

# PARTS & SERVICE NEWS

REF NO. AA99157

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**SUBJECT:** INSPECTION OF THE REAR AXLE GREASE FITTING HOLE

**PURPOSE:** To determine if the rear axle pivot is being properly lubricated

**APPLICATION:** WA380-3L Wheel Loaders Serial Number A50001 to A50493

**FAILURE CODE:** 2B00ZA

**DESCRIPTION:**

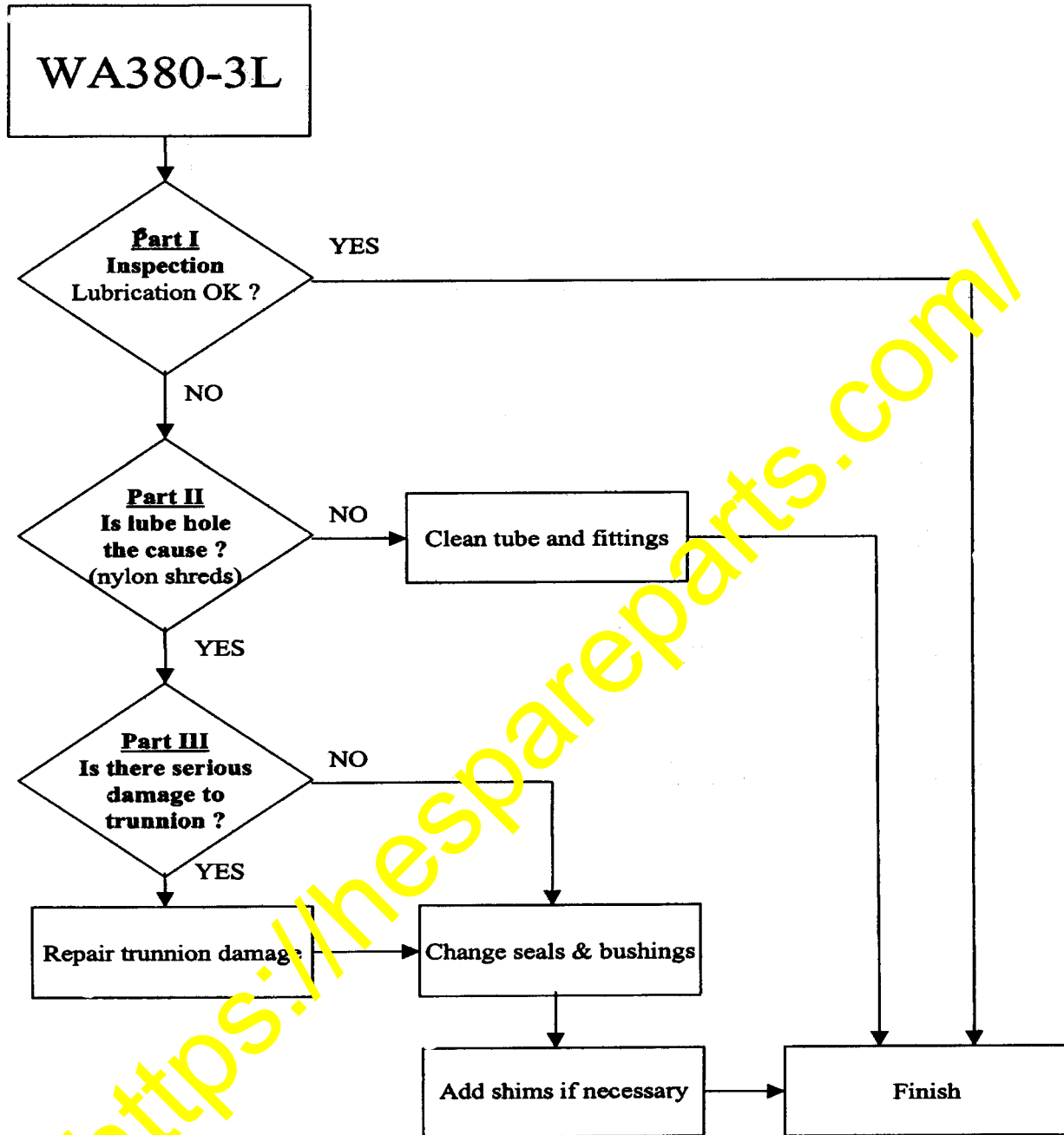
The Wheel Loader indicated above may experience grease deprivation at the rear axle front support pivot because of lube passage obstruction.

*Part I:* Provides procedural instructions to determine if there is grease deprivation.

**NOTE:** *This is an assembly defect not a problem due to poor machine maintenance although the results could be the same.*

*Part II:* Provides procedural instructions to remove all burrs and sharp edges around the hole to prevent any damage of the nylon bushing and allow grease to penetrate into the area of the bushing and trunnion assembly.

*Part III:* Applied only if serious damage (wear) has occurred to the trunnion material.



**IMPORTANT**

**PLEASE OBSERVE ALL SAFETY AND PRECAUTIONARY STANDARDS AS DICTATED BY THE ENVIROMENT AND WORK CONDITION UNDER WHICH THE EQUIPMENT WILL BE INSPECTED, REWORKED, AND REPAIRED. CONSULT THE WA380-3L "SHOP MANUAL" AND "OPERATOR AND MAINTENANCE MANUAL" AND YOUR KOMATSU DISTRICT SERVICE MANAGER WITH ANY/ALL QUESTIONS REGARDING SAFETY.**

1. Park the machine on a flat level surface, lower the boom and bucket to the ground, shut off the engine and cycle the controls to remove any residual hydraulic pressure from the boom and bucket circuits. Fully apply the parking brake.
1. Place chocks at the front and rear of all wheels to prevent machine movement
2. Remove the key from the start switch and retain it until this repair has been completed. Place a tag on the steering wheel advising: "***This machine is being repaired. It should not be started or moved for any reason until this tag is removed by the person doing the repairs.***"

## PART I

### Parts Book Information

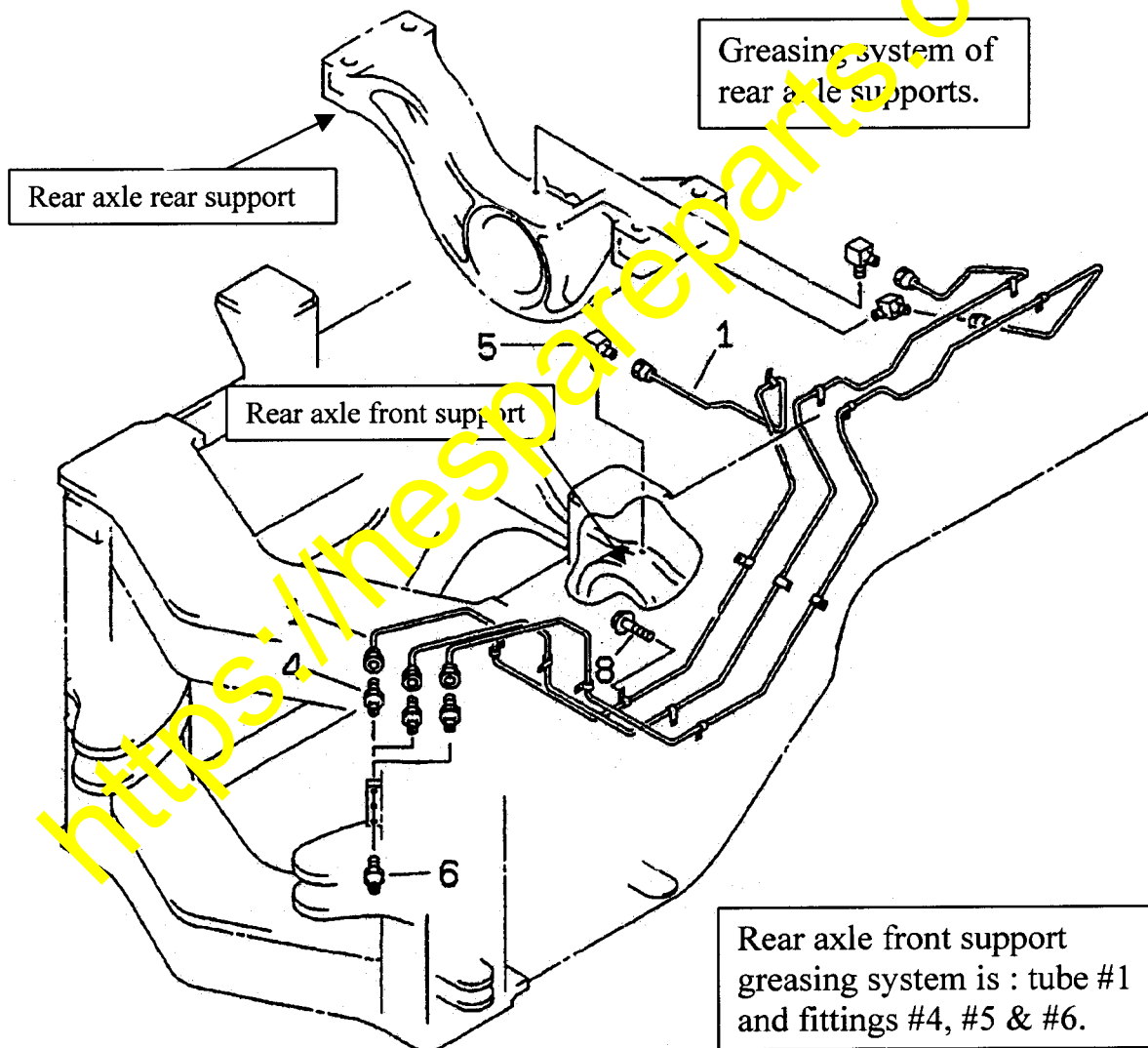
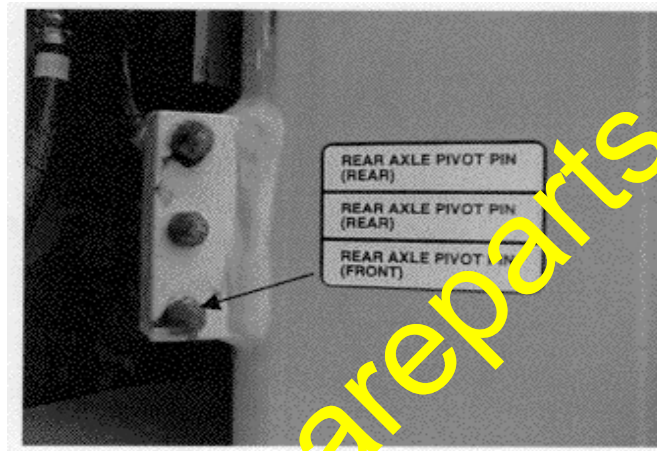


figure 1

**INSPECTION:**

1. Disconnect the grease system tube (#1) and fitting (#5) at the top of the rear axle from support (Fig. 1).
2. Inspect the grease fitting hole on the rear axle front support with a small tool to see if there is any kind of obstruction.
  - a. ***If no nylon shreds are found:*** reassemble the grease fitting and the grease tube to the rear axle front support. To confirm the good working condition of the greasing system, pump some grease through the bottom grease fitting (Fig. 2) until it comes out around the pinion.



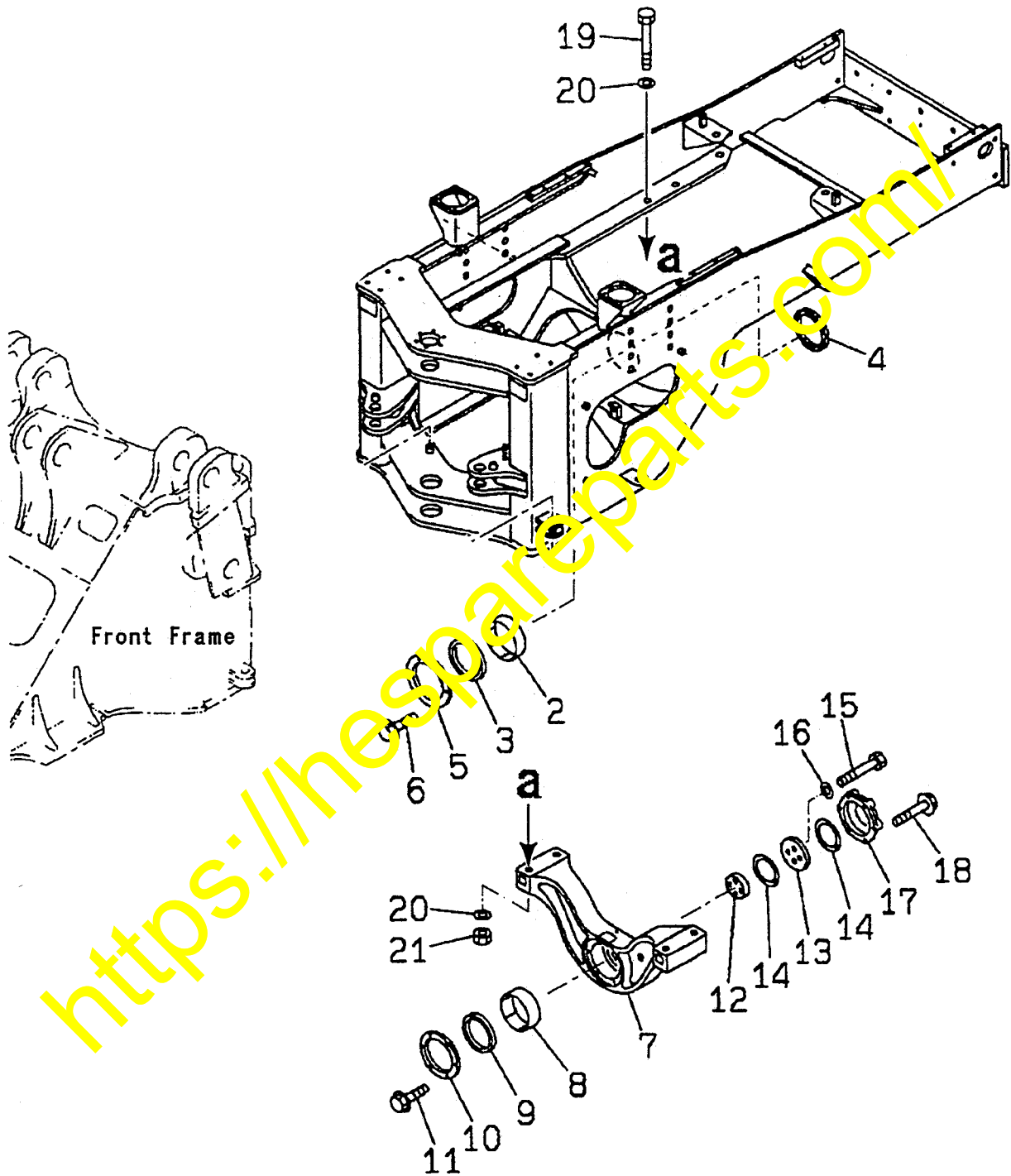
***If the grease is not coming out,*** all the grease fittings and the tube are to be carefully cleaned and inspected. Then re-confirm the good working condition of the system.

***If the grease is coming out*** and there are shreds of light colored nylon, go to Part II of this Parts & Service News: Rework of the rear axle grease fitting hole.

**Part II**

**Rework of the rear axle grease fitting hole**

1. Parts Book Information



2. Parts Requirements

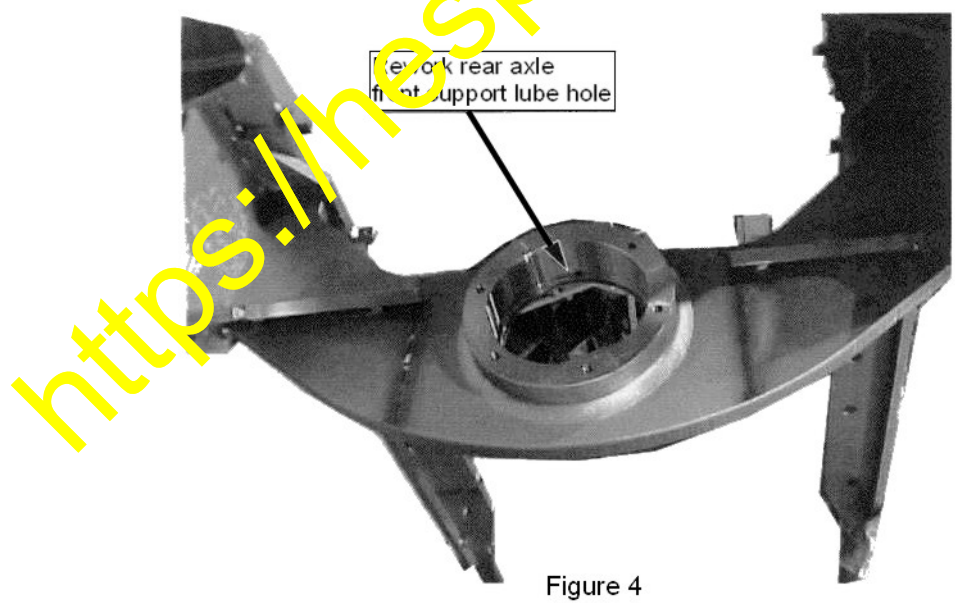
ID #	Quantity	Part Number	Description
2	1	423-46-27190	Seal, Dust
3	1	419-46-12480	Packing
4	1	423-46-27220	Bushing
8	1	421-46-15132	Packing
9	1	424-46-12172	Bushing

3. Special tool required: Pencil grinder

4. Procedural Instructions

**NOTE:** These instructions are intended to supplement the service data contained in the WA380-3L "Shop Manual". Always refer to that manual for details for removal, installation, disassembly and reassembly instructions when not contained in this **PARTS & SERVICE NEWS**.

- a. Disconnect and remove rear drive shaft from the transmission and rear axle.
- b. Disconnect the rear axle brake hoses.
- c. Drain, disconnect and remove the fuel tank
- d. Remove the movable rear axle pivot and the rear axle.
- e. Remove the nylon bushings, seals and discard.
- f. Grind and clean the grease fitting hole inside the main bore, shown in Fig. 4 and 5.



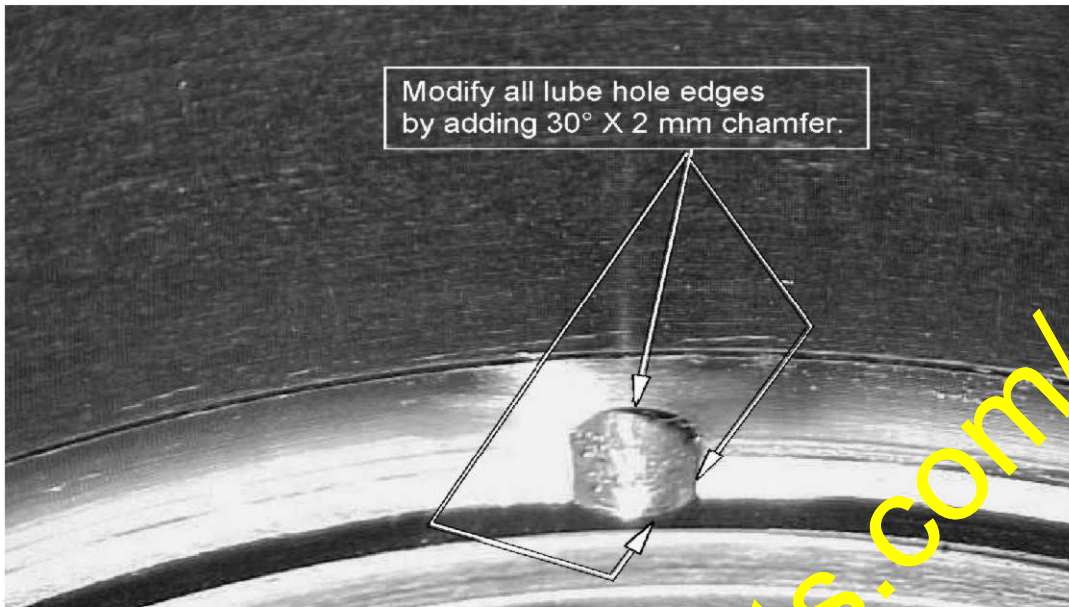


Figure 5

- g. Inspect the axle front support pivot and trunnion. If there is any damage, go to Part III of this Parts and Service News.
- h. Clean the grease hole and main pivot bore.
- i. Install new nylon bushing and seals. Coat the front and rear axle pivots and bores liberally with G2-L1 grease. Reassemble the axle and rear support, reassemble the brake line hydraulic hoses, rear drive shaft from the transmission to the rear axle and reassemble the fuel tank and hoses and bleed air from the fuel system.
- j. Verify the brake connections and bleed all brakes per the Shop manual.
- k. To confirm the good working condition of the greasing system, pump some grease through the bottom grease fitting (Figure 7) until it comes out around the pinion.

### Part III Rear Main Frame Trunion Restoration

#### 1. Introduction

If the rear axle front support trunion bore is damaged, it might be because of a dimensional criteria (Figure 6) that is not met. This means that some warpage occurred during welding process. It also means that the front and rear supports are not well aligned. Unfortunately, it is extremely difficult to reposition the front support to its correct location. However, the hole can be reworked in a way so that it will be in good relationship with the rear support and the rear main frame. To succeed, the rear support should be used as a guide.

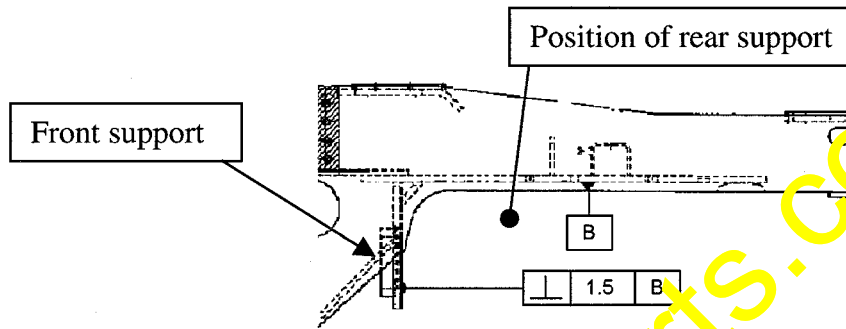
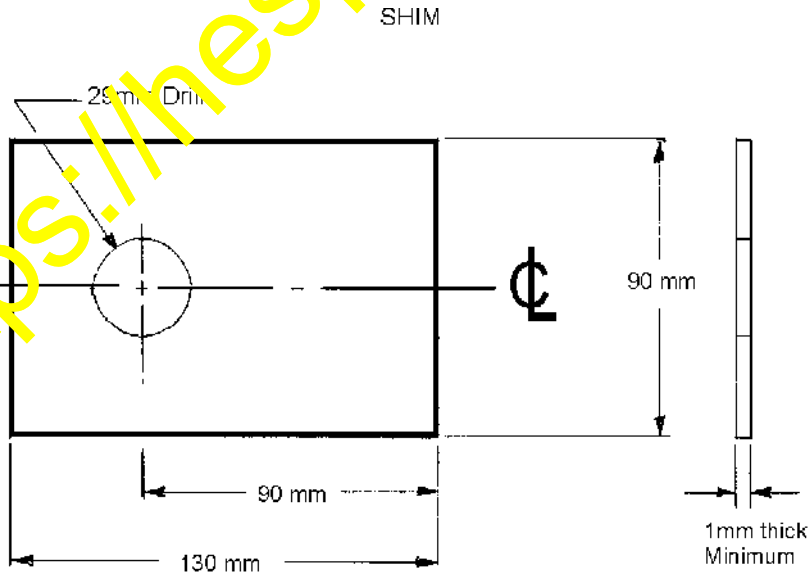


Figure 6

#### 2. Parts Requirements:

Shims of 1mm thickness minimum (Figure 7) to be made locally.



Material: A-36

NOTE: The shim is covering half (one hole) of the mounting surface.



3. Disassembly and Parts Removal
  - a. Remove cab and floor frame assembly. Please refer to the WA380-3L Shop Manual for instructions
  - b. Remove the bulkhead.
  - c. Disconnect, lift and support the transmission to allow machine tool access. Please refer to the WA380-3L Shop Manual for detailed instructions.
4. Restoration of the Trunnion
  - a. Visually inspect the trunnion to find the wear area. Decide the amount of material missing around the hole I.D. and how much has to be rebuilt. (Figure 8)

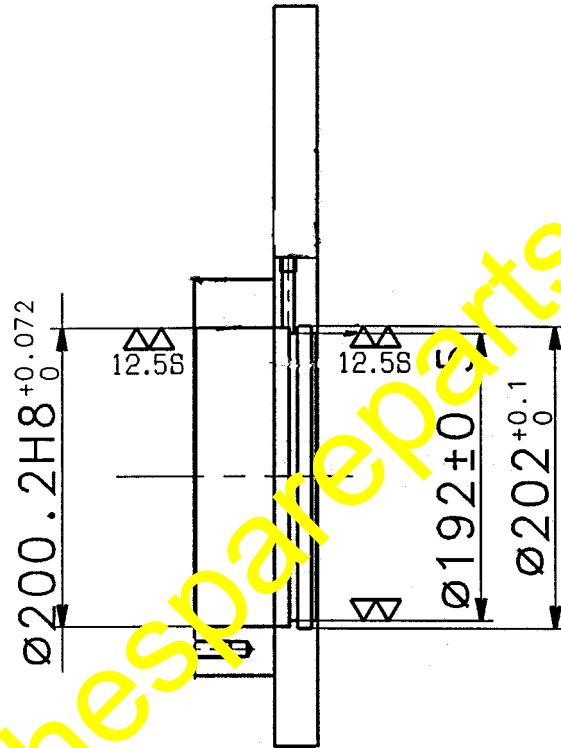


Figure 8  
Cross section of rear axle front support

- b. Use E7018 rod or solid wire NS115 to rebuild the missing material inside the hole. Wait for the part to cool down before reassembling with new parts.

	Rod (with flux)		Solid Wire	
	7018	7018	NS115	NS115
Diameter	5/32"	3/16"	0.045"	0.054"
Amps	140-160 A	180 A	240 A	300 A
Voltage	26-38 V	28 V	28-29 V	30 V
Speed	-	-	270 in/min.	235 in/min.
Beads	1/4"	1/4"	1/4"	1/4"

Miscellaneous Note: Clean flux between passes

Note: Use with shielding gas (argon 98%, Oxy 2%) or (argon 96%, Oxy 4%).

Note: No need for preheat or postheat.

- c. Verify that the rear axle back trunnion critical dimensions are in accordance with (Figure 9). If the dimensions are not met, rebuild or replace the rear axle rear support.

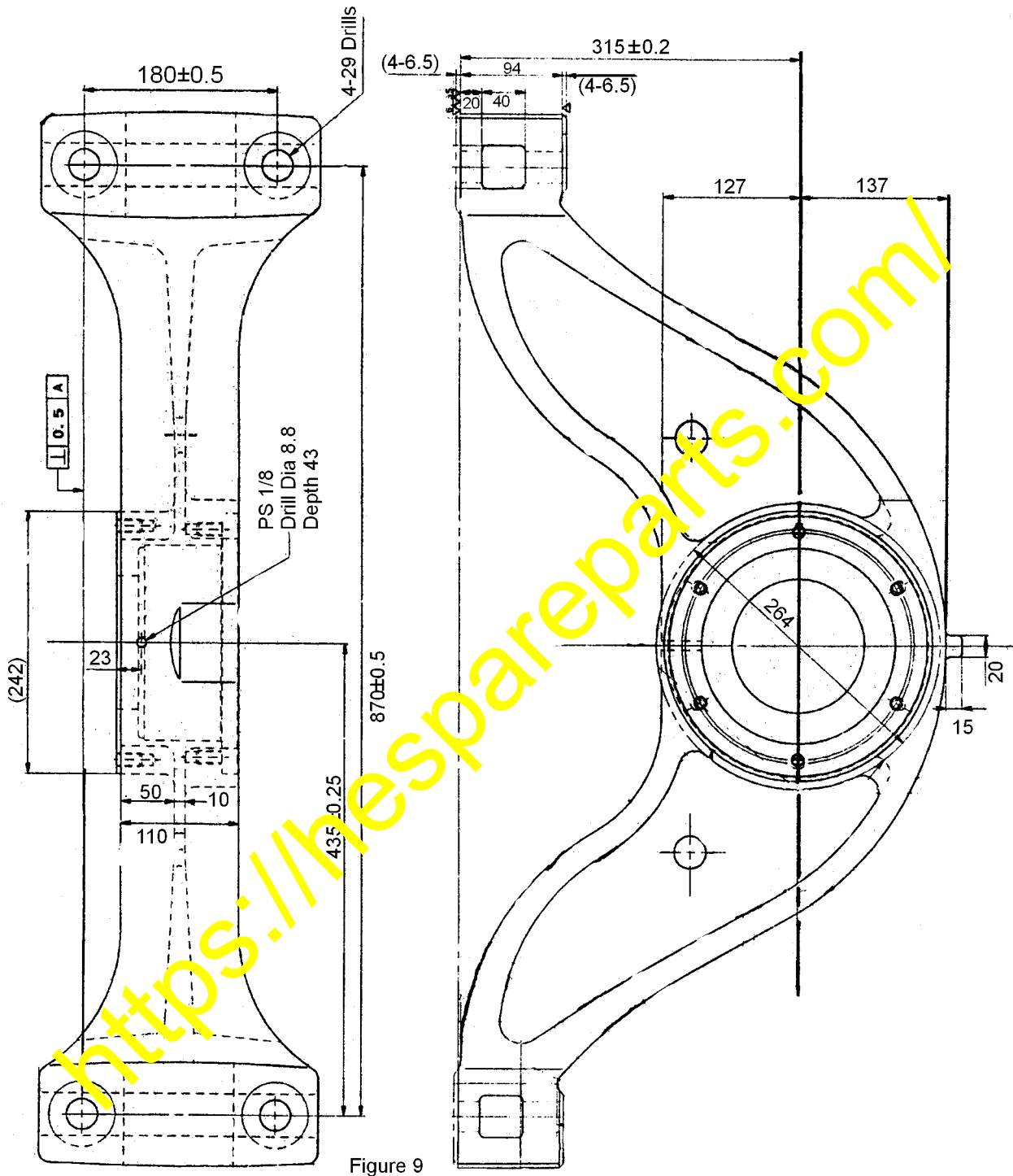


Figure 9

- d. Bore a new hole into the rear axle front support with a portable line boring machine using the rear axle back trunnion and a guide.

5. Nylon Bushing Replacement
  - a. Clean the grease hole and main pivot bore.
  - b. Install new nylon bushing and seals. Coat the front and rear axle pivots and bores liberally with G2-L1 grease.
  - c. When finished, reinstall the rear axle into front support then reinstall back movable rear pivot on the axle and frame. Mount everything temporarily. **KEEP REAR END OF MACHINE JACKED-UP.**
6. Inspection for Pivot Free Movement
  - a. Oscillate the rear axle by hand and see if it is free to move.
    - i. If it is free to move, finish reassembling the rear axle. Go to step 7.
    - ii. If it's not free to move:

Slacken back support bolts and lower assembly slowly until it starts to pivot freely. Measure gaps with a filler gage between axle back support mounting faces and rear main frame at the front holes and rear holes. Now keep lowering the axle until it becomes more difficult to pivot around the trunnions. Again take measurements of the gaps the same way as described above. Finally, calculate an average value of the gaps (best possible distance to fill with shims) and determine how many shims will have to be used at both front & rear. The thickness of the shims at the front and at the back could be the same considering the fact that no shims under 1mm thick are allowed. Install shims and finish reassembling the rear axle.
  - b. Install shims (figure 7) and finish reassembling the rear axle (shims can be made locally).
7. Assembly
  - a. Reinstall the transmission assembly. Please refer to WA380-3 Shop Manual for instructions
  - b. Reinstall the bulkhead.
  - c. Reinstall CAB and floor frame assembly. Please refer to the WA380 Shop Manual for instructions.
  - d. Reassemble the brake line hydraulic hoses, rear drive shaft from the transmission to the rear axle and reassemble the fuel tank and hoses and bleed air from the fuel system.
  - e. Verify the brake connections and bleed all brakes per the Shop manual.
  - f. Verify that the greasing system is working properly by pumping some grease through the tube and see if it is coming out around the trunnion.
  - g. Verify proper brake system operation before driving machine.
  - h. Carefully operate machine and verify correct operation of all functions.
  - i. Correct any deficiencies before releasing machine.
  - j. Release machine for service.