Product: TRUCK
Model: 797F TRUCK LAJ
Configuration: 797F Off-Highway Truck LAJ00001-UP (MACHINE) POWERED BY C175-20 Engine

Disassembly and Assembly
797F Off-Highway Truck Power Train
Media Number -KENR8372-07 **Publication Date -01/06/2017** **Date Updated -08/06/2017**

i06633678

Differential and Bevel Gear - Disassemble

SMCS - 3256-015; 3258-015

Disassembly Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	439-3939	Link Bracket As	3
B	195-0767	Frame Assembly	1
	195-6167	Rollover Stand Gp	1
C	6V-0006	Governor Pliers	1
D	439-3938	Link Bracket	2
F	195-4988	Hydraulic Floor Jack Gp	1
G	195-0764	Rollover Frame As	1
	4C-9832	Engine Rollover Stand	1
H	370-2786	Holding Fixture	1
J	194-3725	Bearing Puller Gp(1)	1
	5P-5201	Double Acting Cylinder	1
	2P-5550	Electric Hydraulic Pump Gp	1
	194-6716	Bearing Puller(2)	1
K	194-4809	Gear Handler	1
L	1P-0520	Driver Gp	1

M	194-4802	Bearing Puller Gp	1
	196-0222	Hydraulic Cylinder	1
	2P-5550	Electric Hydraulic Pump Gp	1
N	194-4802	Bearing Puller Gp	1
	196-0257	Adapter Gp	1
	196-0222	Hydraulic Cylinder	1
	2P-5550	Electric Hydraulic Pump Gp	1
P	196-0349	Hydraulic Puller	1
	1U-7552	Hydraulic Cylinder	1
	2P-5550	Electric Hydraulic Pump Gp	1
Q	195-0766	Rollover Frame As	1
	4C-9832	Engine Rollover Stand	1
R	194-4803	Bearing Puller Gp	1
	196-0222	Hydraulic Cylinder	1
	2P-5550	Electric Hydraulic Pump Gp	1
S	9U-6580	Socket (2 3/4 inch)	1
T	194-4804	Bearing Puller Gp	1
	196-0222	Hydraulic Cylinder	1
	2P-5550	Electric Hydraulic Pump Gp	1
U	187-2730	Adapter	1
	1P-7404	Eyebolt (5/16x18-2A Thd)	1
V	194-4792	Gear Handler As	1
W	196-1218	Bearing Puller Gp	1
	FT-2747	Sleeve	1
	6V-0113	Double Acting Cylinder	1
	2P-5550	Electric Hydraulic Pump Gp	1

(1) This group includes **194-6716** Bearing Puller Gp.

(2) The Bearing Puller is used only with **194-3725** Bearing Puller Gp.

Start By:

a. Remove the differential and bevel gear.

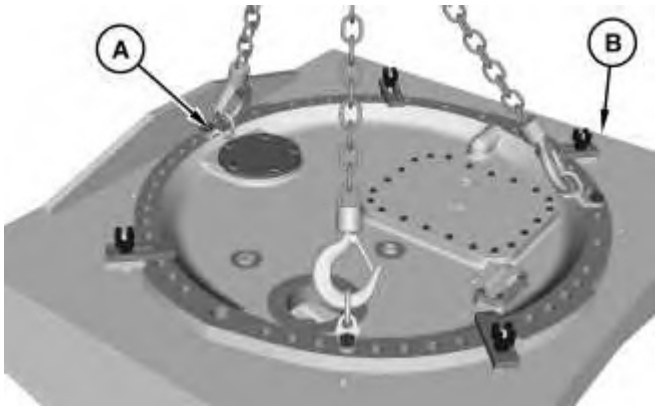

Illustration 1 g02332093

1. Use Tooling (A) and a suitable lifting device in order to position the differential and bevel gear into Tooling (B). The weight of the differential and bevel gear is approximately 3360 kg (7400 lb). Secure the differential and bevel gear to Tooling (B). Rotate Tooling (B).

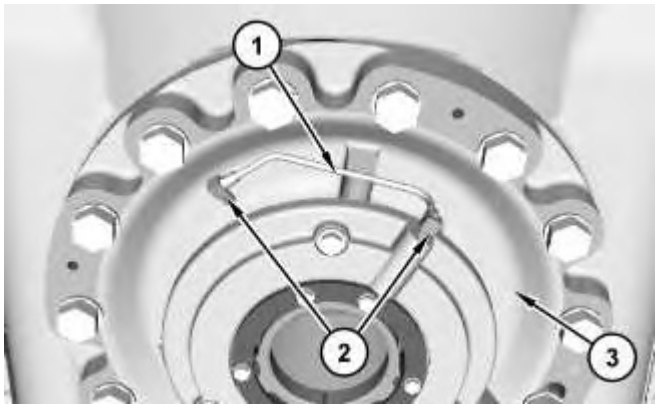

Illustration 2 g02178285

2. Remove tube assembly (1) from two elbows (2).
3. Remove two elbows (2) from cage assembly (3).

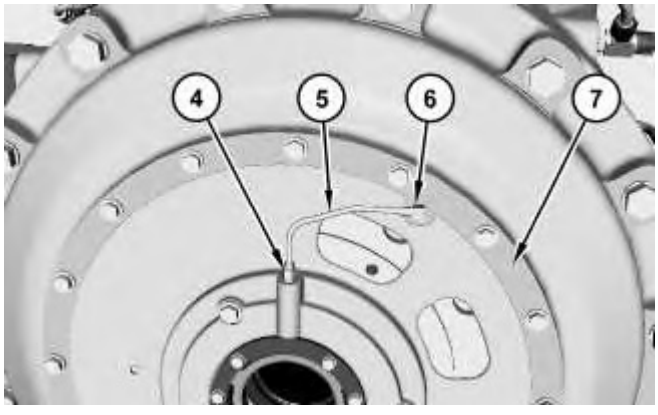

Illustration 3 g02178438

4. Remove tube assembly (5) from elbow (6) and connector (4).
5. Remove elbow (6) and connector (4) from cage assembly (7).

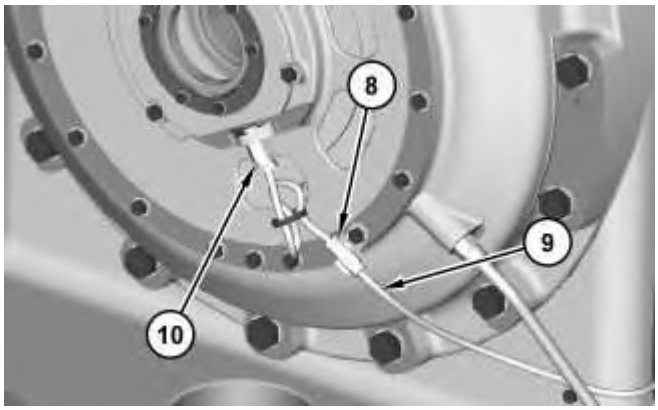

Illustration 4 g02332793

6. Disconnect harness assembly (8) from harness assembly (9). Tooling (C) in order to remove speed sensor (10).

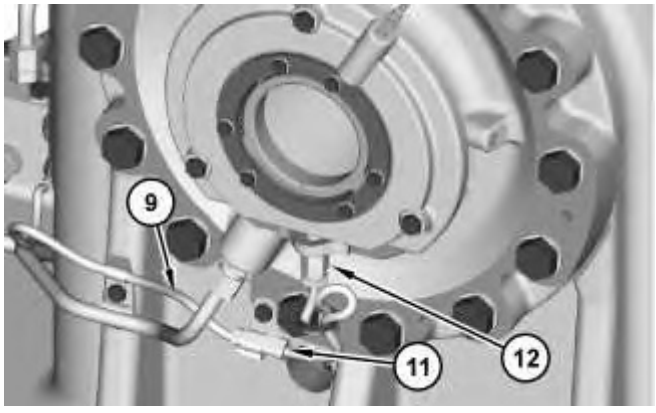

Illustration 5 g02332773

7. Disconnect harness assembly (11) from harness assembly (9). Use Tooling (C) in order to remove speed sensor (12).

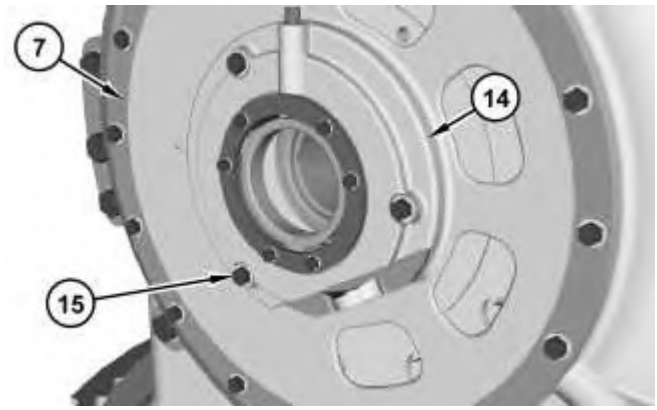

Illustration 6 g02332859

8. Remove bolts (15) from housing (14).
9. Remove the gear and housing (14) from cage (7).

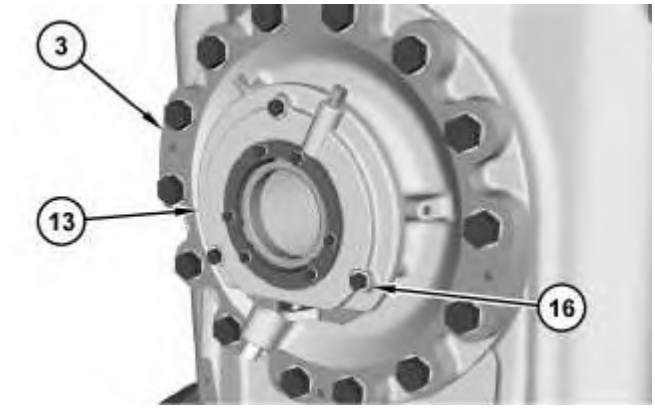

Illustration 7 g02332863

10. Remove bolts (16) from housing (13).
11. Remove the gear and housing (13) from cage assembly (3).

Illustration 8 g02332865

12. Remove bolts (17), retainer (18), disk drive (19), and gear sensor (20).
13. Repeat Step 12 for the remaining gear.

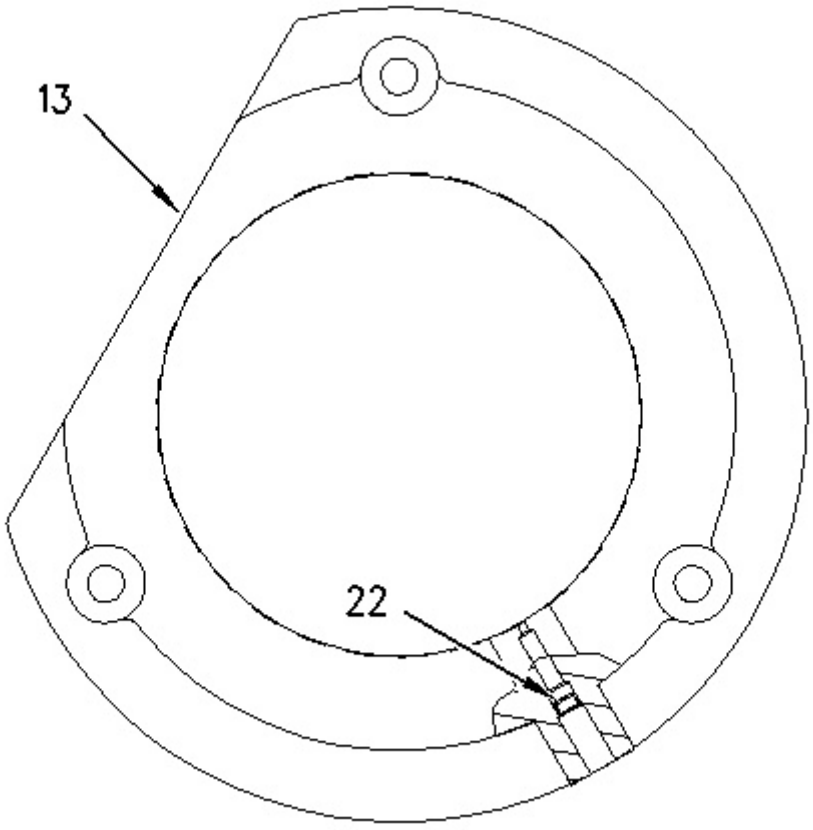

Illustration 9 g00702749

14. If necessary, remove orifice plug (22) from housing (13).
15. Repeat Step 14 for the remaining orifice plug from housing (14).

Illustration 10 g00700433

16. Remove plate (21) from cage assembly (3).

Illustration 11 g00702100

17. Remove bolts (23), the hard washers, and clip (24).

Illustration 12 g00700274

18. Use two people to remove plate assembly (25) from cage (7). The weight of plate assembly (25) is approximately 26 kg (57 lb).

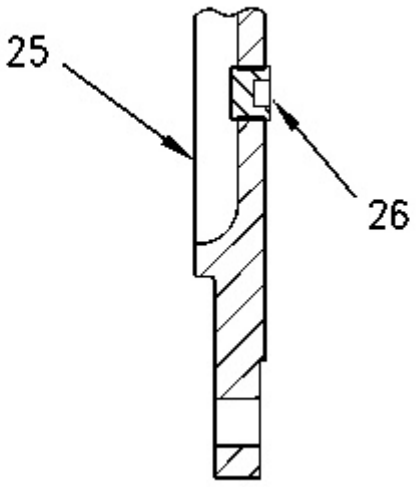

Illustration 13 g00702114

19. Remove plug (26) from plate assembly (25).

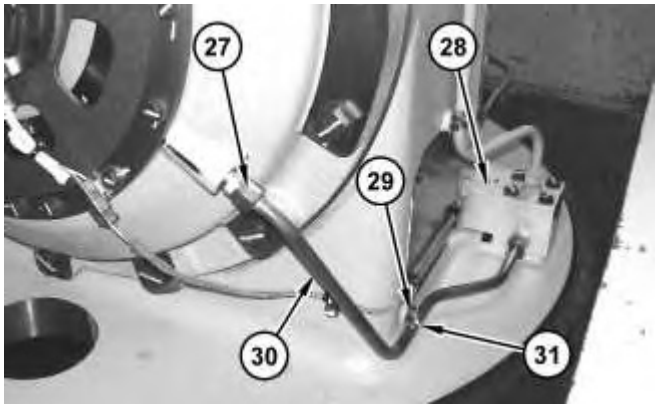

Illustration 14 g02178371

20. Remove bolt (29) and the washer that secures tube assembly (30) to the differential carrier assembly.
21. Remove clip (31) from tube assembly (30).
22. Remove tube assembly (30) from valve assembly (28) and seal connector (27).

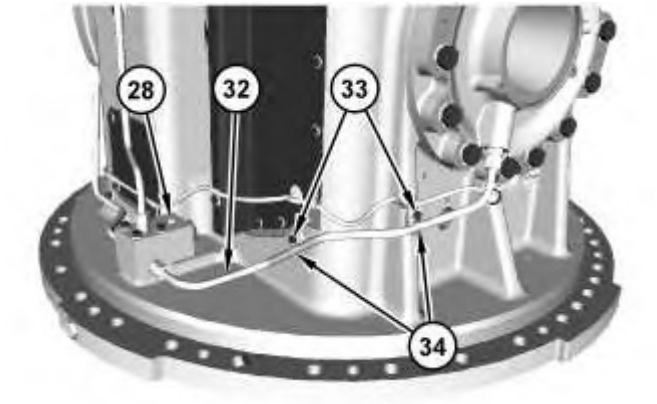

Illustration 15 g02178373

23. Remove bolts (33) and the washers that secure tube assembly (32) to the differential carrier assembly.
24. Remove clips (34) from tube assembly (32).
25. Remove tube assembly (32) from valve assembly (28) and connector (34).

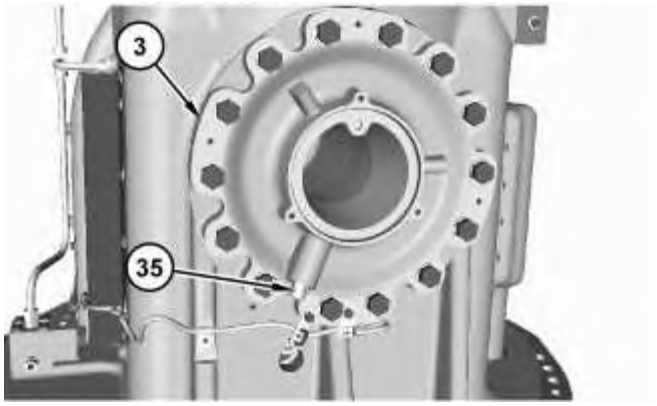

Illustration 16 g02279993

26. Remove connector (35) and the two O-ring seals from cage assembly (3).

Illustration 17 g00700106

27. Remove seal connector (27) and the two O-ring seals from cage (7).

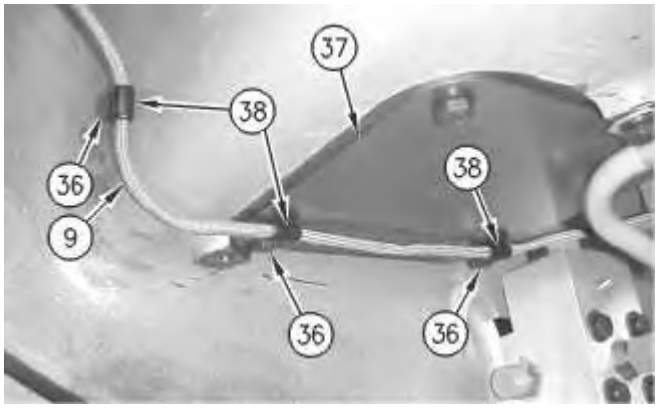

Illustration 18 g00702118

28. Remove two bolts (36) and the washers that secure harness assembly (9) to cover (37).

29. Remove the remaining three bolts (36), the washers and cover (37) from the differential carrier assembly.

30. Remove clips (38) from harness assembly (9).

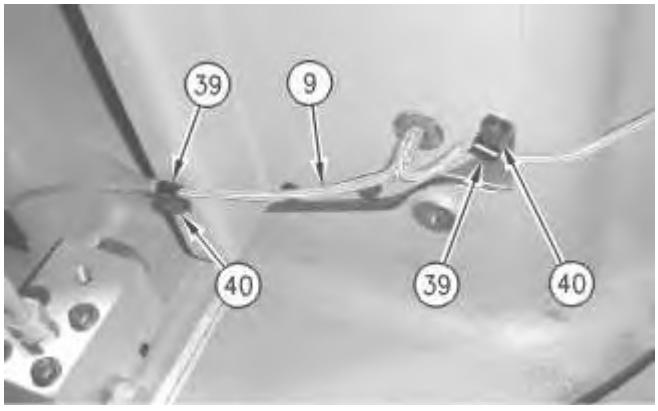

Illustration 19 g00702121

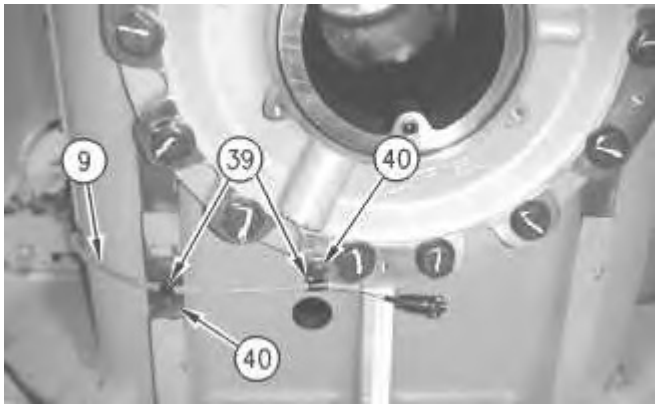

Illustration 20 g00700040

31. Remove bolts (40) and the washers that secure harness assembly (9) to the differential carrier assembly.

32. Remove four clips (39) from harness assembly (9).

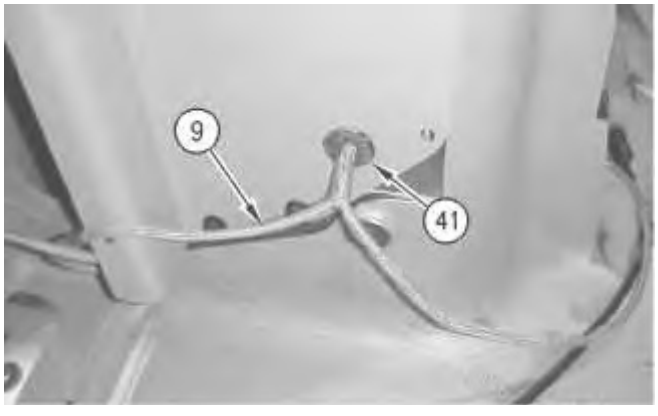

Illustration 21 g00700012

33. Remove split grommet (41) from the differential carrier assembly. Remove split grommet (41) from harness assembly (9).

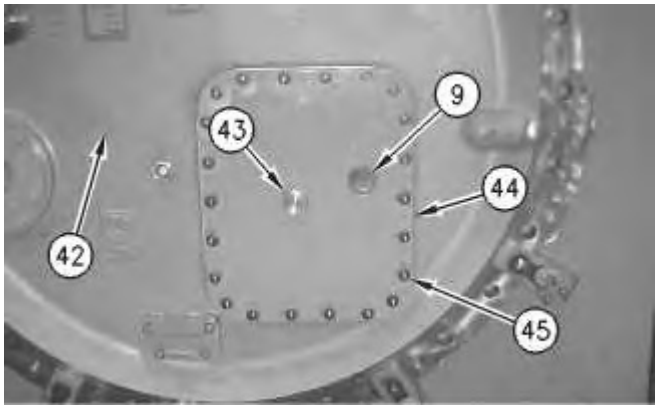

Illustration 22 g00699998

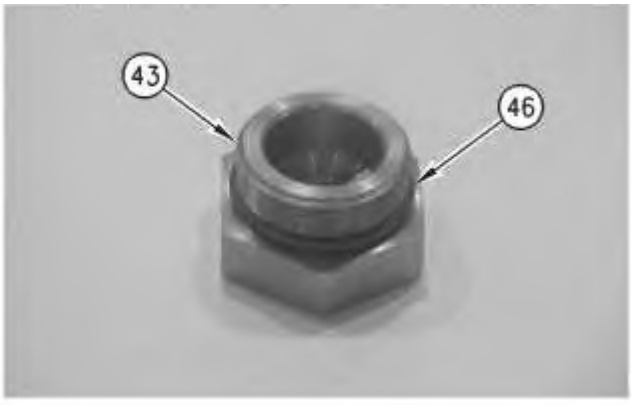

Illustration 23 g00700006

34. Rotate Tooling (B). Remove bolts (45) and the hard washers from cover assembly (44).

35. Use two people in order to remove cover assembly (44) from differential carrier assembly (42). The weight of cover assembly (44) is approximately 24 kg (53 lb).

36. Remove harness assembly (9) from cover assembly (44).

37. Remove pipe plug (43) and the O-ring seal from cover assembly (44).

38. Remove O-ring seal (46) from pipe plug (43).

Illustration 24 g02335556

39. Remove O-ring seal (47).

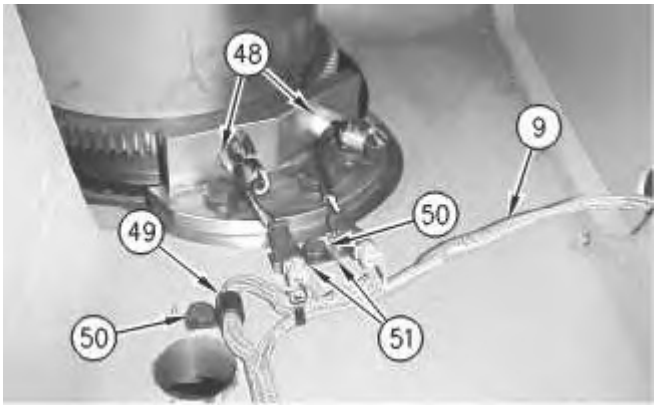

Illustration 25 g00699926

40. Remove the tie strap in order to loosen the two ends of harness assembly (9). Remove the tie straps in order to free the electrical connectors on output speed sensors (48).

41. Remove bolts (50) and the washers.

42. Remove clip (49) and clips (51).

43. Disconnect output speed sensors (48) at the electrical connections. Remove harness assembly (9) from the inside of the differential carrier assembly.

Illustration 26 g00699908

44. Remove bolt (54) and the hard washer from the differential carrier assembly.
45. Remove clip (53) from hose assembly (52).
46. Remove hose assembly (52) and the two O-ring seals.

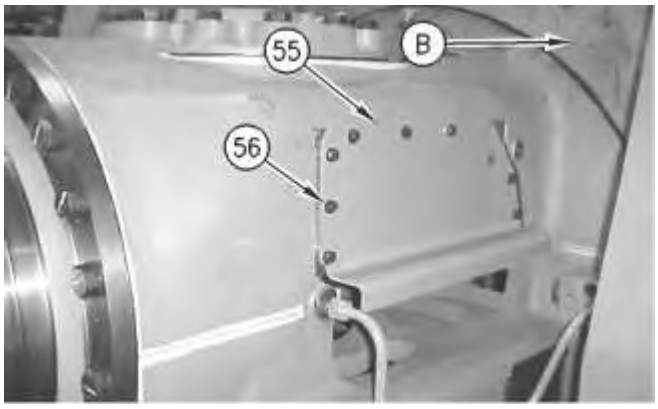

Illustration 27 g00699889

47. Rotate Tooling (B). Remove bolts (56) and the washers from cover assembly (55).
48. Remove cover assembly (55) from the differential carrier assembly.

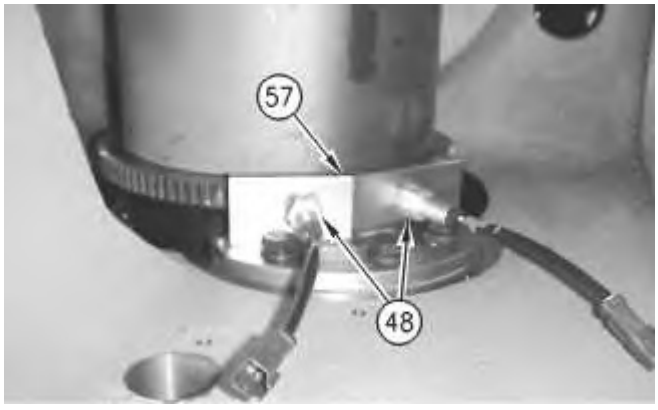

Illustration 28 g00699877

49. Remove output speed sensors (48) from bracket assembly (57).

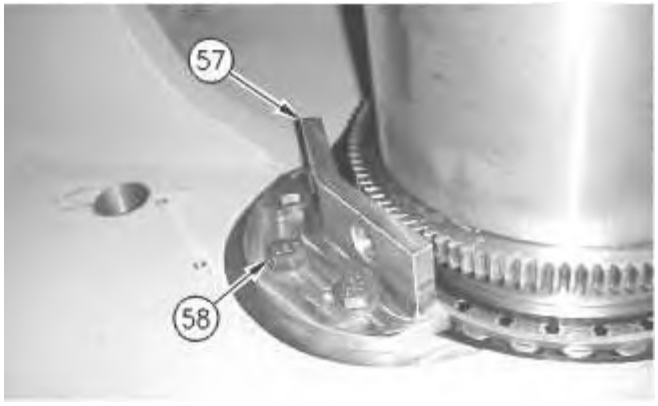

Illustration 29 g00699846

50. Remove bolts (58) and the washers that secure bracket assembly (57) to the differential carrier assembly.

51. Remove bracket assembly (57) from the differential carrier assembly.

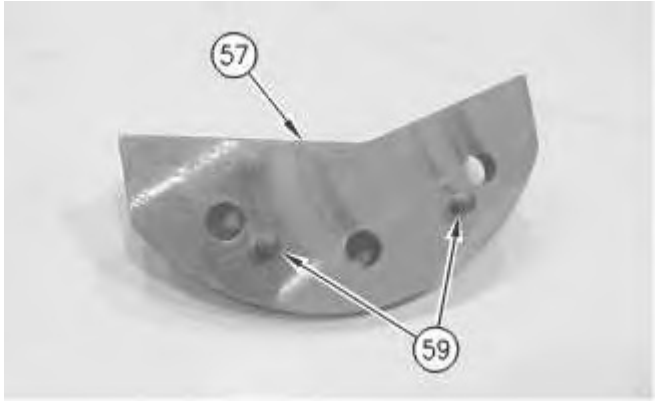

Illustration 30 g00699832

52. Remove two dowels (59) from bracket assembly (57).

Illustration 31 g00699734

53. Remove bolts (60) and the washers from cage assembly (3).

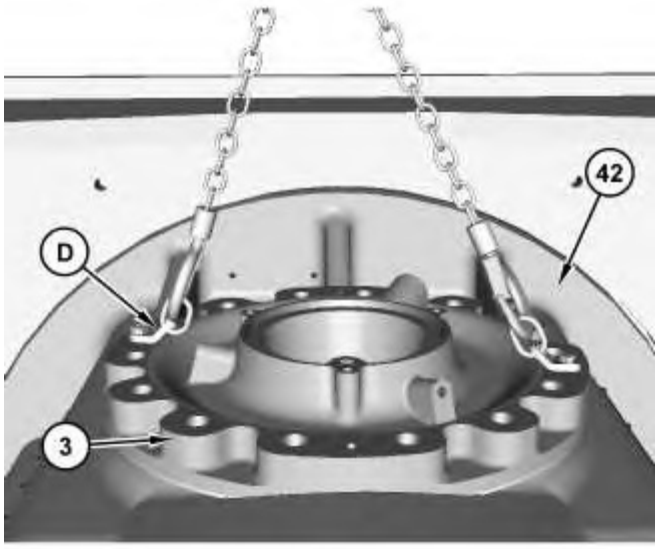

Illustration 32 g02306315

54. Use Tooling (D) in order to remove cage assembly (3) from differential carrier assembly (42). The weight of cage assembly (3) is approximately 75 kg (165 lb).

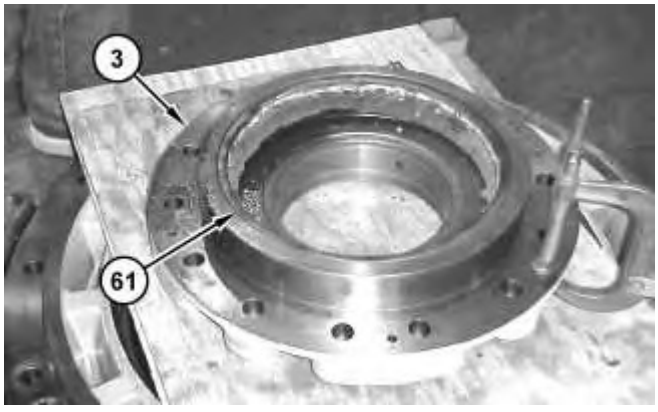

Illustration 33 g02306379

Illustration 34 g02306381

NOTICE

Do not use a cutting torch to remove the bearing cup.

NOTICE

Use the follow procedure in order to remove the bearing cup. Failure to follow this procedure could result in damage to the bearing cage.

55. Use a wire feed welder in order to apply weld beads around the entire interior of bearing cup (61). Use two pry bars in order to remove bearing cup (61) from cage assembly (3).

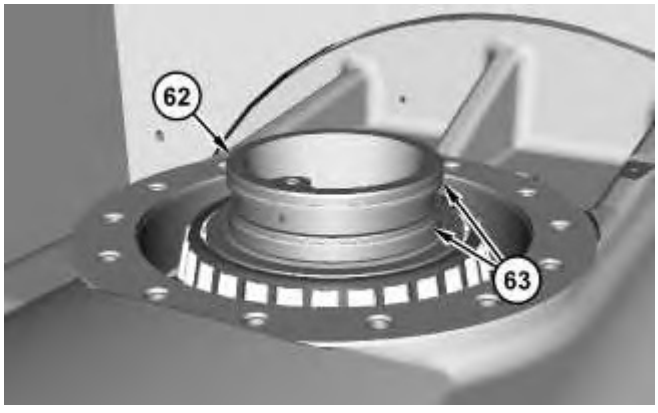

Illustration 35 g02316353

56. Remove two seal rings (63) from seal collar (62).

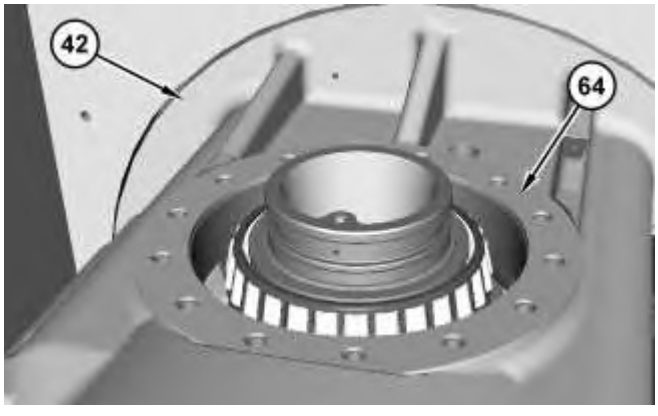

Illustration 36 g02316377

57. Remove shim pack (64) from differential carrier assembly (42).

Illustration 37 g00702782

58. Rotate Tooling (B). Remove bolts (65) and the washers from cage (7).

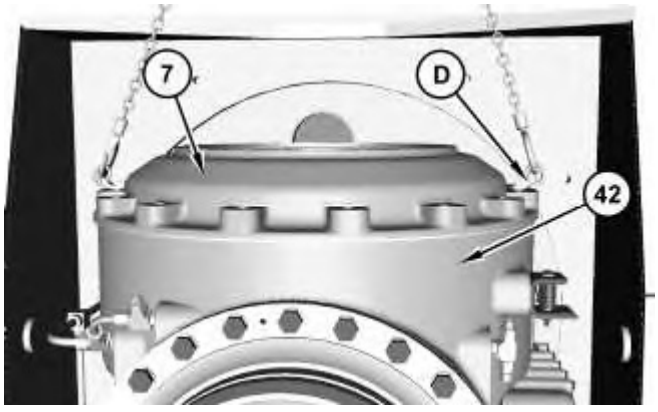

Illustration 38 g02306517

59. Use Tooling (D) in order to remove cage (7) from differential carrier assembly (42). The weight of cage (7) is approximately 270 kg (600 lb).

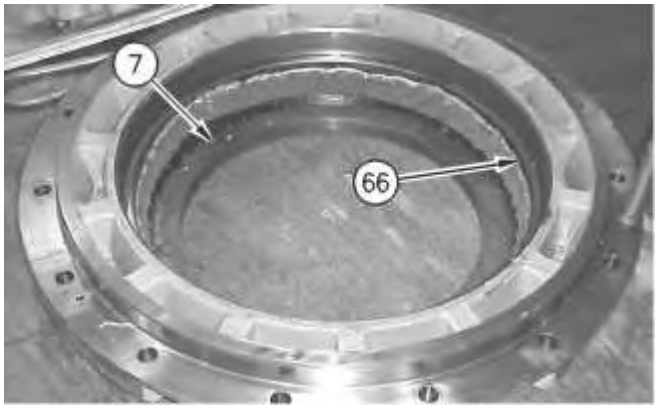

Illustration 39 g00725807

Illustration 40 g00725812

NOTICE

Do not use a cutting torch to remove the bearing cup.

NOTICE

Use the follow procedure in order to remove the bearing cup. Failure to follow this procedure could result in damage to the bearing cage.

60. Use a wire feed welder in order to apply a weld bead around the entire interior of bearing cup (66). Use two pry bars in order to remove bearing cup (66) from cage (7).

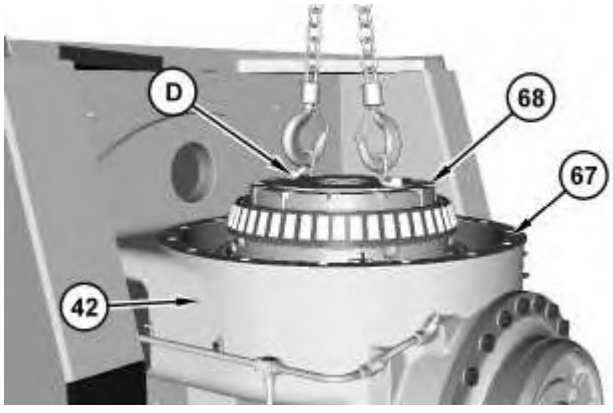

Illustration 41 g02316255

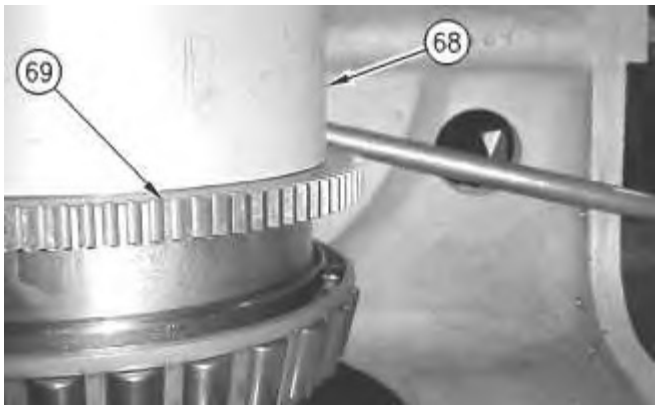

Illustration 42 g00698321

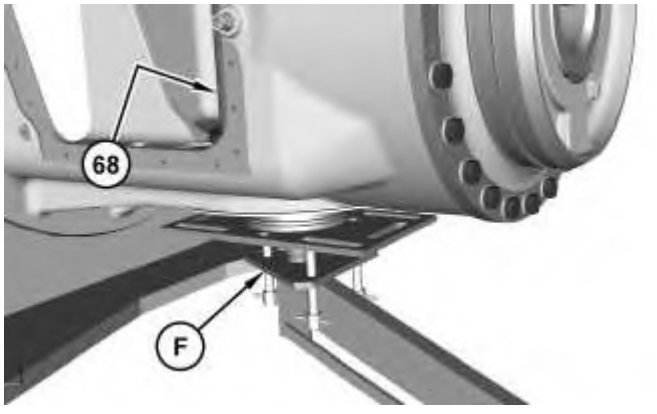

Illustration 43 g02337339

61. Remove shims (67) from differential carrier assembly (42). Install Tooling (D) to differential (68). Attach a suitable lifting device to Tooling (D). Position Tooling (F) below differential carrier assembly (42) in order to support differential (68).

    Note: Use a suitable prybar in order to guide gear (69) around the boss on the inside of differential carrier assembly (42).

62. Raise differential (68) out of differential carrier assembly (42). The weight of differential (68) is approximately 825 kg (1820 lb).

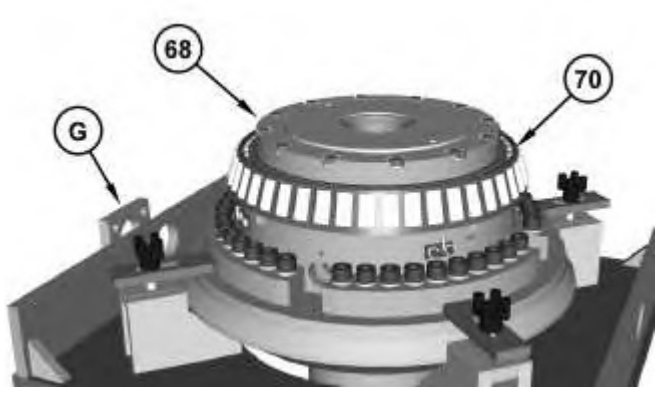

Illustration 44 g02340156

63. Position differential (68) onto Tooling (G).

NOTICE

Do not use a cutting torch to remove the bearing cone. Failure to follow this procedure could result in damage to the bearing cage.

64. Grind a slot through the cage of roller bearing cone (70) in order to remove the bearing rollers and the cage.

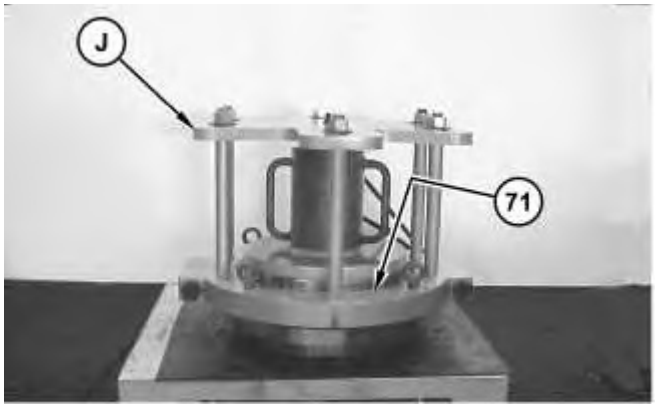

Illustration 45 g02340239

65. Use Tooling (J) in order to remove bearing race (71).

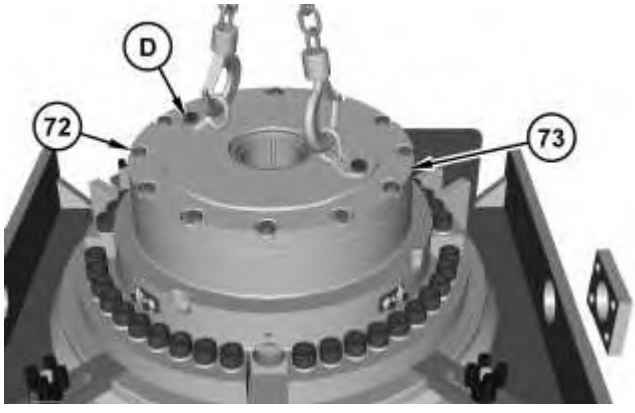

Illustration 46 g02340216

66. Remove bolts (72). Use Tooling (A) and a suitable lifting device in order to remove cover (73).

Illustration 47 g02339303

67. Remove thrust washer (74).

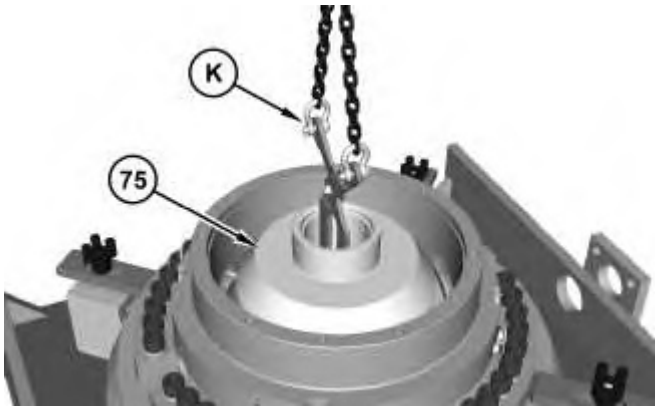

Illustration 48 g02339196

68. Use Tooling (K) and a suitable lifting device in order to remove side gear (75). The weight of side gear (75) is approximately 45 kg (100 lb).

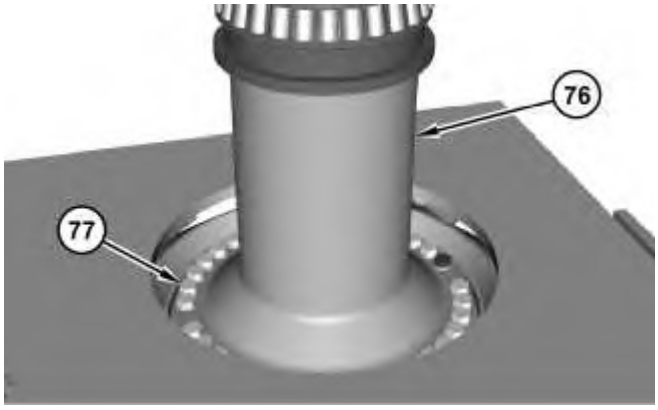

Illustration 49 g02339600

69. Rotate Tooling (G). Attach a suitable lifting device onto differential housing (76). The weight of differential housing (76) is approximately 213 kg (470 lb). Remove bolts (77). Remove differential housing (76).

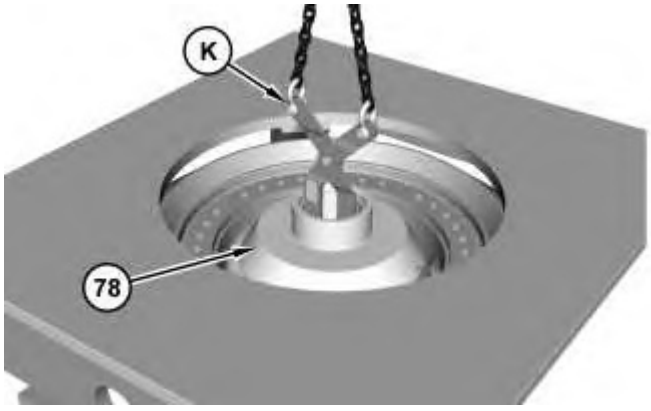

Illustration 50 g02340516

70. Use Tooling (K) and a suitable lifting device in order to remove side gear (78) from the housing assembly. The weight of side gear (78) is approximately 45 kg (100 lb).

Illustration 51 g02338537

71. Remove thrust washer (79) from differential housing (76).

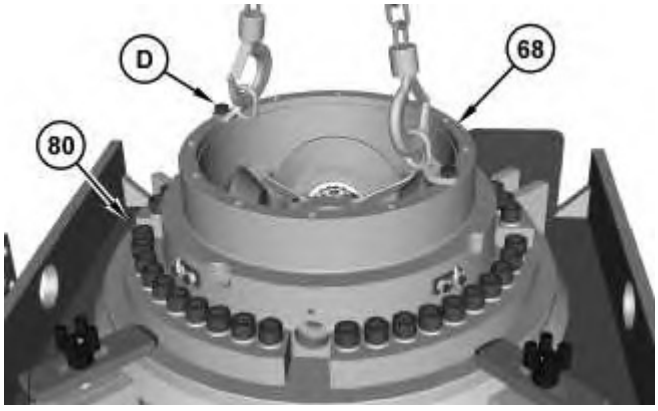

Illustration 52 g02340396

72. Remove bolts (80). Use Tooling (A) and a suitable lifting device in order to remove differential (68). The weight of differential (68) is approximately 304 kg (670 lb).

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