T-REX

WORKSHOP MANUAL

SUMMARY

GROUPS

Front Axle _____ from pg. 41 to pg. 47
Rear Axle _____ from pg. 49 to pg. 55
Differential _____ from pg. 57 to pg. 65
Transfer Case _____ from pg. 67 to pg. 81

FRAME

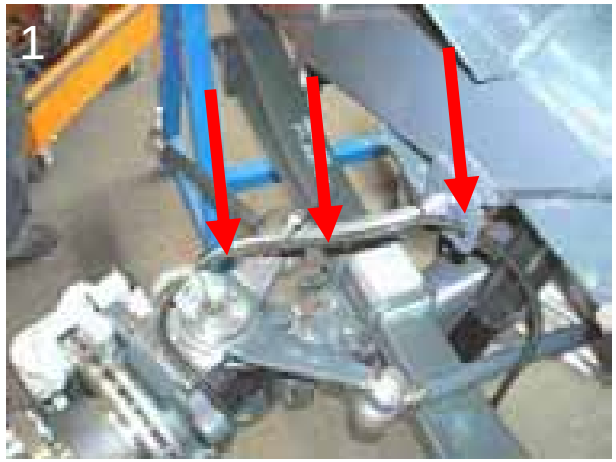
Front Axle _____ from pg. 03 to pg. 07
Rear Axle _____ from pg. 09 to pg. 13
Steering box _____ from pg. 15 to pg. 21
Transfer Case _____ from pg. 23 to pg. 29
Exhaust line F1C engine _____ from pg. 31 to pg. 37

DISASSEMBLY

FRONT AXLE

Front axle disassembly procedure:

01) Remove the three plastic cable ties (picture-1)
02) Extract the ABS cable (picture-2)
03) Unscrew the brake hose using the appropriate spanner (picture-3)
04) Remove brake hose (picture-4)
05) Unscrew lower damper nut with screwdriver with bush 24mm.+ spanner 24mm. (picture-5)
06) Unscrew upper damper nut at the same way (picture-6)
07) Unscrew the stabilizer bar with screwdriver with bush 24mm. + spanner 24mm. (picture-7 picture-8 picture-9)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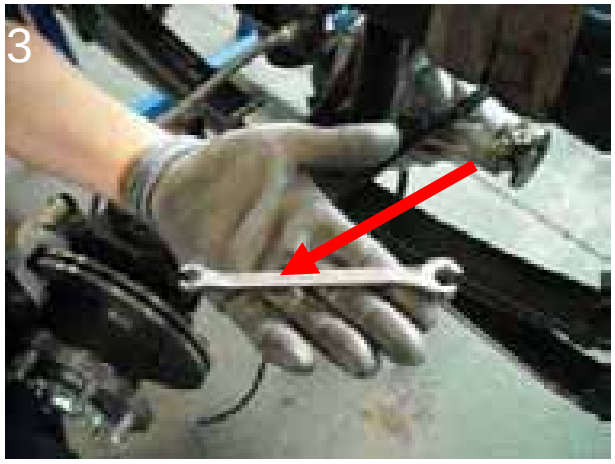
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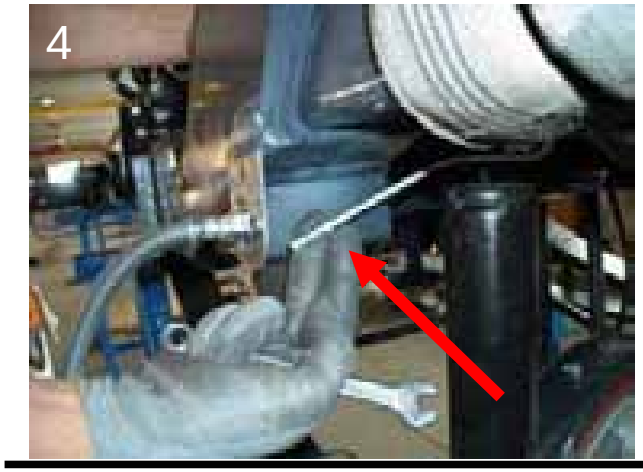
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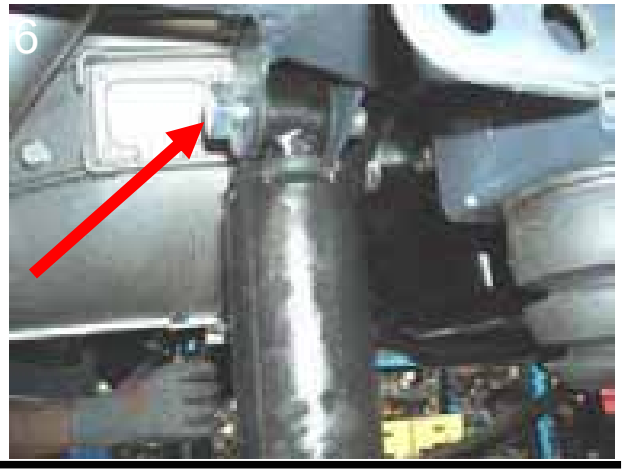
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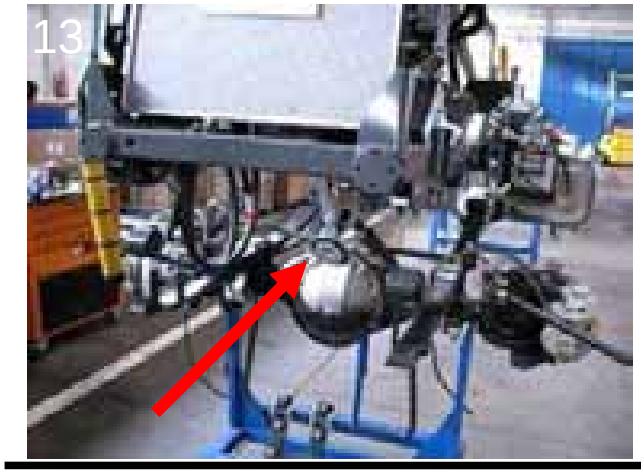
Front axle disassembly procedure:

09) Unscrew pins + nuts of the springs with screwdriver with bush 24mm.
    + spanner 24mm. (picture-10 and picture-11)
10) Remove pins from springs (picture-12)
11) Remove axle (picture-13)



DISASSEMBLY

REAR AXLE

Rear axle disassembly procedure:

01) Unscrew the cables bracket using 2 spanners 10mm.
    on both sides of the vehicle (picture-1)
02) Cut 5 short cable ties on both sides (picture-2)
03) Remove the ABS hose on both sides (picture-3)
04) Unscrew the brake hose using an appropriate spanner (picture-4)
05) Unscrew the brake cable on both sides with spanner 22mm. (picture-5)
06) Remove the brake cable on both sides (picture-6)
07) Unscrew the brake cable on both sides with spanner 22mm. (picture-7)
08) Disconnect the hand brake cable on both sides (picture-8)
09) Unscrew with screwdriver with bush 19mm. + spanner 19mm.
    the stabilizer bar screws (picture-9)

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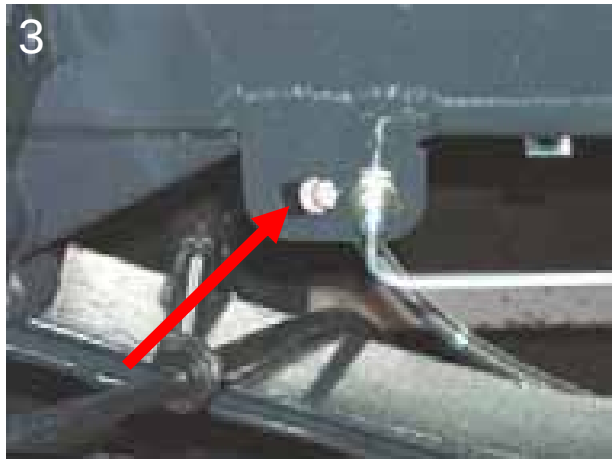
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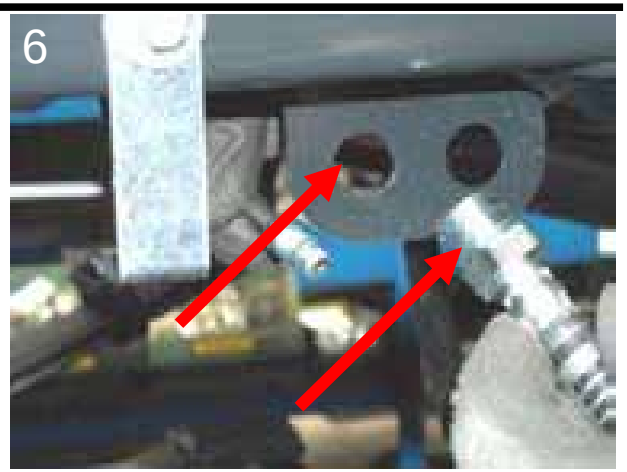
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Rear axle disassembly procedure:

10) Unscrew with screwdriver with bush 24mm. + spanner 24mm. the dampers fasteners on both sides (picture-10)
11) Remove the upper screw of the dampers on both sides (picture-11)
12) Remove the lower screw of the dampers on both sides (picture-12)
13) Remove washer 18x48x4 and the nut (picture-13)
14) Remove the stabilizer bar (picture-14 picture-15)
15) Unscrew and remove on both sides the pins with screwdriver with bush 24mm. + spanner 24mm. (picture-16)

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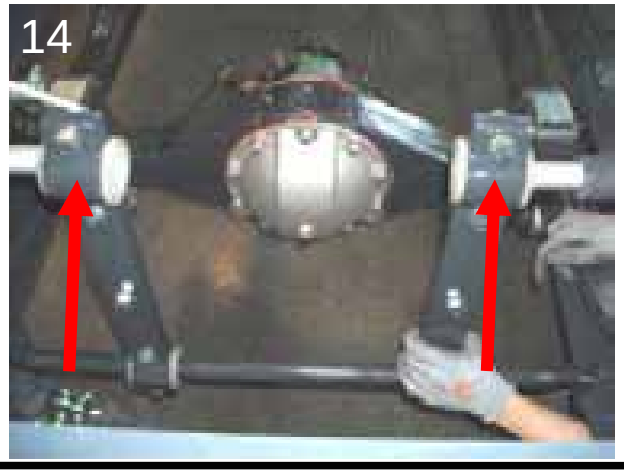
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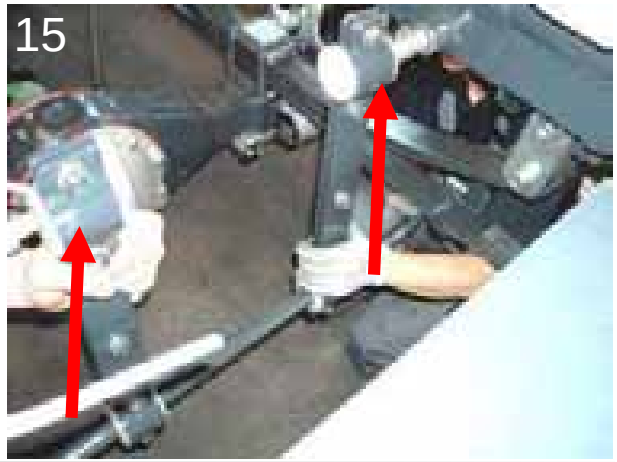
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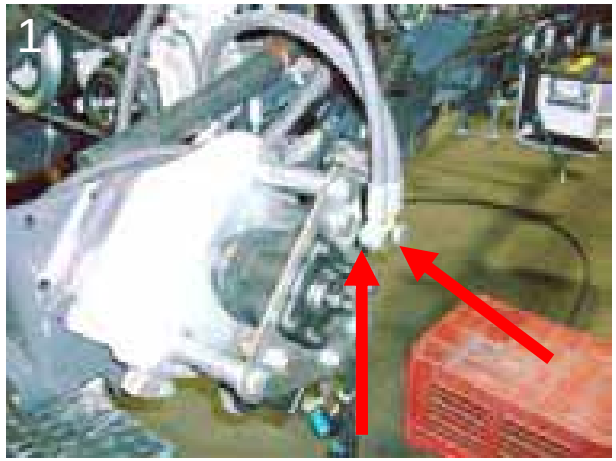
DISASSEMBLY

STEERING BOX

Steering box disassembly procedure:

01) Unscrew the two brake hoses (picture-1)
02) Unscrew rubber joint and remove the steering connection shaft (picture-2)
03) Unscrew with screwdriver with bush 22mm the ball-joint nut on pitman arm (picture-3 and picture-4)
04) Remove the tie-rod from the pitman arm (picture-5)
05) Unscrew with screwdriver with bush 19mm the screws to fix the steering bracket support to frame (picture-6 and picture-7)
06) Remove the bracket together with the steering box (picture-8)
07) Put the steering box on working table (picture-9)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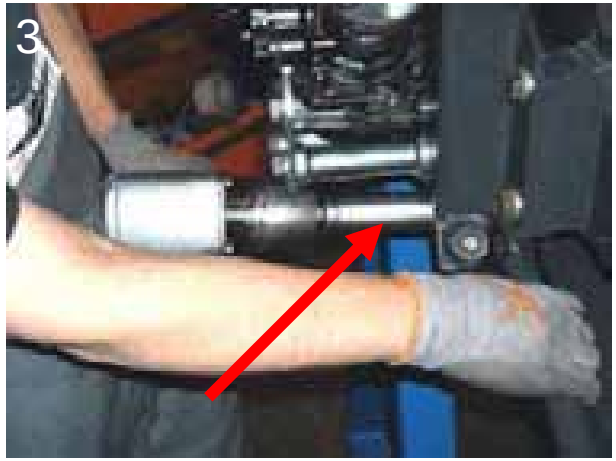
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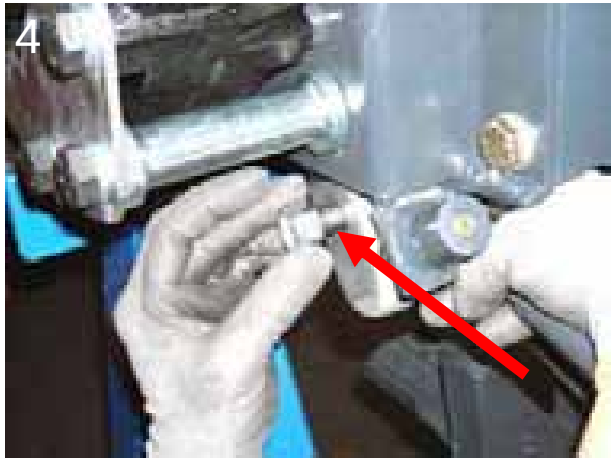
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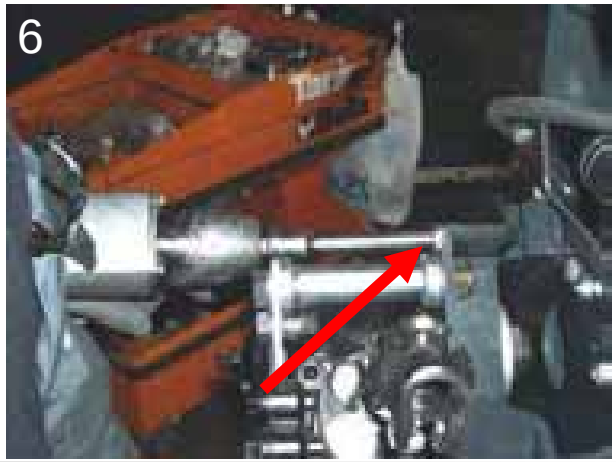
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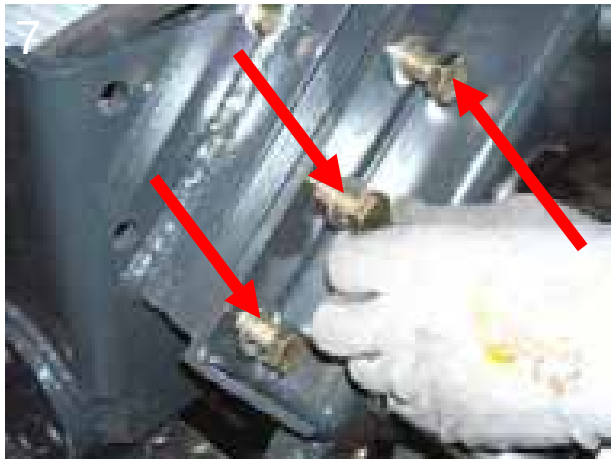
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Steering box disassembly procedure:

08) Unscrew with screwdriver with bush 41mm the pitman arm nut (picture-10);
09) Remove nut and pitman arm (picture-11 and picture-12);
10) Unscrew with screwdriver and bush 22mm and spanner 22mm the 3 nut used to fix the steering box support bracket (picture-13);
11) Remove the steering box support bracket (picture-14);
12) Remove nut and seal from the output shaft of the steering box (picture-15 e picture-16);
13) Remove the support bracket spacers (picture-17);
14) Unscrew with screwdriver with bush 22mm and spanner 22mm the fasteners of the secondary support bracket (picture-18);

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Steering box disassembly procedure:

15) Remove the secondary bracket support (picture-19)
16) The steering box is completely disassembled (picture-20)

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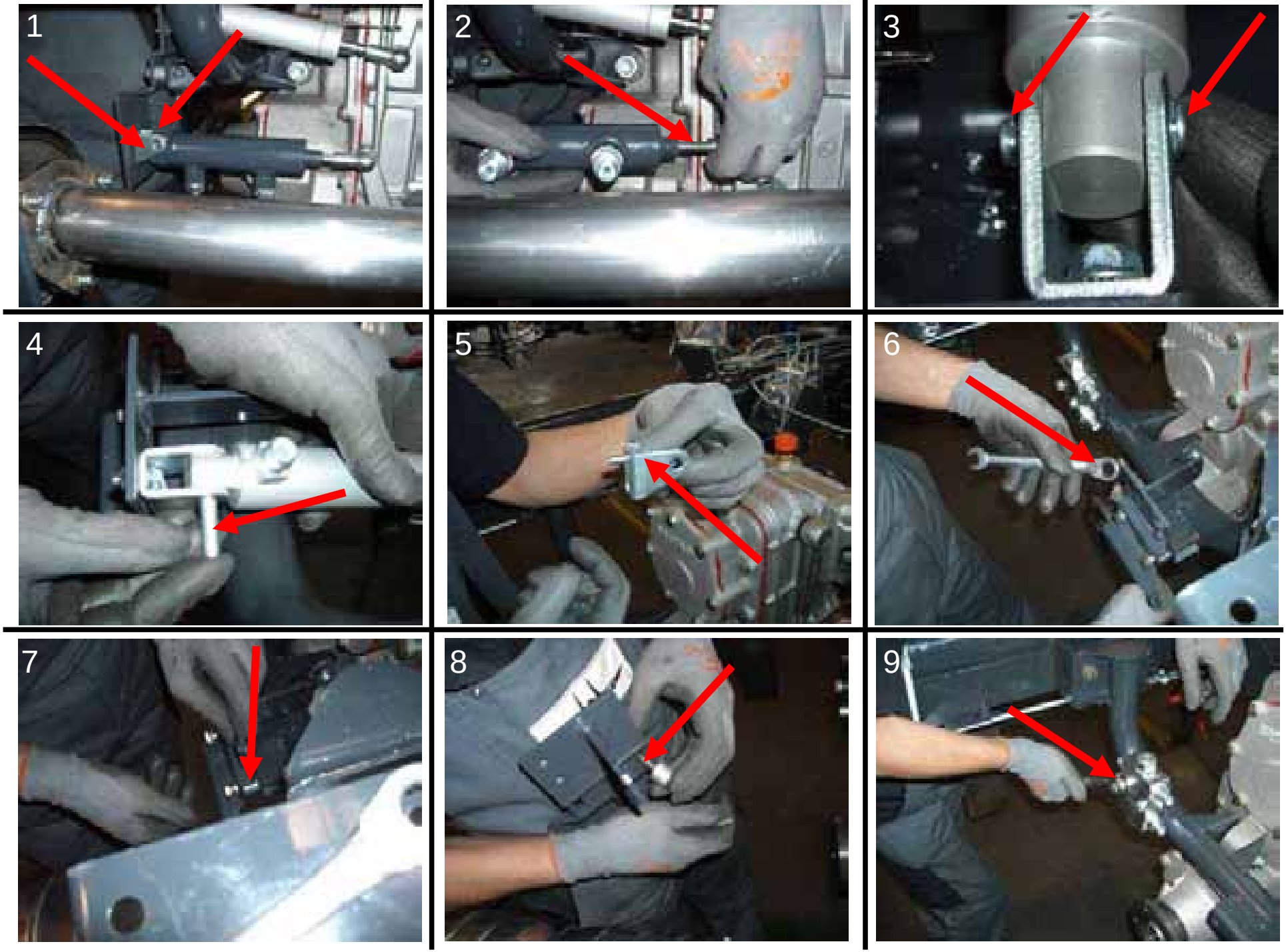
DISASSEMBLY

TRANSFER CASE

Transfer case disassembly procedure:

01) Unscrew all the hydraulic hoses of the hydraulic pistons
02) Operate on the hydraulic piston of the differential lock (picture-1)
03) Disconnect the ball-joint from the locking device lever (picture-2)
04) Remove the seegers from the piston pin (picture-3)
05) Remove the pin (picture-4)
06) Unscrew the 2 screws to fix the piston bracket and take it off (picture-5)
07) Repeat the operations 02 , 03 , 04 , 05 , 06 for the other hydraulic pistons.
    In addition remove the levers reaction springs also
08) Uscrew, with spanner 13mm, the split gear and reduced gear hydraulic pistons
    supports (picture-6 picture-7 picture-8)
09) Remove the oil hoses from the distributor and take it off (picture-9)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Transfer case disassembly procedure:

10) Unscrew with screwdriver with bush 24mm and spanner 24mm the fastener of the reaction bracket on the transfer case (picture-10)
11) Remove the screw (picture-11)
12) Unscrew with screwdriver with bush 17mm the screws between reaction beam and frame (picture-12 picture-13)
13) Remove the cross beam (picture-14)
14) Fit an hydraulic jack under the transfer case and unscrew with screwdriver with bush 24mm and spanner 24mm the screws on the two side support brackets (picture-15 picture-16)
15) Remove the transfer case using the hydraulic lift or the hydraulic jack (picture-17)
16) Remove the hydraulic piston of the central differential lock repeating operations described at points 02 , 03 , 04 , 05 , 06 (picture-18)

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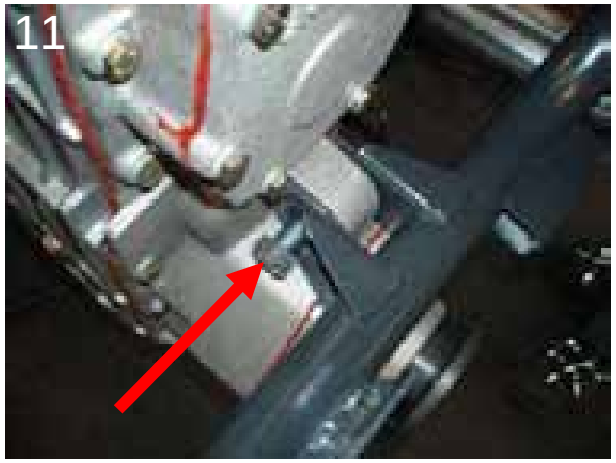
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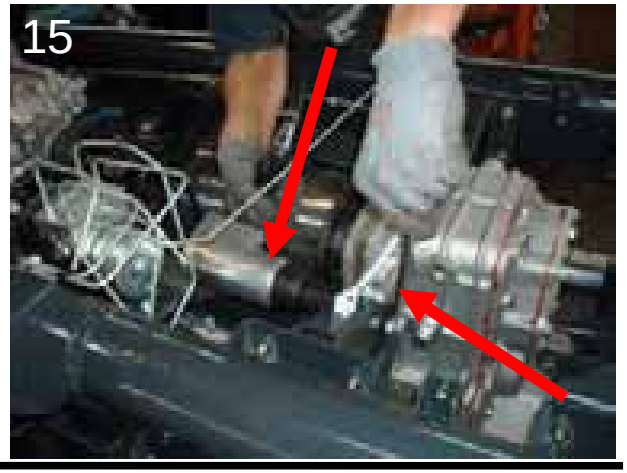
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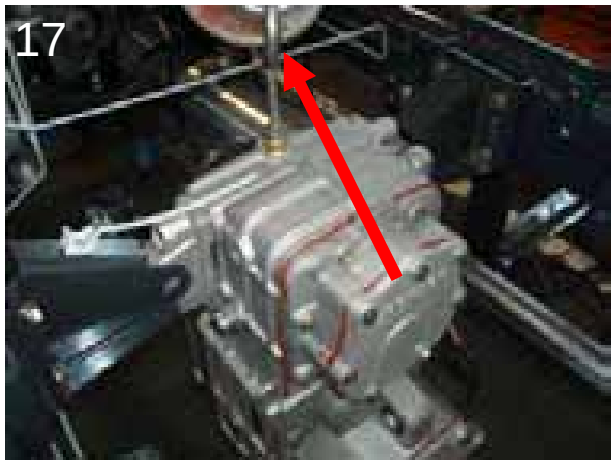
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Transfer case disassembly procedure:

17) Unscrew Allen (socket head screw) 8mm the diff.lock piston bracket (picture-19)

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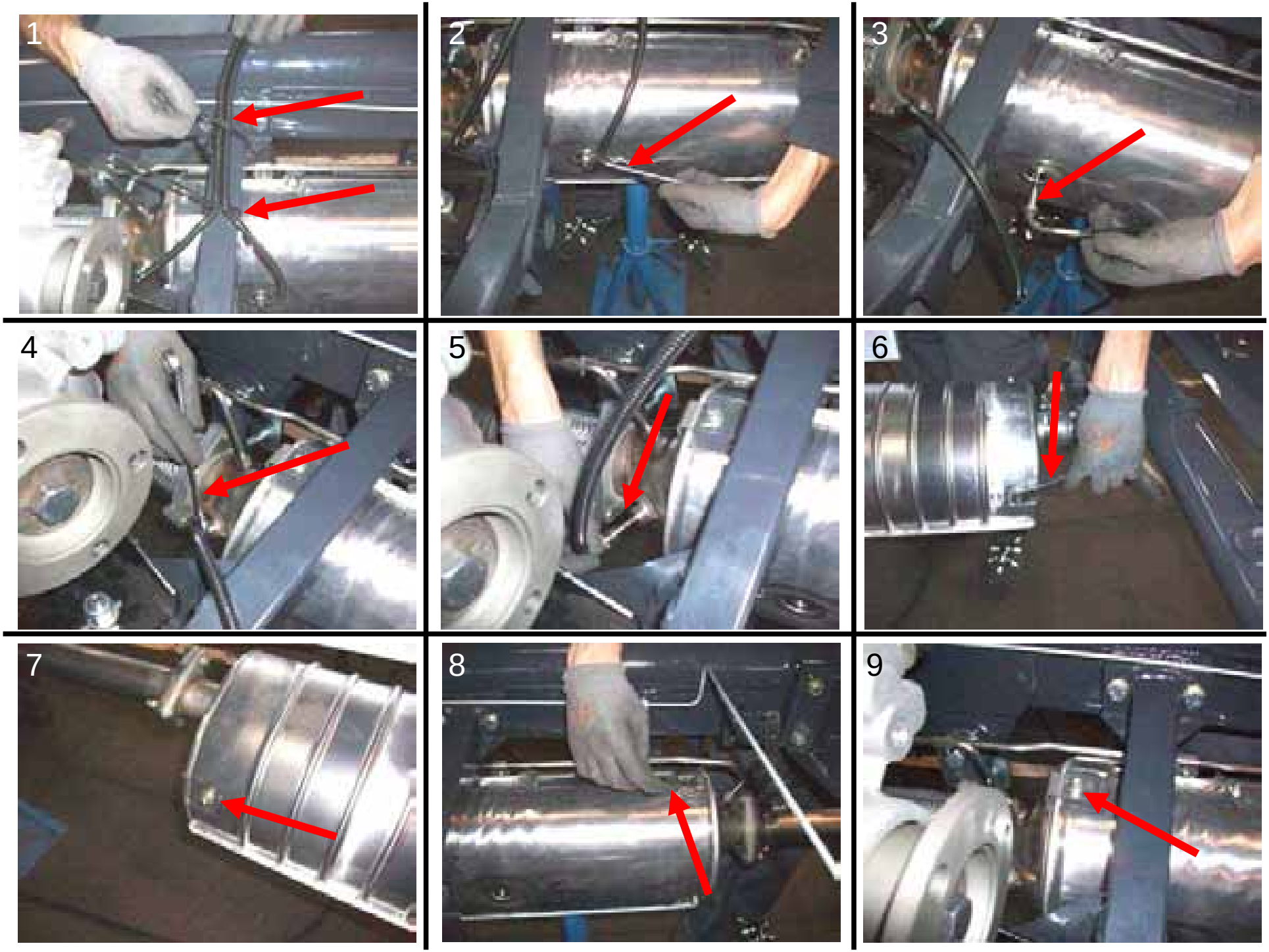
DISASSEMBLY

EXHAUST LINE F1C ENGINE

F1C Exhaust Line disassembly procedure:

01) Cut the cable tie fixing the DPF sensor cables (picture-1)
02) Using spanner 17mm, unscrew and remove the first 1° DPF sensor (picture-2 picture-3)
03) Using spanner 17mm, unscrew and remove the first 2° DPF sensor (picture-4 picture-5)
04) Using spanner 10mm, unscrew and remove the muffler protection cover (picture-6 picture-7)
05) Using spanner 10mm, unscrew and remove the DPF protection cover (picture-8 picture-9)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F1C Exhaust Line disassembly procedure:

06) Using screwdriver with bush 13mm and spanner 13mm remove the 1° and 2° silencer support (picture-10 picture-11).
07) With spanner 10mm unscrew the ring around the exhaust line (picture-12).
08) Remove the final tube of the exhaust line (picture-13).
09) With two spanners 17mm unscrew the screws fixing the DPF tube to the muffler (picture-14 picture-15).
10) With spanner 17mm unscrew the screws fixing the tube coming from the DPF (picture-16 picture-17).
11) Fit a stand under DPF (picture-18).

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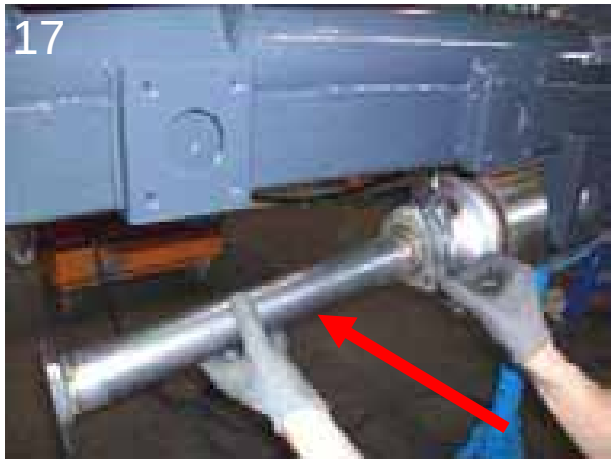
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F1C Exhaust Line disassembly procedure:

12) With spanner 17mm unscrew fasteners connecting DPF and engine exhaust tube (picture-19)
13) Disassembly the pipes from the DPF (picture-20 picture-21)
14) Remove nuts, springs, screws (picture-22 picture-23 picture-24 picture-25)

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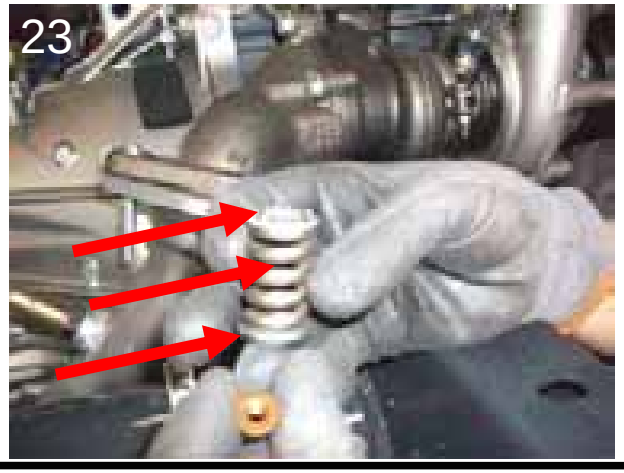
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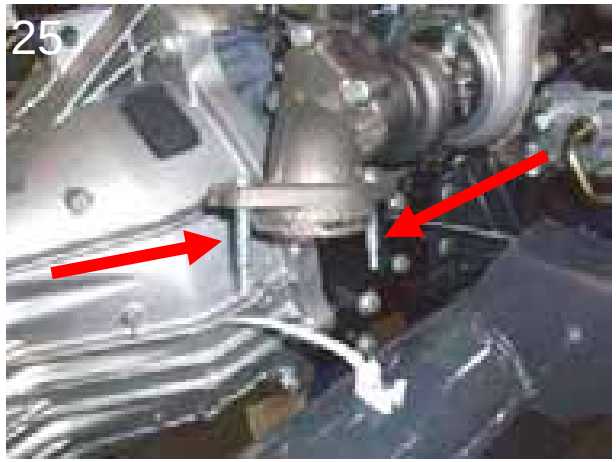
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DISASSEMBLY GROUP
FRONT AXLE

Front axle disassembly procedure:

01) Fit the axle on an appropriate support and unscrew the 5 screws of the differential protection cover (picture-01)
02) Remove the cover (picture-02)
03) Remove nut 80753 and gasket 80754 from the thread hole (picture-03)
04) Unscrew the 5 studs 90A1026 and the 5 screws 201026 (picture-04)
05) Remove the differential cover 90A2010 (picture-05)
06) Remove carefully the loctite (picture-06)
07) Remove the 2 pins 90A2010 (picture-07)
08) Unscrew the brake calipers (picture-08)
09) Remove the pads (picture-09)

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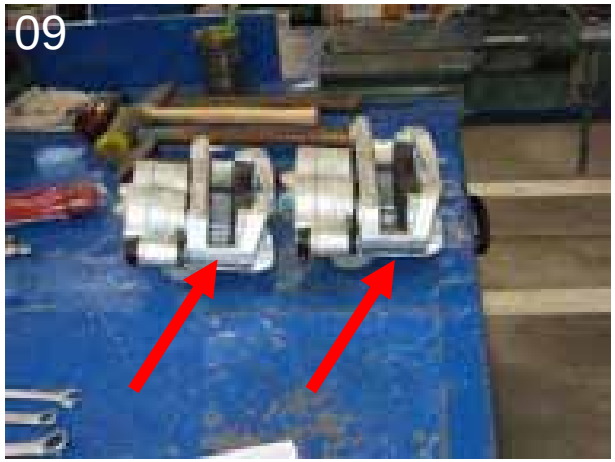
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Front axle disassembly procedure:

10) Unscrew grease nipples QT1268 (picture-10)
11) Unscrew the 8 screws 211017 on each side from the hub flange covers (picture-11)
12) Remove the seals and remove carefully loctite (picture-12)
13) Remove the two brake discs (picture-13 picture-14 picture-15)
14) Remove ABS sensor (one on each side) (picture-16)
15) Unscrew the nut (one on each side) 91A4012 (picture-17)
16) Remove the two hubs 91B4008 (one on each side) (picture-18)

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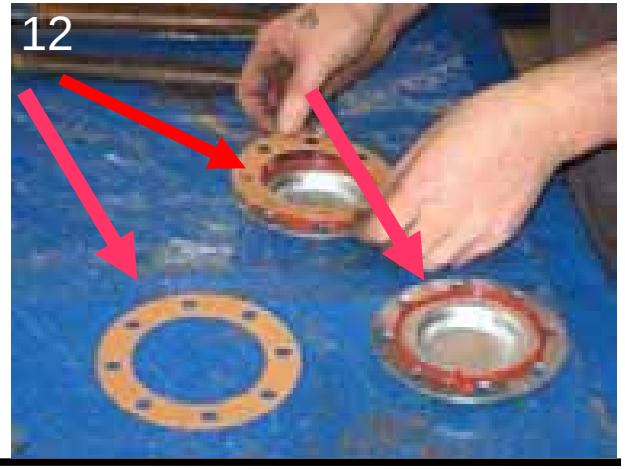
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Front axle disassembly procedure:

17) Remove the two brake hoses brackets D4034 (picture-19)
18) Remove the 4 knuckle pin B010 (picture-20)
19) Remove right and left wheel knuckle (picture-21)
20) Unscrew the 8 screws on each side (picture-22)
21) Remove the shaft groups as showed (picture23)
22) Remove seeger B1003 (picture-24)
23) Extract the axle shaft (90B4010) (picture-25)
24) Unscrew the screws connecting differential housing and axle (picture-26)
25) Remove the oil nut (picture-27)

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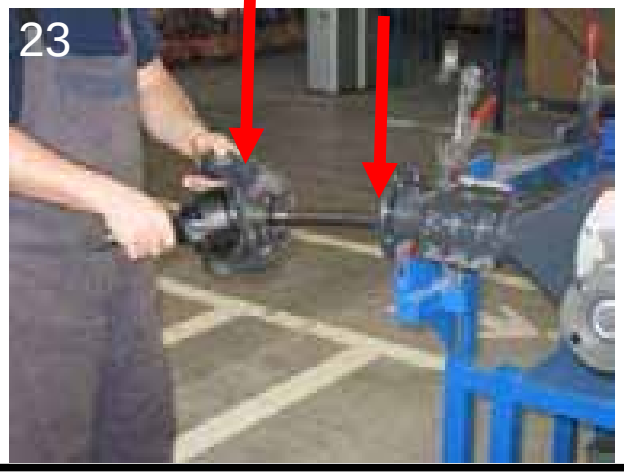
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DISASSEMBLY GROUP
REAR AXLE

Rear axle disassembly procedure:

01) Remove nut 80753 and gasket 80754 from the thread hole (picture-01)
02) Unscrew the 5 studs 90A1026 and the 5 screws 201026 (picture-02)
03) Remove the differential cover 90A2010 (picture-03)
04) Remove carefully the loctite (picture-04)
05) Remove the 2 pins 90A2010 (picture-05)
06) Remove differential lock sensor bracket (if fitted) (picture-06)
07) Remove lever and spring and piston (if fitted) (picture-07)
08) Extract locking shaft and fork (picture-08 picture-09)

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Rear axle disassembly procedure:

09) Unscrew the 8 screws 211016 on each side on hub cover (picture-10)
10) Extract the 2 axle shafts (picture-11)
11) Unscrew the screws fixing the differential housing (picture-12)
12) Remove the differential (picture-13)
13) Remove carefully the loctite (picture-14)
14) Unscrew the calipers (picture-15)
15) Remove pads (picture-16)
16) Unscrew the hub bearing nut on each side (picture-17)
17) Unscrew the crews connecting wheel adapter and brake disc
(if adapter is fitted) (picture-18)

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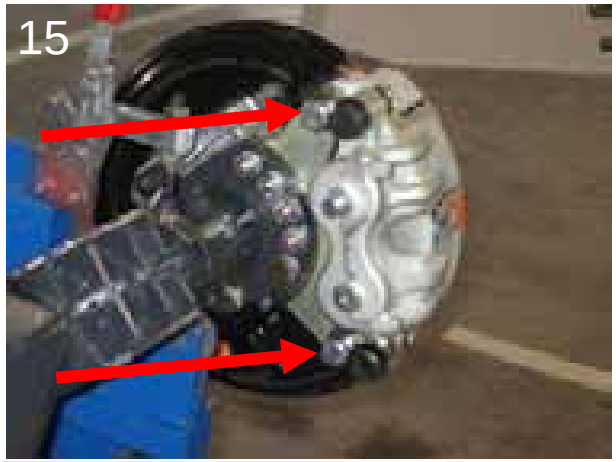
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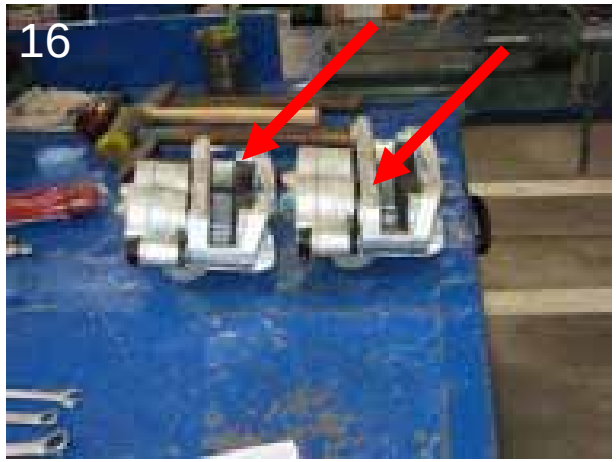
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Rear axle disassembly procedure:

18) Remove the brake discs (picture-19)
19) Remove the ABS sensor support (picture-20)
20) Unscrew the nuts fixing hand brake drum (picture-21)
21) Remove the hand brake drum (picture-22)
22) Unscrew the caliper flange screws (picture-23)
23) Remove the flanges (picture-24)
24) Unscrew the nut (picture-25)

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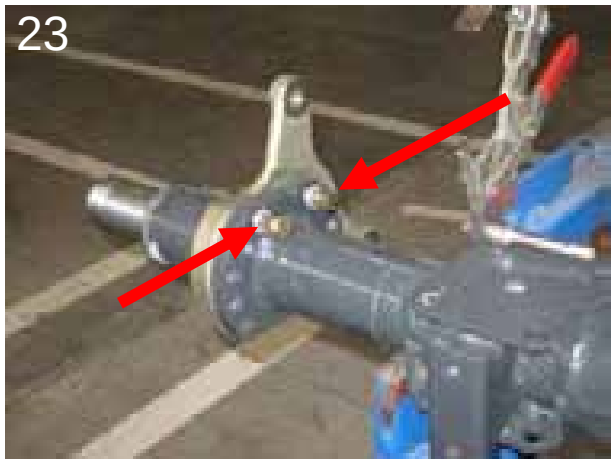
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DISASSEMBLY
GROUP
LOCKABLE DIFFERENTIAL

Lockable differential disassembly procedure:

01) Unscrew all bolts to Remove differential house(picture-01)‖
02) Fit the differential on a bench and Remove locking regulation screw 90A2020 (picture-02)‖
03) Remove guides and sliding lock (picture-03 picture-04)‖
04) Remove locking shaft and fork (picture-05)‖
05) Remove locking nut 205003 and plate 90A2014 (picture-06)‖
06) Unscrew 4 bolts 202114 (picture-07)‖
07) Remove U differential bolts (picture-08 picture-09)‖

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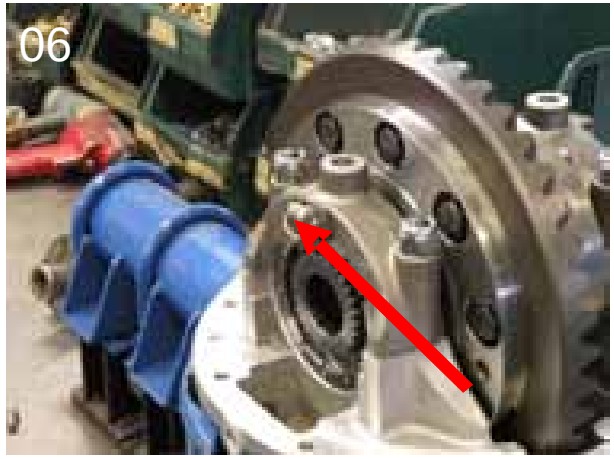
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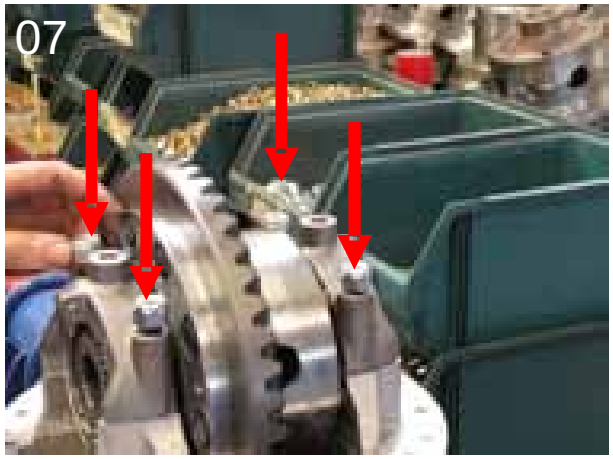
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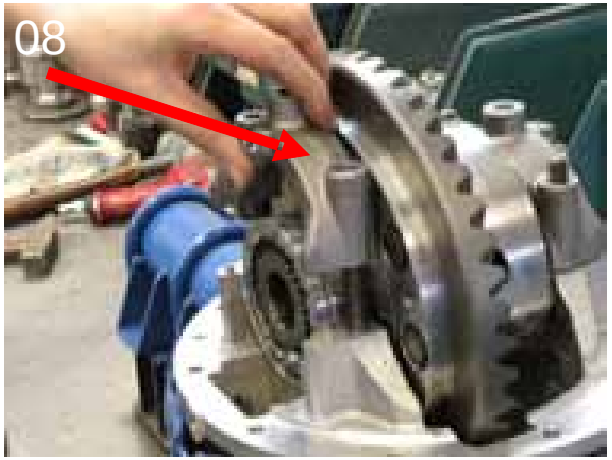
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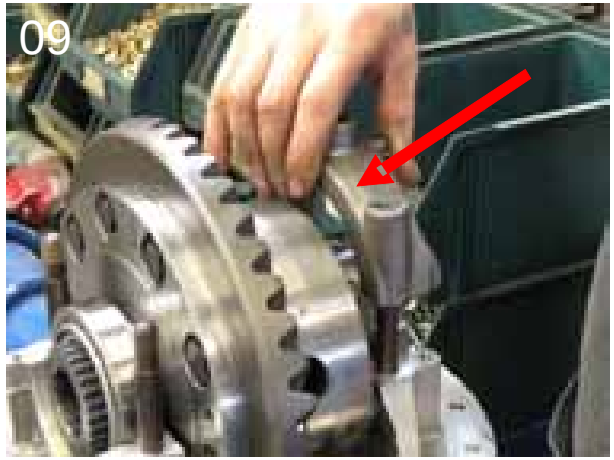
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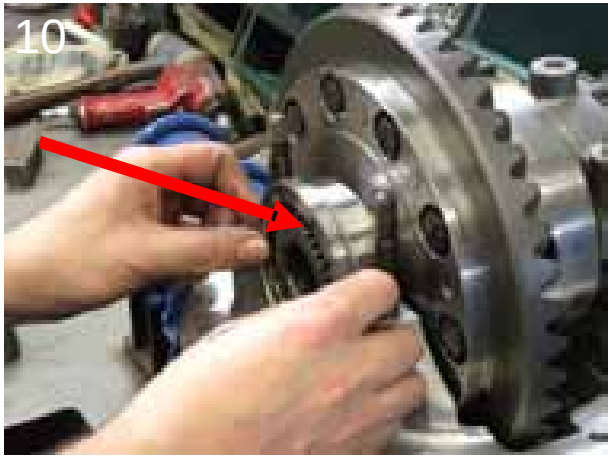
Lockable differential disassembly procedure:

08) Remove the two differential nut (picture-10 picture-11)
09) Remove differential box (picture-12)
10) Remove n°2 bearings A9503 (picture-13)
11) Unscrew 10 bolts 201127 of the crown (picture-14)
12) Remove differential box (picture-15)
13) Open differential box (picture-16 picture-17)
14) Remove two pins A9012 and n°4 gears A9016 (pictu re-18)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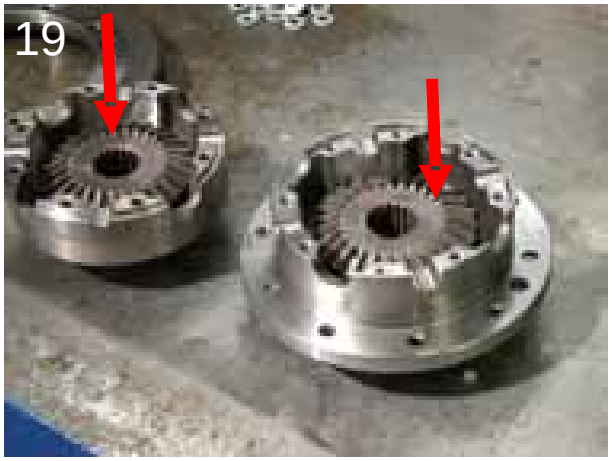
Lockable differential disassembly procedure:

15) Remove n°2 planetars A9017 (picture-19)
16) Remove n°2 sheems 80733 (picture-20)
17) Unscrew selflocking nut (picture-21)
18) Remove cardan flange 90R1025 (picture-22)
19) Unscrew n°8 nuts 202004 (picture-23)
20) Remove locking support (picture-24)
21) Remove differential cap (picture-25)
22) Remove bearing 90A2015 and pinion 90B2004 (picture-26 picture-27)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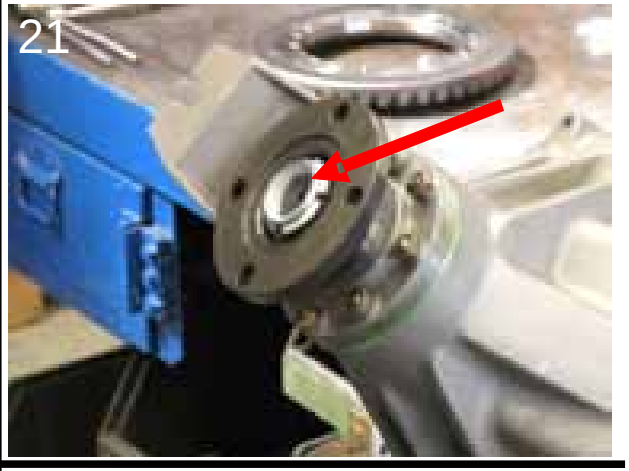
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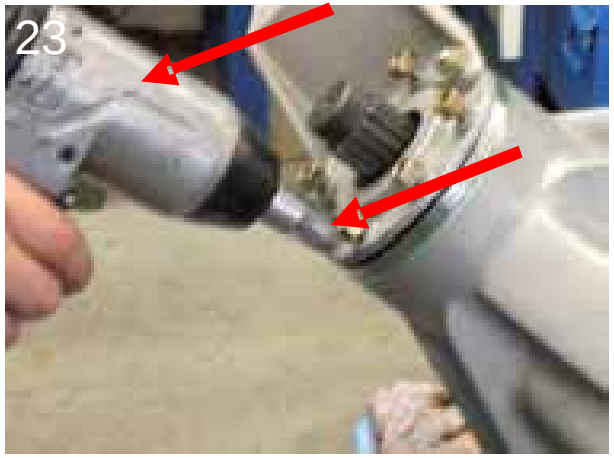
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Lockable differential disassembly procedure:

23) Remove differential inner bush (picture-28)

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DISASSEMBLY GROUP **TRANSFER BOX**

Transfer box disassembly procedure:

01) Unscrew the oil cap and empty the transfer box (picture-01)‖
02) Unscrew the two screws from each side support (picture-02 picture-03)‖
03) Unscrew the speed sensor (picture-04)‖
04) Unscrew the self-locking nut (picture-05)‖
05) Remove the flange (picture-06)‖
06) Remove the ring-tone and the seal (picture-07)‖
07) Unscrew the screws on the rear cover (picture-08)‖
08) Remove the rear cover (picture-09)‖

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Transfer box disassembly procedure:

09) Remove seeger on bearing 90R1116 (picture-10)
10) Remove the spacer on differential shaft (picture-11)
11) Remove the complete crown assembly (picture-12)
12) Remove planetary gear 90R1118 (picture-13)
13) Remove spider 90R1119 (picture-14 picture-15)
14) Rotate the transfer box
15) Unscrew the self-locking nut and remove the flange (picture-16 picture-17)
16) Unscrew the self-locking nut (picture-18)

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Transfer box disassembly procedure:

17) Remove the flange (picture-19)
18) Remove the seal (picture-20)
19) Unscrew the screws from the front cover (picture-21)
20) Extract the complete box (picture-22)
21) Remove the 2 pins (picture-23)
22) Unscrew the bush (picture-24)
23) Extract sleeve and the 2 pads on fork (picture-25)
24) Remove seeger 90R1127 (picture-26)
25) Extract shaft 91R1127 (picture-27)

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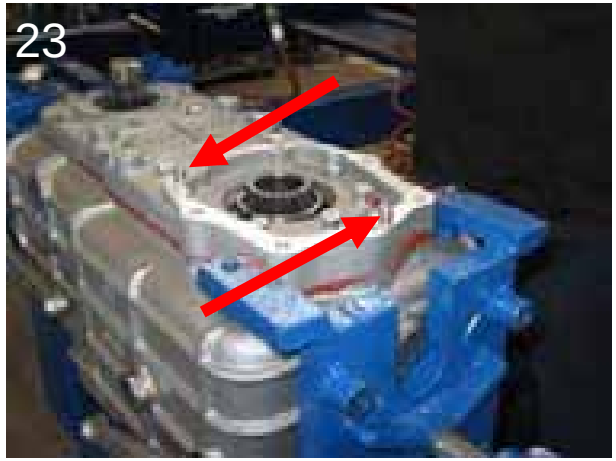
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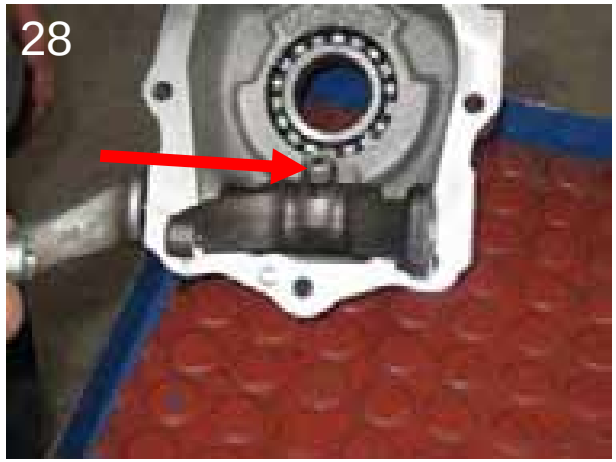
Transfer box disassembly procedure:

26) Unscrew the locking nut on the fork 90R1048 (picture-28)
27) Extract lever, shaft and fork (picture-29 picture-30 picture-31)
28) Remove seeger 90R1124 (picture-32)
29) Remove bearing B1004 (picture-33)
30) Rotate the transfer box
31) Unscrew the PTO cover screws (picture-34)
32) Remove PTO cover 90R1095 (picture-35)
33) Unscrew fasteners from differential housing 90R1094 (picture-36)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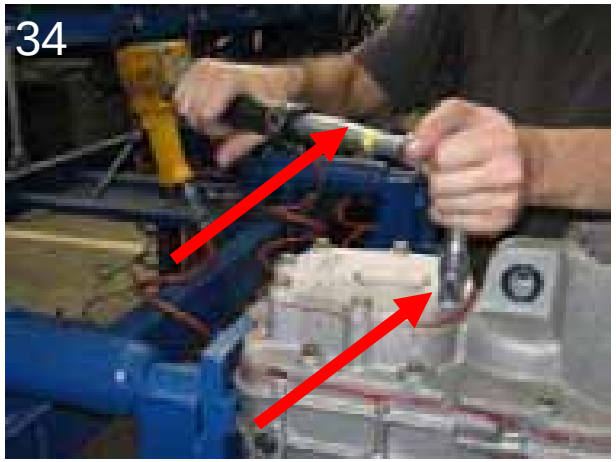
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Transfer box disassembly procedure:

34) Remove differential housing 90R1094 (picture-37 picture-38)
35) Remove pins (picture-39)
36) Remove ball-bearing 90R1122 (picture-40)
37) Remove ring 90R1123 (picture-41)
38) Remove gear 90R1134 (picture-42)
39) Remove 2 needle bearings 90R1097 (picture-43 picture-44)
40) Unscrew bush 90R1003 (picture-45)

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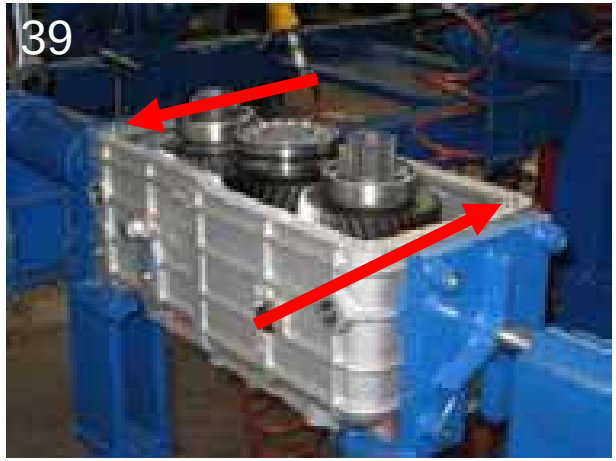
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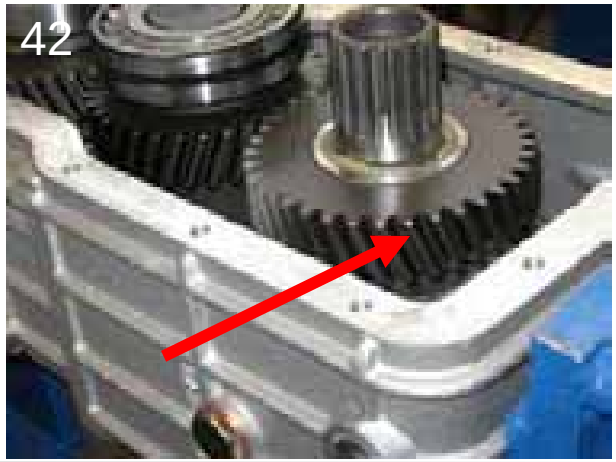
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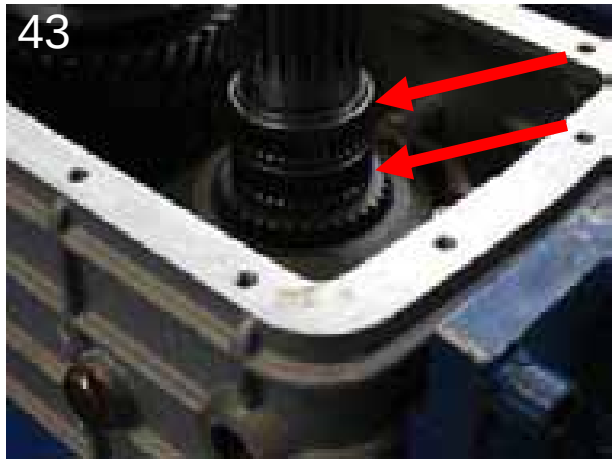
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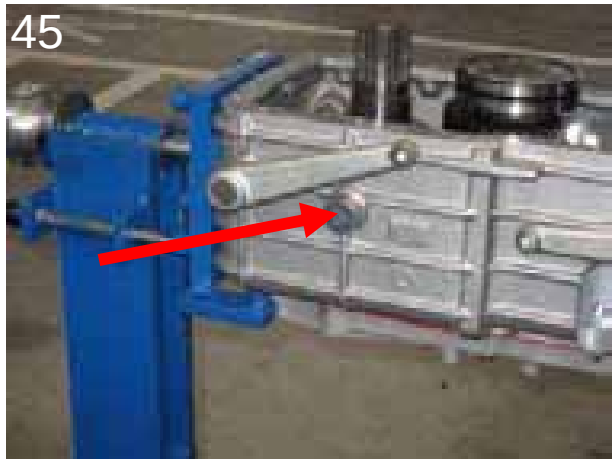
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Transfer box disassembly procedure:

41) Remove locking nut on fork 90R1048 (picture-46)
42) Extract pin, fork and spring (picture-47 picture-48 picture-49)
43) Remove sleeve 90R1051 (picture-50)
44) Extract lever and shaft 90R9103 (picture-51)
45) Remove seeger (picture-52)
46) Extract sleeve 90R1050 (picture-53)
47) Extract ball-bearing 90R1028 (picture-54)

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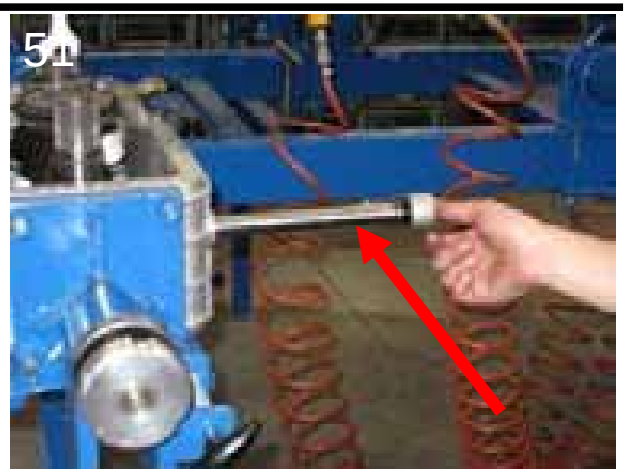
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Transfer box disassembly procedure:

48) Remove washer 90R1016 (picture-55)
49) Remove gear 90R1064 (picture-56)
50) Unscrew bush 90R1002 (picture-57)
51) Unscrew locking nut from fork 90R1048 (picture-58)
52) Extract shaft, fork and spring (picture-59)
53) Unscrew fasteners from front housing (picture-60)
54) Extract complete shaft (picture-61)
55) Extract the other two shafts (picture-62 picture-63)

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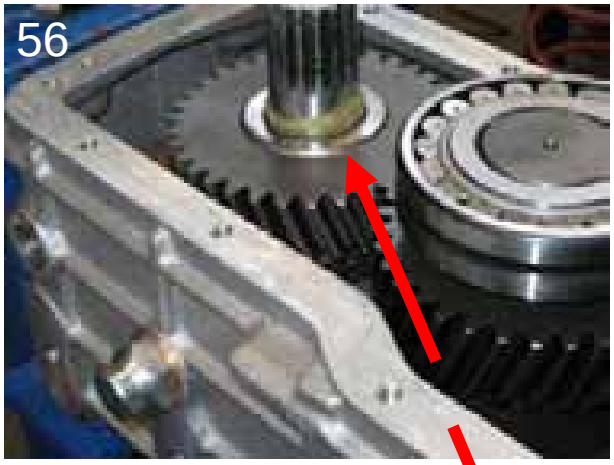
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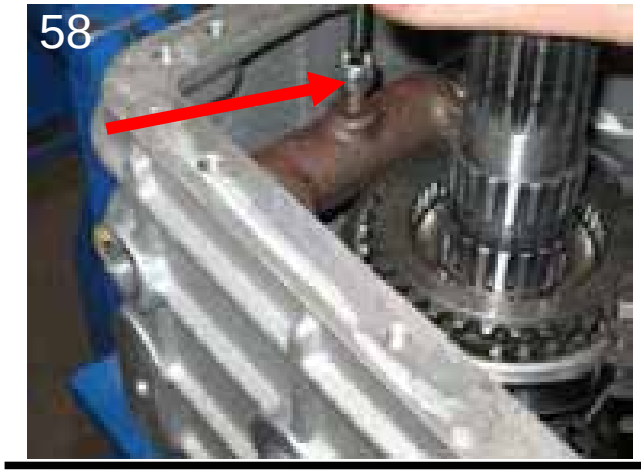
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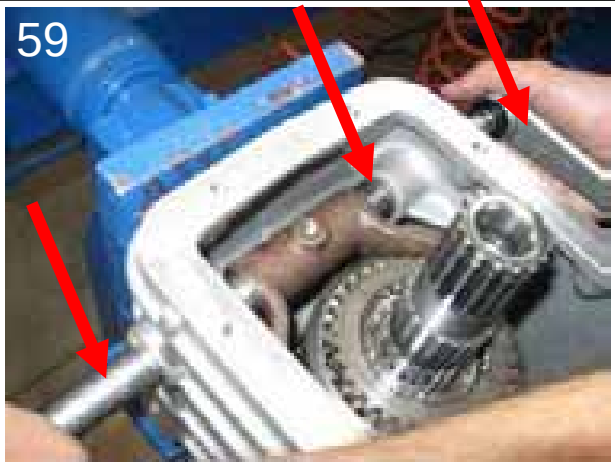
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