SERVICE MANUAL

Revision B — 06/12/20 D711044

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1.0 Introduction

This manual provides instructions for servicing the EZ Trac® Hydraulic AWD system. Some procedures may require referral to Vehicle Operator's Manual, Parts Manual, and Body Builder's Manual.

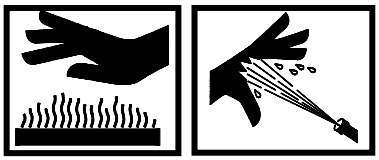
For questions directed to the EZ Trac® Hydraulic AWD system, please contact Customer Service:

By Phone: +1 (844) 289-3987
By E-Mail: eztracinfo@tdsdrive.com

A complete pictorial breakdown of all the individual parts in the EZ Trac® Hydraulic AWD system can be found in the EZ Trac® Parts Catalog (D711042) by visiting www.eztracawd.com > AWD Axle > Product Literature (www.eztracawd.com/product-literature). Refer to this catalog for proper identification of parts required for service.

The terms right and left in these instructions are the same as the operator's right hand and left hand when positioned in the operator's seat facing forward.

IMPORTANT: Cleanliness is essential when installing or servicing hydraulic components. Always keep the hoses, connectors, and ports suitably capped or covered to keep contamination out of the system. When making hydraulic connections, areas surrounding the connection should be steam cleaned or washed with solvent, so that contamination will not enter the system. **DO NOT** let dirt or water enter the system.

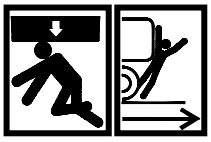


CAUTION: Make sure that the system pressure is relieved and hydraulic oil temperature has cooled to a safe temperature before disconnecting any lines or connections. Pressurized fluid escaping from the system can cause serious personal injury.

1.1 Safety Procedures

1. Make sure you fully understand all controls BEFORE operating the EZ Trac® Hydraulic AWD system. See Operator's Manual part number (D711043).
2. The safety information given does not replace safety codes, insurance needs, or federal, state, and local laws.
3. Standard safety procedures should be observed and practiced when operating or servicing the EZ Trac® Hydraulic AWD system. **CAUTION** should be practiced at all times.
4. All components **MUST** be securely and correctly mounted and connected BEFORE operating the system.

5. In the event of any malfunction in the system, the EZ Trac® system should be turned "OFF" immediately and not operated again until the machine is correctly serviced. SEE TROUBLE SHOOTING SECTION.



6. **DANGER:** When raising the front of the vehicle, make sure that a dependable lifting device is used. Use jack stands whenever possible to support the vehicle. Always apply the "PARK" or "EMERGENCY BRAKE," and block in front and behind the rear wheels to prevent the vehicle from rolling.
7. **DANGER:** Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Fluid escaping from a small hole can be almost invisible. Use a piece of cardboard or wood rather than your hands to search for suspected leaks. If fluid penetrates your skin, contact a doctor immediately.
8. **DO NOT** alter axles in ANY manner; alteration may reduce the strength resulting in possible damage or personal injury.
9. **DO NOT** alter any component of the EZ Trac® Hydraulic AWD system. Unauthorized modification may result in damage or personal injury.

10. **DANGER:** Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion, which may result in serious bodily injury. **DO NOT** attempt to mount a tire unless you have the proper equipment and experience to perform the job safely.

11. **WARNING:** Instructions printed on decals MUST be obeyed completely to prevent possible damage or injury. If decals are destroyed, lost, damaged or cannot be read, replace immediately.
12. **WARNING:** Any damaged high-pressure hose should be replaced with an equivalent reinforced hose.

1.2 Service Notes

This Service Manual describes the correct service and repair procedures for the EZ Trac® Hydraulic AWD system.

You must read and understand all procedures and safety precautions presented in this manual before conducting any service work on the system.

Proper tools must be used to perform the maintenance and repair procedures in this manual. Some procedures require the use of special tools for safe and correct service. Failure to use the proper and/or special tools when required can cause personal injury and/or damage to system components.

You must follow your company safety procedures and use proper safety equipment when you service or repair the system.

The information contained in this manual was current at the time of printing and is subject to change without notice or liability. EZ Trac® reserves the right to modify the system and/or procedures and to change specifications at any time without notice and without incurring obligation.

EZ Trac® uses the following types of notices for potential safety problems and to give information that will prevent damage to equipment.

⚠ WARNING
A warning indicates procedures that must be followed exactly. Serious personal injury can occur if the procedure is not followed.

⚠ CAUTION
A caution indicates procedures that must be followed exactly. Damage to equipment or suspension components and personal injury can occur if the procedure is not followed.

NOTE
A note indicates an operation, procedure or instruction that is important for correct service.

1.3 Indentification

The EZ Trac® model and serial number are stamped on an aluminum tag that is riveted to the front of the axle assembly (Figure 1). The serial number is used by EZ Trac® for control purposes and should be referred to when servicing the system or requesting technical support (Figure 2). Each axle is also stamped with a TDS™ Project Number. (Figure 3).

Figure 1- Axle Identification Location

Figure 2 - Axle Serial Number Tag

Figure 3 - Project Stamp on Axle

2.0 Maintenance

Item	Interval			
	Daily	Monthly	6 Months	1 Year
Check hydraulic oil level in reservoir	X			
Check oil cooler fins for blockage	X			
Sample hydraulic oil			X	
Change hydraulic oil				X
Replace hydraulic oil filter element				X
Inspect outside of wheel ends for leakage (hydraulic motor area)	X			
Inspect inside of wheel ends for leakage (hub seal and brake area)	X			
Inspect hydraulic hoses and connections for wear or leakage	X			
Grease pump drive shaft universal joint fittings (2 joints)		X		
If system utilizes a front engine mount charge pump grease driveshaft (2 joints)		X		
Grease ball studs on ends of tie rods			X	
Grease brake S-Cam tube and automatic slack adjuster			X	
Grease king pin			X	

2.2 Hydraulic Oil Requirements

- Use of hydraulic fluids defined by the ISO 12380 and ISO 6743-4 standards is recommended.
- For temperate climates HV 46 or HV 68 is recommended.
- These specifications correspond to category 91H of the CETOP standard, parts 1, 2, and 3 of the DIN 51524 standard, and grades VG32, VG46, and VG68 of the ISO 6743-4 standards
- Standardized designation for the fluid:
- HV: HM mineral fluids providing improved temperature and viscosity properties (DIN 51524 part 3)
    - Class 32 (ISO VG 32): Viscosity of 32 cSt at 40°C
    - Class 46 (ISO VG 46): Viscosity of 46 cSt at 40°C

2.2 Hydraulic Oil Requirements (cont.)

The oil viscosity must always be between 9 and 500 cst.
The maximum operating temperature of the oil is 95°C (203°F) and is controlled by a temperature switch.

The following table provides a list of oils that meet the required specifications. Other brands with equivalent specifications may also be used.
Note: For continuous operation in cold climates (below 32°F) the ISO 32 viscosity grade of the above oils may be used. In the case of extreme cold climates (below 0°F), Shell Tellus* Oils TX in ISO viscocity grade 22 have been used.

Oil Cleanliness
The hydraulic fluid must meet a cleanliness level code of 22/18/13 or better per the ISO 4406 standard.

Lubrication Specifications:

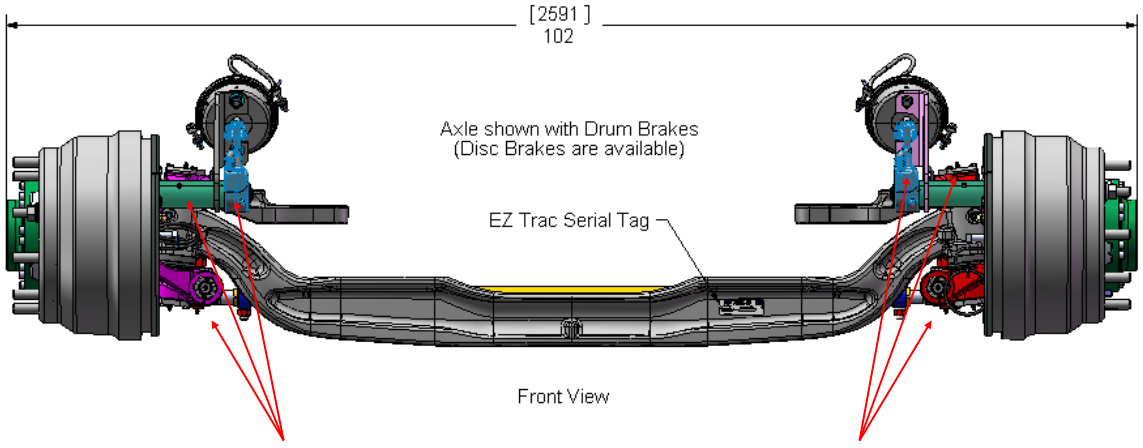
1. Multipurpose or Premium Chassis Grease NLGI Grade 2 is recommended

Manufacturer	Oil Designation
Mobil	DTE15M (46 grade) or DTE16M (68 grade) – HV type
Shell	Tellus T46 or T68 – HV type
Exxon/Esso	Univis 46 or 68 – HV type

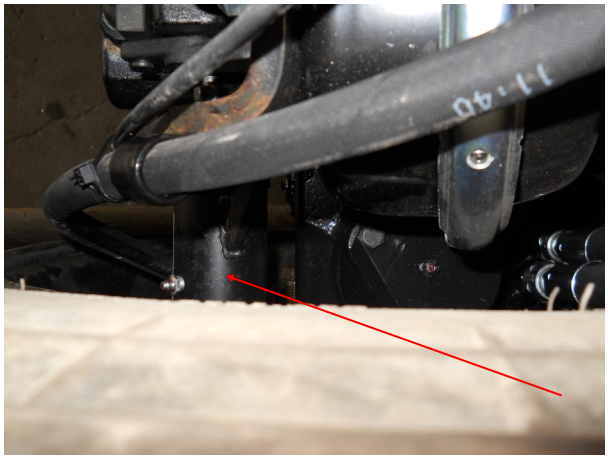
2.3 LUBRICATION

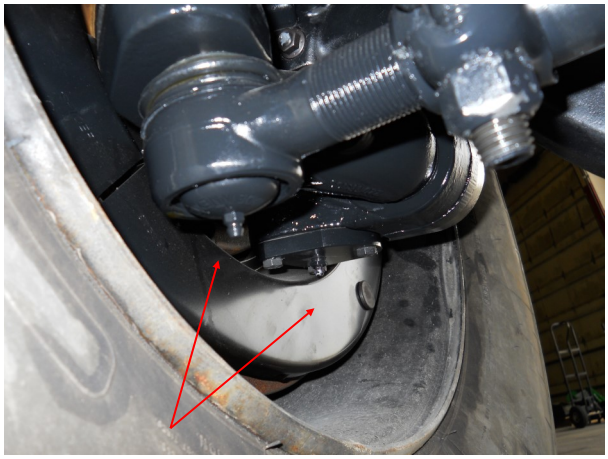
GREASE LOCATIONS

1. Front Axle



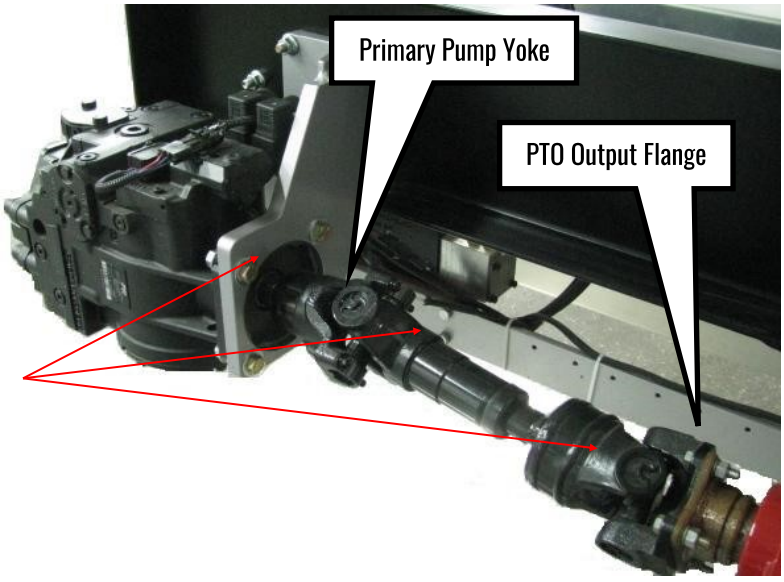
A. Ball Studs on Tie Rod Ends and King Pin Cap Top and Bottom





B. Brake Cam S Tube and Automatic Slack Adjuster

2. PTO Drive Shaft



Grease Locations

2.4 MAINTENANCE RECORD

Name of Owner			Address of Owner
Date of Purchase	Name and Address of Dealer		
Model of Vehicle	Vehicle Identification Number		
	EZ TRAC Serial Number:		
Inspection and Maintenance Item	Date	Mileage	Service Performed

3.0 REPAIRS

3.1 General Procedures

Repair or reconditioning of front axle components is not allowed. Components that are damaged or worn must be replaced. Several major components are heat treated and tempered.

⚠ WARNING

The components cannot be bent, welded, heated altered, or repaired in any way without reducing the strength or life of the component and voiding the warranty.

The following operations are prohibited on front axle components.

Welding of or to the steering knuckles, control arms, steering arms, knuckle carrier, tie rod assemblies, the brakes, the hubs, and the brake drums.
Hot or cold bending of the steering knuckles, control arms, steering arms, knuckle carrier, tie rod assemblies, ball joints, and the subframe except control arm and steering arm mounts which may be cold bent to facilitate bushing and bearing replacement.
Drilling out control arm and steering arm mounting holes and ball stud tapered holes.
Spray welding of bearing diameters on the steering knuckle spindle, steering arm bores and pivot tube. Spray welding of ball studs or tapered holes for the ball joint and tie rod ends.
Milling or machining of any component except that control arm bushing bores may be honed to remove any burrs.

⚠ WARNING

Never work under a vehicle supported by only a jack(s). Jacks can slip or fall over and cause serious personal injury. Always use safety stands. Do not place jacks or safety stands under the lower control arms to support the vehicle. Lower control arms are not stationary components and could move allowing the vehicle drop causing serious personal injury.

The vehicle may be supported on safety stands by the axle beam or chassis frame for repairs that require removal of the wheel and tires or deflation of the air springs. Always secure the vehicle by setting the parking brake and block the drive wheels to prevent vehicle movement before performing repairs.

3.1 General Procedures (cont.)

Cleaning The Parts

⚠ WARNING
If you use cleaning solvents, hot solution tanks or alkaline solutions incorrectly, serious personal injury can occur. To prevent injury, follow the instructions supplied by the manufacturer. Do NOT use gasoline to clean parts. Gasoline can explode.

Ground or Polished Parts

Use a cleaning solvent to clean ground or polished parts and surfaces. Do NOT clean ground or polished parts with hot solution tank or with water, steam or alkaline solutions. These solutions will cause corrosion of the parts.

Rough Parts

Rough parts can be cleaned with the ground and polished parts. Rough parts also can be cleaned in hot solution tanks with a weak alkaline solution. Parts should remain in the hot solution tanks until they are completely cleaned.

Drying

Parts must be dried immediately after cleaning. Dry parts with clean paper or rags, or compressed air. Do not dry bearings by spinning with compressed air.

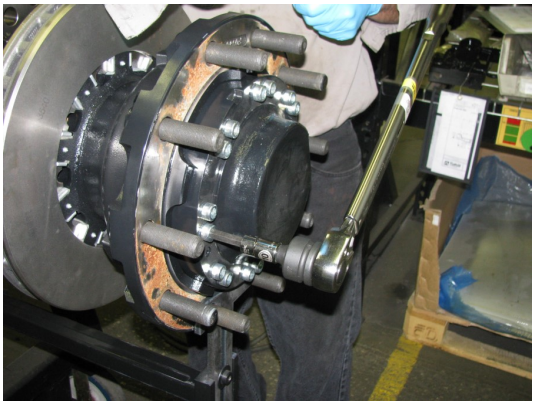
Preventing Corrosion

Apply light oil to cleaned and dried parts that are not damaged and are to be immediately assembled. Do NOT apply oil to the brake linings or the brake drums. If the parts are to be stored, apply a good corrosion preventative to all surfaces and place them inside special paper or containers that prevent corrosion. Do NOT apply corrosion preventative to the brake linings or the brake drums.

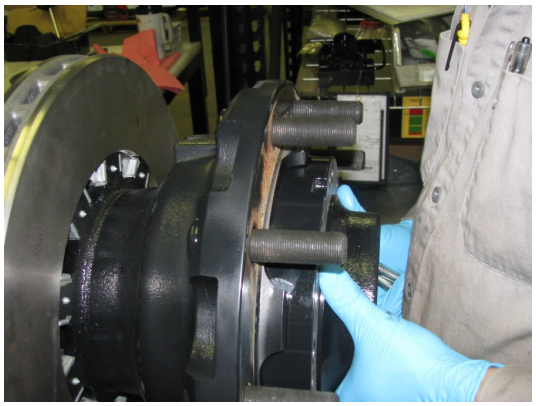
3.2 Wheel End Disassembly

3.2.1 Remove Hydrobase, Hub and Seal

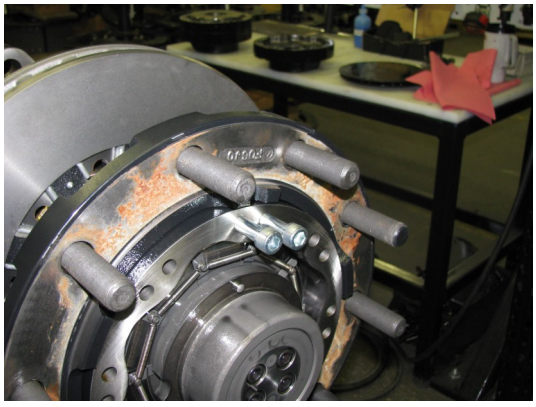
1. Loosen and remove bolts




2. Remove Cover



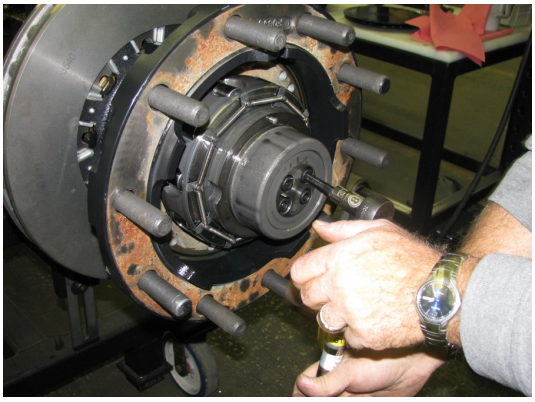
3. Remove Cam Ring




3.2 Wheel End Disassembly (cont.)

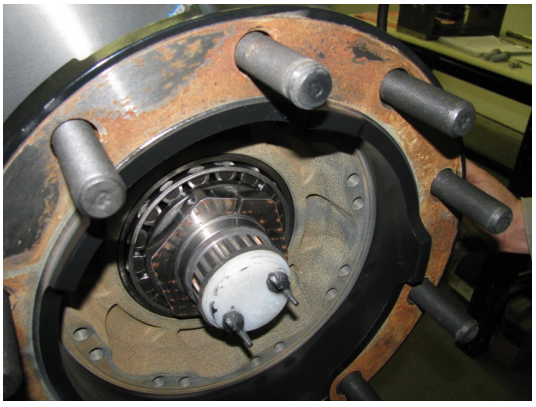
3.2.1 Remove Hydrobase, Hub and Seal (cont.)

4. Loosen and remove distributor valve



5. Remove Piston Block

6. Hub Disassembly
7. Remove nut and washer



3.2 Wheel End Disassembly (cont.)

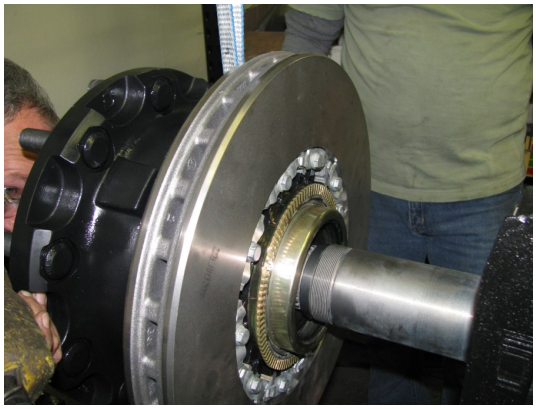
3.2.1 Remove Hydrobase, Hub and Seal (cont.)

8. Remove hub and place on flat surface with seal up for hub seal removal.
9. Remove retaining clip holding in hub seal cover.
10. With flat cold chisel, strike seal at 20 degree angle upward. After about 10-15 hits seal will come out.

3.2 Wheel End Disassembly (cont.)

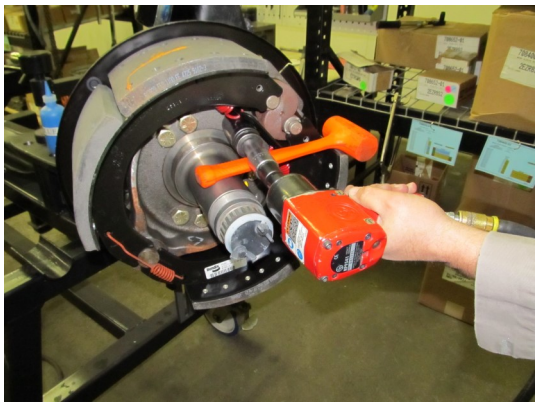
3.2.1 Remove Hydrobase, Hub and Seal (cont.)

11. Remove Disc Brake Rotor if applicable



3.2.2 Knuckle Dissasembly

1. Loosen bolts on brake assembly

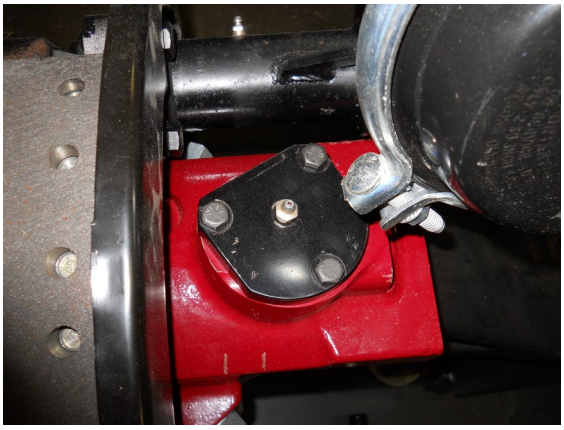


2. Remove brake assembly

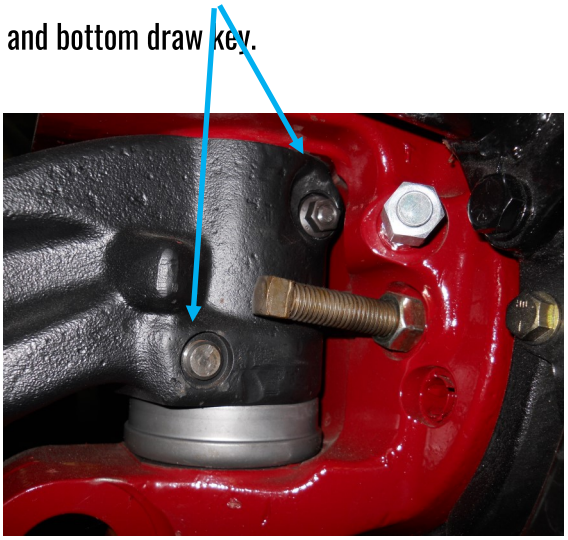
3.2 Wheel End Disassembly (cont.)

3.2.2 Knuckle Disassembly (cont.)

3. Loosen and remove king pin cap bolts (top and bottom).



4. Loosen and remove top and bottom draw key.

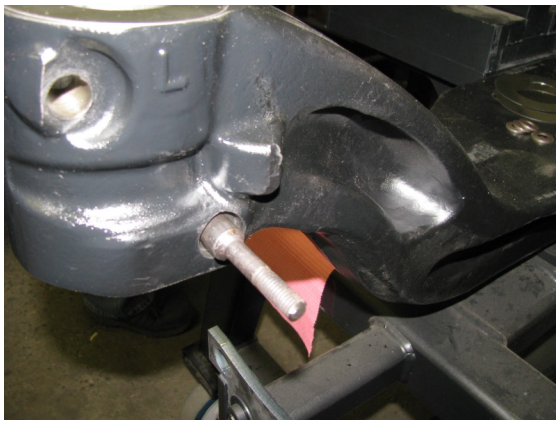


5. Loosen and remove king pin from knuckle and axle beam, then remove knuckle.

3.3 Wheel End Re-Assembly

3.3.1 Knuckle Assembly to Axle

1. Install long draw key and plastic king pin fixture in axle.



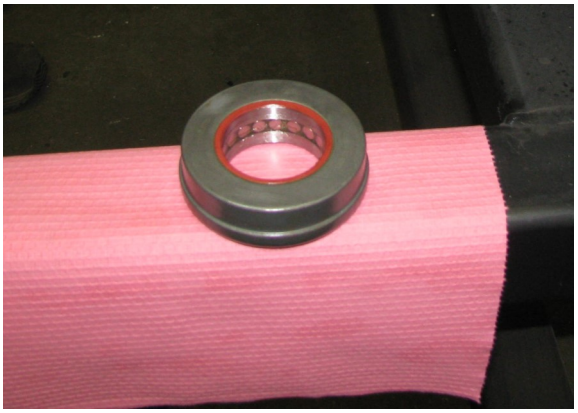
2. Put shims on plastic king pin fixture.

3. Install knuckle on axle beam.

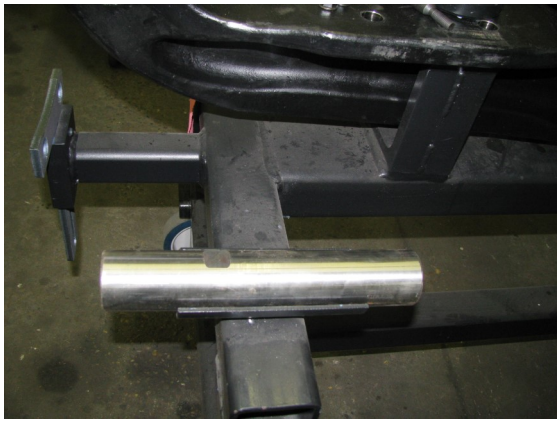
3.3 Wheel End Re-Assembly (cont.)

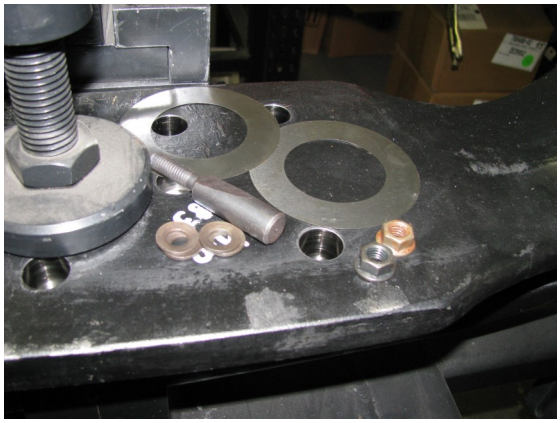
3.3.1 Knuckle Assembly to Axle (cont.)

4. Install thrust bearing.



5. Grab king pin, check which end is top.





6. Remove draw key pin and king pin fixture.

3.3 Wheel End Re-Assembly (cont.)

3.3.1 Knuckle Assembly to Axle (cont.)

7. Install king pin in knuckle and axle beam.

8. Install bottom draw key.
9. Install top draw key.
10. Install Belleville washers (2) and nuts. Convex surface towards nut.

3.3 Wheel End Re-Assembly (cont.)

3.3.1 Knuckle Assembly to Axle (cont.)

11. Torque top draw key to 25-31 ft-lbs

12. Torque bottom draw key to 25-31 ft-lbs
13. Tap top and bottom draw key

14. Re-torque draw keys and check end-play. End-play should be .002-.012

3.3 Wheel End Re-Assembly (cont.)

3.3.1 Knuckle Assembly to Axle (cont.)

15. Install o-rings on caps

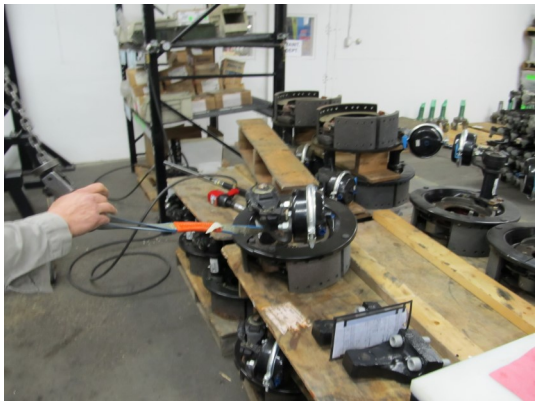
16. Install top cap on king pin, start bolts
17. Install Bottom cap on king pin, start bolts
18. Torque top and bottom king pin cap bolts

19. Apply grease to top and bottom king pin caps w/grease pump
20. Grab 7 brake bolts

3.3 Wheel End Re-Assembly (cont.)

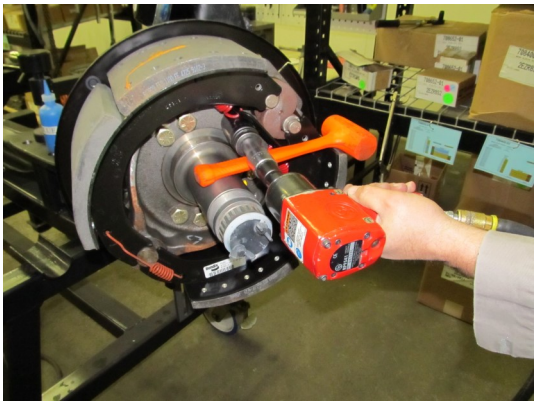
3.3.1 Knuckle Assembly to Axle (cont.)

22. Get brake assembly w/hoist



23. Apply Loctite 242 to 7 knuckle threads
24. Put brake assembly on knuckle

25. Start bolts in knuckle

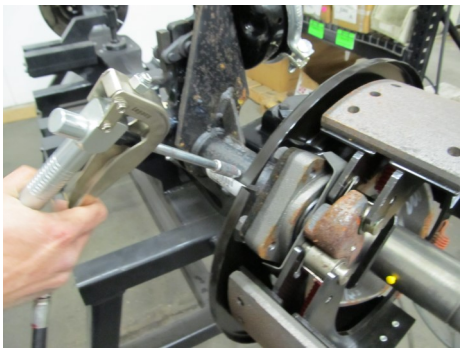


3.3 Wheel End Re-Assembly (cont.)

3.3.1 Knuckle Assembly to Axle (cont.)

26. Torque 7 bolts for brake to 305 ft-lbs

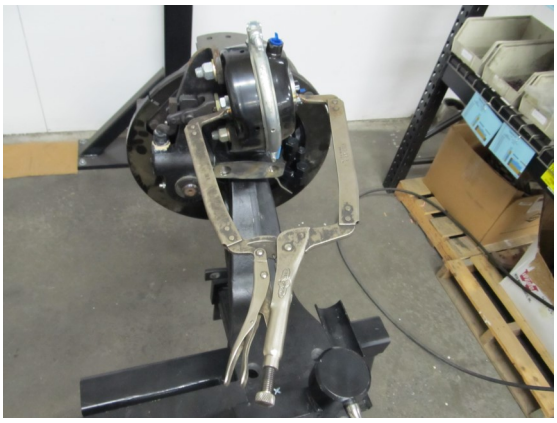
27. Remove lifting device
28. Grease cam shaft



3.3 Wheel End Re-Assembly (cont.)

3.3.1 Knuckle Assembly to Axle (cont.)

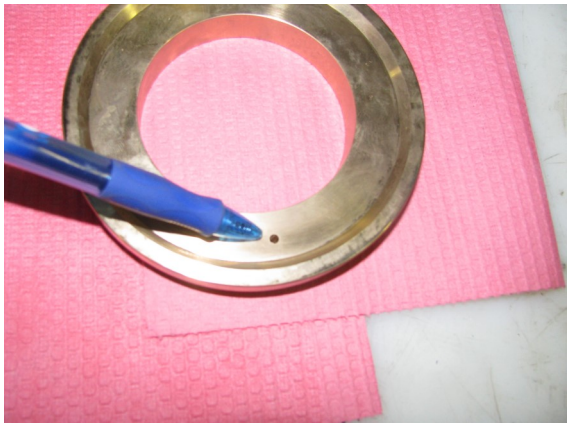
29. Re-clock brake chamber (if needed)

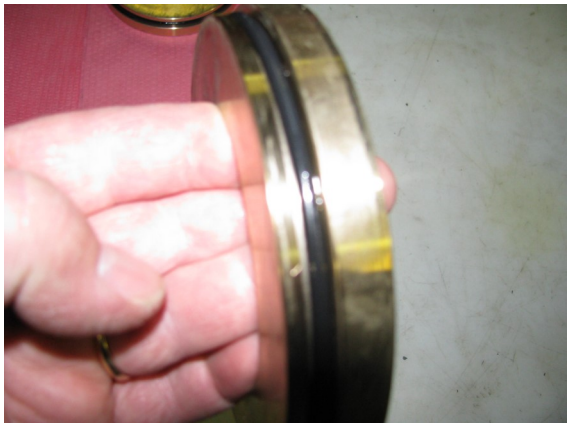


3.3 Wheel End Re-Assembly (cont.)

3.3.2 Hub Assembly

1. Load hub on press fixture
2. Oil O-ring and install on bulkhead





3. Put bulkhead in hub

3.3 Wheel End Re-Assembly (cont.)

3.3.2 Hub Assembly (cont.)

4. Put outer bearing race in hub

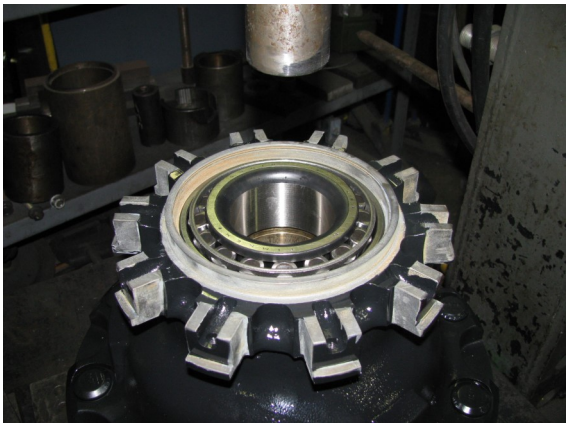
5. Press release

6. Take hub off press and turn over
7. Place hub in fixture and put on press

3.3 Wheel End Re-Assembly (cont.)

3.3.2 Hub Assembly (cont.)

8. Put inner race in hub and press in



9. Put oil on bearing in hub
10. Apply Loctite 548 to inside seal housing where seal goes
    (*Unless Complete wheel end seal kit is provided, If so skip to step 15*)

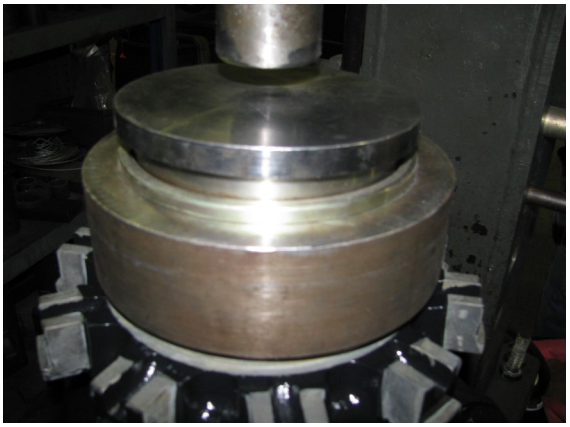
3.3 Wheel End Re-Assembly (cont.)

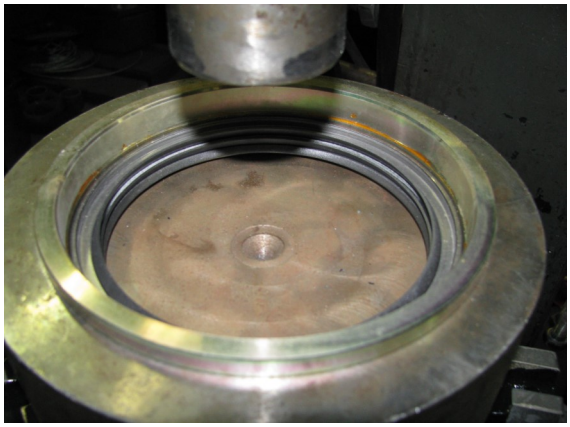
3.3.2 Hub Assembly (cont.)

11. Place seal in seal housing (*Unless Complete wheel end seal kit is provided, If so skip to step 15*)

12. Put fixture on press, put seal on seal press fixture
13. Place seal on top of housing

14. Press seal in housing



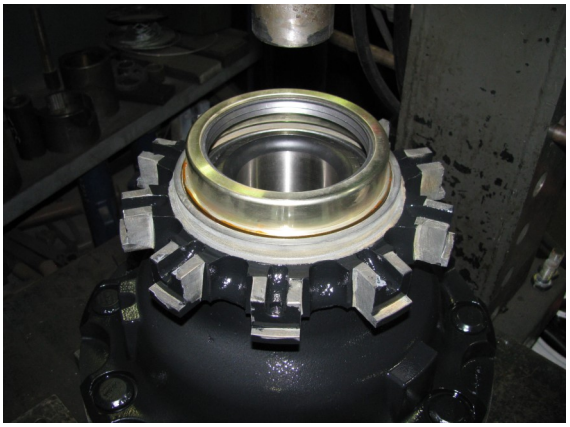


3.3 Wheel End Re-Assembly (cont.)

3.3.2 Hub Assembly (cont.)

15. Apply loctite 548 to outside of seal housing

16. Put seal housing in seal housing press tool



17. Press seal housing into hub

3.3 Wheel End Re-Assembly (cont.)

3.3.2 Hub Assembly (cont.)

18. Install retaining ring

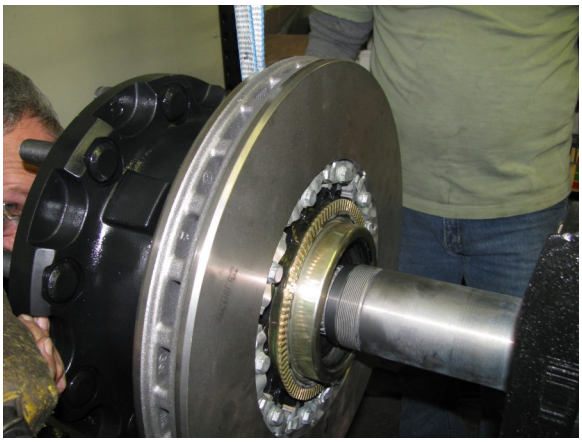
19. Put tone ring on hub

20. Set press fixture on tone ring
21. Press tone ring onto hub
22. Grease seal lips

3.3 Wheel End Re-Assembly (cont.)

3.3.3 Hub Assembly to Axle

1. Attach hoist to hub w/lifting fixture
2. Put hub assembly onto axle (not all the way)



3. Install bearing in hub

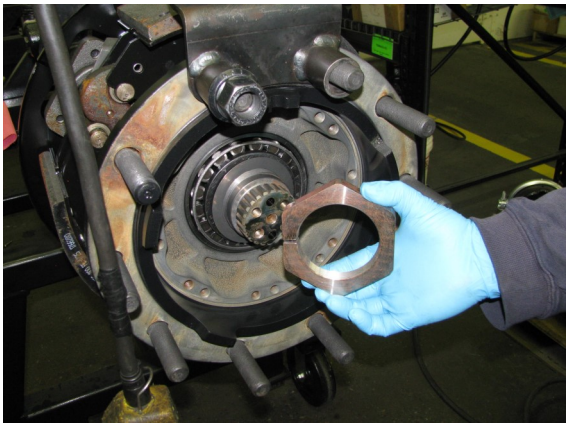
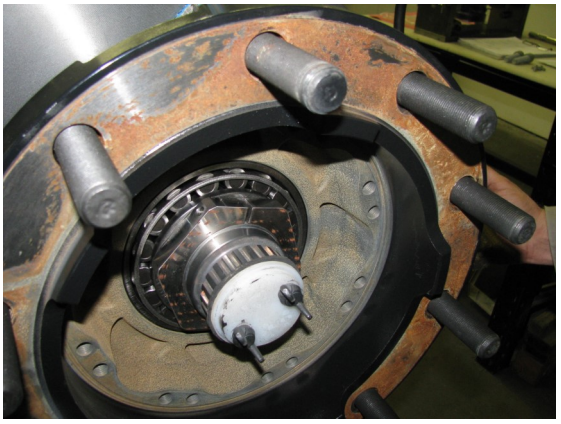
4. Start Socket Head Cap Screw in bearing nut

3.3 Wheel End Re-Assembly (cont.)

3.3.3 Hub Assembly to Axle (cont.)

5. Put hardened shim on knuckle spindle


6. Start nut on knuckle spindle

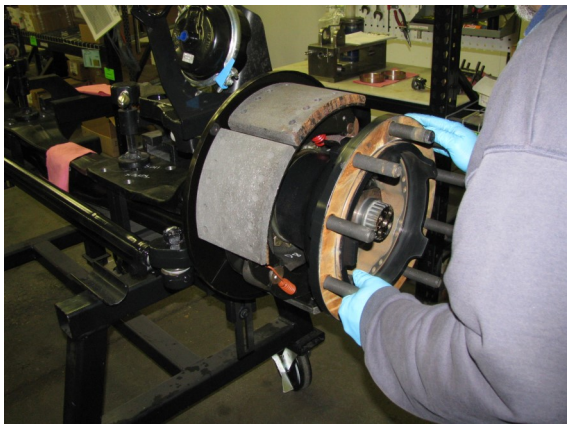



7. Detach lifting device
8. Torque spindle nut to 200 ft-lbs (4” socket)


3.3 Wheel End Re-Assembly (cont.)

3.3.3 Hub Assembly to Axle (cont.)

9. Rotate hub 10 times CW



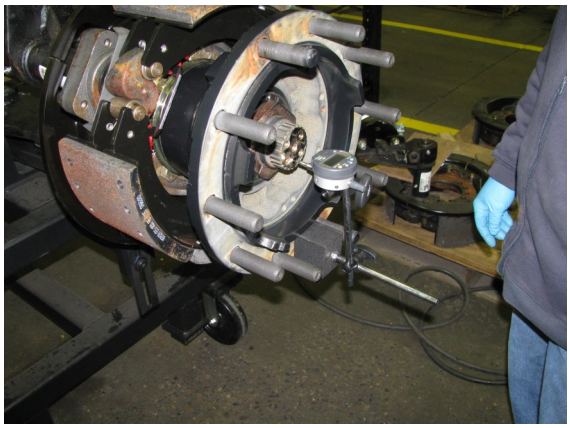
10. Rotate hub 10 times CCW
11. Re-torque nut to 200 ft-lbs
12. Back off nut until it is loose
13. Tighten nut hand tight and back off until just loose. (Normally 1/8th turn)

14. Put dial indicator on hub, zero out

3.3 Wheel End Re-Assembly (cont.)

3.3.3 Hub Assembly to Axle (cont.)

15. Check end play by pulling evenly on both sides of the hub in a sudden motion, review dial indicator so that the end play in specification. End play should be .001 +/-.0001. If in spec go to step 18.



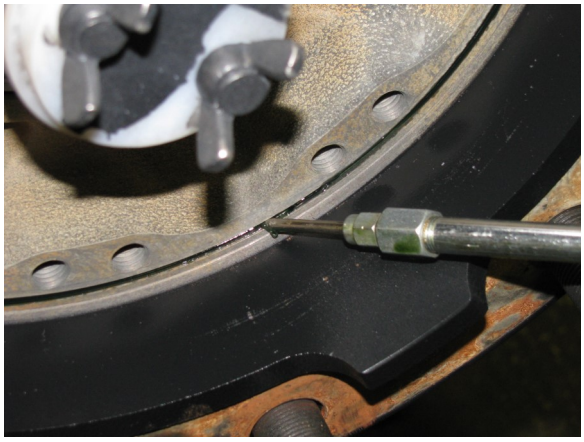
16. Move dial indicator, adjust nut, replace dial indicator
17. Check end play by pulling evenly on both sides of the hub in a sudden motion, review dial indicator so that the end play is in specification.
18. Torque Socket Head Cap Screw in spindle nut to 15 ft-lbs.

19. Recheck end play and repeat until in spec.

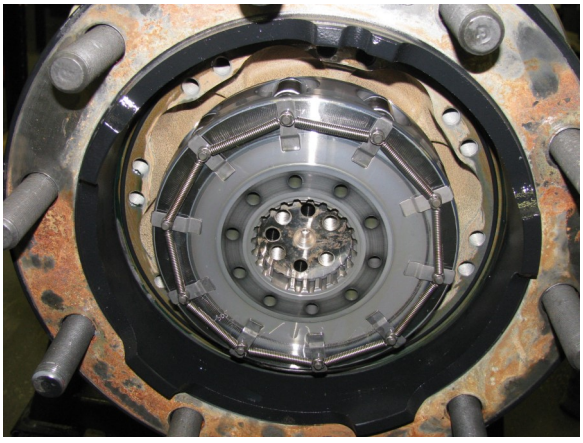
3.3 Wheel End Re-Assembly (cont.)

3.3.4 Hydrobase Assembly

1. Ensure that the assembly surfaces, bearings, and areas within the hydraulic system are clean and burr free.
2. Apply grease to the O-ring groove in the cam ring mounting face of the hub, and install O-ring.




3. Install the piston block on spindle spline, and lubricate the cylinder block/valve mating face with a light coat of hydraulic oil.

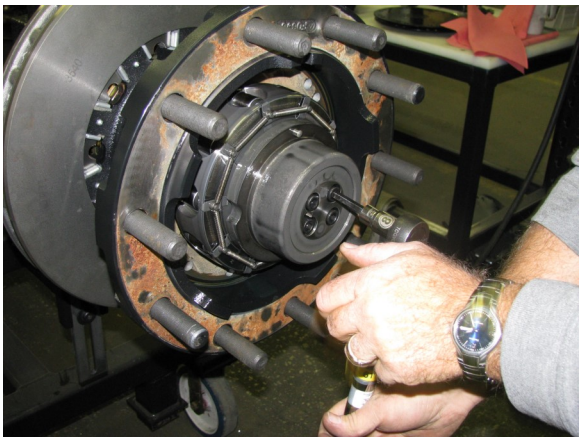



3.3 Wheel End Re-Assembly (cont.)

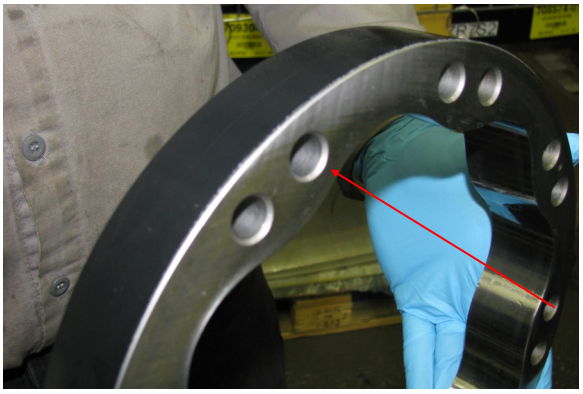
3.3.4 Hydrobase Assembly (cont.)

4. Ensure that the O-rings are in place on the distributor valve/spindle mounting face. Install and orient distributor block on spindle, start 4 bolts. Pre-tighten the axle bolts to a snug condition.

5. Torque distributor block bolts alternatively to 61 ft-lbs in a minimum of two stages. (8 mm hex bit)



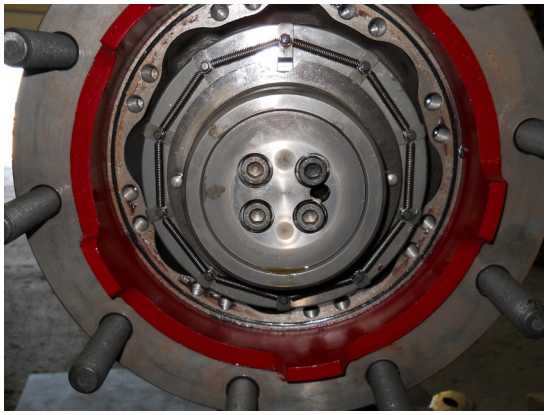
6. Verify O-ring is still in groove (use flashlight if necessary)
7. Wipe off cam ring and orientate cam ring with the face having chamfered bolt holes toward the hub.



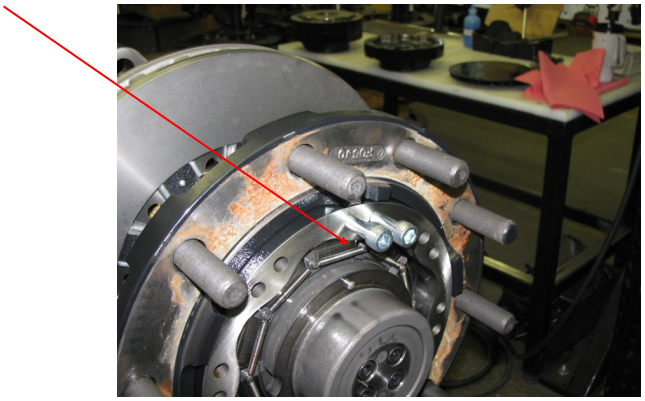
3.3 Wheel End Re-Assembly (cont.)

3.3.4 Hydrobase Assembly (cont.)

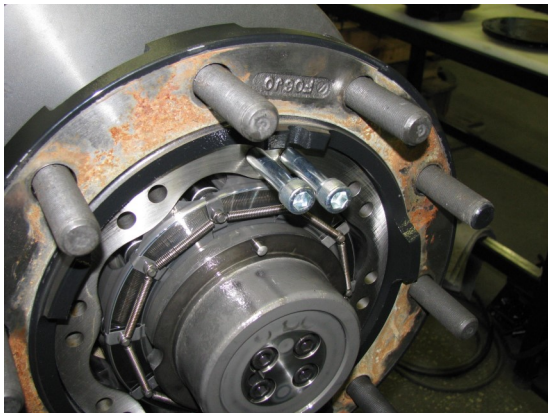
8. Install in hub, but do not push on all the way.
9. Rotate the valve body so the drive pins are at three and nine o-clock.



10. Use 2 bolts to line up hole pattern. Verify that both hole patterns are aligned.



11. Verify O-ring is still in place, and then push all the way on and check O-ring again.

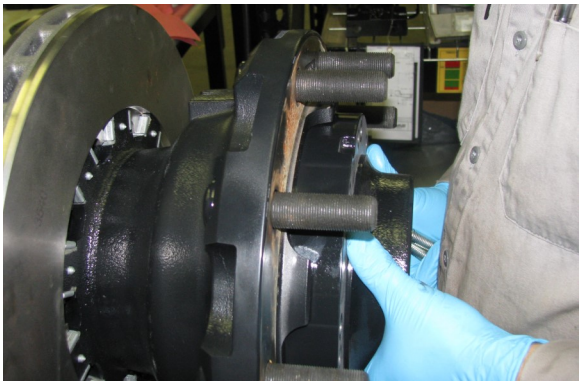


12. Grease and install O-ring in cover housing

3.3 Wheel End Re-Assembly (cont.)

3.3.4 Hydrobase Assembly (cont.)

13. Ensuring that the O-ring is in place on the housing, install the housing over the valve, and feel for the engagement of the pins and the slots in the ring. The edge of the cover should begin to penetrate the hub before the springs can be felt to compress.



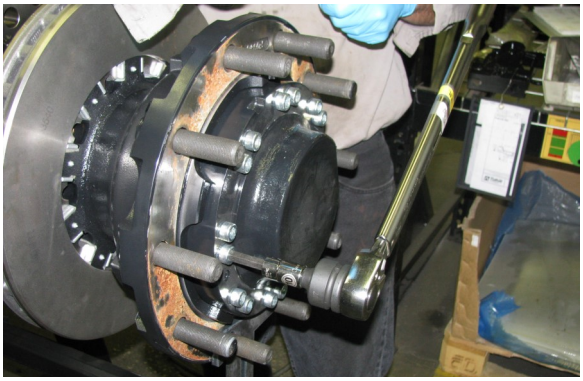
14. If springs top and bottom then on straight. If rigid then not on straight.
15. Use 2 bolts to line up both hole patterns

16. Install the cover bolts and pre-tighten to a snug condition
17. Torque 16 bolts in housing (10mm hex bit)
18. Torque to 107 ft-lbs using a crossing pattern

3.3 Wheel End Re-Assembly (cont.)

3.3.4 Hydrobase Assembly (cont.)

19. Torque again to 107 ft-lbs using a circular pattern



3.3.4 Hose Replacement

Hose assemblies for the EZ TRAC system are custom built for each individual unit. A **Hose Fittings and Hose Routings Worksheet** is included in the service manual to assist in hose replacements should it be required. Hoses for each truck that have entered service are recorded at TDS/EZ-TRAC. Ordering new hoses can be obtained by calling with following:

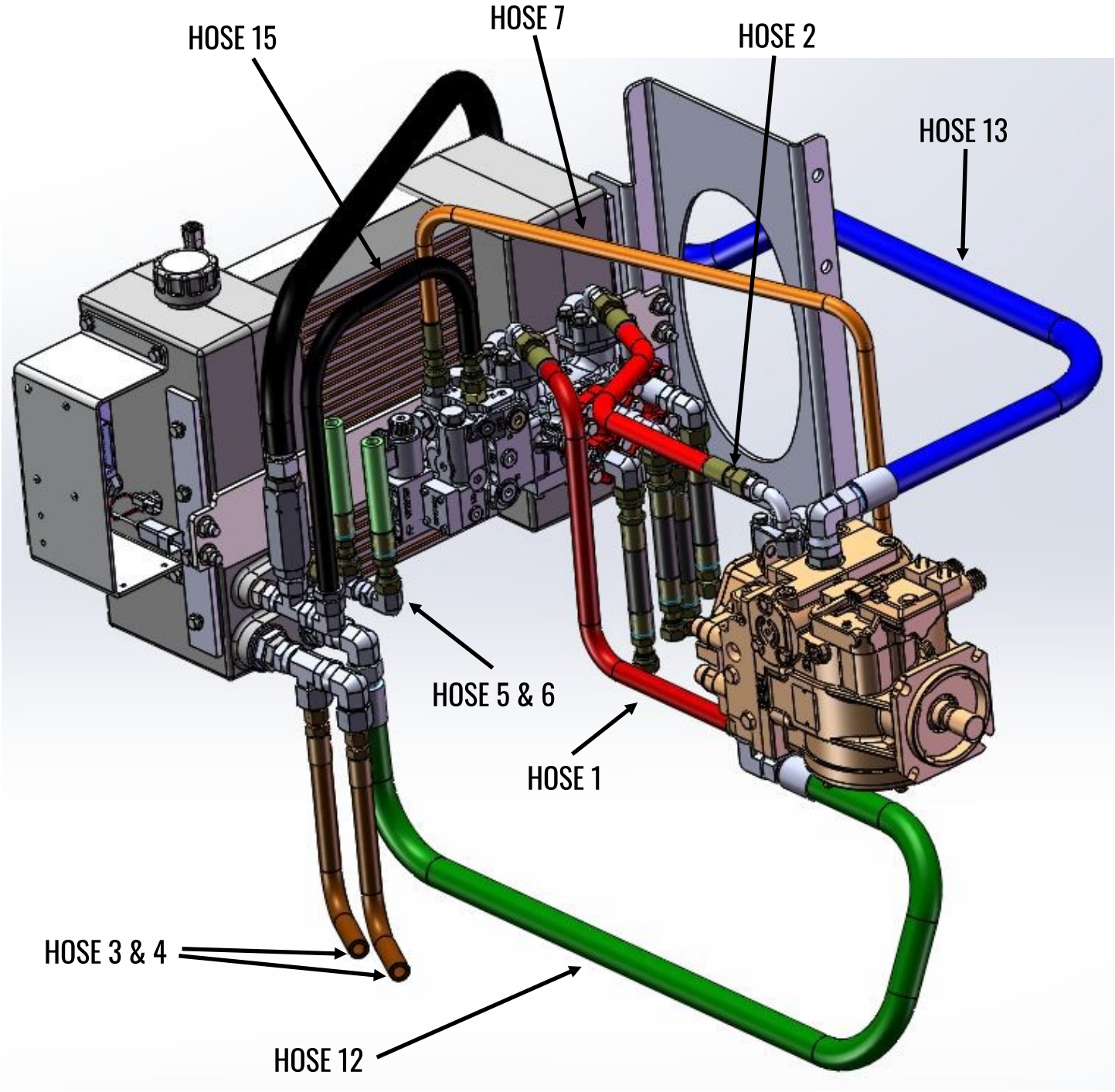
1. Axle Serial Number
2. VIN Number
3. Hose number from sheet (Figure 3.4.1)

Hoses can also be removed and measured. Take note of where the hose came from and refer to the hose worksheet and drawings on the following pages to assist in identification.

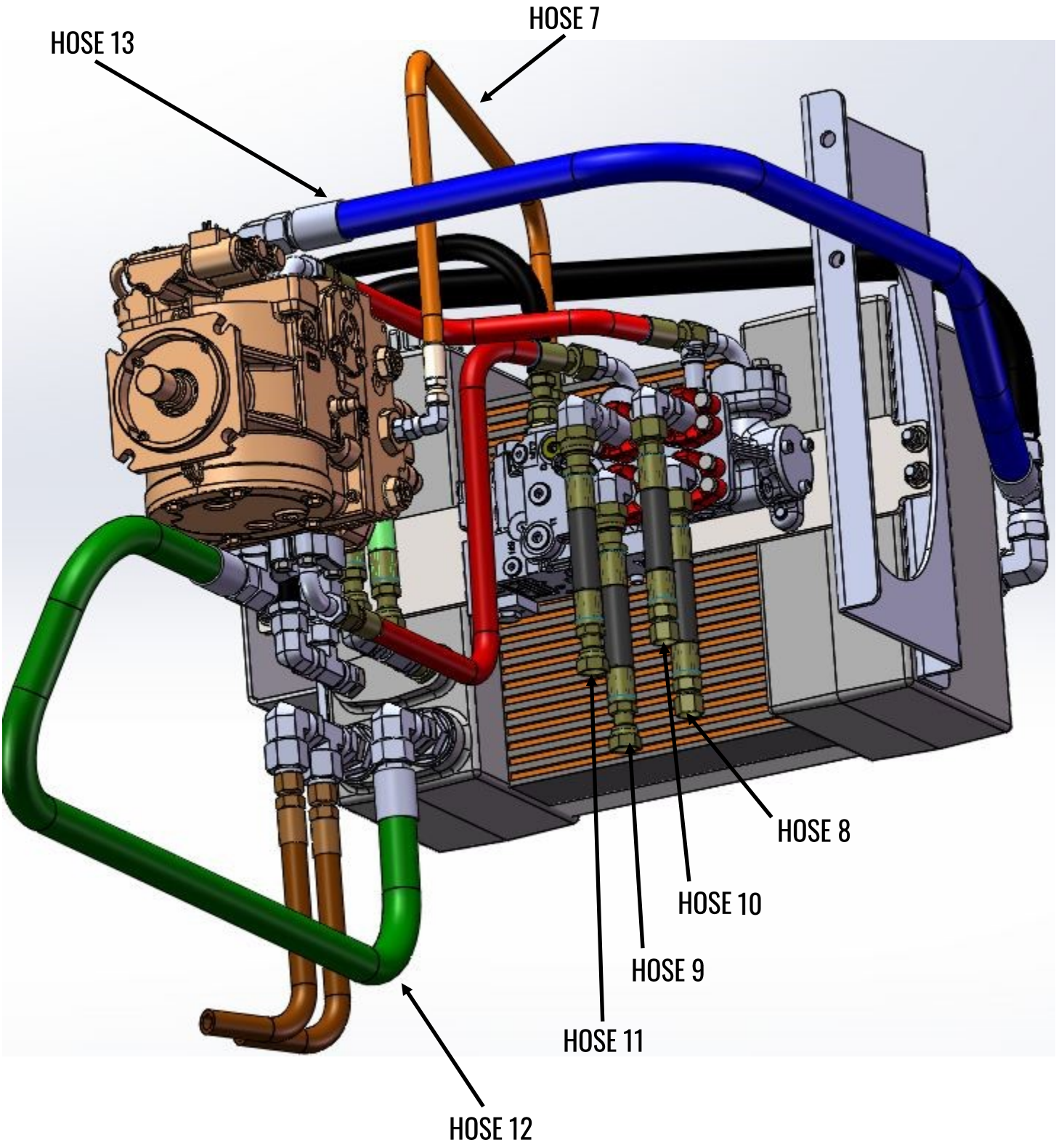
Project #			K711034 Hose Kit For use with EZ-Trac Equipped with In-Hub Charge Pump	*Sales Order #*
Item Number	Hose Part Number	Length of hose (to nearest 1/2 inch)		
		3/4 Hose 5000 PSI	**-12 JIC Female Swivel x -12 JIC Female Swivel**	
1	36555	____ ____ ____ . ____	P90 Hydro Pump, Port "A" to Addiflow valve code 62 flange -12 JIC 90 deg elbow "A" Port	
2	36555	____ ____ ____ . ____	P90 Hydro Pump, Port "B" to Addiflow valve code 62 flange -12 JIC 90 90 deg elbow "B" Port	
		5/8 Hose 2000 PSI	**-08 JIC Female Swivel x -10 JIC Female Swivel (Use with 200023-P1 -08 JIC-FS X -08 JIC-M 45 deg Elbow)**	
3	3545L	____ ____ ____ . ____	RH Knuckle "T" Port to -10 JIC Elbow / Tee Asm on Reservoir	"T" Port is top front on drum brake axle "T" Port is top rear on disk brake axle
4	3545L	____ ____ ____ . ____	LH Knuckle "T" Port to -10 JIC Elbow / Tee Asm on Reservoir	"T" Port is top front on drum brake axle "T" Port is top rear on disk brake axle
		5/8 Hose 2000 PSI	**-08 ORS 90 deg Female Swivel x -10 ORS Female Swivel**	
5	3541K	____ ____ ____ . ____	RH Knuckle "C" Port to -10 ORS Elbow / Tee Asm on Reservoir	"C" Port is center rear on drum brake axle "C" Port is center front on disk brake axle
6	3541K	____ ____ ____ . ____	LH Knuckle "C" Port to -10 ORS Elbow / Tee Asm on Reservoir	"C" port is center rear on drum brake axle "C" Port is center front on disk brake axle
		1/2 Hose 2000 PSI	**-08 JIC 90 deg Female Swivel x -10 JIC Female Swivel**	
7	3537E	____ ____ ____ . ____	Hydro Pump, Port "M3" to Addiflow Valve Port "G" -10 JIC 90 deg Elbow	
		5/8 Hose 6000 PSI	**-10 JIC Female Swivel x -12 JIC Female Swivel**	
8	3645E	____ ____ ____ . ____	RH Knuckle HP REV Port to Addiflow valve "B2" port code 62 -12 JIC 90 deg elbow	HP REV Port is top rear, short -10 JIC 90 deg elbow on drum brake axle HP REV Port is bottom front, long -10 JIC 90 deg elbow on disk brake axle
		5/8 Hose 6000 PSI	**-10 ORS Female Swivel x -12 ORS Female Swivel**	
9	3641A	____ ____ ____ . ____	RH Knuckle HP FWD Port to Addiflow valve "A2" port code 62 -12 ORS 90 deg elbow	HP FWD Port is bottom rear, long -10 ORS 90 deg elbow on drum brake axle HP FWD Port is top front, short -10 ORS 90 deg elbow on disk brake axle
		5/8 Hose 6000 PSI	**-10 JIC Female Swivel x -12 JIC Female Swivel**	
10	3645E	____ ____ ____ . ____	LH Knuckle HP REV Port to Addiflow valve "B1" Port code 62 -12 JIC 90 deg elbow	HP REV Port is top rear, short -10 JIC 90 deg elbow on drum brake axle HP REV Port is bottom front, long -10 JIC 90 deg elbow on disk brake axle
		5/8 Hose 6000 PSI	**-10 ORS Female Swivel x -12 ORS Female Swivel**	
11	3641A	____ ____ ____ . ____	LH Knuckle HP FWD Port to Addiflow valve "A1" Port code 62 -12 ORS 90 deg elbow	HP FWD Port is bottom rear, long -10 ORS 90 deg elbow on drum brake axle HP FWD Port is top rear, short -10 ORS 90 deg elbow on disk brake axle
		1" Hose 1300 PSI	**-16 JIC Female Swivel x -16 JIC Female Swivel**	
12	35655	____ ____ ____ . ____	P90 Hydro Pump suction, Port "S" to Reservoir -16 JIC 90 deg elbow, back side closest to bottom	
		1" Hose 1300 PSI	**-12 JIC Female Swivel x -16 JIC Female Swivel**	
13	3565J	____ ____ ____ . ____	P90 Hydro Pump case drain, Port "L1" or "L2" to reservoir -16 JIC 90 deg elbow on return filter port	**Imprtant: Use higher of the two, ("L1" or "L2") to ensure a full pump case**
		2 3/8" Cordura	**Protective Hose Sleeve**	
14	103379		Kit includes a standard length of 720". Please enter total needed(if over 720")	
		5/8" Hose 2000 PSI	**-12 JIC Female Swivel x -10 ORS Female Swivel (optional)**	
15	3541E	____ ____ ____ . ____	Jumper hose from VF300 valve to check valve on reservoir assembly when valve is moved	Submit @ www.eztracaxle.com under product selector Or email to hoses@tdsdrive.com

Figure 3.4.1

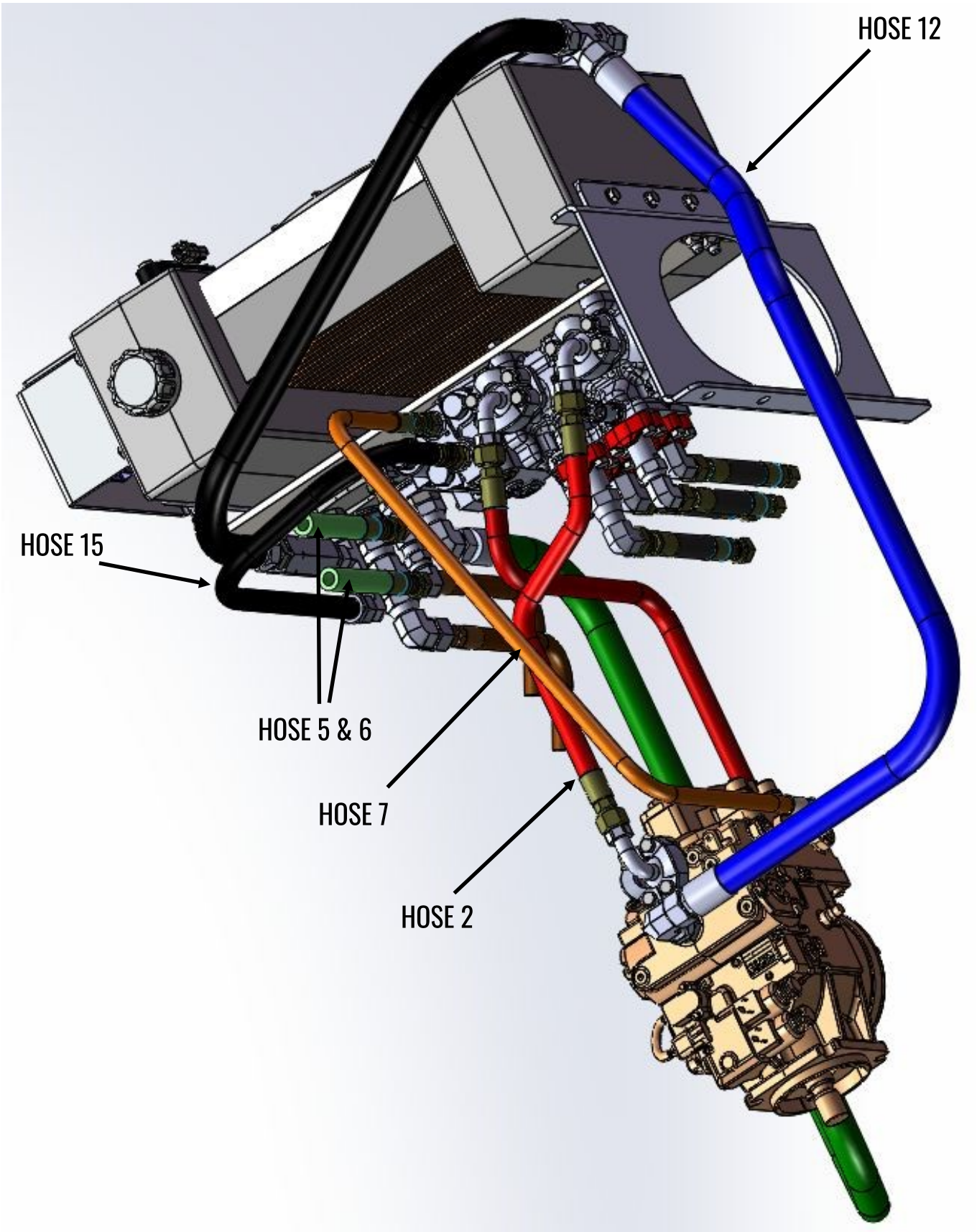
HYDROSTATIC PUMP HOSES (B SIDE) [1,2,3,4,5,6,7,12,13,15]



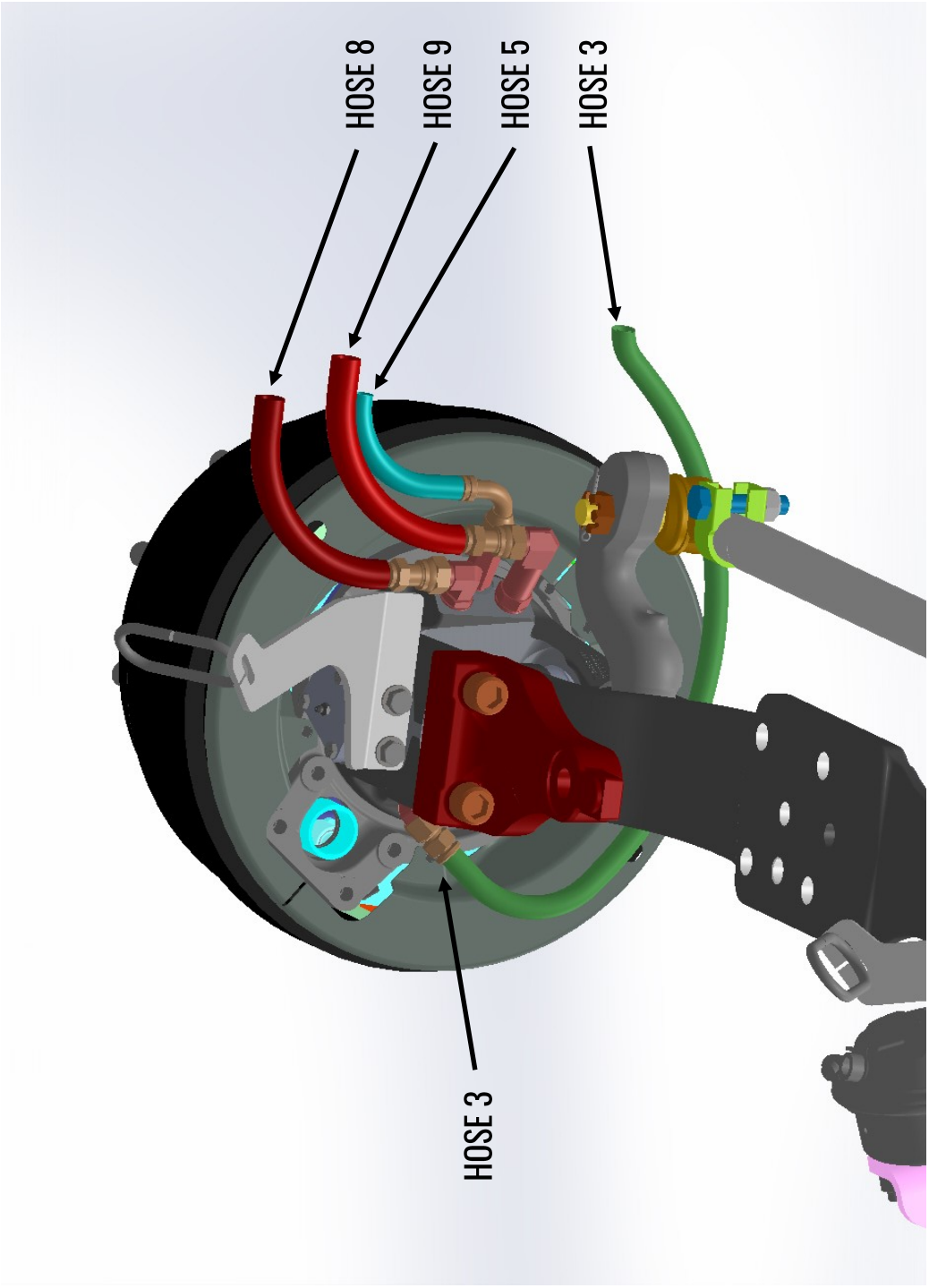
HYDROSTATIC PUMP HOSES (A SIDE) [7,8.9.10,11,12,13]



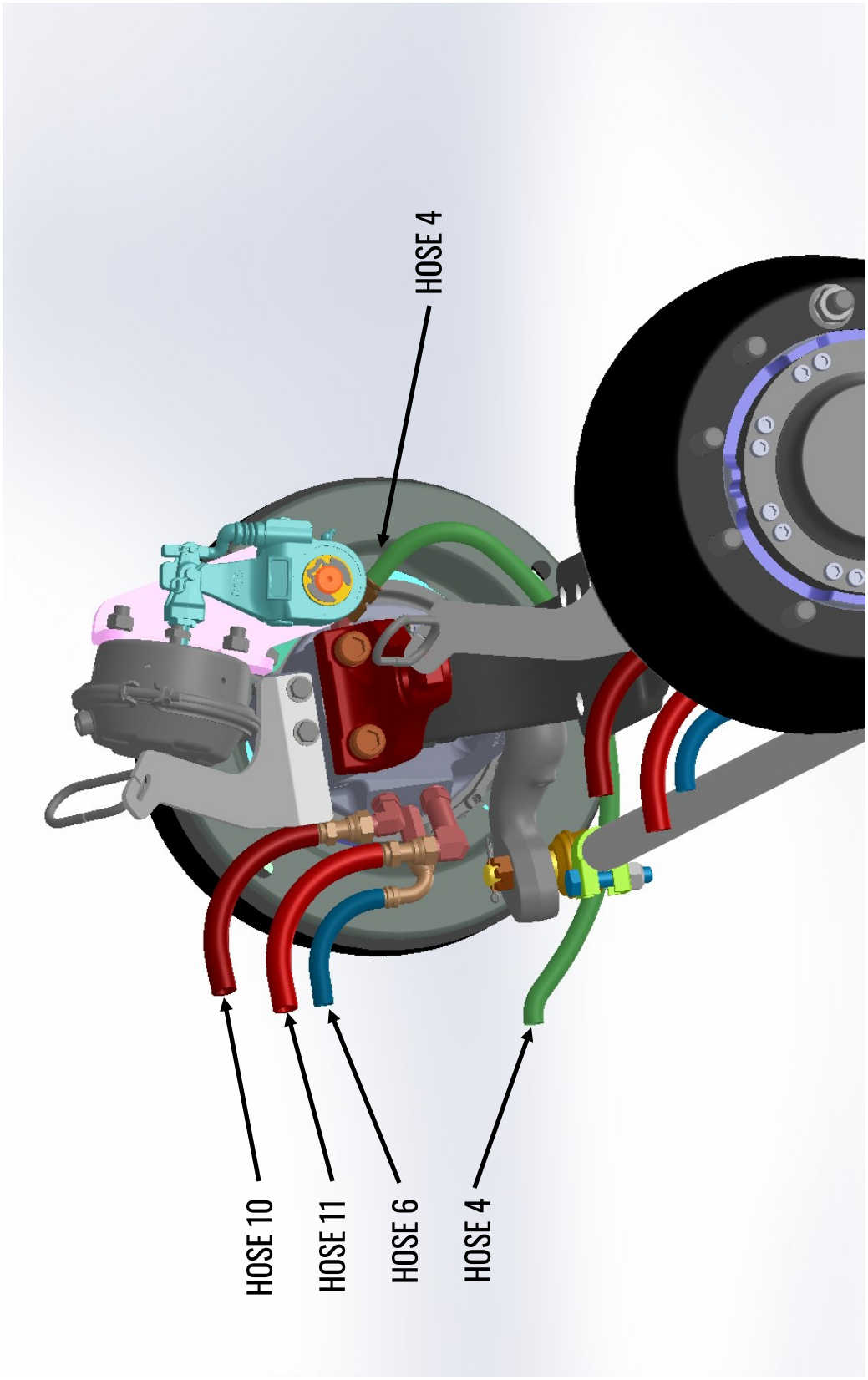
HYDROSTATIC PUMP HOSES (TOP VIEW) [2,5,6,712,15]



AXLE HOSES (CURB SIDE DRUM, STREET SIDE FOR DISC BRAKE)



AXLE HOSES (STREET SIDE DRUM, CURB SIDE DISC BRAKE)



HOSE FITTINGS AND ADAPTER TORQUE

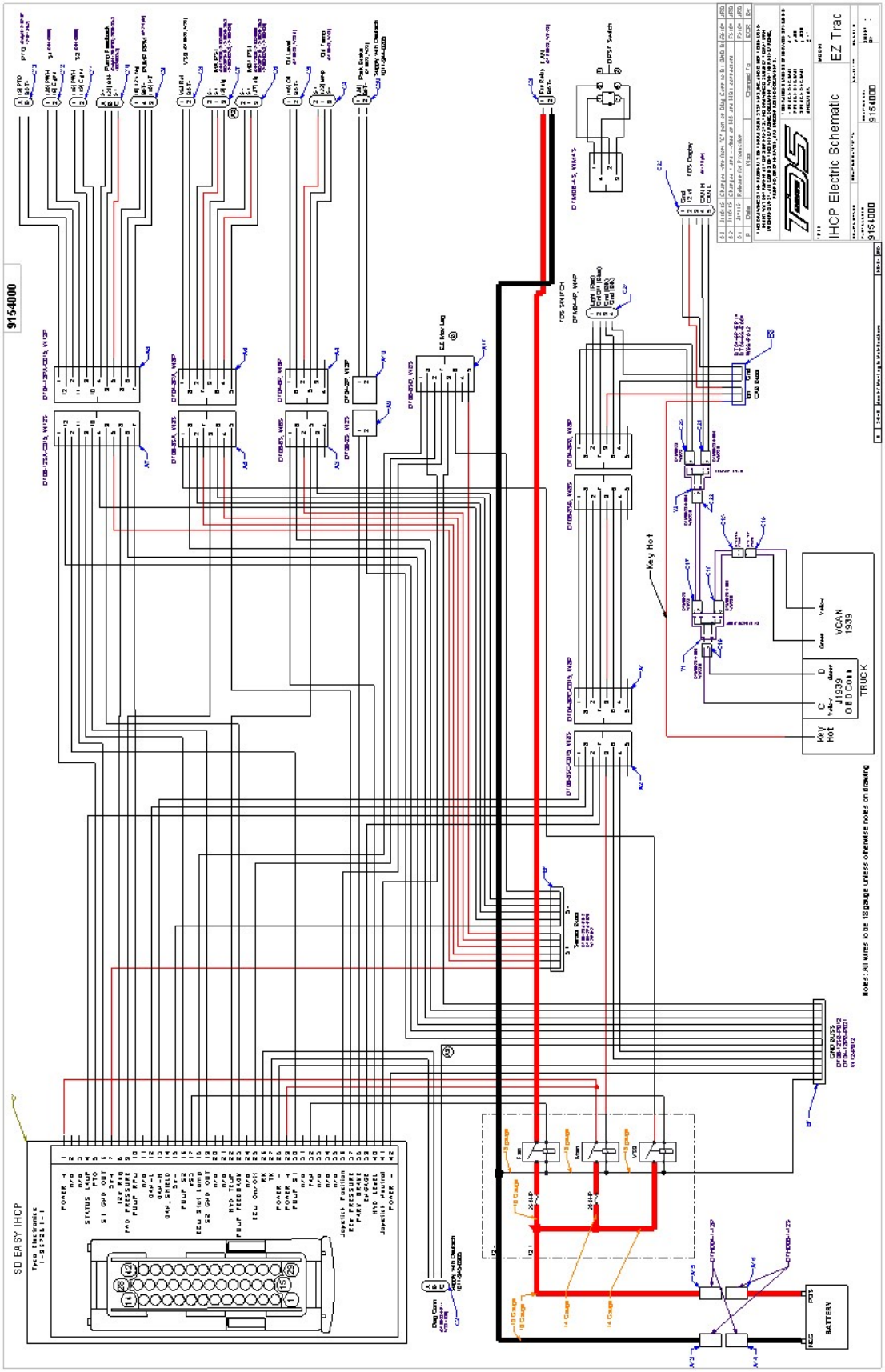
TORQUE SPECIFICATIONS (FT.LBS.)			
SIZE	TORQUE	SIZE	TORQUE
04 ORS [1]	10-12	04 JIC [1]	10-13
06 ORS [1]	18-20	06 JIC [1]	18-21
08 ORS [1]	32-35	08 JIC [1]	37-42
10 ORS [1]	46-50	10 JIC [1]	52-62
12 ORS [1]	65-73	12 JIC [1]	79-87
16 ORS [1]	92-113	16 JIC [1]	108-113
02 ORB [2]	4-6	02 ORB [3]	4-6
04 ORB [2]	14-16	04 ORB [3]	13-15
06 ORB [2]	24-26	06 ORB [3]	21-24
08 ORB [2]	37-60	08 ORB [3]	37-43
10 ORB [2]	72-80	10 ORB [3]	43-52
12 ORB [2]	73-135	12 ORB [3]	68-83
16 ORB [2]	113-220	16 ORB [3]	112-123

1. to be used on female connections, like hose ends, tube nuts and *steel caps.
2. to be used in ORB applications in conjunction with ORS connections.
3. to be used in ORB applications in conjunction with JIC connections.

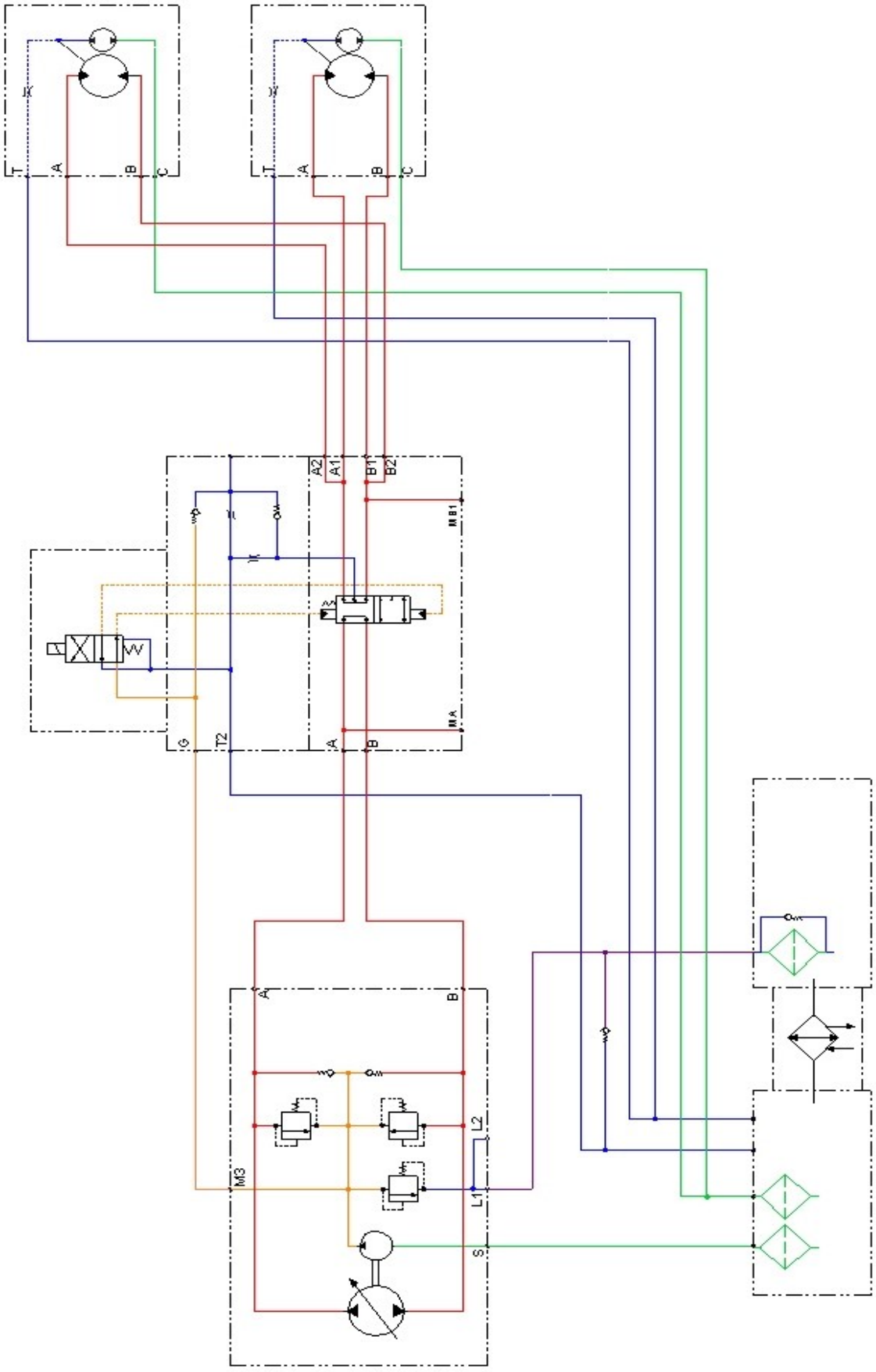
* Steel caps allowed to be tightened between 50-100% of tabulated value - does not require torque wrench, but must not leak.

4.0 Schematics & 4.1 Electrical

For a full size Electrical Schematic Please click the link HERE or copy and past the link below.
https://www.dropbox.com/s/kayihtxqn35bz22/9154000.pdf?dl=0



4.2 Hydraulic



5.0 Pump and PTO Service

1. For specific pump information, see Danfoss pump service literature link attached HERE.
2. TDS Stocks pump RPM Sensor but for other service please contact TDS or an Authorized Danfoss Service Center
3. PTO units are not serviced by TDS. Here is a LINK to a service manual but for authorized service contact your Local Parker Chelsea Distributor.

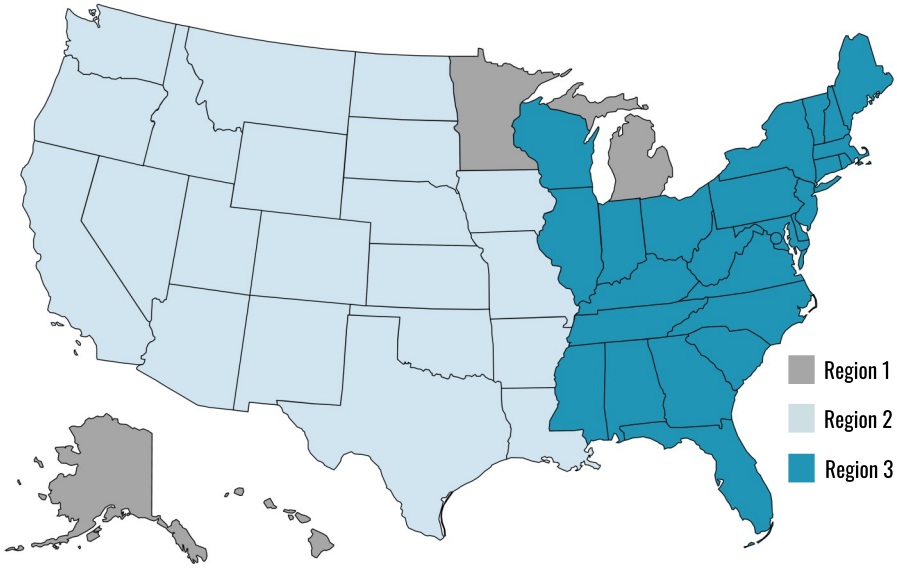
6.0 RECOMMENDED SPARE PARTS

D711042 Parts Catalog Recommended Spare Parts List

	TDS #	Description	Qty Per Axle	Suggested Qty	Garage Qty (>5 trucks)	Fleet Qty	ORDER QTY
1	710129-01	Filter Element	1	1	5	12	
2	400177	Level Switch	1	1	2	4	
3	711035-01	Temperature Sensor	1	1	2	4	
4	400178	Pressure Sensor	2	1	2	4	
5	708862-01	Sight Gauge	1	1	2	4	
6	107407	Reservoir Filler Cap	1	1	2	4	
7	150496	Wheel End Seal Kit	2	2	2	4	
8	710473-01	Phases Dongle	1	1	1	1	
9	708658-01	ABS Sensor (Wabco 4410329000)	2	2	2	2	
10	9024300	EZ TRAC BUTTON	1	1	2	4	
11	9114000	Wire Harness	1	1	1	2	
12	709287-01	EZ TRAC Display	1	1	2	4	
13	709796-01	Poppet Tool (For TRW units, not needed for Shepard)	2	2	2	4	
14	708818-01	Controller (ECU)	1	1	2	4	
15	708696-02	Steering Stop Bolts	2	2	4	10	
16	89418754	Steering Stop Nut	2	2	4	10	
17	710050-01	Tie Rod (Std)	1	1	1	2	
18	709650-01	Tie Rod (Drop)	1	1	1	1	
19	708629-03	Tie Rod Arm (RH)	1	1	1	2	
20	708628-03	Tie Rod Arm (LH)	1	1	1	2	
21	400174	Cooler Fan	1	1	1	2	
22	200508	Bypass Check Valve	1	1	2	4	
23	CALL TDS	Wheels (Size Specific)	2	2	2	4	
24	150470	Brake Kit (10k, 12k, 13.2k)	2	2	2	4	
25	150471	Brake Kit 14.6k	2	2	2	4	
26	150472	Brake Kit (16.6k, 18k, 20k)	2	2	2	4	
27	708574-01	Brake Drum	2	2	2	4	
28	710136-01	Pump Speed Sensor	1	1	1	2	
29	150497	King Pin Kit	2	2	2	4	
30							

EZ TRAC®

HYDRAULIC AWD



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