Transmission control system 55.024
Harnesses and connectors 55.100
Engine starting system 55.201
Alternator 55.301
Battery 55.302
External lighting 55.404
Warning indicators, alarms, and instruments 55.408
Cab/Platform harnesses and connectors 55.510
Cab engine controls 55.525
FAULT CODES 55.DTC
Front loader and bucket 82
Arm 82.100
Bucket 82.300
Booms, dippers, and buckets 84
Bucket 84.100
Boom pivoting support 84.114
Boom 84.910
Dipper arm 84.912
Platform, cab, bodywork, and decals 90
Machine shields and guards 90.105
Protections - ROPS and FOPS 90.114
Pneumatically-adjusted operator seat 90.124
Cab 90.150
Cab interior 90.151
Cab doors and hatches 90.154

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

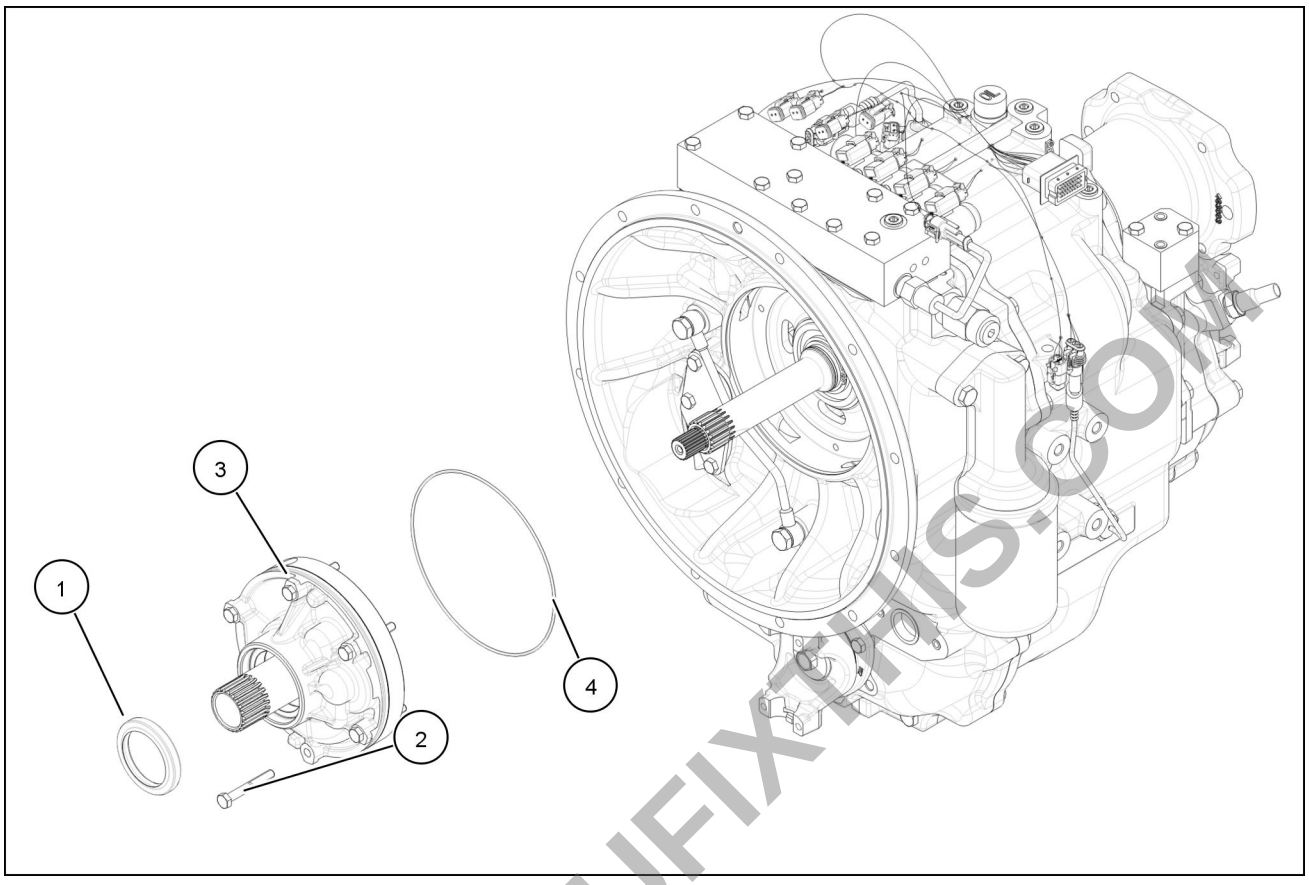
Transmission - 21

Power Shuttle transmission - 112

580N
580SN WT
580SN
590SN

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



RCPH10TLB153GAL 1

PREVIEW - YOUFIXTHIS.COM

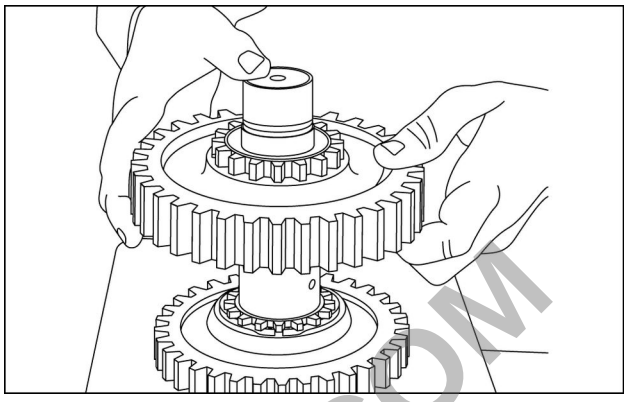
Download full manual at youfixthis.com

207. Fill transmission with approved fluid, see specifications.

PREVIEW - YOUFIXTHIS.COM

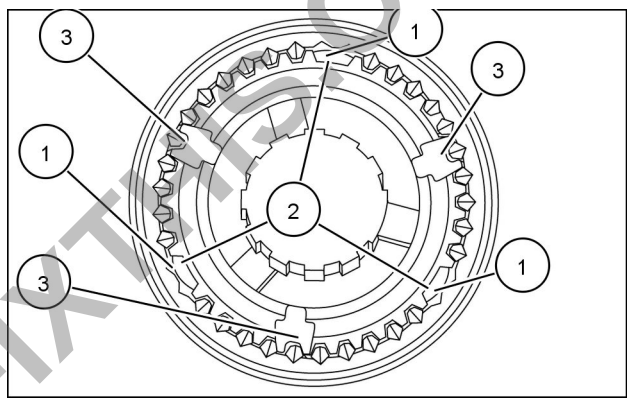
Download full manual at youfixthis.com

4. Install first gear.



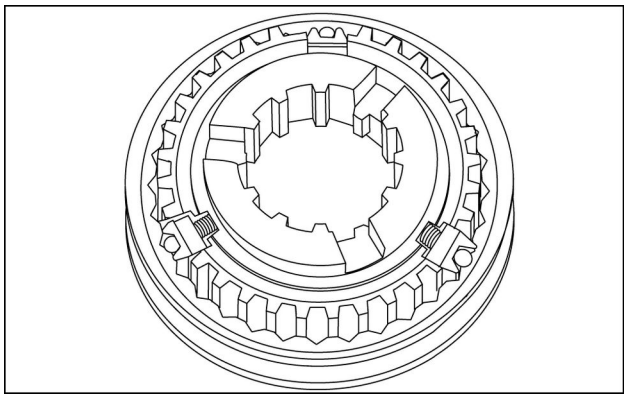
RCPH10TLB781AAL 4

5. This photo shows the correct relationship between the hub and the sleeve for assembly of the first-second synchronizer. The tabs **(1)** in the inside diameter of the sleeve fit into the small recesses **(2)** in the outside diameter of the hub. The large recesses **(3)** in the hub are for the detent assemblies, that are not yet installed.



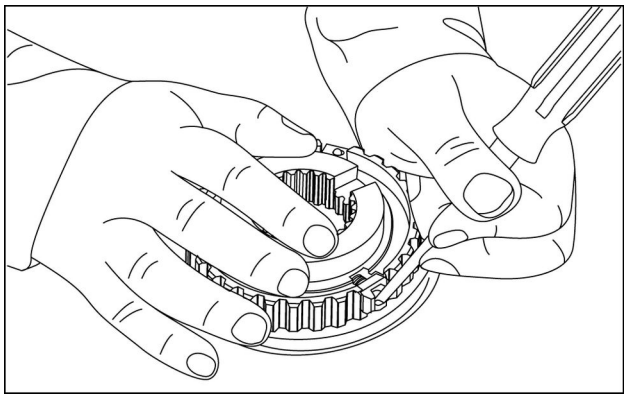
RCPH10TLB950AAL 5

6. This photo shows the correct positions of the hub, the sleeve, the springs, the blocks, and the balls prior to final assembly. The springs are installed in the hub, and the blocks are on the springs. The blocks are not yet pushed down into the sleeve and are holding the hub up out of the sleeve. The balls are loose in the recesses of the blocks.



RCPH10TLB951AAL 6

7. Use a punch or screwdriver to push the balls into the blocks and to push the blocks down so that the balls are on the flat faces of the teeth, but not into the detent grooves. When all the balls are in position, push the hub and the blocks down until the balls move into the detent groove.

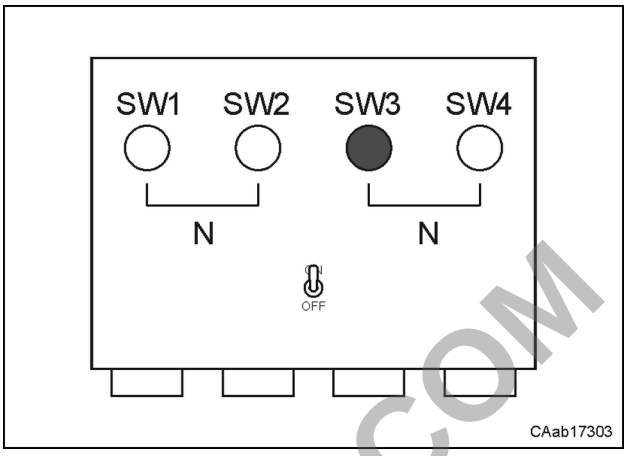


RCPH10TLB952AAL 7

PREVIEW - YOUFIXTHIS.COM

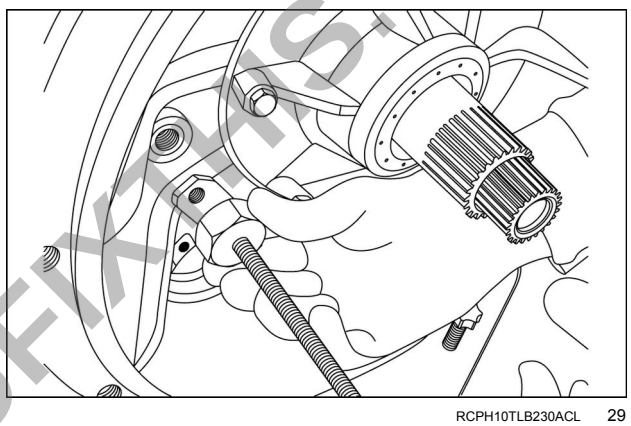
Download full manual at youfixthis.com

28. Electronic box status in the current position.



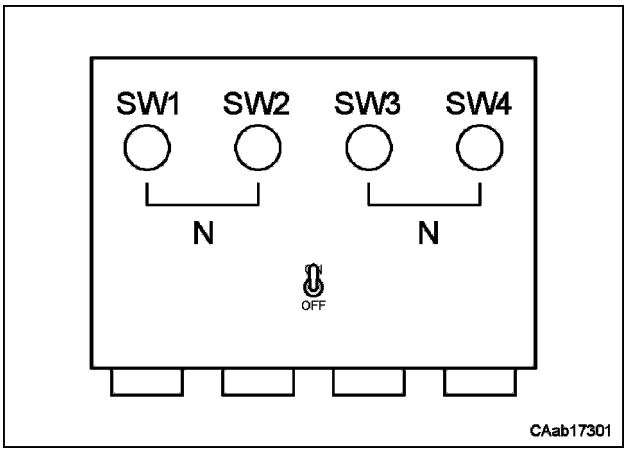
RCPH10TLB020ACL 28

29. Operate slowly on the regulation nut until the SW3 pilot light turns to OFF. Note on the table the value measured by the comparator (NEUTRAL POSITION - MEASURE 5).



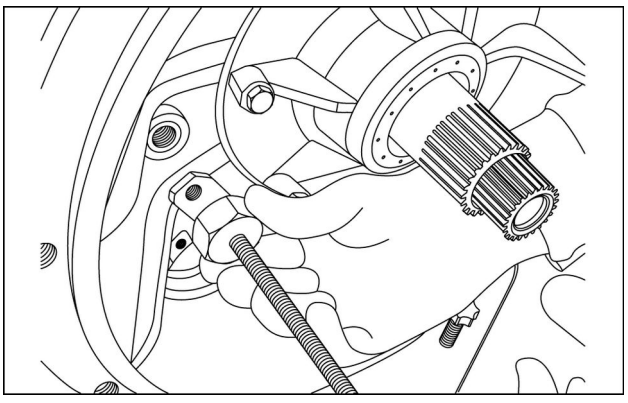
RCPH10TLB230ACL 29

30. Electronic box status in the current position.



RCPH10TLB018ACL 30

31. Operate slowly on the regulation nut, until the SW4 pilot light turns to ON. Note on the table the value measured by the comparator (FOURTH GEAR - MEASURE 6).

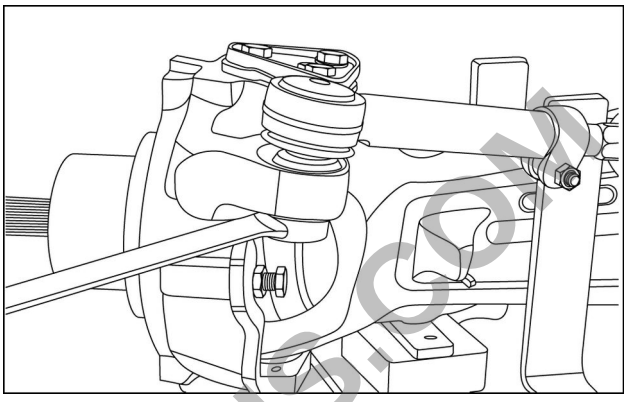


RCPH10TLB230ACL 31

Download full manual at youfixthis.com
PREVIEW - YOUFIXTHIS.COM

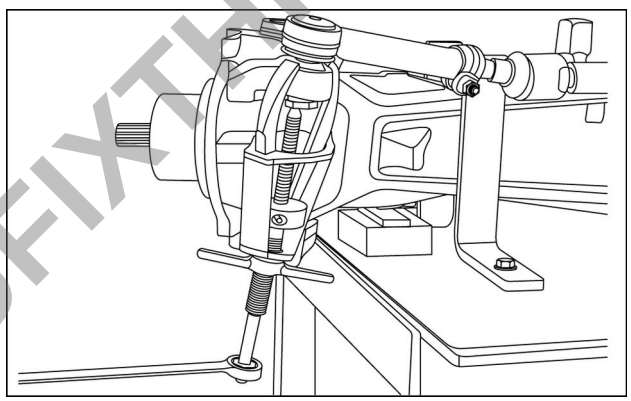
Differential - Remove - Carraro Front axle-four wheel drive differential carrier- 580SN-WT and 590SN only

1. Drain the lubricant from the center bowl.
2. Loosen but do not remove the nut.



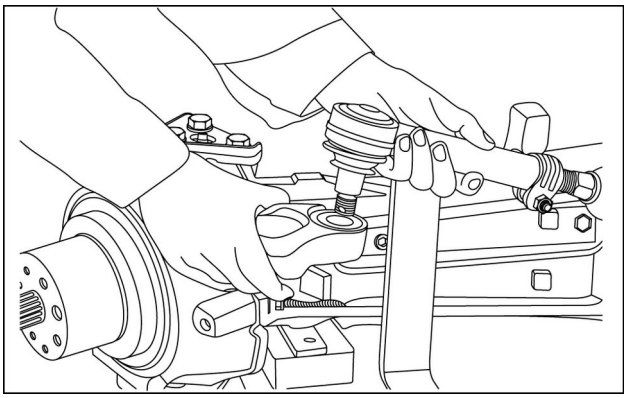
RCPH10TLB482ABL 1

3. Use an acceptable puller to loosen the ball joint.



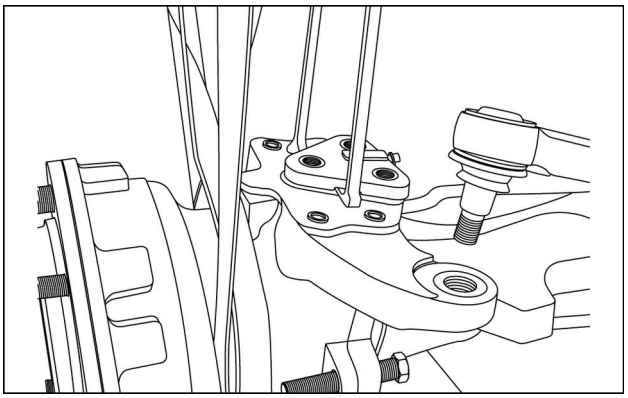
RCPH10TLB483ABL 2

4. Remove the nut and ball joint.



RCPH10TLB484ABL 3

5. Fasten suitable lifting equipment as shown and remove the bolts from the top king pin. Use acceptable tools and remove the top king pin.



RCPH10TLB711ABL 4

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Rear axle housing - Drawing - Axle housing

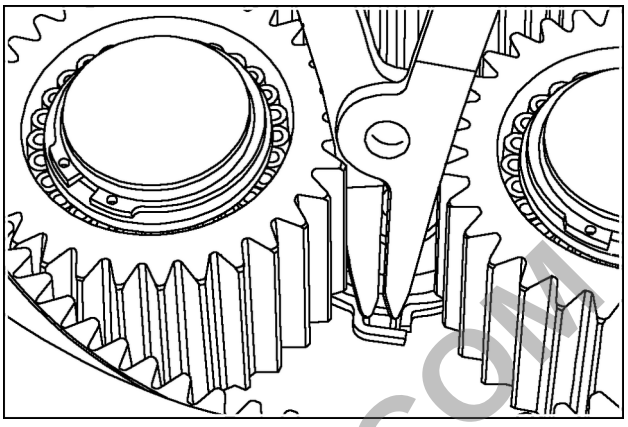
Axle housing

(1)	Vent
(2)	Axle housing
(3)	Plugs
(4)	Pin D15x35
(5)	Bolt M6x25
(6)	Differential support
(7)	Bolt M12x100
(8)	Bolt M12x1.75

PREVIEW - YOUFIXTHIS.COM

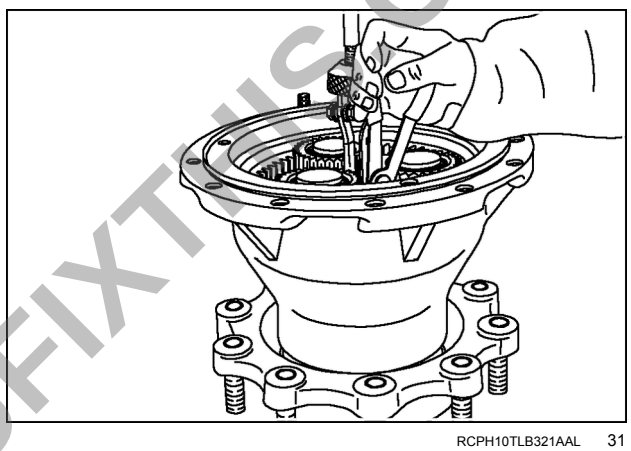
Download full manual at youfixthis.com

30. Locate the snap ring slot and place snap ring pliers in slot.



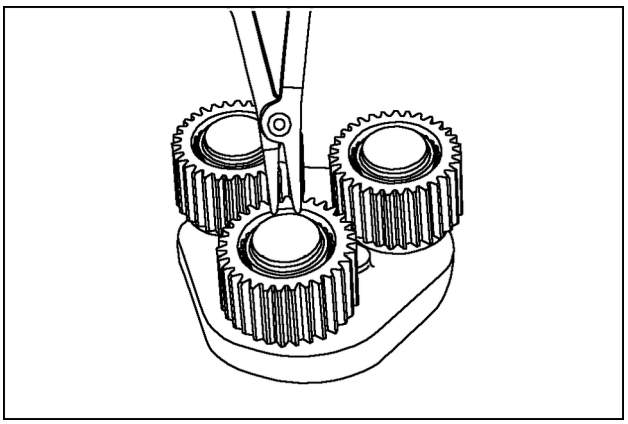
RCPH10TLB334AAL 30

31. Carefully raise the planetary set, hold the snap ring open until it has cleared the end of the wheel flange shaft.



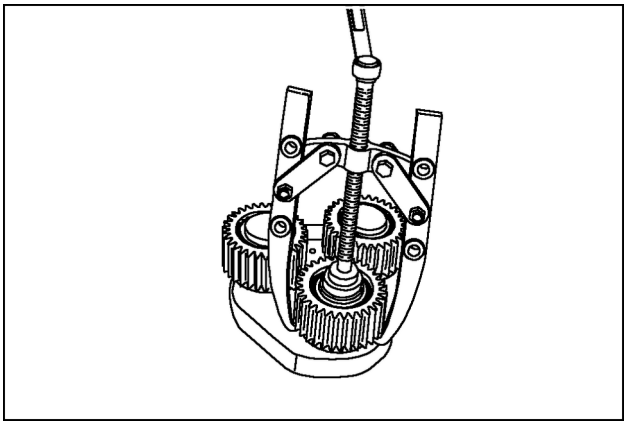
RCPH10TLB321AAL 31

32. Remove planetary set from the hub.
33. Remove planetary gear retainer snap rings.



RCPH10TLB322AAL 32

34. Remove planetary gear and bearings.



RCPH10TLB323AAL 33

Download full manual at youfixthis.com
PREVIEW - YOUFIXTHIS.COM

17. Stop the engine.
18. Connect the system line to the closed end of each cylinder.
19. Connect a suitable drain line to the open end of each cylinder and place the other end in an acceptable container for contaminated oil.
20. Start the engine and run the engine at low idle.
21. Slowly and completely extend all cylinders. As the piston rod comes in/out of the cylinder, oil will be pushed out of the open end of the cylinders.

NOTE: *Any attachment or part of an attachment that is raised must be supported with acceptable equipment to prevent the attachment from falling.*

22. Support any attachments that will be in the raised position.
23. Stop the engine.
24. Disconnect the drain lines and connect the system lines to the cylinders.
25. Check the oil level in the hydraulic reservoir. Add oil as required.
26. Install the filler cap on the reservoir.
27. Remove the hydraulic filter elements from the machine.
28. Install new hydraulic filter elements on the machine.
29. Start and run the engine at **1500 RPM**, operate each hydraulic circuit to completely extend and retract the cylinders.
30. Stop the engine and check for leaks. Check the oil level in the hydraulic reservoir. Add oil as required.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Hydraulic systems - 35

Remote control valves - 204

580N
580SN WT
580SN
590SN

PREVIEW - YOUFIXTHIS.COM

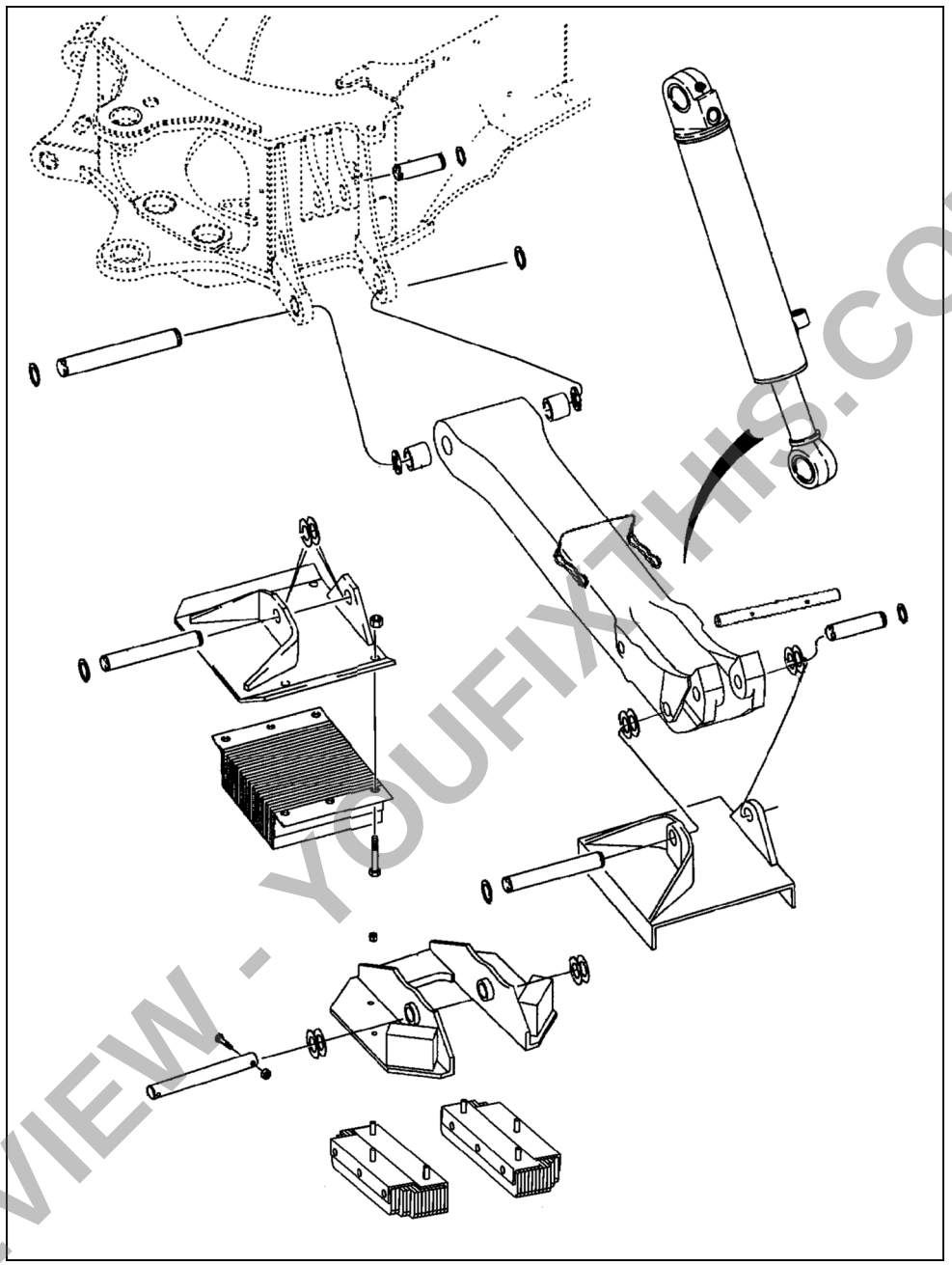
Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Stabilizer - Exploded view - Stabilizer (580N, 580SN, 580SN-WT)

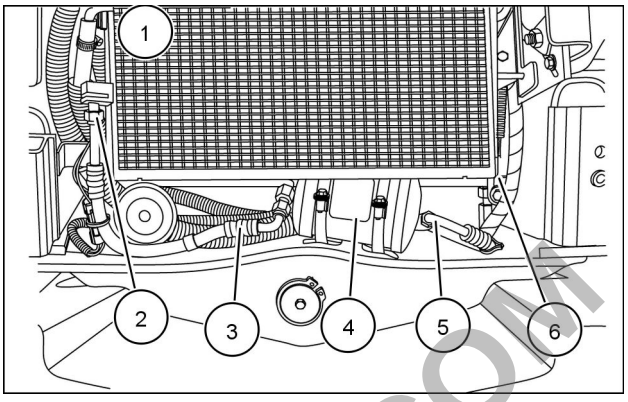
580N



RCPH10TLB107GAL 1

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



RCPH10TLB669AAL 1

1. Condenser
2. High pressure switch
3. Hose - condenser to receiver-drier
4. Receiver-drier
5. Hose - receiver-drier to cab
6. Hose - compressor to condenser

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Wire harnesses - Electrical schematic frame 14 SAHR Park Brake, Powershift transmission with options

580N NA Powershift, 580N NA T4, 580SN NA Powershift, 580SN NA T4, 580SN WT NA Powershift, 580SN WT NA T4, 590SN NA Powershift, 590SN NA T4

PREVIEW - YOUFIXTHIS.COM

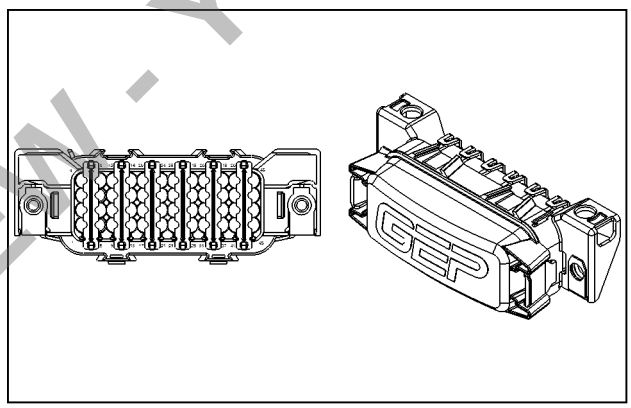
Download full manual at youfixthis.com

Power Shuttle transmission with options

- **Wire harnesses - Electrical schematic frame 02 Starting System, Power Shuttle transmission with options (55.100)**
- **Wire harnesses - Electrical schematic frame 06 Drives, Power Shuttle transmission with options (55.100)**
- **Wire harnesses - Electrical schematic frame 14 SAHR Park Brake, Power Shuttle transmission with options (55.100)**
- **Wire harnesses - Electrical schematic frame 20 Comfort Steer/ Ride Control, Power Shuttle transmission with options (55.100)**
- **Wire harnesses - Electrical schematic frame 21 Hydraulic Options Powerlift, Power Shuttle transmission with options (55.100)**

Power Shuttle transmission without options

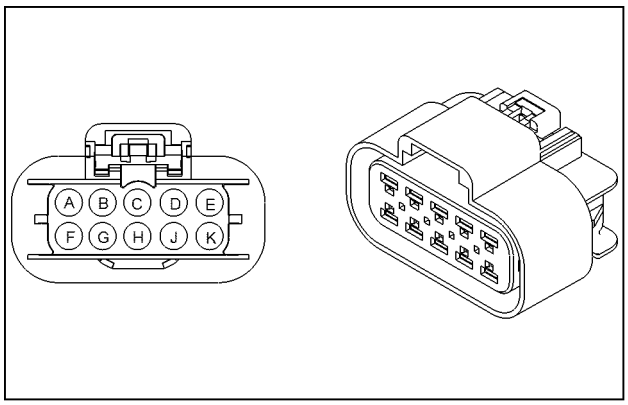
- **Wire harnesses - Electrical schematic frame 02 Starting System, Power Shuttle transmission without options (55.100)**
- **Wire harnesses - Electrical schematic frame 06 Drives, Power Shuttle transmission without options (55.100)**
- **Wire harnesses - Electrical schematic frame 07 Hydraulics, Power Shuttle transmission without options (55.100)**
- **Wire harnesses - Electrical schematic frame 14 SAHR Park Brake, Power Shuttle transmission without options (55.100)**
- **Wire harnesses - Electrical schematic frame 20 Comfort Steer/ Ride Control, Power Shuttle transmission without options (55.100)**
- **Wire harnesses - Electrical schematic frame 21 Hydraulic Options Powerlift, Power Shuttle transmission without options (55.100)**



84380518 3

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



87698252 2

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

9001-Hour meter plausibility, internal error . . . 775
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9002-Hour meter RAM checksum failure, internal error . . . 776
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9003-J1939 receive buffer overflow, internal error . . . 777
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9004-EEPROM checksum failure, hour meter location 1, internal error . . . 778
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9005-EEPROM checksum failure, hour meter location 2, internal error . . . 779
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9006-EEPROM checksum failure, hour meter location 3, internal error . . . 780
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9007-Abnormal reset watchdog time-out, internal error . . . 781
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9008-A/D fault foot throttle, internal error . . . 782
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9009-A/D fault foot throttle power, internal error . . . 783
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9010-A/D fault hand throttle, internal error . . . 784
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9011-A/D fault foot throttle, internal error . . . 785
580N T4, 580SN T4, 580SN WT T4, 590SN T4

9012-A/D fault, internal error . . . 786
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3047-Main Relay Failure - Short Circuit To Battery . . . 787
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3048-Main Relay Failure - Short Circuit to Ground . . . 789
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3108-Fuel Metering Unit - Short Circuit To Ground . . . 791
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3138-Metering Unit - Temperature Too High . . . 792
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3142-High Pressure Test - Test Active . . . 793
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3145-Terminal 15 - No Signal . . . 794
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3177-Engine Overspeed Detected . . . 796
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3239-Engine Controller EEPROM - Read Operation Error . . . 797
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3240-Engine Controller EEPROM - Write Operation Failure . . . 798
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3241-Engine Controller EEPROM - Default Value Used . . . 799
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3249-TPU Monitoring - Time Deviation Between TPU And System Not Plausible . . . 800
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3250-Dataset - Variant Defect . . . 801
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3251-Dataset - Requested Variant Could Not Be Set . . . 802
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3316-Minimum Number Of Injections Not Reached - Stop Engine . . . 803
580N T4, 580SN T4, 580SN WT T4, 590SN T4

[EDC] - 3358-CAN transmit timeout . . . 804
580N T4, 580SN T4, 580SN WT T4, 590SN T4

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

3033-Oil Temperature Sensor - Signal Not Plausible (Compared With Coolant Temperature)

580N T4, 580SN T4, 580SN WT T4, 590SN T4

Context:
The Engine Control Unit (ECU) generated a fault associated with the Oil temp / press sensor. The Oil temp / press sensor is an integrated sensing device used to sense both temperature and pressure. This fault is related to the temperature sensing function of the device. This error could result from a signal out of range or a plausibility check against the Coolant temp sensor or CAN message processing. The ECU prohibits any plausibility check if there are any Analog to Digital Converter (ADC) signal errors detected on the Oil temp / press or the Coolant temp sensor.

Cause:
The Oil temp / press and Coolant temp sensor signals to the ECU are out of range with respect to each other.

Possible failure modes:

1. Faulty Oil temp / press sensor (inaccurate).
2. Faulty Coolant temp sensor (inaccurate).
3. Faulty electrical wiring, high resistance connections.
4. Faulty ECU, supply voltages or grounds.
5. Faulty oil lubrication or coolant system.

Solution:

1. Operation: Check for Coolant System Faults.

   Use **EST** to check for errors associated with coolant temperature.

   A. If any of the errors exist, resolve the existing error. Then determine if this error has also been resolved.

   B. If none of the errors exist, continue with step **2**.

2. Operation: Electrical Inspection.
   Vehicle Status: Key Off Engine Off.

   Remove Oil temp / press sensor connector ODFT and inspect housing body/latch, pins and wiring harness for damage or corrosion. Also, inspect connector portion of the Oil temp / press sensor.

   A. If damage is determined after careful inspection, repair wiring and/or replace connector parts to ensure a good and sound electrical connection. Replace Oil temp / press sensor if damaged.

   B. If no damage is determined, proceed to step **3**.

3. Operation: Check Open Circuit Voltages for Oil temp / press sensor.
   Vehicle Status: Key On Engine Off.

   Remove ODFT connector from the Oil temp / press sensor and check for voltages (DC) between connector pins outlined in the table below.

Test Type	From	To	Expected Results
1. Voltage	ODFT (Pin 3)	ODFT (Pin 1)	Approx. **5 volts**
2. Voltage	ODFT (Pin 2)	ODFT (Pin 1)	Approx. **5 volts**
3. Voltage	ODFT (Pin 4)	ODFT (Pin 1)	Approx. **5.4 volts**

   A. If the voltage test sequence is successful, proceed to step **4**.

   B. If the voltage test sequence is not successful, proceed to step **5**.

4. Operation: Oil temp / press sensor Test
   Vehicle Status: Key Off Engine Off.

Download full manual at youfixthis.com
PREVIEW - YOUFIXTHIS.COM

A. The voltage is less than **0.5 V**. Temporarily replace the ECU and retest. Return to Step **1** to confirm elimination of fault.

B. The voltage is greater than **12 V**. There is a short circuit to an external voltage. Repair or replace the harness as required. Return to Step **1** to confirm elimination of the fault.

Wire harnesses - Electrical schematic frame 01 (55.100.DP-C.20.E.01)
Wire harnesses - Electrical schematic frame 02 (55.100.DP-C.20.E.02)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

3703-Injection control: check of minimum rail pressure

580N T4, 580SN T4, 580SN WT T4, 590SN T4

Context:
This fault has been generated due to the injector control pressure is too low. Check for more specific failures related to the rail pressure system. If no other faults are active, check the rail injectors are not damaged. Also, check for any rail or injector leakages. If any damages or leakages are found, repair or replace necessary components.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

A. OK – The voltage is between 12 and 14.5 volts. There is a problem between X-12 pin 3 and X-300 pin 5. Inspect fuse F-009. Inspect splice SP-67. Repair as required. Go to Step **1** to confirm elimination of the fault.

B. NOT OK – The voltage is less than 12 volts. Go to Step **5**.

5. Measure the voltage at the key switch.

(1) Measure the voltage at the key switch pin 3 (Ignition). The voltage should be approximately 12 volts.

A. OK – The voltage is between 12 and 14.5 volts. There is a problem between the key switch and X-012 pin 3. Inspect splice SP-012. Repair as required. Go to Step **1** to confirm elimination of the fault.

B. NOT OK – The voltage is less than 12 volts. Go to Step **6**.

6. Measure the voltage input to the key switch.

(1) Measure the voltage at key switch connector pin 1 (Battery). The voltage should be between 12 and 14.2 volts.

A. OK – The voltage is between 12 and 14.5 volts. There is a problem with the key switch. Replace the key switch. Go to Step **1** to confirm elimination of the fault.

B. NOT OK – The voltage is less than 12 volts. There is a problem with the 12 volt supply to the key switch. Inspect fuse F-025. Repair as required. Go to Step **1**.

Wire harnesses - Electrical schematic frame 23 (55.100.DP-C.20.E.23)
Wire harnesses - Electrical schematic frame 22 (55.100.DP-C.20.E.22)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

4102-Internal TRAX failure, software timing H-type and S-type transmission

580N Powershift, 580N T4, 580SN Powershift, 580SN T4, 580SN WT Powershift, 580SN WT T4, 590SN Powershift, 590SN T4

Cause:

1. Internal error in Transmission Control Module

Solution:

1. Verify that the fault code is still active, refer to **0000 - Retrieving fault codes, Backhoes**.
   Prior to clearing fault codes write down all fault codes, number of occurrences, and engine hours at last occurrence.

   (1) Use the Electronic Service Tool to clear all fault codes.

   (2) To check for fault code: Start and operate machine.

   A. OK – Fault is not recorded again. OK to return the machine to service.

   B. NOT OK – Fault code 4102 is recorded again. Go to Step **2**.
2. Replace transmission controller.

   A. Return to Step **1** to confirm elimination of fault. If fault is recorded again, contact Technical Services Group for assistance.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

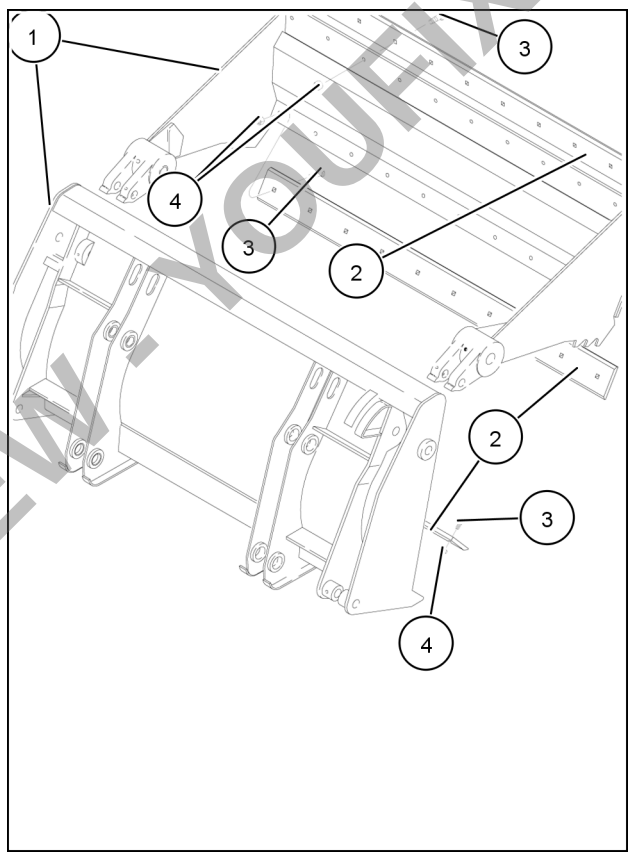
Bucket - Replace - Replacement of bolt - on cutting edge for clam bucket

580N NA, 580SN NA, 580SN WT NA, 590SN NA

1. If the bucket is not removed from the machine, raise the bucket to a suitable height and use suitable supports to hold the loader frame and bucket in place.
2. Remove all cutting edge retaining bolts.

NOTE: *If the plow bolt threads or the nut is damaged, it night be necessary to use an acetylene cutting torch to remove the plow bolts. do not apply heat to or cut on the bucket surface. To prevent damage to the bucket surface, the use of a cutting torch should be restricted to the cutting edge side only.*

3. Thoroughly clean the mounting surface on the bucket lip with a wire brush to remove any dirt or debris.
4. Install the new cutting edge using new mounting hardware.
5. Torque the cutting edge mounting bolt nuts to **461 - 569 N·m** (**340 - 420 lb ft**).



RCPH10TLB011BAL 1

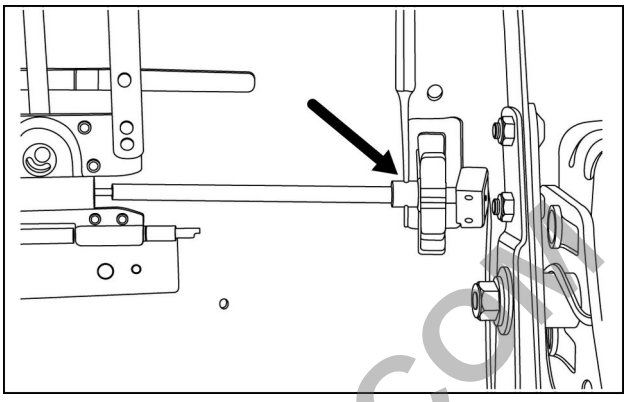
1. Clam bucket assembly
2. Cutting edge
3. Plow bolt
4. Nut

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

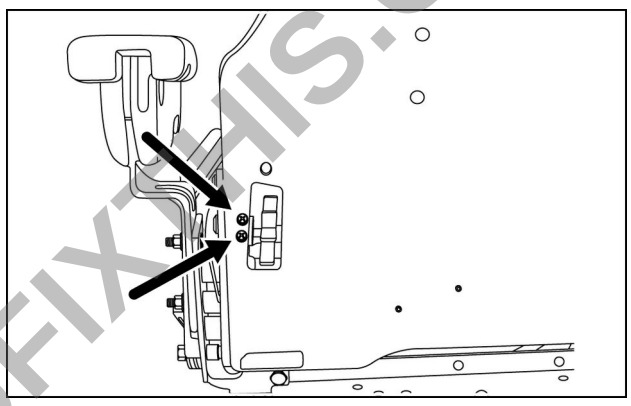
Lumber adjustment

1. Drive the roll pin out of the lumbar adjustment knob.



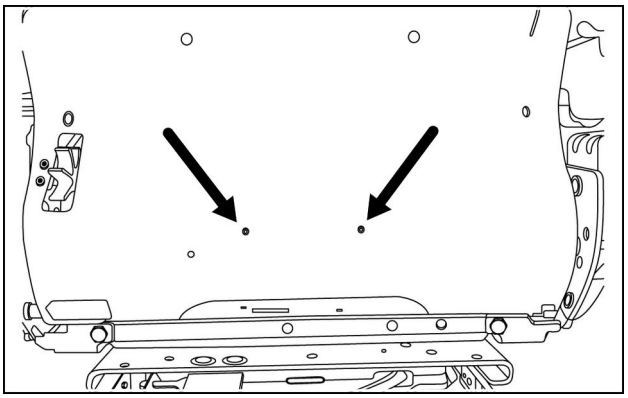
RCPH10TLB759ABL 4

2. Remove the mounting screws and the lumber adjustment knob.



RCPH10TLB758ABL 5

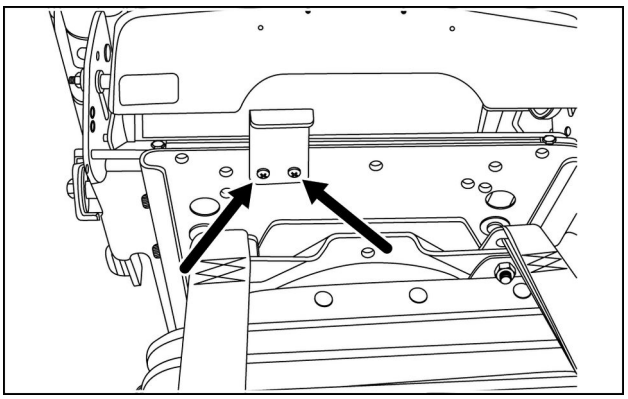
3. Drill out the rivets and remove the lumbar assembly.



RCPH10TLB761ABL 6

Recliner

1. Remove the mounting screws and the stop plate from the rear of the seat bottom.



RCPH10TLB762ABL 7

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 3501 pages

The full manual includes:

- All 3501 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Case 580N, 580SN-WT, 580SN, 590SN Repair Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual