

HYBRID

TRAILER

Owner's Manual



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About Your *Hybrid* Trailer

Operating Instructions

1. **DO 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. **DO NOT** overload the dump body or trailer.
5. When the truck is stored or not in 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 5th 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. **DO NOT** 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 **DO 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. **DO NOT** 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

Hydraulic Fluid

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:

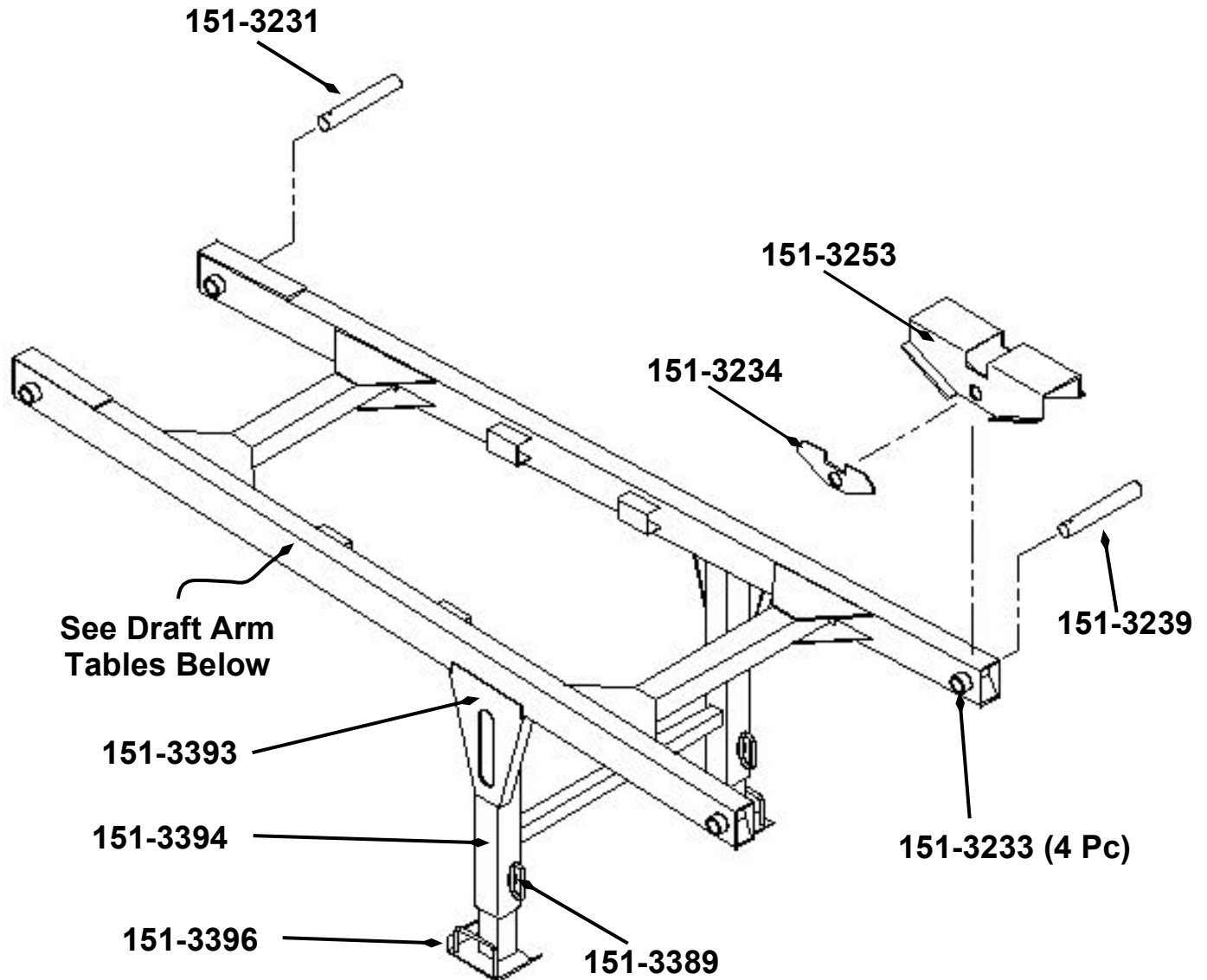
- A. Loosen the bleeder valve located on the top pin eye.
- B. Operate the pump at slow engine speed until the air is eliminated and hydraulic fluid is present.
- C. Tighten the bleeder valve cap securely to stop the oil flow. The hoist should operate smoothly.

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.



Draft Arm Parts



151-3397 Complete Leg Assembly
151-3398 Leg Assembly - One Side

Hybrid Frameless

<u>Length</u>	<u>Draft Arm</u>
22' 24'	151-3245
26'	151-3246
28' 30'	151-3247
32' 35' 36'	151-3248

Hybrid High Dump

<u>Length</u>	<u>Draft Arm</u>
22'	151-3218
24'	151-3219
26'	151-3220
28'	151-3221 SH
30'	151-3221 LH
32'	151-3222

Draft Arm Parts List

Draft Arm

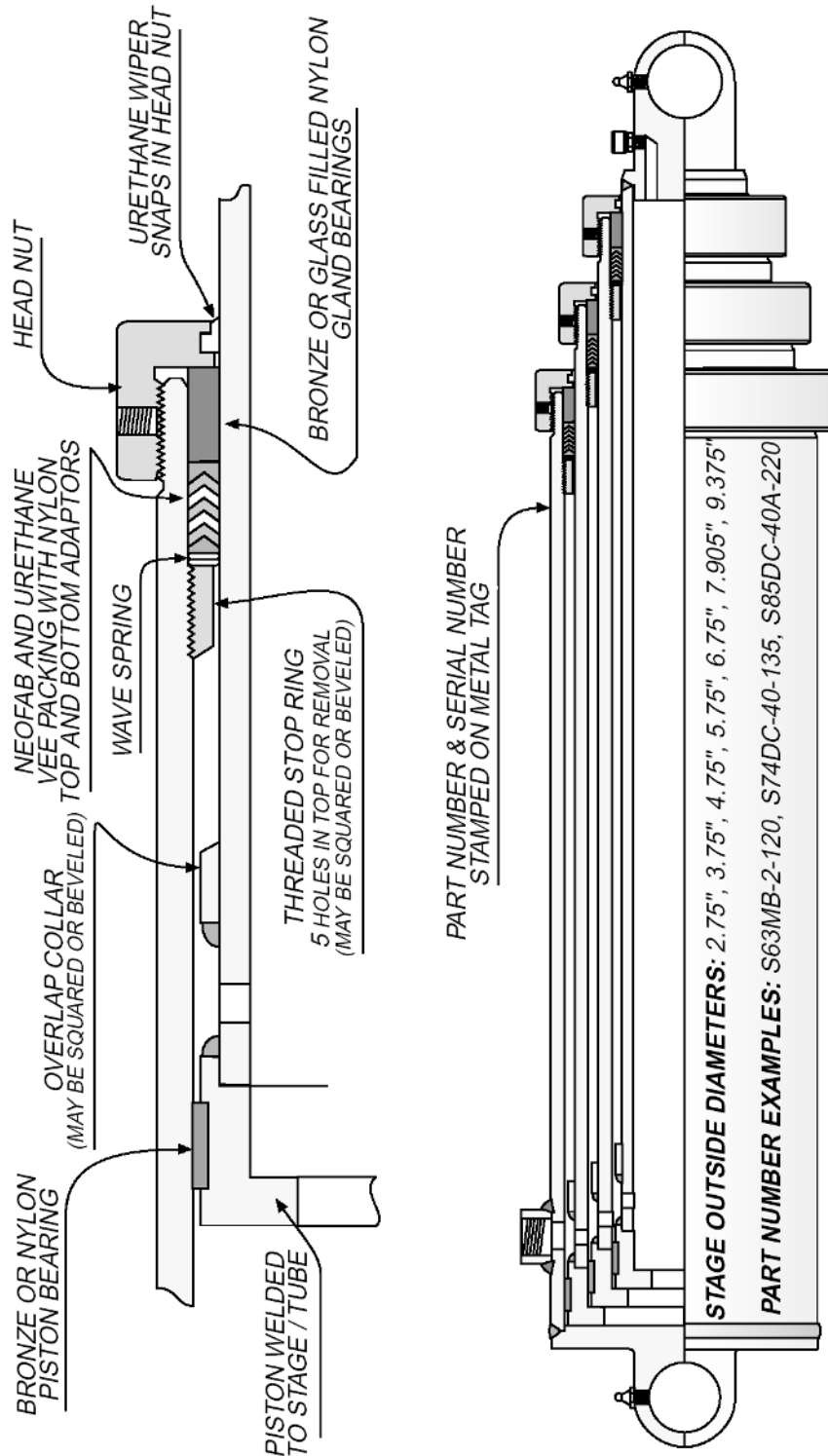
151-3245 – 22’-24’ Frameless Draft Arm
151-3246 – 26’ Frameless Draft Arm
151-3247 – 28’ - 30’ Frameless Draft Arm
151-3248 – 32’ 35’ 36’ Frameless Draft Arm
151-3218 – 22’ High Dump Draft Arm
151-3219 – 24’ High Dump Draft Arm
151-3220 – 26’ High Dump Draft Arm
151-3221SH – 28’ High Dump Draft Arm
151-3221LH – 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

COMMERCIAL

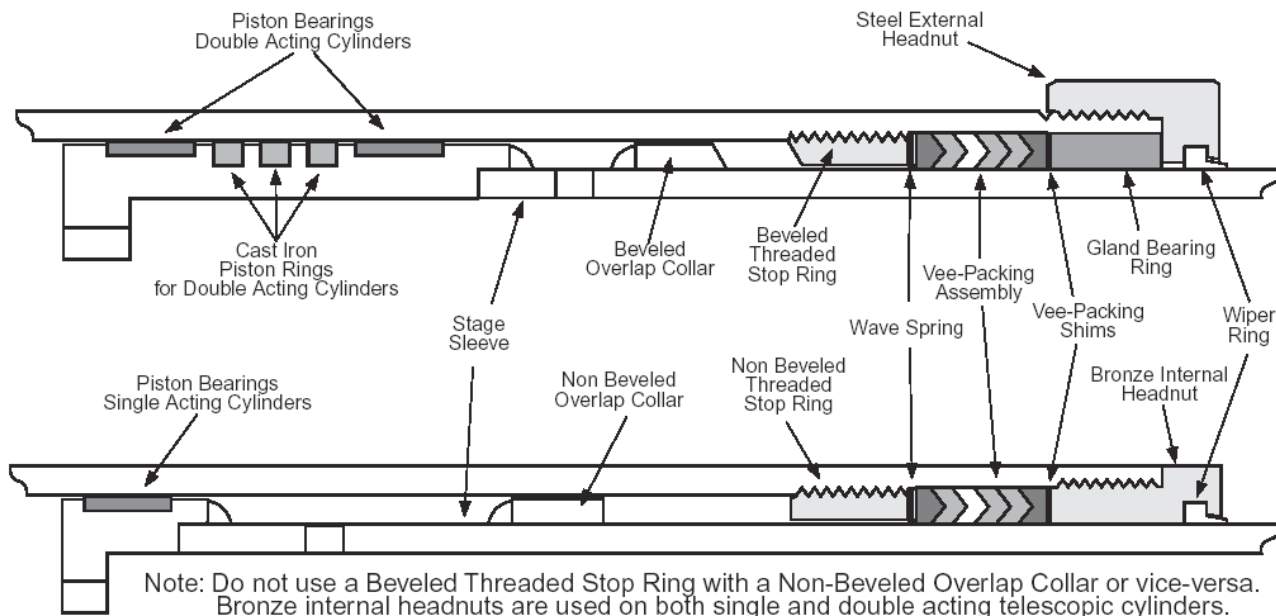


Parker Hannifin Corporation
Mobile Cylinder Division
Youngstown, OH

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Genuine Replacement Service Parts

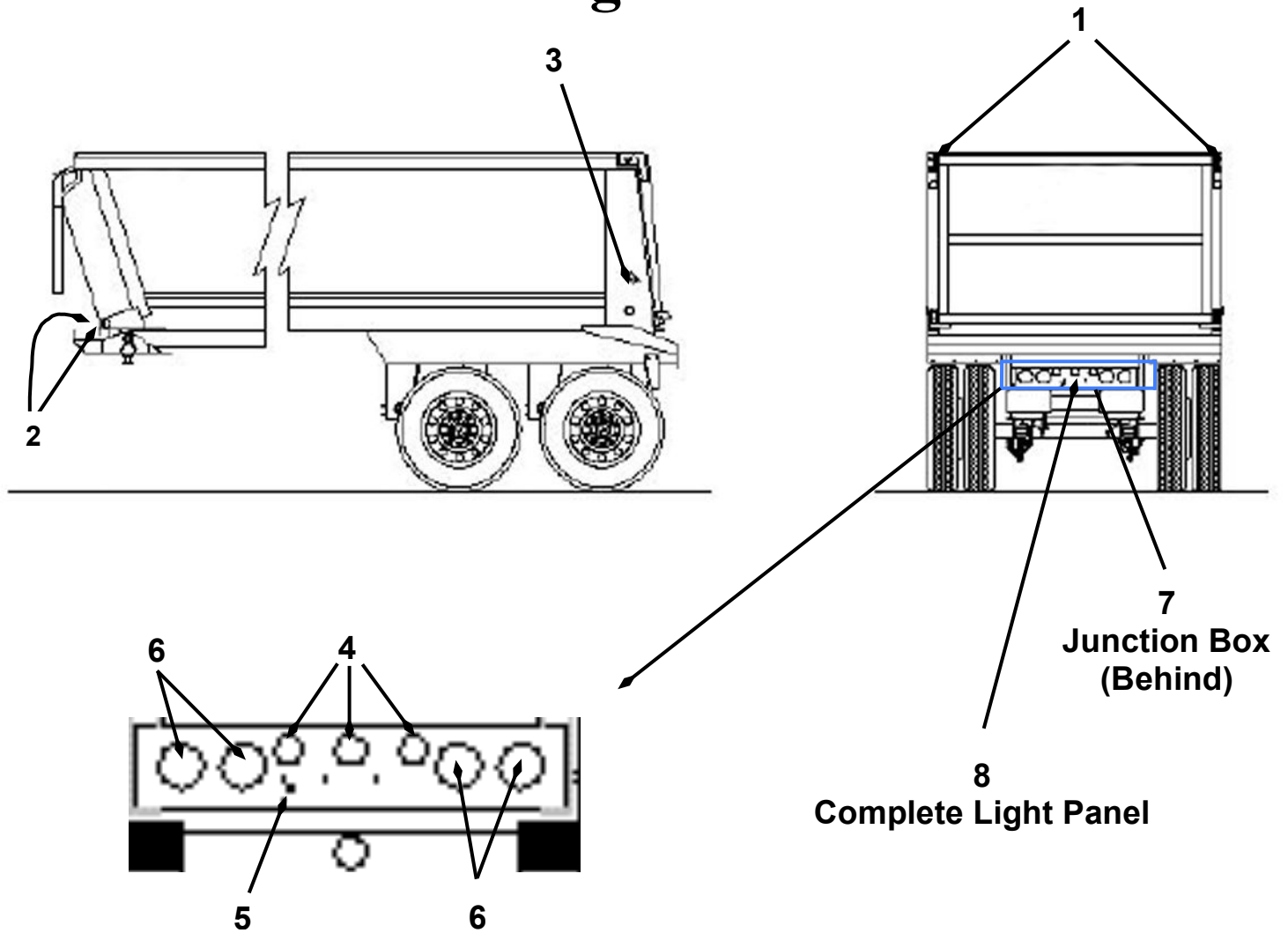


Following are service parts used on STANDARD DESIGN COMMERCIAL cylinders

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

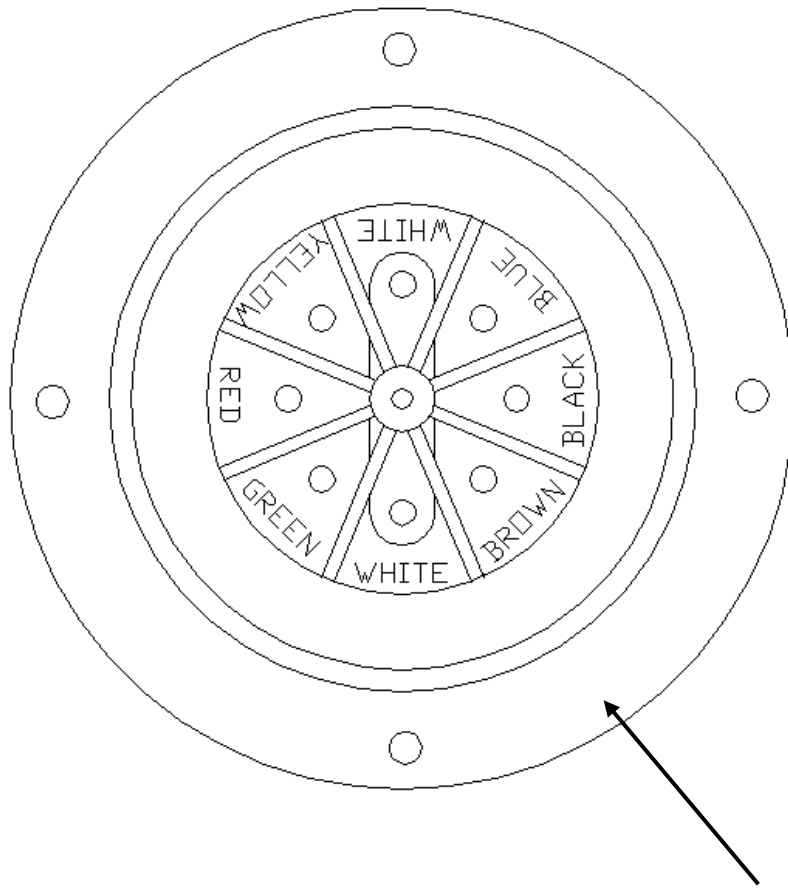
Lights



LEGEND

DRAWING NUMBER	QUANTITY REQUIRED	INCANDESCENT PART NUMBER	LED PART NUMBER	HARNESS PART NUMBER	GROMMET 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



Wiring Color Code

White: Ground

Black: Clearance, Side Marker & Ident

Yellow: Left Turn & Hazard

Red: Stop Lamps & Anti-Lock Secondary

Green: Right Turn & Hazard

Brown: Tail & License Plate

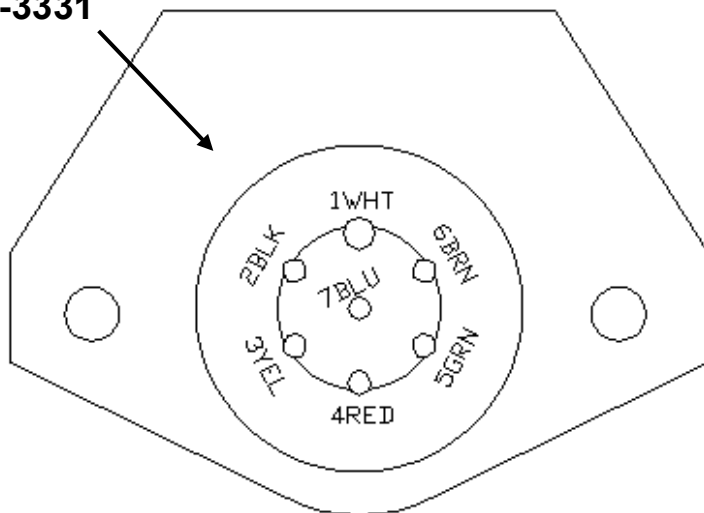
Blue: Auxiliary Circuit /ABS*

* On trailers produced before 3-1-98, the Auxiliary Circuit was not used for ABS

Junction Box – (Interior View)

151-3339

151-3331

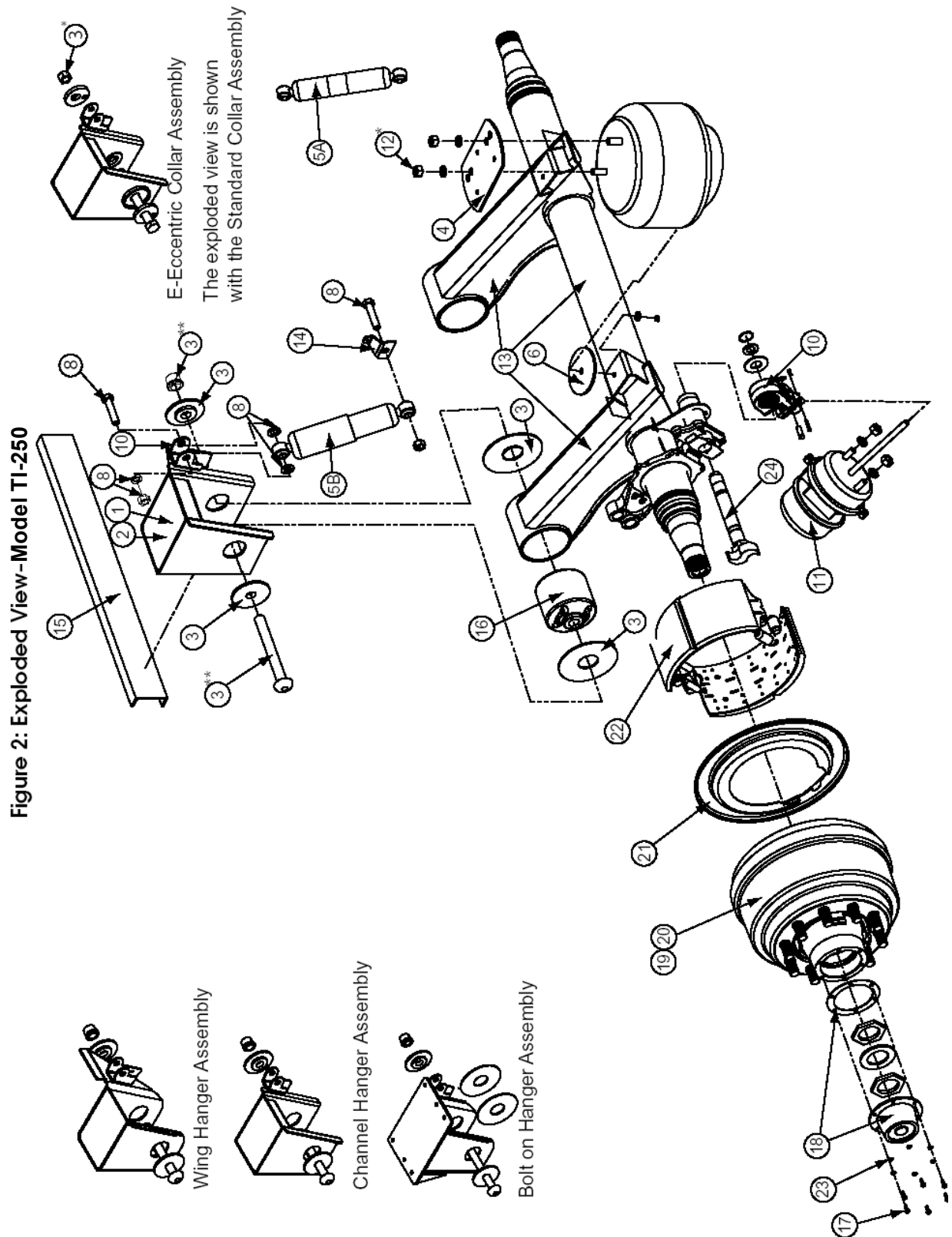


7-Way Receptacle

Terminal Wire Color

1	WHT (White)
2	BLK (Black)
3	YEL (Yellow)
4	Red (Red)
5	GRN (Green)
6	BRN (Brown)
7	BLU (Blue)

Integra Series Suspension



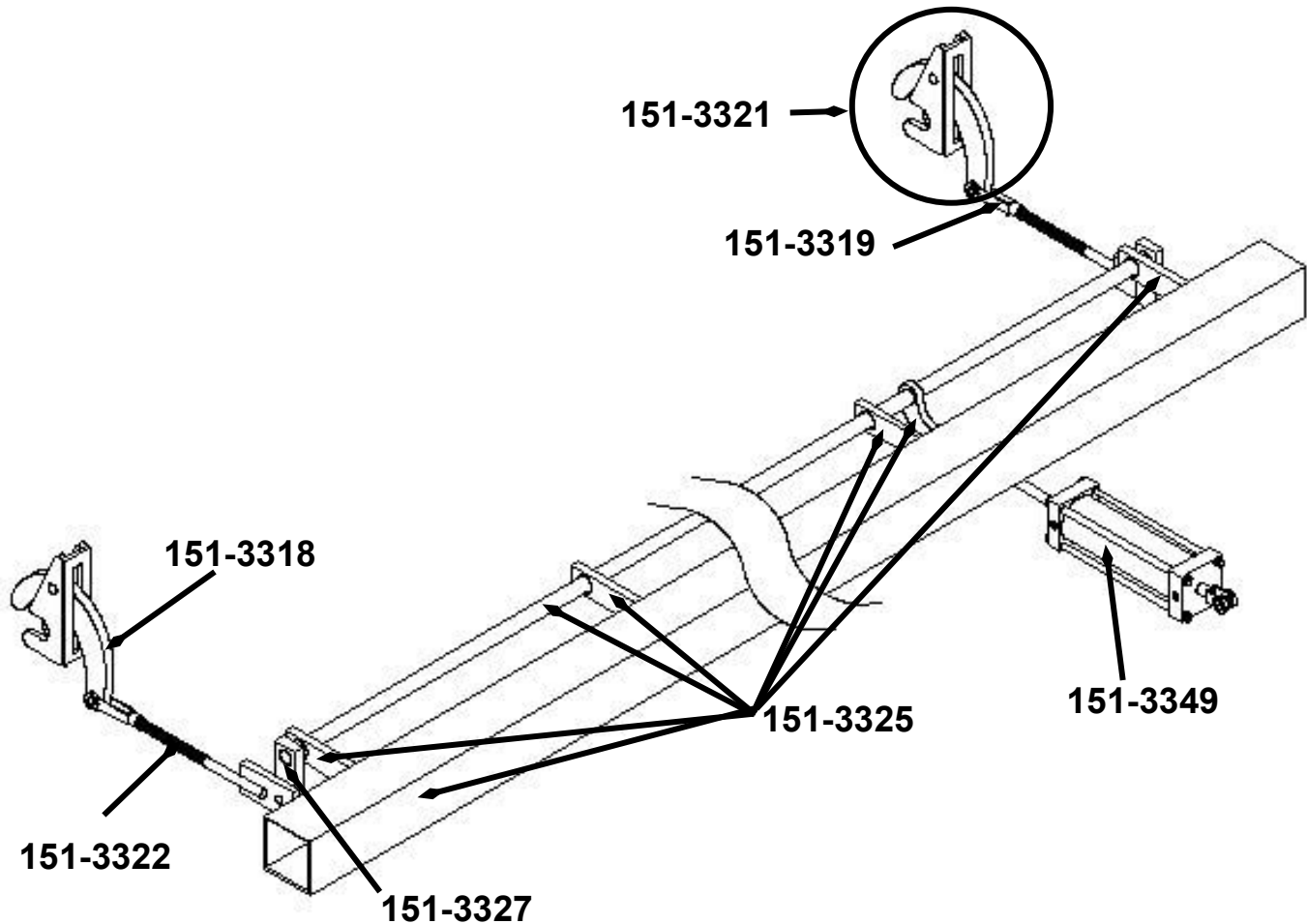
Integra Series Suspension Parts

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

Tailgate Latch Assembly Parts



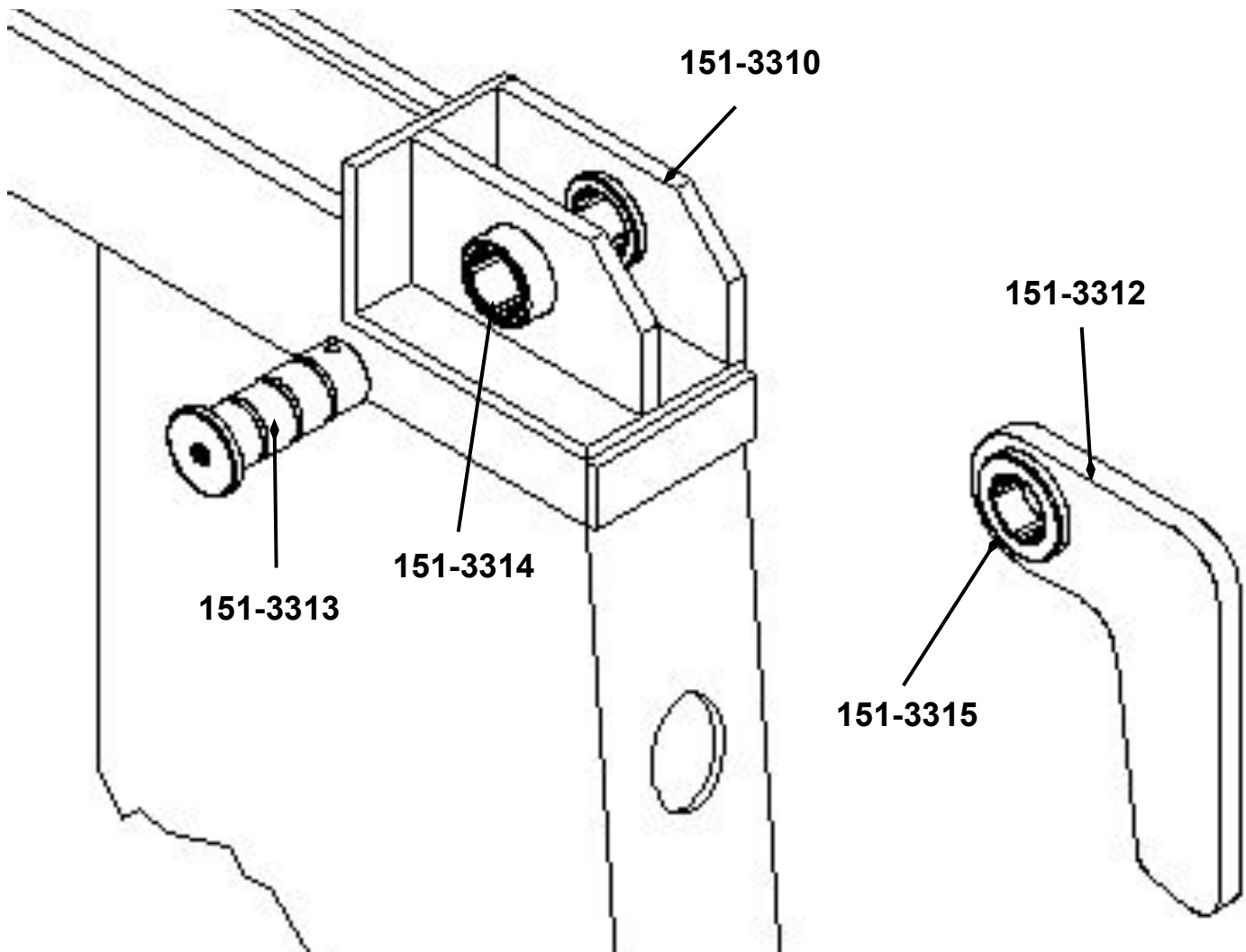
Tailgate Latch Assembly

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 – 2½" X 8" Cylinder

T-6 Valve

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

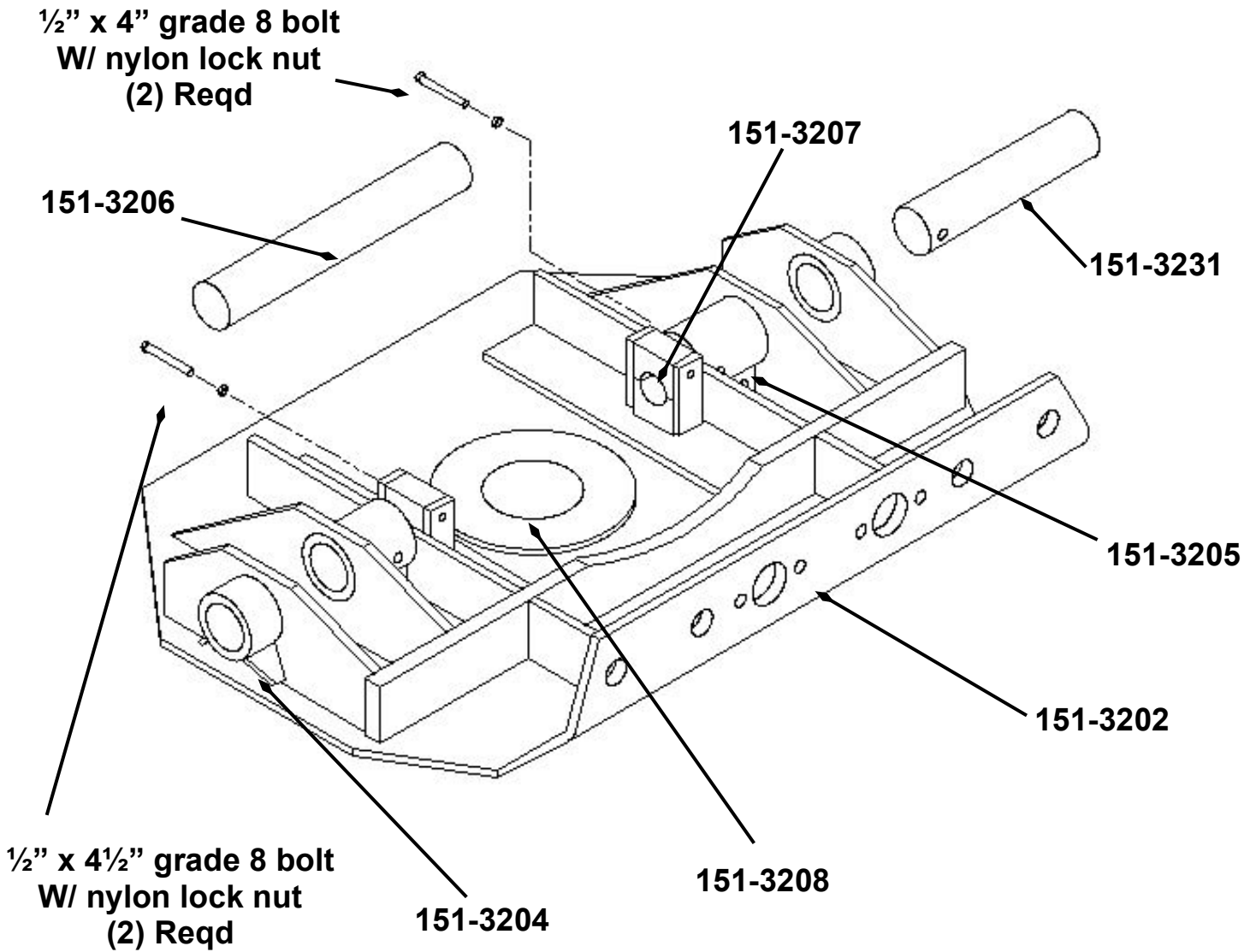
Tailgate Hinge Assembly Parts



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) Req'd
- 151-3205 – Inner Bushing (2) Req'd
- 151-3206 – Cylinder Pin
- 151-3207 – Cylinder Pin Block (2) Req'd
- 151-3208 – King Pin
- 151-3231 – Front Draft Arm Pin (2) Req'd

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) Req'd
 151-3236 – Draft Arm Guide (2) Req'd
 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

<u>Length</u>	<u>Frameless</u>	<u>Hi-Dump</u>
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
151-3322 – Latch Rod (Left or Right)
151-3325 – Complete Tailgate Latch Assy.
151-3327 – Rear Latch Inner Pivot Arm
151-3349 – 2½” X 8” Cylinder

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) Req'd
151-3205 – Inner Bushing (2) Req'd
151-3206 – Cylinder Pin
151-3207 – Cylinder Pin Block (2) Req'd
151-3208 – King Pin
151-3231 – Front Draft Arm Pin (2) Req'd

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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