	19	28	36	45	54	63	72	81	
	13.00	11	21	31	41	51	60	70	80	90	
SL1093-14	12.00	9	17	25	34	42	50	58	66	74	
	13.00	10	19	28	36	45	54	63	72	81	
	14.00	11	21	31	41	51	60	70	80	90	
SL1093-15	13.00	9	17	25	34	42	50	58	66	74	
	14.00	10	19	28	36	45	54	63	72	81	
	15.00	11	21	31	41	51	60	70	80	90	
SL1093-16	14.00	9	17	25	34	42	50	58	66	74	
	15.00	10	19	28	36	45	54	63	72	81	
	16.00	11	21	31	41	51	60	70	80	90	
SL1093-17	15.00	9	17	25	34	42	50	58	66	74	
	16.00	10	19	28	36	45	54	63	72	81	
	17.00	11	21	31	41	51	60	70	80	90	

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 245/70R 19.5 tires, steel wheels, and cast hubs and drums ----------900

SL-1190 Series

Table 9

Indicates target Ride Height for this tabulation

		5000	6000	7000	8000	9000	10000	11000	12000	13000	Output at Ground
Drawing number	**Ride Height**	PSI required to achieve Output at Ground									
100390-1	7.00	28	35	42	49	57	64	71	78	85	
	9.00	32	40	48	56	65	73	81	89	97	
	11.00	39	49	58	68	78	88	98	108	118	
100390-2	8.00	28	35	42	49	57	64	71	78	85	
	10.00	32	40	48	56	65	73	81	89	97	
	12.00	39	49	58	68	78	88	98	108	118	
100390-3	9.00	28	35	42	49	57	64	71	78	85	
	11.00	32	40	48	56	65	73	81	89	97	
	13.00	39	49	58	68	78	88	98	108	118	
100390-4	10.00	28	35	42	49	57	64	71	78	85	
	12.00	32	40	48	56	65	73	81	89	97	
	14.00	39	49	58	68	78	88	98	108	118	
100390-5	11.00	28	35	42	49	57	64	71	78	85	
	13.00	32	40	48	56	65	73	81	89	97	
	15.00	39	49	58	68	78	88	98	108	118	

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 11R22.5 tires, steel wheels, and cast hubs and drums ----------1100

SL-2055 Series

Table 10

Indicates target Ride Height for this tabulation

		11000	12000	13000	14000	15000	16000	17000	18000	19000	20000	Output at Ground
Model number	**Ride Height**	PSI required to achieve Output at Ground										
SL2055-10	8	40	44	48	52	57	61	65	70	74	78	
	9.25	42	46	51	55	60	65	69	74	78	83	
	10.5	44	49	54	59	64	68	73	78	83	88	
SL2055-11	9	40	44	48	52	57	61	65	70	74	78	
	10.25	42	46	51	55	60	65	69	74	78	83	
	11.5	44	49	54	59	64	68	73	78	83	88	
SL2055-12	10	40	44	48	52	57	61	65	70	74	78	
	11.25	42	46	51	55	60	65	69	74	78	83	
	12.5	44	49	54	59	64	68	73	78	83	88	
SL2055-13	11	40	44	48	52	57	61	65	70	74	78	
	12.25	42	46	51	55	60	65	69	74	78	83	
	13.5	44	49	54	59	64	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.

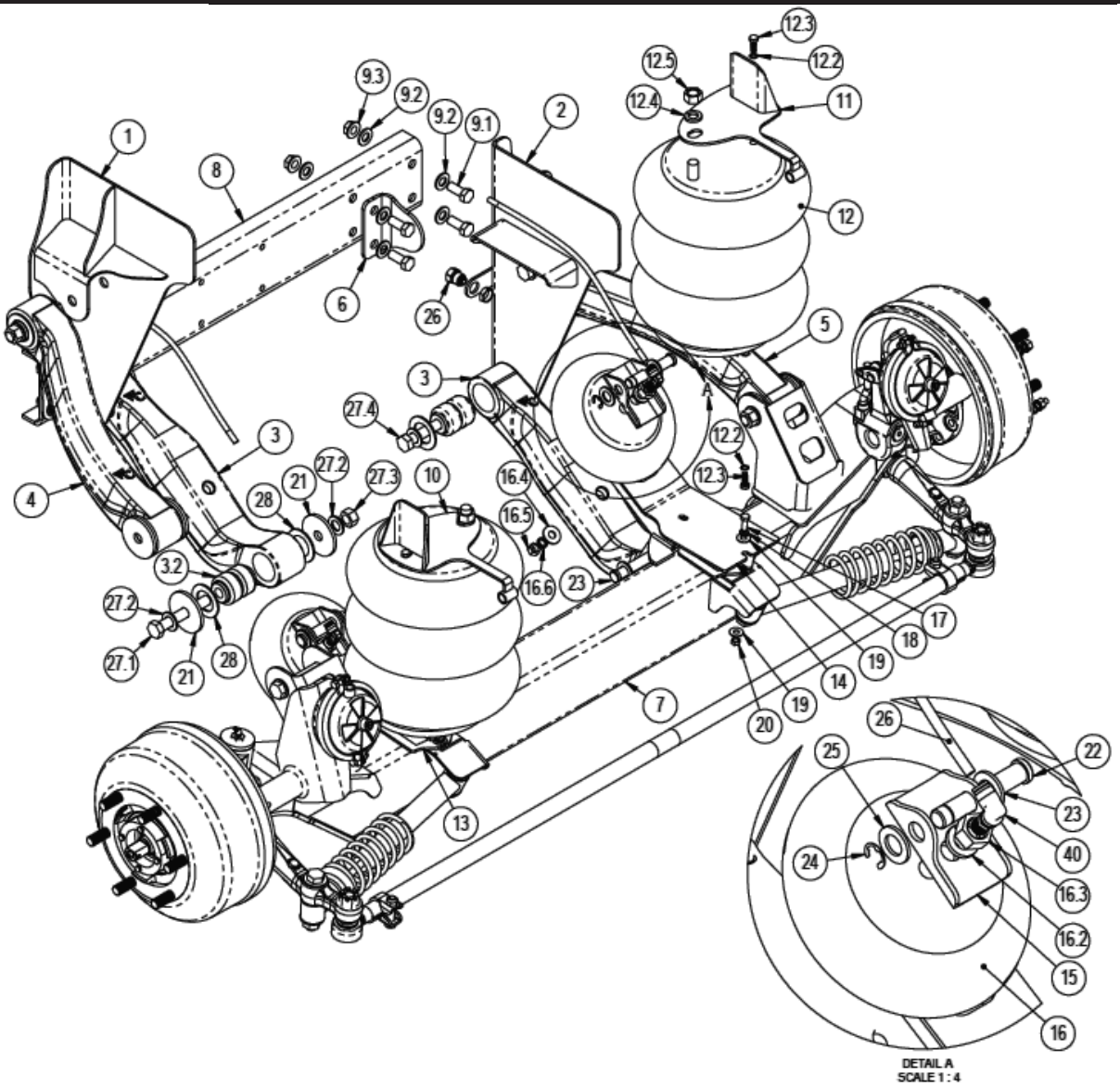
Pressure requirements are approximations and will need to be calibrated on a weigh scale capable of handling the Output at Ground forces in the above chart.

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

7. Parts lists

The following section shows an exploded view which represents the SL-089X, SL-0893, SL-1093, SL-1190, and SL-2055. Each SL series model also has a parts list that corresponds to the exploded view drawings and additional information in detailed tables that precede each parts list. These parts lists and the corresponding tables are intended to help you identify parts and part numbers that may need to be replaced.

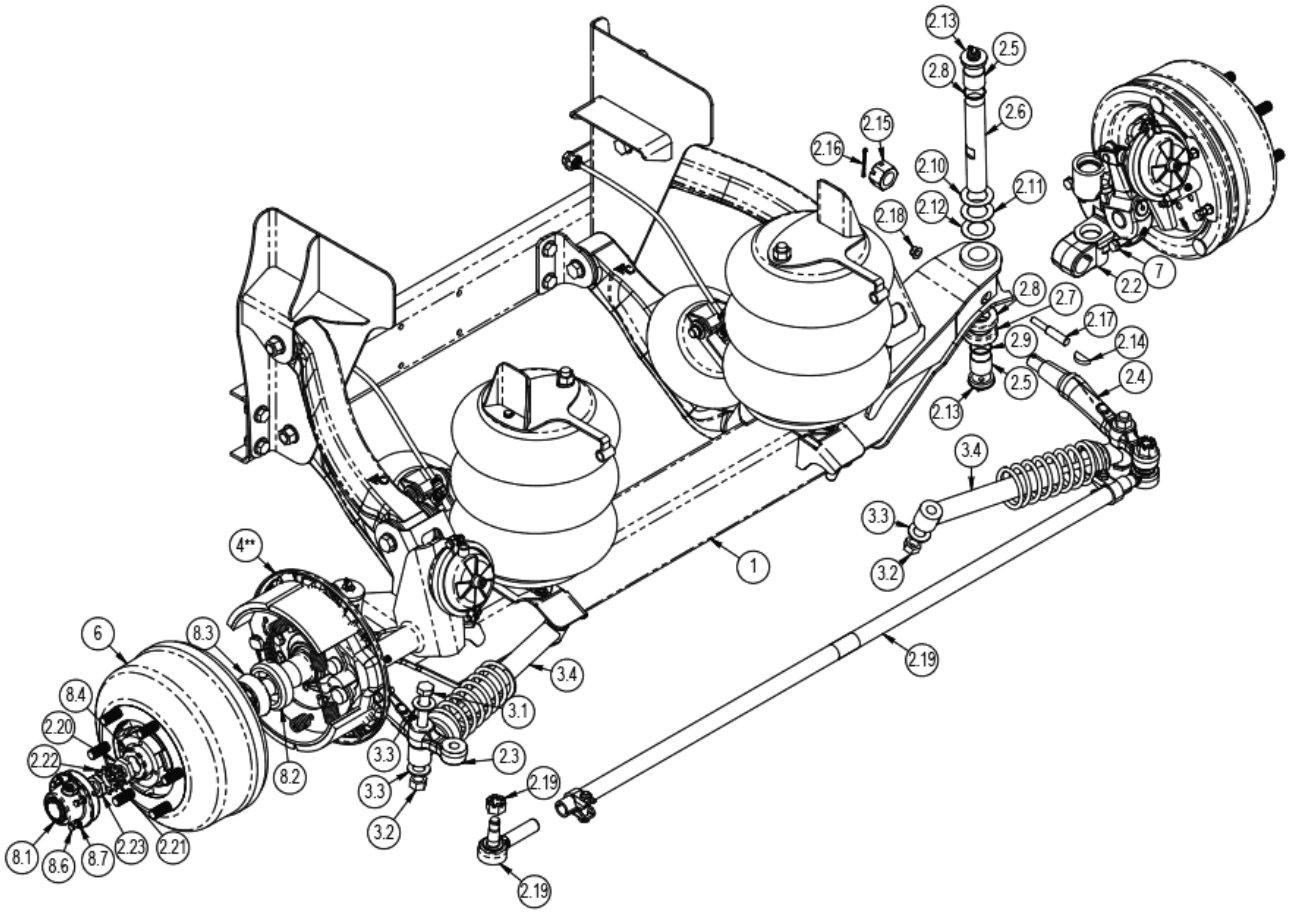
Page 1 of 8	WATSON & CHALIN STEERABLE LIFT AXLE SL0890 & SL0893 STRUCTURAL COMPONENTS	SL089X



PARTS LIST

NO.	QTY	PART NO.	DESCRIPTION	NO.	QTY	PART NO.	DESCRIPTION
1	1	CHART	HANGER ASSEMBLY LH (SEE CHART BB SEE PAGE 7)	12.3	3	10038	CAPSCREW .38 X 1.00 LG
				12.4	1	10026	.75 LOCKWASHER
2	1	CHART	HANGER ASSEMBLY RH (SEE CHART BB SEE PAGE 7)	12.5	1	10025	.75 HEX HEAD NUT
3	2	CHART	ARM ASSEMBLY LOWER (SEE CHART A SEE PAGE 7)	13	1	CHART	LOWER BAG PLATE ASSY LH (SEE CHART BB SEE PAGE 7)
3.1	1	19202	ARM ALUMINUM LOWER	14	1	CHART	LOWER BAG PLATE ASSY RH (SEE CHART BB SEE PAGE 7)
3.2	2	19682	RUBBER BUSHING	15	2	50193-01	LIFT BAG PLATE
4	1	CHART	ARM ASSEMBLY UPPER LH (SEE CHART A SEE PAGE 7)	16	2	AS0058K	AIR SPRING (6897) LIFT
				16.1	1	AS0058	AIR SPRING (6897) LIFT
4.1	1	19203-10	ARM ALUMINUM UPPER LH	16.2	1	10026	.75 LOCKWASHER
4.2	2	19682	RUBBER BUSHING	16.3	1	10025	.75 HEX HEAD NUT
5	1	CHART	ARM ASSEMBLY UPPER RH (SEE CHART A SEE PAGE 7)	16.4	1	17165	WASHER FLAT .50 HARDENED
				16.5	1	19504-50	NUT HEX .50 JAM LOCKNUT
5.1	1	19203-20	ARM ALUMINUM UPPER RH	16.6	1	19503-188	SPACER NYLON .188 LGTH
5.2	2	19682	RUBBER BUSHING	17	2	10038	CAPSCREW 3/8 X 1 UNC
6	2	21470	ARM INNER PIVOT PLATE	18	2	10041	.38 LOCK WASHER
7	1	CHART	AXLE ASSEMBLY (SEE CHART CC SEE PAGE 7)	19	4	17101	WASHER FLAT .38 X 1.00 X .06
				20	2	11094	HEXNUT 3/8 UNC
8	1	CHART	CROSSMEMBER (SEE CHART CC SEE PAGE7)	21	8	12927-03	WASHER FLAT .75 X 3.25 X .25
				22	2	19034-02	PIN CLEVIS .75 X 4.25
9	1	16084	BOLT-ON CROSSMEMBER PACK	23	2	19034-01	PIN CLEVIS .75 X 5
9.1	8	17013	CAPSCREW .63X1.50 UNF GR8	24	4	19027	SNAP RING E-STYLE .75
9.2	16	19001	WASHER FLAT .62 X 1.31 X .12	25	8	10043	WASHER FLAT .75 HARDENED
9.3	8	19040F-063	NUT SPIRALOCK .63 UNF GR8	26	1	CHART	LIFT BAG PLUMBING KIT (SEE CHART BB SEE PAGE 7)
10	1	CHART	UPPER BAG PLATE ASSY. LH (SEE CHART GG SEE PAGE 8)				
				27	1	SRK089X	PIVOT CONNECTION HRDWR
11	1	CHART	UPPER BAG PLATE ASSY. RH (SEE CHART GG SEE PAGE 8)	27.1	4	10033	CAPSCREW .75X5.00 UNF GR8
				27.2	16	10043	WASHER FLAT .75 HARDENED
12	2	AS0048K	AIR SPRING LOAD	27.3	8	10028	NUT LOCK .75 UNF GR C
12.1	1	AS0048	AIR SPRING LOAD	27.4	4	17057	CAPSCREW .75X4.50 UNF GR8
12.2	3	10041	.38 LOCK WASHER	28	16	90490-01	SPACER WASHER UHMW

Page 3 of 8	WATSON & CHALIN STEERABLE LIFT AXLE SL0890 & SL0893 WESTPORT ALXE COMPONENTS	SL089X



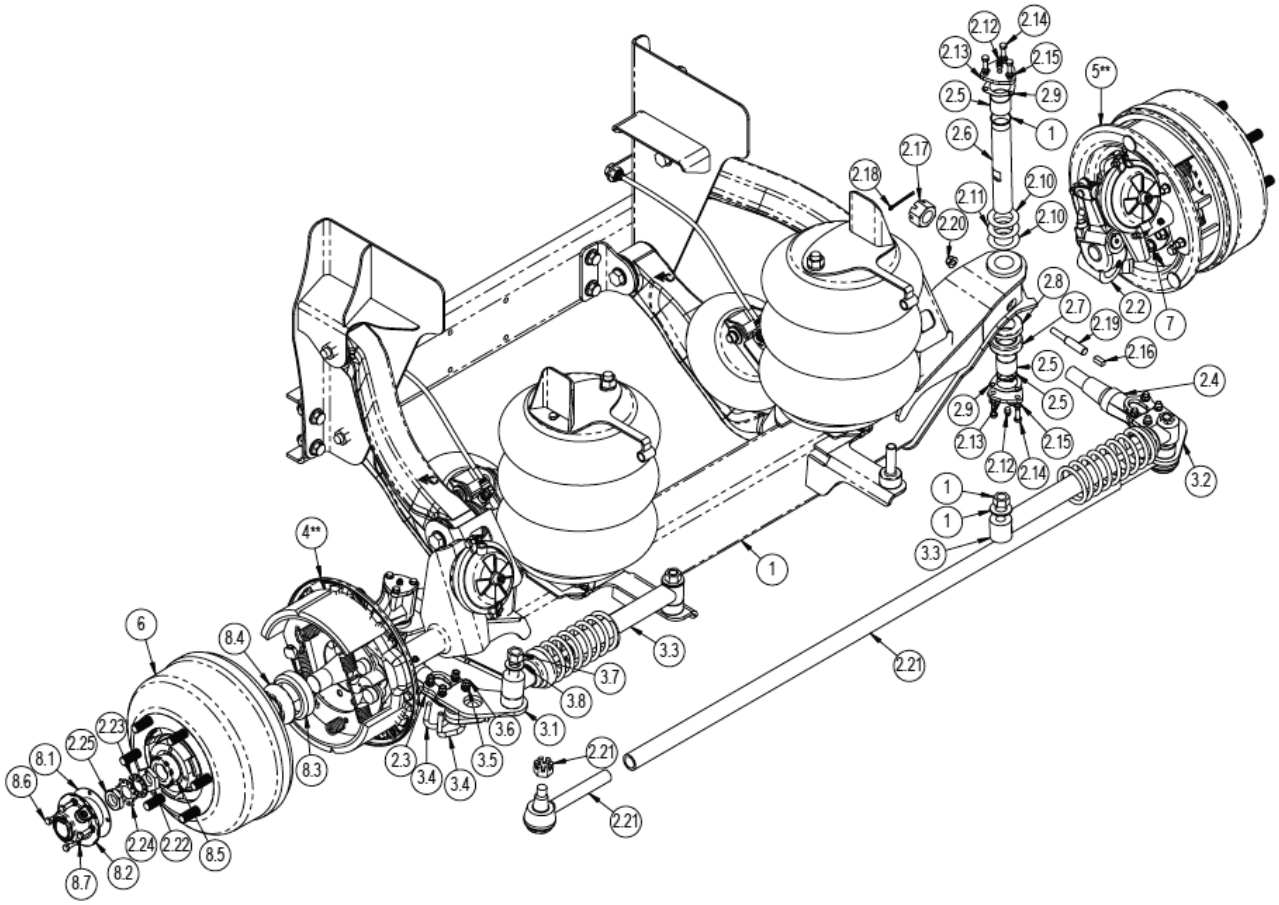
WESTPORT COMPONENTS

PARTS LIST

NO.	QTY	PART NO.	DESCRIPTION	NO.	QTY	PART NO.	DESCRIPTION
1	1	CHART	AXLE ASSEMBLY	2.21	2	19108-022	WASHER - THRUST PIERCED
				2.22	2	19108-026	BEARING NUT RETAINER
2	1	19608K	KNUCKLE ASSEMBLY	2.23	2	19108-025	WHEEL BEARING NUT - OUTER
2.1	1	19108-10	KNUCKLE ASSY LH	3	1	980151	STEER STABILIZER KIT
2.2	1	19108-20	KNUCKLE ASSY RH	3.1	2	17057	CAPSCREW .75X4.50 UNF GR8
2.3	1	19608-001-10	TIE-ROD ARM LH	3.2	4	10028	NUT LOCK .75 UNF GR C
2.4	1	19608-001-20	TIE-ROD ARM RH	3.3	6	17010	WASHER FLAT .88 X 1.75 X .12
2.5	4	19108-027	KING PIN BUSHING	3.4	2	11418	SHOCK STEERING STABILIZER
2.6	2	19108-006	KING PIN	4	1	17815-10	BRAKE ASSY LH CHAMBERS
2.7	2	19108-011	THRUST BEARING	5	1	17815-20	BRAKE ASSY RH CHAMBERS
2.8	2	19108-012	THRUST BEARING RETAINER	6	2	18255-01	HUB & DRUM ASSY 8K W/NUTS

2.9	4	19108-028	KING PIN SEAL	7	1	SRK815	BRAKE ATTACHMENT HRDWR
2.10	2	19108-013	SHIM .005 (AS REQ'D)	7.1	12	17433	CAPSCREW .50X1.75 UNC GR8
2.11	2	19108-014	SHIM .010 (AS REQ'D)	7.2	24	19498	WASHER FLAT .50 X.88X.12
2.12	2	19108-015	SHIM .015 (AS REQ'D)	7.3	12	17475	NUT LOCK .50 UNC GR C
2.13	4	19108-007	CAP KING PIN	8	1	19506-JM	8K BEARING/SEAL/CAP KITS
2.14	2	19490	WOODRUFF KEY	8.1	2	18080-032	HUB CAP GASKET 8K 330-3040
2.15	2	19491	CASTLE NUT - TIE ROD ARM	8.2	2	18080-037	HUB CAP 8K STEMCO
2.16	2	19492	COTTER PIN-TIE ROD ARM	8.3	2	18080-025	SEAL OIL 8K CR ONLY
2.17	2	19495	LOCK PIN LOWER	8.4	2	18080-027	BEARING OUTER 8K
2.18	2	19496	NUT LOCK PIN	8.5	2	18080-026	BEARING INNER 8K
2.19	1	19108-020	TIE-ROD ASSEMBLY	8.6	12	S2562	BOLT F/HUB CAP
2.20	2	19108-023	WHEEL BEARING NUT - INNER	8.7	12	WA15	WASHER FLAT

Page 5 of 8	WATSON & CHALIN STEERABLE LIFT AXLE SL0890 & SL0893 MERITOR AXLE COMPONENTS	SL089X



MERITOR COMPONENTS

PARTS LIST

NO.	QTY	PART NO.	DESCRIPTION	NO.	QTY	PART NO.	DESCRIPTION
1	1	CHART	AXLE ASSEMBLY	2.24	2	18080-030	STAR LOCK WASHER
				2.25	2	18080-031	OUTER WHEEL BEARING NUT
2	1	18080	KNUCKLE ASSEMBLY	3	1	980151	STEER STABILIZER KIT
2.1	1	18080-10	KNUCKLE ASSY LH	3.1	1	980123-10	OUTER STAB. BKT ASSY LH
2.2	1	18080-20	KNUCKLE ASSY RH	3.2	1	980123-20	OUTER STAB. BKT ASSY RH
2.3	1	18080-015	TIE-ROD ARM LH	3.3	2	11418	SHOCK STEERING STABILIZER
2.4	1	18080-016	TIE-ROD ARM RH	3.4	4	17548	U-BOLT .375 X 2.62
2.5	4	18080-001	KING PIN BUSHING	3.5	8	10041	.38 LOCK WASHER
2.6	2	18080-006	KING PIN	3.6	8	17547	HEXNUT 3/8 UNF
2.7	2	18080-009	THRUST BEARING	3.7	4	10028	NUT LOCK .75 UNF GR C

2.8	2	18080-021	THRUST BEARING SEAL	3.8	4	17010	WASHER .875 HARDENED
2.9	4	18080-002	KINGPIN CAP GASKET	4	1	17815-10	BRAKE ASSY LH CHAMBERS
2.10	4	18080-007	SHIM .010 (AS REQ'D)	5	1	17815-20	BRAKE ASSY RH CHAMBERS
2.11	2	18080-008	SHIM .005 (AS REQ'D)	6	2	18255-01	HUB & DRUM ASSY 8K W/NUTS
2.12	4	18080-010	GREASE FITTING	7	1	SRK815	BRAKE ATTACHMENT HRDWR
2.13	4	18080-003	KINGPIN CAP	7.1	12	17433	CAPSCREW .50X1.75 UNC GR8
2.14	12	18080-004	BOLT	7.2	24	19498	WASHER FLAT .50 X.88X.12
2.15	12	18080-005	WASHER	7.3	12	17475	NUT LOCK .50 UNC GR C
2.16	2	18080-023	KEY STEERING ARM	8	1	19506-JM	8K BEARING/SEAL/CAP KITS
2.17	2	18080-017	NUT	8.1	2	18080-032	HUB CAP GASKET 8K 330-3040
2.18	2	18080-018	COTTER PIN	8.2	2	18080-037	HUB CAP 8K STEMCO
2.19	2	18080-011	DRAW KEY	8.3	2	18080-025	SEAL OIL 8K CR ONLY
2.20	2	18080-012	KEY NUT	8.4	2	18080-027	BEARING OUTER 8K
2.21	1	18080-020	TIE-ROD ASSEMBLY	8.5	2	18080-026	BEARING INNER 8K
2.22	2	18080-028	ADJUSTING NUT 1227V1608	8.6	12	S2562	BOLT F/HUB CAP
2.23	2	18080-029	PIERCED LOCK RING	8.7	12	WA15	WASHER FLAT

Page 7 of 8	WATSON & CHALIN STEERABLE LIFT AXLE SL0893 CHARTS	SL089X

SL0893 A BB – CC – DD GG H J K

CHARTS

A — ARM CODE

	ARM TYPE	ITEM # 3	ITEM # 3.1	ITEM # 4	ITEM # 4.1	ITEM # 5	ITEM # 5.1
S	STEEL	930238-01	19682	930239	19682	930239	19682
A	ALUMINUM	930238-03	19682	930239-11	19682	930239-21	19682

BB — RUN HEIGHT CODE

	MODEL NO.	WESTPORT DWG. NO.	MERITOR DWG. NO.	ITEM # 1	ITEM # 2	ITEM #13	ITEM #14	ITEM #26	BAG PLATE HEIGHT
11	SL0893 X-13	100413-1	100351-1	920522-12	920522-22	950246-11	950246-21	980158-20	1.00
12	SL0893 X-14	100413-2	100351-2			950246-12	950246-22	980158-21	2.00
13	SL0893 X-15	100413-3	100351-3			950246-13	950246-23	980158-21	3.00
14	SL0893 X-16	100413-4	100351-4			950246-14	950246-24	980158-22	4.00
15	SL0893 X-17	100413-5	100351-5			950246-15	950246-25	980158-22	5.00
16	SL0893 X-18	100413-6	N/A	920619-10	920619-20	950246-14	950246-24	980158-22	4.00
17	SL0893 X-19	100413-7	N/A			950246-15	950246-25	980158-22	5.00

CC — FRAME WIDTH CODE

	FRAME WIDTH	ITEM # 7 (WESTPORT)	ITEM # 7 (MERITOR)	ITEM # 8
35	33.50	160078	160073	91250-01
40	34.00	160078	160073	91250
45	34.50	160078	160073	91250-02
50	35.00	160078-01	160073-01	91250-03

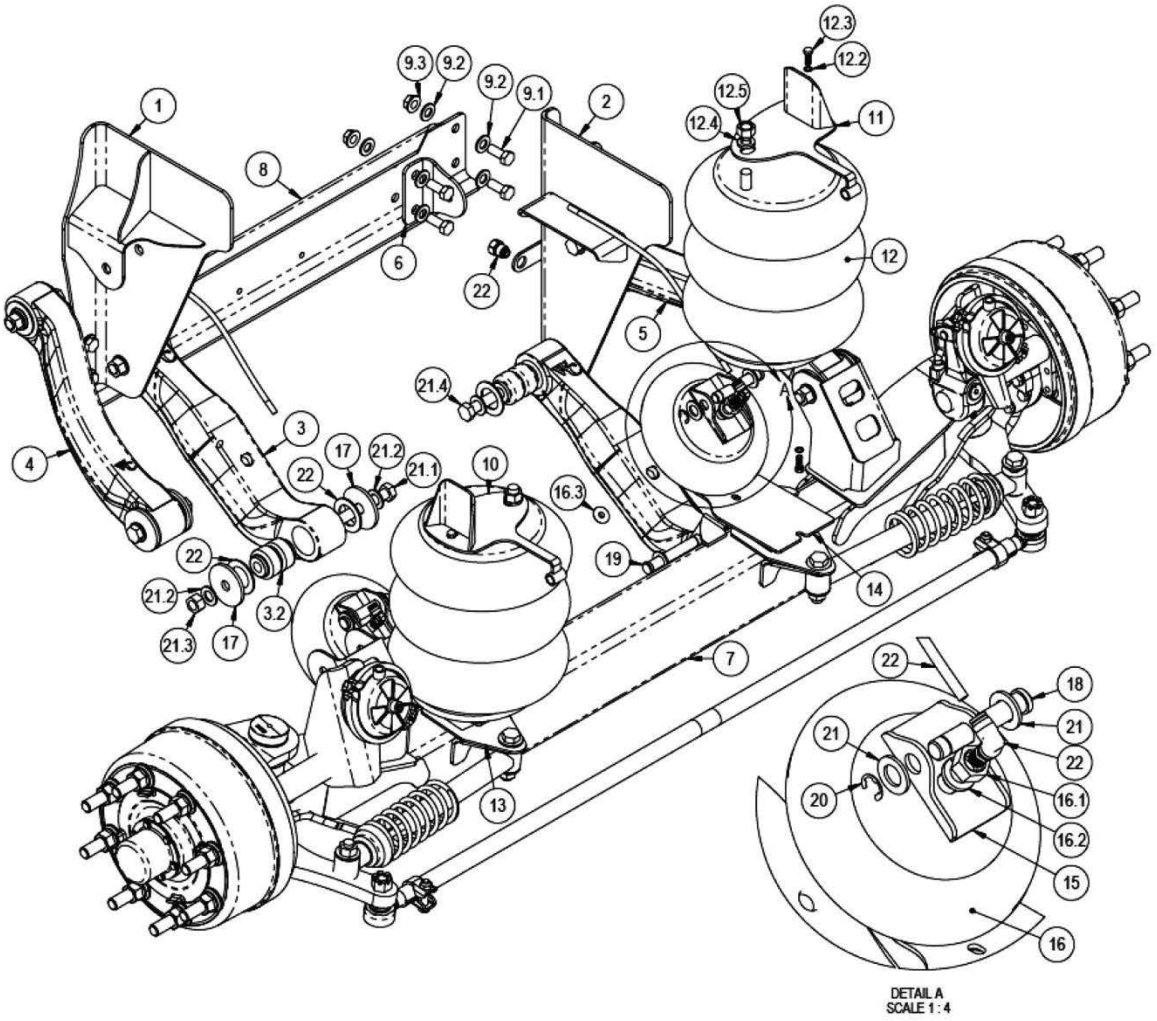
DD — HUB OIL CODE

	OIL TYPE	PART NUMBER
01	NON-SYNTHETIC	P1001-01F22
02	SYNTHETIC	P1001-02F22

GG	PLUMBING CODE			
	TYPE	ITEM # 10	ITEM # 11	PLUMBING KIT
00	NO PPAK (PRE-PLUMBED AIR KIT) – STD UPPER BAG PLATE	950182	950182	N/A
01	NO PPAK (PRE-PLUMBED AIR KIT) – UPPER BAG PLATE WITH COUPLER	95O185-10	950185-20	N/A
12	PPAK50 WITH STEEL TANK INSTALLED	95O185-10	950185-20	PPAK50-00-05
13	PRE-PLUMBED WITH CONTROLS WITH STEEL TANK INSTALLED W/OUT REGULATOR OR GUAGE (CAN ONLY BE USED WITH OPTION "0" OR "2" IN CONTROL PANEL OPTIONS)	920185-10	920185-20	PPAK250-0090
14	PRE-PLUMBED WITH CONTROLS WITH STEEL TANK INSTALLED, WITH REGULATOR AND GUAGE (CAN BE USED WITH OPTIONS "O" IN CONTROL PANEL OPTIONS)			PPAK250-0190
15	PRE-PLUMBED WITH CONTROLS WITH STEEL TANK INSTALLED, WITH REGULATOR, GUAGE AND CONTROL PANEL-(CAN ONLY BE USED WITH OPTION "0" IN CONTROL			PPAK250-0290

H	CONTROL PANEL CODE		
	TYPE	PANEL.	VALVE
0	NO CONTROL PANEL	N/A	N/A
1	CONTROL PANEL W/12V SOLENOID	990138	INC. PANEL
2	CONTROL PANEL WITH SEPARATE PUSH/PULL	990099	17523-01
3	CONTROL PANEL WITH INTEGRATED PUSH /PULL	990022	INC. PANEL
4	NO CONTROL PANEL; WITH 12V SOLENOID AND REGULATOR	N/A	990251

Page 1 of 6	WATSON & CHALIN STEERABLE LIFT AXLE SL1093 STRUCTURAL COMPONENTS	SL1093



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Page 2 of 6	WATSON & CHALIN STEERABLE LIFT AXLE SL1093 STRUCTURAL COMPONENTS	SL1093

STRUCTURAL PARTS LIST

NO.	QTY	PART NO.	DESCRIPTION	NO.	QTY	PART NO.	DESCRIPTION
1	1	920522-14	HANGER ASSEMBLY L.H.	12.1	1	AS0048	AIR SPRING LOAD
2	1	920522-24	HANGER ASSEMBLY R.H.	12.2	3	10041	.38 LOCK WASHER
3	2	CHART	ARM ASSEMBLY LOWER (SEE CHART A SEE PAGE 7)	12.3	3	10038	CAPSCREW .38 X 1.00 LG
				12.4	1	10026	.75 LOCKWASHER
3.1	1	19202	ARM ALUMINUM LOWER	12.5	1	10025	.75 HEX HEAD NUT
3.2	2	19682	RUBBER BUSHING	13	1	CHART	LOWER BAG PLATE ASSY LH (SEE CHART BB SEE PAGE 7)
4	1	CHART	ARM ASSEMBLY UPPER LH (SEE CHART A SEE PAGE 7)				
4.1	1	19203-10	ARM ALUMINUM UPPER LH	14	1	CHART	LOWER BAG PLATE ASSY RH (SEE CHART BB SEE PAGE 7)
4.2	2	19682	RUBBER BUSHING	15	2	50193-01	LIFT BAG PLATE
5	1	CHART	ARM ASSEMBLY UPPER RH (SEE CHART A SEE PAGE 7)	16	2	AS0058K	AIR SPRING (6897) LIFT
				16.1	1	AS0058	AIR SPRING (6897) LIFT
5.1	1	19203-20	ARM ALUMINUM UPPER RH	16.2	1	10026	.75 LOCKWASHER
5.2	2	19682	RUBBER BUSHING	16.3	1	10025	.75 HEX HEAD NUT
6	2	21470	ARM INNER PIVOT PLATE	16.4	1	19534	NUT LOCK FLANGED .50 UNC
7	1	CHART	AXLE ASSEMBLY (SEE CHART CC SEE PAGE 7)	17	8	12927-03	WASHER FLAT .75 X 3.25 X .25
				18	2	19034-02	PIN CLEVIS .75 X 4.25
8	1	91589	CROSSMEMBER (SEE CHART CC SEE PAGE7)	19	2	19034-01	PIN CLEVIS .75 X 5
				20	4	19027	SNAP RING E-STYLE .75
9	1	16084	BOLT-ON CROSSMEMBER PACK	21	8	10043	WASHER FLAT .75 HARDENED
9.1	8	17013	CAPSCREW .63X1.50 UNF GR8	22	1	CHART	LIFT BAG PLUMBING KIT (SEE CHART BB SEE PAGE 7)
9.2	16	19001	WASHER FLAT .62 X 1.31 X .12				
9.3	8	19040F-063	NUT SPIRALOCK .63 UNF GR8	21	1	SRK089X	PIVOT CONNECTION HRDWR
10	1	CHART	UPPER BAG PLATE ASSY. LH (SEE CHART GG SEE PAGE 8)	21.1	4	10033	CAPSCREW .75X5.00 UNF GR8
				21.2	16	10043	WASHER FLAT .75 HARDENED
11	1	CHART	UPPER BAG PLATE ASSY. RH (SEE CHART GG SEE PAGE 8)	27.3	8	10028	NUT LOCK .75 UNF GR C
				21.4	4	17057	CAPSCREW .75X4.50 UNF GR8
12	2	AS0048K	AIR SPRING LOAD	22	16	90490-01	SPACER WASHER UHMW

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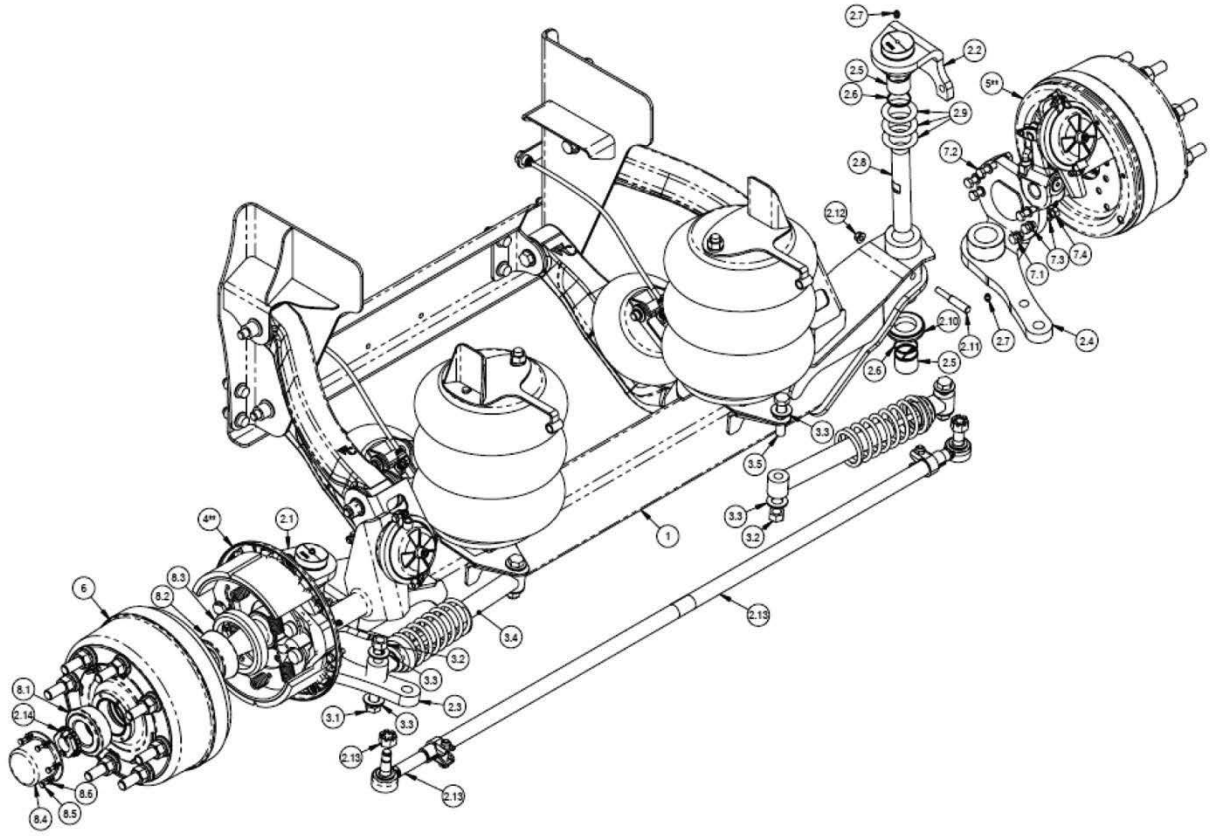
Page 3 of 6	WATSON & CHALIN STEERABLE LIFT AXLE SL1093 KNUCKLE & STEERING COMPONENTS	SL1093



KNUCKLE & STEERING COMPONENTS

Page 4 of 6	WATSON & CHALIN STEERABLE LIFT AXLE SL1093 KNUCKLE & STEERING COMPONENTS	SL1093

KNUCKLE & STEERING PARTS LIST

NO.	QTY	PART NO.	DESCRIPTION	NO.	QTY	PART NO.	DESCRIPTION
1	1	CHART	AXLE ASSEMBLY	3.3	12	17010	WASHER FLAT .88X1.75X.12
2	1	19690K	KNUCKLE ASSEMBLY	3.4	2	11418	SHOCK STEERING STABILIZER
2.1	1	006011-1	UPPER KINGPIN ASSY. L.H.	3.5	2	10035	CAPSCREW .75X3.50 UNF GR8
2.2	1	006011-2	UPPER KINGPIN ASSY. R.H.	4	1	17815-10	BRAKE ASSY LH CHAMBERS
2.3	1	006578-1	BACKBONE ASSEMBLY L.H.	5	1	17815-20	BRAKE ASSY RH CHAMBERS
2.4	1	006578-2	BACKBONE ASSEMBLY R.H.	6	2	CHART	HUB & DRUM ASSY 10K W/NUTS
2.5	2	R-004725	KING PIN BUSHING 10K				
2.6	2	R-002593	KING PIN SEAL	7	1	SRK109	BRAKE ATTACHMENT 10K
2.7	4	11448	GREASE FITTING	7.1	6	17723-2.75	CAPSCREW .50X2.75 UNF GR8
2.8	2	19690-006	KING PIN	7.2	6	17723	CAPSCREW .50X2.00 UNF GR8
2.9	6	19690-014	10K SHIM	7.3	24	19498	WASHER FLAT .50
2.10	2	T1822SGX	THRUST BEARING	7.4	12	10748	NUT LOCK .50 UNF GR C
2.11	2	143663-0008	LOCK PIN LOWER	8	1	19506-10K	10K BEARING/SEAL/CAP KITS
2.12	2	143699-0062	NUT LOCK PIN	8.1	2	3877	BEARING, OUTER H 10K
2.13	1	19093	TIE ROD ASSEMBLY	8.2	2	39581	BEARING, INNER H 10K
2.14	2	R-003269	AXILOCK NUT	8.3	2	309-0935	SEAL HUB 10K
3	1	980151-01	STEER STABILIZER KIT	8.4	2	R-006675	HUB CAP 10K
3.1	2	17057	CAPSCREW .75X4.50 UNF GR8	8.5	12	10258	CAPSCREW .31X.75 UNF
3.2	4	10028	NUT LOCK .75 UNF GR C	8.6	12	10259	WASHER .31 STAR GR8

Page 5 of 6	WATSON & CHALIN STEERABLE LIFT AXLE SL1093 CHARTS	SL1093

SL109XB A B – CC – DD E FF G HH JJ K L

CHARTS

A — CROSSMEMBER & PIVOT CONNECTION HARDWARE PACK

	TYPE	ITEM #9	ITEM #21
1	HUCKS	16091	16092-01
2	CAPSCREWS/NUTS	16084	SRK1190-2

B — ARM CODE

	ARM TYPE	ITEM # 3	ITEM # 3.1	ITEM # 4	ITEM # 4.1	ITEM # 5	ITEM # 5.1
S	STEEL	930238-01	19682	930239	19682	930239	19682
A	ALUMINUM	930238-03	19682	930239-11	19682	930239-21	19682

CC — RUN HEIGHT CODE

	MODEL NO.	DWG NUMBER	ITEM #13	ITEM #14	ITEM #22	BAG PLATE HEIGHT
13	SL1093 X-13	SL1093-1	950279-11	950279-21	980158-20	1.00
14	SL1039 X-14	SL1093-2	950279-12	950279-22	980158-21	2.00
15	SL1093 X-15	SL1093-3	950279-13	950279-23	980158-21	3.00
16	SL1093 X-16	SL1093-4	950279-14	950279-24	980158-22	4.00
17	SL1093 X-17	SL1093-5	950279-15	950279-25	980158-22	5.00

DD — FRAME WIDTH CODE

	FRAME WIDTH	ITEM # 7	ITEM # 8
35	33.50	160111	91589-01
40	34.00	160111	91589
45	35.40	160111	91589-02
55	35.00	160111-01	91589-03

E — LOCK-OUT CODE

	TYPE	ITEM # 23
0	NO STEER LOCK-OUT	TBD
1	V-BAR STEER LOCK-OUT	TBD

JJ — SEALS / BEARINGS CODE

	DESCRIPTION
LH	LESS SEALS & BEARINGS
S1	STEMCO SEALS (STANDARD)

KK — HUBCAP CODE

	DESCRIPTION
LH	LESS HUBCAPS
D1	DI PRO HUBCAP OIL (STANDARD)

L — LUBRICATION CODE

	DESCRIPTION
0	LESS HUBCAPS
1	STANDARD OIL
2	SYNTHETIC OIL

Page 6 of 6	WATSON & CHALIN STEERABLE LIFT AXLE SL1093 CHARTS	SL1093

SL109XB A B – CC – DD E FF G HH JJ K L

CHARTS

FF — PLUMBING CODE

TYPE	ITEM # 10	ITEM # 11	PLUMBING KIT
00 NO PPAK (PRE-PLUMBED AIR KIT) - STD UPPER BAG PLATE	950182	950182	N/A
01 NO PPAK (PRE-PLUMBED AIR KIT) – UPPER BAG PLATE WITH COUPLER	95O185-10	950185-20	N/A
12 PPAK50 WITH STEEL TANK INSTALLED			PPAK50-00-05
13 PRE-PLUMBED WITH CONTROLS WITH STEEL TANK INSTALLED W/OUT REGULATOR OR GUAGE (CAN ONLY BE USED WITH OPTION "0" OR "2" IN CONTROL PANEL OPTIONS)			PPAK250-0090
14 PRE-PLUMBED WITH CONTROLS WITH STEEL TANK INSTALLED WITH REGULATOR AND GUAGE (CAN BE USED WITH OPTIONS "0" IN CONTROL PANEL OPTIONS)			PPAK250-0190
15 PRE-PLUMBED WITH CONTROLS, WITH STEEL TANK INSTALLED, WITH REGULATOR, GUAGE AND CONTROL PANEL-(CAN ONLY BE USED WITH OPTION "0" IN CONTROL			PPACK250-0290

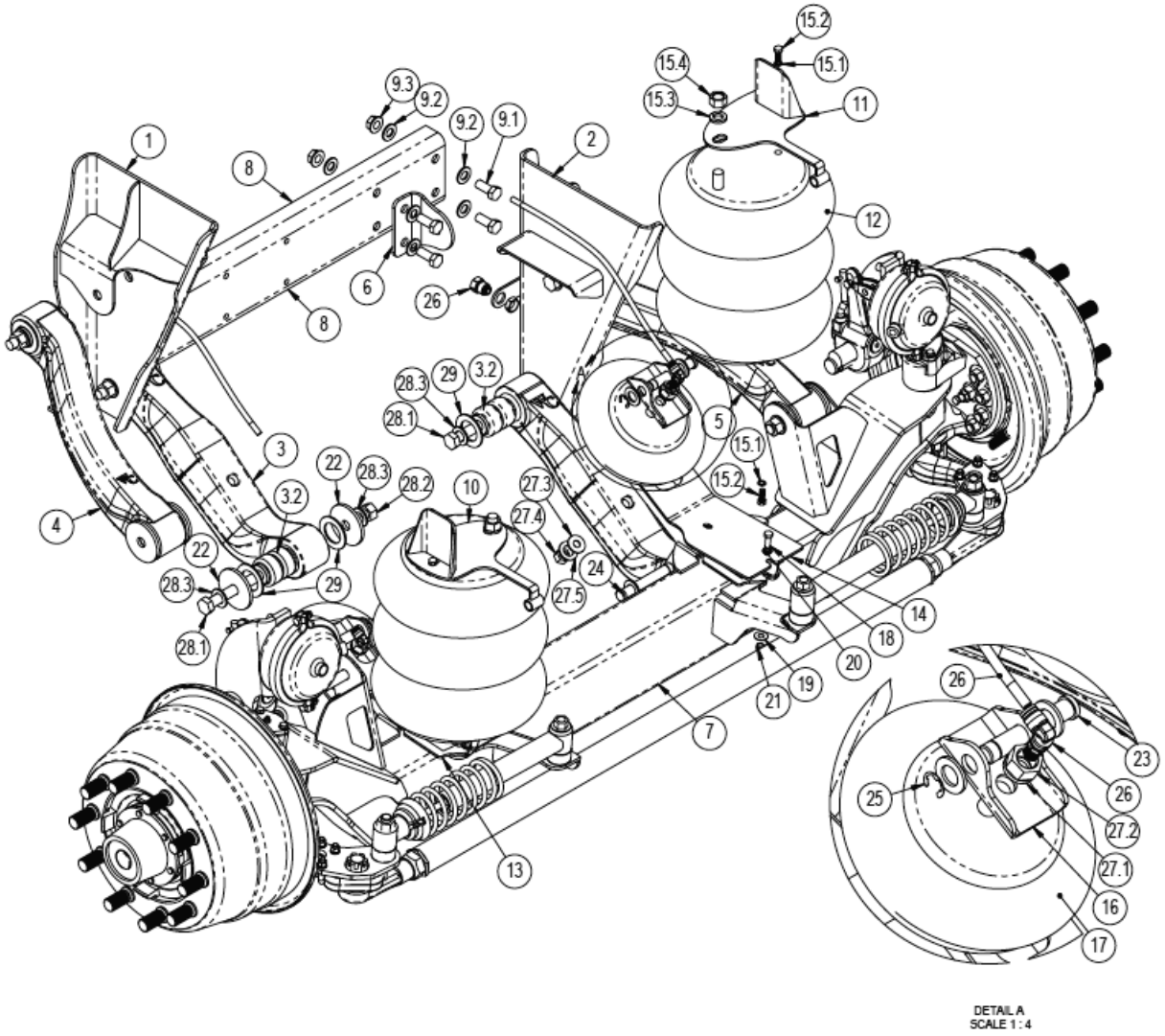
G — CONTROL PANEL CODE

TYPE	PANEL.	VALVE
0 NO CONTROL PANEL	N/A	N/A
1 CONTROL PANEL W/12V SOLENOID	990138	INC. PANEL
2 CONTROL PANEL WITH SEPARATE PUSH/PULL	990099	17523-01
3 CONTROL PANEL WITH INTEGRATED PUSH /PULL	990022	INC. PANEL
4 NO CONTROL PANEL; WITH 12V SOLENOID AND REGULATOR	N/A	990251

HH — HUB & DRUM CODE

HUB MOUNTING	HUB TYPE	UNIMOUNT
61 8 STUD FRT HUB ASSY.	IRON	012-05100LVNG
SP SPECIAL APPLICATIONS NOT YET DETERMINED		

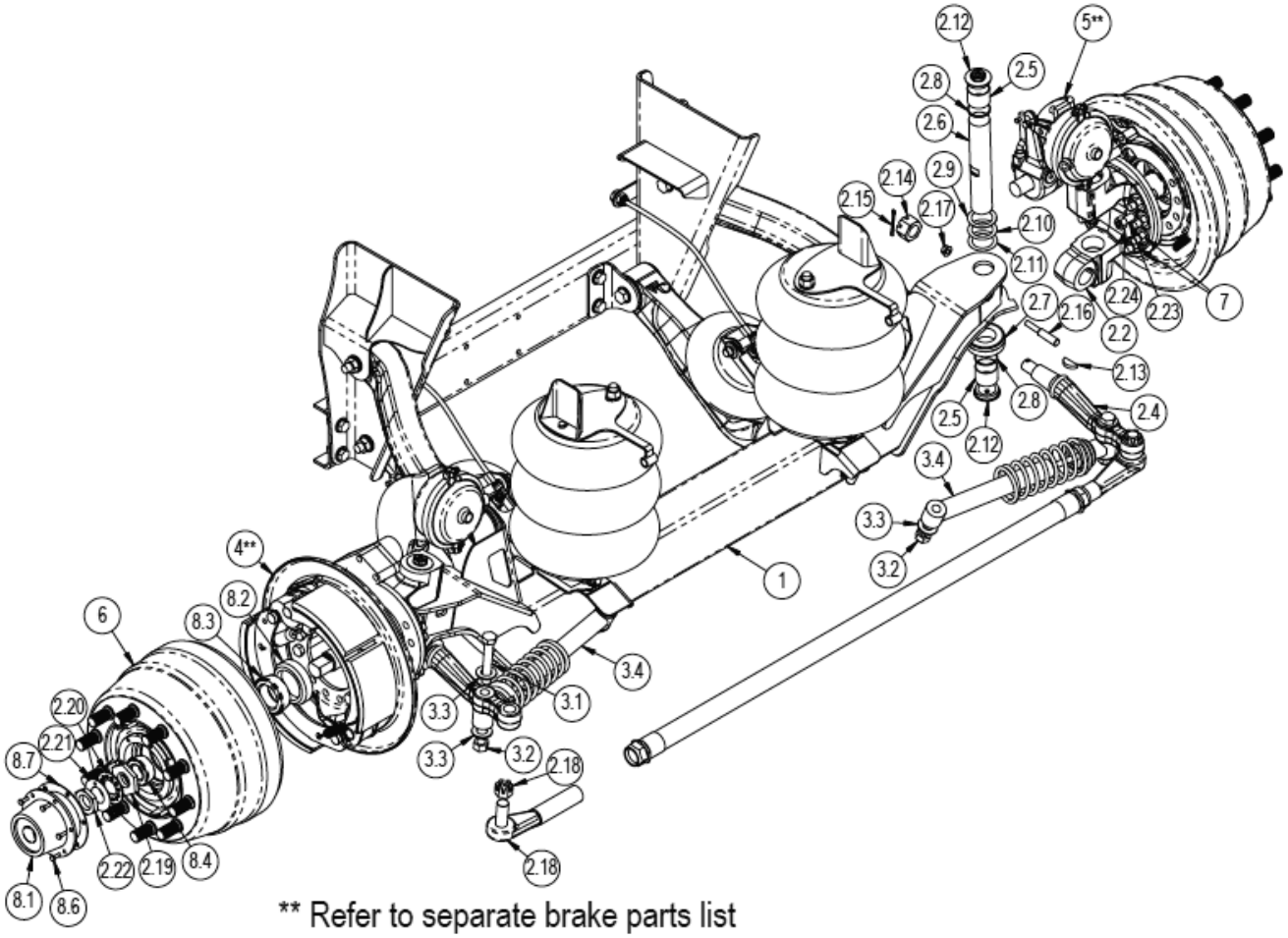
Page 1 of 8	WATSON & CHALIN STEERABLE LIFT AXLE SL1190 STRUCTURAL COMPONENTS	SL1190



PARTS LIST

NO.	QTY	PART NO.	DESCRIPTION	NO.	QTY	PART NO.	DESCRIPTION
1	1	CHART	HANGER ASSEMBLY LH (SEE CHART BB SEE PAGE 7)	12.3	3	10038	CAPSCREW .38 X 1.00 LG
				12.4	1	10026	.75 LOCKWASHER
2	1	CHART	HANGER ASSEMBLY RH (SEE CHART BB SEE PAGE 7)	12.5	1	10025	.75 HEX HEAD NUT
3	2	CHART	ARM ASSEMBLY LOWER (SEE CHART A SEE PAGE 7)	13	1	CHART	LOWER BAG PLATE ASSY LH (SEE CHART BB SEE PAGE 7)
3.1	1	CHART	ARM LOWER	14	1	CHART	LOWER BAG PLATE ASSY RH (SEE CHART BB SEE PAGE 7)
3.2	2	19682	RUBBER BUSHING	15	2	50193-01	LIFT BAG PLATE
4	1	CHART	ARM ASSEMBLY UPPER LH (SEE CHART A SEE PAGE 7)	16	2	AS0058K	AIR SPRING (6897) LIFT
				16.1	1	AS0058	AIR SPRING (6897) LIFT
4.1	1	CHART	ARM UPPER LH	16.2	1	10026	.75 LOCKWASHER
4.2	2	19682	RUBBER BUSHING	16.3	1	10025	.75 HEX HEAD NUT
5	1	CHART	ARM ASSEMBLY UPPER RH (SEE CHART A SEE PAGE 7)	16.4	1	17165	WASHER FLAT .50 HARDENED
				16.5	1	19504-50	NUT HEX .50 JAM LOCKNUT
5.1	1	CHART	ARM UPPER RH	16.6	1	19503-188	SPACER NYLON .188 LGTH
5.2	2	19682	RUBBER BUSHING	17	2	10038	CAPSCREW 3/8 X 1 UNC
6	2	21470	ARM INNER PIVOT PLATE	18	2	10041	.38 LOCK WASHER
7	1	CHART	AXLE ASSEMBLY (SEE CHART CC SEE PAGE 7)	19	4	17101	WASHER FLAT .38 X 1.00 X .06
				20	2	11094	HEXNUT 3/8 UNC
8	1	CHART	CROSSMEMBER (SEE CHART CC SEE PAGE7)	21	8	12927-03	WASHER FLAT .75 X 3.25 X .25
				22	2	19034-02	PIN CLEVIS .75 X 4.25
9	1	16084	BOLT-ON CROSSMEMBER PACK	23	2	19034-01	PIN CLEVIS .75 X 5
9.1	8	17013	CAPSCREW .63X1.50 UNF GR8	24	4	19027	SNAP RING E-STYLE .75
9.2	16	19001	WASHER FLAT .62 X 1.31 X .12	25	8	10043	WASHER FLAT .75 HARDENED
9.3	8	10029	NUT LOCK .62 UNF GR C	26	1	CHART	LIFT BAG PLUMBING KIT (SEE CHART BB SEE PAGE 7)
10	1	CHART	UPPER BAG PLATE ASSY. LH (SEE CHART GG SEE PAGE 8)				
				27	1	SRK1190-2	PIVOT CONNECTION HRDWR
11	1	CHART	UPPER BAG PLATE ASSY. RH (SEE CHART GG SEE PAGE 8)	27.1	8	10033	CAPSCREW .75X5.00 UNF GR8
				27.2	8	10028	NUT LOCK .75 UNF GR C
12	2	AS0048K	AIR SPRING LOAD	27.3	16	10043	WASHER FLAT .75 HARDENED
12.1	1	AS0048	AIR SPRING LOAD	28	16	90490-01	SPACER WASHER UHMW
12.2	3	10041	.38 LOCK WASHER				

Page 3 of 8	WATSON & CHALIN STEERABLE LIFT AXLE SL1190 WESTPORT AXLE COMPONENTS	SL1190



** Refer to separate brake parts list

REV 04.30.2010

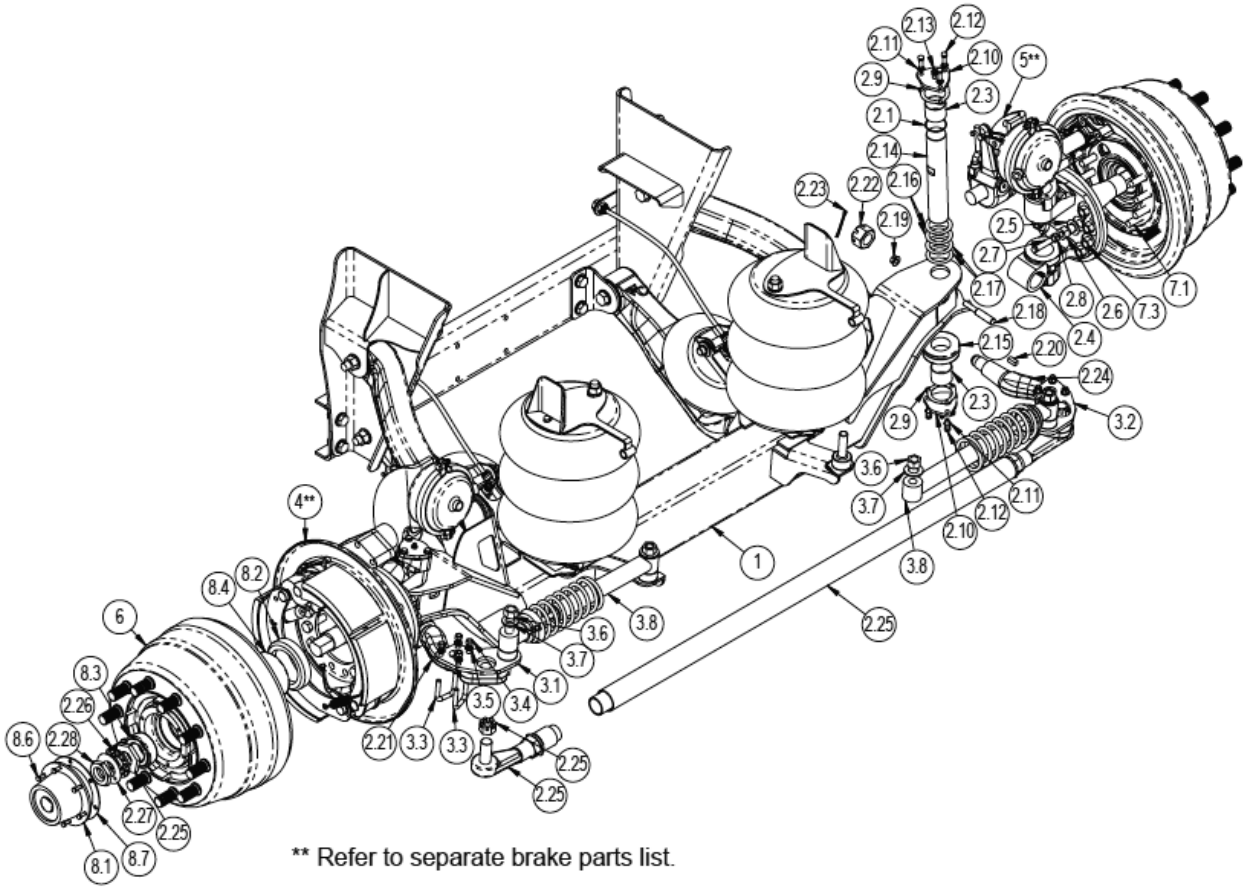
WESTPORT COMPONENTS

PARTS LIST

NO.	QTY	PART NO.	DESCRIPTION	NO.	QTY	PART NO.	DESCRIPTION
1	1	CHART	AXLE ASSEMBLY	2.22	2	19108-025	WHEEL BEARING NUT - OUTER
				2.23	2	19493	STOP BOLT
2	1	19113	KNUCKLE ASSEMBLY	2.24	2	19504-50	NUT HEX .50 JAM LOCKNUT
2.1	1	19113-10	KNUCKLE ASSY LH	3	1	980151	STEER STABILIZER KIT
2.2	1	19113-20	KNUCKLE ASSY RH	3.1	2	17057	CAPSCREW .75X4.50 UNF GR8
2.3	1	19613-101	TIE-ROD ARM LH	3.2	4	10028	NUT LOCK .75 UNF GR C
2.4	1	19613-201	TIE-ROD ARM RH	3.3	6	17010	WASHER FLAT .88 X 1.75 X .12
2.5	4	19113-027	KING PIN BUSHING	3.4	2	11418	SHOCK STEERING STABILIZER
2.6	2	19113-006	KING PIN	4	1	17187-16**	BRAKE ASSY LH CHAMBERS
2.7	2	19113-011	THRUST BEARING	5	1	17187-26**	BRAKE ASSY RH CHAMBERS
2.8	4	19113-028	KING PIN SEAL	6	2	CHART	HUB & DRUM ASSEMBLY (SEE CHART AA ON PAGE 8)
2.9	2	19113-013	SHIM .005 (AS REQ'D)				
2.10	2	19113-014	SHIM .010 (AS REQ'D)	7	1	16075	BRAKE ATTACHMENT HRDWR
2.11	2	19113-015	SHIM .015 (AS REQ'D)	7.1	14	10034	CAPSCREW .62X2.00 UNF GR8
2.12	4	19113-007	CAP KING PIN	7.2	28	10032	WASHER FLAT .62 HARDENED
2.13	2	19490	WOODRUFF KEY	7.3	14	10029	NUT LOCK .62 UNF GR C
2.14	2	19491	CASTLE NUT - TIE ROD ARM	8	1	19506-FF	13K BEARING/SEAL/CAP KITS
2.15	2	19492	COTTER PIN-TIE ROD ARM	8.1	2	17345ST	HUB CAP 13K STEMCO
2.16	2	19495	LOCK PIN LOWER	8.2	2	17344	SEAL OIL 13K
2.17	2	19496	NUT LOCK PIN	8.3	2	11438	BEARING OUTER 13K
2.18	1	19113-020	TIE-ROD ASSEMBLY	8.4	2	11437-01	BEARING INNER 13K
2.19	2	19113-023	WHEEL BEARING NUT - INNER	8.5	2	10259	WASHER .31 STAR
2.20	2	19113-022	WASHER - THRUST PIERCED	8.6	12	10258	CAPSCREW .25 X 1.00 UNC
2.21	2	19113-024	WHEEL BEARING NUT WASHER	8.7	12	17573	HUB CAP GASKET

REV 04.30.2010

Page 5 of 8	WATSON & CHALIN STEERABLE LIFT AXLE SL1190 MERITOR AXLE COMPONENTS	SL1190



MERITOR COMPONENTS

PARTS LIST

NO.	QTY	PART NO.	DESCRIPTION	NO.	QTY	PART NO.	DESCRIPTION
1	1	CHART	AXLE ASSEMBLY	2.26	2	18040-35	INNER BEARING NUT
				2.27	2	18040-36	RING LOCK WASHER
2	1	18040	KNUCKLE ASSEMBLY	2.28	2	18040-37	LOCK WASHER
2.1	4	18040-01	OIL SEAL	2.29	2	18040-38	OUTER BEARING NUT
2.2	1	18040-02	KNUCKLE ASSY LH	3	1	980150	STABILIZER SHOCK KIT
2.3	4	18040-04	BUSHING	3.1	1	990321-10	OUTER STABILIZER BRACKET LH
2.4	1	18040-05	KNUCKLE ASSY RH	3.2	1	990321-20	OUTER STABILIZER BRACKET RH
2.5	2	18040-08	WASHER	3.3	4	17549-01	U BOLT SQ .38X2.03X2.50

2.6	2	18040-09	STOP BOLT ADAPTER	3.4	8	17547	NUT HEX .38 UNF
2.7	2	18040-10	STOP BOLT	3.5	4	10041	.38 LOCK WASHER
2.8	2	18040-11	NUT	3.6	4	10028	NUT LOCK .75 UNF GR C
2.9	4	18040-12	GASKET	3.7	4	17010	WASHER .875 HARDENED
2.10	4	18040-13	KING PIN CAP	3.8	2	11418	SHOCK STEERING STABILIZER
2.11	12	18040-14	WASHER	4	1	17187-16**	BRAKE ASSY LH CHAMBERS
2.12	12	18040-15	BOLT	5	1	17187-26**	BRAKE ASSY RH CHAMBERS
2.13	4	18040-16	GREASE FITTING	6	2	CHART	HUB & DRUM ASSEMBLY (SEE CHART DD ON PAGE 4)
2.14	2	18040-17	KING PIN				
2.15	2	18040-18	BEARING ASSY	7	1	16075	BRAKE ATTACHMENT HRDWR
2.16	4	18040-19	SHIM .005 (AS REQ'D)	7.1	14	10034	CAPSCREW .62X2.00 UNF GR8
2.17	4	18040-20	SHIM .010 (AS REQ'D)	7.2	28	10032	WASHER FLAT .62 HARDENED
2.18	2	18040-22	DRAW KEY	7.3	14	10029	NUT LOCK .62 UNF GR C
2.19	2	18040-23	KEY NUT	8	1	19506-FF	13K BEARING/SEAL/CAP KITS
2.20	2	18040-24	KEY STEERING ARM	8.1	2	17345ST	HUB CAP 13K STEMCO
2.21	2	18040-25	TIE ROD ARM LH	8.2	2	17344	SEAL OIL 13K
2.22	2	18040-26	NUT	8.3	2	11438	BEARING OUTER 13K
2.23	2	18040-27	COTTER PIN	8.4	2	11437-01	BEARING INNER 13K
2.24	1	18040-29	TIE ROD ARM RH	8.5	2	10259	WASHER .31 STAR
2.25	1	CHART	DROP TIE ROD ASSY (SEE CHART E ON PAGE 8)	8.6	12	10258	CAPSCREW .25 X 1.00 UNC
				8.7	12	17573	HUB CAP GASKET

Page 7 of 8	WATSON & CHALIN STEERABLE LIFT AXLE SL1190 CHARTS	SL1190

SL1190 A BB – CC – DD GG H J K

CHARTS

A — ARM CODE

	ARM TYPE	ITEM # 3	ITEM # 3.1	ITEM # 4	ITEM # 4.1	ITEM # 5	ITEM # 5.1
S	STEEL	930280-01	19465	930281	19466-10	930281	19466-20
A	ALUMINUM	930280-02	19202	930281-11	19203-10	930281-21	19203-20

BB — RUN HEIGHT CODE

	MODEL NO.	WESTPORT DWG. NO.	MERITOR DWG. NO.	ITEM #13	ITEM #14	ITEM #26	BAG PLATE HEIGHT
11	SL1190XX X-11	100443-1	100385-1	950246-11	950246-21	980158-20	1.00
12	SL1190XX X-12	100443-2	100385-2	950246-12	950246-22	980158-21	2.00
13	SL1190XX X-13	100443-3	100385-3	950246-13	950246-23	980158-21	3.00
14	SL1190XX X-14	100443-4	100385-4	950246-14	950246-24	980158-22	4.00
15	SL1190XX X-15	100443-5	100385-5	950246-15	950246-25	980158-22	5.00

CC — FRAME WIDTH CODE

	FRAME WIDTH	ITEM # 7 (WESTPORT)	ITEM # 7 (MERITOR)	ITEM # 8
35	33.50	160096	160097	91250-01
40	34.00	160096	160097	91250
45	34.50	160096	160097	91250-02
50	35.00	160096-01	160097-01	91250-03

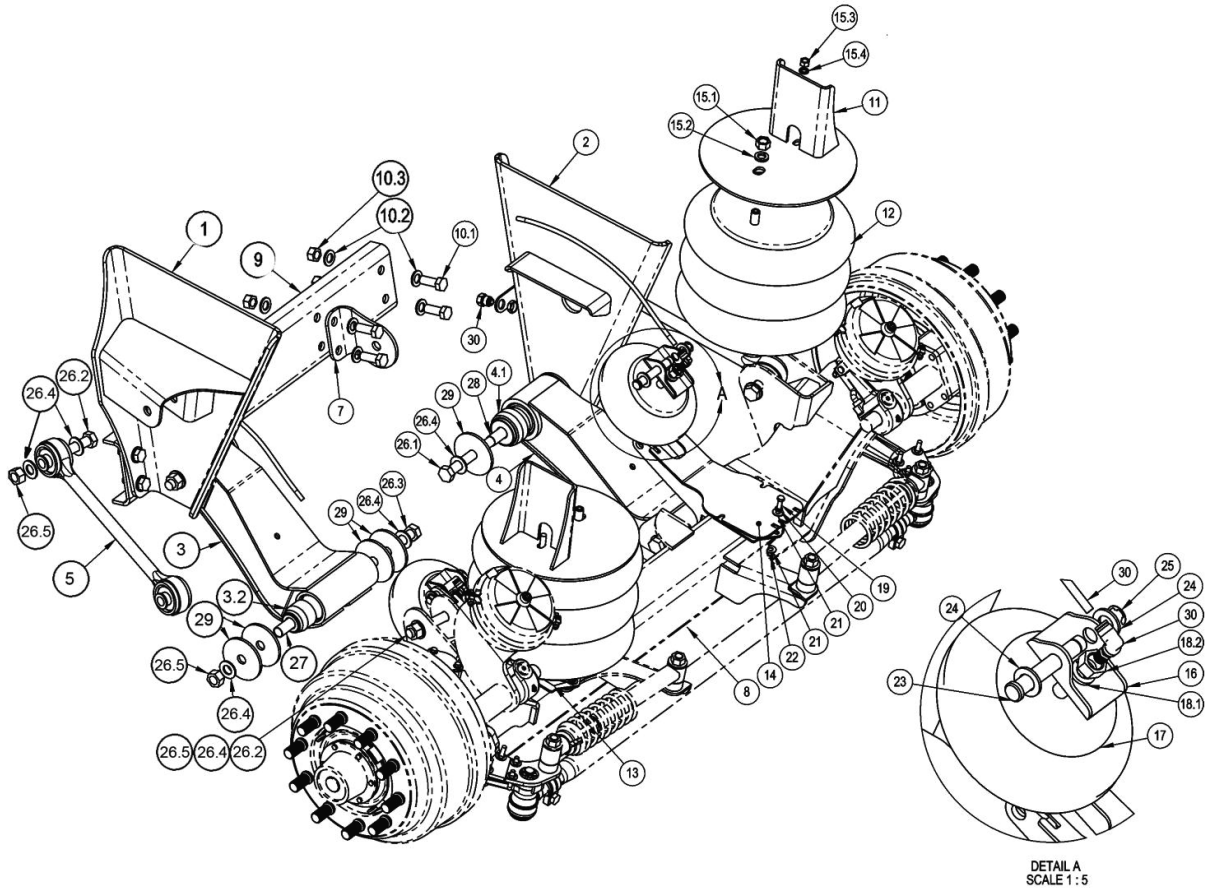
DD — HUB OIL CODE

	OIL TYPE	PART NUMBER
01	NON-SYNTHETIC	P1001-01F22
02	SYNTHETIC	P1001-02F22

GG	PLUMBING CODE					
	TYPE	ITEM # 1	ITEM # 2	PLUMBING KIT	ITEM #10	ITEM #11
00	NO PPAK (PRE-PLUMBED AIR KIT) – STD UPPER BAG PLATE	920490-12	920490-22	N/A	950182	950182
01	NO PPAK (PRE-PLUMBED AIR KIT) – UPPER BAG PLATE WITH COUPLER			N/A	950185-10	950185-20
12	PPAK50 WITH STEEL TANK INSTALLED			PPAK50-00-05		
13	PRE-PLUMBED WITH CONTROLS WITH STEEL TANK INSTALLED W/OUT REGULATOR OR GUAGE (CAN ONLY BE USED WITH OPTION "0" OR "2" IN CONTROL PANEL OPTIONS)	920490-14	920490-24	PPAK250-0090		
14	PRE-PLUMBED WITH CONTROLS WITH STEEL TANK INSTALLED, WITH REGULATOR AND GUAGE (CAN BE USED WITH OPTIONS "O" IN CONTROL PANEL OPTIONS)			PPAK250-0190		
15	PRE-PLUMBED WITH CONTROLS WITH STEEL TANK INSTALLED, WITH REGULATOR, GUAGE AND CONTROL PANEL-(CAN ONLY BE USED WITH OPTION "0" IN CONTROL			PPAK250-0290		

H	CONTROL PANEL CODE		
	TYPE	PANEL.	VALVE
0	NO CONTROL PANEL	N/A	N/A
1	CONTROL PANEL W/12V SOLENOID	990138	INC. PANEL
2	CONTROL PANEL WITH SEPARATE PUSH/PULL	990099	17523-01
3	CONTROL PANEL WITH INTEGRATED PUSH /PULL	990022	INC. PANEL
4	NO CONTROL PANEL; WITH 12V SOLENOID AND REGULATOR	N/A	990251

Page 1 of 5	STEERABLE LIFT AXLE SL2055 STRUCTURAL COMPONENTS	SL2055



Steerable Lift Axle Structural Components
REF: WATSON & CHALIN SL2055EX

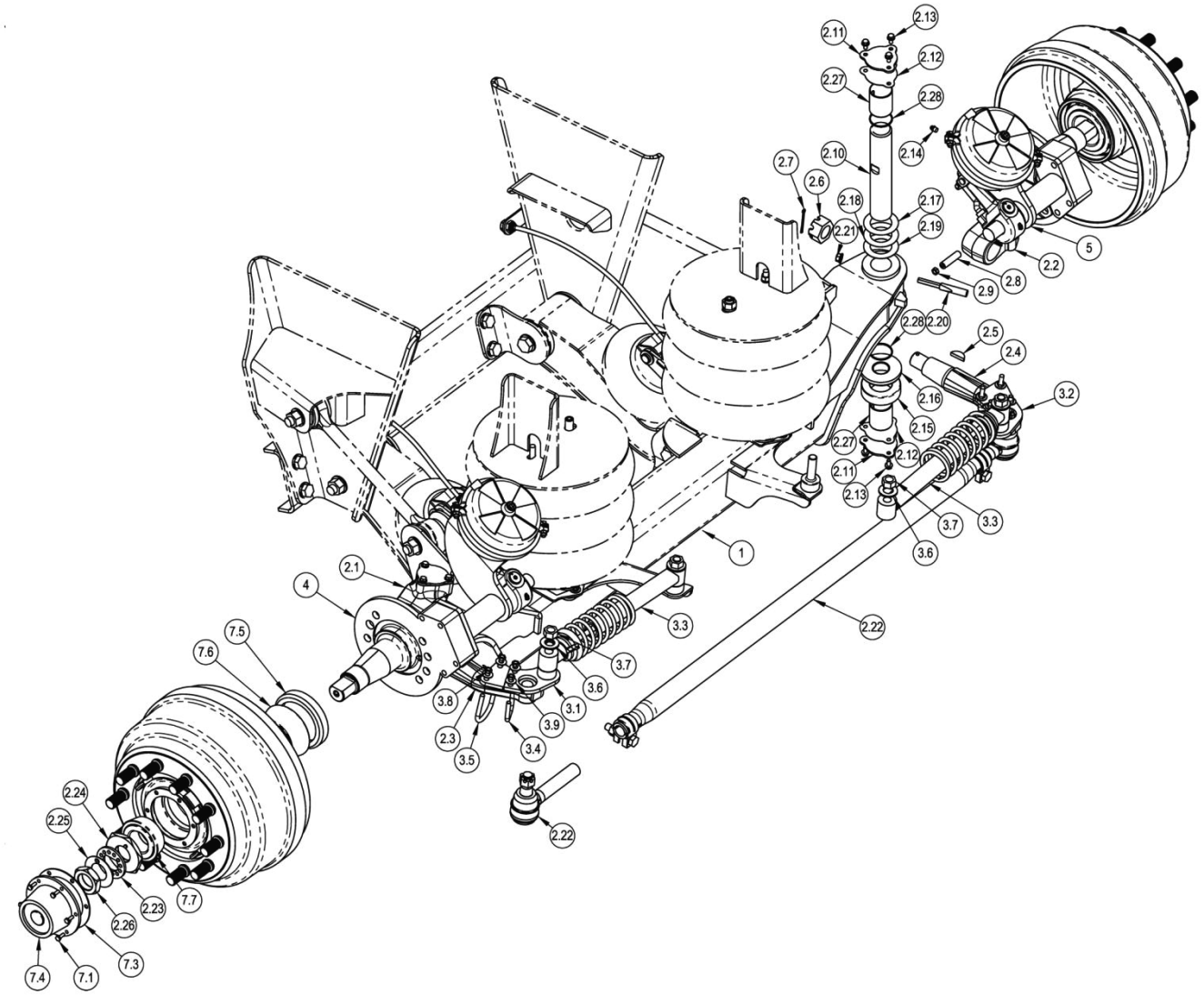
PARTS LIST

NO.	QTY PER KIT	PART NUMBER	DESCRIPTION	NO.	QTY PER KIT	PART NUMBER	DESCRIPTION
1	1	920664-10	HANGER ASSEMBLY LH	4.1	1	10050	PIVOT BSHG 3.5 OD X 1.125
2	1	920664-20	HANGER ASSEMBLY RH	4.2	1	11938	PIVOT BSHG 2.75 OD X 8.47
3	1	930274-10	ARM ASSEMBLY LH	5	2	17832	TORQUE ARM
3.1	1	10050	PIVOT BSHG 3.5 OD X 1.125	6	1	21595-10	ARM INNER PIVOT PLATE LH
3.2	1	11938	PIVOT BSHG 2.75 OD X 8.47	7	1	21595-20	ARM INNER PIVOT PLATE RH
4	1	930274-20	ARM ASSEMBLY RH	8	1	160099	AXLE ASSEMBLY

Page 2 of 5	WATSON & CHALIN STEERABLE LIFT AXLE SL2055 STRUCTURAL COMPONENTS	SL2055

NO.	QTY PER KIT	PART NUMBER	DESCRIPTION	NO.	QTY PER KIT	PART NUMBER	DESCRIPTION
9	1	CHART	CROSSMEMBER (SEE CHART CC ON PAGE 3)	18.2	2	10025	.75 HEX HEAD NUT
10	1	16093	CROSSMEMBER HARDWARE PACK	18.3	2	19534	NUT LOCK FLANGED .50 UNC
10.1	8	10896	CAPSCREW 3/4UNF X 2 GRADE 8	19	2	10038	CAPSCREW 3/8 X 1 UNC
10.2	16	10043	WASHER FLAT .75 HARDENED	20	2	10041	.38 LOCK WASHER
10.3	8	10028	NUT LOCK .75 UNF GR C	21	4	17101	WASHER FLAT .38
11	2	950262	UPPER BAG PLATE ASSEMBLY	22	2	11094	HEXNUT 3/8 UNC
12	2	AS0222	AIR SPRING LOAD	23	2	19034-01	PN CLEVIS .75 X 5
13	1	CHART	LOWER BAG PLATE ASSY. RH (SEE CHART BB ON PAGE 3)	24	4	10043	WASHER FLAT .75 HARDENED
14	1	CHART	LOWER BAG PLATE ASSY. RH (SEE CHART BB ON PAGE 3)	25	2	19027	SNAP RING E-STYLE .75
15	1	16059-01	AIRBAG HARDWARE PACK (LOAD)	26	2	16094	PIVOT CONNECTION HARDWARE PACK
15.1	2	10025	NUT HEX .75	26.1	2	17238-8	CAPSCREW .87 X 8.00 UNF GR8
15.2	2	10026	WASHER LOCK .75	26.2	4	17238-5	CAPSCREW .87 X 5.00 UNF
15.3	2	10030	NUT HEX .50 UNC	26.3	2	17238-11.5	CAPSCREW .87 X 11.50 UNF GR8
15.4	2	10042	WASHER LOCK .50	26.4	16	17010	WASHER FLAT .875
15.5	6	10039	.38 CAPSCREW 1.50"	26.5	8	11457	NUT LOCK .875 UNF
15.6	6	10041	LOCK WASHER .38	27	2	17161-07	DELRIN LINER .87-1.0X7.00
16	2	50193-01	LIFT BAG PLATE	28	2	17161-05	DELRIN LINER .87-1.0X4.50
17	2	AS0058-1F	AIR SPRING LIFT	29	12	11222-02	FLAT WASHER 4.25 OD X .91 ID X .25
18	1	16085	LIFT BAG HARDWARE PACK	30	1	CHART	LIFT BAG PLUMBING KIT (SEE CHART EE ON PAGE 3)
18.1	2	10026	.75 LOCKWASHER				

Page 3 of 5	STEERABLE LIFT AXLE - SL2055 KNUCKLE & STEERING COMPONENTS	SL2055



Steerable Lift Westport Axle Components
REF: WATSON & CHALIN SL2055EX

PARTS LIST

NO.	QTY PER KIT	PART NUMBER	DESCRIPTION	NO.	QTY PER KIT	PART NUMBER	DESCRIPTION
1	1	160099	AXLE ASSEMBLY	2.2	1	19120-20	KNUCKLE ASSEMBLY RH
2	1	19671	KNUCKLE ASSEMBLY WESTPORT	2.3	1	19671-001-10	TIE-ROD ARM LH
2.1	1	19120-10	KNUCKLE ASSEMBLY LH	2.4	1	19671-001-20	TIE-ROD ARM RH

Page 4 of 5	STEERABLE LIFT AXLE SL2055 STRUCTURAL COMPONENTS	SL2055

NO.	QTY PER KIT	PART NUMBER	DESCRIPTION	NO.	QTY PER KIT	PART NUMBER	DESCRIPTION
2.5	2	19490	WOODRUFF KEY	2.28	4	19671-028	OIL SEAL
2.6	2	19120-003	CASTLE NUT - TIE ROD ARM	3	1	980176	STABILIZER SHOCK KIT
2.7	2	19492	COTTER PIN - TIE ROD ARM	3.1	1	990408-10	OUTER STABILIZER BRACKET LH
2.8	2	19493	STOP BOLT	3.2	1	990408-20	OUTER STABILIZER BRACKET RH
2.9	2	19504-50	NUT HEX .50 JAM LOCKNUT	3.3	2	11418	SHOCK STEERING STABILIZER
2.10	2	19120-006	KING PIN	3.4	2	17549-01	U-BOLT SQ.38X2.03X2.50
2.11	4	19120-007	CAP - KING PIN	3.5	2	17510	U-BOLT ROUND .38 X 3.50
2.12	4	19120-008	GASKET - CAP KING PIN	3.6	4	17010	WASHER FLAT .875
2.13	12	19120-009	BOLT - CAP KING PIN	3.7	4	10028	NUT LOCK .75 UNF GR C
2.14	4	19120-010	ALEMITE ZERK	3.8	8	11678	.38 UNC LOCK NUT
2.15	2	19120-011	THRUST BEARING	3.9	8	17101	WASHER FLAT .38
2.16	2	19120-012	THRUST BEARING RETAINER	4	1	19672-15	BRAKE ASSEMBLY 16.5X6.00 LH
2.17	2	19120-013	SHIM .005	5	1	19672-25	BRAKE ASSEMBLY 16.5X6.00 RH
2.18	2	19120-015	SHIM .015	6	1	CHART	HUB & DRUM ASSEMBLY (SEE CHART AA ON PAGE 3)
2.19	2	19120-016	SHIM .030	7	1	19506-FL	BEARING KIT
2.20	2	19120-018	DRAW KEY	7.1	12	10258	CAPSCREW .31X.75 UNF
2.21	2	19496	NUT LOCK PIN	7.2	12	10259	WASHER .31 STAR
2.22	1	19671-020	TIE ROD ASSEMBLY	7.3	2	11440	HUB CAP GASKET
2.23	2	19671-022	WASHER - THRUST PIERCED	7.4	2	17222	HUB CAP
2.24	2	19671-023	FASTENER - WHEEL BEARING NUT - INNER	7.5	2	18076-30	WHEEL SEAL OIL
2.25	2	19671-024	FASTENER - WHEEL BEARING NUT - WASHER	7.6	2	18076-31	BEARING INNER
2.26	2	19671-025	FASTENER - WHEEL BEARING NUT - OUTER	7.7	2	18076-32	BEARING OUTER
2.27	4	19671-027	BUSHING - KING PIN				

MODEL NO. - SL2055 AA BB - CC - DD EE FF

CONFIGURATOR TT55A

AA	HUB AND DRUM CODE			
	HUB MOUNT	HUB TYPE	LEFT HAND	RIGHT HAND
93	10 STUD 11.25 B.C.-STUD PILOT	IRON	18248A	18249A
94	10 STUD 11.25 B.C.-HUBD PILOT	IRON	18247A	18247A
95	6 SPOKE 20"	IRON	18250	18250
SP	SPECIAL APPLICATIONS NOT YET DETERMINED			

BB	RUN HEIGHT CODE (MORE)								
						DIM A	UP		
	MODEL #	DWG #	ITEM 13	ITEM 14	ITEM 34	BAG PLATE HEIGHT	WITH .19 BUMPER DEFL.	BUMPER CONTACT	DIM B
10	SL2055XX X-10	100412-2	950263-12	950263-22	980158-23	2.00	1.25	2.13	23.66
11	SL2055XX X-11	100412-3	950263-13	950263-23	980158-23	3.00	2.25	3.13	23.82
sp	SPECIAL APPLICATIONS NOT YET DETERMINED								

BB	RUN HEIGHT CODE (CONTINUED)					
	RUN		DIM A	DOWN		DIM C DRIVE SHAFT CLEARANCE
	RUN RANGE	DIM B RANGE	BAG PLATE HEIGHT		DIM B	
10	8.13 – 10.50	23.79 – 23.28	2.00	13.50	22.11	6.08
11	9.13 – 11.50	23.62 - 22.95	3.00	14.50	21.57	7.08
sp	SPECIAL APPLICATIONS NOT YET DETERMINED					

CC	FRAME WIDTH CODE	
	FRAME WIDTH	ITEM #9
35	33.50	91428-01
40	34.00	91428
45	34.50	91428-02

DD	LOCKOUT CODE	
	DESCRIPTION	ITEM # XX
00	WITHOUT STEER LOCKOUT	N/A
01	WITH STEER LOCKOUT	TBD

EE	PLUMBING CODE	
	TYPE	PLUMBING KIT
00	NO PPAK (PRE-PLUMBED AIR KIT) – STD UPPER BAG PLATE	N/A
01	PPAK50 INSTALLED	PPAK50-00-03

FF	CONTROL PANEL CODE		
	TYPE	PANEL	VALVE
00	NO CONTROL PANEL	N/A	N/A
01	CONTROL PANEL W/12V SOLENOID	990138	INC. PANEL
02	CONTROL PANEL WITH SEPARATE PUSH/PULL	990099	17523-01
03	CONTROL PANEL WITH INTEGRATED PUSH/PULL	990022	INC. PANEL