

HYBRID TRAILER Owner's Manual

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About Your Hybrid Trailer

Operating Instructions

- 1. <u>**DO**</u> NOT operate this equipment until you have been properly trained in its operation.
- 2. When the vehicle is in transit the hoist control valve **MUST BE** kept in neutral and the PTO disengaged.
- 3. Tailgate controls **MUST BE** locked when this vehicle is in transit.
- 4. **<u>DO NOT</u>** overload the dump body or trailer.
- 5. When the truck is stored or not is use, the body **MUST BE** in the fully lowered position, and resting on the chassis or hoist frame. Ignition key **SHOULD BE** removed to prevent tampering by un-authorized personnel.
- 6. Inspect the hydraulic oil level and quality regularly and be sure to change it regularly and especially when a new cylinder is installed.
- 7. Inspect all hydraulic hoses regularly.
- 8. Regularly lubricate the cylinder's end-mounts.
- 9. Be sure the cylinder is free of entrapped air. (Bleed Cylinder if necessary, see page 6)
- 10. When the body is in the elevated or raised position for any repairs or adjustments, it MUST BE securely propped or blocked so it can not fall on anyone.
- 11. The Landing support legs are attached to the draft arm, which prevents the upper fifth wheel plate from falling to the ground when the trailer is unhooked. This eliminates the need for chains and hooks to hold the draft arm assembly in the up position. Before attempting to move the trailer, the telescoping legs should be collapsed and the support pin with the safety clip should be properly installed.

CAUTION

The Landing Support Legs are not designed for supporting a loaded trailer.

Connecting Instructions

Tractor – Trailer operation is performed by following these instructions:

1. Prepare the tractor 5th wheel to receive the trailer king pin by pulling the locking handle to the open position. The jaws will automatically lock when contact is made with the king pin. Back the truck until the truck 5th wheel just touches the trailer 5th wheel.

NOTE – All frameless and High Dump trailers must be used with a blocked 5^{th} wheel.

- 2. Make glad hand connections, lighting plug and hydraulic hose connections. Supply air to the trailer, then lock the trailer brakes.
- 3. Back the tractor into position to engage the 5th wheel until the jaws lock and the locking handle is in the locked position. Do not attempt operations without the proper 5th wheel.
- 4. Inspect trailer or proper brake operation and electrical function. Check hydraulic lines to insure proper hook-up.
- 5. For complete connecting instructions see the United States Department of Transportation; Federal Motor Carrier Safety Administration regulations 393.70; 393.71; D1; V1; V2

Dumping Instructions

- 1. This vehicle **MUST BE** kept on level ground before dumping. The hydraulic cylinder cannot withstand sideloading.
- 2. **<u>DO NOT</u>** raise trailer on ground that has been recently excavated or filled without being properly compacted.
- 3. **DO NOT** raise the trailer unless the tractor and trailer are in line.

4. DO NOT DUMP BENEATH HIGH-VOLTAGE POWER LINES.

- 5. The operator **MUST REMAIN** at the controls during the dumping cycle.
- 6. The tailgate controls **MUST BE** released before the front of the body is 2 feet (0.6m) above the chassis frame.
- 7. When operating <u>**DO**</u> NOT allow anyone to stand in or move through the area where the hoist operates or into an area where an upset load might fall.
- 8. **<u>DO NOT</u>** jerk the truck / trailer when trying to dump a sticky load.

Monthly Maintenance

- 1. Lubricate upper tailgate hinge pins (L & R)
- 2. Lubricate draft arm pins front and rear
- 3. Lubricate auxiliary draft arm pins front and rear
- 4. Bleed air out of hoist (see page 6)
- 5. Check oil level in wheel hubs
- 6. Inspect for oil leakage on inside of wheel hub
- 7. Lubricate tailgate latch assembly
- 8. Lubricate upper coupler plate (2 places)
- 9. Check wheel nuts for tightness

* See manufacturer's recommendation

Hydraulic System Maintenance

<u>Hydraulic Fluid</u>

A good grade of non-foaming 10 weight hydraulic fluid should be used. Before filling, be sure that the oil reservoir is clean. Dirty oil containing dirt and metal particles is nearly always responsible for premature pump failure. Periodic inspection should be made for dirt or sludge in the bottom of the reservoir. Avoid racing the engine to increase pump RPM as this will cause overheating of the pump, resulting in oil breakdown.

Air Entrapment

Air entrapped in the hydraulic system causes erratic operation such as spongy response for the hoist or jerky operations. Follow these steps to properly purge system:

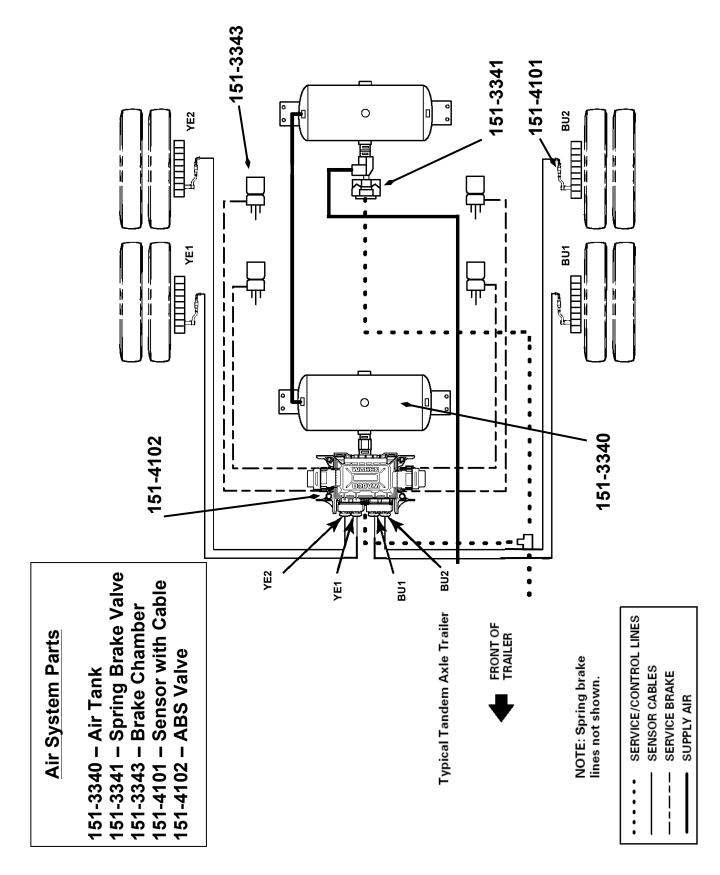
- A. Loosen the bleeder valve located on the top pin eye.
- B. Operate the pump at slow engine speed until the air is eliminated and hydraulic fluid is present.
- C. Tighten the bleeder valve cap securely to stop the oil flow. The hoist should operate smoothly.

Inspection

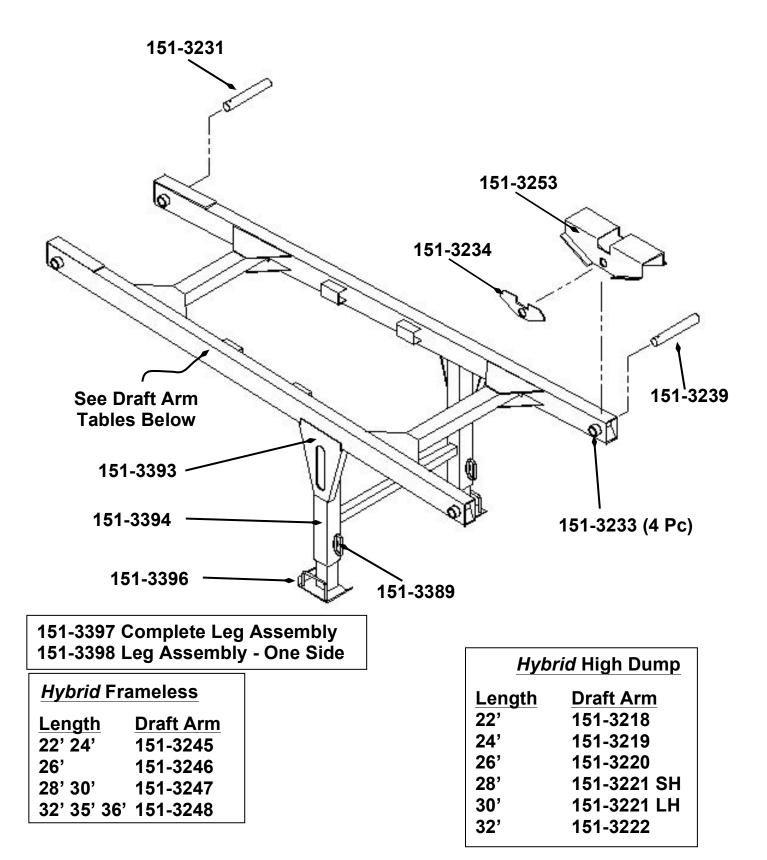
Hydraulic system is subjected to extreme service due to vibration; therefore, periodic inspection is necessary to insure continuous service. Check the pump and the hoist connection for leakage. The linkage to the PTO and the pump valve should be checked for proper operation.

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Draft Arm Parts



Draft Arm Parts List

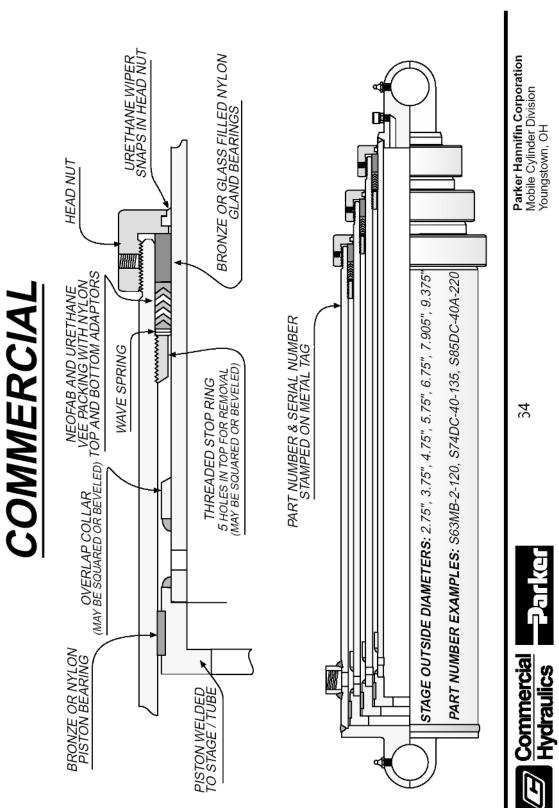
Draft Arm

151-3245 – 22'-24' Frameless Draft Arm 151-3246 – 26' Frameless Draft Arm 151-3247 – 28' - 30' Frameless Draft Arm 151-3248 – 32' 35' 36' Frameless Draft Arm 151-3218 – 22' High Dump Draft Arm 151-3219 – 24' High Dump Draft Arm 151-3220 – 26' High Dump Draft Arm 151-3221SH – 28' High Dump Draft Arm 151-3221LH – 30' High Dump Draft Arm 151-3222 – 32' High Dump Draft Arm 151-3231 – Front Draft Arm Pin 151-3239 – Rear Draft Arm Pin 151-3233 - Bushing (4) Reqd 151-3234 – Middle Bushing Doubler Plate 151-3253 – Draft Arm Pivot Plate 151-3397 – Complete Landing Leg Assy 151-3398 – Landing Leg Assembly (1 Side) 151-3396 – Lower Landing Leg Assembly 151-3394 – Upper Landing Leg Assembly 151-3393 - Landing Leg Gusset

151-3389 – Landing Leg Pin

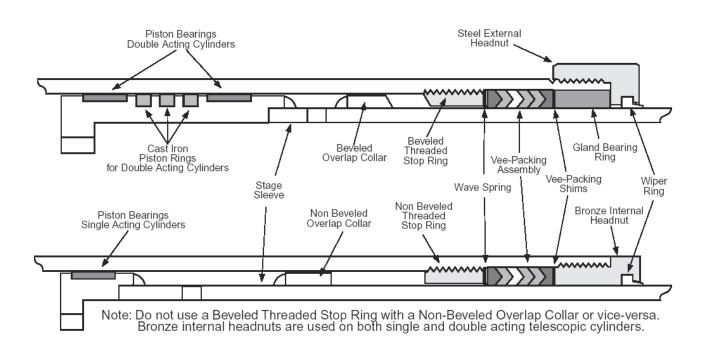
Auxiliary Draft Arm

151-3230 – 22' - 28' 1994 or earlier 151-3228 – 22' 1995 and later 151-3229 – 24' – 26' 1995 and later * Call *Lufkin Manufacturing* – 28' 1995 and later*



Hydraulic Cylinder

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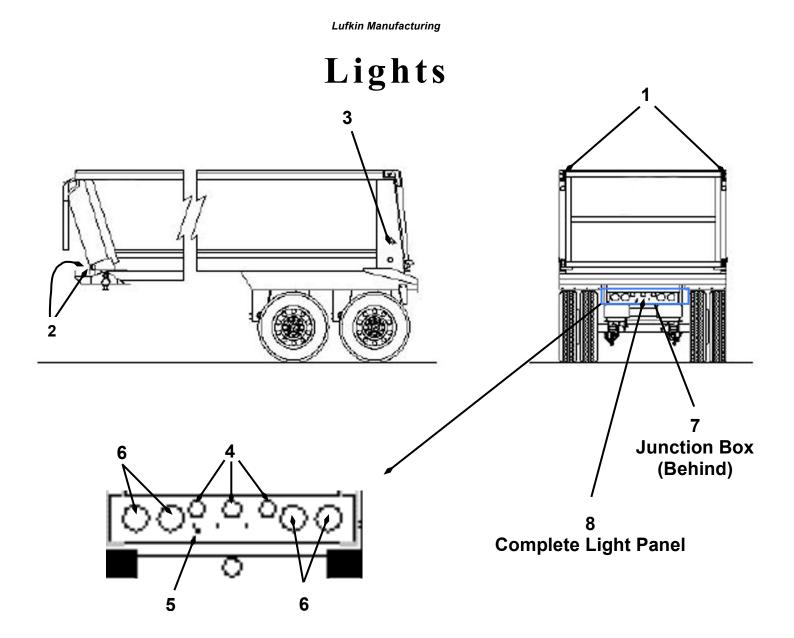


Following are service parts used on STANDARD DESIGN COMMERCIAL cylinders Note: Commercial Hydraulics manufactures many different types and designs of cylinders. If you are not sure of service parts required please refer to the Cylinder Assembly print.

Description	2.75" Stage	3.75" Stage	4.75" Stage	5.75" Stage	6.75" Stage	7.905" Stage	9.375" Stage
Vee-Packing Assembly	375-9009-017	375-9009-034	375-9009-018	375-9009-019	375-9009-020	375-9009-021	375-9009-022
with Shims	AJ3009-27	AJ3009-37	AJ3009-47	AJ3009-57	AJ3009-67	AJ3009-79	AJ3009-93
Wiper Ring	391-3882-061	391-3882-053	391-3882-054	391-3882-055	391-3882-056	391-3882-057	391-3882-058
	Y3026-27	Y3026-37	Y3026-47	Y3026-57	Y3026-67	Y3026-79	Y3026-93
Gland Bearing	391-2682-001	391-2682-002	391-2682-003	391-2682-004	391-2682-005	391-2682-006	391-2682-007
Glass Filled Nylon	J1003-1-1	J1003-1-2	J1003-1-3	J1003-1-4	J1003-1-5	J1003-1-6	J1003-1-7
Gland Bearing	375-9003-064	375-9003-044	375-9003-045	375-9003-046	375-9003-063	375-9003-041	375-9003-066
Bronze	AH1003-27	AH1003-37	AH1003-47	AH1003-57	AH1003-67	AH1003-79	AH1003-93
Wave Spring	391-3581-320	391-3581-300	391-3581-301	391-3581-302	391-3581-303	391-3581-304	391-3581-310
	P1327-27	P1327-37	P1327-47	P1327-57	P1327-67	P1327-79	P1327-93
Threaded Stop	375-4020-001	375-3020-002	375-6020-002	375-5020-001	375-7020-001	375-8020-001	375-9020-001
Non-Beveled	F4020	F3020	F6020	F5020	F7020	F8020	F9020
Threaded Stop	375-3020-110	375-3020-111	375-3020-112	375-3020-113	375-3020-114	375-3020-120	375-3020-119
Beveled	AG3020-1-27	AG3020-1-37	AG3020-1-47	AG3020-1-57	AG3020-1-67	AG3020-2-79	AG3020-2-93
Piston Bearing	391-2684-123	391-2684-069	391-2684-070	391-2684-071	391-2684-072	391-2684-073	391-2684-098
Glass Filled Nylon	U3023-32	U3023-42	U3023-52	U3023-62	U3023-72	U3023-84	U3023-98
Piston Bearing	N/A	375-9023-079	375-9023-038	375-9023-039	375-9023-040	375-9023-041	375-9023-042
Bronze		AM3023-42	AM3023-52	AM3023-62	AM3023-72	AM3023-84	AM3023-98
Cast Iron	391-2683-010	391-2683-014	391-2683-019	391-2683-024	391-2683-029	391-2683-034	391-2683-042
Piston Ring	X78-3.25-1	X78-4.25	X78-5.25	X78-6.25	X78-7.25	X78-8.437	X78-9.88
Steel External	391-1470-162	391-1470-163	391-1470-164	391-1470-165	391-1470-166	391-1470-167	391-1470-177
Headnut	YA3011-27	YA3011-37	YA3011-47	YA3011-57	YA3011-67	YA3011-79	YA3011-93
Bronze Internal	391-1470-079	391-1470-070	391-1470-071	391-1470-072	391-1470-073	391-1470-074	391-1470-075
Headnut	MA3011-27	MA3011-37	MA3011-47	MA3011-57	MA3011-67	MA3011-79	MA3011-93

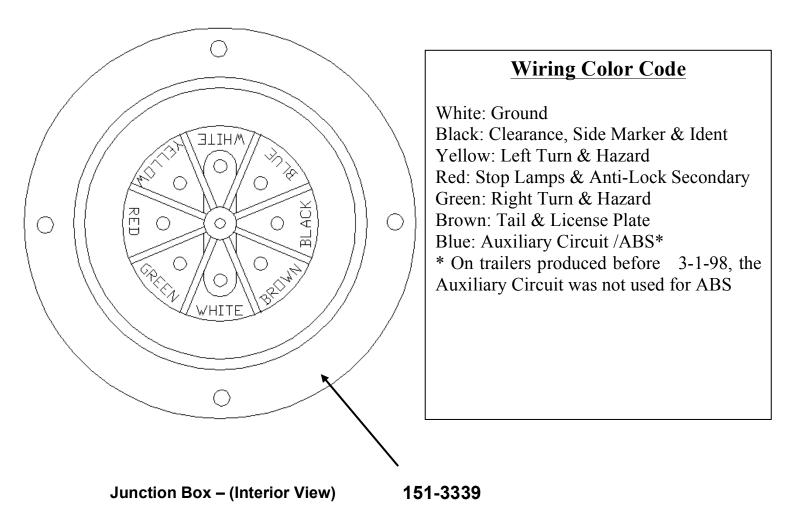






LEGEND					
DRAWING	QUANTITY	INCANDESCENT	LED	HARNESS	GROMMET
NUMBER	REQUIRED	PART NUMBER	PART NUMBER	PART NUMBER	PART NUMBER
1	2	151-3332	151-3432	151-3411	151-3335
2	4	151-3333Y	151-3433Y	151-3412	151-3336
3	2	151-3333R	151-3433R	151-3413	151-3336
4	3	151-3333R	151-3433R	151-3414	151-3336
5	1	151-3338		151-3414	
6	4	151-3334	151-3434	151-3415 L/R	151-3337
7	1	151-3339			
8	1		151-3330		

Junction Box & 7-Way Receptacle

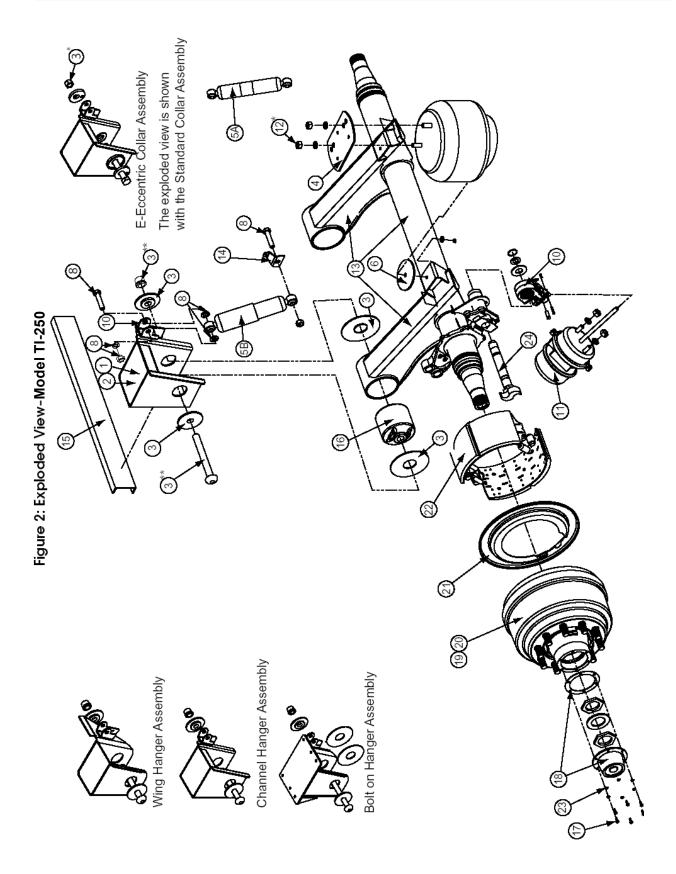


151-3331 1WHT 1W

7-Way Receptacle			
<u>Terminal</u>	Wire Color		
1	WHT (White)		
2	BLK (Black)		
3	YEL (Yellow)		
4	Red (Red)		
5	GRN (Green)		
6	BRN (Brown)		
7	BLU (Blue)		

Hybrid Trailer

Integra Series Suspension



Integra Series Suspension Parts

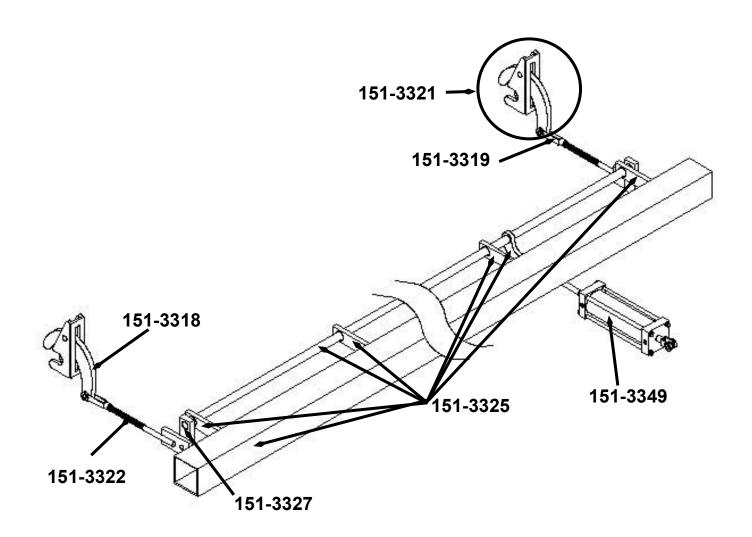
The following table describes Figure 2 and the corresponding part numbers. All Integra Model assemblies have the same part numbers except for the Hangers, Collar Pack, Upper bag plate assembly and Axle/Arm assembly. These differences are shown in tables under the corresponding model numbers.

Table 1 Parts List

Item #	Description	Quantity	Part #
1	Hanger Assembly Left Hand Shown	1	See "Individual Models" beginning on page 7
2	Hanger Assembly Right Hand, Right Hand collar pack assembly reversed for illustration	1	See "Individual Models" beginning on page 7
3	Collar Pack	2	See "Individual Models" beginning on page 7
4	Upper Bag Plate Assembly	2	See "Individual Models" beginning on page 7
5A	Shock Absorber for TI-250T & TI-251T	2	17186-01
5B	Shock Absorber for TI-300T, TI-301T and TI-302T	2	17186
6	Washer, Lower Bag	2	90864
7	Air Spring (load)	2	AS0159-1G
8	Vertical Shock Hardware Pack	1	16002
9	Auto Slack 1.5 R.H.	1	17938-22
10	Auto Slack 1.5 L.H.	1	17938-12
11	Brake Chamber 30/30	2	17040-04
12	Air Spring Pack AS0159-1G	1	16080
13	Axle Arm Assembly	1	Contact Factory
14	Level Valve Rod Connection Bracket	1	30259
15	Crossmember Weld On 41" long	1	12524
16	Bushing	2	17993
17	Capscrew.31 x .75 UNF	12	10258
18	Hubcap with gasket	2	17725/17989
19	Hub & Drum Assembly	2	See table on page 22
20	Bearing Kit	2	SRK19 (tapered axle),SRK20 (straight axle)
21	Dust Shield	2	17337
22	Shoe Kit	2	SRK21
23	Star Washer, .31	12	10259
24	Camshaft	2 LH & RH	202127-090

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Tailgate Latch Assembly Parts



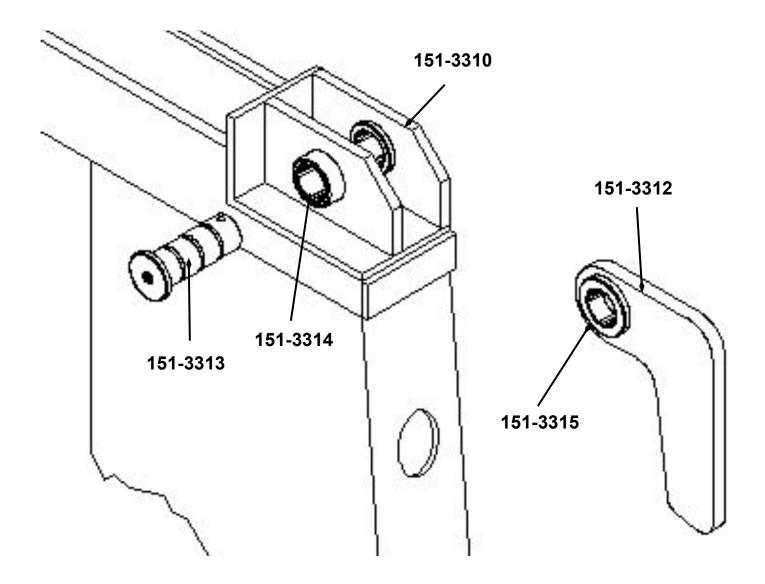
Tailgate Latch Assembly

- 151-3318 Latch Arm (Left or Right)
- 151-3319 Clevis (Left or Right)
- 151-3321 Tailgate Latch (Left or Right)
- 151-3322 Latch Rod (Left or Right)
- 151-3325 Complete Tailgate Rear Latch Assy
- 151-3327 Rear Latch Inner Pivot Arm
- 151-3349 2¹/₂" X 8" Cylinder

T-6 Valve

151-3352 - Electric Valve 151-3353 - Glad Hand Valve 151-3354 - Push-Pull Valve Lufkin Manufacturing

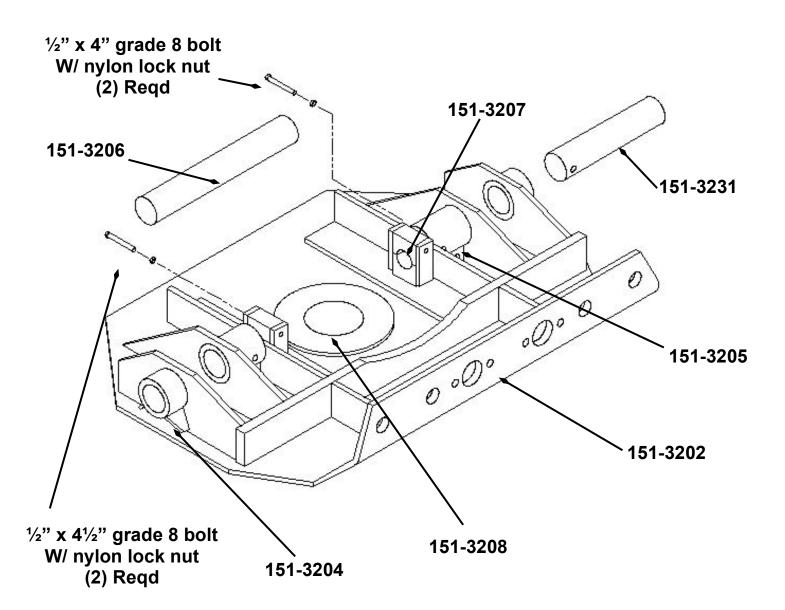
Tailgate Hinge Assembly Parts



Tailgate Hinge Assembly

- 151-3310 Tailgate Hinge Assembly
- 151-3312 Hinge Arm WO/ Bushing
- 151-3313 Hinge Pin
- 151-3314 Short Bushing
- 151-3315 Long Bushing

Upper 5th Wheel Parts



Upper 5th Wheel

- 151-3202 5th Wheel Assembly
- 151-3204 Outer Bushing (2) Reqd
- 151-3205 Inner Bushing (2) Reqd
- 151-3206 Cylinder Pin
- 151-3207 Cylinder Pin Block (2) Reqd
- 151-3208 King Pin
- 151-3231 Front Draft Arm Pin (2) Reqd

Parts List

Air System

- 151-3340 Air Tank
- 151-3341 Spring Brake Valve
- 151-3343 Brake Chamber
- 151-4101 Sensor with Cable
- 151-4102 ABS Valve

Draft Arm

- 151-3245 22'-24' Frameless Draft Arm
- 151-3246 26' Frameless Draft Arm
- 151-3247 28' 30' Frameless Draft Arm
- 151-3248 32' 35' 36' Frameless Draft Arm
- 151-3218 22' High Dump Draft Arm
- 151-3219 24' High Dump Draft Arm
- 151-3220 26' High Dump Draft Arm
- 151-3221SH 28' High Dump Draft Arm
- 151-3221LH 30' High Dump Draft Arm
- 151-3222 32' High Dump Draft Arm
- 151-3239 Rear Draft Arm Pin
- 151-3233 Bushing (4) Reqd
- 151-3236 Draft Arm Guide (2) Reqd
- 151-3397 Complete Landing Leg Assy
- 151-3398 Landing Leg Assembly (1 Side)
- 151-3396 Lower Landing Leg Assembly
- 151-3394 Upper Landing Leg Assembly
- 151-3393 Landing Leg Bracket
- 151-3389 Landing Leg Pin

Hybrid Hydraulic Cylinder

Length	Frameless	Hi-Dump
22'	84-161	84-161
24'	84-170	95-190
26'	85-190	95-220
28'	85-220	95-235
30'	95-220	95-235
32'	95-235	95-250

Lights

- 151-3330 Complete Light Panel 151-3332 – Upper Rear Marker Incan 151-3333Y – Front Marker Incan 151-3333R – Lower Rear Marker Incan 151-3334 - Rear Brake Incan 151-3335 – Grommet for Upper Rear (L&R) 151-3336 - Grommet for Marker 151-3337 – Grommet for Rear Brake 151-3338 – License Incan 151-3339 - Junction Box Incan 151-3411 – Harness Upper Rear Marker 151-3412 – Harness Front Side Marker 151-3413 – Harness Lower Rear Side Mrkr 151-3414 – Harness Lower Rear Mrkr/Lic 151-3415 L/R – Harness Rear Brake 151-3432 – LED Upper Rear Marker 151-3433Y – LED Front Side Marker 151-3433R – LED Lower Rear Marker
- 151-3434 LED Rear Brake

Suspension

- (1) SP-0193 Polyurethane Pad
- (2) SP-0038 Washer (optional)
- (3) Part # Depends upon Length
- (4) None
- (5) None
- (6) See Chart U-Bolt
- (7) SP-0003 Spring Cap
- (8) See Chart Spring
- (9) SP-0001 Trunion / Spring Cap
- (10) SP-0006 Trunion Cap
- (11) 10003 High Nut 1.125 UNF.
- (12) See Chart Cap Spring End
- (13) 10034 Hex bolt 5/8-18 x 2" GR8
- (14) See Chart Axle Spring Pin Assy
- (15) 10029 Lock Nut .625 UNF. GR8
- (16) See Chart U-Bolt
- (17) SP-0225 Polyurethane Bushing
- (18) 10045 1.125 Washer
- (19) 10032 .625 Washer
- (20) SP-0083 Shim Spacer

Tailgate Hinge

- 151-3310 Tailgate Hinge Assembly
- 151-3312 Hinge Arm WO/ Bushing
- 151-3313 Hinge Pin
- 151-3314 Short Bushing
- 151-3315 Long Bushing

Tailgate Latch

- 151-3318 Latch Arm (Left or Right)
- 151-3319 Clevis (Left or Right)
- 151-3321 Tailgate Latch Assembly
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T-6 Valve

- 151-3352 Electric Valve 151-3353 – Glad Hand Valve
- 151-3354 Push-Pull Valve

Upper 5th Wheel

- 151-3202 5th Wheel Assembly
- 151-3204 Outer Bushing (2) Reqd
- 151-3205 Inner Bushing (2) Reqd
- 151-3206 Cylinder Pin
- 151-3207 Cylinder Pin Block (2) Reqd
- 151-3208 King Pin
- 151-3231 Front Draft Arm Pin (2) Reqd

Manufacturer's Warranty Lufkin Manufacturing

Lufkin Manufacturing, referred to herein as the Manufacturer, warrants each new product of its own manufacture to be free from defects in material and workmanship, under normal use and service, to the original user only, for a period of twelve (12) months from the date of purchase, subject to conditions and warranty extensions outlined below. Manufacturer's obligation under this warranty is limited to repair or replacement with a similar part, any part of the product of its manufacture which is returned to Manufacturer within thirty (30) days after discovery of the defect, properly identified and transportation charges prepaid, and not more than twelve (12) months after purchase by the original user, provided that in Manufacturer's judgement the part is defective in material or workmanship.

Manufacturer will furnish without charge, FOB its plant, a similar part to replace any part of a product of its manufacture which proves to be defective in material or workmanship while in normal use and service during this period.

The Manufacturer's warranty or obligation in connection with the sale of the product:

- 1. Shall be expressly limited to the repair or replacement of defective parts, as stated above, all other damage and claims, statutory or otherwise, being hereby expressly waived by the purchaser and covers only those labor charges specifically authorized by Manufacturer.
- 2. Shall not apply to failure or damage incurred through neglect, lack of maintenance, misuse, accident, improper installation, reconstructing or modifying of assemblies or through any other cause beyond the control of the Manufacturer.
- 3. Shall not apply if the product has been operated beyond the Manufacturer's recommended capacity.
- 4. Does not cover products of other manufacturers beyond such warranty as is made by such manufacturer.
- 5. Requires that all warranty repairs shall be made by a Manufacturer approved facility. A Manufacturer's distributor must obtain Manufacturer's authorization before making warranty repair or replacement.
- 6. Includes a Warranty Extension following the initial twelve (12) months, subject to the following percentages of all parts and labor cost: 13-24 months, eighty percent (80%); 25-36 months, sixty percent (60%); 37-48 months, forty percent (40%); and 49-60 months, twenty percent (20%).

No claim under this warranty shall be valid unless such claim is submitted within sixty (60) months after date of sale, and within thirty (30) days after the discovery of the defect, which is the basis for such claim, whichever shall occur first.

The foregoing is Manufacturer's sole warranty and Manufacturer makes no other warranties of any kind whatsoever, express, implied, or statutory. All implied warranties or merchantability and fitness for a particular purpose, written or oral are hereby disclaimed by the Manufacturer.

In no event shall *Lufkin Manufacturing*, be liable for consequential damages, nor shall *Lufkin Manufacturing's* liability on any claim for any direct, incidental or special damages arising out of, or connected with, sales contract or manufacture, sale, delivery, or use of the products exceed the purchase price of the goods.

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