

Asia Pacific Region Only

H **PARTS LIST**
HT SERIES TOP MOUNT SUSPENSIONS

LIT NO: 97114-063

DATE: June 2023

REVISION: D





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Document Interactivity

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ABBREVIATIONS

Abbreviations used in this document include the following terms:

- AR – As Required
- Assy – Assembly
- N/A – Not Available
- NSS – Not Serviced Separately
- UBL™ – UNDER BEAM LIFT™

INTRODUCTION

The purpose of this parts list is to document the available repair parts for top mount (overslung) Hendrickson HT suspension assemblies.

There are two variations on suspension design, depending on where the shock absorber is mounted, standard or below chassis. Refer to “[Suspension Type Identification](#)” on [page 4](#).

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

- HT top mount suspension assemblies
- Air springs, relevant mounting hardware and fasteners
- Shock Absorbers, relevant mounting hardware and fasteners
- Frame Hangers
- QUIK-ALIGN® pivot hardware and fasteners
- Axle lift system

This parts list should be used in conjunction with the following Hendrickson parts listings:

- [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.

NOTE: This parts list replaces the following individual parts lists:
97114-046, 97114-047, 97114-048, 97114-050 & 97114-063.

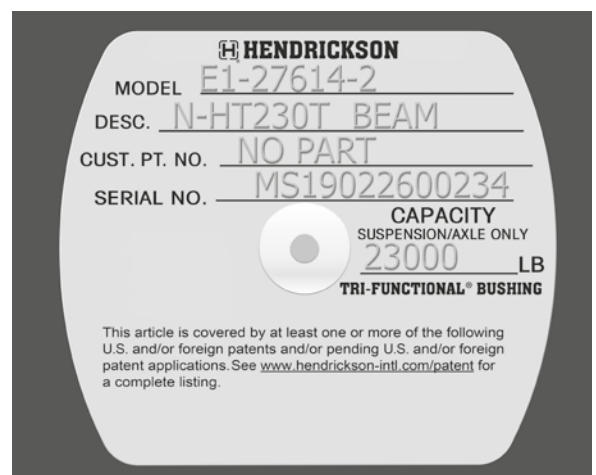
AXLE AND SUSPENSION IDENTIFICATION

To assist with the identification of the HT suspension system, reference should be made to the beam ID plate.

HT SUSPENSION ID PLATE

The HT suspension beam ID plate is usually located on the left side of the trailing arms and provide the following:

- MODEL – Model number of the beam
- DESCRIPTION – This will include the HT230 designation
- CUSTOMER PART NUMBER – This will read NO PART
- SERIAL NUMBER – The serial number of the HT beam
- CAPACITY – This is suspension capacity, which is 23,000 lbs (10,430 kg)





SUSPENSION TYPE IDENTIFICATION

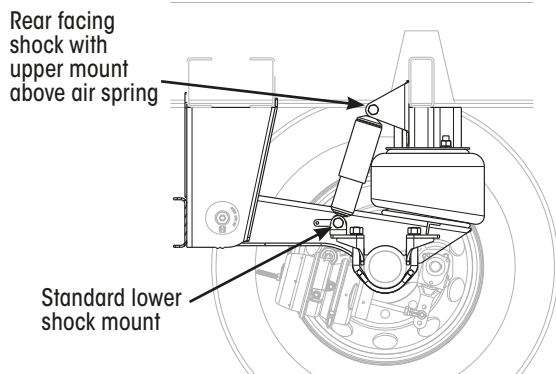


Figure 1: Standard Mount

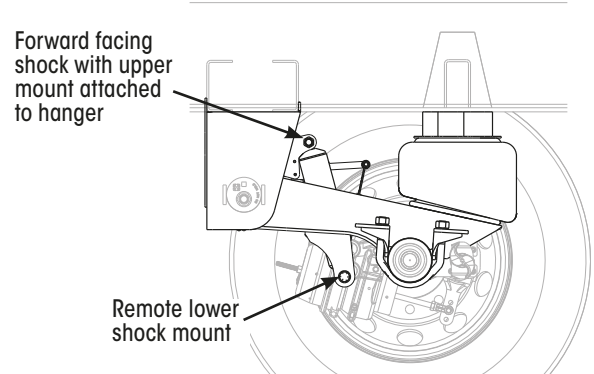


Figure 2: Below Chassis Mount

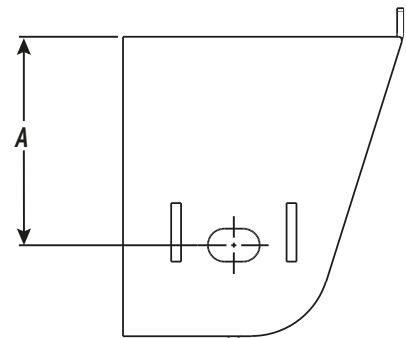
There are two types of HT suspension depending on the method of mounting to the chassis.

- The standard HT suspension (Figure 1) has rearward facing shock absorbers that have the upper mount within the trailer chassis.
- The below chassis suspension (Figure 2) has forward facing shock absorbers and the upper mount is below the chassis. The lower shock absorber mount is remote to accommodate the lower shock absorber mount.

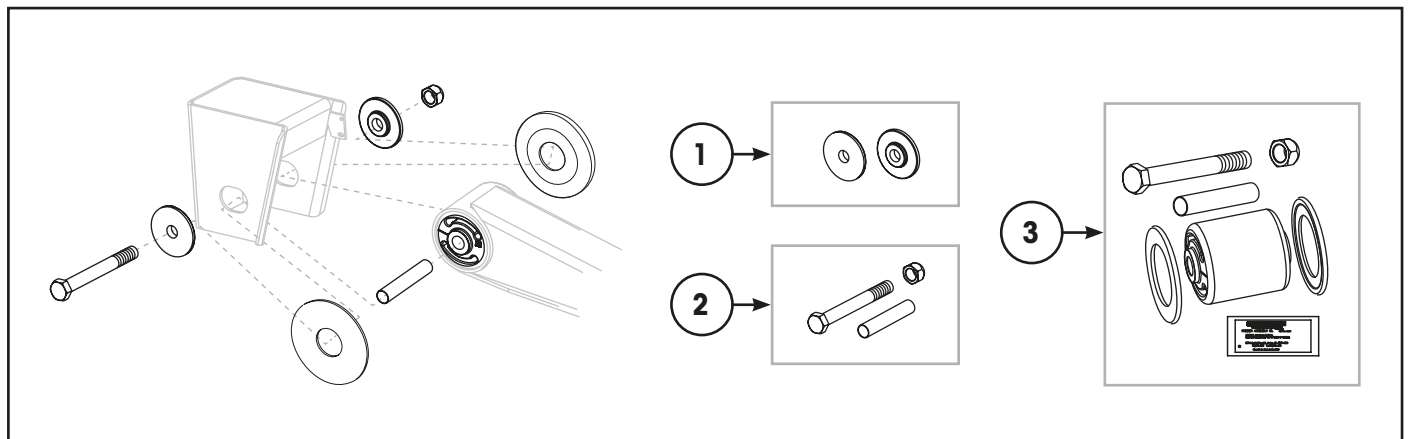
FRAME HANGER DROP

To determine the applicable frame hanger for a specific suspension, the hanger 'drop' will often need to be determined. (Refer to "Beam, U-Bolt & Pivot" on page 6.)

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".

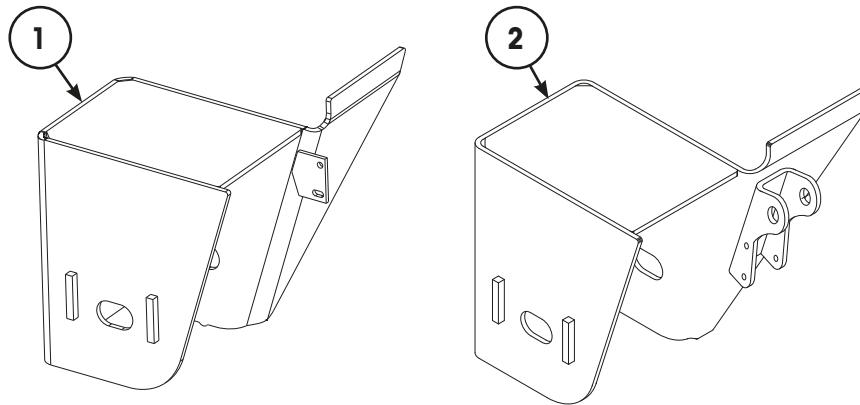


WELDED PIVOT ALIGNMENT



Item	Part Number	Description	Qty	Notes
1	B-2770-2P	Welded Alignment Collar Kit	2	Alignment washers for welding to frame.
2	S-3646	Welded Alignment Bolt Kit	2	Includes bolt, nut and liner.
3	A-6914	Welded Alignment Kit	2	Includes bush, spacers, bolt, nut, liner & lube.

FRAME HANGER



Item	Part Number	Description	Qty	Notes
1	D-21179-1	Frame Hanger, LH – Standard	1	203 mm drop, HT230T, 14" & 15" ride height (excluding high control). Weld on winged.
	D-21179-2	Frame Hanger, RH – Standard	1	
	D-21165-1	Frame Hanger, LH – Standard	1	254 mm drop, HT230T, High control 14" & 15" ride height, 16" & 17" ride height. Weld on winged.
	D-21165-2	Frame Hanger, RH – Standard	1	
	S-21193-1	Frame Hanger, LH – Standard	1	335 mm drop, HT230T, 19" ride height. Weld on winged.
	S-21193-2	Frame Hanger, RH – Standard	1	
2	S-21028-1	Frame Hanger, LH – Standard	1	203 mm drop, HT230T, below chassis mount. 15" ride height. Weld on winged with top shock clevis.
	S-21028-2	Frame Hanger, RH – Standard	1	
	98938-012	Frame Hanger, LH – Standard	1	254 mm drop, HT230T, below chassis mount High control 14" & 15" ride height. Weld on winged, with top shock clevis hole 70 mm from top plate.
	98938-013	Frame Hanger, RH – Standard	1	
	S-21082-1	Frame Hanger, LH – Standard	1	254 mm drop, HT230T, below chassis mount 17" ride height. Weld on winged, with top shock clevis hole 88 mm from top plate.
	S-21082-2	Frame Hanger, RH – Standard	1	

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 14 next page), bolt & collar kit 98591-012 (item 15 next page) and bolt, flat wear washer & bush kit 98591-011 (item 16 next page). 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

**BEAM, U-BOLT & PIVOT**

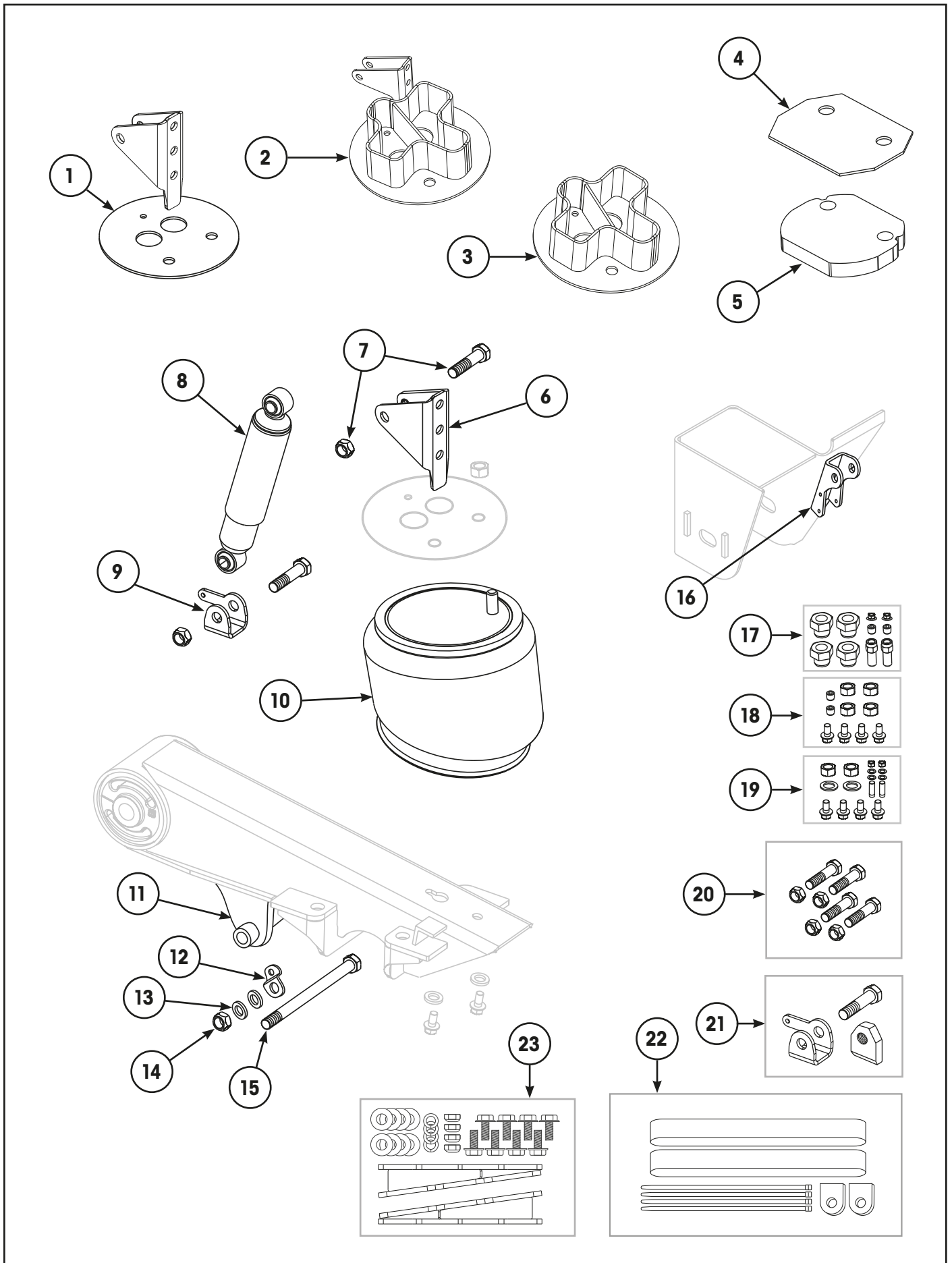
Item	Part Number	Description	Qty	Notes
1	S-1631-19	C-Channel Brace Support – 36 x 76 x 1040 mm	1	
2	98870-016	C-Channel Brace Support – 40 x 202 x 1040 mm	1	
3	S-27330	Gusset, Frame Bracket	2	
4	NSS	Shear Bolt – QUIK-ALIGN	2	Use Item 14, 15 or 16.
5	C-20924	Flanged Washer, Inner – QUIK-ALIGN®	2	Concentric. Included in item 15.
6	C-20925	Flanged Washer, Outer – QUIK-ALIGN	2	Eccentric. Also included in item 15.
7	NSS	Hardened Washer – 7/8"	4	Use Item 14, 15 or 16.
8	NSS	Nut, Prevailing Torque – 7/8" UNC	2	Use Item 14, 15 or 16.
9	S-21099-4P	Kit – Wear Bush, Flat Style	1	Also included in item 16.
	S-40230-1	Wear Bush, Heavy Duty Flat	4	For severe off-highway applications.
10	NSS	Bush, TRI-FUNCTIONAL™	2	Use Item 16.
11	D-20186-1	Beam Assembly – Left Hand	1	HT300T with standard shock clevis. Includes pivot bush, item 10.
	D-20186-2	Beam Assembly – Right Hand	1	
	S-27614-1	Beam Assembly – Left Hand	1	HT230TA with standard shock clevis. Includes pivot bush, item 10.
	S-27614-2	Beam Assembly – Right Hand	1	
	98544-015	Beam Assembly – Left Hand	1	HT230TA S-27614 beam modified for below chassis mount shock. Includes pivot bush, item 10.
	98544-016	Beam Assembly – Right Hand	1	Not Illustrated, refer to "Suspension Type Identification" on page 4.
12	S-21140	U-Bolt Kit, Axle	1	Includes U-bolts, nuts and washers. Spacers not needed with new stepped design U-bolts.
13	A-14011	Lube Pack, TRI-FUNCTIONAL Bush	2	Also included in item 16.
14	S-31623	Kit, QUIK-ALIGN Pivot Bolt	2	[1] Includes Items 4, 7 & 8.
15	S-31625	Kit, QUIK-ALIGN Alignment	2	[1] Includes Item 4, 5, 6, 7 & 8.
16	A-31624	Kit, TRI-FUNCTIONAL Bush	2	[1] [2] Includes Items 4, 7, 8, 9, 10 & 13.

[1] NOTE: For welded alignment pivot refer to "Welded Pivot Alignment" on page 4.

[2] NOTE: The TRI-FUNCTIONAL™ bush (TFB™) is larger than the inner diameter of suspension 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 15 section for tool details. For bush replacement procedures, refer to Hendrickson [Technical Bulletin L427](#).



AIR SPRING & SHOCK ABSORBER



**AIR SPRING & SHOCK ABSORBER**

Item	Part Number	Description	Qty	Notes
1	S-20011-1	Mount, Air Spring & Shock – LH	1	14" ride height.
	S-20011-2	Mount, Air Spring & Shock – RH	1	Liftable 15" ride height. Integral top shock mount, HT230T.
2	S-21257-1	Mount, Air Spring & Shock 25 mm – LH	1	15" ride height, excluding liftable. Integral top shock mount, HT230T.
	S-21257-2	Mount, Air Spring & Shock 25 mm – RH	1	
	S-20013-1	Mount, Air Spring & Shock 51 mm – LH	1	16" ride height. Liftable 17" ride height. Integral top shock mount, HT230T.
	S-20013-2	Mount, Air Spring & Shock 51 mm – RH	1	
	C-20014-1	Mount, Air Spring & Shock 76 mm – LH	1	17" ride height, excluding liftable. Integral top shock mount, HT230T.
	C-20014-2	Mount, Air Spring & Shock 76 mm – RH	1	
	S-20401-1	Mount, Air Spring & Shock 127 mm – LH	1	19" ride height. Integral top shock mount, HT230T.
	S-20401-2	Mount, Air Spring & Shock 127 mm – RH	1	
3	98628-004	Mount, Air Spring & Shock 76 mm – LH	1	17" ride height. Remote below chassis top shock mount, HT230T.
	98628-005	Mount, Air Spring & Shock 76 mm – RH	1	
4	98948-001	Plate, Air Spring	2	15" HT230T below chassis mount.
5	98947-001	Air Spring Spacer – 28mm	2	
6	S-20023	Shock Bracket, Upper	2	HT.
7	NSS	Shock Hardware, 3/4"-10 UNC Grade 5	4	Use item 20.
8	S-21699	Shock Absorber	2	HT230T & HT300T.
9	C-20069	Clevis, Lower – Standard	2	Standard mount, included with beam assembly.
10	S-21208	Air Spring	2	HT230T
	98734-101	Air Spring	2	HT300T (Replaces B-4771).
11	97762-001	Shock Mount, Remote Lower	2	Alternate shock mount for below chassis suspension. Refer "Suspension Type Identification" on page 4. Included in beam assemblies 98544-015 & 98544-016.
12	98677-002	Bracket, Remote Lower Shock HCV	1	Suits item 11, below chassis mount.
13	22962-001-4P	Washer, Remote Lower Shock	1	Pack of 4. Suits item 11, below chassis mount.
14	30191-000	Nut, Remote Lower Shock	2	Suits item 11, below chassis mount.
15	98953-001	Bolt, Remote Lower Shock	2	Suits item 11, below chassis mount.
16	S-20918	Clevis, Top Shock Hanger Mount	2	Included in hanger assembly.
17	S-22630	Air Fitting Kit, Air Spring	1	15" below chassis mount. Suits spacer, item 5.
18	A-4903	Air Spring Mounting Kit	1	Suits HT300T air spring B-4771 & 98734-101.
19	S-21251	Air Spring Mounting Kit	1	Suits HT230T air spring S-21208.
20	A-20031	Shock Bolt, Kit – Standard	1	Includes four bolts & nuts, item 7.
21	98544-021	Repair Kit, Lower Shock Clevis	2	Includes clevis, gusset block, bolt & 97117-177 procedure.
22	98918-009	Shock Strap Kit	1	Includes straps, clevises & cable ties.
23	98722-001	Kit, Air Spring Wedge Spacer	1	Includes 2 x wedges spacers (98628-003) and 1 x hardware kit (98111-026). Refer to Hendrickson bulletin 49441-090 .



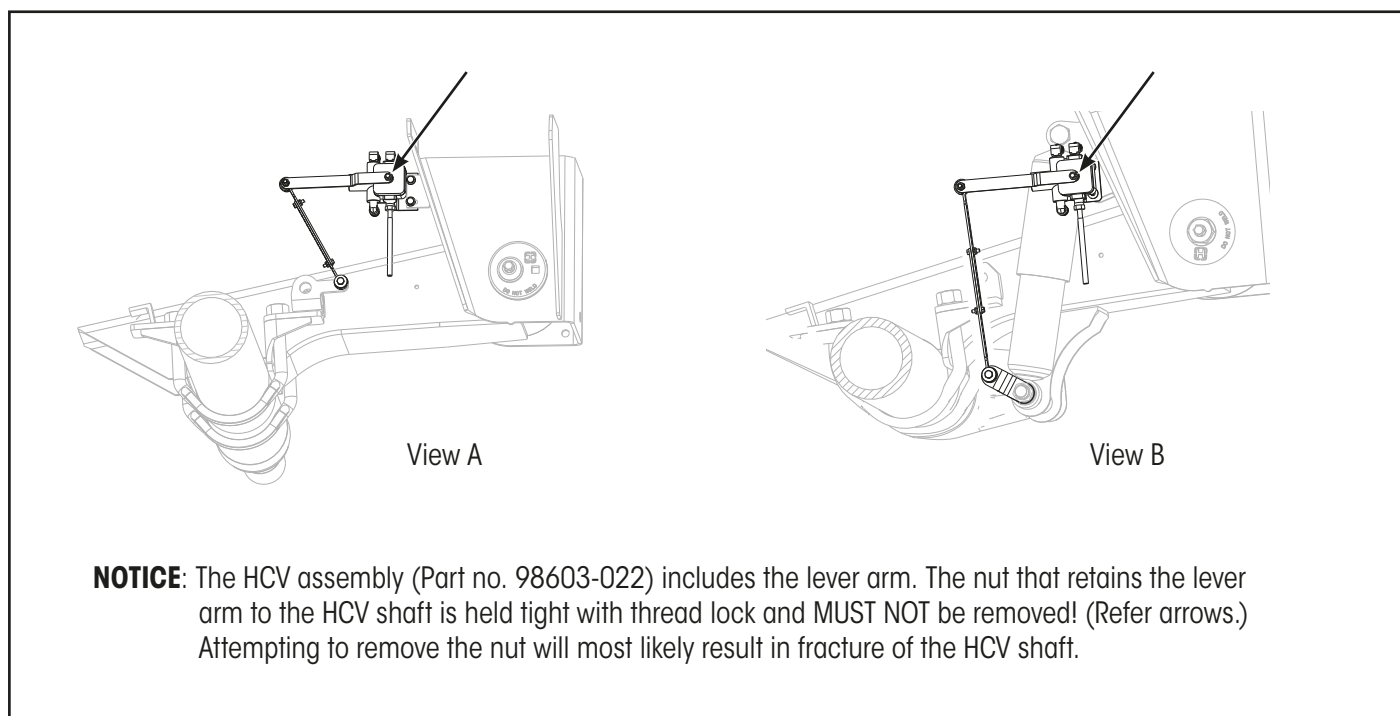
HEIGHT CONTROL VALVE

HCV SYSTEM IDENTIFICATION

The HCV mounting bracket varies between standard mount suspensions and below chassis suspension with remote shock absorber mounting. Refer to “Suspension Type Identification” on page 4.

The lower linkage mounting bracket is available in two variations as follows:

- Fixed to the standard shock absorber mount bracket (Refer to View A).
- Fixed to the below chassis mount suspension with remote shock absorber lower link mounting bracket (Refer to View B).



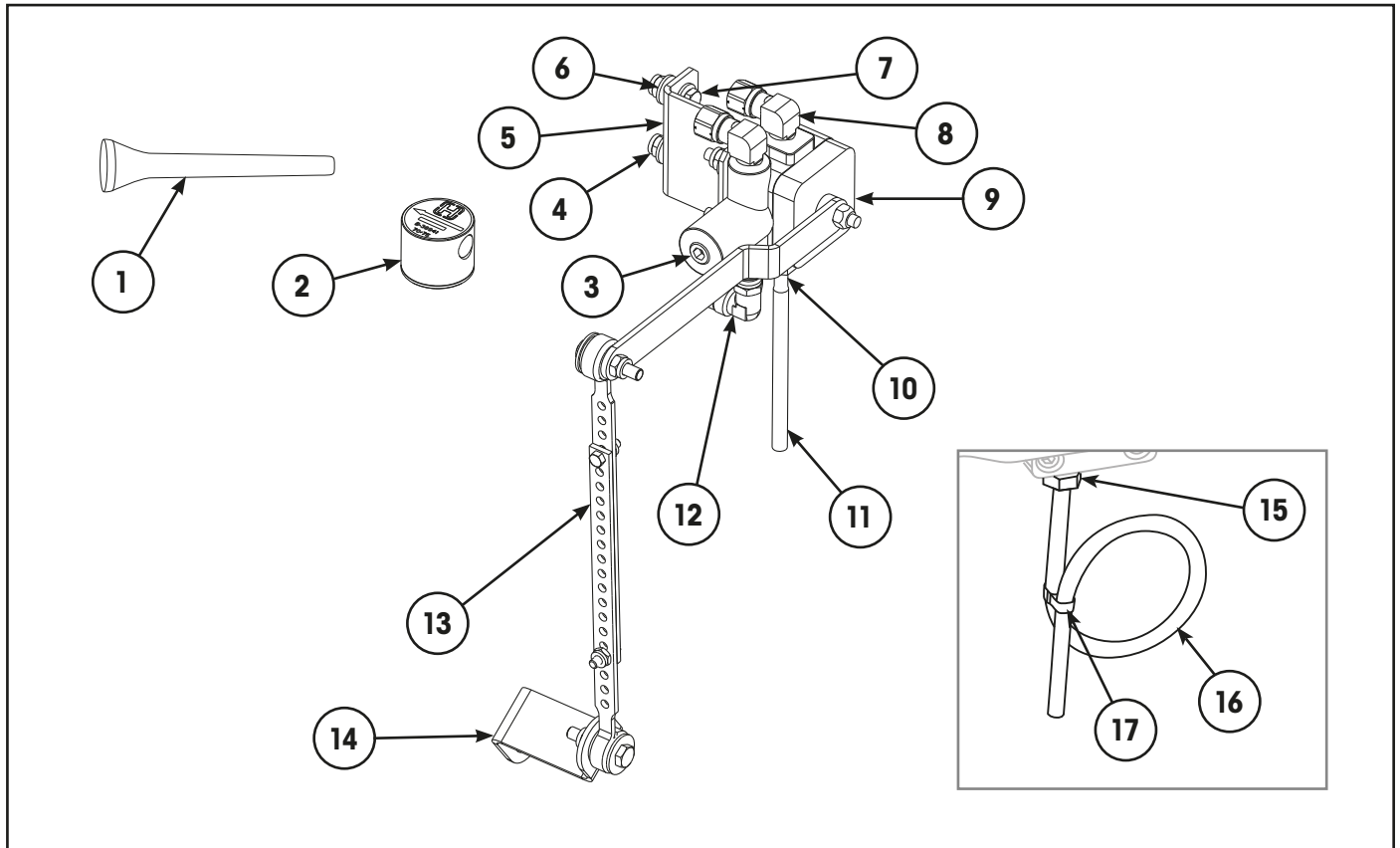
Complete HCV Kits

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

Number	Suitable For	Components
98606-092	Bracket Mount - Standard Shock Mount	[1] Includes items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 & 13.
98606-387	Bracket Mount - Below Chassis Shock Mount	Includes items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 & 14.

[1] NOTE: This HCV kit also contains an axle clamp and bracket which is not required for HT suspensions.

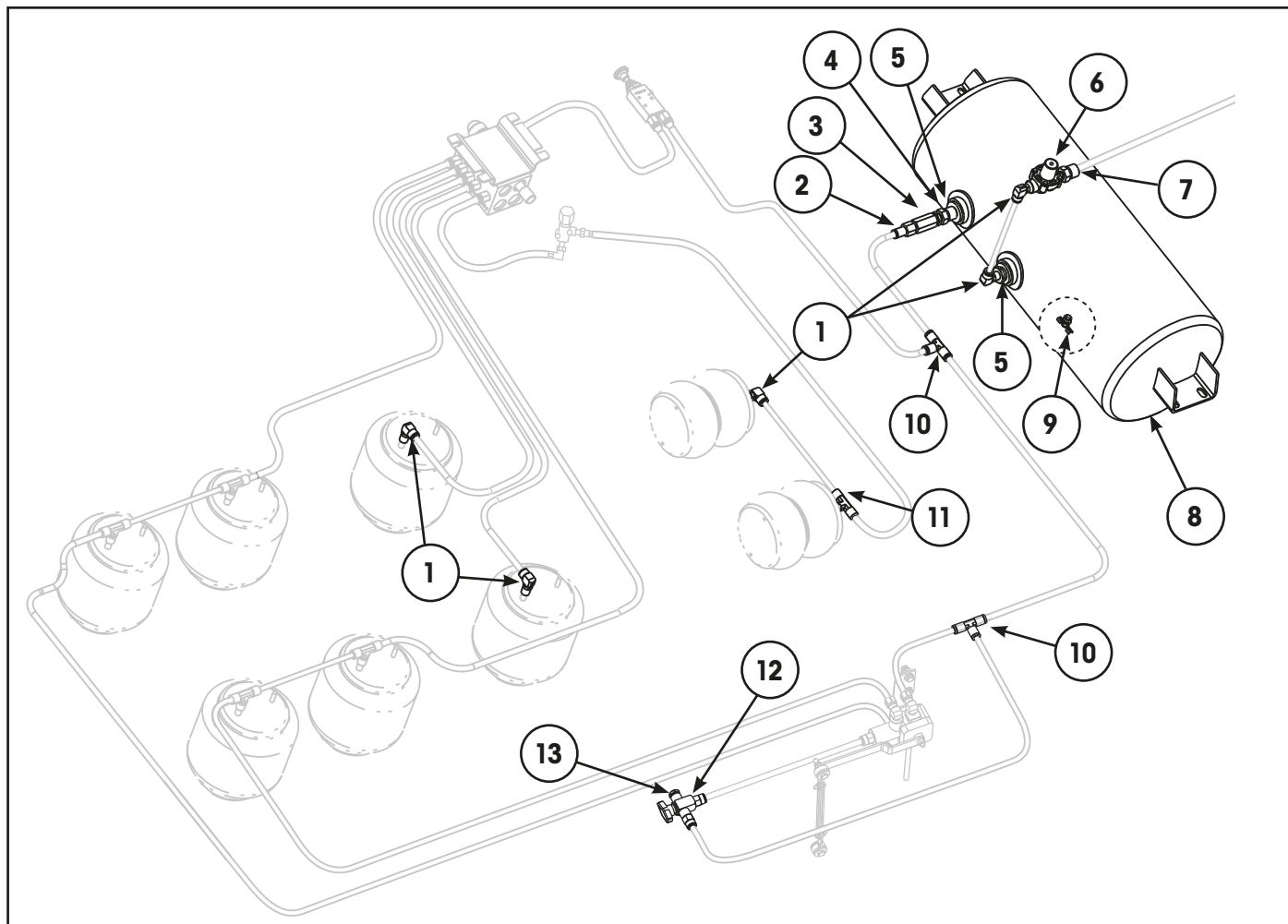
HEIGHT CONTROL VALVE



Item	Part Number	Description	Qty	Notes
1	NSS	HCV Centring Dowel	1	Use item 18.
2	S-38941	Pressure Protection Valve	1	
3	NSS	Pipe Plug 1/4" NPT	1	Use item 18.
4	NSS	Nut Lock Hex 1/4"-20 UNC	4	Use item 18.
5	57975-000	Bracket, HCV Mounting	1	Standard hanger
	98677-028	Bracket, HCV Mounting	1	Suits below chassis shock mount.
6	22962-028	Washer, Hardened – 1/4"	6	
7	NSS	Bolt, 1/4"-20 UNC x 3/4"	2	Use item 18.
8	98732-003	Elbow 90° x 1/4" NPT Compression	2	Compression. Two are included in item 18.
9	98603-022	Height Control Valve 1/4" NPT	1	
10	NSS	Barbed Tube Fitting, 1/4" NPT, Plastic	1	Use item 18. For heavy duty applications use items 15, 16 & 17.
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	S-14187	Link Assembly – Bolted	1	
14	98677-002	Lower HCV Mount	1	Suits below chassis shock mount only.
15	98934-035	Fitting 1/4 NPT, Metal	1	Optional vent tube & fitting suitable for heavy duty axle use.
16	SA-6400-2	Tube, Black Nylon – 1/4" x 12" Long	1	
17	S-11430-1	Tie, Nylon	1	
18	S-29870	HCV Sub Kit (Not illustrated)	1	Includes items 1, 3, 4, 7, 8, 10 & 11. See also "Complete HCV Kits" on page 10.



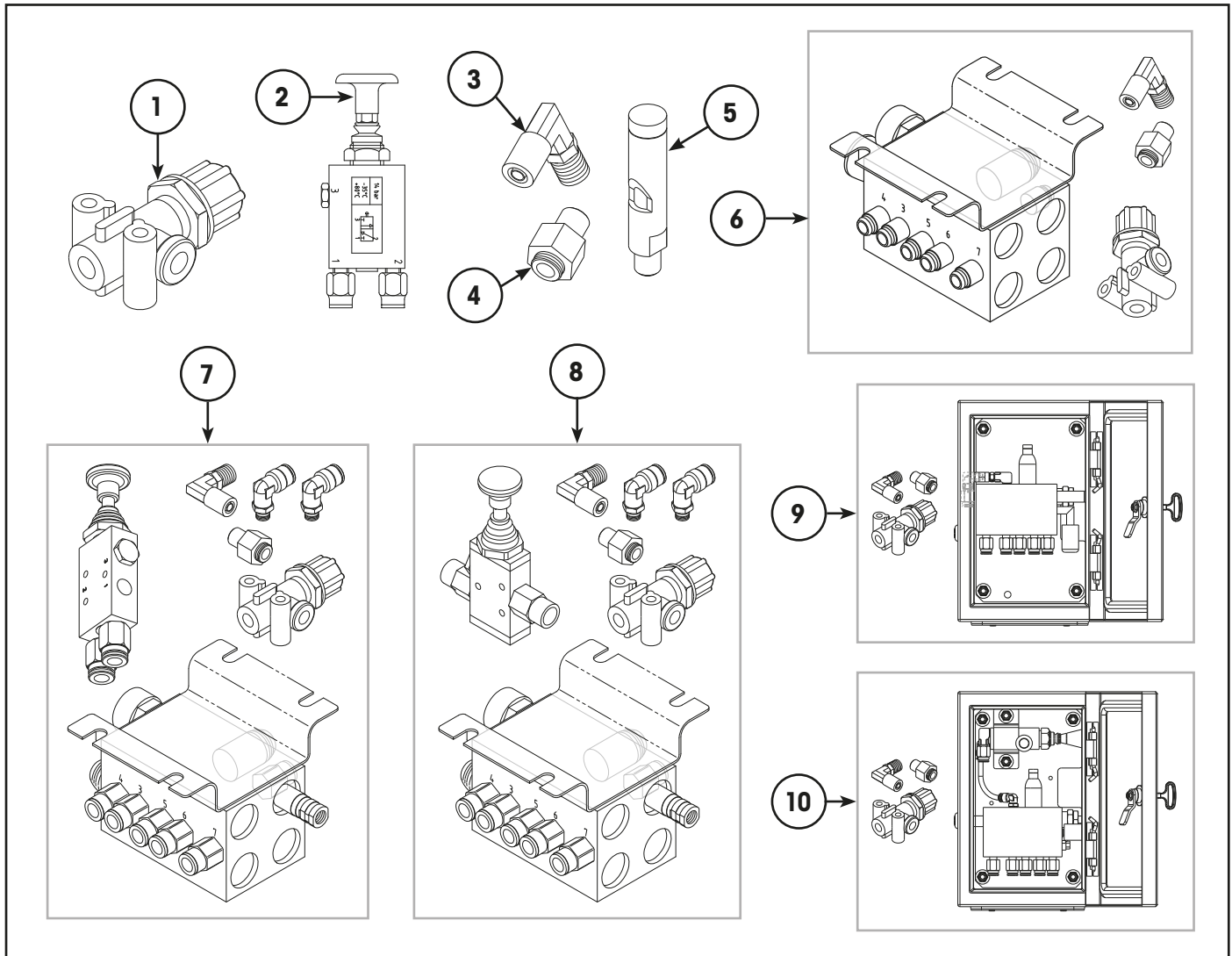
AXLE LIFT SYSTEM CONTROL



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

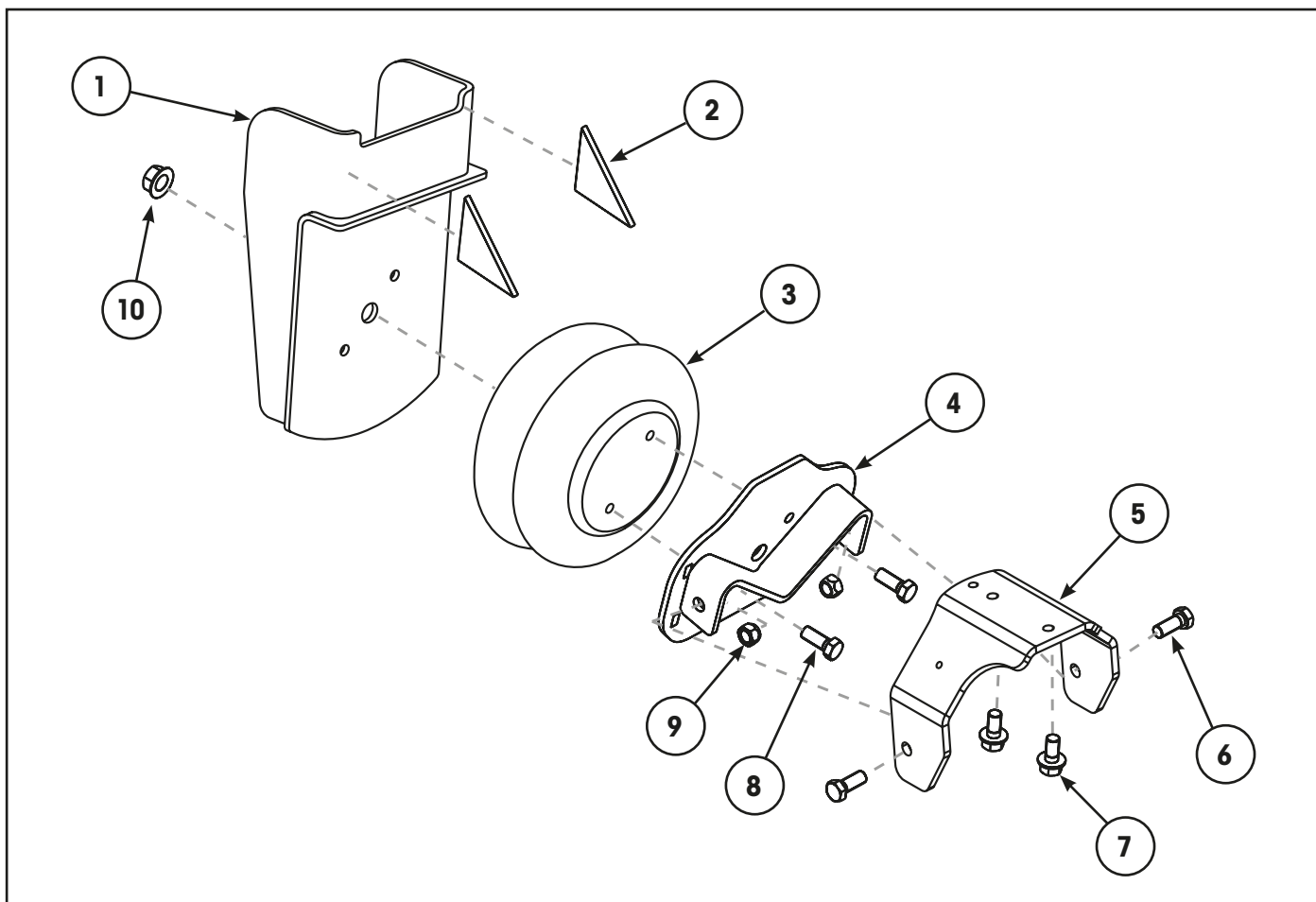


Item	Part Number	Description	Qty	Notes
1	98732-006	Pressure Regulator – 80 psi	1	Included in items 6, 7, 8, 9 & 10.
2	98402-003	Valve – Manual Override	1	Standard override valve for Auto/Auto LACV. Includes fittings. Included in items 7 & 10.
3	98732-003	Air Fitting – 90° Elbow	1	Use with pressure regulator, 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

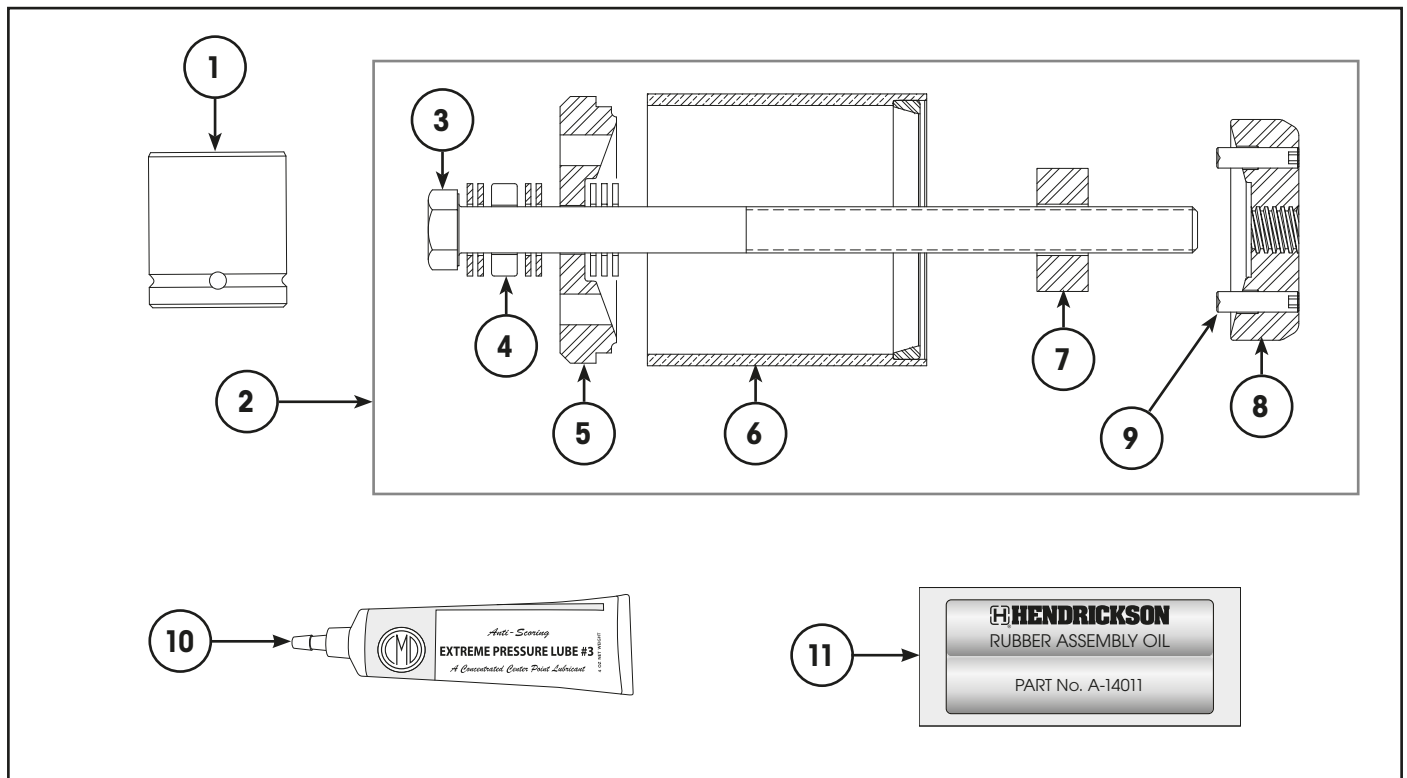


Item	Part Number	Description	Qty	Notes
1	D-23301C	Bracket Assembly – Hanger Support	2	
2	S-2901-37	Gusset, Hanger Support Bracket	4	
3	S-23114	Air Spring – UBL Axle Lift	2	
4	B-27945	Plate Assembly – Beam, Air Spring	2	
5	C-23299C	Bracket Assembly – Beam, Air Spring	2	
6	NSS	Bolt, Plate to Bracket – 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	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-24343	Complete UBL™ 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.

RH SIDE-LIFT & CENTRE-LIFT NOTE: Major components for early Centre-Lift or Right-Hand Side-Lift suspensions are no longer available. It is recommended that the suspension be upgraded to the latest UBL design if a major component is required. The lift air spring for the *RH Side-Lift* is available as part number **C-20127**, along with air spring mounting kit number **A-20033P**. The lift air spring for the *Centre-Lift* suspension is available as part number **B-1080**.

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	[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-21337	Grease, Extreme Pressure	1	[1] Essential for use with tool on installation. Included in item 2.
11	A-14011	Lube Pack - TRI-FUNCTIONAL Bush	1	To lubricate bushes on installation. This grease is included with TFB replacement kits.

[1] 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. This grease must not be used on the rubber TRI-FUNCTIONAL bushes.



REVISIONS TABLE

DATE	REV	PAGE	DESCRIPTION
Sep-2021	C	13, 14	Add Centre-Lift air spring. Add whistle, ECN 11559.
Sep-2021	C	11, 12	Update PP valve, ECN 11716.
Sep-2021	C	7	Add HD wear bush, ECN 11834.
Sep-2021	C	9	Clarify bolt kit inclusions. Correct bolt kit part numbers.
Sep-2021	C	5	Remove NLA hanger.
Jun-2023	D	9	Add & correct shock brackets, clarify air spring mount & correct kit quantities.
Jun-2023	D	10, 11	Add below chassis mount components, ECN 12096.

*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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