

Asia Pacific Region Only

PARTS LIST INTRAAX® AAL TRAILER SUSPENSION

LIT NO: 97114-111
DATE: October 2024

REVISION: F





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INTRODUCTION

The purpose of this parts list is to document the available repair parts, accessories, special tools and lubricants available for the Hendrickson AAL230 and AAL250 INTRAAX® (Integrated Axle Assembly) suspension systems.

The major components included in this parts list is as follows:

- AAL230 and AAL250 INTRAAX® axle assemblies (HALFTRAAX™)
- Air-springs, relevant mounting hardware and fasteners
- Shock Absorbers, relevant mounting hardware and fasteners
- Frame hangers
- QUIK-ALIGN® hardware and fasteners
- Height Control Valve (HCV) system
- Axle lift system

Parts published in this parts bulletin are the latest available parts. Unless otherwise noted, they are functionally equivalent to, or better than, the originally supplied components.

This parts list should be used in conjunction with:

- [97114-100](#) Trailer Wheel End Systems Parts List
- [97114-097](#) Trailer Brake Systems Parts List

NOTE: All quantities listed within this parts list are as applicable for a single axle.

Document Interactivity

The interactive **Table of Contents** allows users to quickly navigate to the appropriate page with a single mouse click. The **INDEX** button at the bottom of each page returns you to the **Table of Contents**. Other links within the document are identified by black underlined text, whereas links to external websites are identified by blue underlined text.

ABBREVIATIONS

Abbreviations used in this document may include the following terms:

- AR – As Required
- ARL – Auxiliary Rebound Limiter
- Assy – Assembly
- HCV – Height Control Valve
- NSS – Not Serviced Separately
- PCD – Pitch Circle Diameter
- Std – Standard
- TFB™ – TRI-FUNCTIONAL™ Bush



AXLE AND SUSPENSION IDENTIFICATION

To assist with the identification of an INTRAAAX® axle or suspension system, reference should be made to the axle identification plate (refer to [Figure 1](#)) and suspension assembly number plate (refer to [Figure 2](#)).

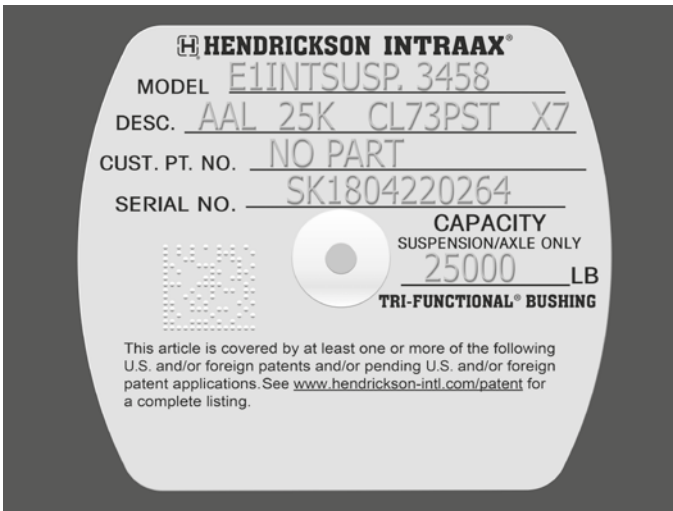


Figure 1: Axle ID Plate



Figure 2: Assembly Plate

AXLE ID PLATE

The axle ID plate is usually located on the inboard side of the left-hand trailing arm and provides the following:

- MODEL
- DESCRIPTION
- CUSTOMER PART NUMBER
- AXLE SERIAL NUMBER
- AXLE CAPACITY

The axle serial number (e.g. SK1804220264) provides the following details:

MANUFACTURING PLANT IDENTIFIER

The first two digits of the axle serial number identify the manufacturing plant that originally manufactured the HALFTRAAX™ Assembly as follows:

- SK – Somerset Kentucky
- LI – Lebanon Indiana
- CO – Canton Ohio

DATE OF MANUFACTURE

The third to eighth digits of the axle serial number identify the date the HALFTRAAX™ Assembly was manufactured in date format: Year - Month - Date. For example, the code 180422 shows that it was manufactured on 22 April 2018.

MANUFACTURING SEQUENCE NUMBER

The final four digits (e.g. 0264) of the axle serial number provide the manufacturing sequence number.

SUSPENSION ASSEMBLY NUMBER PLATE

The suspension assembly number plate is usually located on the inboard side of the right-hand trailing arm. It indicates that the suspension has been assembled in Australia and provides the following:

- RIDE HEIGHT
- ASSEMBLY PART NUMBER
- DATE OF ASSEMBLY

ASSEMBLY NUMBER

The first six digits of the assembly part number identify the suspension system base model, while the remaining digits identify specific options such as wheel end and brake system configuration.

Base Model Identification

Manufacturer (Digit 1)	TRI-FUNCTIONAL™ Bush Width (Digit 2)	Load Capacity (Digit 3 & 4)	Model (Digit 5)	Specific Option Code (Digit 6)	Tyre Pressure Control (Digit 7)
H= Hendrickson	W = Wide 6 Inch (152.4 mm)	23 = 23,000 lbs (10,430 kg) 25 = 25,000 lbs (11,334 kg)	L = Low Ride	See below.	C = None P = TIREMAAX™ PRO

Specific Option Code (Digit 6)

SOC	Axle Track	Brake Type	Spindle type	Axle Diameter
J	73 Inch	15 Inch Drum	HP – Parallel	5 Inch
K	73 Inch	16.5 Inch Drum	HN – Tapered	5.75 Inch (LDA)
L	73 Inch	16.5 Inch Drum	HP – Parallel	5.75 Inch (LDA)
M	73 Inch	377 & 430 mm Disc	HN – Tapered	5.75 Inch (LDA)
P	77.5 Inch	16.5 Inch Drum	HN – Tapered	5.75 Inch (LDA)
Q	71.5 Inch	16.5 Inch Drum	HN – Tapered	5.75 Inch (LDA)
T	83.5 Inch	16.5 Inch Drum	HP – Parallel	5.75 Inch (LDA)
U	73 Inch	15 Inch Drum	HN – Tapered	5 Inch
V	73 Inch	415 mm MAXX22T Disc	HP – Parallel	5.75 Inch (LDA)

RIDE HEIGHT LABEL

The ride height label (refer to Figure 3) is usually affixed to the trailer frame, and provides an additional means of identification for an INTRAAX® axle or suspension system, as well as confirming system ride height for service purposes.

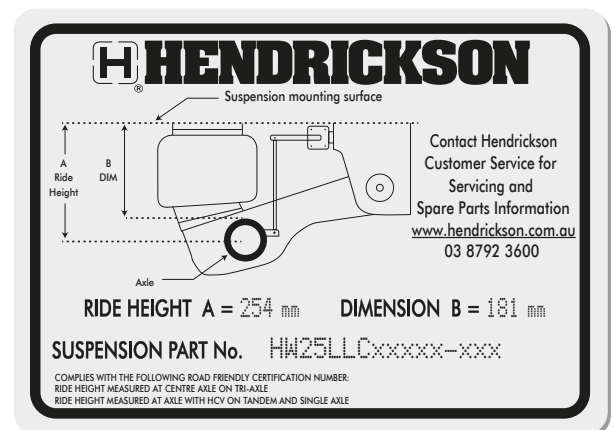


Figure 3: Ride Height Label



AXLE ASSEMBLY

If a replacement HALFTRAAX assembly is needed, collect all details from axle identification and assembly plates and then contact Hendrickson customer service who recommend the best and most suitable components to suit your application.

HALFTRAAX™ ASSEMBLY COMPONENTS

All replacement AAL Drum Brake HALFTRAAX™ axle assemblies are supplied complete with the following components:

- TRI-FUNCTIONAL™ Bushes
- S-Cams and tubes
- Brake anchor pins and bushes

Refer to [Figure 4](#) for a detailed view of the AAL drum brake HALFTRAAX assembly as supplied.

All replacement AAL Disc Brake HALFTRAAX axle assemblies are supplied complete with the following components:

- ABS Brake Sensor Locating Bush
- TRI-FUNCTIONAL Bushes (TFB)
- Lower shock absorber mounts

Refer to [Figure 5](#) for a detailed view of the AAL disc brake HALFTRAAX assembly as supplied.

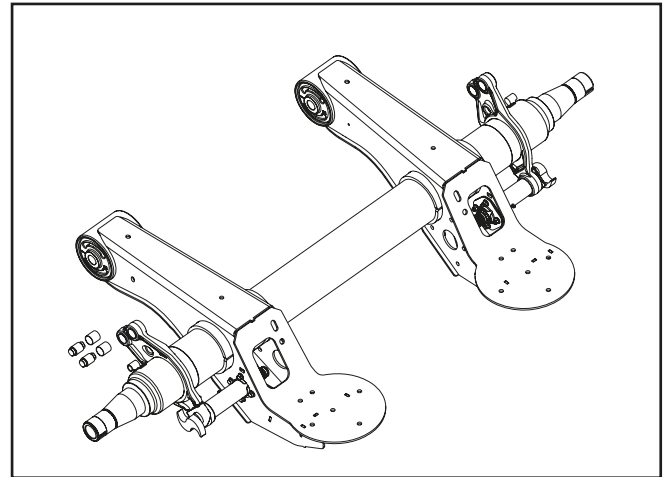


Figure 4: Drum Brake HALFTRAAX

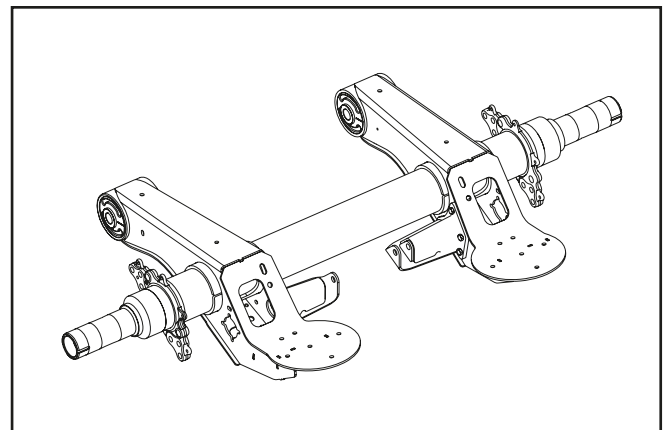


Figure 5: Disc Brake HALFTRAAX

NOTE: Almost all new HALFTRAAX axle assemblies are the latest design 5.75 inch Large Diameter Axle (LDA). They have severe service camshaft tubes (if drum brake) and are a direct replacement for earlier 5 inch axles. However, if using clamp on brake dust shields, they will need to be updated, to suit the 5.75 inch axles.

HALFTRAAX SPINDLE IDENTIFICATION

AAL INTRAAAX suspension systems are available with HN (Tapered) and HP (Parallel) type spindles. Refer to [Figure 6](#).

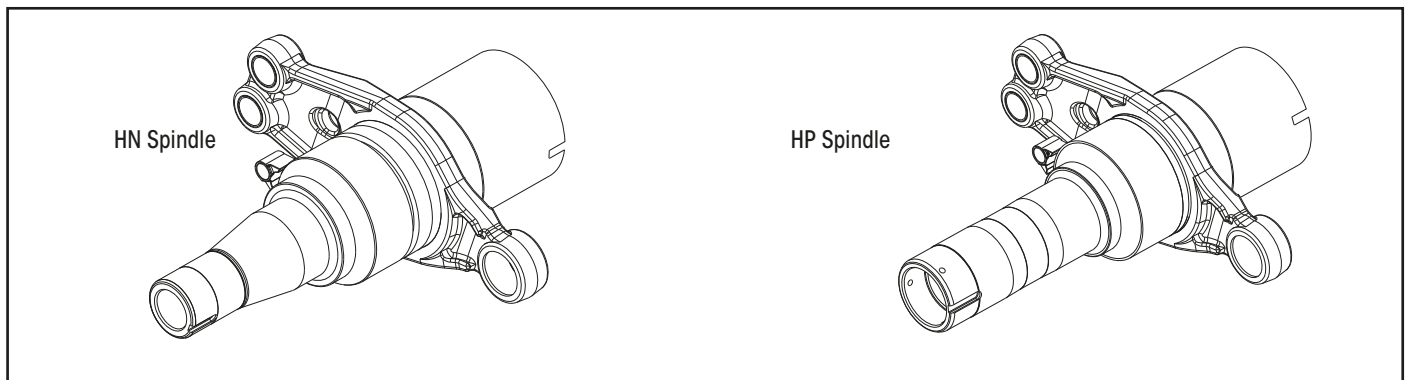


Figure 6: Spindle Comparison



HALFTRAAX Number	Description	Notes
E1INTSUSP.3499	HALFTRAAX™ AAL230 73" Track 15" Drum HN	5 Inch Axle
E1INTSUSP.3632	HALFTRAAX™ AAL230 73" Track 15" Drum HP	5 Inch Axle
E1INTSUSP.3459	HALFTRAAX AAL230 71.5" Track 16.5" Drum HN	LDA Axle
E1INTSUSP.3457	HALFTRAAX AAL230 73" Track 16.5" Drum HN	LDA Axle
E1INTSUSP.3458	HALFTRAAX AAL250 73" Track 16.5" Drum HP	LDA Axle
E1INTSUSP.3518	HALFTRAAX AAL230 73" Track 377/430 mm Disc HN	LDA Axle
E1INTSUSP.3456	HALFTRAAX AAL250 73" Track 430 mm Disc HP	5 Inch Axle
E1INTSUSP.3510	HALFTRAAX AAL250 73" Track MAXX22T 415 mm Disc HP	LDA Axle

FRAME HANGER & PIVOT

FRAME HANGER IDENTIFICATION

To determine the applicable frame hanger for a specific suspension, the hanger 'drop' will often need to be determined.

Frame drop is the measurement in millimetres from the underside of the trailer frame to the centre of the pivot bolt hole. Refer to dimension 'A' in Figure 7.

Frame hangers are available in both standard and tapered styles.

Refer to Figure 8 for a pictorial comparison of standard (view A) and tapered (view B) frame hanger designs.

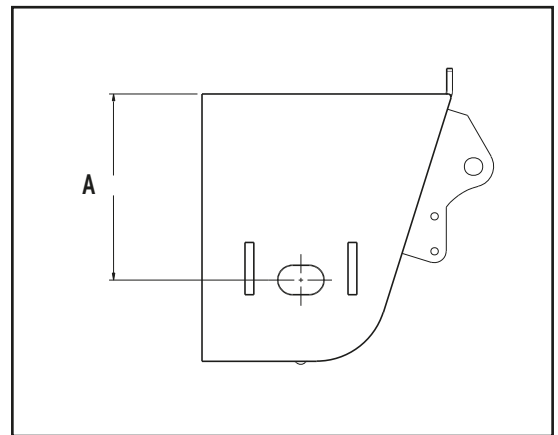


Figure 7: Hanger Drop

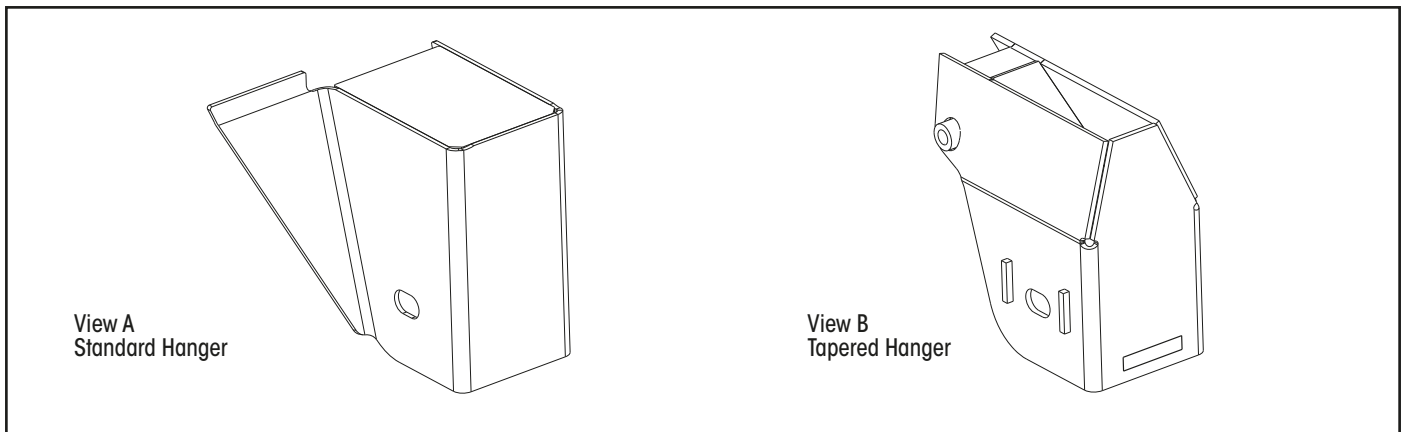
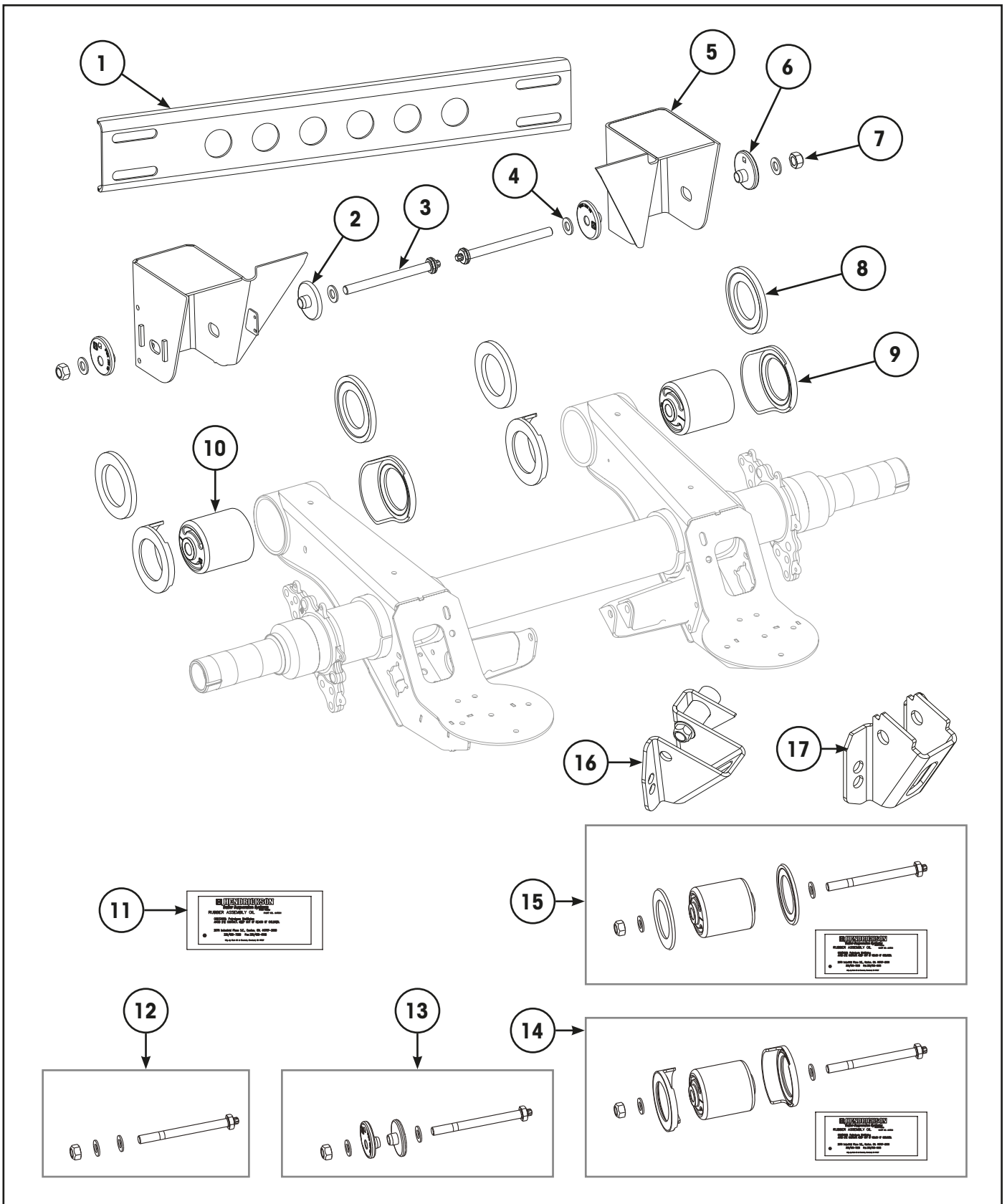


Figure 8: Hanger Design



FRAME HANGER & PIVOT



[1] NOTE: The TRI-FUNCTIONAL™ bush (TFB™) is larger than the inner diameter of axle beam tube. To avoid damaging the TFB, the correct installation tool **MUST** be used along with the appropriate lubricants. Refer to the “Special Tools” on page 25 section for tool details. For bush replacement procedures, refer to Hendrickson [Technical Bulletin L427](#).



FRAME HANGER & PIVOT

Item	Part Number	Description	Qty	Notes	
1	98870-016	Brace Channel, Hanger Support	1	Suits 254 & 305 mm drop. 40 x 202 x 1040 mm.	
2	C-20924	Flanged Washer, Inner – QUIK-ALIGN®	2	Concentric. Use Item 13.	
3	NSS	Shear Bolt – QUIK-ALIGN	2	Use Item 12, 13, 14 or 15.	
4	NSS	Hardened Washer – 7/8"	4	Use Item 12, 13, 14 or 15.	
5	98938-014	Frame Hanger, LH - Standard [2]	1	114 mm drop. 6.5" & 7.5" ride height drum brake. Refer "Frame Hanger Identification" on page 7.	
	98938-015	Frame Hanger, RH - Standard [2]	1		
	98938-016	Frame Hanger, LH - Standard [2]	1	114 mm drop. 9" ride height drum brake. Refer "Frame Hanger Identification" on page 7.	
	98938-017	Frame Hanger, RH - Standard [2]	1		
	98938-020	Frame Hanger, LH - Standard [2]	1	114 mm drop. 7.5" & 9" ride height disc brake. Refer "Frame Hanger Identification" on page 7.	
	98938-021	Frame Hanger, RH - Standard [2]	1		
	98938-018	Frame Hanger, LH - Standard [2]	1	203 mm drop. 10" & 12" ride height drum brake. Refer "Frame Hanger Identification" on page 7.	
	98938-019	Frame Hanger, RH - Standard [2]	1		
	98938-094	Frame Hanger, LH - Tapered [2]	1	203 mm drop. 10" & 12" ride height drum brake. Tapered hanger option. Refer "Frame Hanger Identification" on page 7.	
	98938-095	Frame Hanger, RH - Tapered [2]	1		
	98938-022	Frame Hanger, LH - Standard [2]	1	203 mm drop. 10" & 12" ride height disc brake. Refer "Frame Hanger Identification" on page 7.	
	98938-023	Frame Hanger, RH - Standard [2]	1		
		S-24766-3L	Frame Hanger, LH - Standard [2]	1	254 mm drop. 15" ride height drum brake. Refer "Frame Hanger Identification" on page 7.
		S-24766-3R	Frame Hanger, RH - Standard [2]	1	
	S-24766-4L	Frame Hanger, LH - Standard [2]	1	305 mm drop. 16" & 17" ride height drum brake. Refer "Frame Hanger Identification" on page 7.	
	S-24766-4R	Frame Hanger, RH - Standard [2]	1		
6	C-20925	Flanged Washer, Outer – QUIK-ALIGN	2	Eccentric. Use Item 13.	
7	NSS	Nut, Prevailing Torque – 7/8 UNC	2	Use Item 12, 13, 14 or 15.	
8	S-21099-4P	Kit, Wear Bushing – Flat	1	Included in item 15.	
	S-40230-1	Wear Bush, Heavy Duty Flat	4	For severe off-highway applications.	
9	S-26824-4P	Kit, Wear Bushing – Glove Style	1	Not recommended for off-road. Included in item 14.	
10	NSS	Bush, TRI-FUNCTIONAL™	2	[1] Use Item 14 or 15.	
11	A-14011	Lube Pack, TRI-FUNCTIONAL Bush	2	Included in items 14 and 15.	
12	S-31623	Kit, Pivot Bolt	2	Includes Items 3, 4 & 7.	
13	S-31625	Kit, Pivot Bolt & QUIK-ALIGN Flanged Washer	2	Includes Item 2, 3, 4, 6 & 7.	
14	98591-010	Kit, Pivot Bush – Glove Washer	2	[1] Includes Items 3, 4, 7, 9, 10 & 11.	
15	A-31624	Kit, Pivot Bush – Flat Washer	2	[1] Includes Items 3, 4, 7, 8, 10 & 11.	
16	98870-017	Brake Chamber Mount – Left Hand	1	Suits early 5" axles. Includes lower shock mount.	
	98870-018	Brake Chamber Mount – Right Hand	1	Suits early 5" axles. Includes lower shock mount.	
17	S-39906-1	Brake Chamber Mount	2	Suits 5-3/4" LDA axles.	

[2] Hanger Repair Kits: Two hanger repair kits are available to assist with repair of cracked, worn or gouged hangers. Depending on the damage involved it may be possible to use one of these kits instead of replacing the entire hanger. A hanger that has been repaired with kit 98690-001 will require a unique pivot bolt and collars. These are available as pivot bolt 98591-013 (item 12), bolt & collar kit 98591-012 (item 13) and bolt, flat wear washer & bush kit 98591-011 (item 15). For more details refer to Hendrickson [Technical Bulletin 97117-101](#).

- 98690-001 is for worn or gouged hangers
- 98544-024 is for hangers with minor cracking



AIR SPRINGS

AIR SPRING IDENTIFICATION

To assist with the correct air spring identification a visual inspection of the air spring is recommended. There are two air spring identification markings:

- The air spring part number is provided on a decal on the upper bead-plate (refer to Item 1 in [Figure 9](#)).
- Moulded into the air spring rubber bellows (refer to Item 2 in [Figure 9](#)).

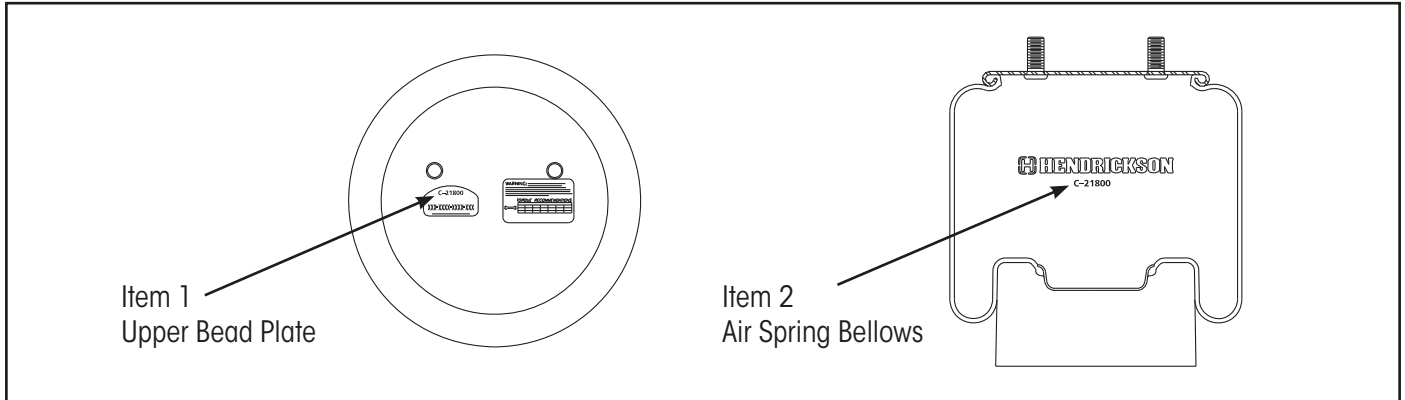
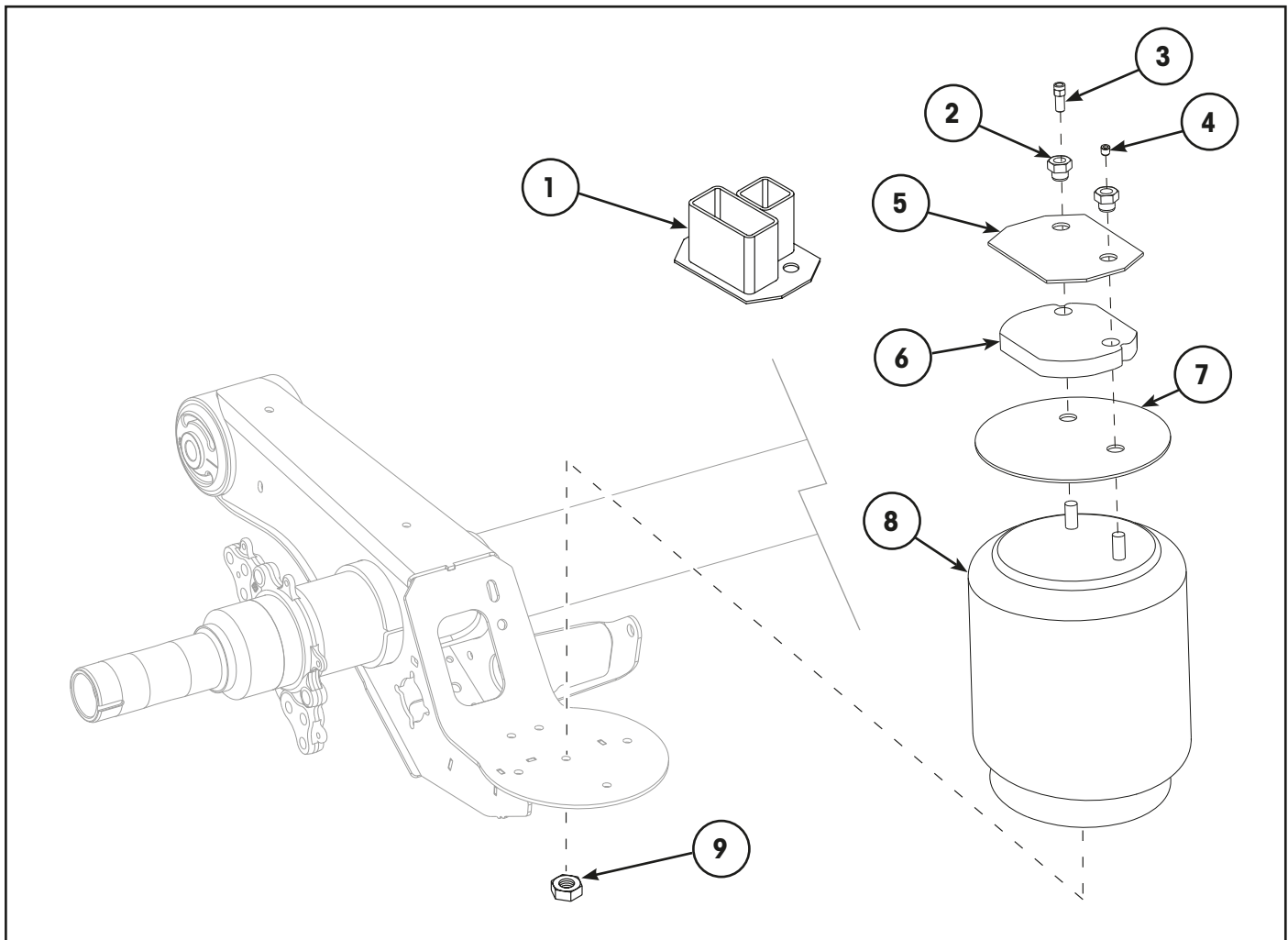


Figure 9: Air Spring Identification

AIR SPRINGS & HARDWARE





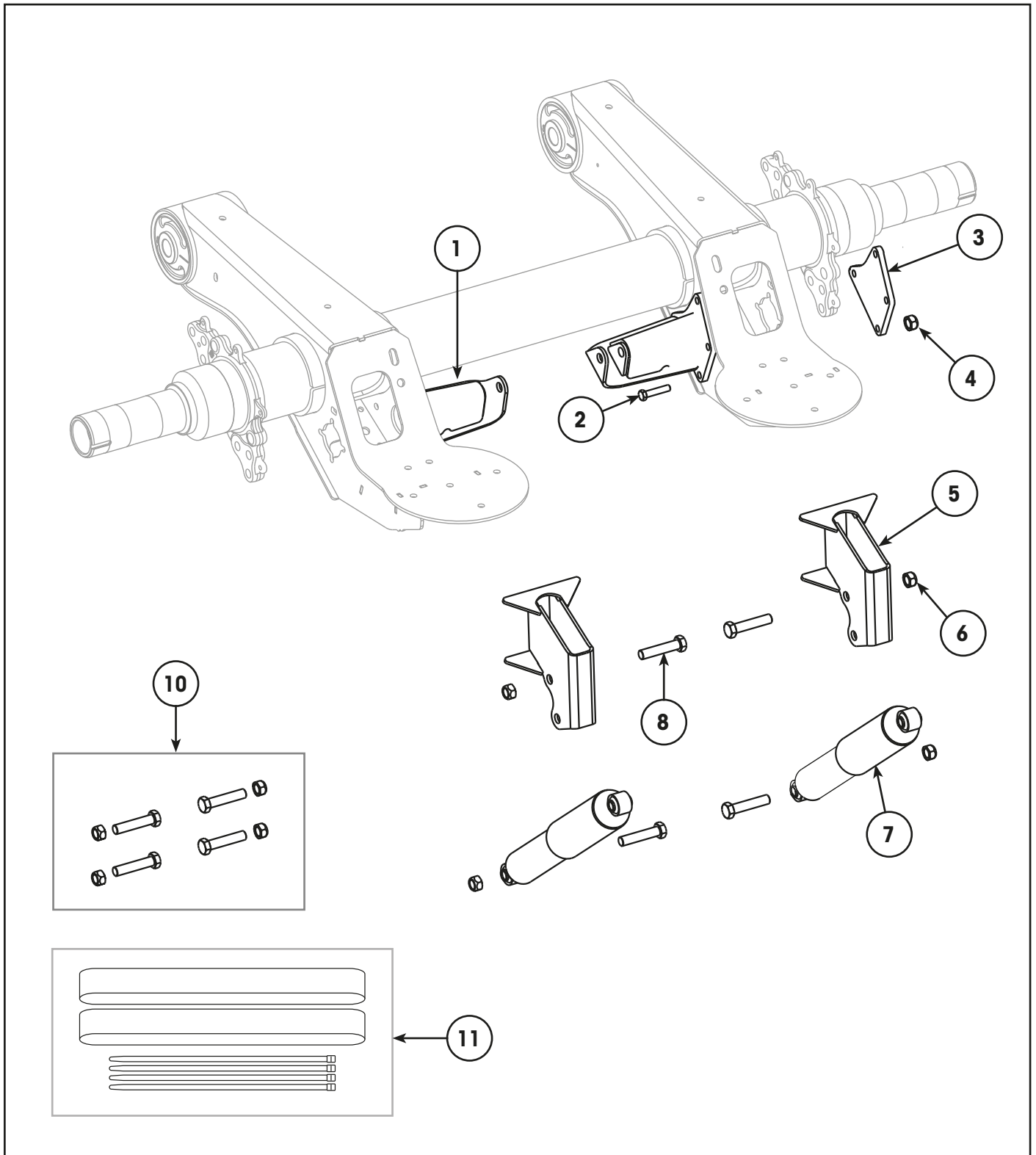
AIR SPRINGS & HARDWARE

Item	Part Number	Description	Qty	Notes
1	S-27049-1	Frame Spacer – Air Spring, 103 mm	2	[1] 12" ride height, without spacer option.
	S-27049-2	Frame Spacer – Air Spring, 135 mm	2	[1] 15" & 16" ride height.
	S-27049-4	Frame Spacer – Air Spring, 186 mm	2	[1] 17" ride height.
2	NSS	Air Fitting Nut – Air Spring	4	Use item 10.
3	NSS	Air Fitting, 3/8" – Air Spring	2	Use item 10.
4	NSS	Plug, Air Fitting – 1/4" NPT	2	Use item 10.
5	S-20905	Frame Plate – Air Spring Mount	2	6.5", 7.5", 9", 10" & 12" ride height.
6	S-22510-4	Spacer, Air Spring – 19 mm	2	[1] 7.5" & 9" ride height, excluding limited jounce & liftable.
	S-22510-1	Spacer, Air Spring – 29 mm	2	[1] 12" ride height, excluding limited jounce, liftable & without spacer option.
	S-22510-2	Spacer, Air Spring – 48 mm	2	[1] 9" & 12" ride height limited jounce.
7	S-23294	Flex Plate, Air Spring – Upper	2	6.5", 7.5", 9", 10" & 12" ride height.
8	S-23721	Air Spring Assembly	2	6.5" & 7.5" ride height drum brake.
	S-23611	Air Spring Assembly	2	7.5" ride height disc brake. 9" ride height.
	S-23612	Air Spring Assembly	2	10", 12", 15", 16" & 17" ride height.
9	SA-7000-1	Nut, Flanged – Air Spring	2	1/2"-13. Included in Item 10.
10	S-22619	Hardware Kit – Air Spring (Not Illustrated)	1	6.5" ride height. 9" ride height liftable. 10" ride height. 12" ride height liftable & without spacer option. 15" ride height. 16" ride height. 17" ride height. [1] Suits no air spring spacer and 135 & 186 mm frame spacers. Includes items 2, 4 & 9.
	S-22630	Hardware Kit – Air Spring (Not Illustrated)	1	7.5" ride height. 9" ride height, excluding limited jounce & liftable. 12" ride height, excluding limited jounce, liftable & without spacer option. [1] Suits 19 & 29 mm air spring spacer. Includes items 2, 3, 4 & 9.
	S-22631	Hardware Kit – Air Spring (Not Illustrated)	1	9" ride height limited jounce. 12" ride height limited jounce. [1] Suits 48 mm air spring spacer. Includes items 2, 3, 4 & 9.

[1] AIR SPRING SPACER NOTE: The easiest way to determine frame spacer and air spring spacer requirements is to measure the components currently in use and compare to description.



SHOCK ABSORBERS & HARDWARE DISC BRAKE

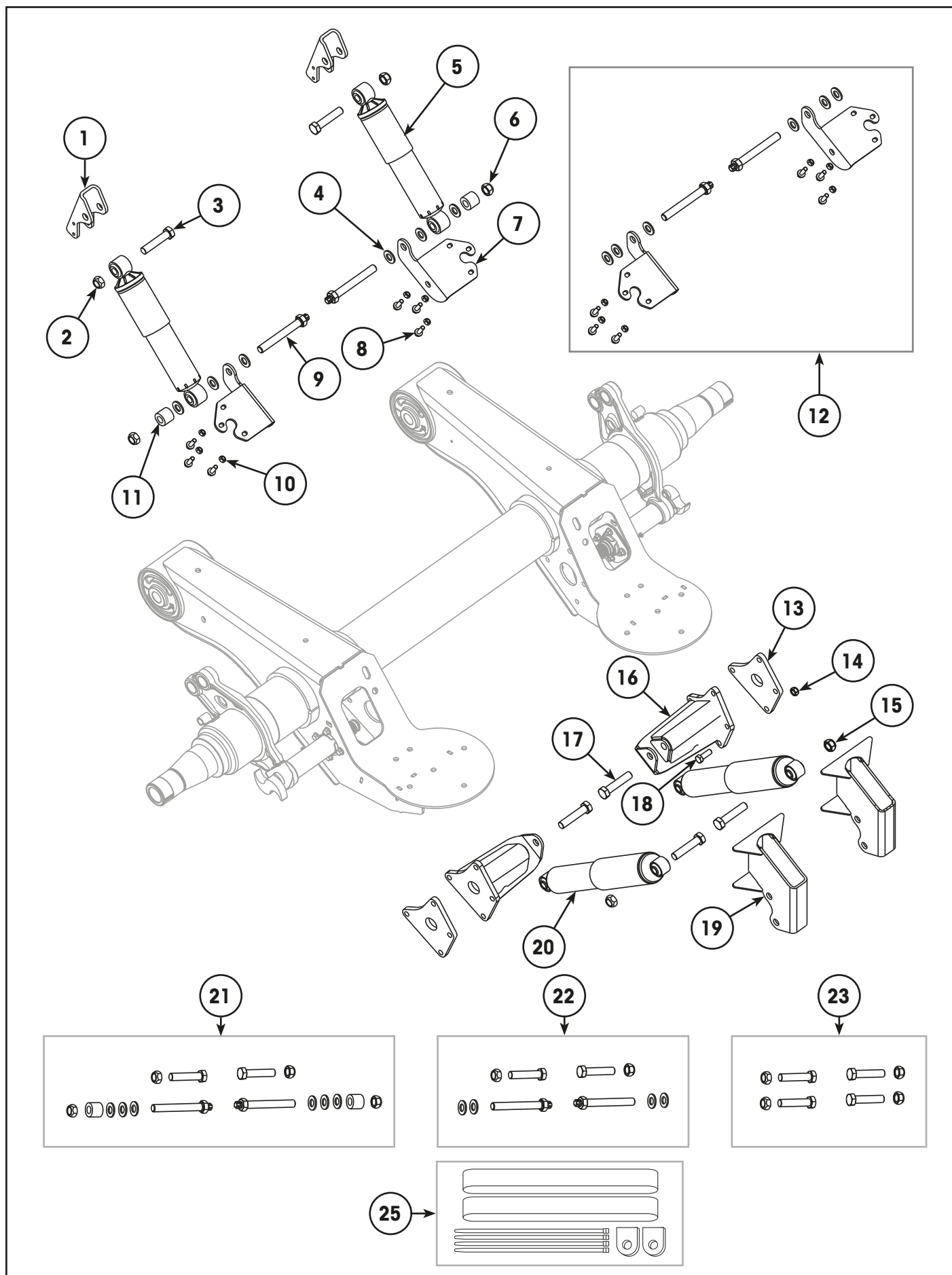


**DISC BRAKE**

Item	Part Number	Description	Qty	Notes
1	S-24807-1	Shock Tower, Lower – LH	1	
	S-24807-2	Shock Tower, Lower – RH	1	
2	NSS	Bolt, Shock Tower to Axle	8	Use item 9.
3	S-28347	Plate, Backing – Lower Shock Tower	2	
4	NSS	Nut, Shock Tower to Axle	8	Use item 9.
5	S-29967	Bracket, Shock Mount – Upper	2	7.5" & 9" ride height disc brake.
	S-25420	Bracket, Shock Mount – Upper	2	10" & 12" ride height disc brake.
6	NSS	Nut, Lock – Shock Absorber	4	3/4"-10 UNC. Use item 10.
7	S-25436	Shock Absorber Assembly – Road Friendly	2	
8	NSS	Bolt – Shock Absorber	4	3/4"-10 UNC x 3.5". Use item 10.
9	S-25449	Kit, Shock Tower (Not Illustrated)	1	Includes items 2 & 4.
10	A-2157	Kit, Shock Bolt	1	Includes items 6 & 8.
11	C-14587-4L	Shock Strap Kit – Suits S-25436	1	Includes straps & cable ties.



SHOCK ABSORBERS & HARDWARE DRUM BRAKE STANDARD HANGER





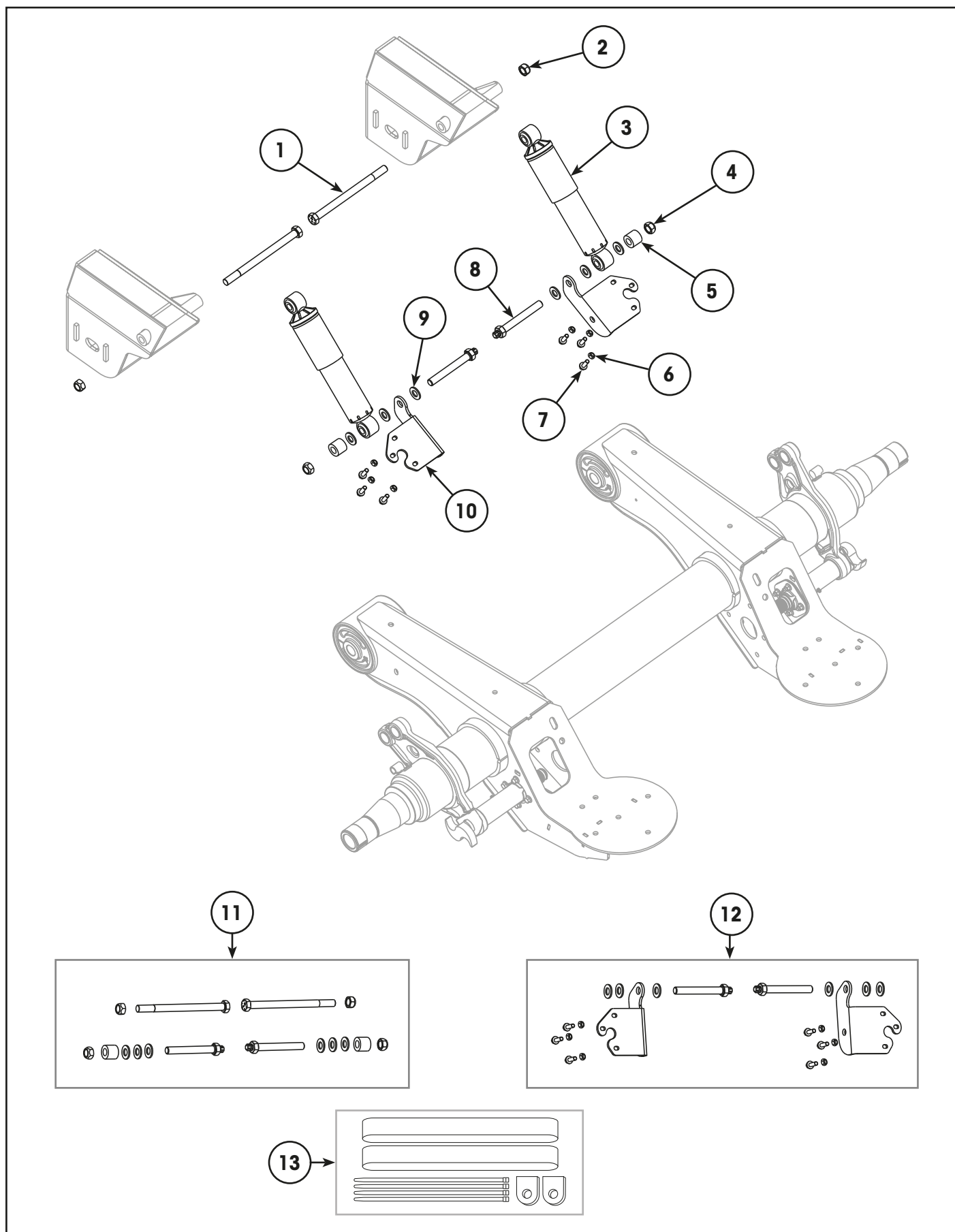
DRUM BRAKE STANDARD HANGER

Item	Part Number	Description	Qty	Notes
1	98544-245	Kit, Clevis Repair, Shock Mount – Upper	2	6.5" & 7.5" ride height. Includes clevis (98870-007), support plate & instructions.
	98870-010	Clevis, Shock Mount – Upper	2	9" & 12" ride height.
2	NSS	Nut, Lock – 3/4"-10 UNC	2	Use item 21 or 22.
3	NSS	Bolt – 3/4"-10 UNC x 3-1/2"	2	Use item 21 or 22.
4	NSS	Washer, Hardened – 3/4"	6	Use item 21 or 22.
5	98583-010	Shock Absorber, Front – Standard	2	6.5", 7.5" & 9" ride height. Road friendly.
	98583-010K	Shock Absorber, Front – Heavy Duty	2	6.5", 7.5" & 9" ride height. Road friendly.
	S-24579	Shock Absorber, Front	2	6.5", 7.5" & 9" ride height. Non-road friendly
	S-21699	Shock Absorber, Front – Standard	2	10" & 12" ride height. Road friendly.
	S-20889	Shock Absorber, Front	2	10" & 12" ride height. Non-road friendly.
	S-23316	Shock Absorber, Front	2	15", 16" & 17" ride height. Non-road friendly.
6	NSS	Nut, Lock – 3/4"-10 UNC	2	Use Item 21 or 22.
7	B-30925-1	Bracket, Shock Absorber Lower – LH	1	[1] 5" (from mid 2013) & 5.75" LDA axle. Included in kit, item 12.
	B-30925-2	Bracket, Shock Absorber Lower – RH	1	
	B-31062-1	Bracket, Shock Absorber Lower – LH	1	[1] 5" axle (up to mid 2013). Included in kit, item 12.
	B-31062-2	Bracket, Shock Absorber Lower – RH	1	
8	SA-6900-5	Screw, Flanged – 3/8"-16 x 1.25"	6	
9	NSS	Shock Absorber Bolt, Lower – Shear Type	2	3/4"-10 UNC x 7" . Use item 21 or 22.
10	SA-7000-3	Nut, Flanged – 3/8"-16 x 1.25"	6	
11	A-30202-1	Spacer, Lower Shock Mount	2	[1] 5" (from mid 2013) & 5.75" LDA axle.
12	98918-016	Kit, Lower Shock Bracket	1	[1] 5" axle (up to mid 2013).
	98918-017	Kit, Lower Shock Bracket	1	[1] 5" (from mid 2013) & 5.75" LDA axle.
13	S-28347	Plate, Backing – Lower Shock Tower	2	
14	NSS	Nut, Shock Tower to Axle	8	Use item 24.
15	NSS	Nut, Lock – Shock Absorber	4	3/4"-10 UNC. Use item 23.
16	S-24807-1	Shock Tower, Lower – LH	1	Included in item 24.
	S-24807-2	Shock Tower, Lower – RH	1	
17	NSS	Bolt - Rear Shock Absorber	4	3/4"-10 UNC x 3.5". Use item 23.
18	NSS	Bolt, Shock Tower to Axle	8	Use item 24.
19	S-29967	Bracket, Shock Mount - Upper	2	7.5" & 9" ride height
	S-25420	Bracket, Shock Mount - Upper	2	10" & 12" ride height
20	S-25436	Shock Absorber, Rear	2	
21	98111-112	Kit, Shock Bolt – Front Shock Absorber	1	[1] 5" (from mid 2013) & 5.75" LDA axle.
22	98111-104	Kit, Shock Bolt – Front Shock Absorber	1	[1] 5" axle (up to mid 2013).
23	A-2157	Kit, Shock Bolt – Rear Shock Absorber	1	Rear shock absorber.
24	S-25449	Kit, Shock Tower (Not Illustrated)	1	Includes items 14 & 18.
25	S-23086-8	Shock Strap Kit – Suits 98583-010 & S-24579	1	Includes straps, cable ties & clevises (if necessary). For S-23316 shock use C-14587-3L if no strap clevises are required.
	98918-009	Shock Strap Kit – Suits S-20889 & S-21699	1	
	S-23086-6	Shock Strap Kit – Suits S-23316	1	

[1] Brake Chamber Bracket & Shock Mount: INTRAAX AAL 5" axles, produced up to middle of 2013, used a lower shock tube and brake chamber bracket. Refer to "Frame Hanger & Pivot" on page 7.



SHOCK ABSORBERS & HARDWARE DRUM BRAKE TAPERED HANGER





DRUM BRAKE TAPERED HANGER

Item	Part Number	Description	Qty	Notes
1	NSS	Bolt, 3/4"-10 UNC x 12", Grade 8	2	Use item 11.
2	NSS	Nut, Flanged – 3/4"-10 UNC	2	Use item 11.
3	S-21699	Shock Absorber, Front – Standard	2	Road friendly. 10 & 12" Right Height.
	S-20889	Shock Absorber, Front	2	Non-road friendly. 10 & 12" Right Height.
4	NSS	Nut, Lock – 3/4"-10 UNC	2	Use item 11.
5	NSS	Spacer, Lower Shock Mount	2	Use item 11.
6	SA-7000-3	Nut, Flanged – 3/8"-16 x 1.25"	6	
7	SA-6900-5	Screw, Flanged – 3/8"-16 x 1.25"	6	
8	S-24058-2	Shock Absorber Bolt, Lower – Shear Type	2	3/4"-10 UNC x 7". Use item 11.
9	NSS	Washer, Hardened – 3/4"	6	Use item 11.
10	B-31062-1	Bracket, Shock Absorber Lower – LH	1	[1] 5" axle (up to mid 2013). Included in kit, item 12.
	B-31062-2	Bracket, Shock Absorber Lower – RH	1	
	B-30925-1	Bracket, Shock Absorber Lower – LH	1	[1] 5" (from mid 2013) & 5.75" LDA axle. Included in kit, item 12.
	B-30925-2	Bracket, Shock Absorber Lower – RH	1	
11	98111-127	Kit, Shock Bolt	1	Includes items 1, 2, 4, 5 & 9.
12	98918-016	Kit, Lower Shock Bracket	1	[1] 5" axle (up to mid 2013).
	98918-017	Kit, Lower Shock Bracket	1	[1] 5" (from mid 2013) & 5.75" LDA axle.
13	98918-009	Shock Strap Kit – Suits S-20889 & S-21699	1	Includes straps, cable ties & clevises (If necessary).

[1] Brake Chamber Bracket & Shock Mount: INTRAAX AAL 5" axles, produced up to middle of 2013, used a lower shock tube and brake chamber bracket. Refer to "Frame Hanger & Pivot" on page 7.



HEIGHT CONTROL VALVE

HCV SYSTEM IDENTIFICATION

For AAL INTRAAAX suspension systems, the Height Control Valve (HCV) components are common regardless of configuration, with the following exceptions.

The HCV mounting bracket varies between standard & tapered hanger.

The lower linkage mounting bracket is available in two variations (refer [Figure 10](#)) as follows:

- Fixed to the axle tube (Refer to View A)
- Fixed to the trailing arm (Refer to View B)

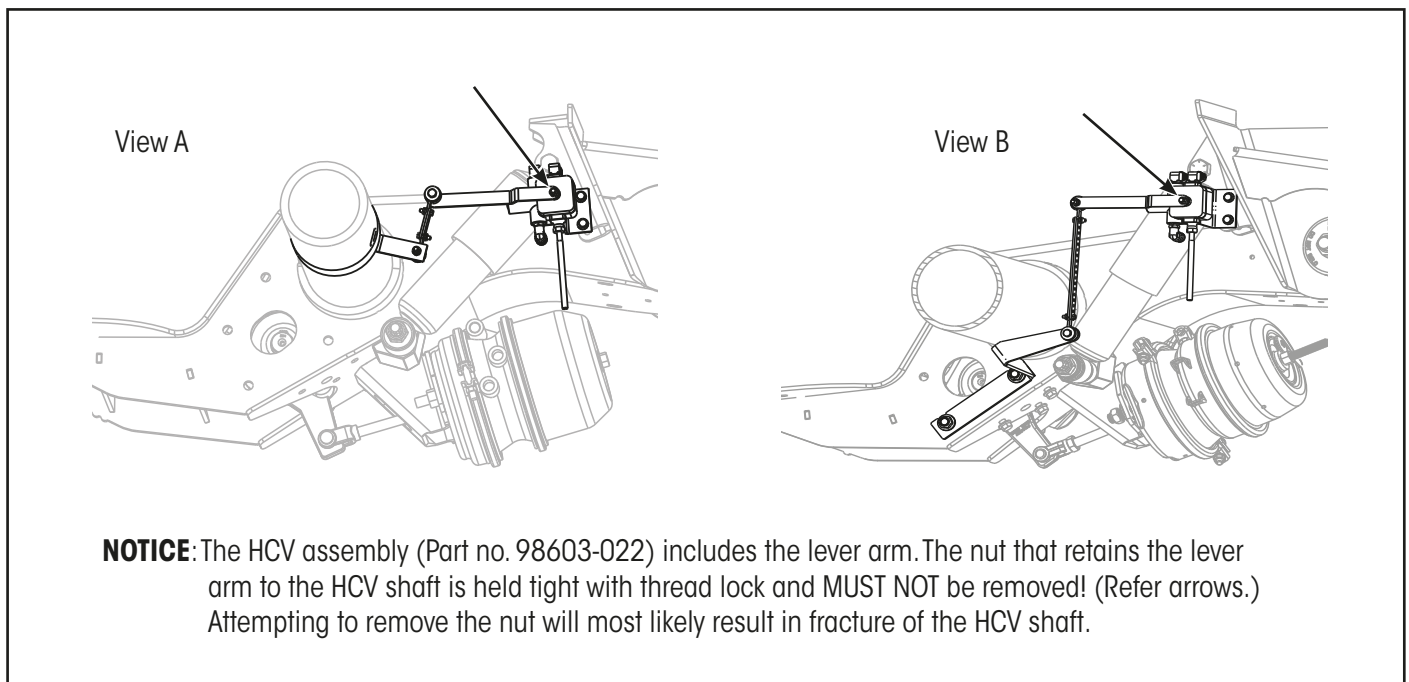


Figure 10: Height Control Valve Mounting

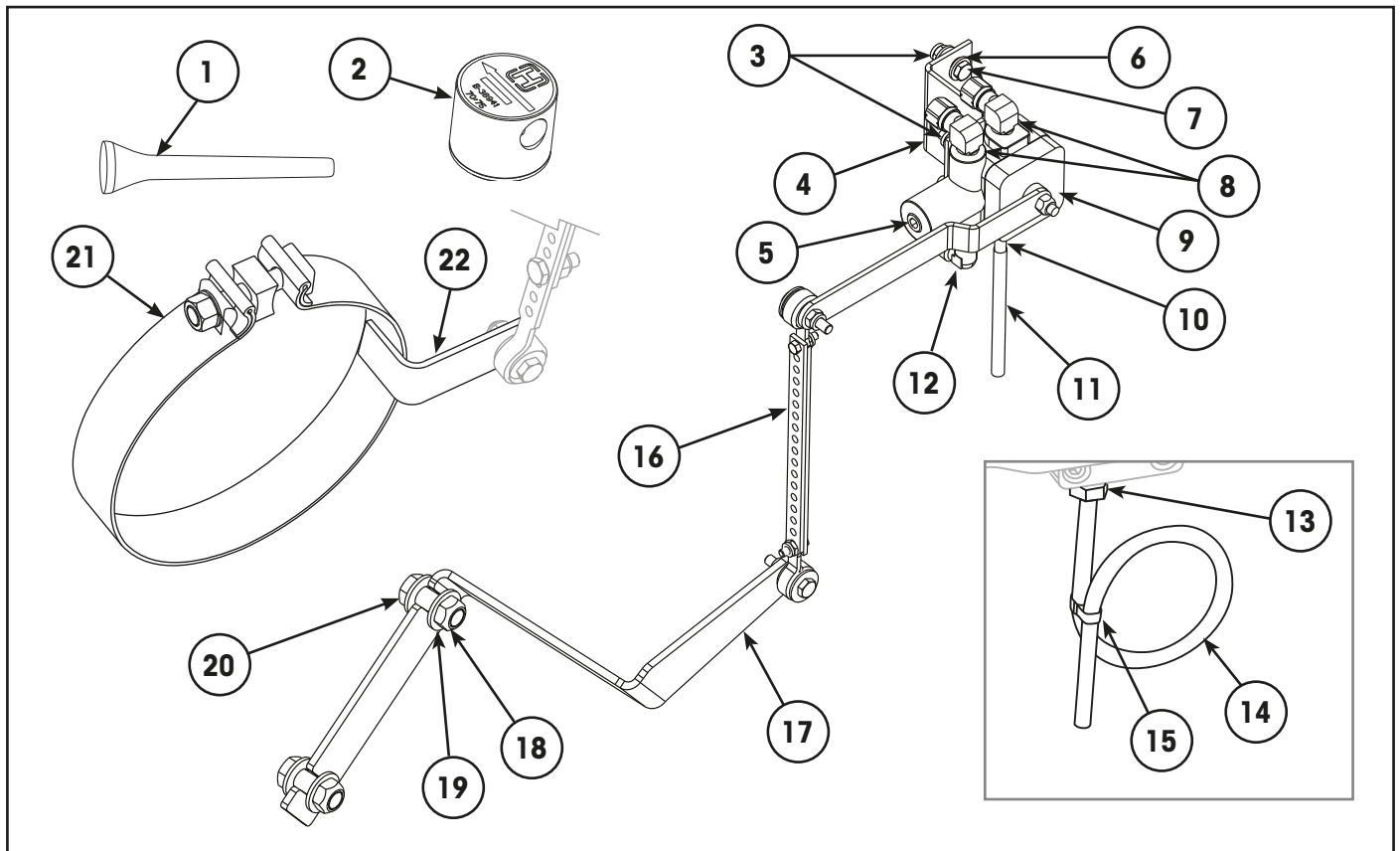
Complete HCV Kits

Complete Height Control Valve kits include HCV, protection valve, linkages, brackets, clamps and necessary hardware.

Number	Suitable For	Components
98606-091	Bolt-On Bracket Mount - Standard Hanger	Includes items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 16, 17, 18, 19 & 20.
N/A	Bolt-On Bracket Mount - Tapered Hanger	–
98606-092	5" Axle Tube Mounted Linkage - Std Hanger	Includes items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 16, 21 & 22.
98606-122	5-3/4" Axle Tube Mounted Linkage - Std Hanger	Includes items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 16, 21 & 22.



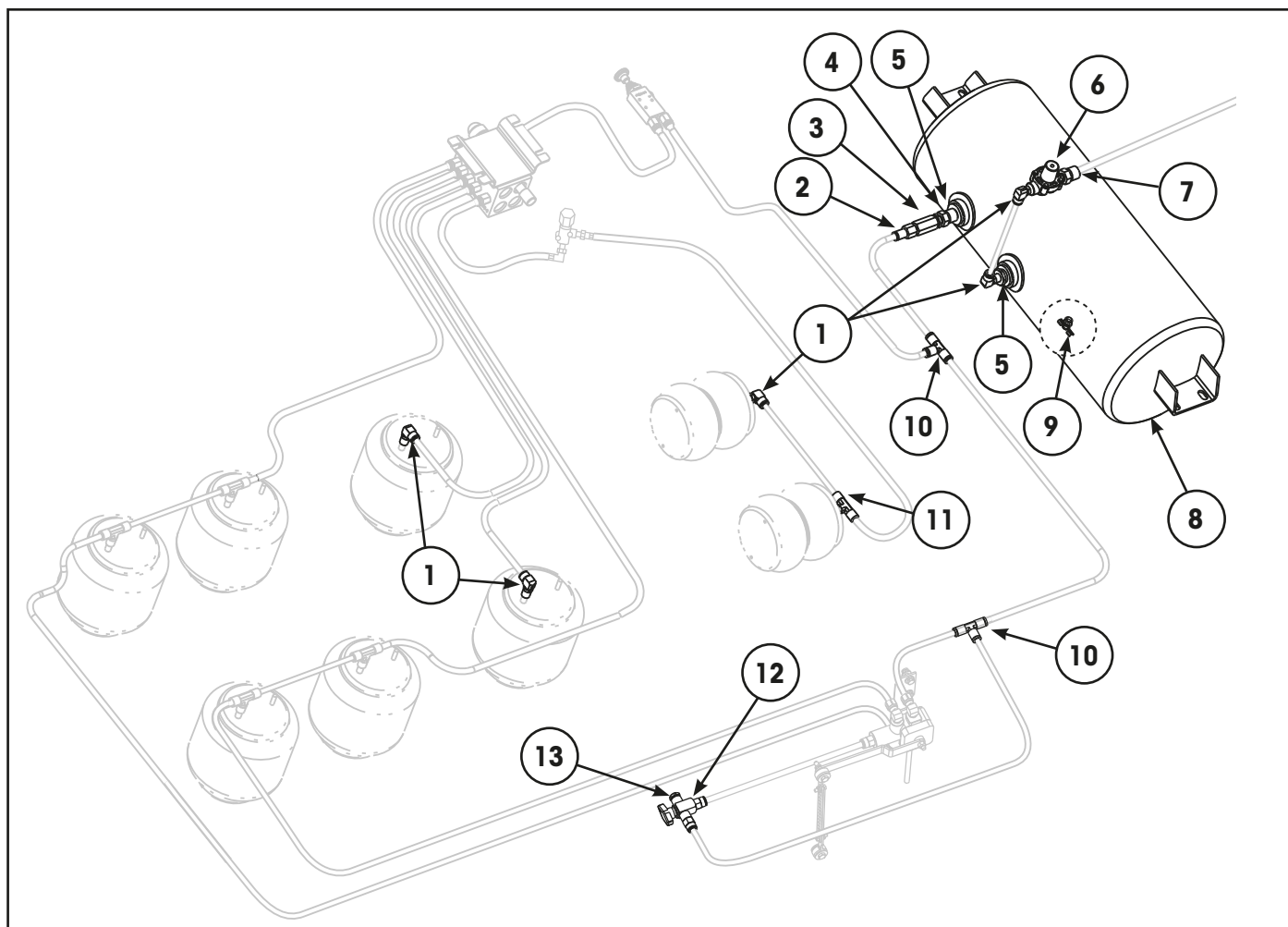
HEIGHT CONTROL VALVE



Item	Part Number	Description	Qty	Notes
1	NSS	HCV Centring Dowel	1	Use item 23.
2	S-38941	Pressure Protection Valve	1	
3	NSS	Nut Lock Hex 1/4" - 20 UNC	4	Use item 23.
4	57975-000	Bracket, HCV Mounting	1	Standard hanger.
	98677-007	Bracket, HCV Mounting	1	Tapered hanger.
5	NSS	Pipe Plug 1/4" NPTF	1	Use item 23.
6	22962-028	Washer, Hardened – 1/4"	6	
7	NSS	Bolt, 1/4"-20 UNC x 3/4"	2	Use item 23.
8	98732-003	Elbow 90° x 1/4" NPTF Compression	2	Compression. Two are included in item 23.
9	98603-022	Height Control Valve 1/4" NPT	1	
10	NSS	Barbed Tube Fitting, 1/4" NPT, Plastic	1	Use item 23. For heavy duty applications use items 13, 14 & 15.
11	NSS	Tube 1/4" ID x 4" Long	1	
12	98934-031	Elbow 90° Swivel x 1/4" NPT	1	Push to connect, swivel.
13	98934-035	Fitting 1/4 NPT, Metal	1	Optional vent tube & fitting suitable for heavy duty axle use.
14	SA-6400-2	Tube, Black Nylon – 1/4" x 12" Long	1	
15	S-11430-1	Tie, Nylon	1	
16	S-14187	Link Assembly – Bolted	1	
17	98587-010	Bracket, Lower – HCV Link	1	Trailing arm mounted.
18	49846-000	Lock Nut, HCV Bracket - 1/2" UNC	2	
19	22962-011	Washer, HCV Bracket – 1/2" Inch	4	
20	98520-002	Bolt, HCV Bracket 1/2" UNC x 1.25"	2	
21	S-26593-1	Clamp, Bracket - HCV Link	1	5.00" axle tube mounted.
	S-26593-3	Clamp, Bracket - HCV Link	1	5.75" axle tube mounted.
22	S-23293	Bracket, Lower – HCV Link	1	Axle tube mounted. Use with clamp, item 21.
23	S-29870	HCV Sub Kit (See also "Complete HCV Kits")	1	Includes items 1,3,5,7,8,10&11.(Not illustrated)



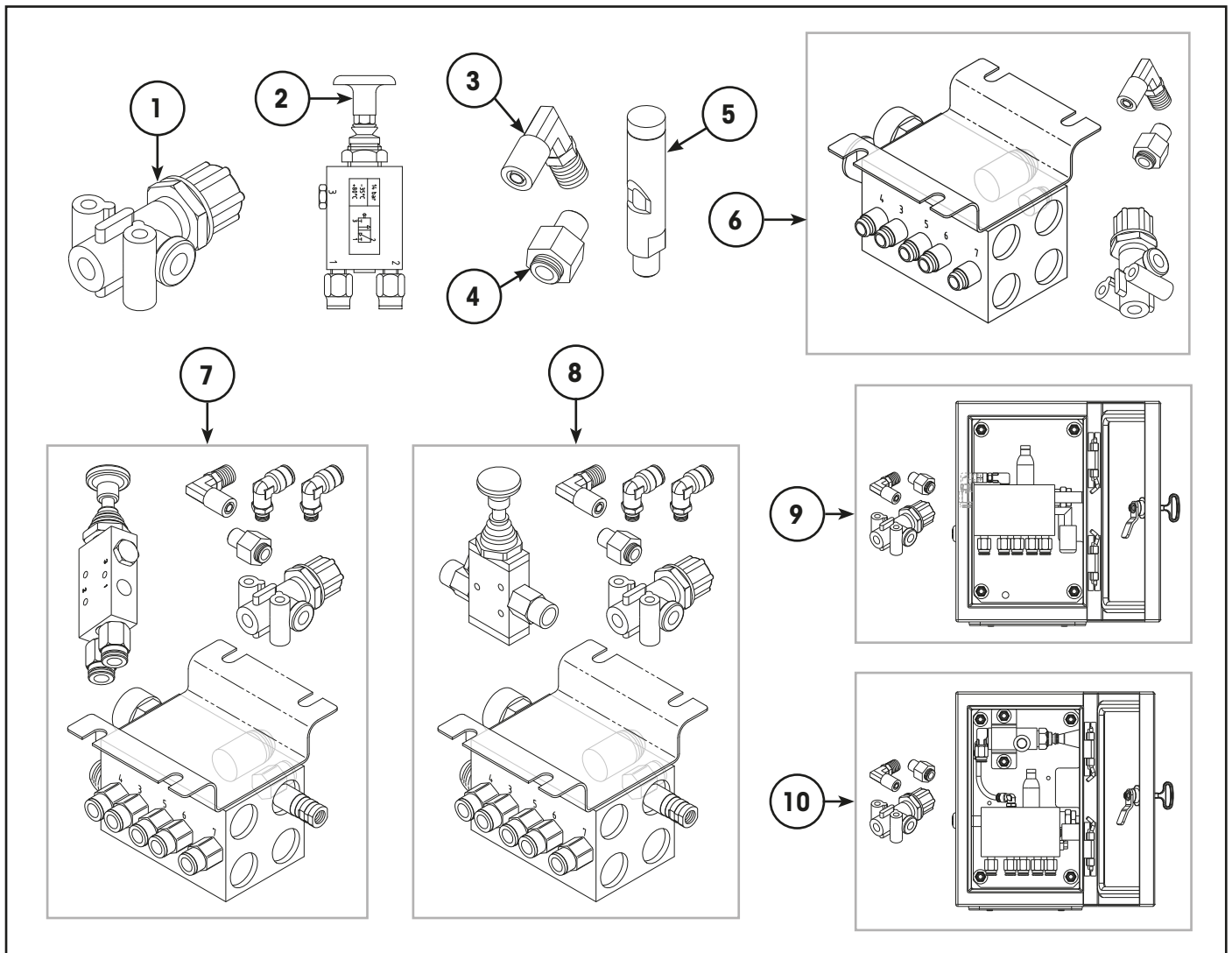
AXLE LIFT SYSTEM CONTROL



Item	Part Number	Description	Qty	Notes
1	98934-031	Male 90° Elbow – 3/8" x 1/4" NPT	AR	
2	98934-005	Connector – Female 3/8" x 1/4" NPT	1	For in-line filter, item 3.
3	98499-006	Air In-Line Filter – 1/4" NPT	1	Use with fitting, item 2.
4	98934-025	Fitting, 1/4" Male x 1/4" Male	1	For in-line filter, item 3.
5	98934-028	Reducing Bush – 3/4" NPT x 1/4" NPT	1	
6	S-38941	Pressure Protection Valve	1	
7	98934-026	Fitting – 1/2" x 1/4" NPT	2	
8	97065-004	Air Tank – 24 Litre, 240 x 630 mm	1	
9	98934-027	Drain Valve	1	
10	98934-015	Tee – 3/8"	1	
11	98934-032	Tee Male Swivel – 3/8"	AR	
12	A-22535	Dump Valve, 3-Way Ball	1	For suspension dump option.
13	98732-015	Silencer Fitting	1	To suit dump valve, item 12.

IMPORTANT: These axle lift system control parts are only applicable to LACV systems supplied by Hendrickson Australia.

LIFT AXLE CONTROL VALVE

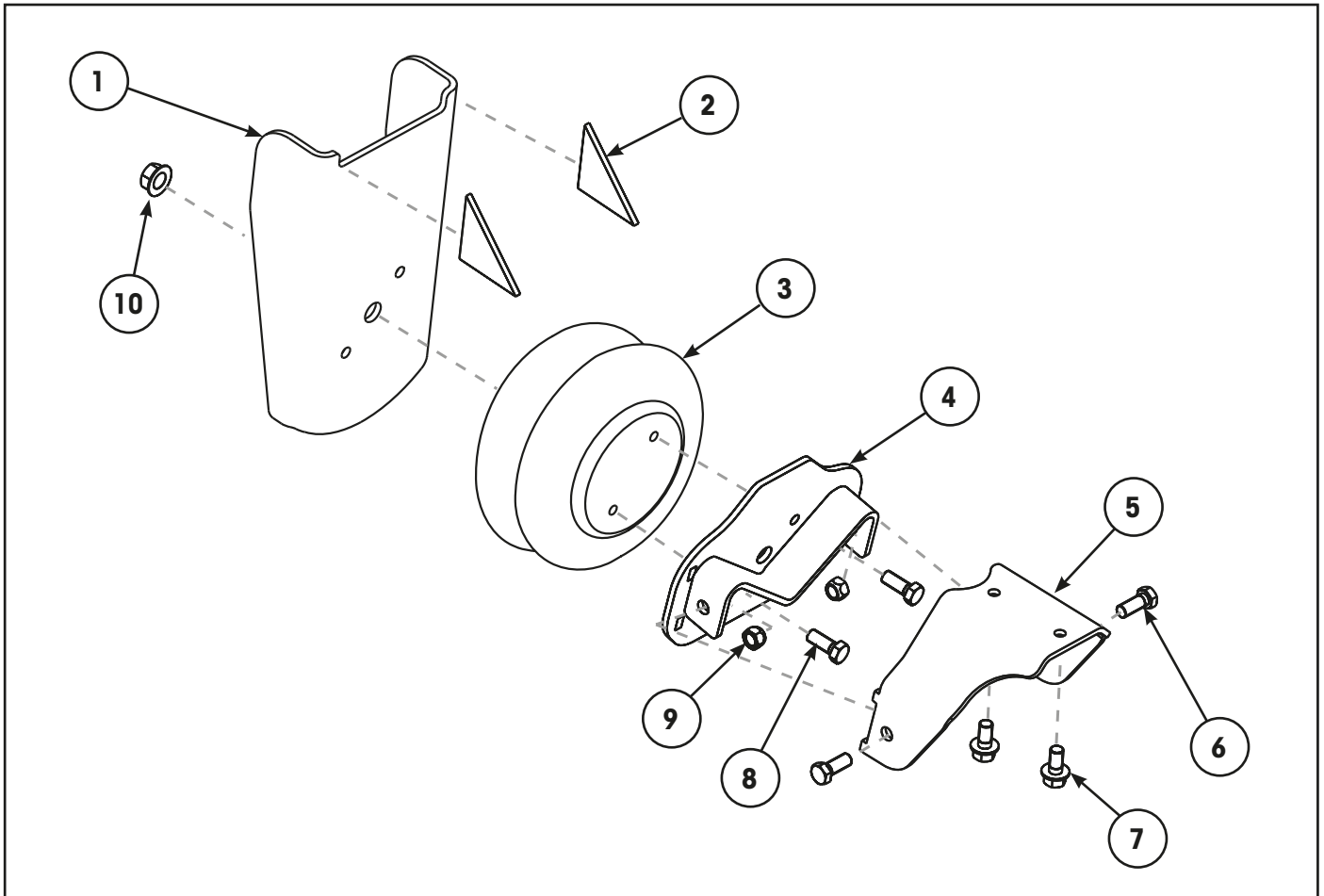


Item	Part Number	Description	Qty	Notes
1	98732-006	Pressure Regulator – 80 psi	1	Included in items 6, 7, 8, 9 & 10.
2	98402-003	Valve – Manual Override	1	Standard override valve for Auto/Auto LACV. Includes fittings. Included in items 7 & 10.
3	98732-003	Air Fitting – 90° Elbow	1	Use with pressure regulator, item 1.
4	98732-002	Air Fitting – Straight	1	
5	98732-059	Whistle	2	Included in complete LACV, items 9 & 10.
6	98975-004	Manual/Auto – With 80 psi Regulator	1	LACV with fittings & decal. Includes item 1, 3 & 4.
7	98975-005	Auto/Auto – With 80 psi Regulator	1	LACV with standard override valve, fittings & decal. Includes items 1, 2, 3 & 4. Refer illustration.
8	98975-008	Auto/Auto – With 80 psi Regulator	1	LACV with alternate override valve, fittings & decal. Includes items 1, 3, 4 & alternate (straight) version of item 2. Refer illustration.
9	98975-013	Manual/Auto – With 80 psi Regulator	1	Enclosure with LACV, regulator & fittings, item 6.
10	98975-014	Auto/Auto – With 80 psi Regulator	1	Enclosure with LACV, valve, regulator & fittings, item 7.

IMPORTANT: These axle lift control system components are only applicable to systems supplied by Hendrickson Australia.



UBL™ AXLE LIFT SYSTEM HARDWARE

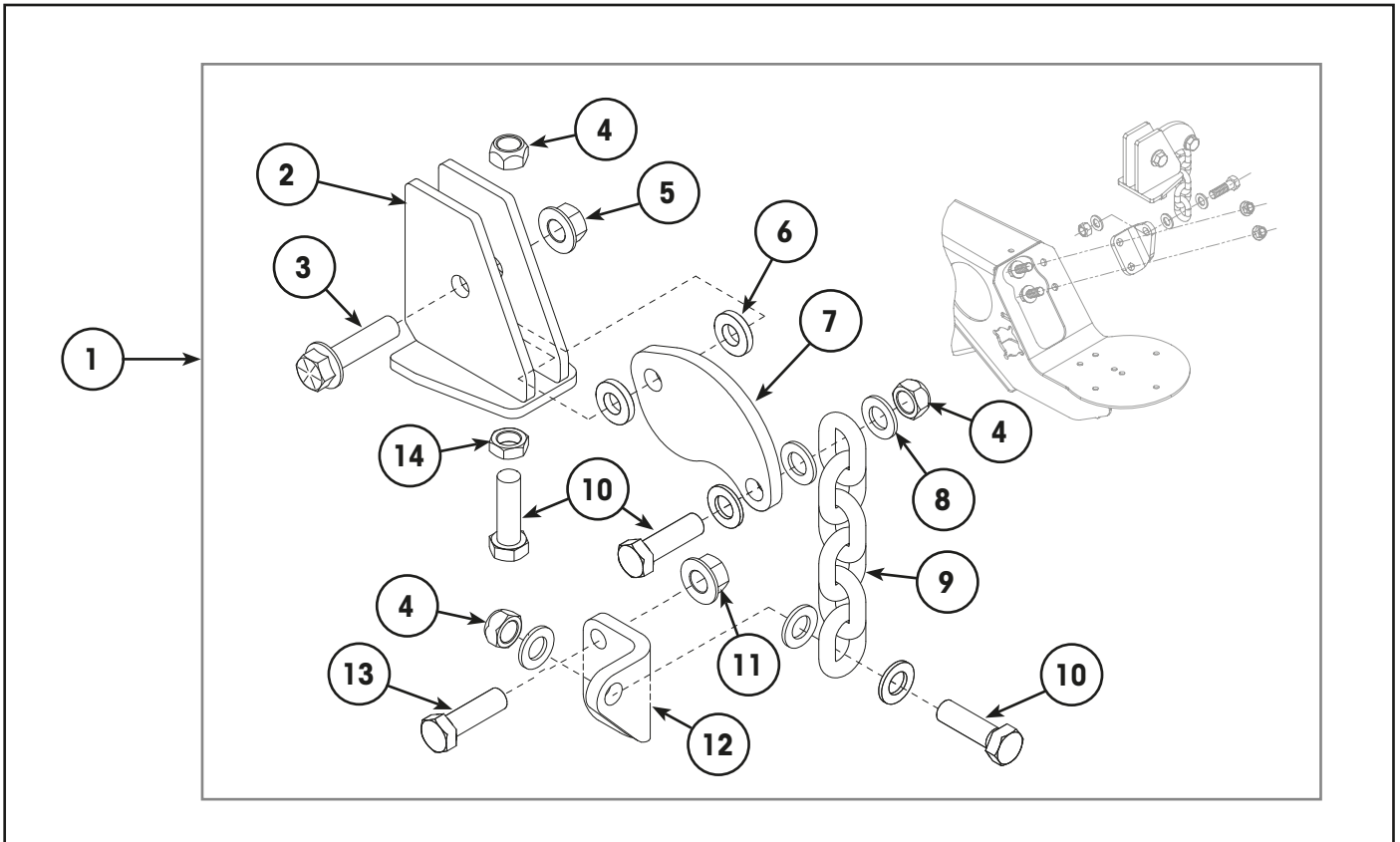


Item	Part Number	Description	Qty	Notes
1	S-24658	Bracket Assembly – Hanger Support	2	
2	S-2901-37	Gusset, Hanger Support Bracket	4	
3	S-23114	Air Spring – Axle Lift	2	
4	B-27945	Plate Assembly – Beam, Air Spring	2	
5	C-28537	Bracket Assembly – Beam, Air Spring	2	
6	NSS	Bolt, Plate to Bracket – 1/2"-13 x 1.25"	4	Use item 11.
7	NSS	Self-Tapping Bolt – 3/8"-16	4	[1] For installation only.
8	NSS	Bolt, Air Spring to Plate – 3/8"-16 x 0.75"	4	Use item 11.
9	NSS	Nut, Plate to Bracket – 1/2"-13	4	Use item 11.
10	S-22490-5	Nut, Air Spring – 3/4"-16 Spiralock	2	Included in item 11.
11	S-24614	Fastener Kit – Axle Lift (Not Illustrated)	1	[1] Includes items 6, 7, 8, 9 & 10.
12	S-24657	Complete Kit – Axle Lift (Not Illustrated)	1	Complete kit, includes all listed items.

[1] NOTE: The S-24614 fastener kit includes four 3/8"-16 self-tapping bolts (item 7). These are only required during initial system installation and must be removed and discarded once system installation is complete.



AXLE REBOUND LIMITER – CHAIN



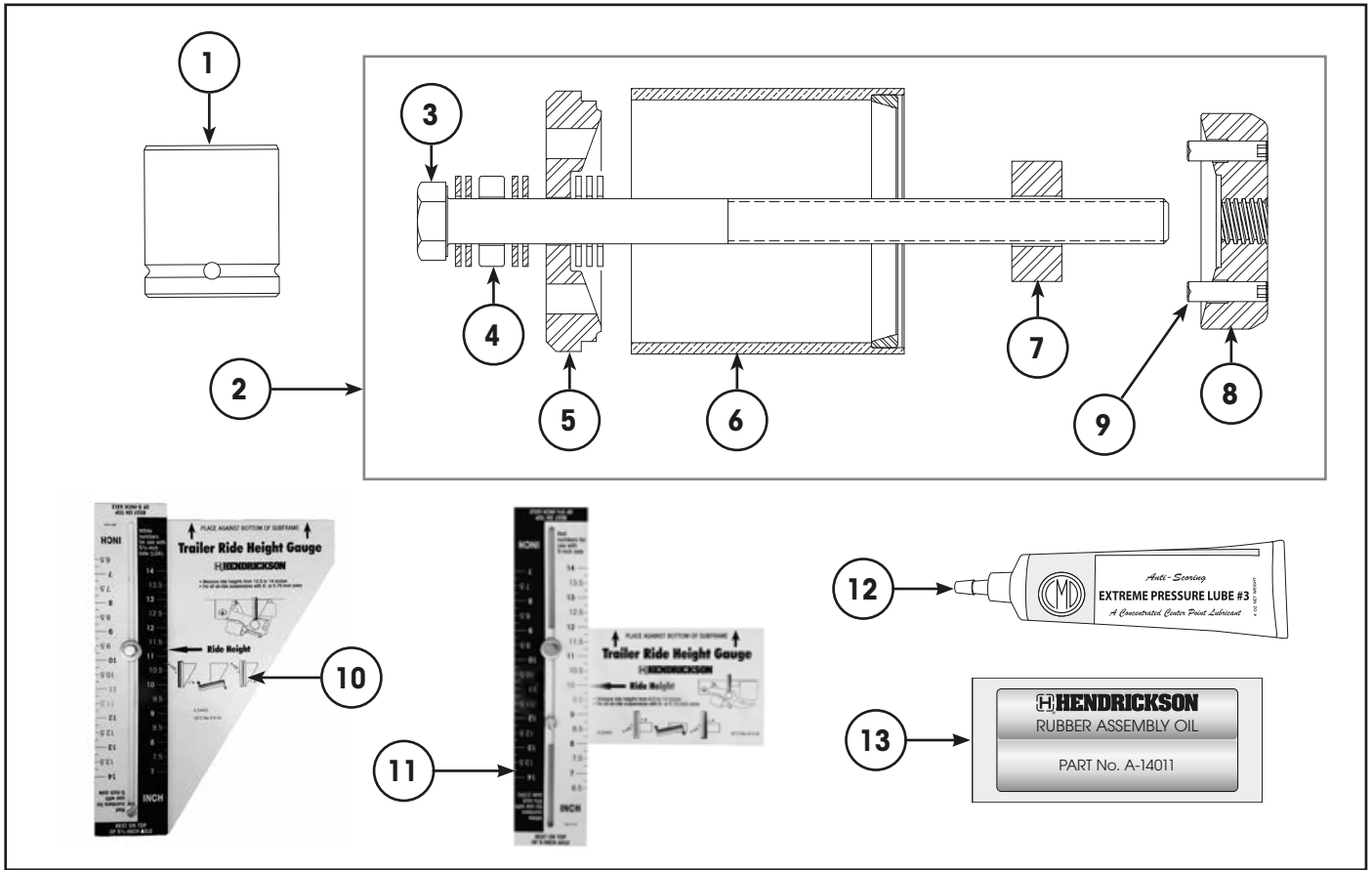
Item	Part Number	Description	Qty	Notes
1	97018-136	Kit, Rebound Limiter - Adjustable	1	6.5" ride height.
	97018-027	Kit, Rebound Limiter - Adjustable	1	9" ride height.
	97018-028	Kit, Rebound Limiter - Adjustable	1	12" ride height.
	97018-029	Kit, Rebound Limiter - Adjustable	1	14" ride height.
2	C-25426	Bracket, Adjustment – ARL Upper	2	
3	SA-6900-18	Bolt, Flanged – 3/4"-10 x 3"	2	
4	49842-000	Nut, Prevailing Torque – 3/4"-10	6	
5	SA-7000-2	Nut, Flanged – 3/4"-10	2	
6	A-30202-3	Spacer – 0.298"	4	
7	B-25270	Arm, Adjustment – ARL	2	
8	SA-1500-6	Washer, Hardened – 3/4"	12	
9	SA-15100-8	Chain, ARL – 1/2" x 8 Link	2	6.5" ride height.
	SA-15100-12	Chain, ARL – 1/2" x 12 Link	2	12" ride height.
	SA-15100-14	Chain, ARL – 1/2" x 14 Link	2	14" ride height.
10	SA-1000-31	Bolt, ARL Chain – 3/4"-10 x 2.5"	6	
11	SA-7000-6	Nut, Flanged – 5/8"-11	4	Included in item 15.
12	S-25271-1	Bracket, ARL – Lower, LH	1	
	S-25271-2	Bracket, ARL – Lower, RH	1	
13	SA-6900-20	Bolt, Flanged – 5/8"-11 x 1.75"	4	Included in item 15.
14	98666-002	Jam Nut, ARL Adjuster - 3/4"-10	2	
15	S-25450	Kit, Fastener – ARL Lower Bracket (Not Illustrated)	1	Includes Items 11 & 13.



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SPECIAL TOOLS



Item	Part Number	Description	Qty	Notes
1	S-24303	Socket, Pivot Bolt – E20	1	3/4 inch drive
	S-24536	Socket, Pivot Bolt – E20	1	1 inch drive standard duty
	S-25119	Socket, Pivot Bolt – E20	1	1 inch drive heavy duty
2	S-21307A	Tool Kit - Wide TRI-FUNCTIONAL™ Bush	1	Refer Note.
3	S-21308	Bolt, Acme Thread – 18 Inch	1	Included in item 2.
4	98762-001	Bearing, Thrust – TFB™ Tool	1	Included in item 2.
5	S-21312	Plate, Front – TFB Tool	1	Included in item 2.
6	S-21313	Tube, Transition – TFB Tool	1	Included in item 2.
7	S-21314	Spacer, Removal – TFB Tool	1	Included in item 2.
8	S-21309	Plate, Rear Drive – TFB Tool	1	Included in item 2.
9	SA-2800-4	Set Screw – 1/2"-13 x 4 inch	2	Removal only. Included in item 2.
	SA-2800-7	Set Screw – 1/2"-13 x 2 inch	2	Installation only. Included in item 2.
10	S-23442	Gauge, Ride Height – 13.5 to 19 Inch	1	
11	S-23445	Gauge, Ride Height – 6.5 to 14 Inch	1	
12	S-21337	Grease, Extreme Pressure	1	Refer Note. Essential for use with tool on installation. Included in item 2.
13	A-14011	Lube Pack - TRI-FUNCTIONAL Bush	1	To lubricate bushes on installation.

NOTE: The TRI-FUNCTIONAL™ tool kits are supplied with one tube of extreme pressure grease. It is essential to use this grease on the tool's Acme thread to avoid thread form damage.



REVISIONS TABLE

DATE	REV	PAGE	DESCRIPTION
Dec-2019	D	9	Add hanger repair kits, ECN 11274, 11419.
Dec-2019	D	23	Update ARL chain numbers, ECN 11393.
Dec-2019	D	18, 19	Update HCV and bracket nut, ECN 11464.
Dec-2019	D	13, 15, 17	Add brake chamber lower bracket, shock strap kits & shock clevis kit ECN 11022.
Dec-2019	D	9, 11, 15	Expand frame hangers, air spring hardware & shock absorbers.
Dec-2019	D	20, 21	Expand axle lift details, ECN 11515.
Nov-2020	E	21, 22	Add whistle, ECN 11559. Correct UBL kit number.
Nov-2020	E	8, 9	Add brake chamber mount. Correct TFB kit inclusions.
Nov-2020	E	19, 20	Update PP valve, ECN 11716.
Apr 2021	F	19	Update HCV band clamp, ECN 11822.
Apr 2021	F	9	Remove 71.5" HN axle NLA. Update brake mount, ECN 11962. Add HD wear bush, ECN 11834.
Oct-2024	F	5, 7	Add AAL 15" drum axle, ECN 12071.
Oct-2024	F	15	Corrected S-23316 shock to Non-RF status.

*Actual product performance may vary depending upon vehicle configuration, operation, service and other factors.
 All applications must comply with applicable Hendrickson specifications and must be approved by the respective vehicle manufacturer with the vehicle in its original, as-built configuration.
 Contact Hendrickson for additional details regarding specifications, applications, capacities, and operation, service and maintenance instructions.*

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