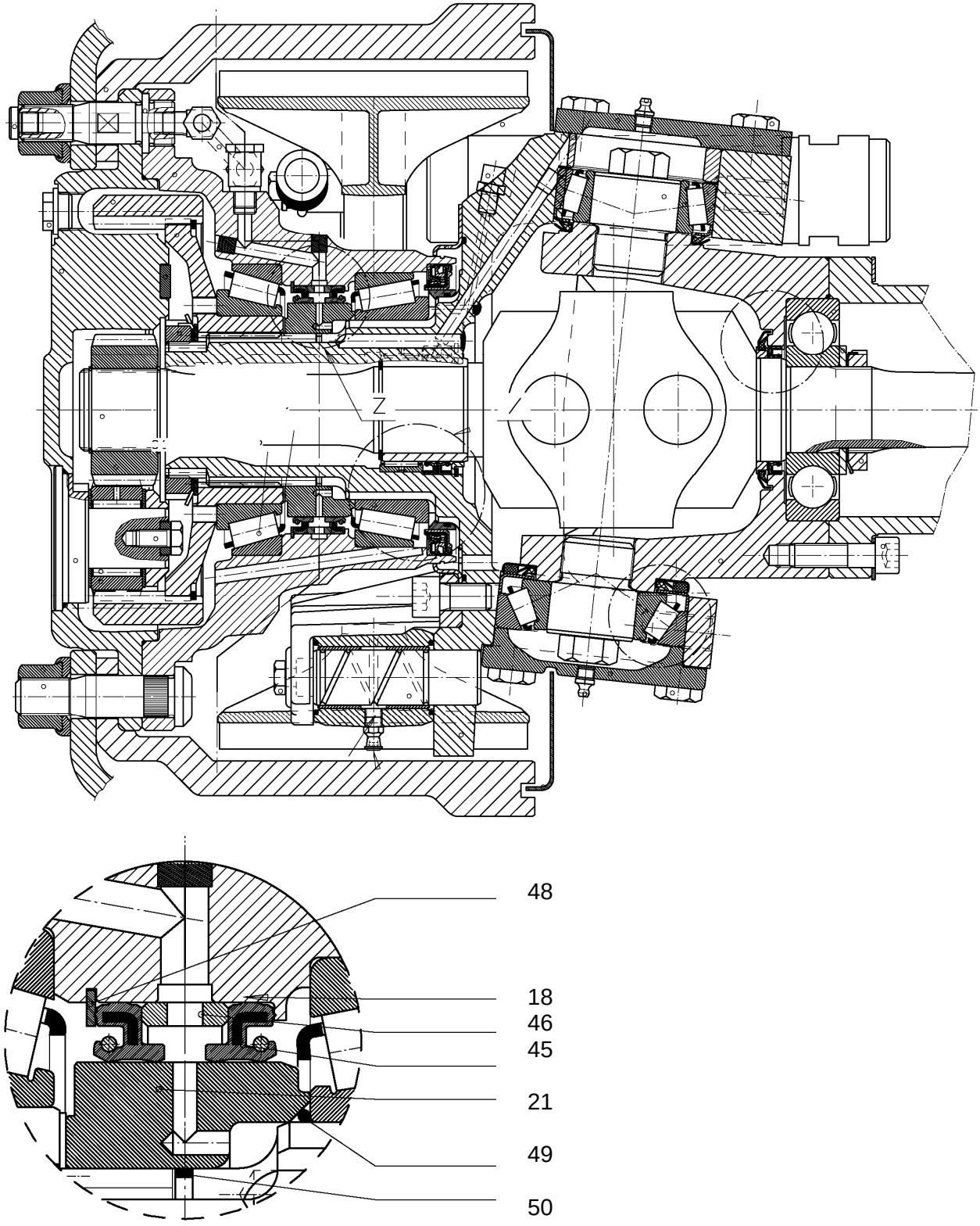
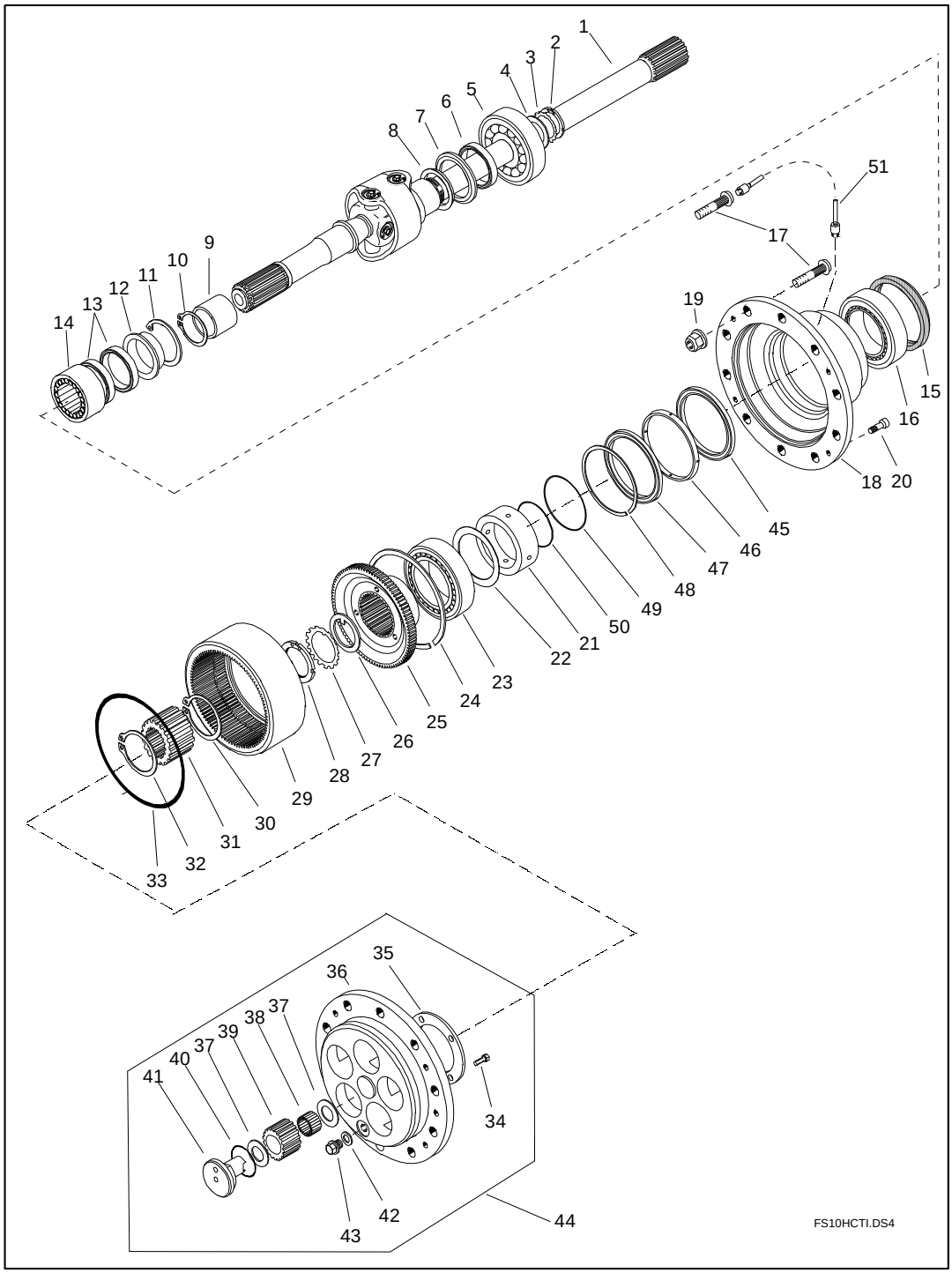
# ADDITIONAL INSTRUCTIONS FOR AXLES EQUIPPED WITH CTI-SYSTEM

## 1. DESIGN




Picture 1. Wheel hub with CTI-system, design and CTI-items. Numbers refer to Picture 2.




Picture 2. Exploded view of the wheel hub design with CTI

1 Axle Shaft
2 Lock nut
3 Lock washer
4 washer
5 Deep groove ball bearing
6 Shaft seal
7 Seal ring
8 Shield ring
9 Sleeve
10 Retainer ring
11 Retainer ring
12 Shield ring
13 Shaft seal
14 Needle bush
15 Shaft seal
16 T. Roller bearing
17 Wheel bolt
18 Wheel hub
19 Wheel nut
20 Hex Screw
21 Spacer ring
22 Shim
23 T. Roller bearing
24 Retainer ring
25 Ring gear hub
26 washer
27 Lock washer
28 Lock nut
29 Ring gear
30 Retainer ring
31 Sun gear
32 Retainer ring
33 O-ring
34 Hex Screw
35 Lock Washer
36 Planet carrier
37 Spacer plate
38 Needle roller
39 Planet gear
40 O-ring
41 Planet gear shaft
42 Seal ring
43 Plug screw
44 Planetary gear
45 Shaft seal
46 Spacer ring
47 Shaft seal
48 Retainer ring
49 O-ring
50 O-ring
51 Pipe

**INSTALLING OF THE CTI-SEALS AND WHEEL HUBS**

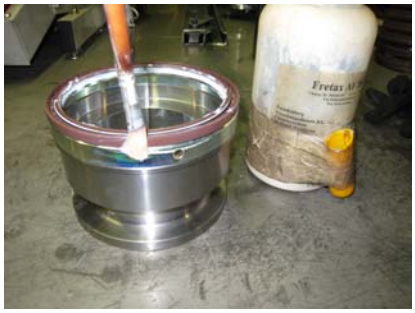
Check that there are no sharp edges or burrs in the wheel hub in surfaces for the CTI-seals and by pressurized air blow the wheel hub and CTI-channel clean.

Check the condition of the CTI-seals visually, grease the cavity between the seal lips by a plastic paddle with Kluber Barrietta L 55/3 grease ( approx.40% about the space between the seal lips) and grease the outside surface of the seal by Fretax af 281 lubricant (Pictures 3. and 4.).

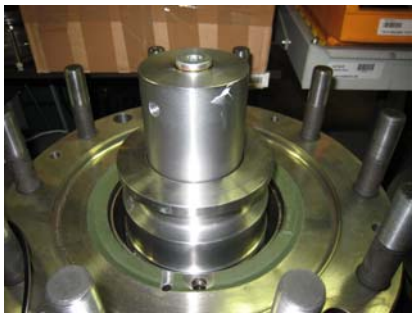
Picture 3.

Picture 4.

Place firstly the inner CTI-seal and the spacer ring (Item 46. in picture 2.) onto the seal installing tool No. 2 (Picture 5.). Turn tool No. 1 to the hub nut threads as a guide to the seal installing tool No. 2 and then install the CTI-seal and spacer ring together to the wheel hub by using tool No. 2 (Picture 6.) with assistance of tool No. 3. (Picture 7.). Tools No. 1, 2 & 3 are described in Appendix 1.
Then install the outer CTI-seal similar way than the inner CTI-seal. Please note the correct positions of the CTI-seals.



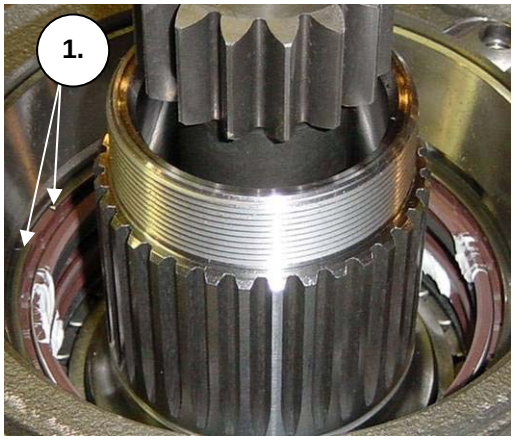
Picture 5.



Picture 6.

Picture 7.

Install the retaining ring (48) to hold the outer seal so that the ends of the retaining ring don't come to the extraction openings (Picture 8.).




Picture 8. The ends of the retaining ring.

Install the outer o-ring (50) to the groove in the spindle (Picture 9), apply Fretax af 281 lubricate to the o-ring and the outer surface of the spindle.

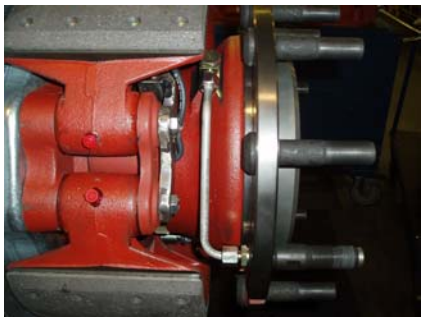

Picture 9

Apply Fretax af 281 lubricate to the inside surface of the hub seal (15) and lift the wheel hub on to the spindle and as straight as possible drive the hub in place.
Install the inner o-ring (49) to the axle spindle. Apply Fretax af 281 lubricate to the inside surface of the spacer ring (21) and push it in place.
Install the adjusting shims, ring gear hub, washer, lock plate and wheel hub nut and tighten the hub nut to 1000 Nm torque (see maintenance manual for the adjusting procedure).

**Note**! If ABS system is equipped don't forget to install the ABS sensor as described in chapter "Installing of the ABS sensor".

Apply locking liquid (Weicon AN 306-38 or equivalent) to the CTI wheel bolt (Picture 10.), tighten the bolt, install CTI pipe (Picture 11.) and use hydraulic locking liquid (Weicon AN 305-42 or equivalent) in fittings and install a plug to the wheel bolt if necessary.


Picture 10.


Picture 11.

Pressurize the CTI system to 7 bar ( Picture 12 ), rotate the hub few turns by hand and close the air tap. The decreasing of the pressure is allowed to be max 0.4 bar in 6 minutes. If the decreasing of the pressure exceeds the max value locate the leakage and repair it and perform the pressurizing again.

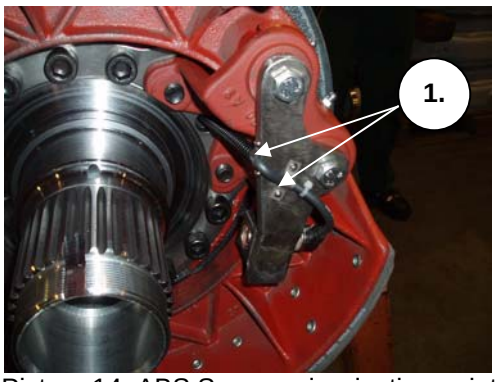

Picture 12.

After a successful pressurizing lock the wheel hub nut.

**Note**! The oil capacity of a wheel hub in FSDP-10-S axle is 0.5 liters in CTI version compared to 0.6 liters in the standard version.

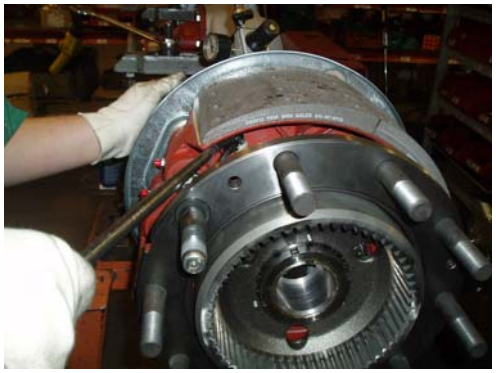
INSTALLING OF THE ABS SENSOR (OPTIONAL)
Install the copper sleeve to the ABS sensor bracket, lubricate the sensor by Duotemp pmy 45 grease and push the sensor in place so that the sensor is even with the bracket's edge. Rivet the sensor wire to the bracket (Picture 13.), install the bracket and use thread locking liquid (Weicon AN 302-43 or equivalent) in threads. Tighten the bolts to 45 Nm torque and finish the riveting of the wire (Picture 14) so that it don't touch to the CTI air pipe.


Picture 13. ABS bracket

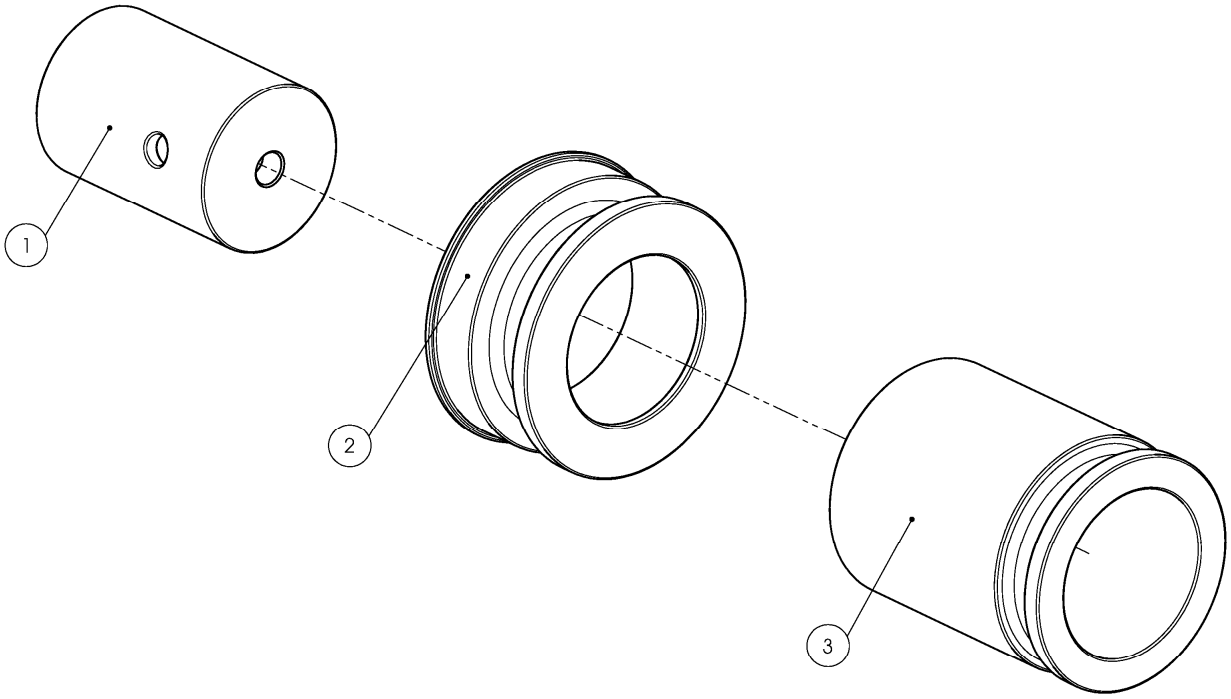


Picture 14. ABS Sensor wire riveting points (1)

After installing the wheel hub push the ABS sensor in place until it bottoms (Picture 15.) and check the operation of the ABS sensor by an ABS tester.


Picture 15.

APPENDIX 1. TOOL KIT 606-1205-311 FOR CTI SEALING INSTALLATIONS




| ITEM | PART NUMBER | DESCRIPTION |
|---|---|---|
| 1 | 606-1210-309 | Installation tool, centering tube |
| 2 | 606-1210-308 | Installation tool for CTI sealing and spacer ring |
| 3 | 606-1210-310 | Installation tool |