

Product: TELEHANDLER

Model: TH103 TELEHANDLER 3PN

Configuration: TH103 Telehandler 3PN02027-UP (MACHINE) POWERED BY 3054 Engine

Disassembly and Assembly

TH62, TH63, TH82, TH83 and TH103 Telehandlers Power Train

Media Number -REN3436-06

Publication Date -01/07/2004

Date Updated -23/02/2017

i06618950

Transmission - Assemble

SMCS - 3030-016

S/N - 3PN2027-UP

Assembly Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Assembly of the Drum Assembly for the Forward High Clutch

Table 1

Tools Needed			
Tool	Part Number	Name	QTY
A	1P-1859	Retaining Ring Pliers	1
B	4C-6399	Compressor Assembly	1

1. Clean all parts and inspect all parts. If any parts are worn or damaged use new Caterpillar parts for replacement.
-



Illustration 1

g00756558

2. Raise the temperature of bearing (13) to 135 °C (275 °F). Then install the bearing on the drum assembly for the forward high clutch (2).

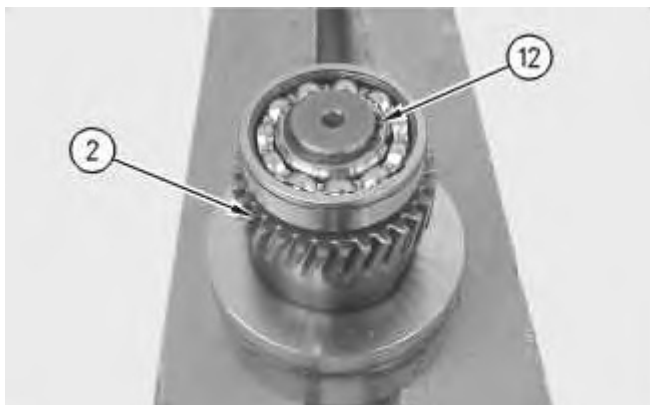


Illustration 2

g00755829

3. Use Tool (A) in order to install snap ring (12) on the drum assembly for the forward high clutch (2).

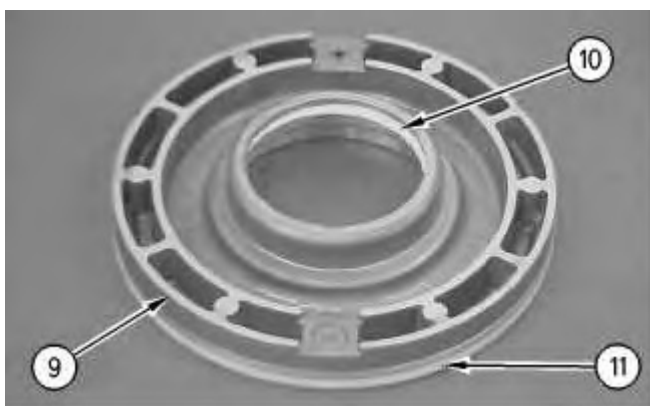


Illustration 3

g00755827

4. Install inner seal (10) and outer seal (11) into the grooves of piston assembly (9).

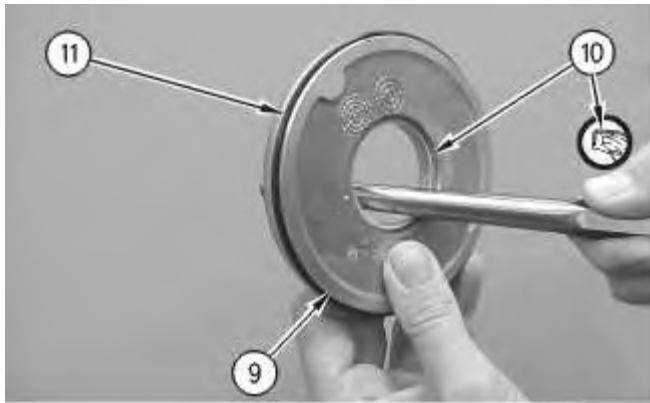


Illustration 4

g00759693

5. Size the inner seal and the outer seal by holding a round object against the seal. Rotate piston (9) until the seal is flush with the outer diameter of the piston groove. Install outer seal (11) with the lip of the seal in the same direction as inner seal (10).



Illustration 5

g00755812

6. Install piston assembly (9) into the drum assembly for the forward high clutch (2).



Illustration 6

g00755799

7. Install spacer (8) and spring assembly (6) into the drum assembly for the forward high clutch (2).

Note: The large diameter of the first belleville washer of the spring assembly goes next to the spacer. Then alternate the following four washers of the spring assembly.

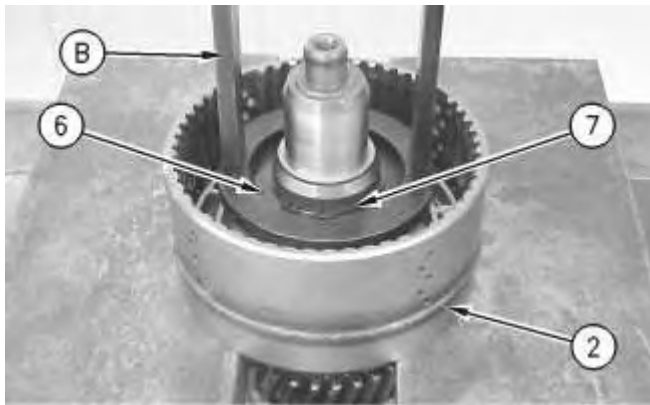


Illustration 7

g00759694

8. Use Tool (B) in order to compress spring assembly (6). Then use Tool (A) to install snap ring (7).

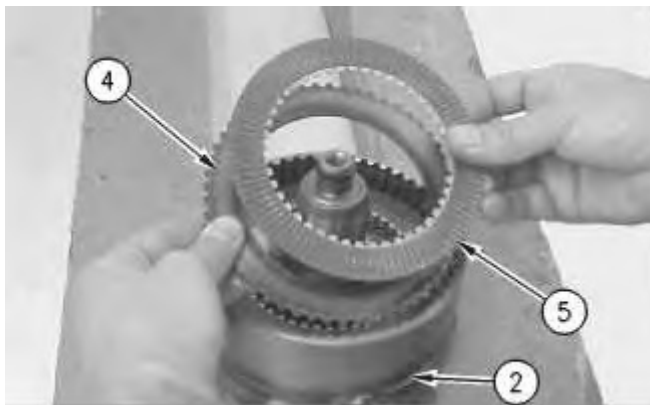


Illustration 8

g00755770

9. Install external steel disc (4) and internal friction disc (5) into the drum assembly for the forward high clutch (2).

Note: Install the external steel disc next to the piston assembly first. Then alternate between the friction discs and the steel discs. The friction disc is installed last.

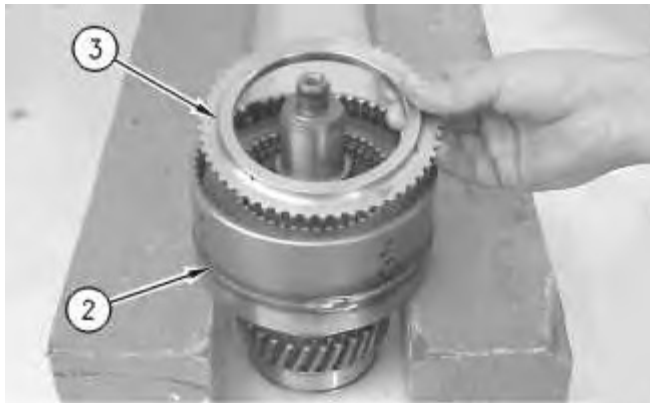


Illustration 9

g00755768

10. Install backing plate (3) into the drum assembly for the forward high clutch (2).

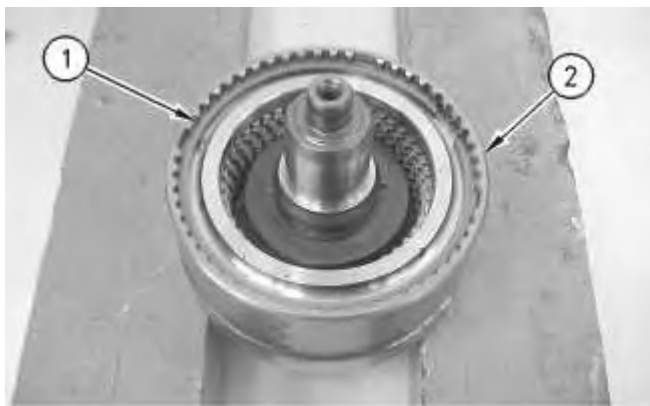


Illustration 10

g00755762

11. Install retaining ring (1) into the drum assembly for the forward high clutch (2).

Assembly of the Forward High and Reverse Idler Shaft Assembly

Table 2

Tools Needed			
Tool	Part Number	Name	QTY
A	1P-1859	Retaining Ring Pliers	1

1. Clean all parts and inspect all parts. If any parts are worn or damaged use new Caterpillar parts for replacement.

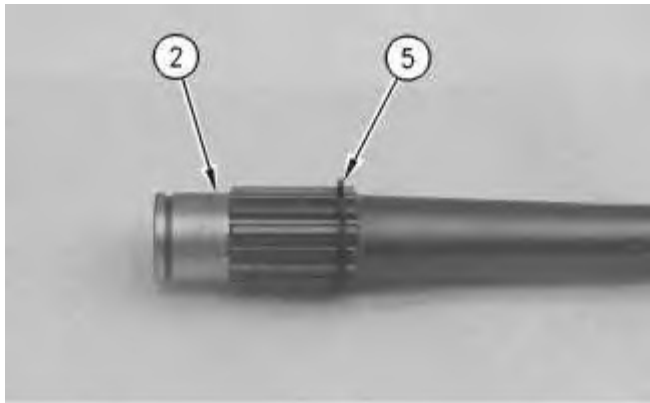


Illustration 11

g00755724

2. Use Tool (A) to install snap ring (5) on drive shaft assembly (2).

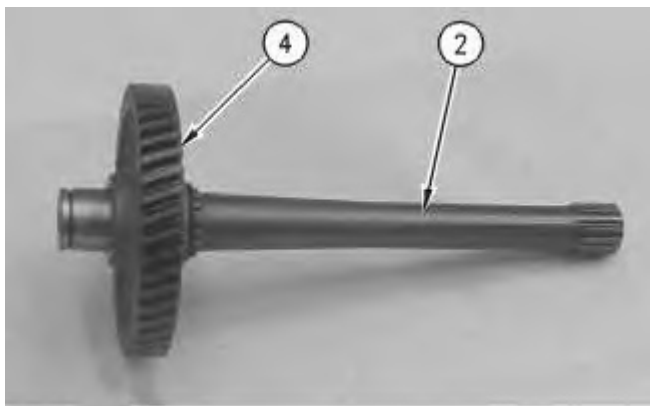


Illustration 12

g00755722

3. Install drive gear (4) onto drive shaft assembly (2).



Illustration 13

g00756615

4. Raise the temperature of bearing (3) to 135 °C (275 °F). Install the bearing onto drive shaft assembly (2).

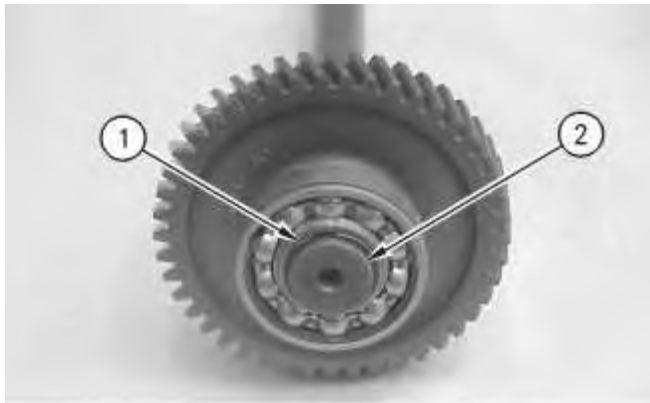


Illustration 14

g00755696

5. Use Tool (A) in order to install snap ring (1) onto drive shaft assembly (2).

Assembly of the Output Shaft and Third Clutch Assembly

Table 3

Tools Needed			
Tool	Part Number	Name	QTY
A	4C-6399	Compressor Assembly	1
B	1P-1859	Retaining Ring Pliers	1

1. Clean all parts and inspect all parts. If any parts are worn or damaged use new Caterpillar parts for replacement.

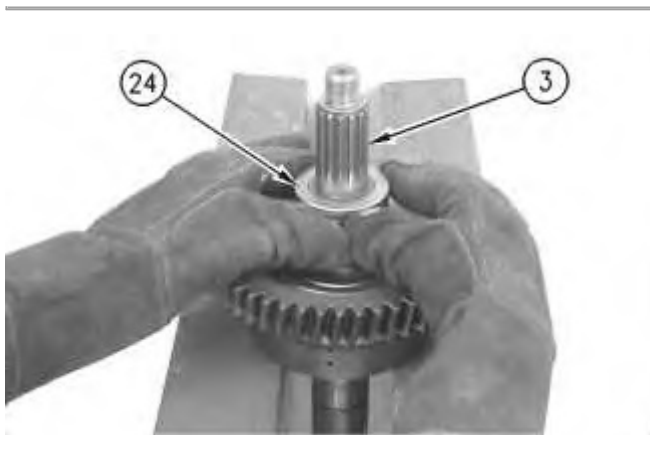


Illustration 15

g00756637

2. Raise the temperature of distributor (24) to 135 °C (275 °F). Install the distributor onto the output shaft and third clutch assembly (3).

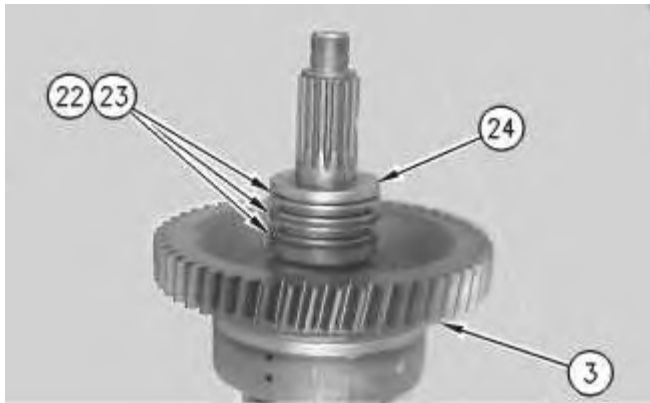


Illustration 16

g00755319

3. Allow distributor (24) to cool. Then install three sets of expanders (23) and sealing rings (22) onto the distributor (24).

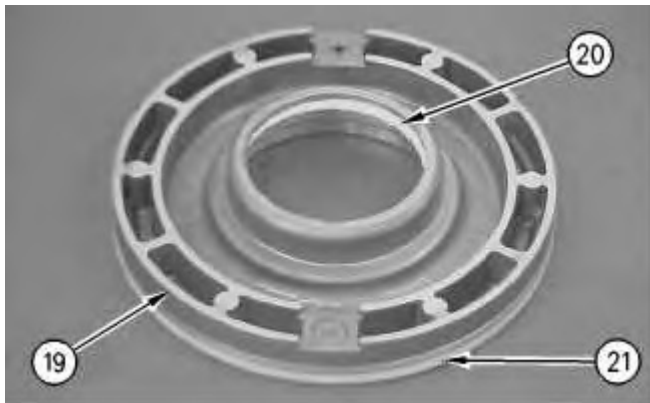


Illustration 17

g00755309

4. Install inner seal (20) and outer seal (21) into the grooves of piston (19).

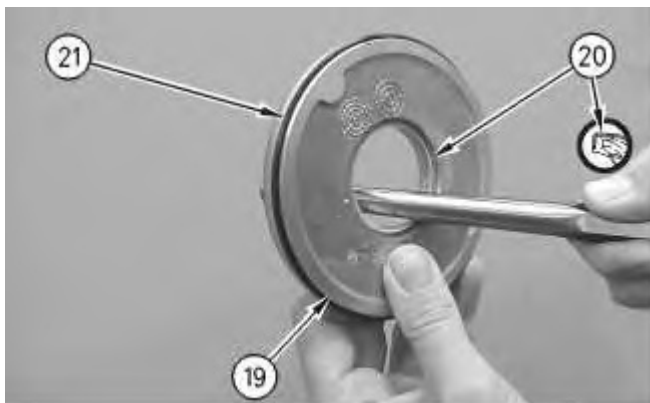


Illustration 18

g00759703

5. Size the inner seal and the outer seal by holding a round object against the seal. Rotate piston (19) until the seal is flush with the outer diameter of the piston groove. Install outer seal (21) with the lip of the seal in the same direction as inner seal (20).



Illustration 19

g00755302

6. Install piston (19) into the output shaft and third clutch assembly (3).

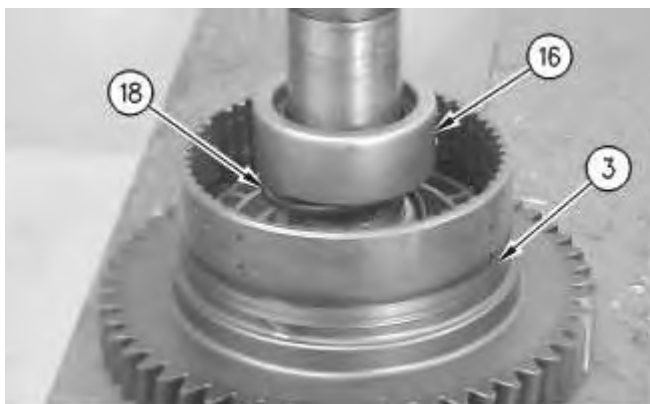


Illustration 20

g00755294

7. Install spring (18) and spring retainer (16) on the output shaft and third clutch assembly (3).

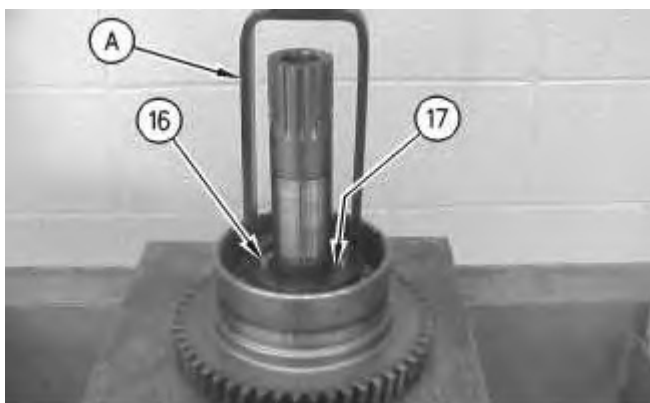


Illustration 21

g00759698

8. Use Tool (A) and a suitable press in order to compress spring retainer (16). Then use Tool (B) in order to install snap ring (17) (not shown).

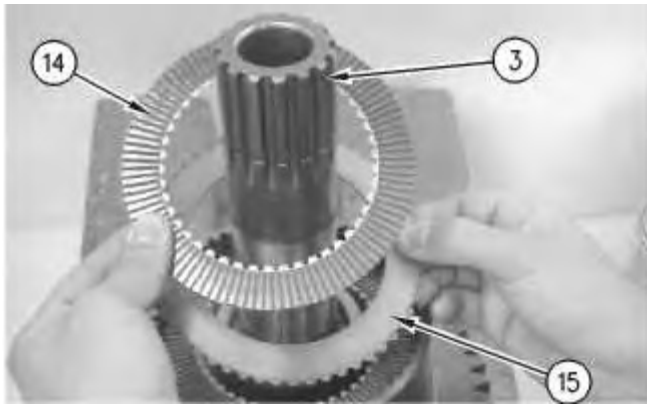


Illustration 22

g00755260

9. Install external steel disc (15) and internal friction disc (14) into the output shaft and third clutch assembly (3).

Note: Install the external steel disc next to the piston assembly first. Then alternate between the friction discs and the steel discs. The friction disc is installed last.

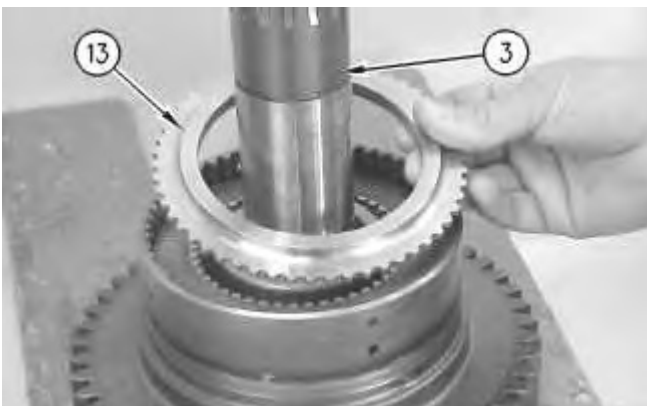


Illustration 23

g00755254

10. Install backing plate (13) on the output shaft and third clutch assembly (3).

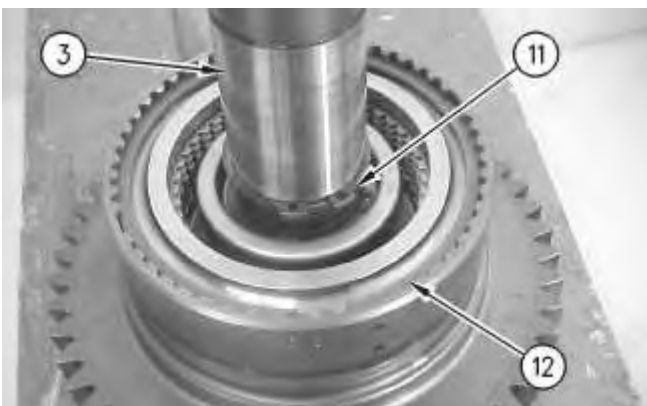


Illustration 24

g00755252

11. Install retaining ring (12) on the output shaft and third clutch assembly (3).
12. Use Tool (B) in order to install retaining ring (11) on the output shaft and third clutch assembly (3).

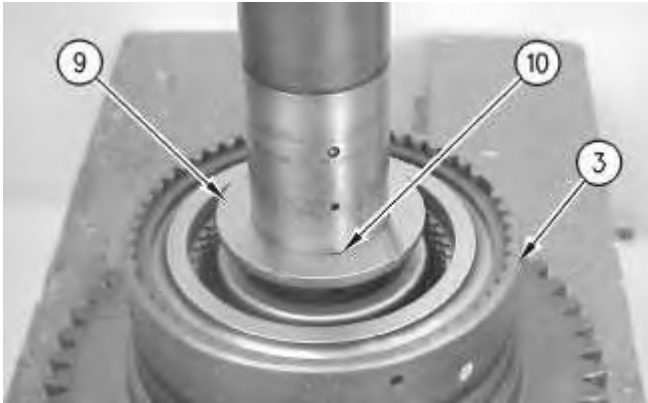


Illustration 25

g00755238

13. Install lock ball (10) and washer (9) on the output shaft and third clutch assembly (3).

Note: The use of grease will hold the lock ball in place. The grease will help prevent the loss of the lock ball during the assembly procedure.

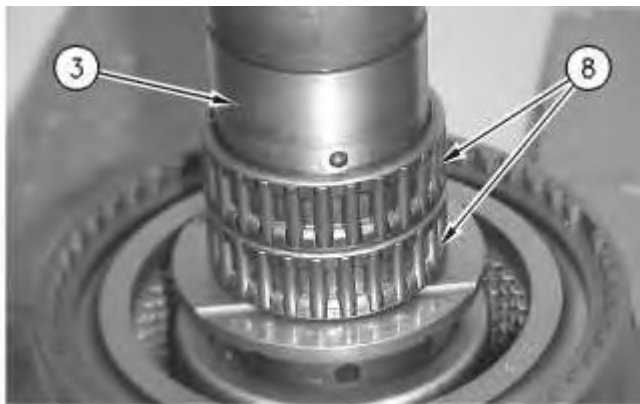


Illustration 26

g00755235

14. Install two bearings (8) for the clutch gear on the output shaft and third clutch assembly (3).
-

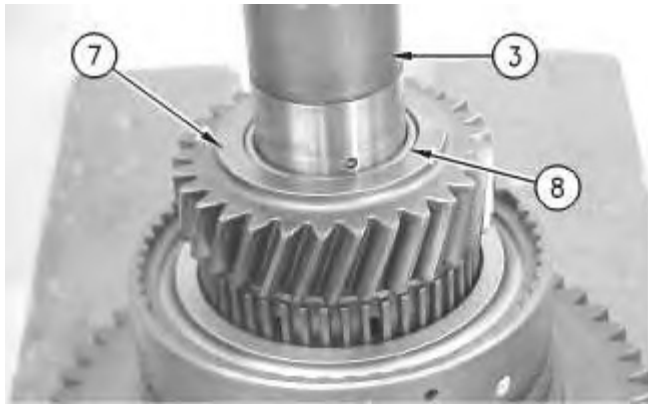


Illustration 27

g00756880

15. Install clutch gear (7) over two bearings (8) on the output shaft and third clutch assembly (3).

Note: Use extreme care when the clutch gear is installed into the output shaft and third clutch assembly. Each spline of the clutch gear must align with the internal teeth of the friction disc.

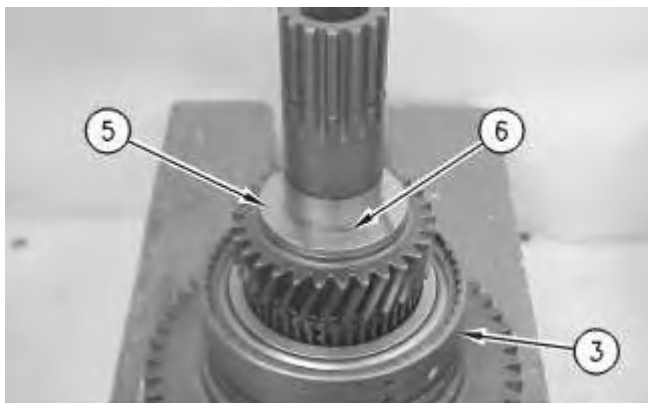


Illustration 28

g00755228

16. Install lock ball (6) and washer (5) on the output shaft and third clutch assembly (3).

Note: The use of grease will hold the lock ball in place. The grease will help prevent the loss of the lock ball during the assembly procedure.



Illustration 29

g00756906

17. Raise the temperature of bearing (4) to 135 °C (275 °F). Install the bearing onto the output shaft and third clutch assembly (3).

Note: Ensure that the bearing is completely against the washer.

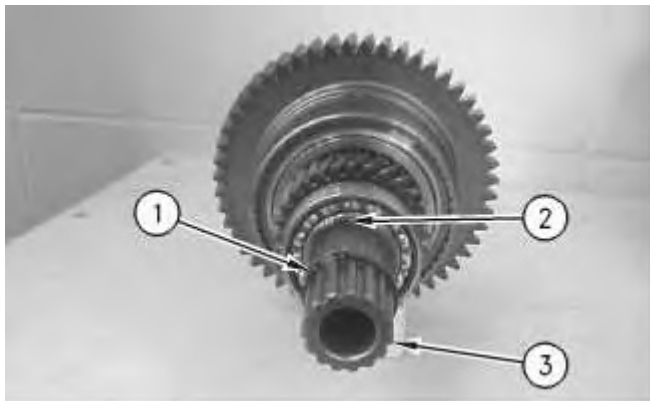


Illustration 30

g00755186

18. Use Tool (B) in order to install retaining rings (1) and (2) on the output shaft and third clutch assembly (3).

Assembly of the Reversing Clutch Assembly

Table 4

Tools Needed			
Tool	Part Number	Name	QTY
A	4C-6399	Compressor Assembly	1
B	1P-1863	Retaining Ring Pliers	1
C	FT-1745	Driver	1

1. Clean all parts and inspect all parts. If any parts are worn or damaged use new Caterpillar parts for replacement.

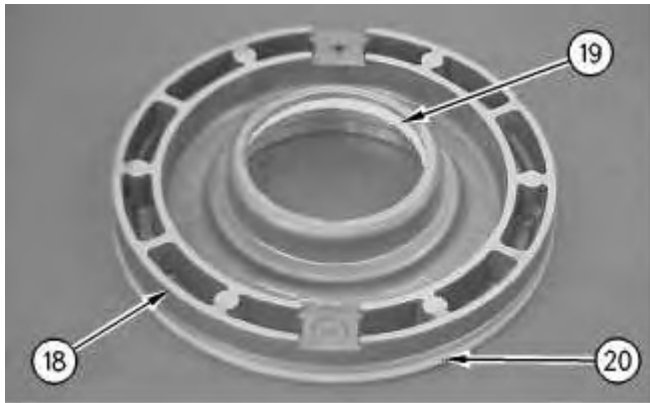


Illustration 31

g00757070

2. Install inner seal (19) and outer seal (20) into grooves of the piston (18).

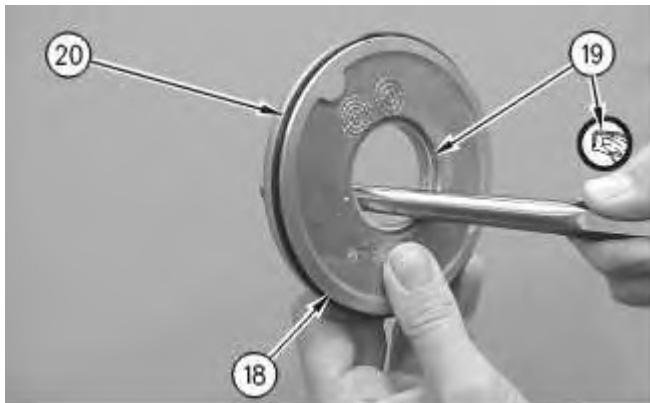


Illustration 32

g00759706

3. Size the inner seal and the outer seal by holding a round object against the seal. Rotate piston (18) until the seal is flush with the outer diameter of the piston groove. Install outer seal (20) with the lip of the seal in the same direction as inner seal (19).



Illustration 33

g00757095

4. Install piston (18) into reversing clutch assembly (3).
-

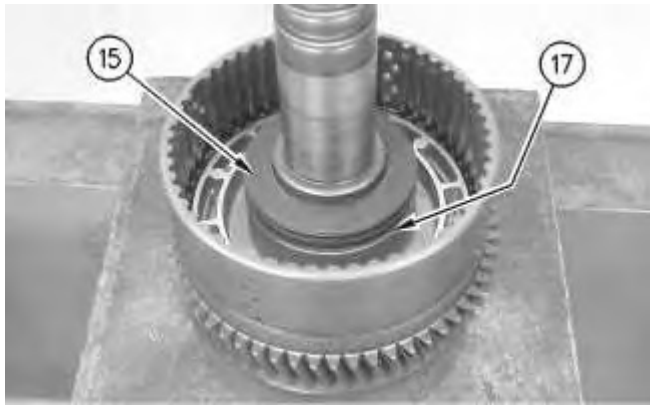


Illustration 34

g00756971

5. Install spacer (17) (not shown) and five spring discs (15) in the reversing clutch assembly.

Note: The large diameter of the first belleville disc spring goes next to the spacer. Then alternate the following four belleville disc springs.

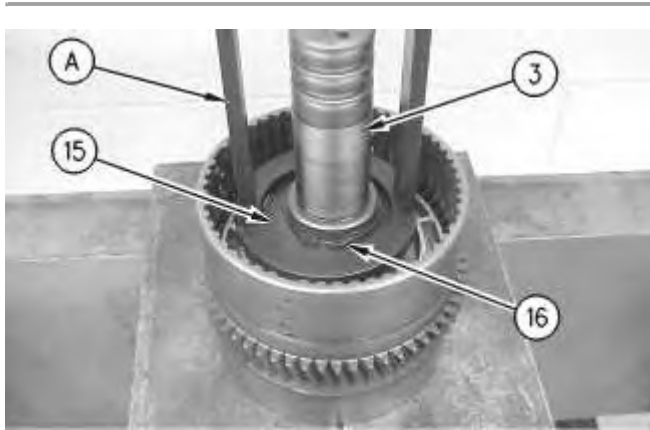


Illustration 35

g00759708

6. Use Tool (A) and a suitable press in order to compress spring assembly (15). Then use Tool (B) in order to install snap ring (16).



Illustration 36

g00757123

7. Raise the temperature of bearing (14) to 135 °C (275 °F). Install the bearing onto reversing clutch assembly (3).

Note: Ensure that the bearing is completely against the spring disc.



Illustration 37

g00755637

8. Install external steel disc (12) and internal friction disc (13) into the output shaft and third clutch assembly (3).

Note: Install the external steel disc next to the piston assembly first. Then alternate between the friction discs and the steel discs. The friction disc is installed last.

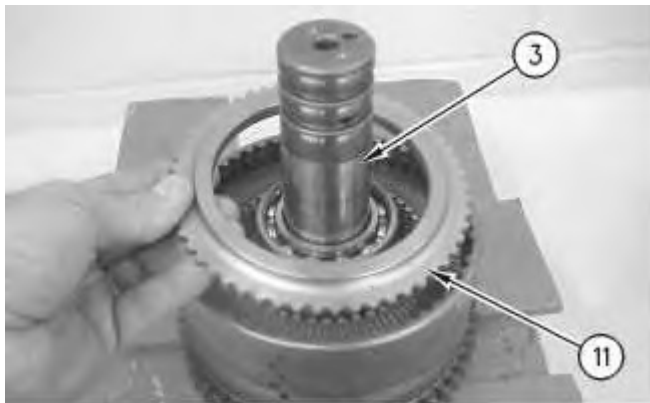


Illustration 38

g00755634

9. Install backing plate (11) into reversing clutch assembly (3).
-

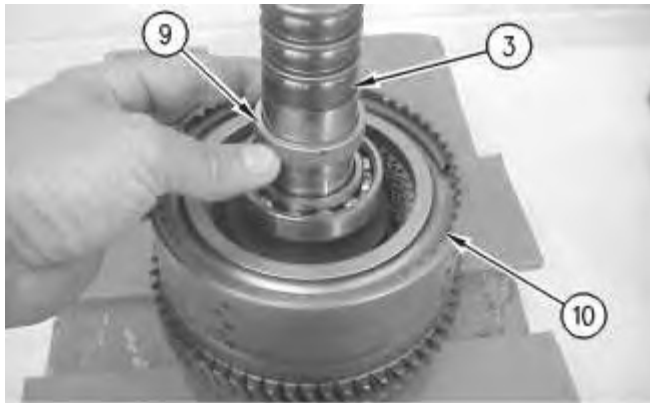


Illustration 39

g00755632

10. Install retaining ring (10) into reversing clutch assembly (3).
11. Install spacer (9) on reversing clutch assembly (3).



Illustration 40

g00755629

12. Install retaining ring (8) into the groove in the inside diameter of reversing clutch gear (6).



Illustration 41

g00757171

13. Install reversing clutch gear (6) on the reversing clutch assembly (3).

Note: Use extreme care when the clutch gear is installed into the clutch assembly. Each spline of the clutch gear must align with the internal teeth of the friction disc.

14. Place outer bearing (7) in position on the shaft of the reversing clutch assembly (3).

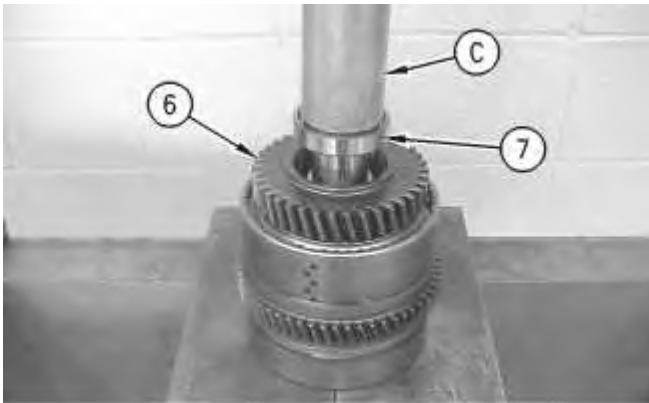


Illustration 42

g00757198

15. Use Tool (C) and a suitable press to install bearing (7) into position in reversing clutch gear (6).



Illustration 43

g00757214

16. Raise the temperature of bearing (5) to 135 °C (275 °F). Install the bearing onto reversing clutch assembly (3).

Note: Ensure that the bearing is completely against clutch gear (6).



Illustration 44

g00755611

17. Use Tool (B) to install retaining ring (4) onto reversing clutch assembly (3).

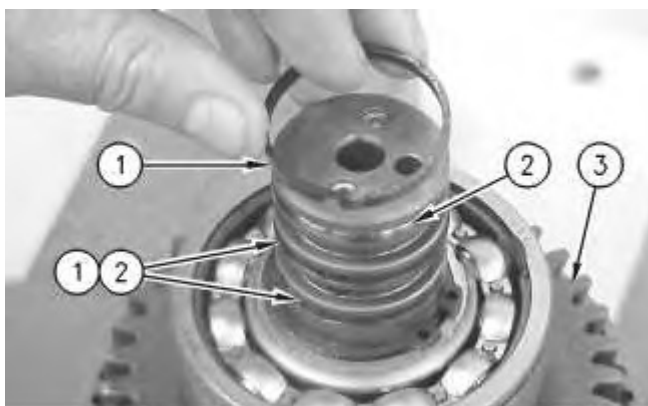


Illustration 45

g00755597

18. Install three expander rings (2) and sealing rings (1) into the grooves in reversing clutch assembly (3).

Assembly of the Second Clutch Assembly

Table 5

Tools Needed			
Tool	Part Number	Name	QTY
A	4C-6399	Compressor Assembly	1
B	1P-1863	Retaining Ring Pliers	1
C	FT-1745	Driver	1

1. Clean all parts and inspect all parts. If any parts are worn or damaged use new Caterpillar parts for replacement.

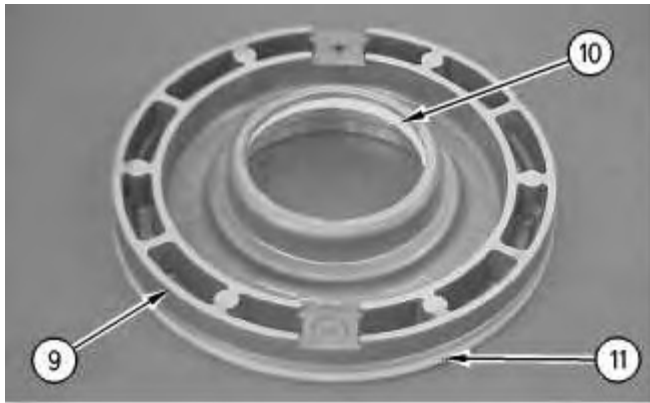


Illustration 46

g00754836

2. Install inner seal (10) and outer seal (11) in the grooves of piston (9).

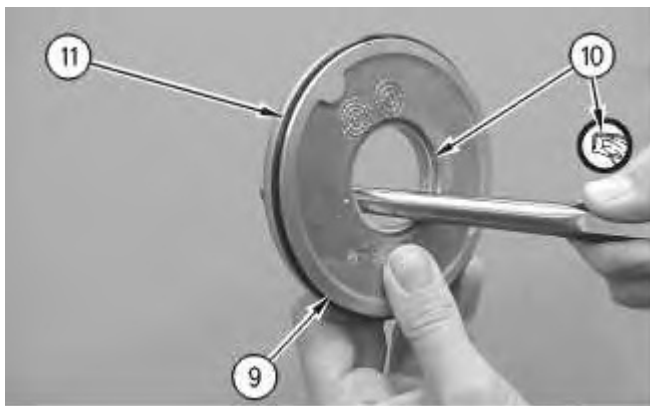


Illustration 47

g00759709

3. Size the inner seal and the outer seal by holding a round object against the seal. Rotate piston (9) until the seal is flush with the outer diameter of the piston groove. Install outer seal (11) with the lip of the seal in the same direction as inner seal (10).



Illustration 48

g00754828

4. Install piston (9) in second clutch assembly (2).

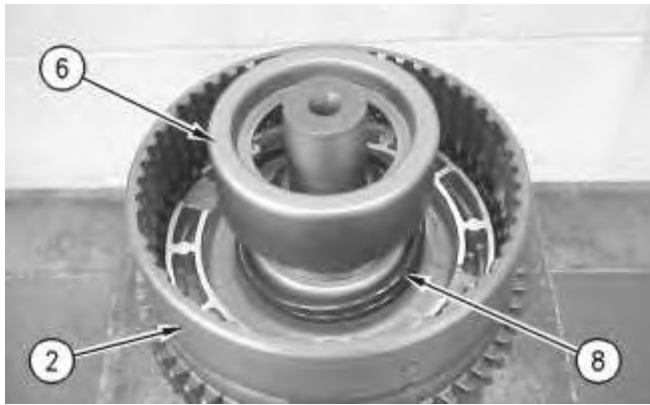


Illustration 49

g00754821

5. Position spring (8) and spring retainer (6) into second clutch assembly (2).



Illustration 50

g00754811

6. Use Tool (A) and a suitable press to compress spring retainer (6). Then use Tool (B) to install snap ring (7).



Illustration 51

g00754789

7. Install external steel disc (5) and internal friction disc (4) into second clutch assembly (2).

Note: Install the external steel disc next to the piston assembly first. Then alternate between the friction discs and the steel discs. A friction disc is installed last.

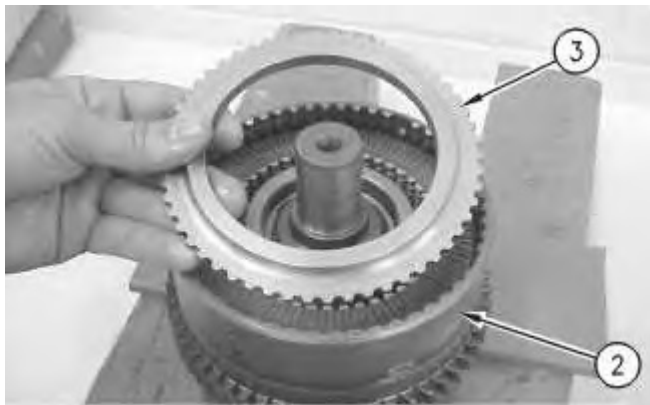


Illustration 52

g00754691

8. Install backing plate (3) in second clutch assembly (2).



Illustration 53

g00754682

9. Install retaining ring (1) in second clutch assembly (2).

Assembly of the Low Clutch Assembly

Table 6

Tools Needed			
Tool	Part Number	Name	QTY
A	4C-6399	Compressor Assembly	1
B	2P-8312	Retaining Ring Pliers	1
C	1P-1863	Retaining Ring Pliers	1
D	1P-1859	Retaining Ring Pliers	1

1. Clean all parts and inspect all parts. If any parts are worn or damaged use new Caterpillar parts for replacement.

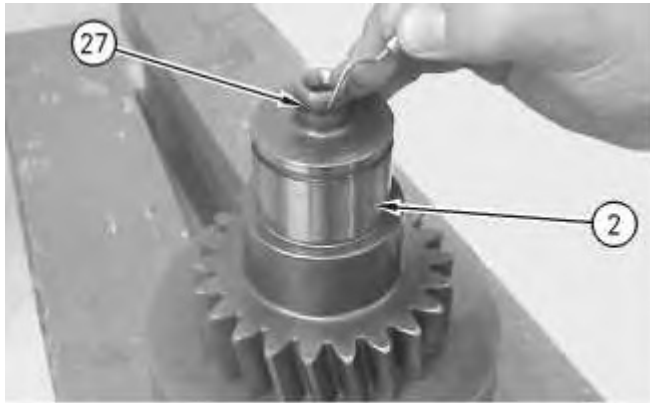


Illustration 54

g00754635

2. Carefully install piston ring (27) onto low clutch assembly (2).
3. Invert the low clutch assembly in order to complete the assembly procedure.

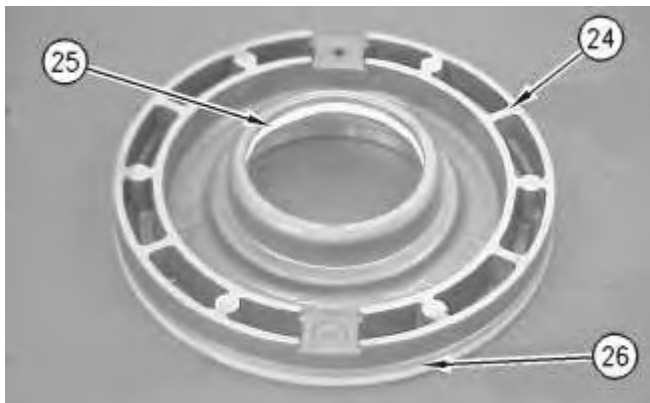


Illustration 55

g00753835

4. Install inner seal (25) and outer seal (26) in the grooves of piston (24).

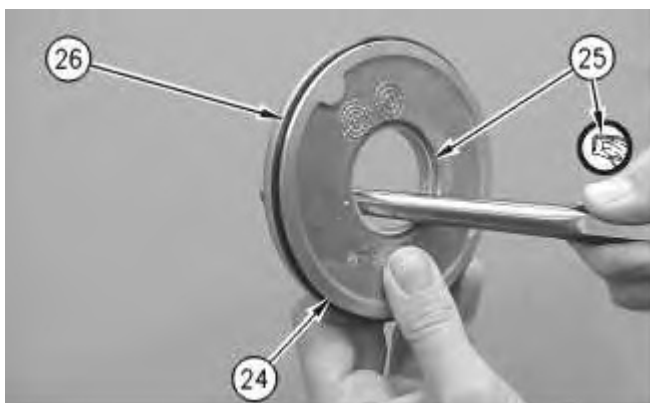


Illustration 56

g00759761

5. Size the inner seal and the outer seal by holding a round object against the seal. Rotate piston (24) until the seal is flush with the outer diameter of the piston groove. Install outer seal (26) with the lip of the seal in the same direction as inner seal (25).

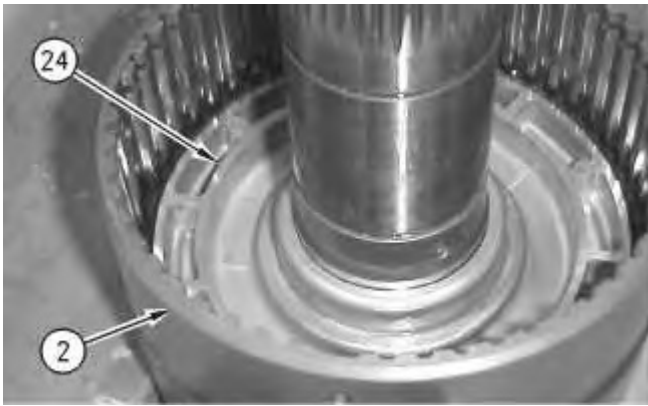


Illustration 57

g00753815

6. Install piston (24) into low clutch assembly (2).

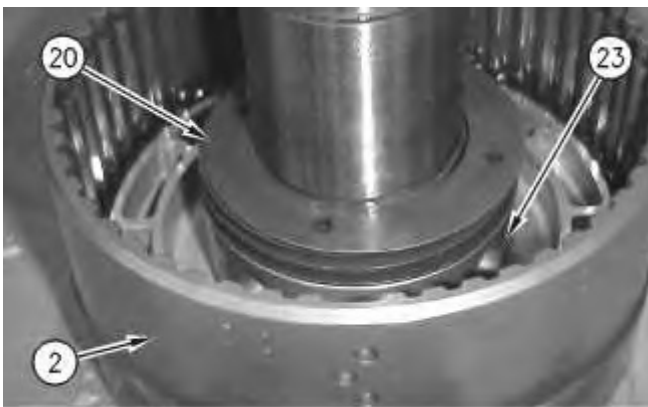
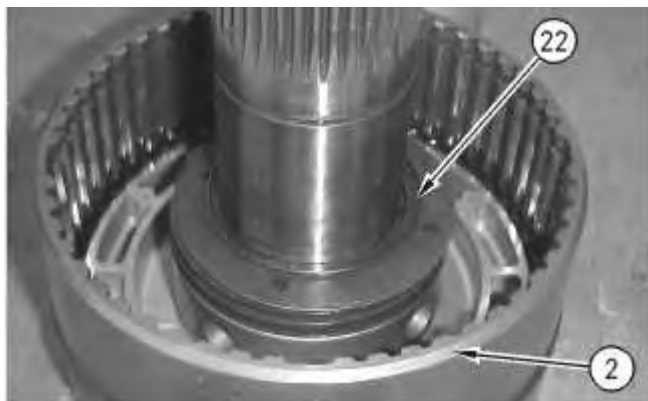


Illustration 58

g00753666

7. Install spacer (23) and five spring discs (20) into low clutch assembly (2).

Note: The large diameter of the first belleville disc spring goes next to the spacer. Then alternate the following four belleville disc springs.



8. Install ring retainer (22) into low clutch assembly (2).



Illustration 60

9. Use Tool (A) and a suitable press to compress spring discs (20). Then use Tool (B) to install retaining ring (21) into low clutch assembly (2).

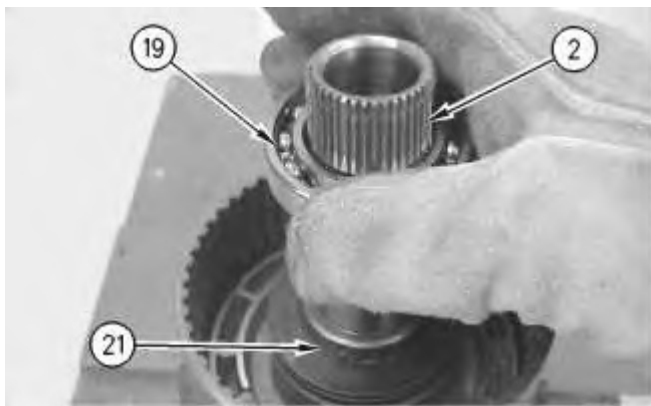


Illustration 61

10. Raise the temperature of bearing (19) to 135 °C (275 °F). Install the bearing onto low clutch assembly (2).

Note: Ensure that the bearing is completely against snap ring (21).

Thank you so much for reading.
Please click the “Buy Now!”
button below to download the
complete manual.



After you pay.

You can download the most
perfect and complete manual in
the world immediately.

Our support email:

ebooklibonline@outlook.com