570ST
Backhoe Loader

SERVICE MANUAL

Part number 51590709
English
March 2019
Replaces part number 48048556

CASE
CONSTRUCTION

Safety rules - Ductile iron

570ST	APAC --- LA --- MEA

⚠ DANGER

Altering cast ductile iron can cause it to weaken or break.
Before you weld, cut, or drill holes on any part of this machine, make sure that the part is not cast ductile iron.
Failure to comply will result in death or serious injury.

D0148A

Altering cast ductile iron can cause it to weaken or break. Unauthorized modifications to cast ductile iron parts can cause death or serious injury. Do not weld, cut, drill, repair, or attach items to cast ductile iron parts on this machine.

Before you weld, cut, or drill holes on any part of this machine, make sure the part is not cast ductile iron. See your dealer if you do not know if a part is cast ductile iron.

The following items are examples of cast ductile iron parts. There may also be other parts made of cast ductile iron that are not on the list below.

- two-wheel drive steering link
- dump links
- front axle
- stabilizers
- extend-a-hoe
- swing tower
- bucket linkage
- Air-Conditioning (A/C) compressor mounting bracket

Do not make any unauthorized modifications. Consult an authorized dealer before making any changes, additions, or modifications to this machine.

Basic instructions - Shop and assembly

570ST	APAC --- LA --- MEA

Shimming

For each adjustment operation, select adjusting shims and measure the adjusting shims individually using a micrometer, then add up the recorded values. Do not rely on measuring the entire shimming set, which may be incorrect, or the rated value shown on each shim.

Rotating shaft seals

For correct rotating shaft seal installation, proceed as follows:

1. Before assembly, allow the seal to soak in the oil it will be sealing for at least thirty minutes.
2. Thoroughly clean the shaft and check that the working surface on the shaft is not damaged.
3. Position the sealing lip facing the fluid.

   NOTE: *With hydrodynamic lips, take into consideration the shaft rotation direction and position the grooves so that they will move the fluid towards the inner side of the seal.*
4. Coat the sealing lip with a thin layer of lubricant (use oil rather than grease). Fill the gap between the sealing lip and the dust lip on double lip seals with grease.
5. Insert the seal in its seat and press down using a flat punch or seal installation tool. Do not tap the seal with a hammer or mallet.
6. While you insert the seal, check that the seal is perpendicular to the seat. When the seal settles, make sure that the seal makes contact with the thrust element, if required.
7. To prevent damage to the seal lip on the shaft, position a protective guard during installation operations.

O-ring seals

Lubricate the O-ring seals before you insert them in the seats. This will prevent the O-ring seals from overturning and twisting, which would jeopardize sealing efficiency.

Sealing compounds

Apply a sealing compound on the mating surfaces when specified by the procedure. Before you apply the sealing compound, prepare the surfaces as directed by the product container.

Spare parts

Only use CNH Original Parts or CASE CONSTRUCTION Original Parts.

Only genuine spare parts guarantee the same quality, duration, and safety as original parts, as they are the same parts that are assembled during standard production. Only CNH Original Parts or CASE CONSTRUCTION Original Parts can offer this guarantee.

When ordering spare parts, always provide the following information:

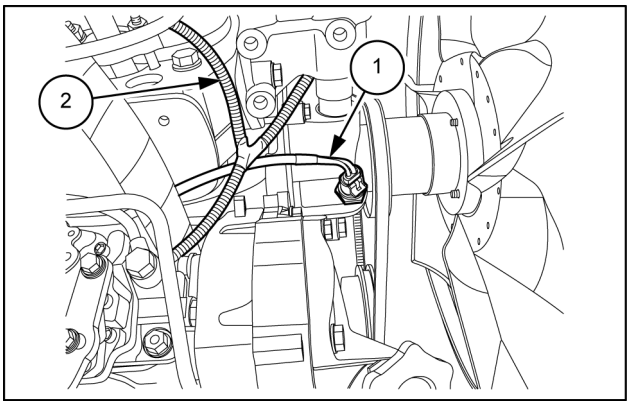
- Machine model (commercial name) and Product Identification Number (PIN)
- Part number of the ordered part, which can be found in the parts catalog

Capacities

570ST	APAC --- LA --- MEA

S.N.	Usage	Specification	Brand	Capacity
1	Transmission oil 2WD	(-)	Akcela NEXPLORE (MULTI-G)	**16.00 l** (**4.23 US gal**)
2	Transmission oil 4WD	(-)	Akcela NEXPLORE (MULTI-G)	**18.50 l** (**4.89 US gal**)
3	Hydraulic Oil	(-)	Akcela NEXPLORE (MULTI-G)	**125.00 L** (**33.02 US gal**)
4	Rear axle oil	SAE 20W40	Akcela transaxle fluid 20W40	**17.10 l** (**4.52 US gal**)
5	4WD front axle oil	(-)	Akcela NEXPLORE (MULTI-G)	**8.90 L** (**2.35 US gal**)
6	Engine oil - BS III	**API CI4**, **SAE 15W-40**	Akcela No 1 (API CI-4)	**9.10 L** (**2.40 US gal**)
7	Brake fluid	**ISO 7308**	Akcela LHM Fluid	**0.67 l** (**0.18 US gal**)
8	Engine Coolant	Antifreeze, Premix 50–50 Grade EG4	Akcela premium antifreeze LDR-25C	**20 l** (**5.28 US gal**)
9	Front Axle (2ED) Akcela Moly Grease	Grease, #2 Moly disulfide	Grease, #2 Moly disulfide	**0.532 kg** (**1.173 lb**)
10	Various joints Akcela multi-purpose grease	EP GREASE GRADE 2 (IS:7623)	GREASE, EP2	**1.70 kg** (**3.75 lb**)
11	Refrigerant	R-134a	(-)	**1.40 kg** (**3.09 lb**)
12	PAG OIL (Compressor)	SP-15	(-)	**270 – 300 mL** (**9 – 10 US fl oz**)

7. Connect the coolant temperature **(1)**, alternator, oil pressure **(2)** connectors.



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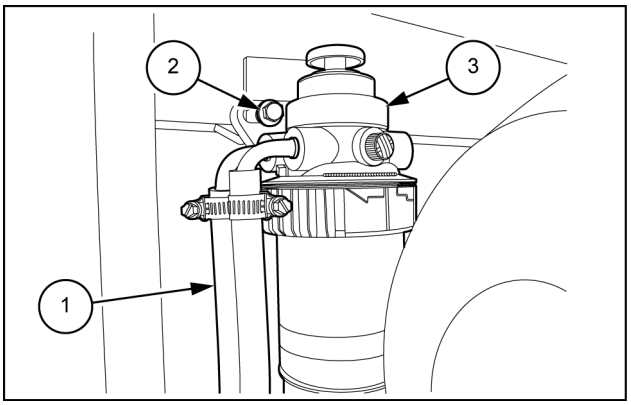
8. Connect the fuel return and inlet lines **(1)** and mount the fuel filter assembly **(3)** by tightening the mounting bolts **(2)**.



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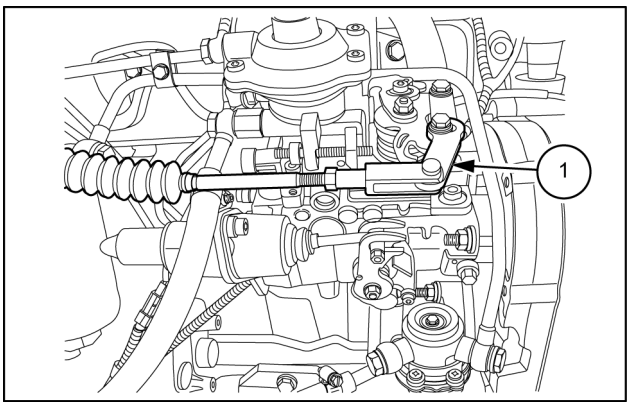
9. Connect the throttle rod **(1)**.
10. Connect the throttle cable from the mounting bracket.
11. Connect the electrical connector for the oil pressure switch.



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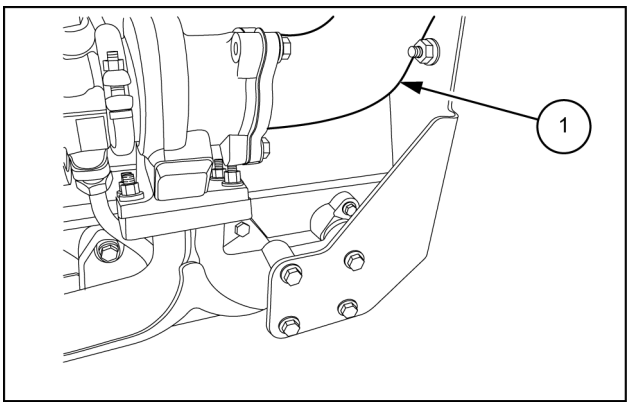
12. Install the exhaust pipe **(1)** of the turbocharger to the muffler end.

    Tighten it to a torque value of **6.5 – 7.5 N·m** (**4.8 – 5.5 lb ft**).



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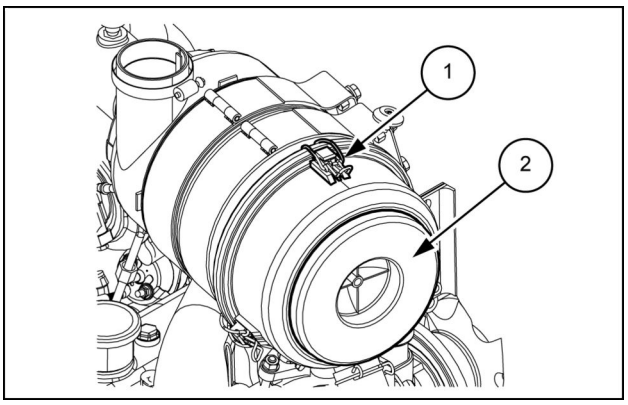
Air cleaner - Service instruction - Primary element

570ST	APAC --- LA --- MEA

Cleaning the filter

1. Open and raise the engine hood.
2. Remove the three clips **(1)** around perimeter of filter cover.
3. Remove the cover **(2)** by rotating in counter clockwise direction.



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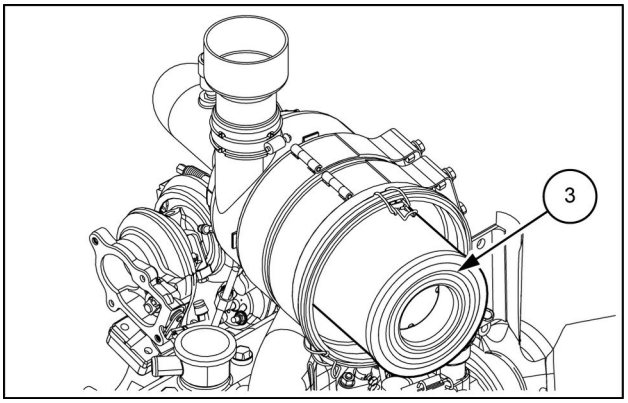
4. Remove primary air filter element **(3)** by rotating in counter clockwise direction.



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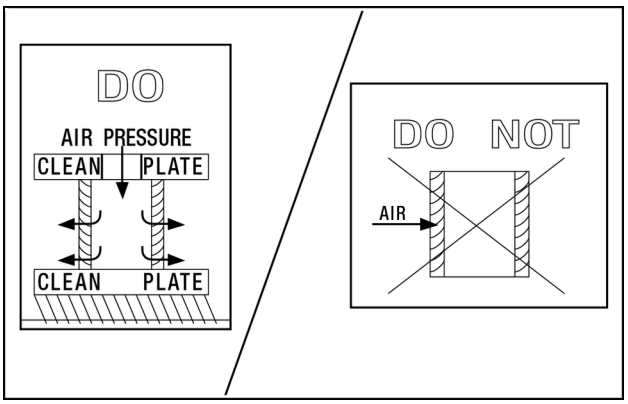
5. Clean the filter with controlled air pressure not exceeding **2 bar** (**29 psi**).
6. Visually check air filter element for any filter media damage. If found damaged, replace the air filter element.

NOTICE: *The direction of air flow shall be from inside to outside. Never blow air from outside to inside as this will cause dust to enter inside the element.*



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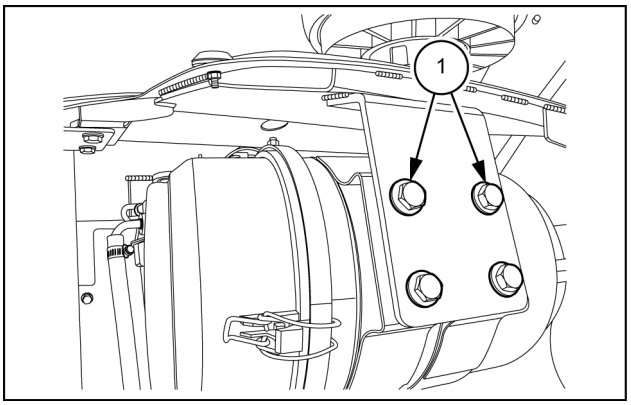
4. Remove the cap screws **(1)** and flat washers that fasten the fixed hood to the uprights. Remove the fixed hood and air cleaner as one assembly.



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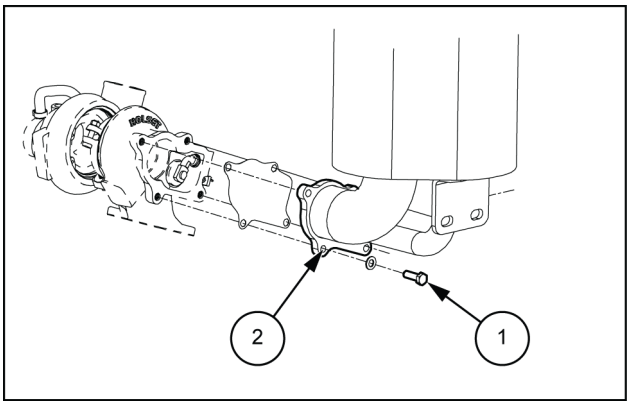
5. Loosen the bolts **(1)** and disconnect the muffler flange **(2)** from the turbo.



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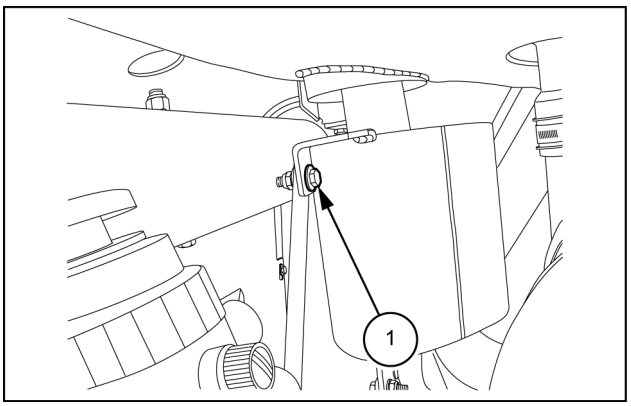
6. Remove the mounting hardware that secures the upper **(1)** and lower **(2)** of the muffler to the engine block.



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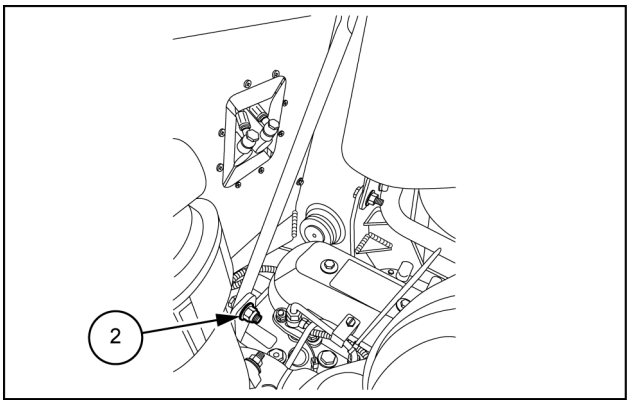

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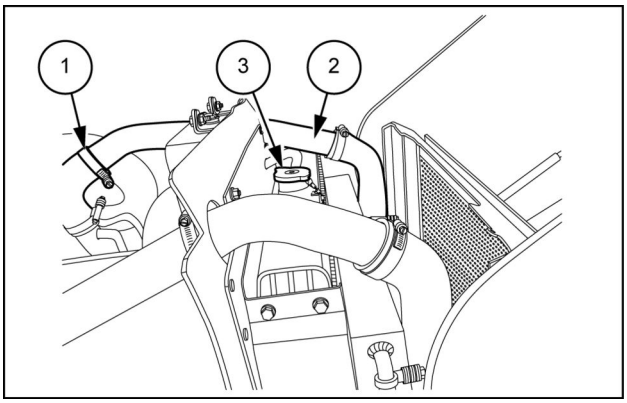
Radiator - Remove

570ST	APAC --- LA --- MEA

NOTE: *The photos in this procedure may be different from your machine and are for reference only.*

Put identification tags on all disconnected hoses and wires. Close disconnected hoses and fittings with caps and plugs.

1. Park the machine on a level surface. Refer to “Raise and support loader lift arms” in **Basic instructions ()** . Allow the engine to cool.
2. Disconnect negative terminal. Refer to **Basic instructions ()** .
3. Remove the hood. Refer to **Hood - Remove (90.100)** for the procedure.
4. Loosen the clamps **(1)** and disconnect the intercooler hoses **(2)**. Slowly remove the radiator cap **(3)**.



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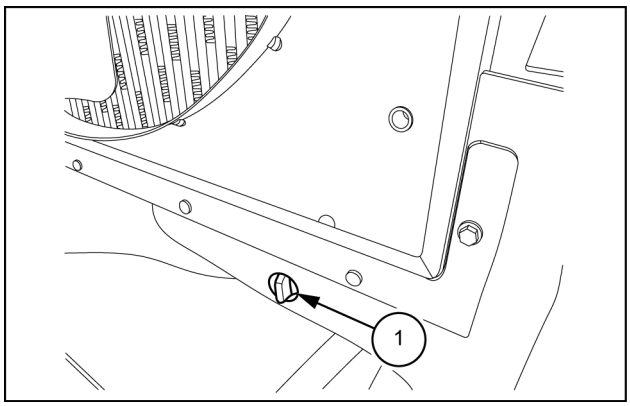
ATTENTION: *Hot coolant can escape if the coolant reservoir cap is removed while the system is still hot. Allow the system to cool down completely before removing the cap.*

5. Install a hose on the drain valve **(1)** and drain the radiator into a clean container of suitable capacity.
6. Wait for the coolant to drain out completely.



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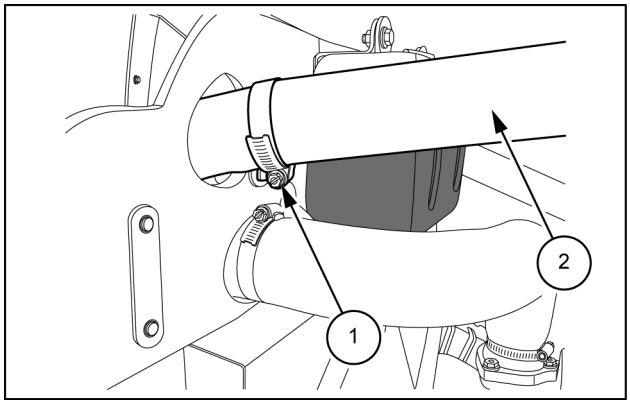
7. Loosen the clamp **(1)** and disconnect the upper radiator hose **(2)**.



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SERVICE

DIAGNOSTIC

(*) See content for specific models

Power shuttle transmission - General specification

570ST	APAC --- LA --- MEA

570ST

Type of transmission oil	MS-1209, Hy-Tran™ Ultra
Clutch disc clearance	**2.3 – 4.3 mm** (**0.1 – 0.2 in**)
Oil capacity - 2WD/2WS	**16.00 l** (**4.23 US gal**)
Oil capacity - 4WD/2WS	**18.50 l** (**4.89 US gal**)

Specifications	570ST (63 kW (86 Hp))	
2WD/2WS		
Model	CARRARO 2WD TLB1	
Type	4 forward and 4 reverse travel gears	
Weight	**105 kg** (**231 lb**)	
Torque converter ratio	3.01:1	
Transmission ratios:	1st gear forward travel 1:5.603 - reverse travel 1:4.643	1st gear forward travel **6.2 km/h** - reverse travel **7.4 km/h**
	2nd gear forward travel 1:3.481 - reverse travel 1:2.884	2nd gear forward travel **10 km/h** - reverse travel **12 km/h**
	3rd gear forward travel 1:1.585 - reverse travel 1:1.313	3rd gear forward travel **20.7 km/h** - reverse travel NR
	4th gear forward travel 1:0.793 - reverse travel 1:0.657	4th gear forward travel **39.2 km/h** - reverse travel NR
Suction strainer	**250 µm**	
Filter capacity	**10 µm**	
Filter type	Spin-on	
Oil capacity (System)	16 Liters (PSB-202)	
Oil change period	Every **1000 h**	
Filter	Every **1000 h**	
4WD/2WS		
Model	CARRARO 4WD TLB1	
Type	4 forward and 4 reverse travel gears	
Torque converter ratio	3.01:1	
Transmission ratios:	1st gear forward travel 1:5.603 - reverse travel 1:4.643	
	2nd gear forward travel 1:3.481 - reverse travel 1:2.884	
	3rd gear forward travel 1:1.585 - reverse travel 1:1.313	
	4rd gear forward travel 1:0.793 - reverse travel 1:0.657	

Rear axle model Carraro 28.3 M

Bevel gear ratio	2.467:1
Epycylic gear ratio	6.923:1
Total gear ratio	17.077:1

Front axle

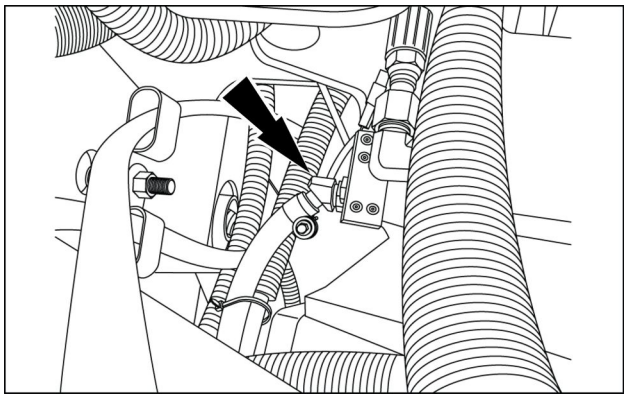
2WD	CNH PS 1300
4WD	Carraro 26.17

NOTE: *All specifications shown were taken from a sampling of new production machines with less than **20 h**. Your figures may differ slightly depending upon the temperature, instrument variables, engine hours, etc.*

570ST

Parameter	Operating pressure/temperature
Output of pump supply	**32 – 68 l/min** (**8.5 – 18.0 US gpm**) at **900 – 2200 RPM**
Pump supply pressure (4WD)	**1248 – 1551 kPa** (**181 – 225 psi**) at **900 – 2200 RPM**
Regulated clutch pressure	**1103 – 1303 kPa** (**160 – 189 psi**) at **900 – 2200 RPM**

7. Identify, tag and disconnect the transmission cooler lines.



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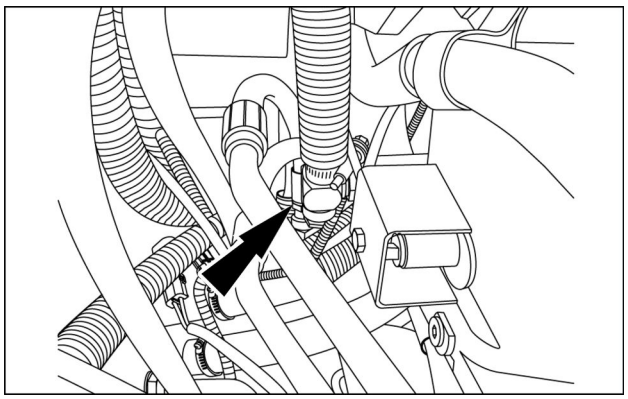

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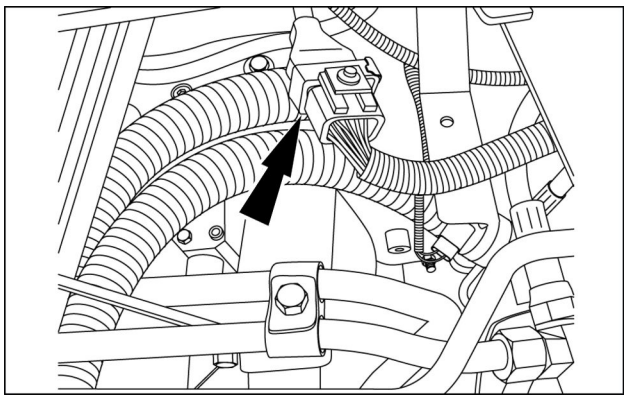
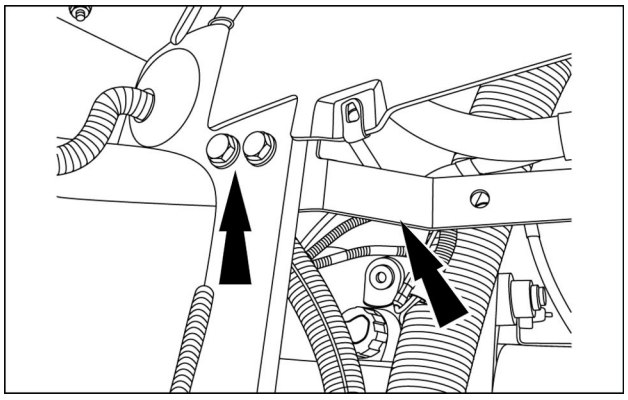
8. Disconnect the transmission control valve connection.



RCPH11TLB009AAL 9

9. Remove control valve connection bracket.



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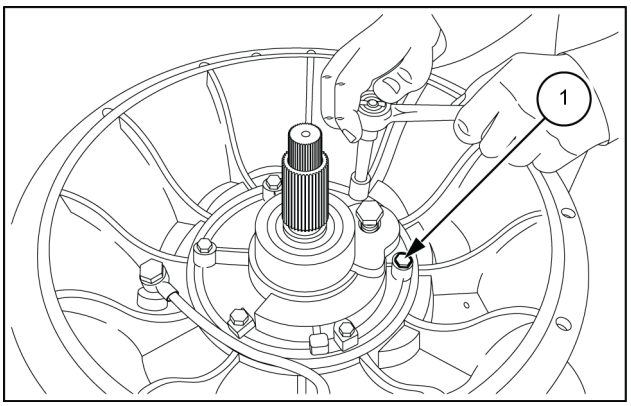
Power shuttle transmission - Disassemble - Plugs and filters

570ST	APAC --- LA --- MEA

1. Remove screws **(1)**.

NOTICE: *Mark the pump position with respect to the bell housing before untightening the screws.*



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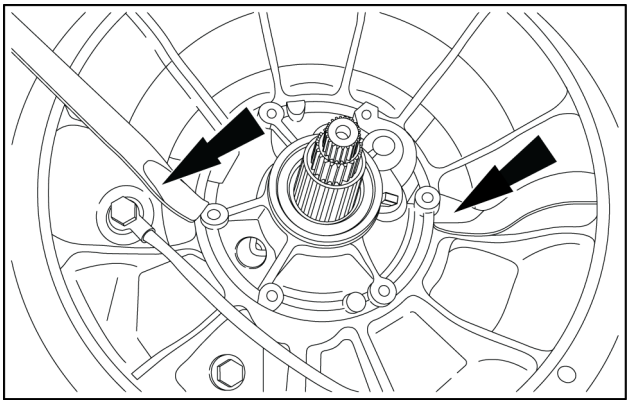
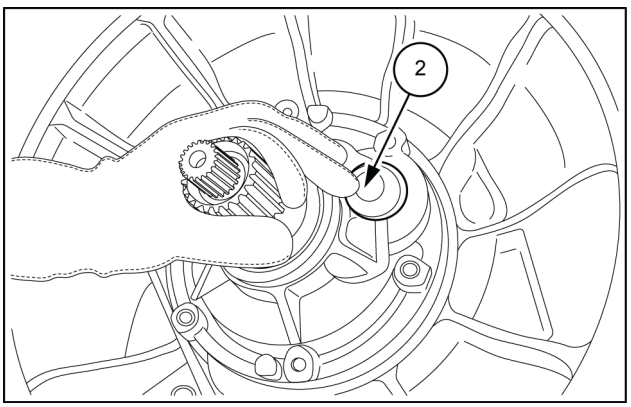
2. Remove the pump by means of two levers.



PTIL13TLB0213AA 2

3. Remove the oil pump **(2)**.

NOTICE: *Oil pump seal ring can be damaged during this operation.*



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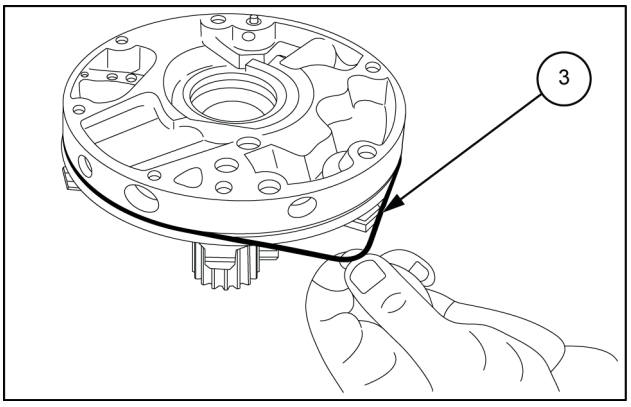
4. If replacement is necessary, remove O-ring **(3)**.

NOTICE: *Do not open/disassemble the pump or its operation may be compromised. Special tools from the manufacturer are required for reassembly.*



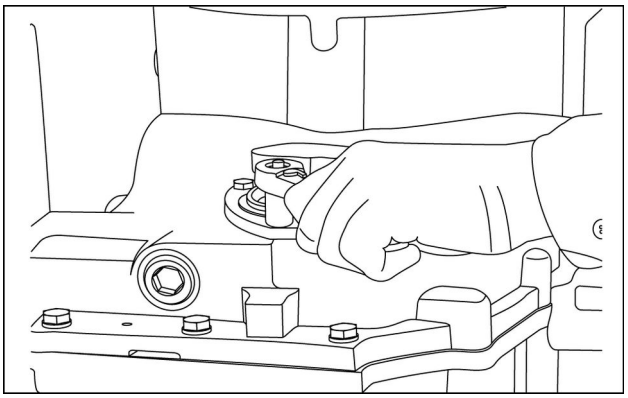
PTIL13TLB0215AB 4

Power shuttle transmission - Check

570ST	APAC --- LA --- MEA

Always check the correct oil level and correct oil specifications.

17. Remove the three bolts that fasten the cover to the front housing.



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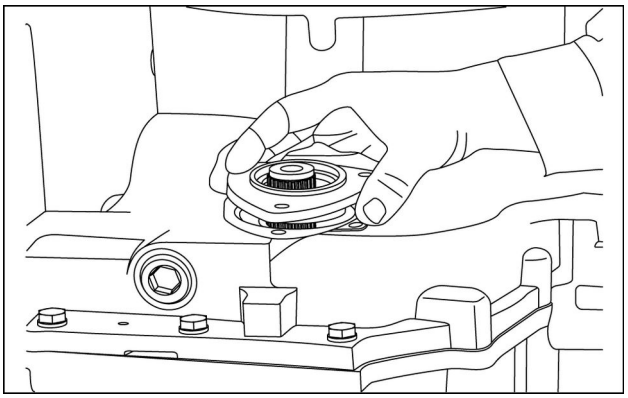
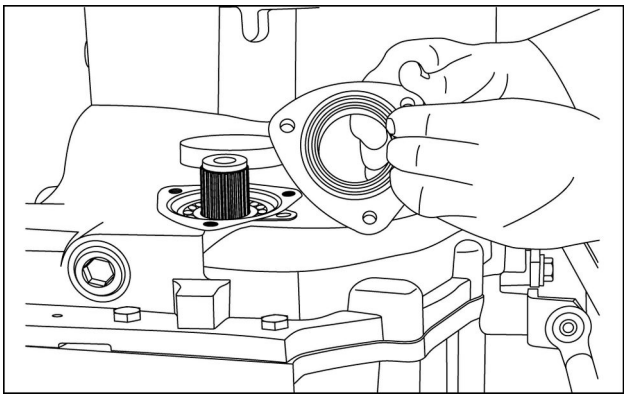
18. Remove the cover.



RCPH10TLB710AAL 18

19. Remove the O-ring from the cover.



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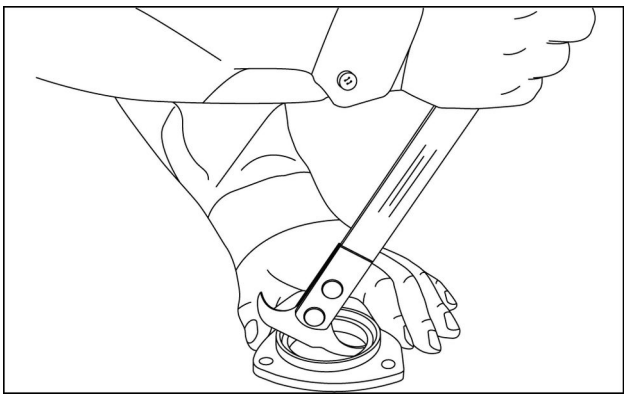
20. Remove the seal from the cover.



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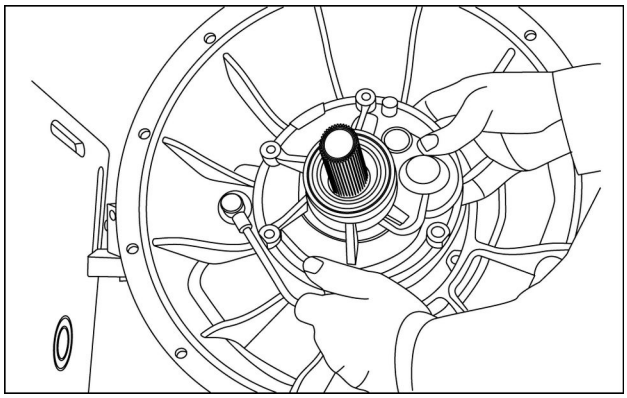
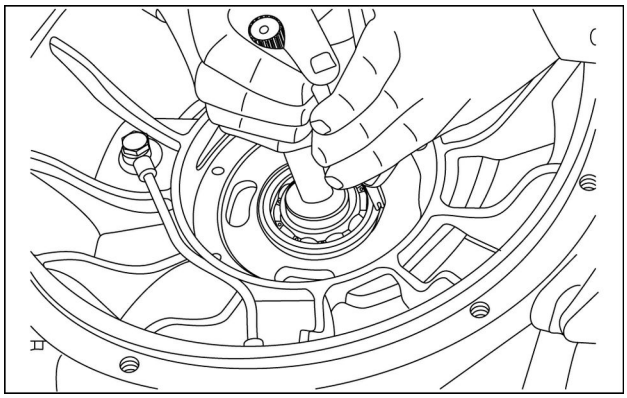
61. Remove the oil pump.



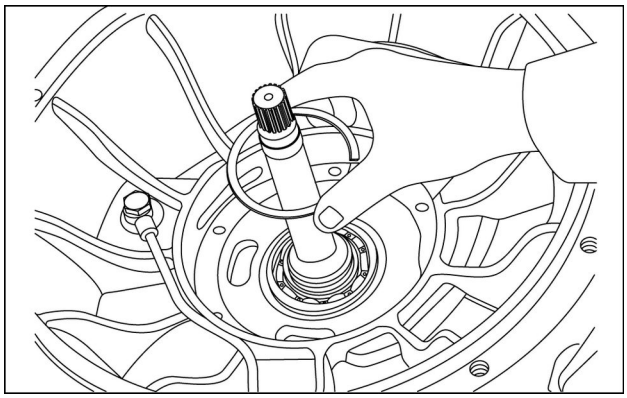
RCPH10TLB714AAL 61

62. Pull up the input shaft to get clearance as you release the snap ring.



RCPH10TLB715AAL 62

63. Remove the snap ring.



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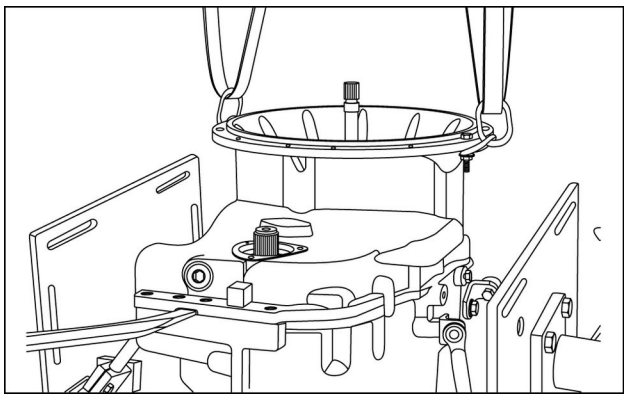
64. Fasten acceptable lifting equipment to the front housing as shown. Use pry bars at both ends of the housings to separate the front housing from the rear housing



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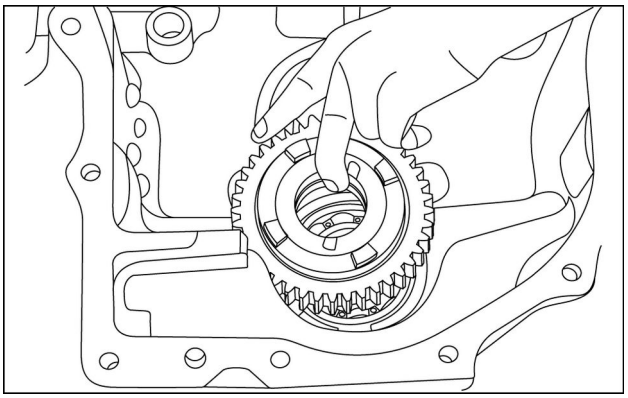
9. Install the four-wheel drive clutch gear so that the side with the lugs is up.



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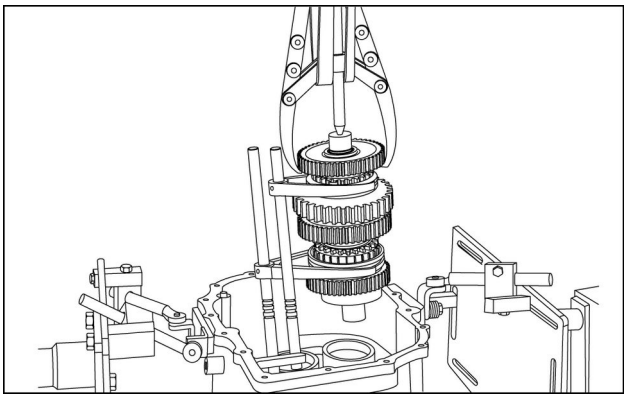
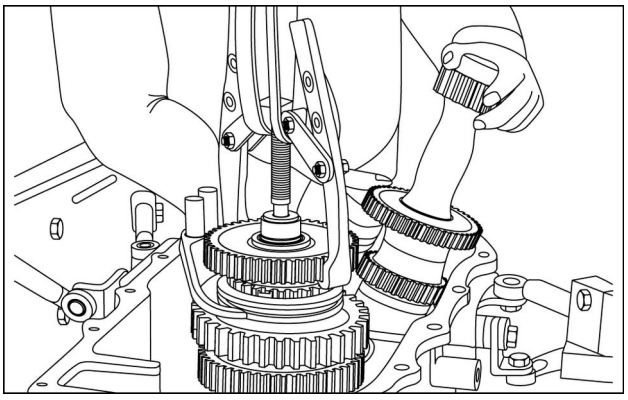
10. Connect acceptable lifting equipment to the top gear on the secondary shaft. Lift the secondary shaft over the rear housing. Engage the shift forks with the synchronizers as shown. Begin to lower the assembly into the rear housing.



RCPH10TLB029ABL 10

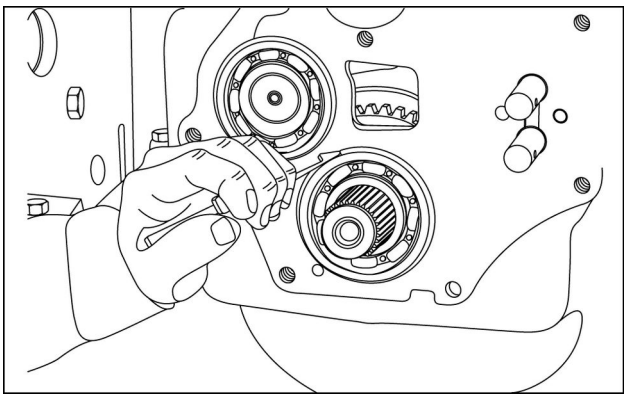
11. As you lower the assembly into the rear housing, also begin to install the primary shaft so that the gears on the primary shaft go into mesh with the gears on the secondary shaft. Continue to lower the parts, making sure that each part goes into the correct bore in the rear housing. (Remember that the shift rod and fork assembly for third and fourth gear goes into the bore nearer the top of the rear housing). When all of the parts are in position, disconnect the lifting equipment.



RCPH10TLB913AAL 11

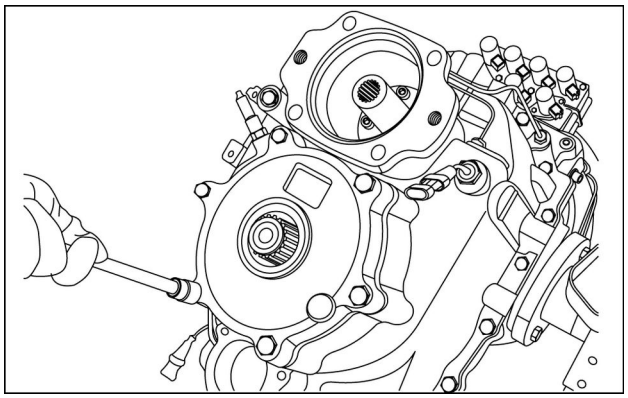
12. Push the secondary shaft toward the rear of the rear housing so that there is clearance between the snap ring groove and the rear housing. Install the snap ring.

NOTE: *In Steps* ***13*** *through* ***16****, the photos show the upper detent parts already installed. It is necessary for you to install both the upper and lower detent parts according to the instructions in the procedure. Make sure that you start with both shift rods in the NEUTRAL position.*



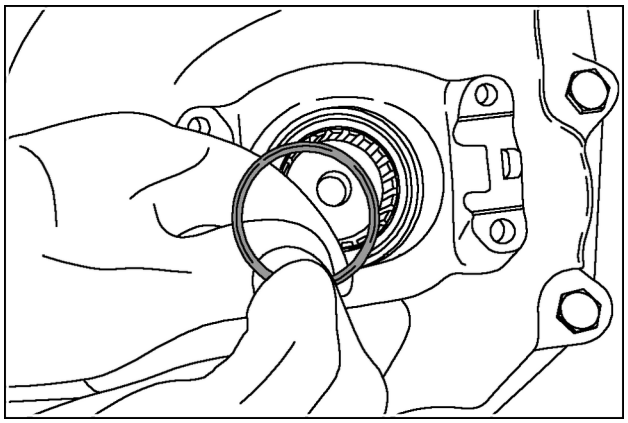
RCPH10TLB732AAL 12

55. Install the bolts, use an alternately tightening pattern until the brake housing is tight against the transmission. Torque the bolts to **50 N·m** (**37 lb ft**).



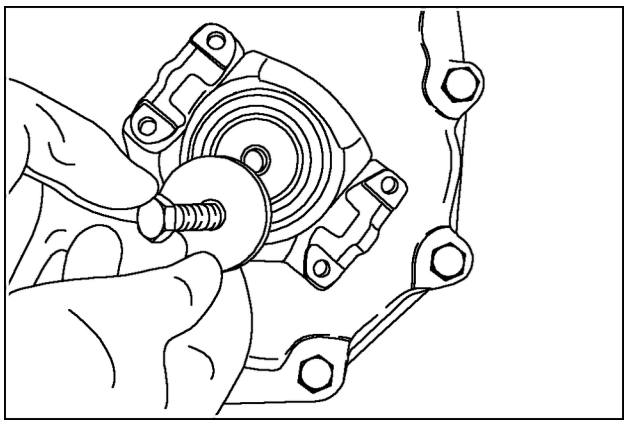
RCPH10TLB871AAL 53

56. Install the flange and a new O-ring.



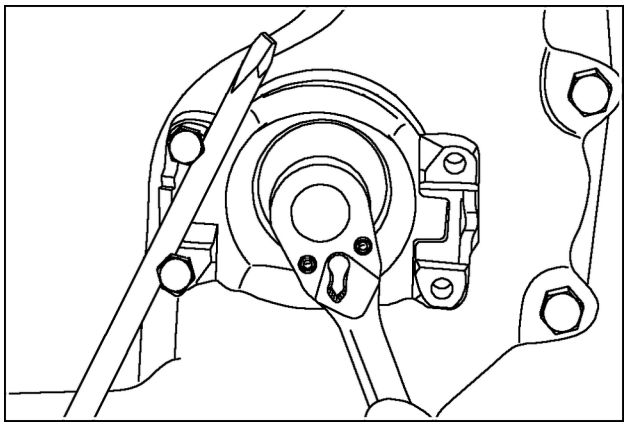
RCPH10TLB869AAL 54

57. Install the bolt and washer.



RCPH10TLB868AAL 55

58. Torque bolt to **139 N·m** (**103 lb ft**).

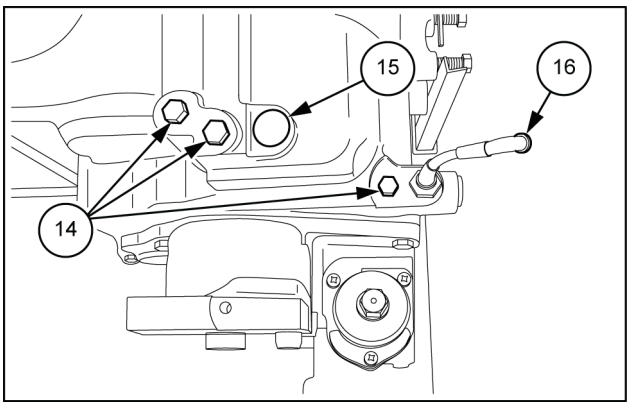


RCPH10TLB870AAL 56

Oil drain plug - Assemble

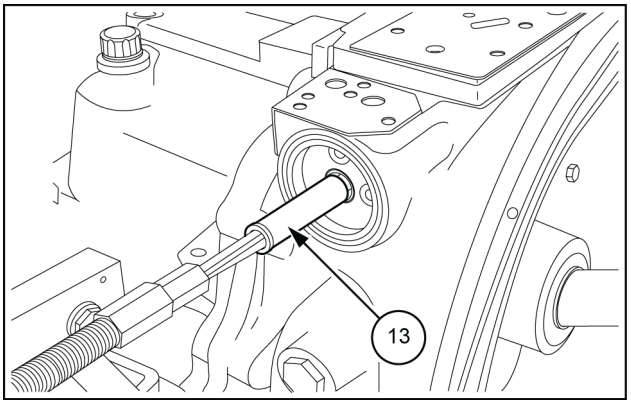
570ST	APAC --- LA --- MEA

1. Assemble the port plugs **(14)**, the breather **(15)** and the oil temperature sensor **(16)**.



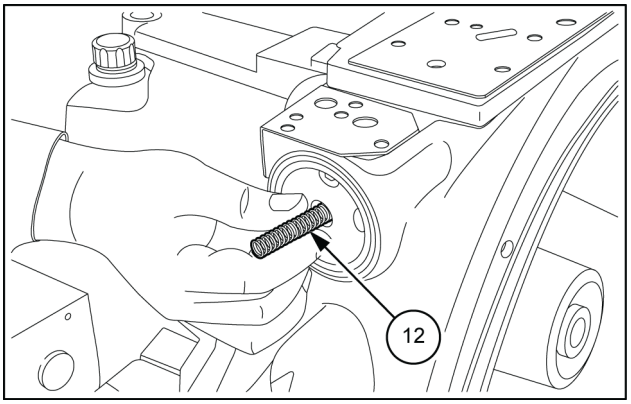
PTIL13TLB0210AB 1

2. Assemble valve **(13)**.



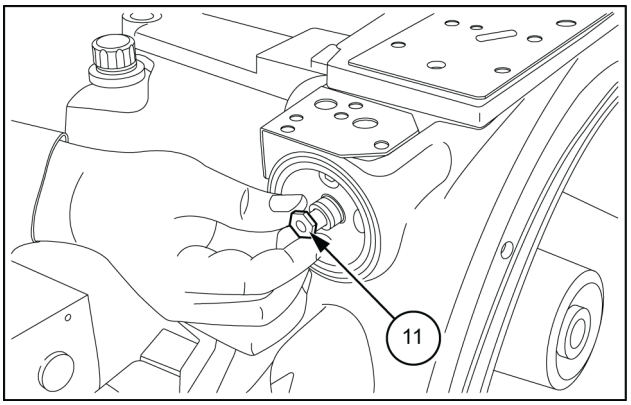
PTIL13TLB0209AB 2

3. Assemble spring **(12)**.



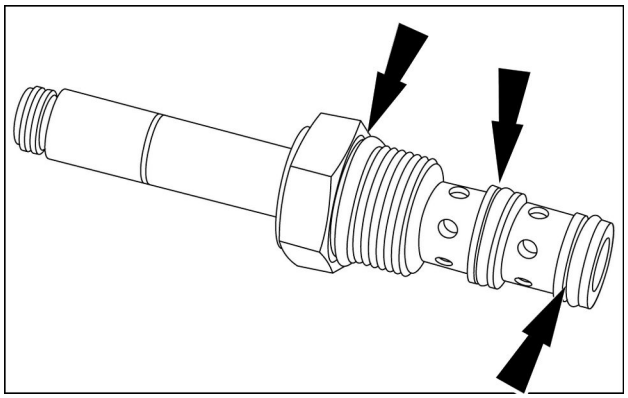
PTIL13TLB0208AB 3

4. Assemble spool **(11)**.



PTIL13TLB0207AB 4

5. Remove the three O-rings from the solenoid valve.

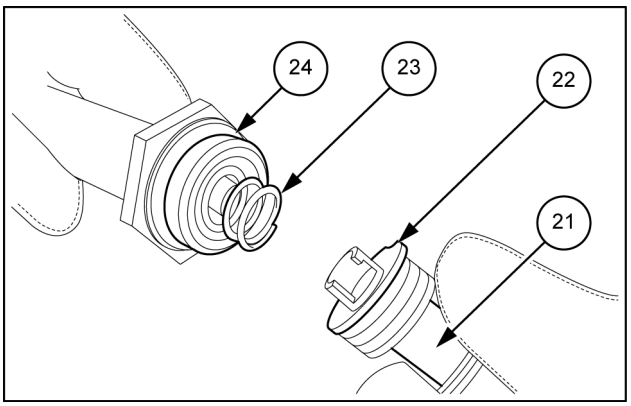


RCPH10TLB741AAL 5

Transmission control valve - Assemble

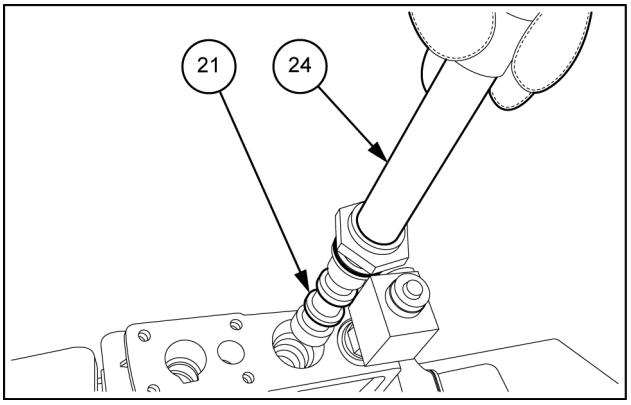
570ST	APAC --- LA --- MEA

1. Assemble the solenoid tube **(24)** and spring **(23)** at the spool **(21)** and thrust washer **(22)**.



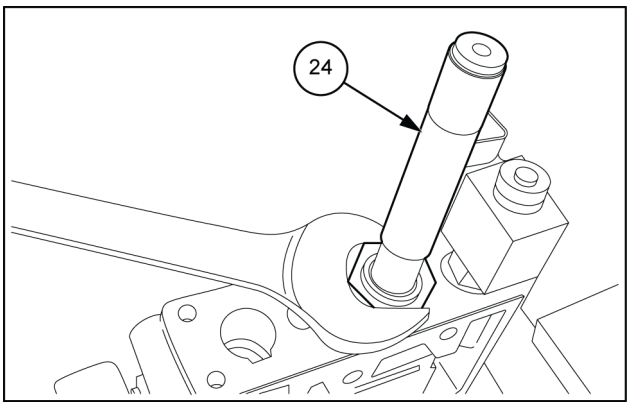
PTIL13TLB0252AB 1

2. Assemble the solenoid tube **(24)** with spool **(21)** to the control valve.



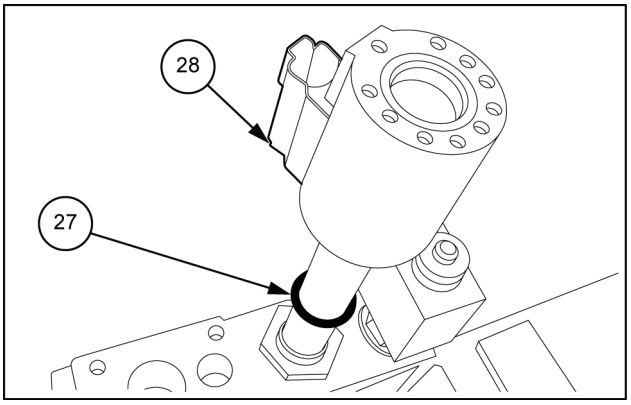
PTIL13TLB0251AB 2

3. Screw the solenoid tube **(24)**.



PTIL13TLB1539AB 3

4. Assemble the O-ring **(27)**.
5. Assemble the solenoid **(28)**.



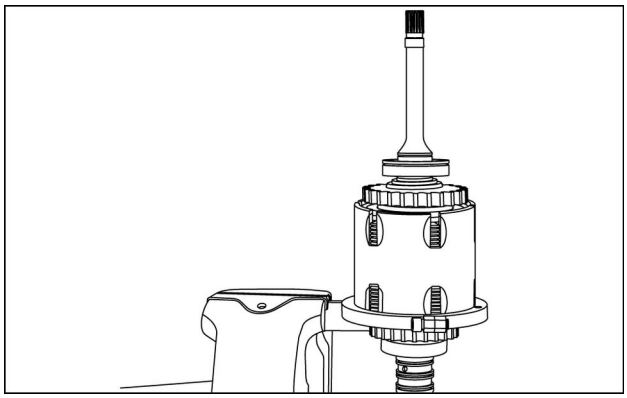
PTIL13TLB0249AB 4

Transmission drive and driven shafts - Disassemble - Input shaft

570ST	APAC --- LA --- MEA

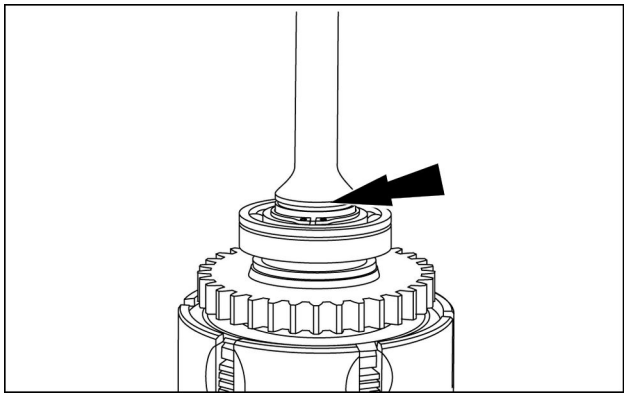
NOTE: *Do Steps **1** and **2** before you disassemble the input shaft. This will help to locate any problems. After you assemble the input shaft, the tests will be done again to make sure that the input shaft is working correctly.*

1. Apply compressed air of approximately **620 kPa** (**90 psi**) to the forward clutch passage. Listen to hear the forward piston moving to lock the forward clutch pack. Try to move the forward gear. The forward gear must not turn on the input shaft. Try to move the reverse gear. The reverse gear must turn freely on the input shaft. If the clutches do not work correctly, inspect the parts closely during disassembly so that you can find and correct the problem.
2. Apply compressed air of approximately **620 kPa** (**90 psi**) to the reverse clutch passage. Listen to hear the reverse piston moving to lock the reverse clutch pack. Try to move the reverse gear. The reverse gear must not turn on the input shaft. Try to move the forward gear. The forward gear must turn freely on the input shaft. If the clutches do not work correctly, inspect the parts closely during disassembly so that you can find and correct the problem.
3. Use the bottom piece of special tool **380200414** as shown to fasten the input shaft in the vise so that the reverse clutch is up.



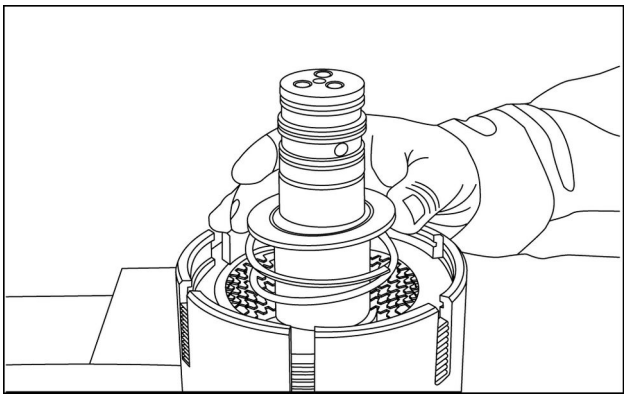
RCPH10TLB786AAL 1

4. Remove the sealing ring.



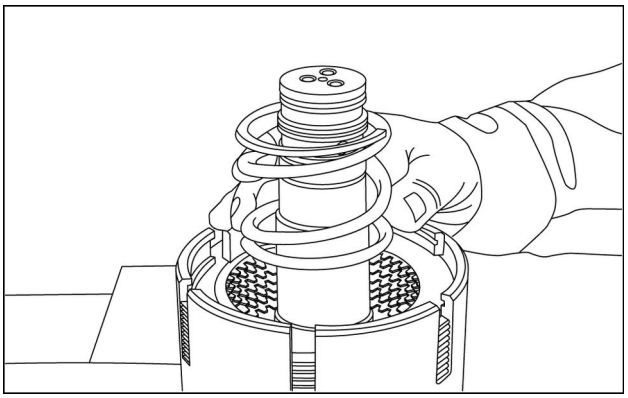
RCPH10TLB788AAL 2

45. Remove the retainer plate.



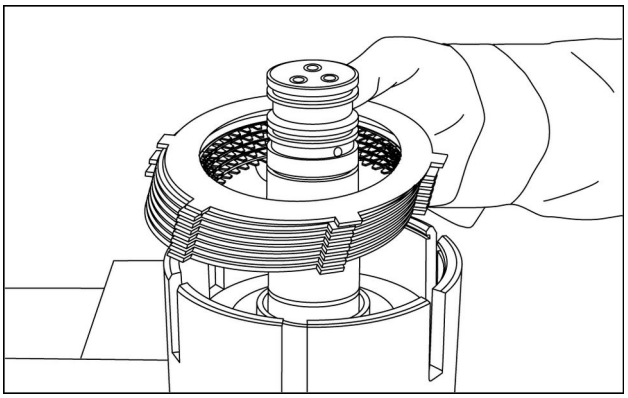
RCPH10TLB939AAL 43

46. Remove the spring.



RCPH10TLB940AAL 44

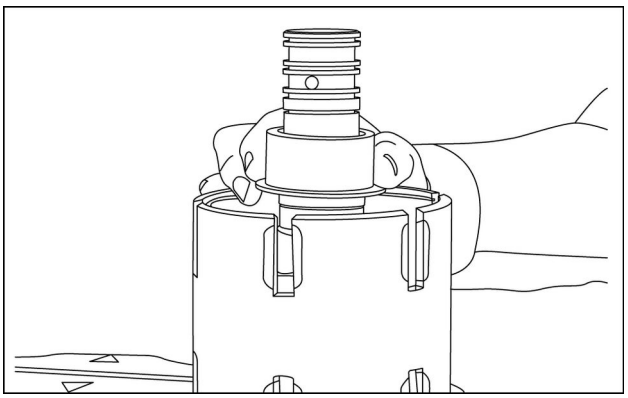
47. Lift the thrust plate and the steel discs and the friction discs out of the housing as a complete unit. Set the complete unit on top of the body.
48. Follow the same procedure as Step **21** and Step **22** for marking the top of the thrust plate and the steel and friction discs as they are removed from the housing.



RCPH10TLB941AAL 45

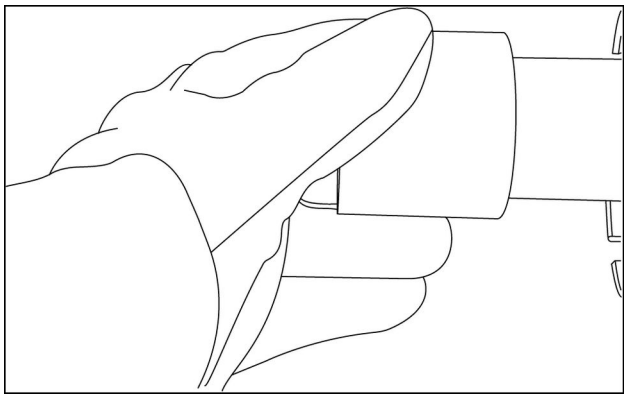
49. Remove the sleeve.

NOTICE: *Use an air hose with a safety on/off control nozzle with* ***2.1 bar*** *(****30 psi****) maximum at the nozzle. Wear face protection.*



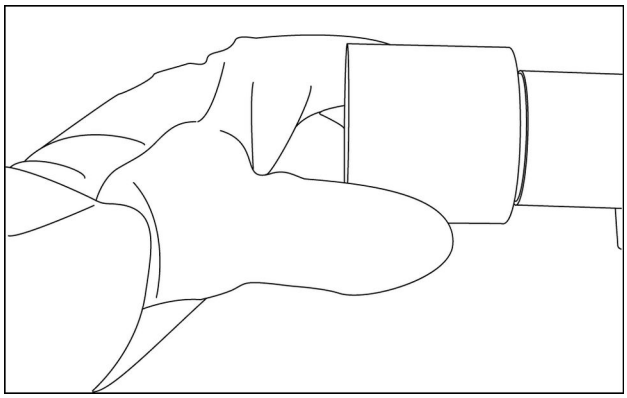
RCPH10TLB806AAL 46

30. Install the end of the special tool **380001927** with the deep chamfer onto the shaft and over the sealing ring. Use a back and forth twisting motion to allow the seal compressor to slip over the top of the sealing ring and seat the sealing ring into the groove. Be careful not to damage the sealing ring. After the sealing ring is seated in the groove, remove the seal compressor from the shaft.



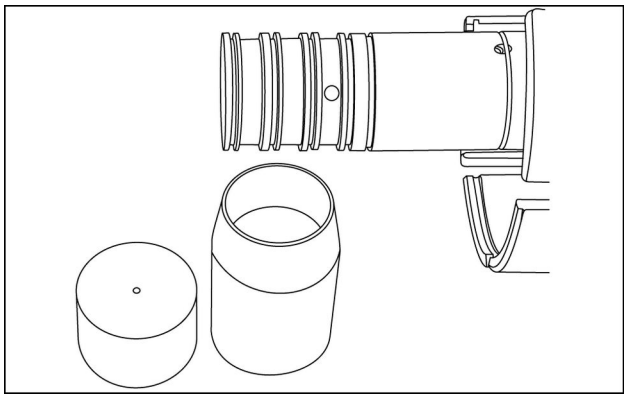
RCPH10TLB839AAL 29

31. Turn the seal compressor around and slide the end with the narrow chamfer over the shaft and over the sealing ring. Leave the seal compressor in place for **15 min** until the sealing ring has cooled and is properly sized and seated in the groove. After the sealing ring has cooled, remove the seal compressor from the shaft.



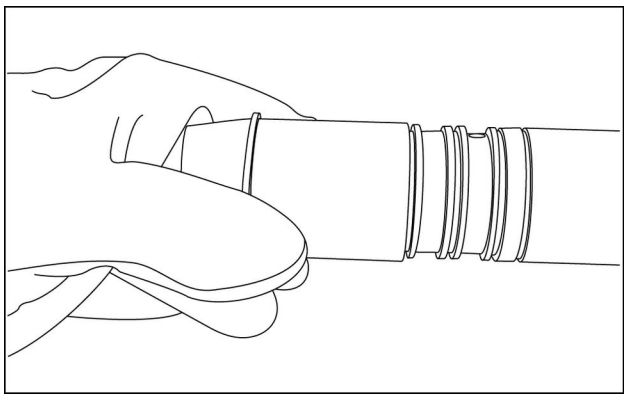
RCPH10TLB840AAL 30

32. Place the special tool 380001931 into the special tool **380001933**.



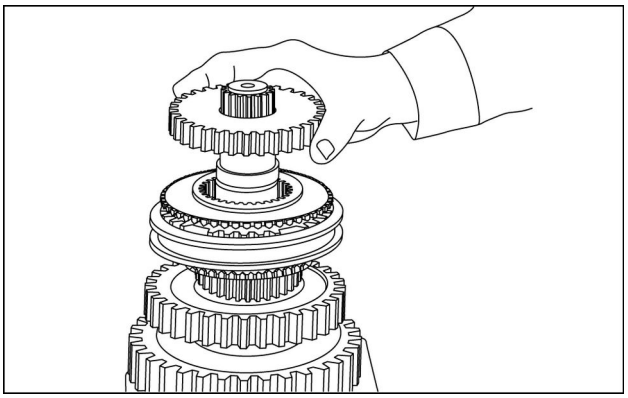
RCPH10TLB823AAL 31

33. Slide the expander/protector and the spacer onto the shaft. Heat the Teflon sealing ring to **80 – 100 °C** (**176 – 212 °F**). Install the Teflon sealing ring onto the expander/protector.



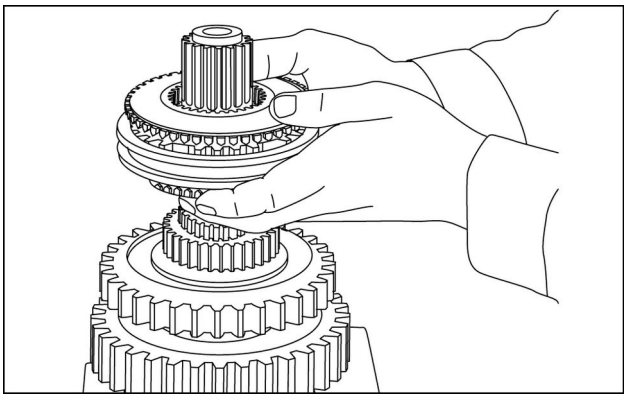
RCPH10TLB833AAL 32

5. Remove the third gear from the shaft.



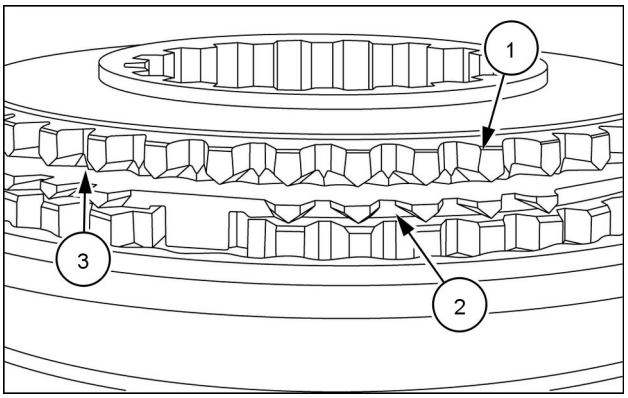
RCPH10TLB769AAL 5

6. Remove the synchronizer assembly.



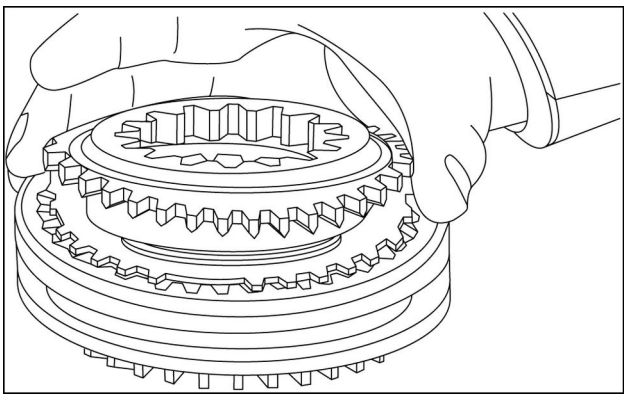
RCPH10TLB770AAL 6

7. Use a feeler gauge to measure the clearance between the clutch ring **(1)** and the edge of the tapered friction ring **(2)**. This clearance **(3)** should be approximately **1 mm** (**0.04 in**) with used parts in good condition. If the clearance is **0.5 mm** (**0.02 in**) or less, use new parts as required. Repeat the measurement for the opposite side of the synchronizer assembly before disassembly.



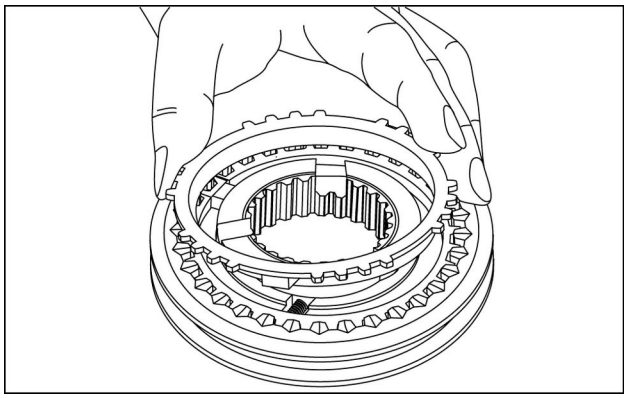
RCPH10TLB810AAL 7

8. Remove the clutch ring from each side of the synchronizer assembly.



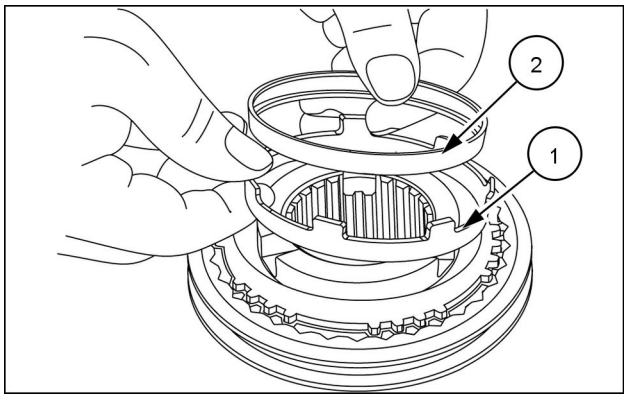
RCPH10TLB817AAL 8

8. Install the tapered friction ring on the synchronizer assembly.



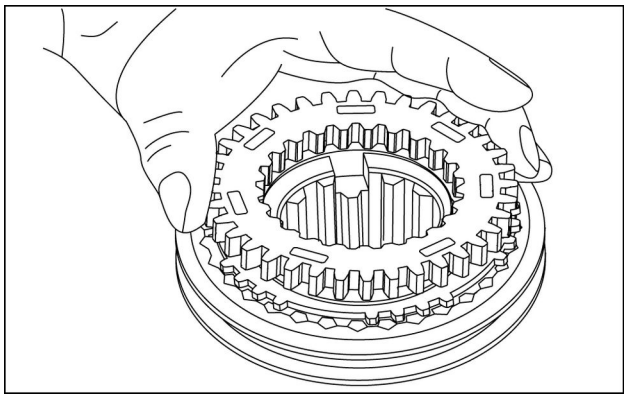
RCPH10TLB947AAL 8

9. Use clean transmission oil to lubricate the bronze ring **(1)** and the steel ring **(2)**. Install the bronze ring **(1)** and the steel ring **(2)** as shown.



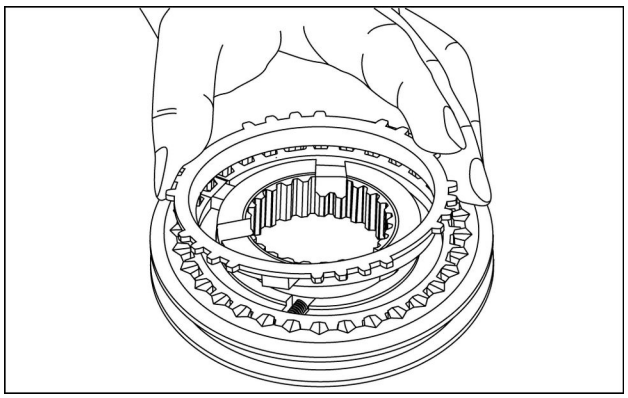
RCPH10TLB946AAL 9

10. Install the synchronizer ring as shown. The flat sides of the teeth must be up.



RCPH10TLB945AAL 10

11. Turn the synchronizer assembly over and install the tapered friction ring on the other side.

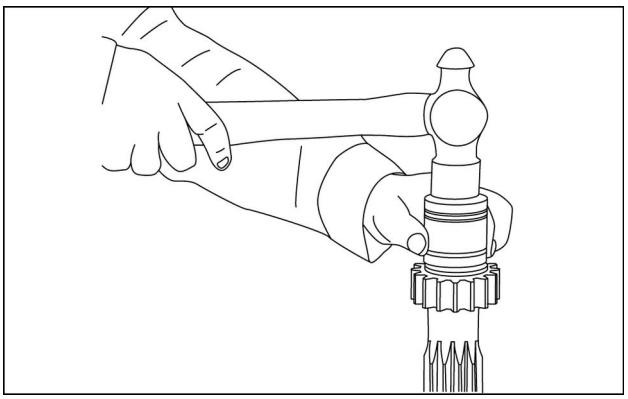


RCPH10TLB947AAL 11

Transmission drive and driven shafts - Assemble - Primary shaft

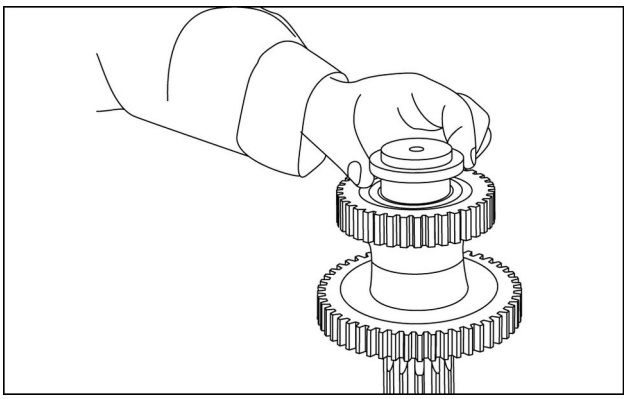
570ST	APAC --- LA --- MEA

1. Use an acceptable driver to drive the bearing race all the way onto the primary shaft.



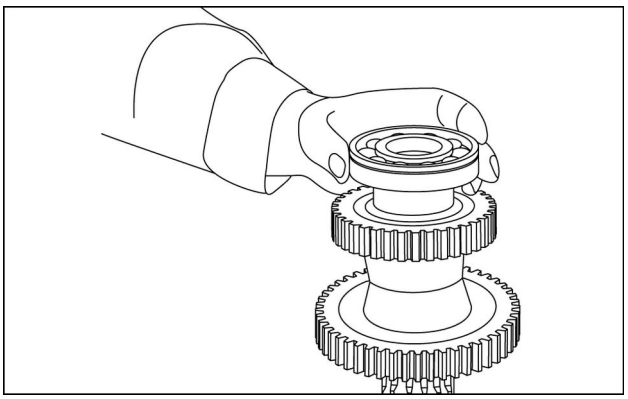
RCPH10TLB959AAL 1

2. Use clean transmission oil to lubricate the thrust washer. Install the thrust washer so that the side with the oil grooves is down.



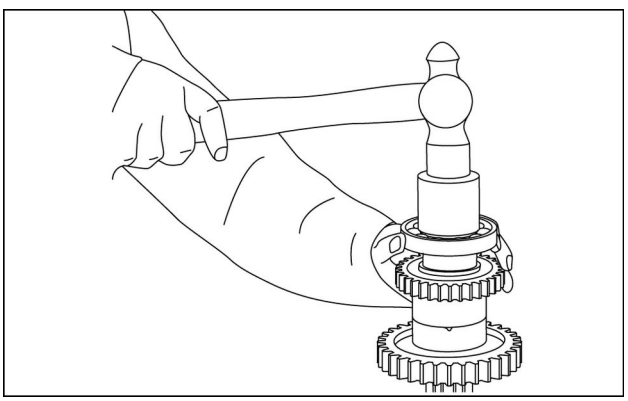
RCPH10TLB957AAL 2

3. Put the bearing into position so that the snap ring groove on the outside diameter of the bearing is at the top.



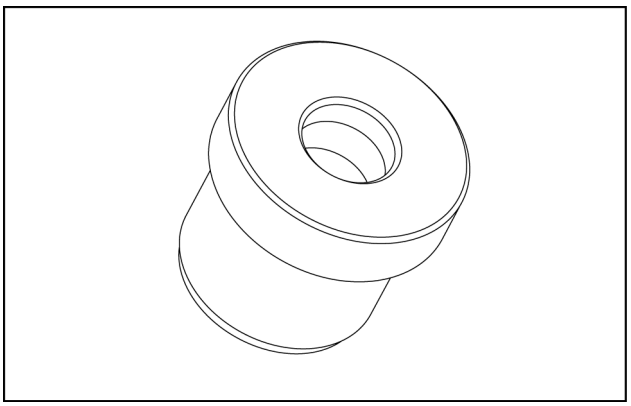
RCPH10TLB956AAL 3

4. Use an acceptable driver to drive the bearing onto the primary shaft until the bearing makes contact with the thrust washer.



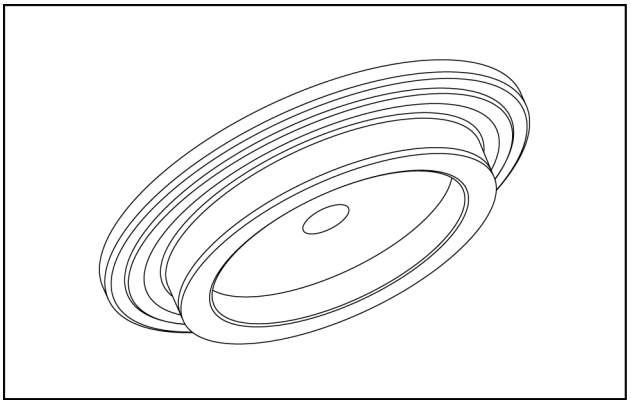
RCPH10TLB960AAL 4

380200463 Driver



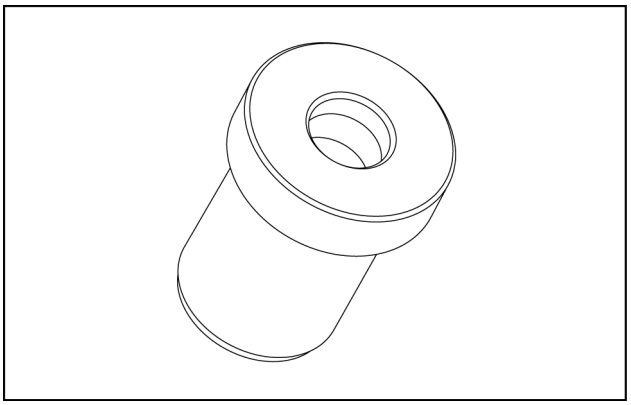
PTIL13TLB0694AA 18

380002229 Driver



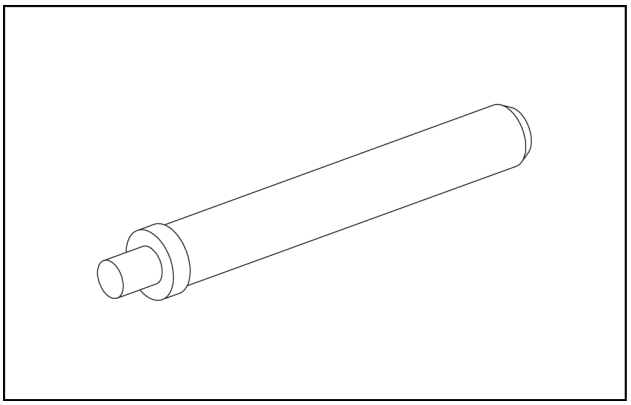
PTIL13TLB0685AA 19

380200023 Driver



PTIL13TLB0690AA 20

380200464 Driver



PTIL13TLB0695AA 21

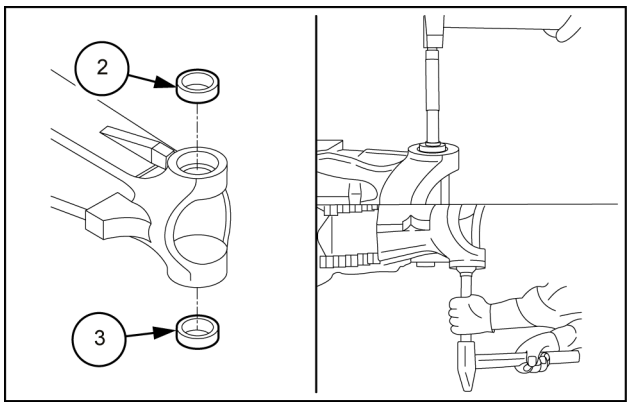
Powered front axle - Assemble

570ST	APAC --- LA --- MEA

1. Cool the upper king pin bush **(2)** and the ball bearing cup **(3)** at a temperature lower than **-100 °C** (**-148 °F**) with liquid nitrogen.

ATTENTION: *Wear safety gloves.*

2. Assemble the upper bush **(2)** on the upper king pin seat with the indicated special tool and a hammer.
3. Assemble the ball bearing cup **(3)** on the lower king pin seat with the indicated special tool and a hammer.

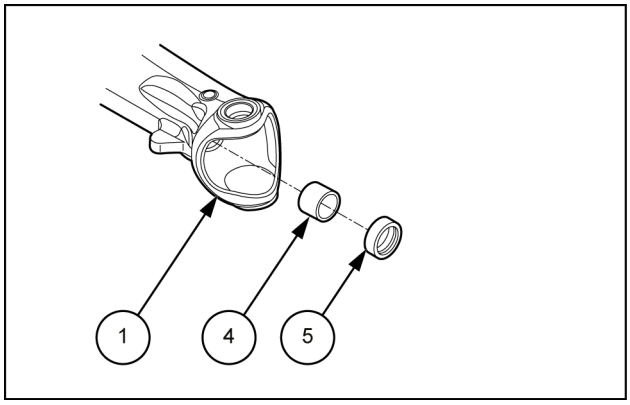


PTIL13TLB0563AB 1

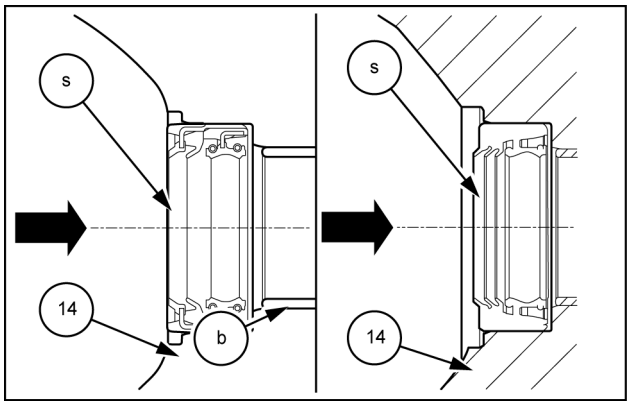
4. Assemble the bush **(4)** on the axle beam **(1)** with the indicated special tool and a hammer.
5. Assemble the seal ring **(5)** on the axle beam with the indicated special tool and a hammer.

NOTE: *Grease carefully the seal rings.*

ATTENTION: *Assemble the seal ring **(5)** as in figure in depending of the axle type.*



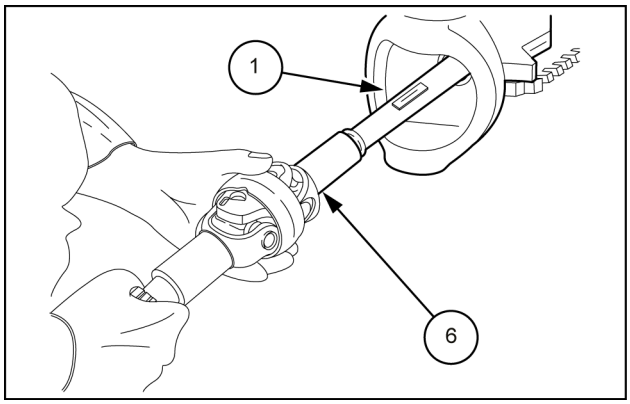
PTIL13TLB0564AB 2



PTIL13TLB0565AB 3

6. Insert the double U-Joint **(6)** inside the axle beam **(1)**.

ATTENTION: *Be careful not to damage the seal ring **(5)**.*

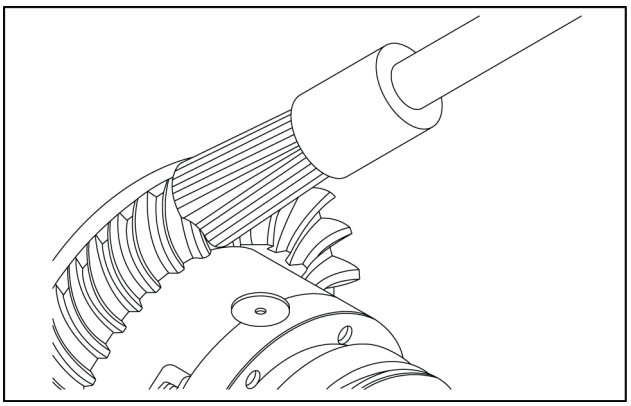


PTIL13TLB0566AB 4

Bevel gear set and differential carrier - Test

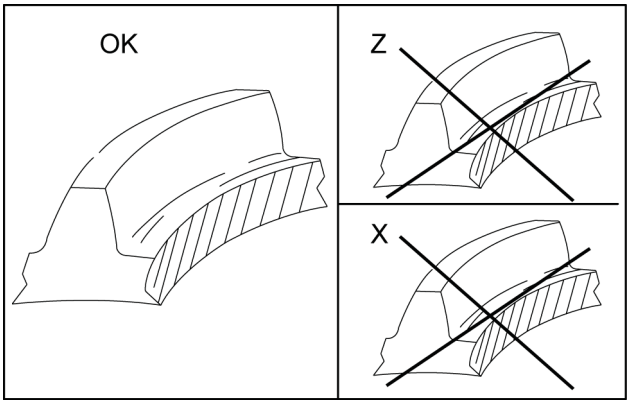
570ST	APAC --- LA --- MEA

To test the marks of the bevel gear teeth, paint the ring gear with red lead paint.
The marking test should be always carried out on the ring bevel gear teeth and on both sides.



PTIL13TLB0597AA 1

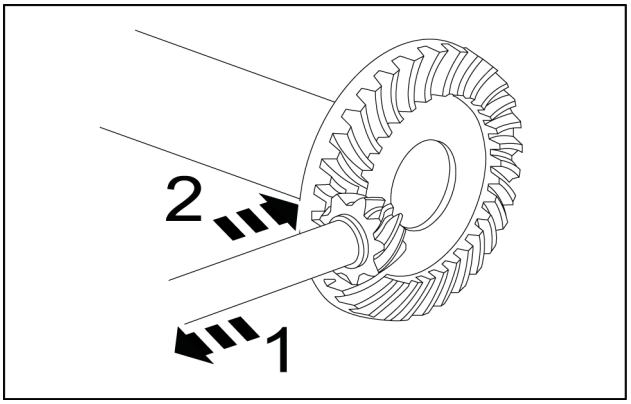
"OK" -> Correct contact:
If the bevel gear is well adjusted, the mark on the teeth surfaces will be regular.
"Z" -> Excessive contact on the tooth tip:
Approach the pinion to the ring bevel gear and then move the ring bevel gear away from the pinion in order to adjust the backlash.
"X" -> Excessive contact at the tooth base:
Move the pinion away from the ring bevel gear and then approach the ring bevel gear to the pinion in order to adjust the backlash.



PTIL13TLB0598AA 2

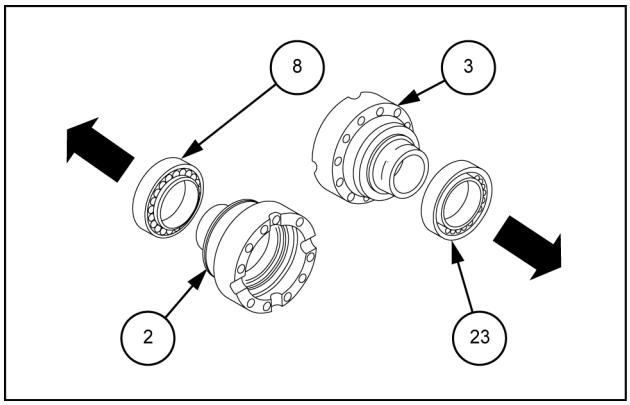
Movements to correct:

1. Move the pinion for type "X" contact adjustment.
2. Move the pinion for type "Z" contact adjustment.



PTIL13TLB0599AB 3

10. Remove the bearings cones **(8)** and **(23)** of the half boxes **(2)** and **(3)**, using two levers or a three-hold extractor.

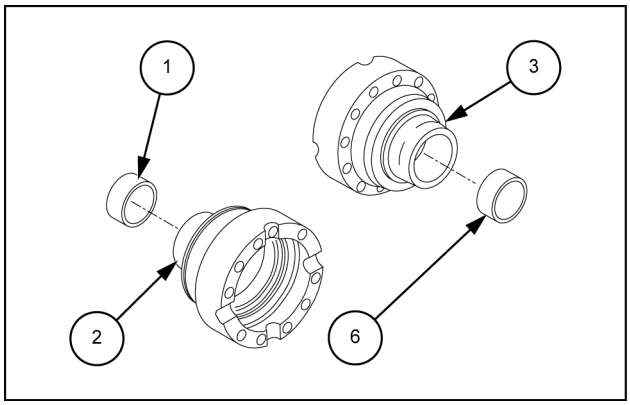


PTIL13TLB0162AB 4

11. Remove the bush **(1)** and **(6)** from the half boxes **(2)** and **(3)** only if the wear conditions require this.

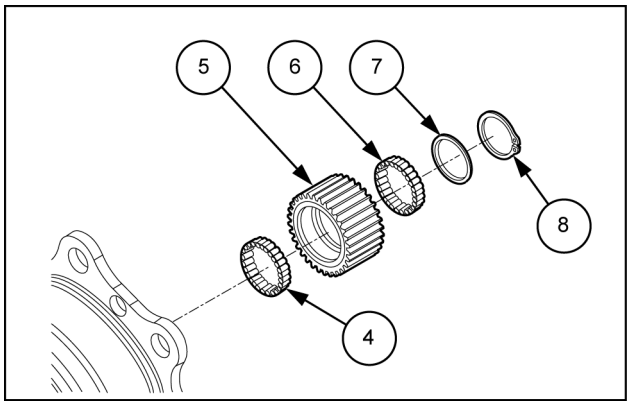
NOTE: *This is a destructive operation for the bushes.*

ATTENTION: *Be careful not to damage the bush seat.*



PTIL13TLB0163AB 5

4. If required replace the planetary gears as follows:
   - Remove the snap rings **(8)** on every pin.
   - Remove the planetary gears **(5)** from the pins.
   - Collect the needle bearings **(6)** and **(4)**, checking their conditions.
   - Collect the washer **(7)**.



PTIL13TLB0524AB 4

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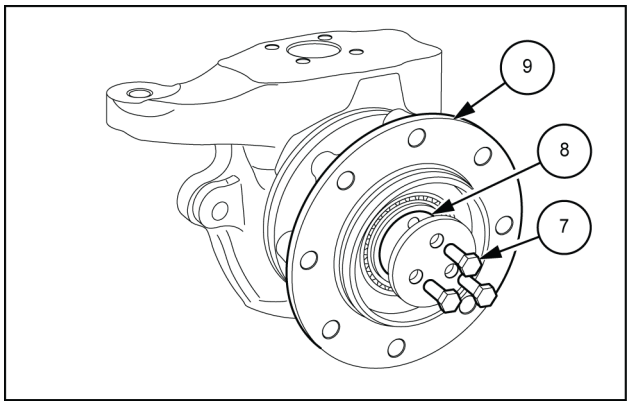
(*) See content for specific models

7. Install thrust washer and bolts.
   A. Install the thrust washer with the flat surface facing the bearing.

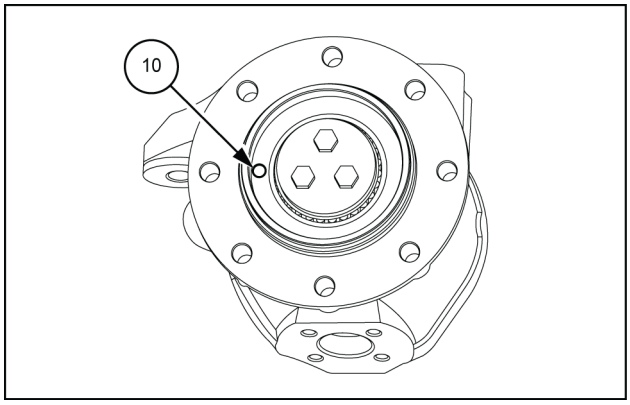
NOTE: *Ensure the mating surface **(8)** are free of dirt and debris before installing washer.*

   B. Install and tighten the 3 bolts **(7)** to **96 – 118 N·m** (**71 – 87 lb ft**) while rotating the wheel hub **(9)** at **10 RPM** at the same time.
   C. Mark each bolt after the tightening them and applying the torque.
   D. Check if the total rolling torque is in the range of **8 – 25 N·m** (**6 – 18 lb ft**).
   E. If roll torque is larger than the maximum specified torque, reinstall the washer and recheck total roll torque.
   F. If the roll torque is still out of range, repeat steps A to C with new washer



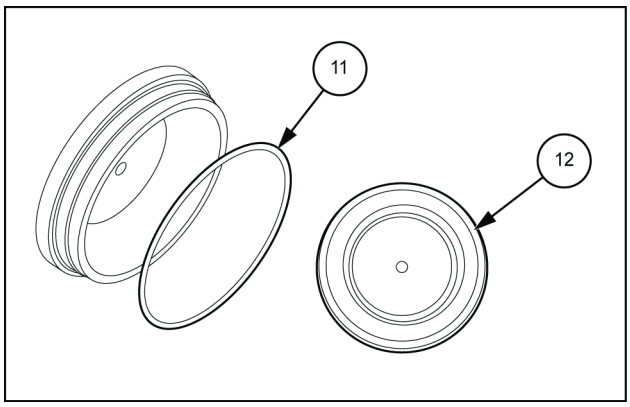
PTIL13TLB1510AB 8

8. Fill grease into cavity.
   A. Fill approximately **168.30 ml** (**5.69 US fl oz**) of #2 Moly Disulfide grease into the cavity through the hole **(10)** until grease purges from bearing rollers.



PTIL13TLB1511AB 9

9. Install O-ring onto end cover
   A. Lubricate O-ring with oil before installation.
   B. Install O-ring **(11)** onto end cover **(12)**.
   C. Pack **81.62 ml** (**2.76 US fl oz**) of #2 Moly Disulfide grease along the inner edge of the cover.



PTIL13TLB1512AB 10

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Availability of some models and equipment builds varies according to the country in which the equipment is being used. For exact information about any particular product, please consult your CASE CONSTRUCTION dealer.

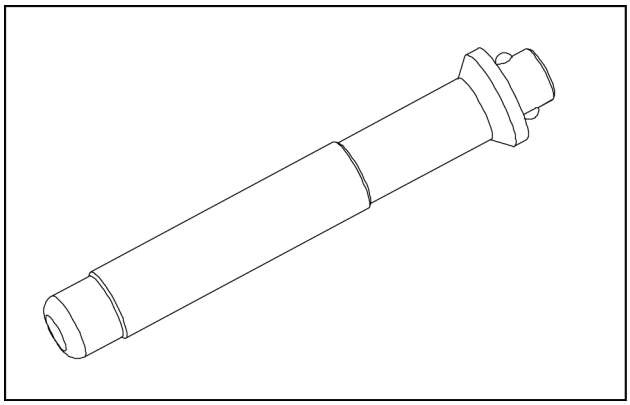
Rear axle - Special tools

570ST	APAC --- LA --- MEA

ATTENTION: *Operations described in this section of the manual must be performed using the following tools to work safely and achieve the best technical results.*

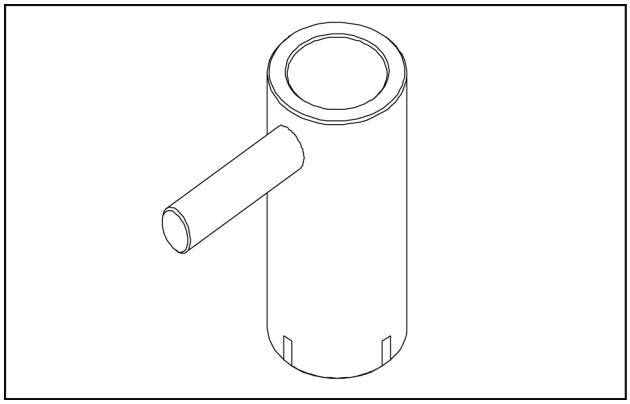
The special drifts/pad used to assembly the seals, bearings and bushes should always be used with the interchangeable handle, its use is recommended together with a suitable safety handle in order to protect the hands.

380000221 Handle



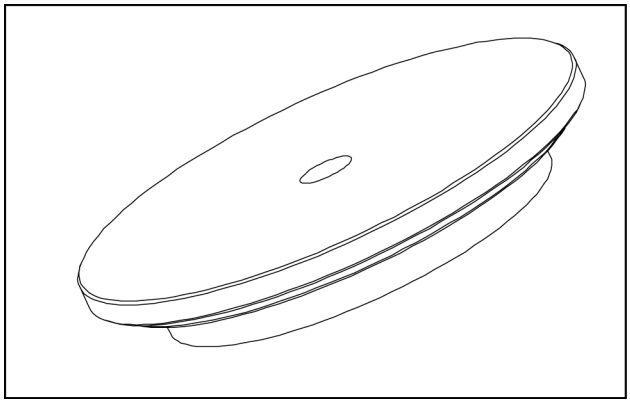
PTIL13TLB0137AA 1

380000021 Wrench



PTIL13TLB0141AA 2

380002213 Driver

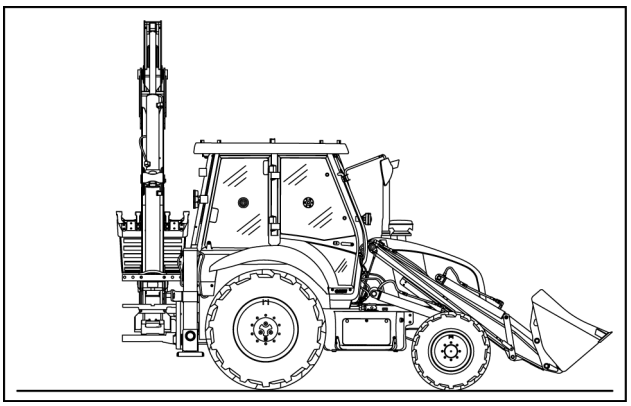


PTIL13TLB0145AA 3

Rear axle - Remove

570ST	APAC --- LA --- MEA

1. Park the equipment in travel position.
2. Lower the loader firmly on the ground.



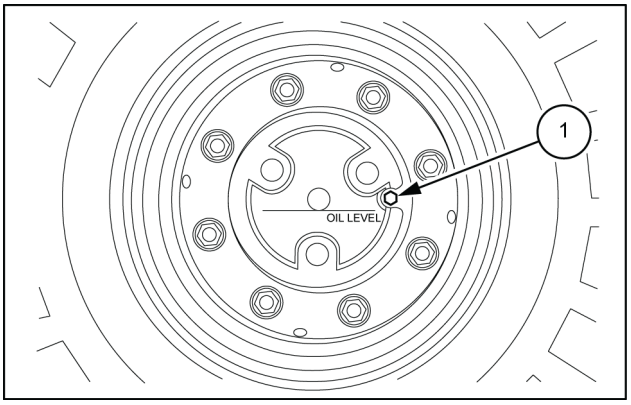
PTIL14TLB0132AA 1

3. Drain the rear axle oil through the wheel drain plug **(1)** on both the sides.

ATTENTION: *Perform service or maintenance activities only when the machine is at normal temperature. Failure to comply may result in serious burn injuries.*

NOTE: *Avoid spillage of oil on the tire or floor.*

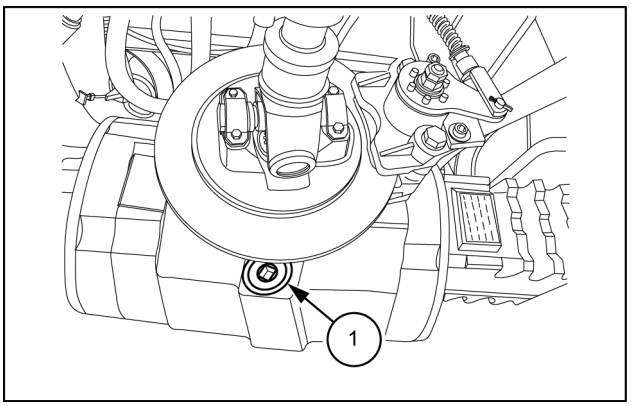
NOTE: *Ensure to tighten the drain plug immediately after draining the oil.*



PTIL12TLB0215AB 2

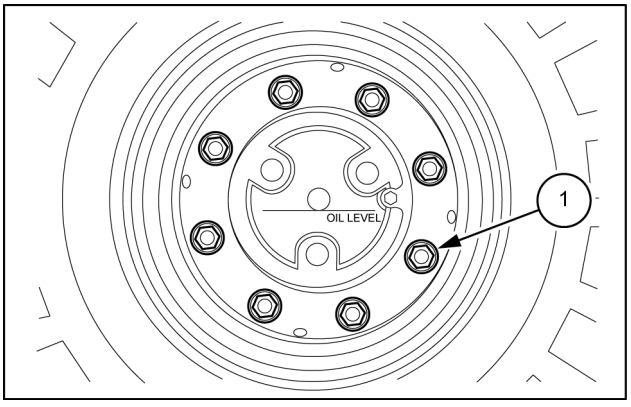
4. Loosen the drain plug **(1)** to drain and collect the differential oil in a clean container.
5. Keep all the collected differential oil in a clean and safe place.

NOTE: *Ensure to tighten the drain plug immediately after draining the oil.*



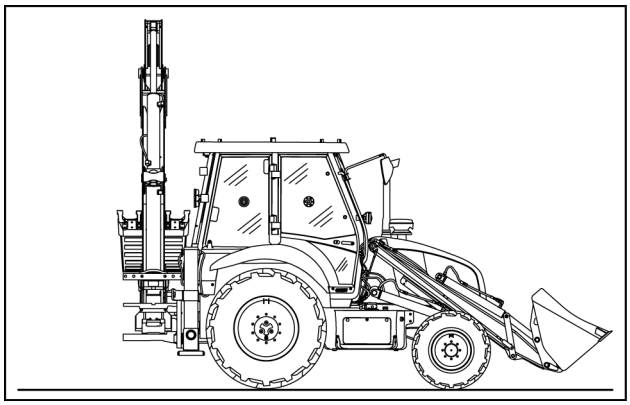
PTIL13TLB1216AB 3

6. Loosen rear wheel bolts **(1)** on both sides.



PTIL13TLB1219AB 4

11. Connect the battery negative terminal. **Basic instructions ()** .
12. Perform brake bleeding. Refer to **Brakes - Bleed - Removing air from the brake system (33.202)**.
13. Switch on the engine and free the machine by raising the loader attachments.



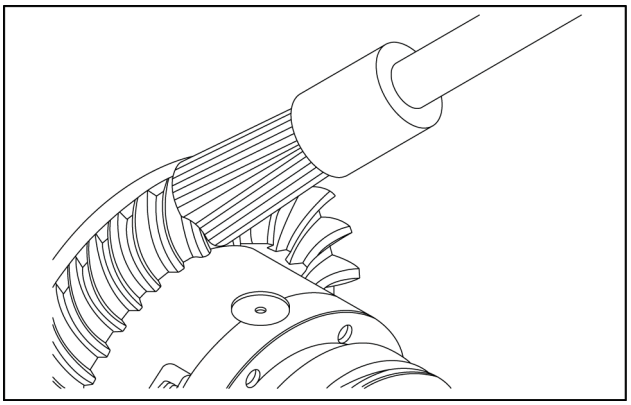
PTIL14TLB0132AA 9

Bevel gear - Test

570ST	APAC --- LA --- MEA

NOTE: *To test the marks of the bevel gear teeth, paint the ring gear with red lead paint.*

The marking test should be always carried out on the ring bevel gear teeth and on both sides.



PTIL13TLB0101AA 1

OK →Correct contact:

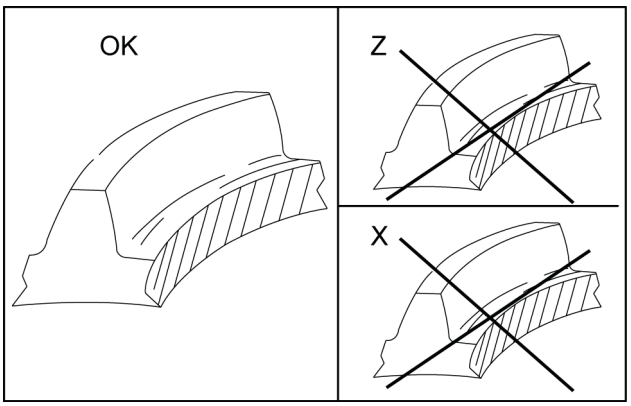
If the bevel gear is well adjusted, the mark on the teeth surfaces will be regular.

Z → Excessive contact on the tooth tip:

Approach the pinion to the ring bevel gear and then move the ring bevel gear away from the pinion in order to adjust the backlash.

X → Excessive contact at the tooth base:

Move the pinion away from the ring bevel gear and then approach the ring bevel gear to the pinion in order to adjust the backlash.

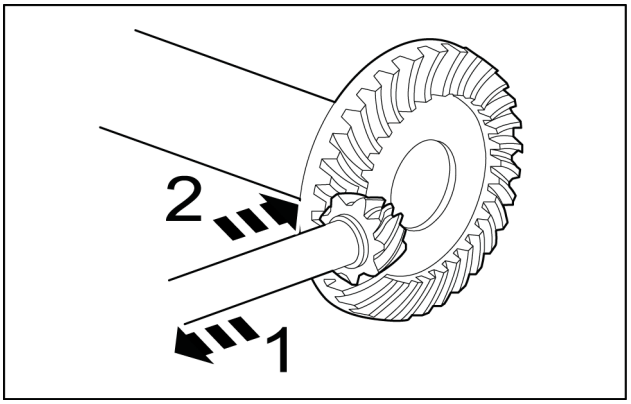


PTIL13TLB0102AA 2

Movements to correct:

1 →Move the pinion for type X contact adjustment.

2 →Move the pinion for type Z contact adjustment.



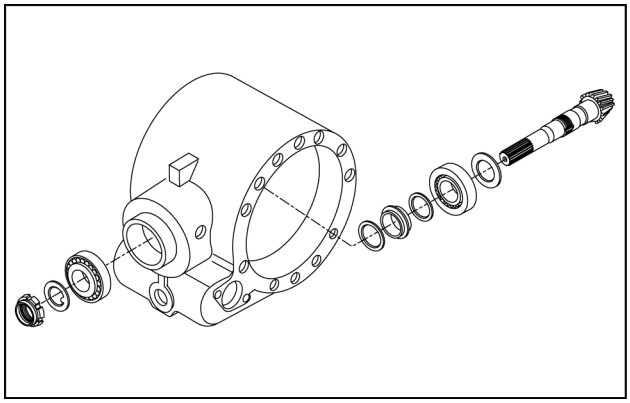
PTIL13TLB0103AB 3

Differential - Assemble

570ST	APAC --- LA --- MEA

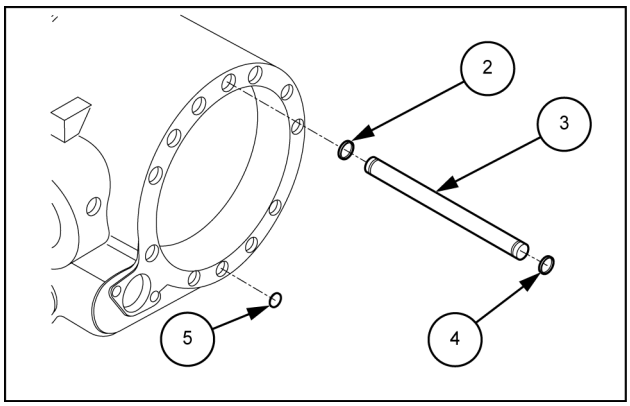
Refer **Differential - Component identification (27.106)**

1. Assemble the pinion group before assemble the differential support group. See **Bevel pinion - Assemble (27.106)**.



PTIL13TLB0084AA 1

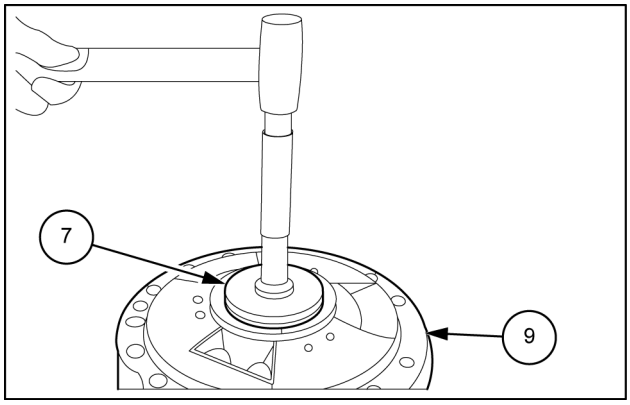
2. Lubricate and assemble new O-rings **(2)** and **(4)** on the pipe **(3)**.
3. Insert the pipe **(3)** into the central body **(1)**.
4. Lubricate and assemble new O-ring **(5)** on every side of the central body **(1)**.



PTIL13TLB0085AB 2

5. Position the brake cylinder **(9)** on a flat surface and force the bearing cup **(7)** using the special tool **380200397**.

ATTENTION: *Do not invert the bearing cups if the bearings are not replaced.*



PTIL13TLB0087AB 3

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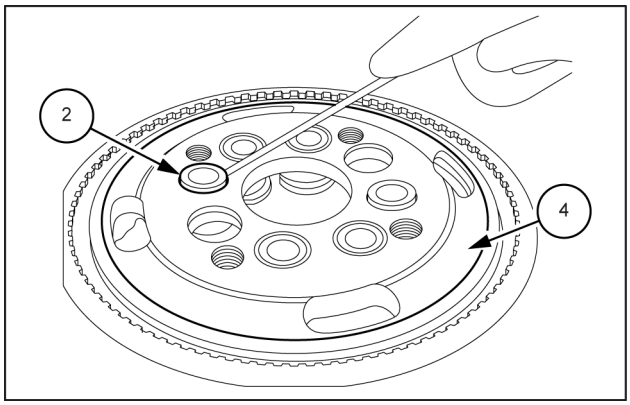
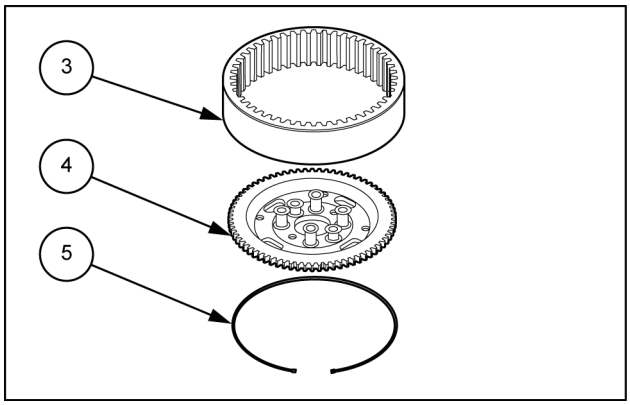
(*) See content for specific models

5. Position the wheel carrier **(4)** on a workbench and force the bushes **(2)** to the carrier surface level with the special tool **380002213**.
6. At least two bushes **(2)** (diametrically-opposed) must be set slightly higher than the carrier surface level to be used as dowel pins.



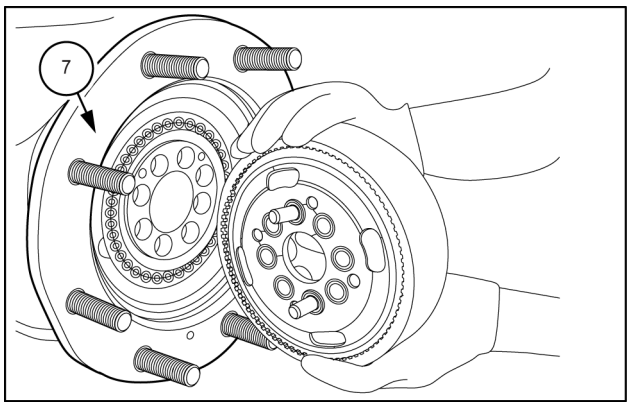
PTIL13TLB0040AB 4

7. Preassemble the wheel carrier **(4)** and the epicyclic ring gear **(3)** with the locking ring **(5)**.



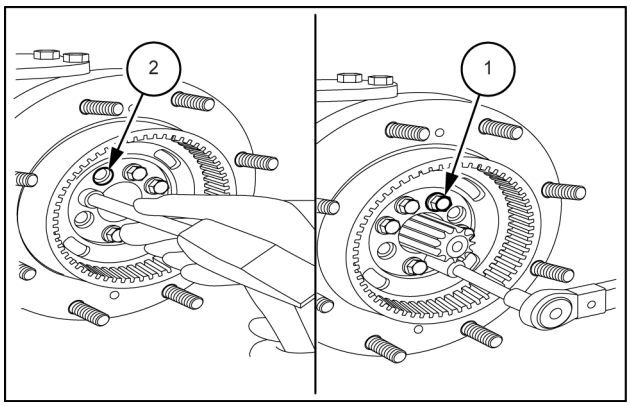
PTIL13TLB0041AB 5

8. Assemble the wheel carrier group on the wheel hub **(7)** using the two projecting bushes **(2)** as dowel pins and screw the relative bolts **(1)** in order to put in contact the wheel carrier **(4)** with the wheel hub **(7)**.



PTIL13TLB0042AB 6

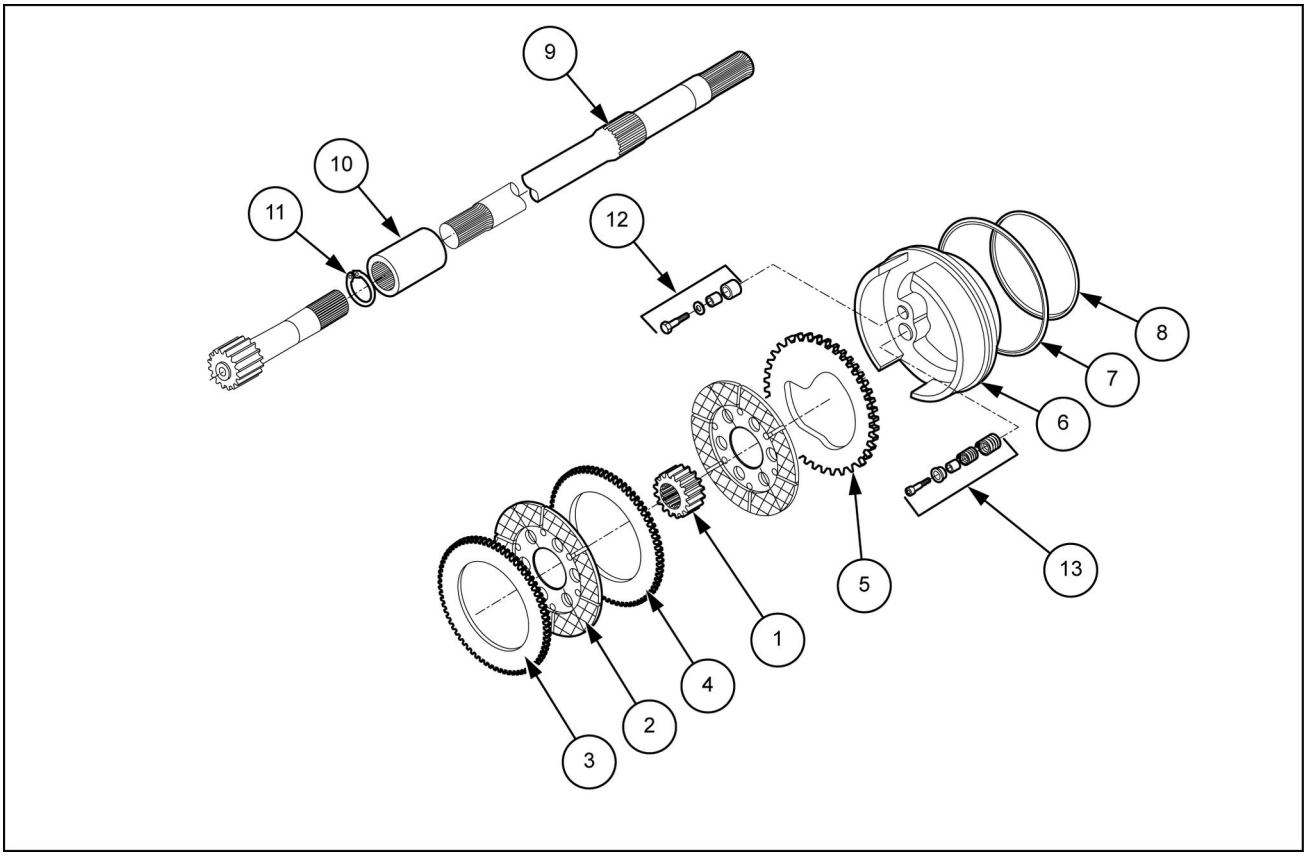
9. Force all the hub dowel bushes **(2)** completely with the special tool **380002213** and a hammer.
10. Screw the fastening bolts **(1)** and tighten them to the requested torque. Insert the half shaft in the axle beam.



PTIL13TLB0043AB 7

Brakes - Component identification

570ST	APAC --- LA --- MEA

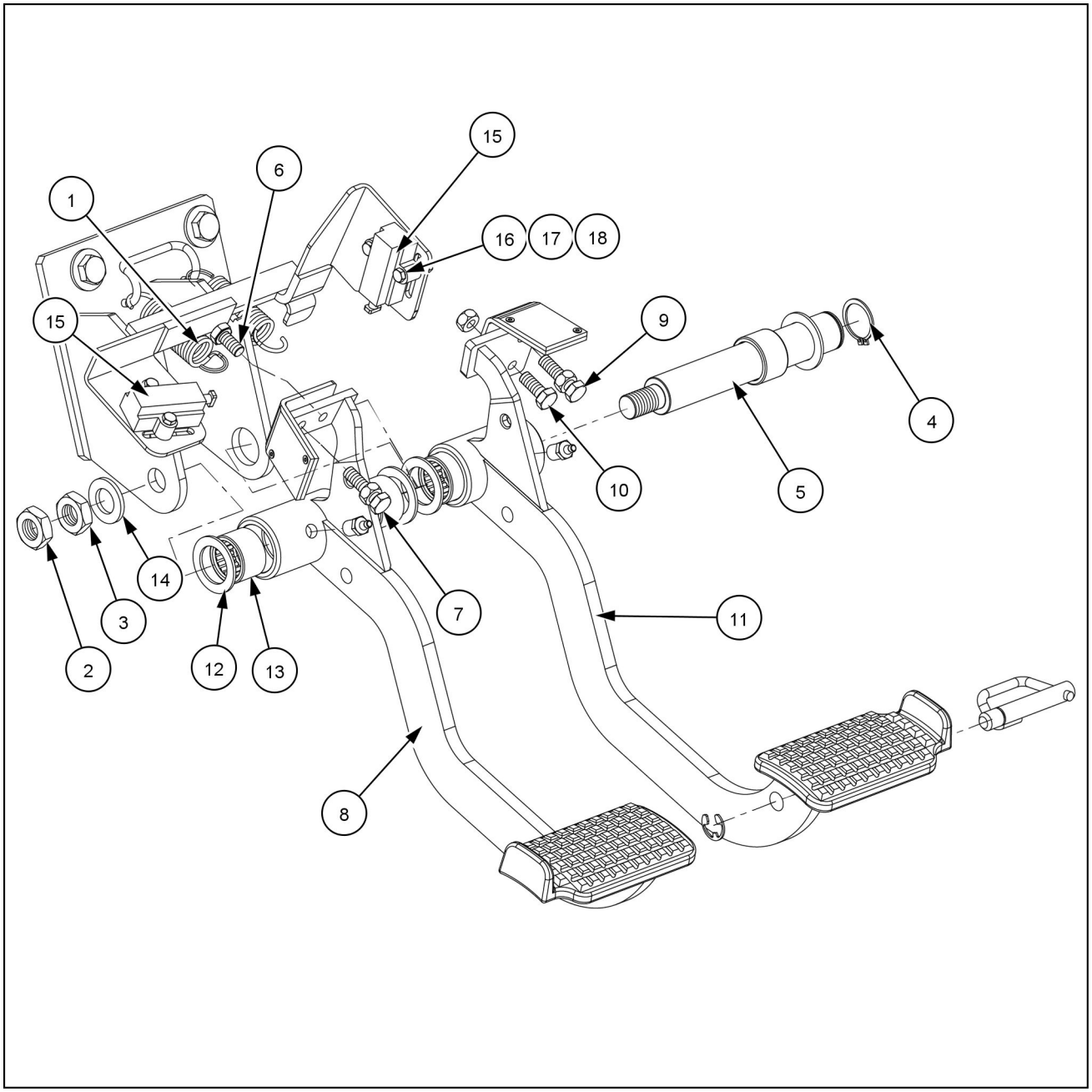


PTIL13TLB1746FB 1

1. Hub
2. Brake disc plate
3. Brake drive plate
4. Brake large plate
5. Brake drive plate
6. Brake piston
7. O-ring
8. O-ring
9. Half shaft
10. Bush
11. Snap ring
12. Self-adjust kit
13. Brake mechanism return kit

Brake pedals - Assemble

570ST	APAC --- LA --- MEA



PTIL18TLB0010GA 1

1. Install the left-hand side brake pedal **(8)** on the brake pedal mounting bracket and hand tighten the bolts **(6)** and **(7)**. Tighten the bolt **(6)** to **28.80 N·m** (**254.90 lb in**).
2. Install the right-hand side brake pedal **(11)** on the brake pedal mounting bracket and hand tighten the bolts **(9)** and **(10)**. Tighten the bolt **(10)** to **28.80 N·m** (**254.90 lb in**).
3. Install the brake pedal shaft **(5)** along with four washers **(12)** and needle bearing **(13)**. See image **1**.
4. Insert the circlip **(4)** on the brake pedal shaft **(5)**.

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570ST Four-Wheel Drive (4WD), 72kW Tier 3, Side shift
570ST Four-Wheel Drive (4WD), 96hp Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 72kW Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 96hp Tier 3, Side shift

Hydraulic systems - Static description - Cylinders

570ST	APAC --- LA --- MEA

Do’s

1. Use soft lint-free cloth, never use cotton waste it may contain metal chips which will damage working surface of the components.
2. Periodically clean the dust/mud accumulated on wiper seals.
3. Use appropriate tools to service hydraulic cylinder.
4. Clean the stabilizer box periodically.
5. Ensure that the oil is in cold condition before opening the cylinder.
6. Ensure that the cylinder is assembled and disassembled in clean dust free atmosphere.
7. Ensure usage proper lifting tackles (rope, belts, etc.) while handling the cylinder.
8. Apply hand brake while excavation.
9. Apply grease on extended piston rod, if any welding is being carried out near the cylinder. This is to avoid welding spatters from getting stuck on the piston rod surface. Wipe off the grease after welding is completed.
10. Before replacing new rubber components like O-ring and seals, immerse in hydraulic oil and then replace.
11. Use only the specified grade (**ISO VG-46**) of oil to avoid malfunctioning of the product and for optimum.
12. Safety and performance.
13. Use Grease gun to ensure proper greasing and apply grease at all the greasing points periodically.
14. Ensure that there are no obstructions at the working area like electrical line, inflammable material, etc.
15. Check and tighten the hydraulic fittings, bolts and nuts periodically.
16. Check the hydraulic oil contamination and change if required. Maximum oil contamination allowed in system is NAS 11 or ISO 20/17.
17. Check the filter elements and change if necessary.
18. Check the oil level in the hydraulic tank regularly and fill it to the recommended level, if required.

Dont’s

1. Don’t operate the machine beyond the specified load/pressure limit.
2. Don’t use the bucket to push rocks, boulders, etc.
3. Don’t move the machine when the stabilizer cylinders are in extended position.
4. Don’t load the bucket unevenly.
5. Don’t work under an unsupported shovel.
6. Don’t use the hydraulic cylinder as a conductor for welding purpose.
7. If you have to weld on structure connect earth wire to the structure only not on the chassis.
8. Earth must be given close to the point of welding.
9. Don’t paint on the working surface of the piston rods and wiper seal.
10. Don’t change the relief pressure setting on the control valve.
11. Don’t operate on uneven and soft ground.
12. Don’t heat hydraulic cylinder while dismantling.
13. Don’t open hydraulic connections without releasing the system pressure.
14. Don’t carry out welding without removing the battery terminals.

Test 3d

Continue to run the engine at **2000 RPM**. Slowly close the load valve until the pressure is **138 bar** (**2001 psi**), read the flow gauge and record the reading on line 3d on the check sheet. Divide the flow reading at **138 bar** (**2001 psi**) 3d by the flow reading at **0 bar** (**0 psi**) i.e. 3c.

NOTE: *This answer multiplied by 100 is the percent efficiency of the front pump. If the efficiency of the front pump is less than 70 percent, repair or replace the pump. If the efficiency of the pump is more than 70 percent, the pump is good.*

Loader control valve leakage

Continue to run the engine at **2000 RPM** and increase pressure on flowmeter to **138 bar** (**2001.00 psi**).

Test 4a

Hold the loader in the raised position. Record l/min (gpm) on line 4a on check sheet.

Test 4b

Lower the loader and hold the loader in the lower position. Record l/min (gpm) on line 4b on check sheet.

Test 4c

With the loader approximately eighteen inches from the ground, hold the bucket in the rollback position. Record l/min (gpm) on line 4c on check sheet.

Test 4d

Hold the bucket in the dump position. Record l/min (gpm) on line 4d on check sheet.

Test 4e

Hold the clam in the open position. Record l/min (gpm) on line 4e on check sheet.

Test 4f

Close and hold the clam in the closed position.

Record l/min (gpm) on line 4f on check sheet.

NOTE: *If flow reading between test 3b and tests 4athrough 4f varies more that **4.55 L/min** (**1 US gpm**) there is a problem in that circuit.*

Backhoe control valve leakage

Continue to run the engine at **2000 RPM** and the flowmeter at **138 bar** (**2001.00 psi**). Hold each function on demand at the end of the stroke.

Test 6a

Swing the backhoe to the left. Record l/min (gpm) on line 6a on the check sheet.

Oil reservoir - Testing - Hydraulic oil reservoir

570ST	APAC --- LA --- MEA
ST Series	APAC --- LA --- MEA

Test N°1	
Test Point	**Condition** Visually check the machine for oil leakage and damaged or missing parts. Repair or replace any damaged or missing parts **Check** Check the oil level in the hydraulic reservoir. Is the oil level correct?
Expected Result	**Result** Yes, verify correct movement of the controls. Check the operation of the machine, does the machine operate correctly
Other Result (Possible Cause)	**Action** Fill the hydraulic reservoir with the oil

Test N°2	
Test Point	**Check** Does the machine operate correctly?
Expected Result	**Result** Yes, troubleshooting complete
Other Result (Possible Cause)	**Action** Heat the oil in the hydraulic system to operating temperature. Operate the machine to find which circuits have problems

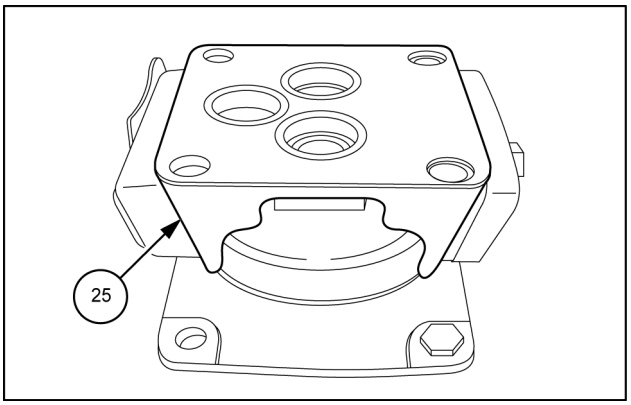
Pump - Prepare - Work surface

570ST	APAC --- LA --- MEA

Hydraulic pumps are precision machined components and must be handled appropriately. Before beginning any pump disassembly or repair procedures, clean the work area thoroughly of all contaminates. It is advised that clean towels, paper towels or cardboard be placed on the workbench to provide a clean work surface. The work area should be free of blowing dust, welding sparks or anything that could contaminate the pump components. If any pump component must be cleaned, use a clean solvent from a can such as brake or carburettor cleaner. Use of typical shop parts washers is not advised due to containments in the cleaning fluid.

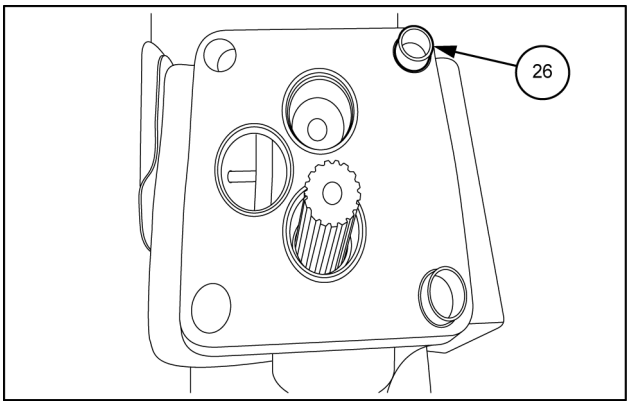
NOTE: *Pump to be dismantled in dust free environment only to avoid external contamination.*

4. Place the pump body **(25)** with the O-ring groove first.



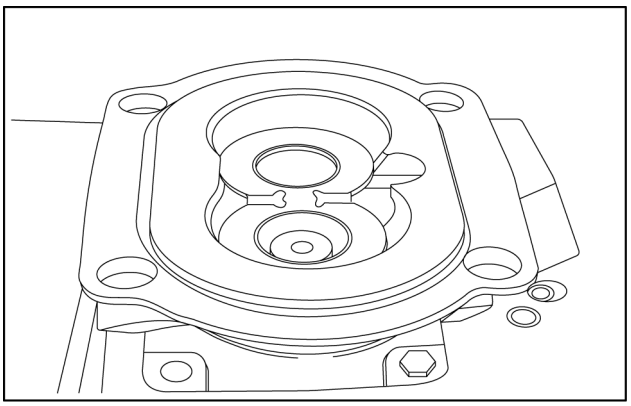
PTIL13TLB1022AB 5

5. Then place the dowel seal **(26)**.



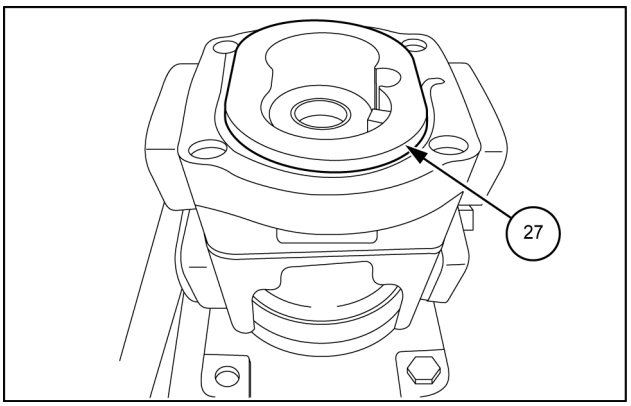
PTIL13TLB1023AB 6

6. Place the coupler.



PTIL13TLB1024AA 7

7. Place the second body **(27)**.



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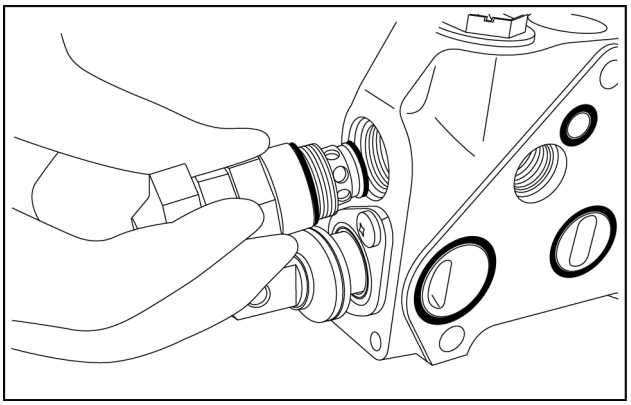
Main control valve - 359

(*) See content for specific models

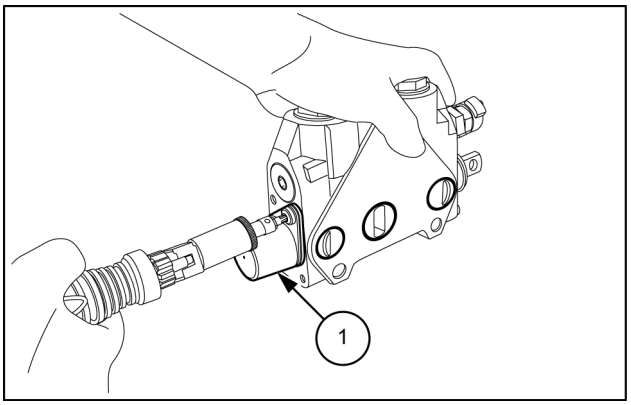
12. Check the valve seals and replace if necessary.



PTIL13TLB1699AA 12

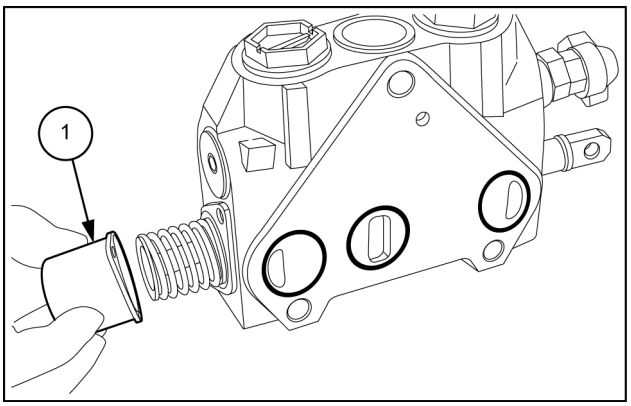
Bottom dump bucket spool removal

13. Remove the cover screws **(1)** using trox screw driver.



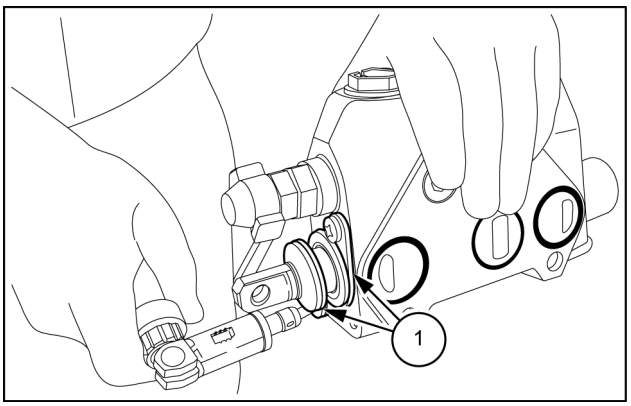
PTIL13TLB1700AB 13

14. Remove the cover **(2)** from the section.



PTIL13TLB1707AC 14

15. Unscrew and remove the bellows kit **(1)** from the other end.



PTIL13TLB1702AB 15

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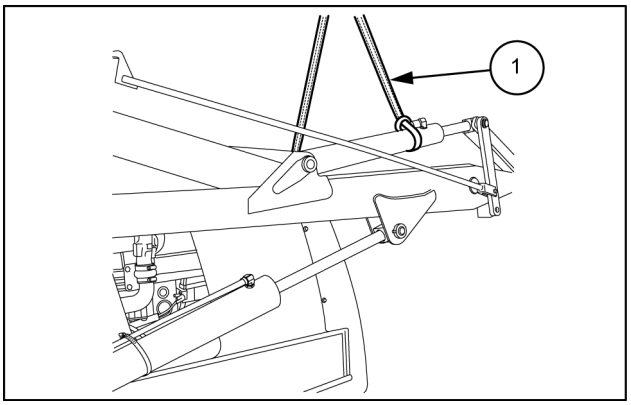
Front loader arm hydraulic system - 701

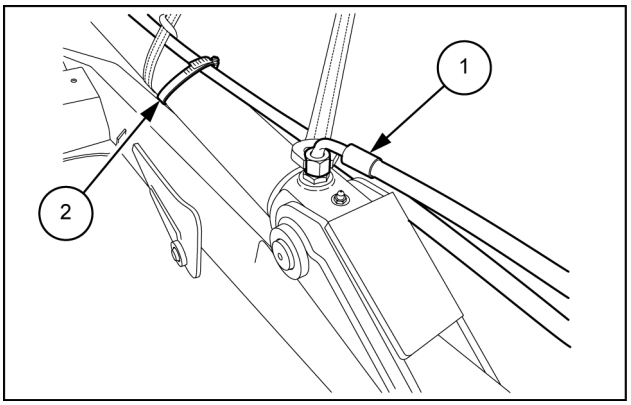
570ST Four-Wheel Drive (4WD), 72kW Tier 3, Side shift
570ST Four-Wheel Drive (4WD), 96hp Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 72kW Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 96hp Tier 3, Side shift

1. Raise the loader.
2. Attach a suitable lifting device **(1)** to the loader cylinder on both sides.



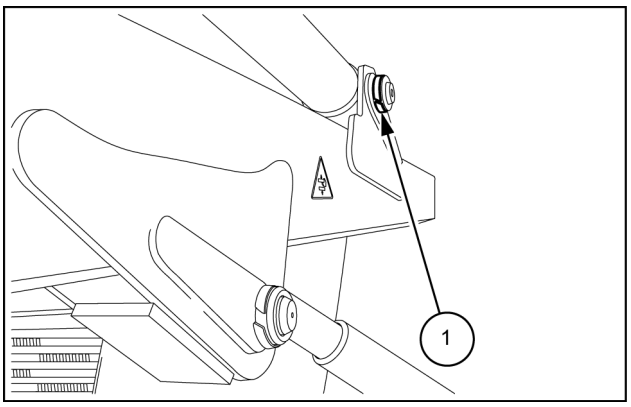
PTIL13TLB0477AB 1

3. Disconnect the hydraulic lines **(1)** from the cylinders and cap them immediately after removing the clamp **(2)**.



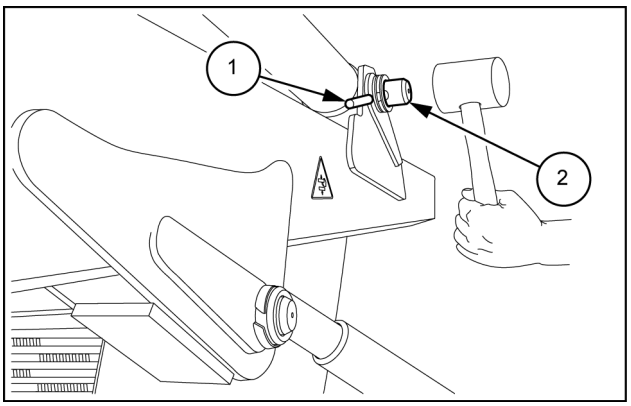
PTIL13TLB0478AB 2

4. Remove the wear ring **(1)** from both sides.



PTIL13TLB0480AB 3

5. Tap and remove the cotter pin **(1)** using a wooden hammer.
6. Now tap and remove the pivot pin **(2)** from the connecting link.

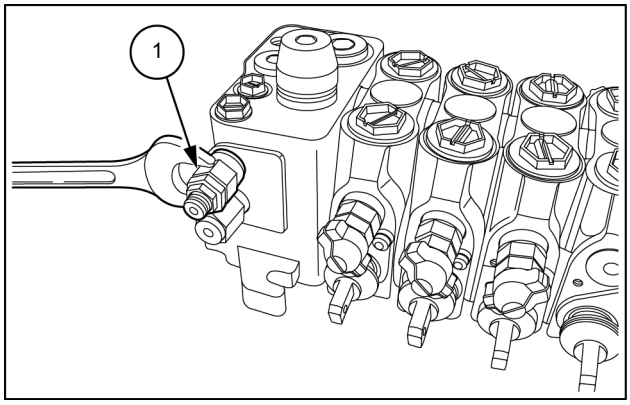


PTIL13TLB0481AB 4

Excavator and backhoe hydraulic controls - Disassemble

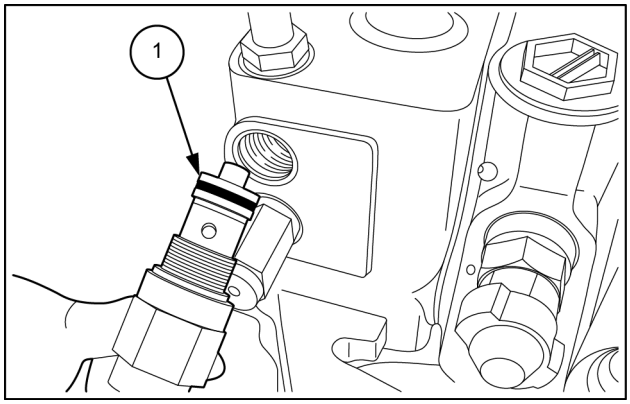
570ST	APAC --- LA --- MEA
ST Series	APAC --- LA --- MEA

1. On the inlet element, unscrew the LS pressure relief valve **(1)**.



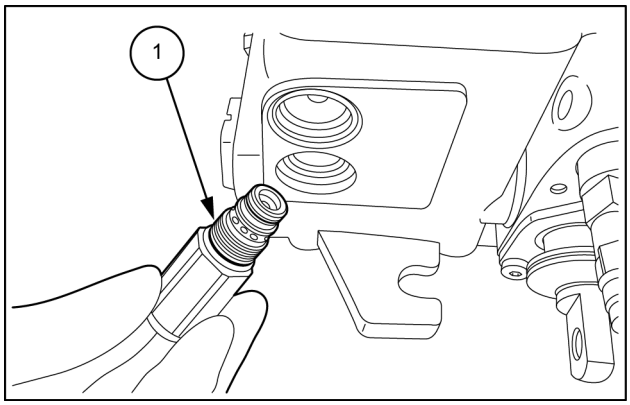
PTIL13TLB1734AB 1

2. Remove the valve and clean it properly **(1)**. If necessary fit a new locking cover.



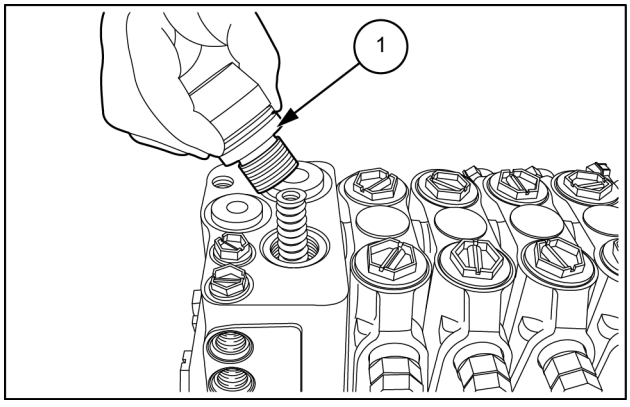
PTIL13TLB1735AB 2

3. Unscrew and remove the flow adaptor **(1)**. Replace the filter if necessary.



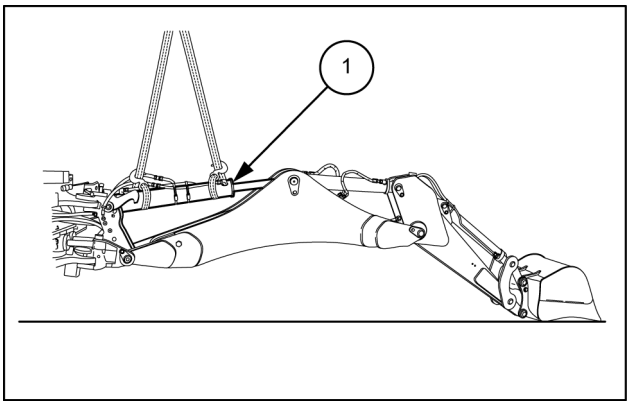
PTIL13TLB1738AB 3

4. Dismantle the flow balancing valve by removing the plug **(1)**.



PTIL13TLB1740AB 4

5. Release the lifting device from the boom cylinder **(1)**.



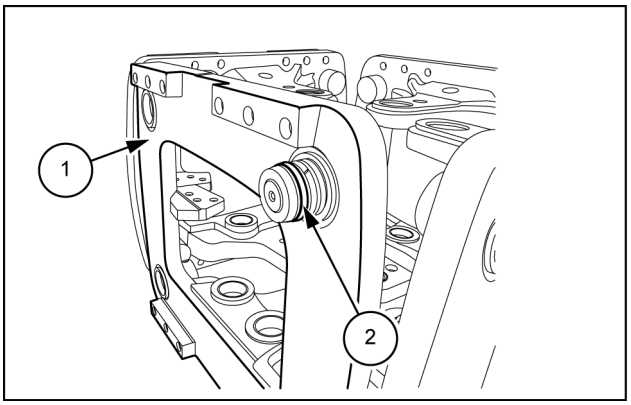
PTIL13TLB0454AB 5

Hydraulic systems - 35

Excavator and backhoe bucket hydraulic system - 738

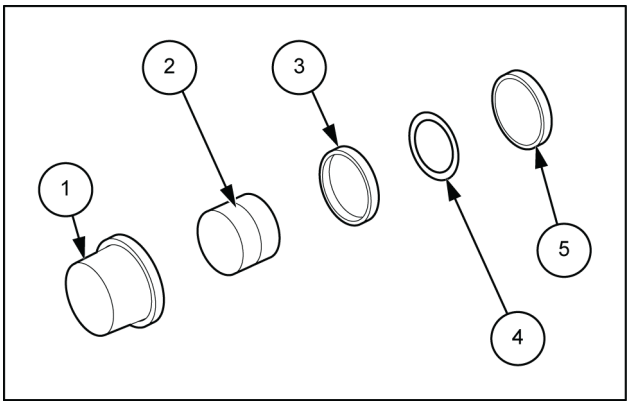
570ST Four-Wheel Drive (4WD), 72kW Tier 3, Side shift
570ST Four-Wheel Drive (4WD), 96hp Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 72kW Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 96hp Tier 3, Side shift

9. Remove the piston **(2)** and keep separately for reuse. with O-rings from the frame **(1)**.



PTIL13TLB1450AB 4

10. Each piston **(2)** in the locking barrel **(1)** has got 2 O-rings **(4)** and 2 paraback rings **(3)** and a cap **(5)** .



PTIL13TLB1555AB 5

Hydraulic systems - 35

Hydraulic systems generic sub-group - AAA

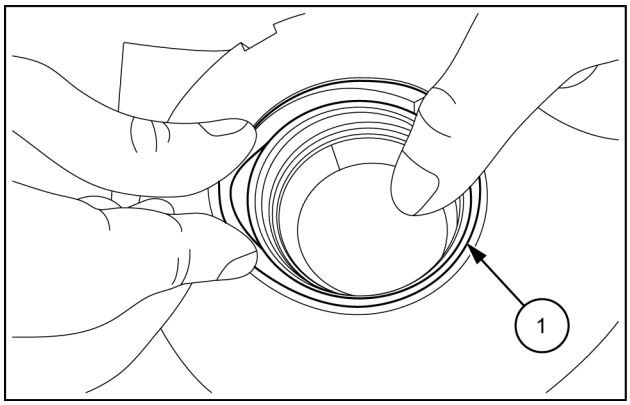
570ST Four-Wheel Drive (4WD), 72kW Tier 3, Side shift
570ST Four-Wheel Drive (4WD), 96hp Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 72kW Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 96hp Tier 3, Side shift

Hydraulic systems generic sub-group - Assemble - Slew cylinder

570ST	APAC --- LA --- MEA
ST Series	APAC --- LA --- MEA

1. Assemble the rod seal, wiper, O-ring and backup ring in the head end cover. Ensure that seal lips face against pressure side.
2. Smear little hydraulic oil inside the head end cover (rod seal and wiper area). Gently insert sub-assembled HEC on to the piston rod. Ensure that seal lip is not reversed or twisted during assembly.
3. Check for smooth movement of head end cover on piston rod.
4. Gently insert the cushioning cartridge in to the piston rod cushioning hole.
5. Apply **LOCTITE® 262™**/ Anabond 115 on piston threads, engage the piston with piston rod threads and tighten the same to the specified torque by using torque wrench.
6. Assemble piston seal and O-ring gently. Ensure that during assembly seal is not expanded more.
7. Apply **LOCTITE® 242®**/ Anabond 118 on grub screw and tighten the same on piston. Assemble the bearing strips.
8. Hold the tube s/a on bench wise, smear little hydraulic oil inside the tube s/a.
9. Apply hydraulic oil on piston seals and petroleum jelly on head end cover O-ring and insert the piston rod s/a into the tube s/a. Tap the head end cover gently during entry into the tube. Ensure that head end cover O-ring is not cut during entry.
10. Caulk the head end cover effectively.

8. Put the Wiper seal **(1)** in the groove of the gland and set it uniformly in the gland id groove.

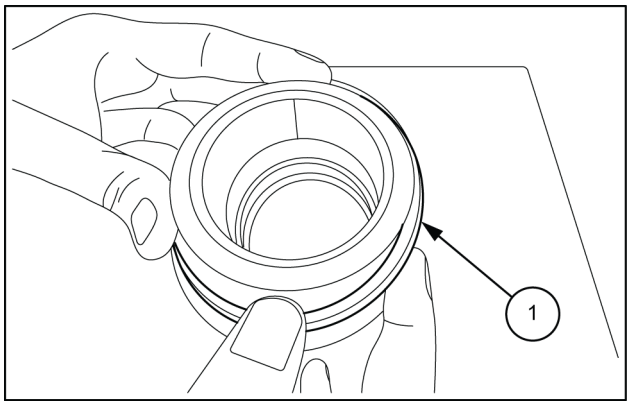


PTIL13TLB1073AB 8

9. Now after putting all the seals in the inside of the gland, Put the backup ring **(1)** in the outer groove of the cylinder with hand and set it properly in the outer groove.

   Ensure the following:

   A. No chips and no burr on gland seat.
   B. No chattering mark in rod seal groove.
   C. Seal should not be damaged while inserting.
   D. Back up ring should not get twist in this process.

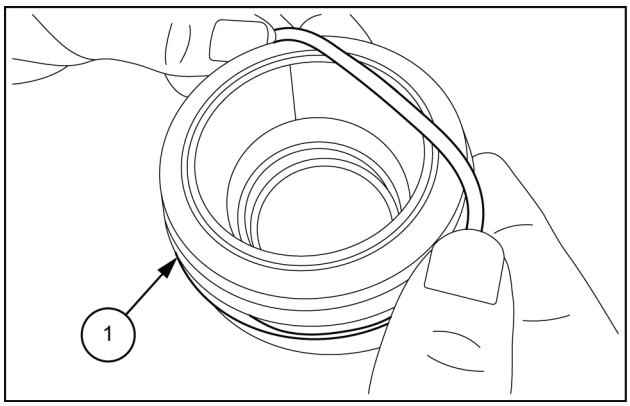


PTIL13TLB1075AB 9

10. Insert the O-ring **(1)** in the outer groove of the gland, Put the O-ring in the same groove in which back up ring is fitted. Set the O-ring uniformly in the groove.

    Ensure the following:

    A. No chips and no burr on gland seat.
    B. O-ring should be without defect.
    C. O-ring should not be damaged while inserting.
    D. O-ring must sit inside the grooves properly.
    E. O-ring should not get twisted

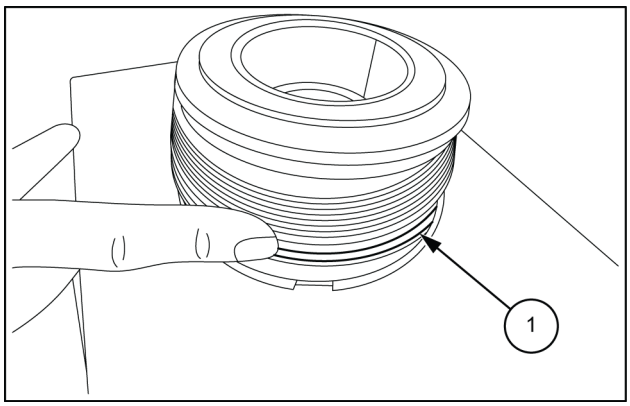


PTIL13TLB1076AB 10

11. Insert the O-ring **(1)** in the outer groove of near gland collar for dust & moisture. Set the O-ring uniform in the groove.

    Ensure the following:

    A. O-ring must sit inside the groove properly.
    B. O-ring should not get twisted.



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Hydraulic systems generic sub-group - Troubleshooting

570ST	APAC --- LA --- MEA
ST Series	APAC --- LA --- MEA

Problem	Possible Cause	Correction
Rod seal leakage	Excessive Seal wear	Check oil contamination and change, if required
	Piston rod scored	Apply emery, if scoring is mild. Replace the piston rod, if the scoring is deep
	Weld arcing	Replace the piston rod*
	Seal assembled wrongly	Replace the seal kit and assemble the seal in right direction*
	Piston rod bend	Reset the system pressure, if it is malfunctioning and replace the piston rod*
	Oil temperature high	Air bleed the system properly and change the oil if contaminated*
Internal leakage	Scoring in tube ID	Check for side loads on cylinder (Wear on rod eye/CEC face) and adjust alignment suitably. Change tube s/a if badly scored*
	Tube ID rusting	Remove the rust with emery, change tube s/a, if rust is more
	External damage	Replace the outer tub
	Air in hydraulic circuit	Air bleed the hydraulic system
	Piston seal damaged	Replace the complete seal kit*
Tube ID scored	External damage on tube	Replace the tube s/a and other damaged components
	Piston rod bend	Check the system pressure and replace the PR s/a*
	Foreign particles in the system	Check the filter and oil, replace if required
	Filter ineffective/clogged	Replace the filter
	Excessive clearance at mountings	Add shims and align the axis suitably
External leakage (Other than Rod seal)	Seal wrongly assembled	Change the seal kit*
	Weld leakage	Rework or replace the component, if it is not re-workable*
	Leakage through casting	Change the defective component*
	Ineffective sealing due to rust in the cylinder ID	Rework by emery or replace the failure component
Piston rod bend / Break	Excessive system pressure	Check and reset the system pressure, if required*
	More than recommended load applied	Use the system with in recommended load. Educate the operator
	Excessive side loads	Check the condition of bushes, pins, shims and replace if required
	External damage	Change the piston rod assembly*
Plating defects	Rust on rod due to accumulation of mud on piston rod	Clean the mud periodically from the piston rod
	Peel off due to piston rod exposure to chemical environment	Protect the piston rods from chemical attach. Apply petroleum jelly when the machine is not in use for more period
	Weld arcing	Apply grease on piston rod when carry out welding near rod
Hydraulic operation slow	System pressure setting too low	Check and reset recommended system pressure
	Auxiliary relief valve pressure setting too low	Reset the ARV pressure setting
	MPRV stuck	Remove and clean the MPRV then reset system pressure
	Hydraulic oil contamination or incorrect grade of oil used	Clean the system properly and change the hydraulic oil

Frames and ballasting - 39

Stabilizers - 129

570ST Four-Wheel Drive (4WD), 72kW Tier 3, Side shift
570ST Four-Wheel Drive (4WD), 96hp Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 72kW Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 96hp Tier 3, Side shift

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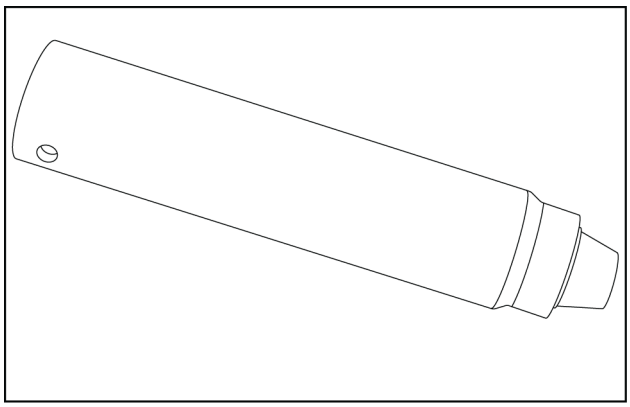
Assembly tool for lip seal



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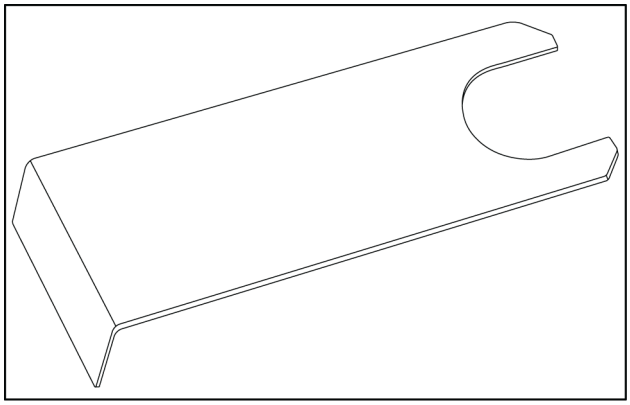
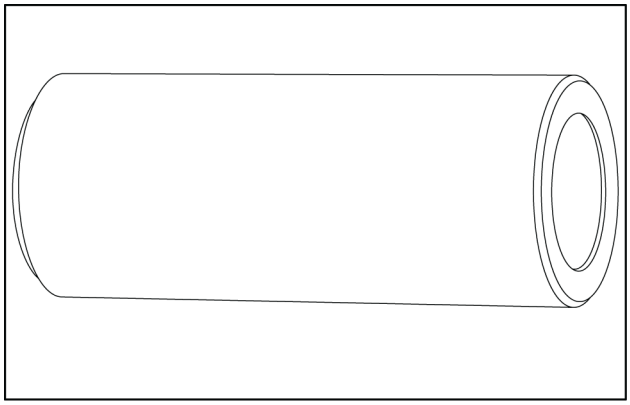
Assembly tool for cardan shaft



PTIL13TLB1110AA 5

Assembly tool for dust seal



PTIL13TLB1111AA 6

Torque wrench **0 – 70 N·m**

Socket spanner **13 mm**

Sockets **6.8 mm** and **12 mm**

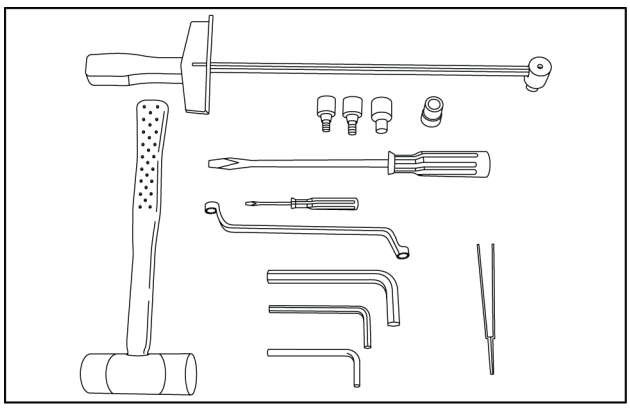
Screwdrivers **12 mm** and **2 mm**

Ring spanner **13 mm**

Socket spanners **6.8 mm** and **12 mm**

Plastic hammer

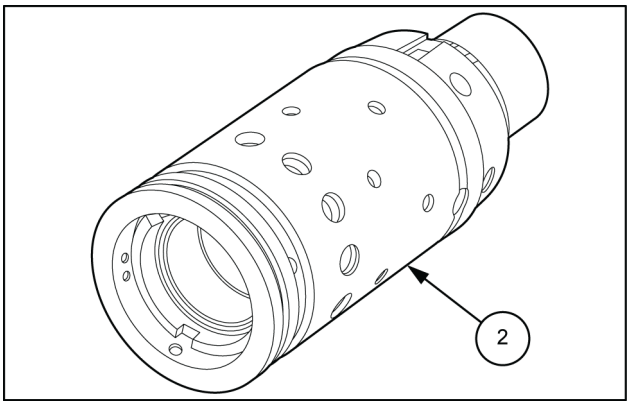
Tweezers



PTIL13TLB1112AA 7

Assemble spool and sleeve

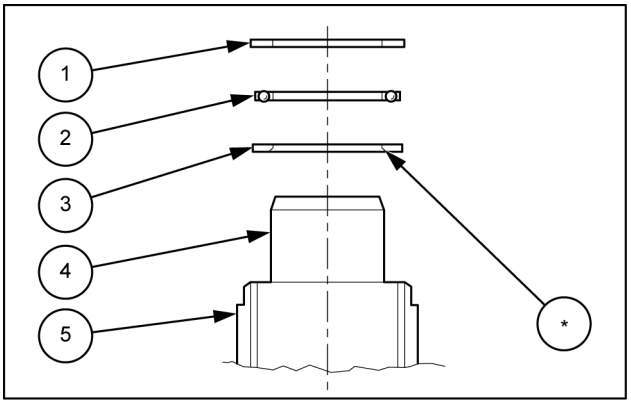
NOTE: *When assembling spool* ***(2)****and sleeve, only one of two possible positions to set the spring slots. There are three slots in the spool* ***(2)*** *and three holes in the sleeve; in the end of the spool/sleeve opposite to the end with spring slots. Put the slots and holes opposite each other for you to see the parts of the holes in the sleeve through the slots in the spool* ***(2)****.*



PTIL13TLB1142AB 5

Assembly pattern for standard bearing

1. Outer bearing race
2. Needle bearing
3. Inner bearing race
4. Spool
5. Sleeve

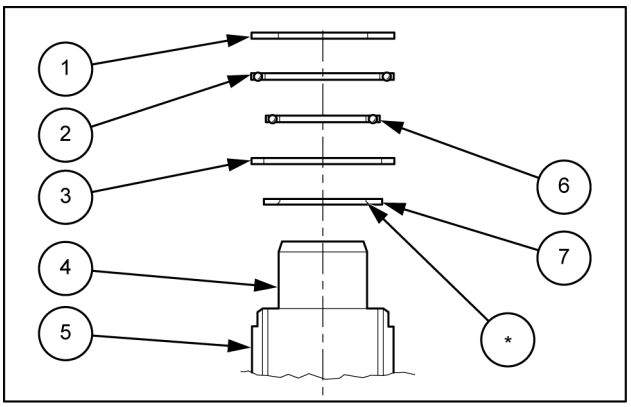


PTIL13TLB1149AB 6

Assembly pattern for double bearing

1. Washer for axial bearing
2. Outer needle bearing
3. Outer bearing race
4. Spool
5. Sleeve
6. Inner needle bearing
7. Inner bearing race

NOTE: *The inner chamfer on the inner bearing race must point the inner spool.*



PTIL13TLB1150AB 7

Steering circuit relief valve - Check

570ST	APAC --- LA --- MEA

Pressure check procedure as follows:

1. Park the machine on a level surface. Put the backhoe in the transport position and lower the loader bucket to the floor.
2. The oil must be at operating temperature. To heat the oil, do the following steps:
   A. With the engine running at full throttle, hold the loader control lever in the ROLLBACK position for **15 s**.
   B. Put the loader control lever in the NEUTRAL position for **15 s**.
   C. Repeat steps A and B until the temperature of the oil is **50 °C** (**122 °F**) or the side of the reservoir is very warm.
3. Use a pressure gauge with a capacity of at least **250 bar** (**3625 psi**). Connect the pressure gauge (Quick coupler can be used) to the pressure checking port in CF port in pump. This port is meant for checking the steering hydraulic pressure.
4. With the engine running at full throttle, turn and hold the steering wheel all the way to the extreme right or to the extreme left and read the pressure gauge. Make a record of the reading.
5. Decrease the engine speed and stop the engine.
6. Compare the Pressure value recorded is in the range of **140 – 145 bar** (**2030 – 2102 psi**). If it is in range , then Pressure has been set. If not, adjust the relief valve in steering unit and record the pressure till it is getting achieved. If not achieved on full adjustment. then follow the disassembly Procedure to check the steering unit.

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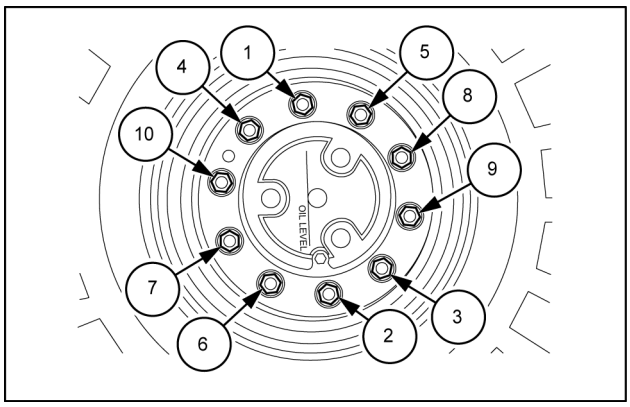
Availability of some models and equipment builds varies according to the country in which the equipment is being used. For exact information about any particular product, please consult your CASE CONSTRUCTION dealer.

Rear wheels - Tighten - Rear wheel mounting nut torque procedure

570ST	APAC --- LA --- MEA

1. Install all ten **(10)** wheel mounting nuts. Tighten all mounting nuts, in the sequence shown, until the wheel is snug against the axle hub. Torque: **490 N·m** (**361 lb ft**).
2. Tighten the mounting nuts to the specified torque in 3 stages.



PTIL13TLB1476AB 1

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(*) See content for specific models

Air conditioning - Static description

570ST	APAC --- LA --- MEA

System description and operation

Refrigerant

To achieve the absorption and the release of heat which is, in essence, the function of an air conditioning system, requires the use of a suitable “refrigerant” - a liquid that has a relatively low temperature boiling point, plus certain desirable safety and stability features.

The refrigerant used in the air conditioning system is refrigerant **R134A**.

NOTE: *To help protect the environment legislation has been introduced in most territories banning the release into the atmosphere of refrigerants, including* ***R134A****. All service procedures contained in this manual can be carried out without the need to release refrigerant into the atmosphere.*

In order to prevent the incorrect type of refrigerant being charged to the system the service valves fitted to the Backhoe Loader and necessary to connect up refrigerant recovery, evacuation and recycling/recharging equipment will be of two different sizes as recognized and specified by the air conditioning industry.

⚠WARNING
R134A refrigerant is not compatible with R–12 refrigerant. Do not attempt to replace **R134A** refrigerant with R–12 refrigerant or test the system using gauges or equipment previously used with R12 as damage to the system will result.

R134A refrigerant is stable at all operating temperatures and able to absorb great quantities of heat.

The boiling point of **R134A** is **-26.5 °C** (**-15.7 °F**) at atmospheric pressure.

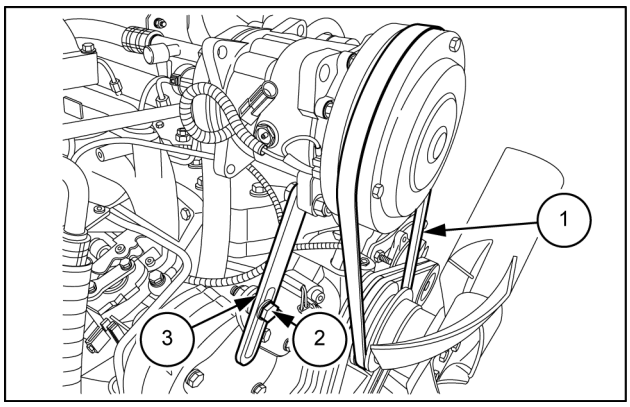
If the pressure is increased, **R134A** will readily vaporize to absorb heat at temperatures between **-11 °C** (**12 °F**) at **1.9 bar** (**27.5 psi**) and **0 °C** (**32 °F**) at **-11 °C** (**12 °F**) at **2.9 bar** (**42 psi**) in the evaporator.

At higher pressures, **R134A** will condense and give off heat at temperatures between **48 °C** (**118 °F**) at **12.4 bar** (**179.8 psi**) and **58 °C** (**136 °F**) at **15.85 bar** (**230 psi**) in the condenser.

Air-conditioning compressor - Adjust - Drive belt

570ST	APAC --- LA --- MEA

1. Open the engine hood.
2. Check the compressor belt deflection by pressing the center of the belt **(1)** by hand. The deflection should be **8.0 – 12.0 mm** (**0.3 – 0.5 in**).
3. The compressor drive belt **(1)** tension can be adjusted by the rotation of the idler arm **(3)**.
4. Loosen the bolt **(2)** and adjust the idler arm **(3)** to a belt deflection of **8.0 – 12.0 mm** (**0.3 – 0.5 in**).
5. Torque the bolt **(2)** to **57 N·m**.



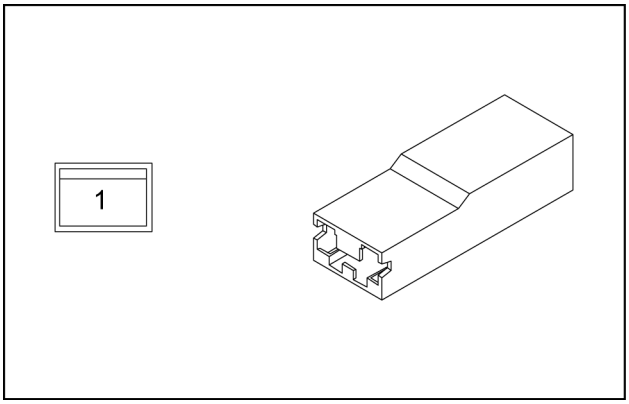
PTIL14TLB0155AB 1

Contents

Electrical systems - 55

CONNECTOR X-011A –

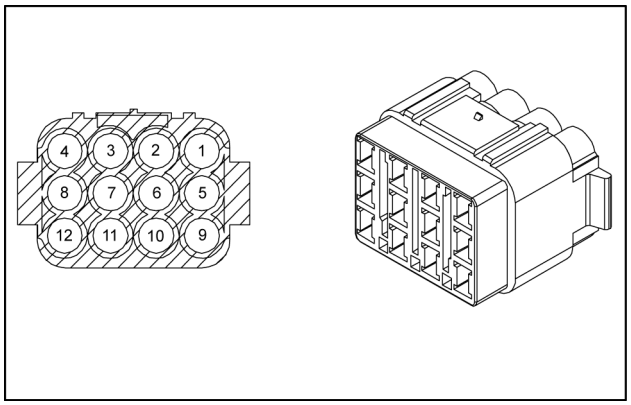
CONNECTOR X-011A –		
CAV ID	**WIRE ID**	**COLOR**
1	5373	YE



PTIL13TLB1225AA 4

CONNECTOR X - 023 - Harness rear lamps

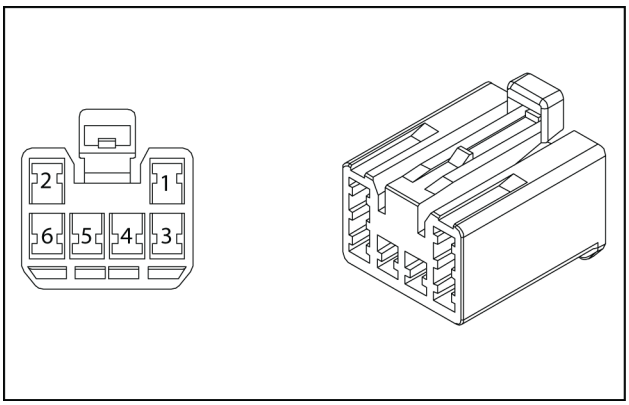
CONNECTOR X - 023 - Harness rear lamps		
CAV ID	**WIRE ID**	**COLOR**
1	3562	VT
2	45R2	WH
3	4406	VT
4	4407	VT
5	45L2	VT
6	3570	VT
7	-	-
8	-	-
9	7085	WH
10	7084	WH
11	G153	BK
12	G152	BK



PTIL13TLB1245AA 4

CONNECTOR X - 034 - RHS combination switch

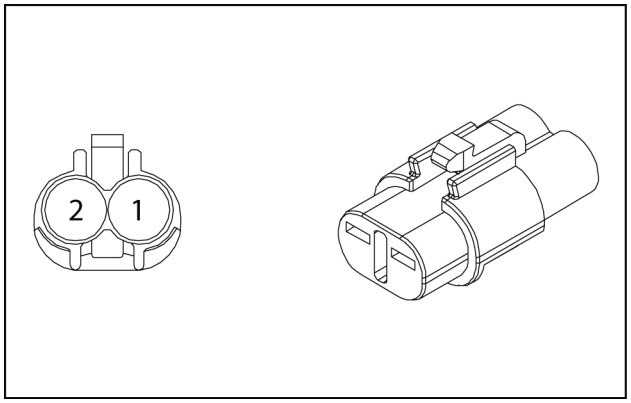
CONNECTOR X - 034 - RHS combination switch		
CAV ID	**WIRE ID**	**COLOR**
1	5330	BR
2	1538	OR
3	G163	BK
4	6301	BR
5	3523	VT
6	351	WH



PTIL13TLB1256AA 4

CONNECTOR X-044 - Clutch shutoff switch

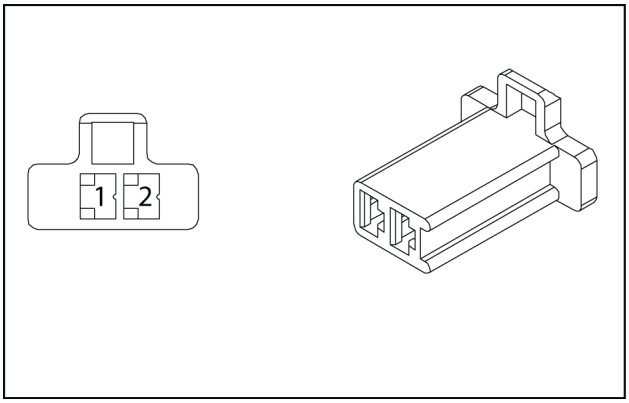
CONNECTOR X-044 - Clutch shutoff switch		
CAV ID	**WIRE ID**	**COLOR**
1	19E6	OR
2	2031	YE



PTIL13TLB1266AA 6

CONNECTOR X-054 - LS 2

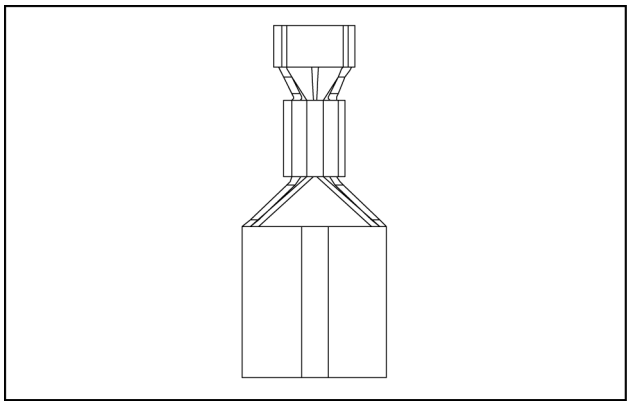
CONNECTOR X-054 - LS 2		
CAV ID	**WIRE ID**	**COLOR**
1	1557	OR
2	4410	VT



PTIL13TLB1277AA 6

CONNECTOR X-063A - RH speaker IN

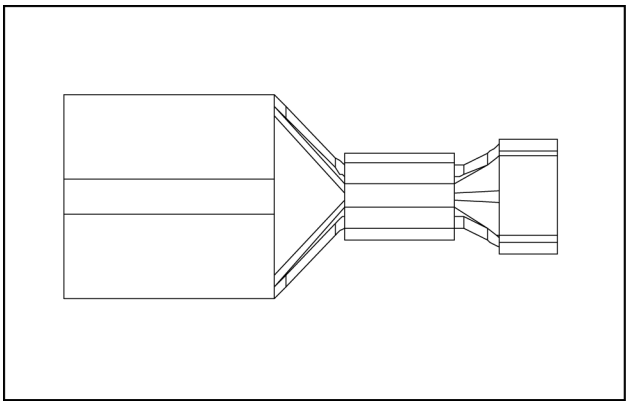
CONNECTOR X-063A - RH speaker IN		
CAV ID	**WIRE ID**	**COLOR**
1	7020	BK



PTIL13TLB1287AA 6

CONNECTOR X-072B - LH Speaker

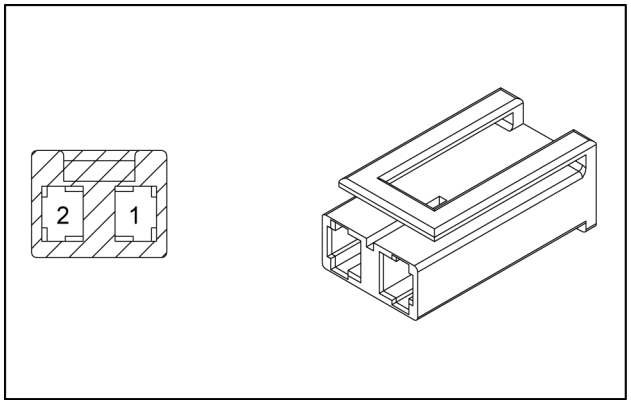
CONNECTOR X-072B - LH Speaker		
CAV ID	**WIRE ID**	**COLOR**
1	7010	GY



PTIL13TLB1298AA 4

CONNECTOR X-079 - Beacon harness

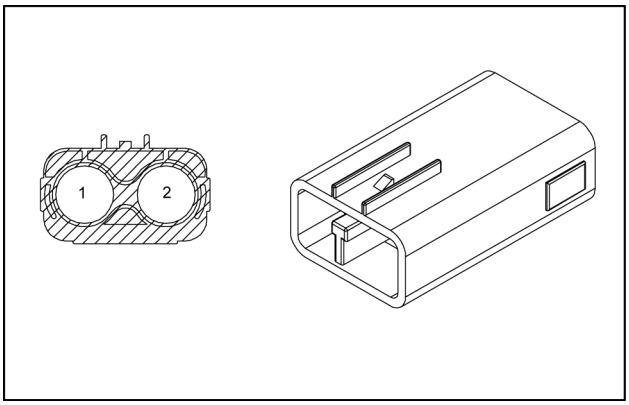
CONNECTOR X-079 - Beacon harness		
CAV ID	**WIRE ID**	**COLOR**
1	1023	OR
2	G199	BK



PTIL14TLB0199AA 15

CONNECTOR X-097 – Harness engine

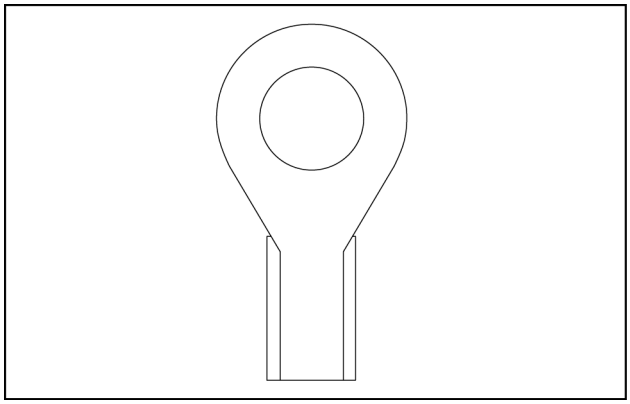
CONNECTOR X-097 – Harness engine		
CAV ID	**WIRE ID**	**COLOR**
1	P006	RD
2	G141	BK



PTIL13TLB1314AA 7

CONNECTOR X - 007 - Fuse box I/P

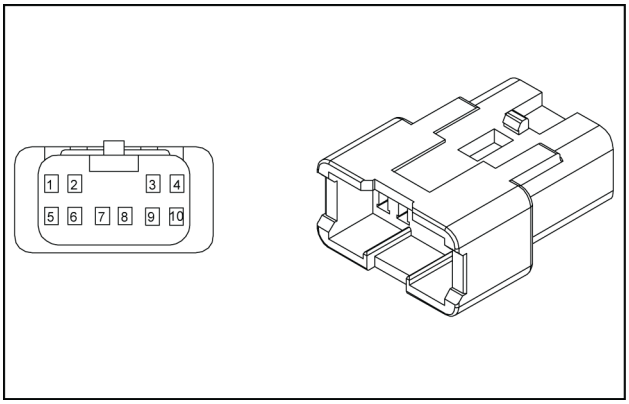
CONNECTOR X - 007 - Fuse box I/P		
CAV ID	**WIRE ID**	**COLOR**
1	P004	RD



PTIL13TLB1224AA 9

CONNECTOR X -107 - To main

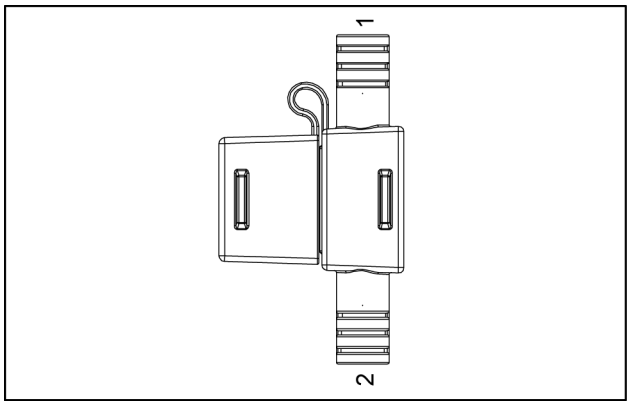
CONNECTOR X -107 - To main		
CAV ID	**WIRE ID**	**COLOR**
1	5220	BR
2	2707	YE
3	1546	OR
4	4403	VT
5	5202	YE
6	1521	OR
7	5230	BR
8	-	-
9	5240	BR
10	4202	VT



PTIL13TLB1323AA 7

CONNECTOR X-121 - Beacon fuse

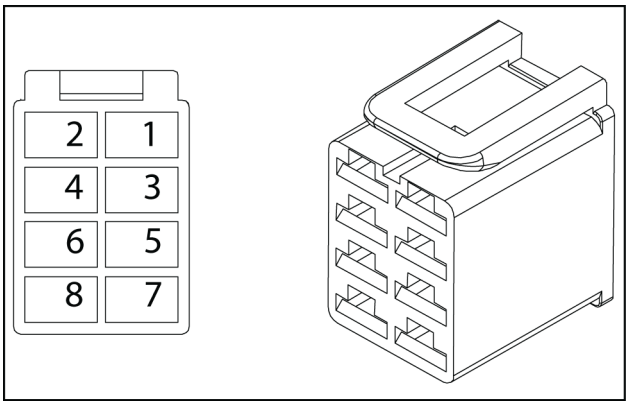
CONNECTOR X-121 - Beacon fuse		
CAV ID	**WIRE ID**	**COLOR**
1	P020	RD
2	P018	RD



PTIL14TLB0197AA 2

CONNECTOR X-138A - Radio switch

CONNECTOR X-138A - Radio switch		
CAV ID	**WIRE ID**	**COLOR**
1	-	-
2	3C04	RD
3		-
4	-	-
5	-	-
6	3C05	YE
7	-	-
8	-	-



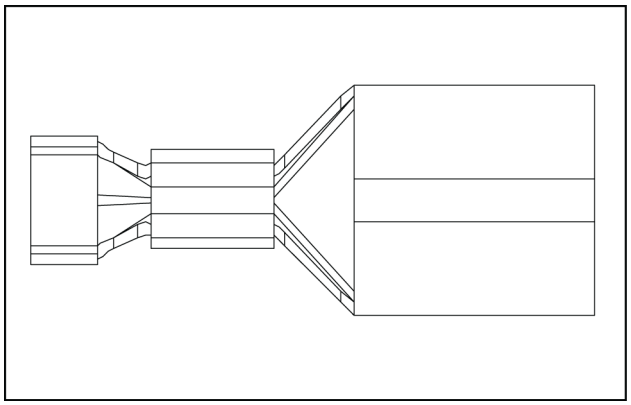
PTIL13TLB1345AA 7

Harnesses and connectors - Component diagram 15

570ST	APAC --- LA --- MEA

CONNECTOR X-151 – Hazard switch CAV 49

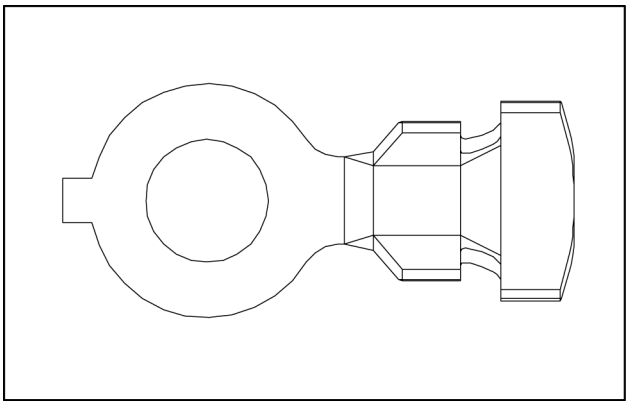
CONNECTOR X-151 – Hazard switch CAV 49		
CAV ID	**WIRE ID**	**COLOR**
1	5340	YE



PTIL13TLB1356AA 1

CONNECTOR X-202

CAV ID	WIRE ID	COLOR
1	G140	BK

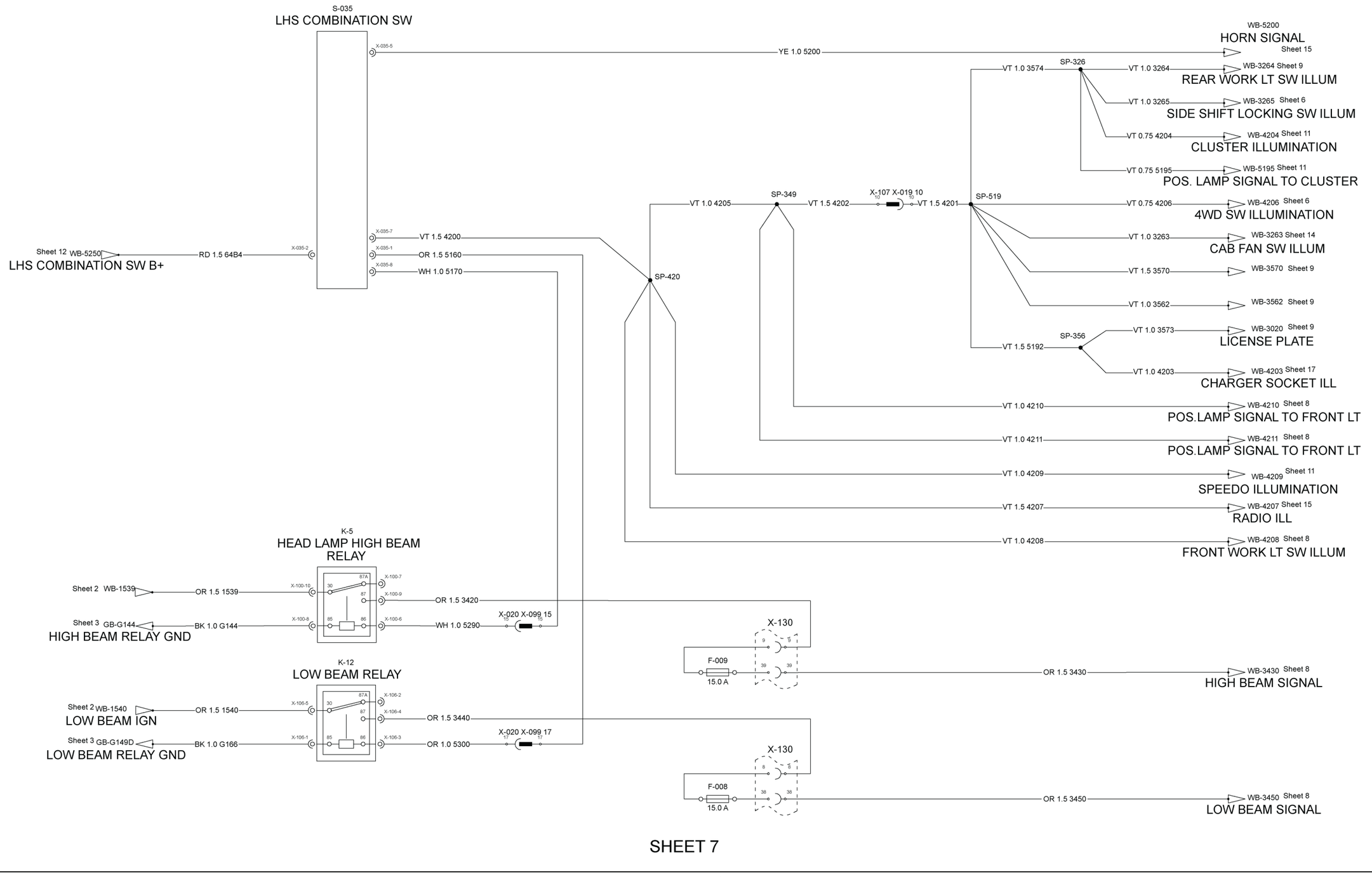


PTIL13TLB1365AA 3

Wiring harnesses - Electrical schematic sheet 02 - Starting system

570ST	APAC --- LA --- MEA

FRONT LIGHTING



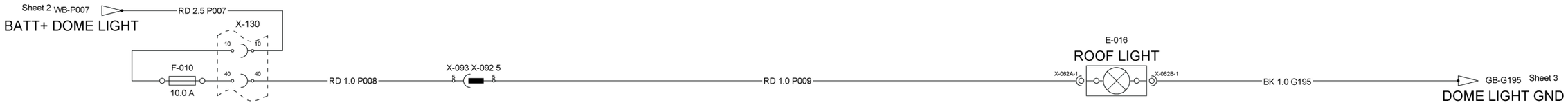
SHEET 7

PTIL13TLB0164JA 1

Wiring harnesses - Electrical schematic sheet 13 - Accessories

570ST	APAC --- LA --- MEA

DOME LIGHT



SHEET 18

PTIL13TLB0175JA 1

Contents

Electrical systems - 55

Engine starting system - 201

SERVICE

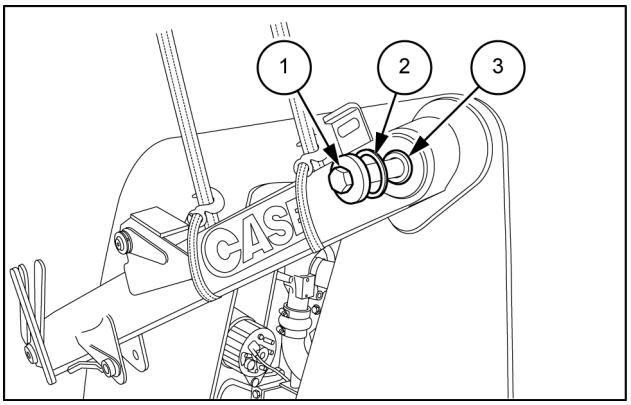
(*) See content for specific models

Electrical systems - 55

Wiper and washer system - 518

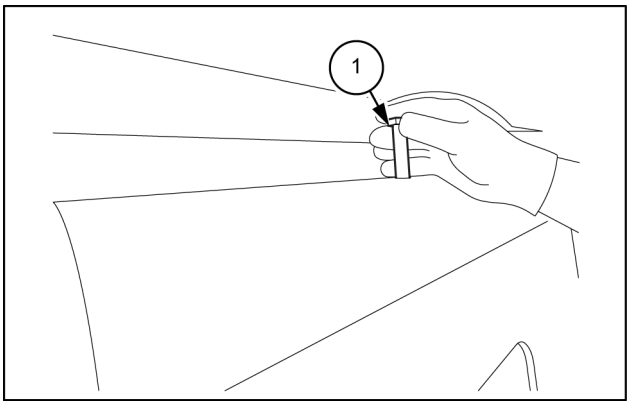
570ST Four-Wheel Drive (4WD), 72kW Tier 3, Side shift
570ST Four-Wheel Drive (4WD), 96hp Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 72kW Tier 3, Side shift
570ST Two-Wheel Drive (2WD), 96hp Tier 3, Side shift

4. Remove the pivot bolt **(1)**, shim **(2)** and washer **(3)** from the left hand side of the loader frame.



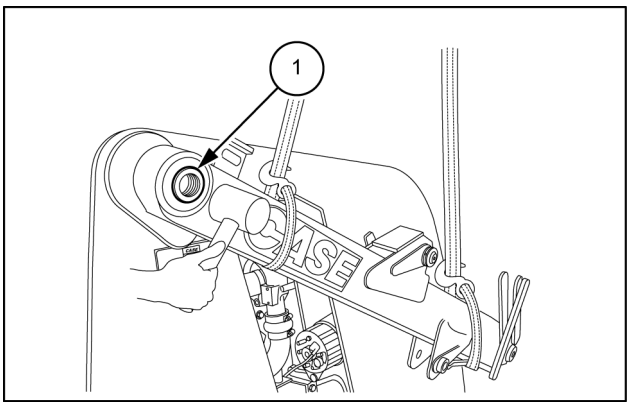
PTIL13TLB0472AB 4

5. Remove the locking bolt **(1)** located at the loader frame center to release the pivot pin.



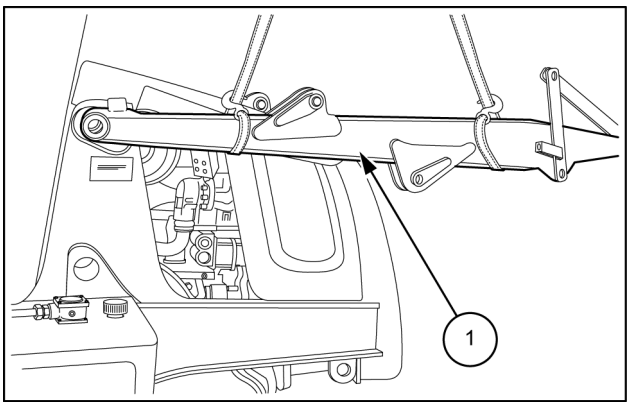
PTIL13TLB0473AB 5

6. Tap and remove the pivot pin **(1)** using a mandrel and wooden hammer to slide the loader from the machine.



PTIL13TLB0474AB 6

7. Lift the suspending loader frame assembly **(1)** using the attached lifting device and place it aside.

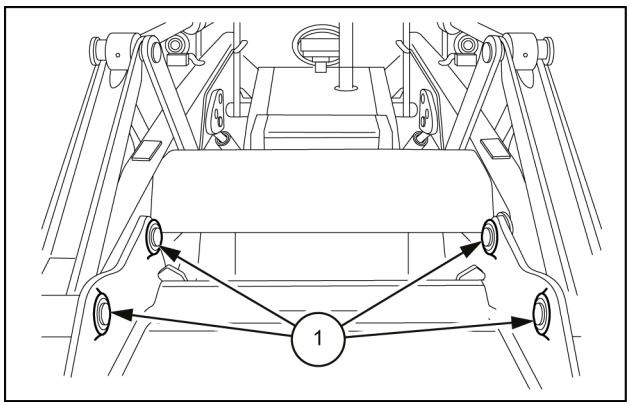


PTIL13TLB0476AB 7

Bucket - Remove

570ST	APAC --- LA --- MEA

1. Move the machine to a level and firm ground.
2. Lower the bucket to the ground in dump position (tilted completely forward).
3. Stop the engine and remove the starter switch key.
4. Remove the retaining rings and pins and drive out the pins **(1)**.



PTIL12TLB0149AB 1

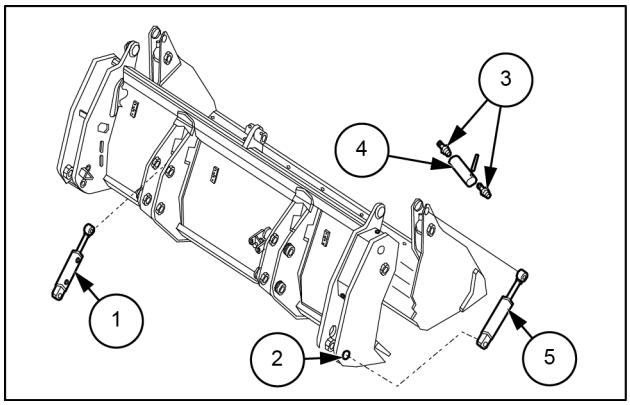
If fitted with bottom dump bucket:

5. If the machine is fitted with a bottom dump bucket, release the pressure form the bucket circuit.
6. Retain the rear cylinders **(1)** and pins safely in a secure place.
7. Remove the pins **(2)** from the lower end of the bucket on both sides after releasing and disconnecting pressure from the hydraulic lines.
8. Loosen and remove the grease nipples **(3)** from the upper joint of the bucket.

ATTENTION: *Do not stand in the way of the bucket which may roll on the foot and cause serious injury.*

NOTE: *Always wear eye protection when using a tool which might project metal particles. Use a hammer with a soft face, such as copper, for pins assembly/disassembly.*

9. Remove the pin **(4)** by hammering from one end.
10. Retain the cylinder **(5)** and pins from both sides of the bucket.
11. Start the engine.
12. Operate the attachment controls so as to release the bucket.
13. Reverse the machine from the bucket.



PTIL13TLB1769AB 2