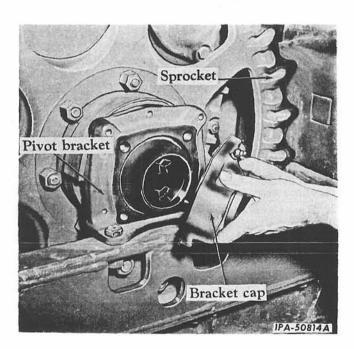
4. REMOVAL

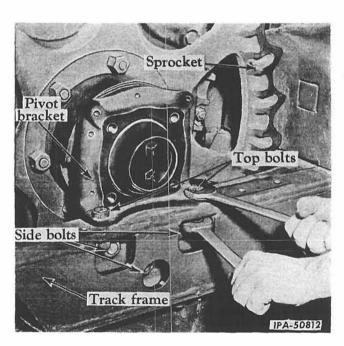
- 1. Take off the track chain, but do not remove it from under the tractor. Refer to "TRACKS AND TRACK FRAME," Section 9.
- 2. Disconnect the diagonal brace from the pivot shaft but not from the track frame. Refer to "TRACKS AND TRACK FRAME." Section 9.
- 3. Remove the sprocket shield and the pivot bracket cap and gasket. (Illust. 2.)
- 4. Disconnect the pivot bracket from the track frame by removing the top and side bolts, (Illust. 3) and lay the track frame clear.

- 5. Raise the rear of tractor high enough so that the sprocket will clear the track frame. Block the tractor securely.
- 6. Remove the cap screws securing the pivot bearing to the pivot shaft, (Illust. 4). Remove the pivot bracket assembly together with the pivot bearing, (Illust. 5). Remove the oil seal should it remain on pivot shaft.
- 7. Remove the nuts and washers which secure the sprocket to the sprocket carrier or hub. Remove the sprocket from the carrier, (Illust. 6). If necessary, break the sprocket loose

continued on next page



Illust. 2 - Removing Pivot Bracket Cap.



Illust. 3 - Removing Pivot Bracket.

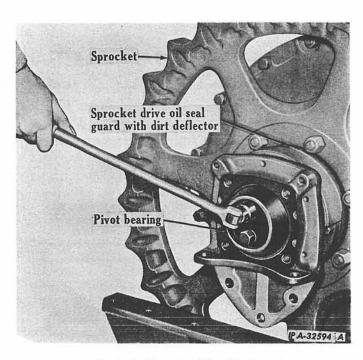
Page 4

SPROCKET

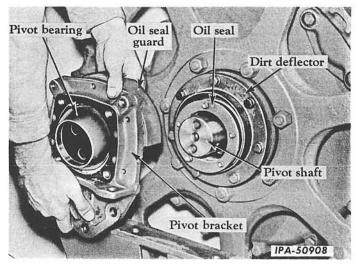


4. REMOVAL - Continued

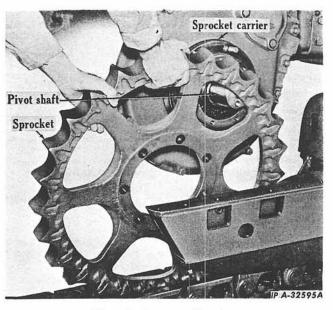
from the carrier with a sledge hammer or a large three-jaw puller.



Illust. 4 - Removing Pivot Bearing.



Illust. 5 - Removing Pivot Bracket Assembly.



Illust. 6 - Removing Sprocket.

5. INSPECTION AND REPAIR

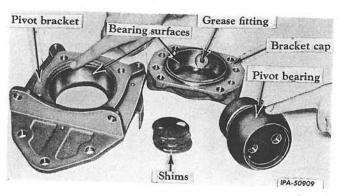
SPROCKET: Examine the sprocket for wear. Excessive wear is indicated if the sprocket jumps the track chain when the track adjustment is correct. A worn sprocket (if worn on one side of the teeth only) may be reversed and reinstalled on the same side of the tractor.

Pivot Bracket Assembly

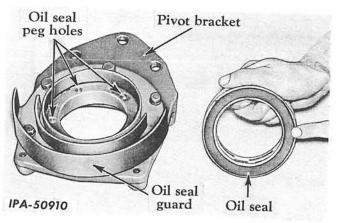
- 1. Remove the pivot bearing from the pivot bracket, and the oil seal from the inner side of the pivot bracket if the oil seal remained in the bracket during bracket removal. Remove the shims from inside the pivot bearing and keep them for use in reassembly.
- 2. Clean and inspect the pivot bearing surfaces of the bracket, cap and bearing for scoring; cracks, or excessive wear. (Illust. 7.) Clean the grease fitting and passage through the bracket cap to assure dirt free lubrication. Replace parts as necessary.
- 3. Clean and inspect the inner or oil seal guard side of the pivot bracket. (Illust. 8.) See that the oil seal peg holes are thoroughly clean to assure even seating of the oil seal.
- 4. Examine the diaphragm type oil seal to be sure that it is fit for service. The diaphragm must be free of cracks or general deterioration. The sealing washer should protrude from the seal to prevent metal to metal contact with the bearing retainer. The friction or sealing surface of this washer should be free of glaze and high spots for good sealing. Compress the



seal to make sure that the inner springs expand it evenly to its free width and that no springs are broken. Replace the entire oil seal with a new one if examination indicates any part not fit for service.



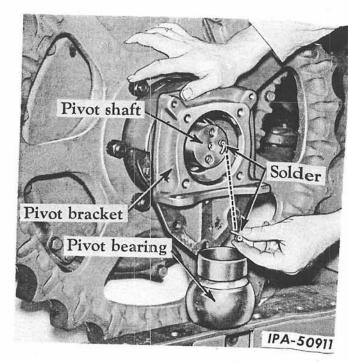
Illust. 7 - Pivot Bracket Assembly (Outer Side).



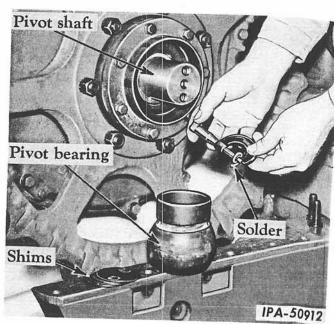
Illust. 8 - Pivot Bracket Assembly (Inner Side).

6. INSTALLATION

- 1. Lift the sprocket into position, lining up the holes in the sprocket with the cap screws projecting from the sprocket carrier or hub. Fasten the sprocket to the carrier with nuts and lock washers. Torque the nuts as given in Par. 2, "SPECIFICATIONS."
- 2. Assemble a new gasket (57, Illust. 11 or 58, Illust. 12) to the peg side of oil seal (56 or 57). Dip the sealing washer surface in oil, and insert the peg side of the seal into the pivot bracket (59 or 60), so that the pegs set in the holes of bracket, and place the pivot bracket complete with the oil seal guard and oil seal onto the pivot shaft.



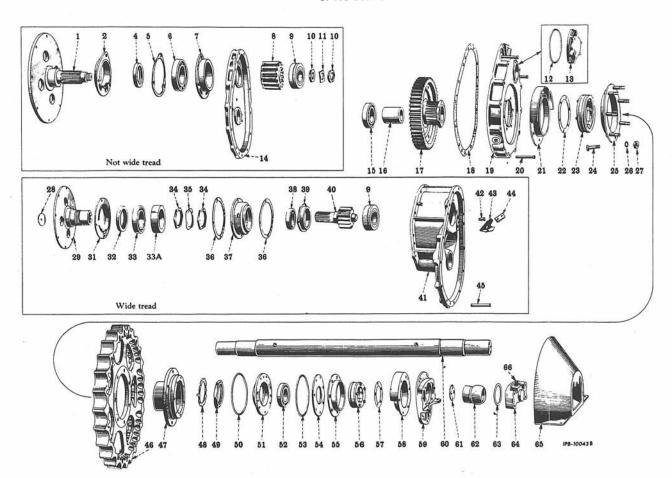
Illust. 9 - Install Measuring Material.



Illust. 10 - Measuring for Shim Thickness.

continued on page 8





Illust. 11 - Exploded View of Sprocket and Sprocket Drive (6, 6(61) and 6(62) Series).

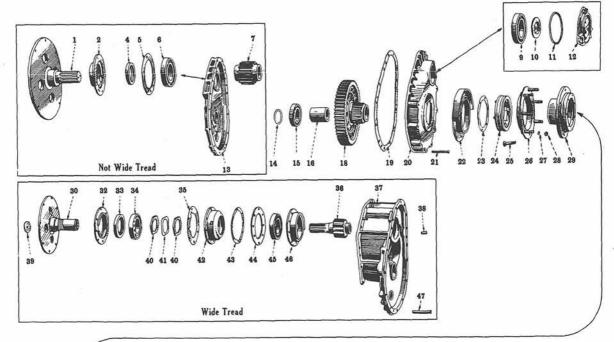
- 1. Finion shaft.
- 2. Bearing retainer.
- 4. Oil seal.
- 5. Gasket.
- *6. Pinion inner bearing.
- 7. Bearing cage.
- 8. Sprocket drive pinion.
- *9. Pinion outer bearing.
- 10. Retainer nut.
- 11. Nut lock.
- 12. Cap "O" ring.
- 13. Outer bearing cap.
- 14. Inner housing.
- *15. Drive gear inner bearing.
- 16. Bearing spacer.

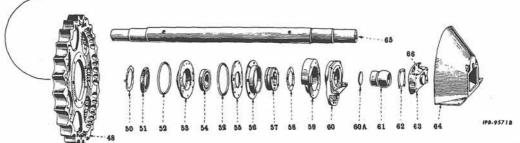
- 17. Drive gear.
- 18. Gasket.
- 19. Outer housing.
- 20. Dowel pin.
- 21. Oil seal guard.
- 22. Gasket.
- 23. Oil seal.
- 24. Bolt.
- 25. Dirt deflector.
- 26. Lock washer.
- 27. Nut.
- 28. Expansion plug.
- 29. Pinion shaft.
- 31. Bearing retainer.
- 32. Oil seal.
- 33. Steering clutch support ball
- bearing. 33A. Bearing nut
 - spacer (62 only).

- 34. Retainer nut.
- 35. Nut lock.
- 36. Gasket.
- 37. Bearing cage.
- *38. Pinion inner. bearing.
- 39. Bearing cage.
- 40. Sprocket drive
- pinion. 41. Sprocket drive carrier,
- 42. Upper dowel pin.
- 43. Steering clutch support bearing oil trough.
- 44. Trough lock.
- 45. Lower dowel pin.
- 46. Sprocket.
- 47. Sprocket carrier.
- 48. Nut lock.

- 49. Nut.
- 50. "O" ring (outer).
- 51. Bearing cage.
- 52. Drive gear outer ball bearing.
- 53. "O" ring (inner).
- 54. Bearing retainer.
- 55. Dirt deflector.
- 56. Oil seal.
- 57. Gasket.
- 58. Oil seal guard.
- 59. Pivot bracket.
- 60. Pivot shaft.
- 61. Bearing shim.
- 62. Pivot bearing.
- 63. Gasket.
- 64. Bracket cap.
- 65. Sprocket shield.
- 66. Pivot lubricator.
- *Ball bearings used in older "6" series. Latest 6, 6 (61) and 6 (62) series use separable straight roller type bearings. Replace bearings, when necessary, with the same type found in the assembly. DO NOT SUBSTITUTE.







Illust. 12 - Exploded View of Sprocket and Sprocket Drive (9, 9(91) and 9(92) Series).

- 1. Pinion shaft.
- 2. Bearing retainer.
- 3. Felt washer.
- 4. Oil seal.
- 5. Gasket.
- 6. Pinion inner ball bearing.
- 7. Sprocket drive pinion.
- 8. Upper dowel pin.
- 9. Pinion outer ball bearing.
- 10. Bearing retainer.
- 11. Cap "O" ring.
- 12. Outer bearing cap.
- 13. Inner housing.
- 14. Oil seal ring.
- 15. Drive gear inner bearing.

- 16. Bearing spacer.
- 18. Drive gear.
- 19. Gasket.
- 20. Outer housing.
- 21. Lower dowel pin.
- 22. Oil seal guard.
- 23. Snap-on gasket.
- 24. Oil seal.
- 25. Bolt.
- 26. Dirt deflector.
- 27. Lock washer.
- 28. Nut.
- 29. Sprocket carrier.
- 30. Pinion shaft. 32. Bearing retainer.
- 33. Oil seal.
- 34. Steering clutch support ball bearing.

- 35. Gasket.
- 36. Sprocket drive pinion.
- 37. Sprocket drive carrier.
- 38. Upper dowel pin.
- 39. Expansion plug.
- 40. Bearing nut.
- 41. Nut lock.
- 42. Bearing cage.
- 43. Gasket.
- 44. Bearing retainer. 60A. Bearing shim.
- 45. Pinion inner ball bearing.
- 46. Bearing cage.
- 47. Lower dowel pin.
- 48. Sprocket.
- 50. Nut lock.

- 51. Nut.
- 52. "O" ring.
- 53. Bearing cage.
- 54. Drive gear outer ball bearing.
- 55. Bearing retainer.
- 56. Dirt deflector.
- 57. Oil seal.
- 58. Snap-on gasket.
- 59. Oil seal guard.
- 60. Pivot bracket.
- 61. Pivot bearing.
- 62. Gasket.
- 63. Bracket cap.
- 64. Sprocket shield.
- 65. Pivot shaft. 66. Pivot lubricator.

6. INSTALLATION - Continued

- 3. Install the pivot bearing (61 or 62) (less the shims) and tighten the pivot bearing cap screws to final specified torque as required per diameter and type of cap screw. (Refer to "STANDARD TORQUE DATA" in Section 1.) This will take up the clearance between the bearings and the spacer.
- 4. Remove the pivot bearing and place a ball of molding clay, putty, or solder (about 1/4 inch round) on the pivot shaft (Illust. 9). Install the pivot bearing and torque the cap screws to 50 foot pounds.
- 5. Remove the pivot bearing and carefully remove the compressed material from the pivot shaft. Measure the thickness with a micrometer. This measurement, less .013 to .018 inch, represents the thickness in shims to be installed to properly pre-load the pivot bearing.

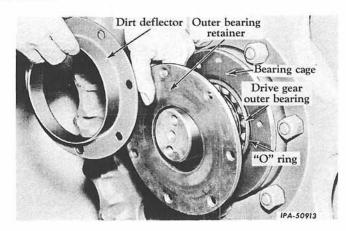
- 6. Install the shims and torque the cap screws to final specified torque as required per diameter and type of cap screw. (Refer to "STAN-DARD TORQUE DATA" in Section 1.)
- 7. Lower the tractor onto the tracks and assemble the track frame to the pivot bracket. Secure the pivot bracket to the track frame with the top and side bolts. Tighten the bolts to the torques shown under Par. 2, "SPECIFICATIONS."
- 8. Install the pivot bracket cap with a new gasket.
- 9. Connect the diagonal brace to the pivot shaft, being sure the correct bearing clearance is maintained. Refer to Section 9, "TRACKS AND TRACK FRAME."
- 10. Install and adjust the track chain. Refer to Section 9, "TRACKS AND TRACK FRAME."

SPROCKET DRIVE

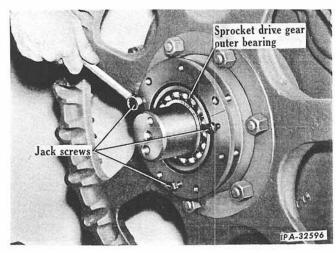
7. REMOVAL AND DISASSEMBLY

Regular Tread

- 1. Remove the sprocket as outlined in Par.4.
- 2. Drain the lubricant from the sprocket drive.
- 3. Remove the pivot oil seal dirt deflector and the drive gear outer bearing retainer (Illust. 13), by removing the seven cap screws that secure them and the outer bearing cage to the sprocket carrier.
- 4. Pull the drive gear outer bearing and cage by installing jack screws in the flange of the cage (Illust. 14), and draw up on them evenly. If necessary to replace the bearing, it can be pulled or driven from the cage. It is not necessary to remove the "O" ring around the outer circumference of the bearing unless the bearing is to be removed.
- 5. Straighten the lips of the nut lock and remove the sprocket drive gear carrier nut, using special socket wrench SE-1184-1, (Illust. 15). Refer to "Service Tools" manual ISS-1002.
- 6. Remove the sprocket carrier from the drive gear carrier splines (Illust. 16).
- 7. Remove the pinion outer bearing cap and seal ring (Illust. 15).



Illust. 13 - Removing Dirt Deflector and Outer Bearing Retainer.

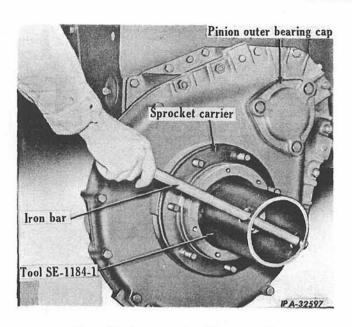


Illust. 14 - Removing Outer Bearing and Cage.

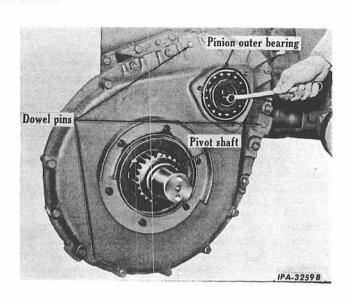
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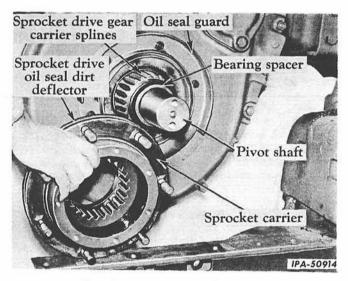




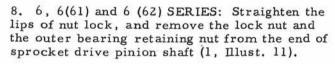
Illust. 15 - Removing Sprocket Carrier Nut.



Illust. 17 - Removing Pinion Outer Bearing Washer ("9" Series).

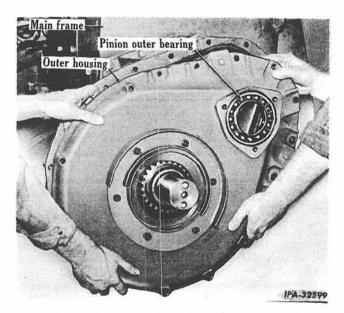


Illust. 16 - Removing Sprocket Carrier.



9, 9 (91) AND 9 (92) SERIES: Remove the two cap screws, lock washers and the outer bearing retainer (Illust. 17).

9. Remove all the cap screws and nuts securing the outer housing to the inner housing and,



Illust. 18 - Removing Sprocket Drive Gear Outer Housing ("9" Series).

using three jack screws, separate the housings. The housings are aligned with dowel pins, therefore the jack screws must be tightened down evenly. Slide and lift the outer housing away from the inner housing (Illust. 18).

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7. REMOVAL AND DISASSEMBLY - Continued

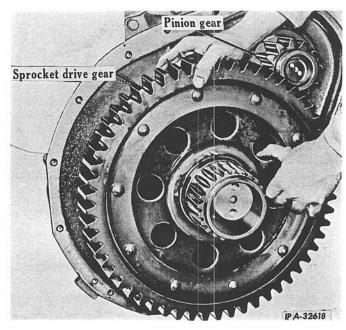
Regular Tread - Continued

10. Remove the sprocket drive gear and pinion (Illust. 19), and slide the bearing spacer (16, Illust. 11 or 12) off the pivot shaft. On tractors equipped with roller bearings, first remove the inner race of the pinion outer bearing from the end of pinion shaft then, simply pull the drive gear and pinion away from the inner housing to separate the inner bearing races. Tractors having ball bearings require a puller to remove the drive gear with inner bearing from the pivot shaft, and again to pull the pinion shoulder from the inner bearing until the pinion is free to slide off the pinion shaft spline. The older "6" Series have a pinion roller type outer bearing, but a pinion inner ball bearing that requires a puller to remove the pinion.

NOTE: If necessary to remove the roller bearing outer race (late 6 and 6 (61) and 6 (62) series) or the ball bearing (early 6 and 9, 9 (91) and 9 (92) series) from the drive gear, tap out with the aid of a drift punch inserted through the three holes around the hub or gear carrier spline.

- 11. To remove the sprocket drive inner housing, first remove the steering brake inspection cover from the under side of the main frame, and place a jack under the steering clutch to support the weight of the clutch. Then remove the cap screws and nuts that secure the inner housing to the main frame. Pry the inner housing away from the main frame a little at a time and evenly to prevent binding around the pinion shaft and the pivot shaft. The pinion inner bearing assembly remains with inner housing during removal.
- 12. Remove the cap screws that secure pinion inner bearing retainer to the inner housing, and remove the retainer (2), oil seal (4), gasket (5), bearing (6) and bearing cage (7), Illust. 11, or the same parts covered by references (2 to 5, Illust. 12). If necessary to remove bearing (6) from 9, 9 (91) and 9 (92) series, it must be pressed from the bore of inner housing.
- 13. If the pinion shaft is to be removed, it will be necessary to remove the steering clutch. Refer to "STEERING CLUTCHES AND BRAKES," Section 7.
- 14. After the steering clutch has been removed, the pinion shaft can be removed through the steering clutch chamber, similar to Illust. 23, for the wide tread. The bearing assembly for regular tread remains attached to the inner

housing and is disassembled as outlined in above step 12.



Illust. 19 - Removing Sprocket Drive Gear (9 Series shown).

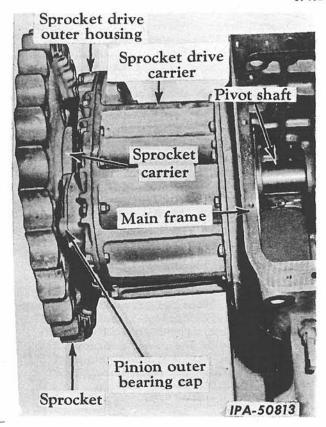
8. REMOVAL AND DISASSEMBLY

Wide Tread

Removal of the sprocket drive for wide tread tractors is the same as for the regular tread as outlined in the preceding paragraph 7, up to and including step 7, then proceed as follows:

- 1. 6 SERIES: Straighten the lips of nut lock and remove the lock nut and the outer bearing retaining nut from the threaded end of the sprocket drive pinion (40, Illust. 11).
- 9 SERIES: Remove the two cap screws and lock washers (Illust. 17), securing the outer bearing retainer (10) to the end of the sprocket drive pinion (36, Illust. 12), and remove the outer bearing retainer.
- 2. Remove all cap screws and nuts securing the outer housing (19, Illust. 11; 20, Illust. 12) to the sprocket drive carrier (41 or 37, Illust. 11 or 12), see Illust. 20. Use three jack screws to separate the outer housing from the sprocket drive carrier. These two sections are aligned with dowel pins, therefore the jack screws must be tightened down evenly. Slide and lift the outer housing away from the sprocket drive carrier similar to Illust. 18.





Illust. 20 - Sprocket and Sprocket Drive Carrier (Wide Tread).

3. Remove the sprocket drive gear (Illust. 19), and slide the bearing spacer (16, Illust. 11 or 12), off the pivot shaft.

LATER 6 AND 6 (61) SERIES are equipped with drive gear roller type inner bearings. Simply pull the drive gear away from the sprocket drive carrier to separate the inner and outer races, and remove the drive gear with outer race from the pivot shaft.

6 (62) SERIES: The drive gear is equipped with straight roller type inner bearings. Pull the drive gear away from the sprocket drive carrier (41) to separate the inner and outer races, and remove the drive gear with outer race from the pivot shaft, Illust. 19. If necessary to remove the outer race of the roller bearing from the bore of drive gear (17), weld a bead around the inner surface of the race and this will shrink the race enough for removal.

9, 9 (91), 9 (92) AND OLDER 6 SERIES are equipped with drive gear inner ball bearings. The use of a puller is required to remove the

inner ball bearing with the drive gear from the pivot shaft.

If necessary to remove the outer race of roller bearing 6, 6 (61) or the ball bearing 9 (91), 9 (92) and old 6 series from the drive gear, tap out with the aid of a drift punch inserted through the three holes around the hub of gear carrier spline.

4. Remove the sprocket drive pinion shown in Illust. 19, (40, Illust. 11 or 36, Illust. 12).

OLDER 6 SERIES: Before attempting to remove the pinion it will be necessary to remove the sprocket drive carrier from the main frame to gain access of the pinion inner bearing retaining nuts. This also applies for pinion inner ball bearing removal. Refer to Steps 5 and 6 for sprocket drive carrier removal.

LATER 6 and 6 (61) SERIES are equipped with pinion roller type inner bearings. Simply pull the pinion away from the sprocket drive carrier to separate the inner race from the outer race, also the pinion and pinion shaft splines. The outer race will remain in its bearing cage attached to the inside of the sprocket drive carrier. If necessary, the outer race can be pulled outward from the bearing cage. However, if the sprocket drive carrier is to be removed, the outer race may be tapped out of the bearing cage at this time, or pressed out if the bearing cage is removed from the inside of sprocket drive carrier.

6 (62) SERIES: Remove the sprocket drive pinion (40). The outer bearing (9) and inner bearing (38) are both straight roller type. Pull the pinion away from the sprocket drive carrier (41). The inner races of both bearings will stay with the pinion and can be removed with a puller if necessary.

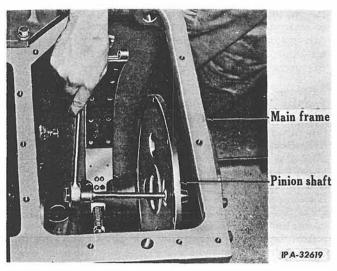
The outer race of the inner bearing will remain in the bearing cage (39), attached to the inside of the sprocket drive carrier.

9, 9 (91) AND 9 (92) SERIES: The pinion may be pried or pulled from the inner ball bearing. The inner ball bearing will remain in its bearing cage which is secured to the inside of the sprocket drive carrier. If bearing replacement is necessary, the sprocket drive carrier must be removed to gain access to the retainer cap screws. Refer to Steps 5 and 6 for sprocket drive carrier removal.

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8. REMOVAL AND DISASSEMBLY Wide Tread - Continued

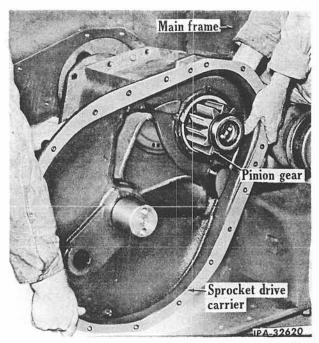
5. Further disassembly of the sprocket drive, before removing the sprocket drive carrier and/or the pinion shaft, requires the removal of the steering clutch. Refer to "STEERING CLUTCHES AND BRAKES," Section 7. With the steering clutch removed, remove the cap screws securing the steering clutch support bearing retainer and bearing cage to the sprocket drive carrier (Illust. 21). Rotate the pinion shaft flange to make the lower cap screws accessible.



Illust. 21 - Removing Steering Clutch Support Bearing Cage Cap Screws (Wide Tread).

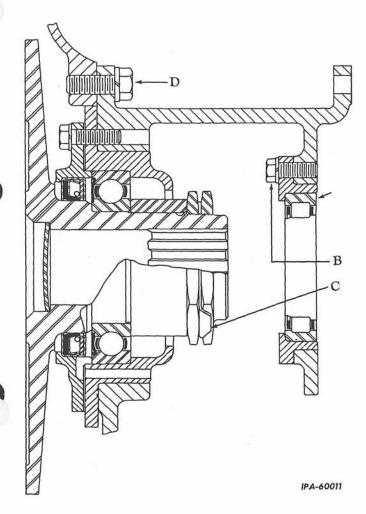
- 6. 6, 6 (61), 9, 9 (91) AND 9 (92) SERIES: Remove the nuts and cap screws securing the sprocket drive carrier to the main frame. Be sure to remove the cap screws between the webs on the inside of the carrier. Use jack screws to separate the sprocket drive carrier from the main frame or pry the carrier away from main frame, as may be the case, and move the carrier, carefully straight off the pivot shaft to prevent binding (Illust. 22).
- 6 (62) SERIES: Remove the sprocket drive carrier (41) from the main frame as outlined in the following Steps A to D, to have access to the steering clutch support bearing assembly, Illust. 23.
- (a) Remove the outer race of pinion gear inner bearing (38) from the bearing cage (39), using a bearing puller for this purpose.

- (b) Insert a wrench through the opening in bearing cage (39) and remove all the cap screws and lock washers securing the bearing cage to the inner wall of the sprocket drive carrier. Tap the bearing cage from the bore and lower the bearing cage to the bottom of the sprocket drive carrier.
- (c) Insert a drift or screwdriver through the opening and bend back the lug or nut lock (35). Then remove the retainer nuts (34) from the pinion shaft (29) with a 3-1/2-inch socket head wrench. Remove the spacer (33A) from the end of pinion shaft (29).
- (d) Remove the nuts and cap screws securing the sprocket drive carrier (41) to the main frame. Be sure to remove the cap screws between the webs on the inside of the carrier. Use jack screws to separate the sprocket drive carrier from the main frame or pry the carrier away from main frame, as may be the case, and move the carrier and the steering clutch support bearing assembly, carefully straight off the pivot shaft to prevent binding.



Illust. 22 - Removing Sprocket Drive Carrier (Wide Tread).



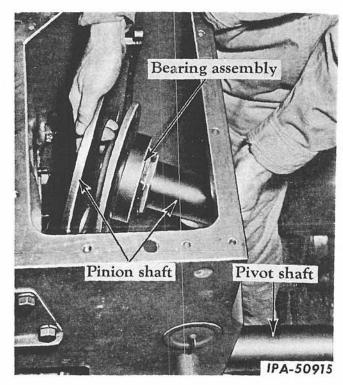


Illust. 23 - Steering Clutch Pinion Shaft and Support Bearing Assembly Sectional View TD-6 (62) Series (Wide Tread).

7. 6, 6 (61), 9, 9 (91) AND 9 (92) SERIES:
The pinion inner bearing assembly can be removed from the inside of the sprocket drive carrier by removing the cap screws that secure the bearing cage to the carrier. On the older "6" Series the pinion is removed with the inner bearing assembly through the inside of the carrier. To remove this pinion from the bearing assembly, straighten the lips of nut lock, remove the lock nut, and bearing retaining nut, then press or pull the pinion from the bearing assembly.

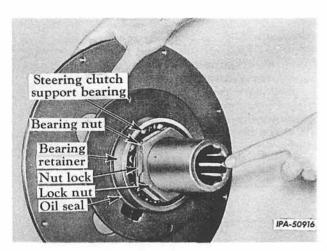
6 (62) SERIES: Remove and disassemble the steering clutch support bearing assembly from the sprocket drive carrier. Remove the cap

screws securing the bearing retainer and bearing cage (31 and 32) to the drive carrier (41).
Remove the bearing retainer (31) with oil seal
(32), and the gasket (36) from the bearing cage
(37). Separate the bearing cage (37) with ball
bearing (33), from the drive carrier. Remove
the pinion gear inner bearing cage (39) lying
loose in the bottom of the drive carrier housing.



Illust. 24 - Removing Pinion Shaft and Bearing Assembly (Wide Tread).

- 8. Remove the pinion shaft and the steering clutch support bearing assembly through the steering clutch compartment (Illust. 24).
- 9. To disassemble the pinion shaft (Illust. 25) pry off the bearing cage and remove the gasket. Straighten the lips of nut lock, remove the lock nut and the bearing nut. Remove the bearing and bearing retainer with oil seal, from the pinion shaft. Pull the oil seal from bearing retainer.

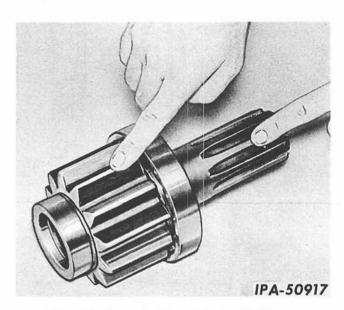


Illust. 25 - Disassembling Pinion Shaft Bearing Assembly (Wide Tread).

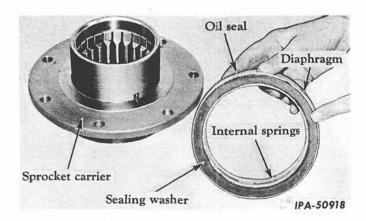
9. INSPECTION AND REPAIR

- 1. Inspect the oil seal for the pinion shaft assembly (Illust. 24), and if worn, press in a new oil soaked seal so the lips will face the bearing. Replace the bearing if necessary. Reassemble the bearing assembly to the inner housing for regular tread, but onto the pinion shaft for the wide tread. Refer to Par. 10 and 11.
- 2. Inspect the sprocket teeth for excessive wear which will cause the sprocket to jump the track chain even with proper track tension. If the teeth are worn on one side only, the sprocket may be reversed to place the unworn side of the teeth to the track chain bushings.
- 3. Inspect the bearings for scores, cracks, checks, wear and looseness in their cages or supports. Replace those that are not fit for further use. Oil those that are in serviceable condition and wrap or cover them until ready for assembly.
- 4. Inspect bearing surfaces of pivot bracket, cap, and pivot bearing for scoring, cracks, or excessive wear, also the oil seal, Illust. 7 and 8. Replace parts as necessary.
- 5. Inspect the sprocket drive gear and pinion gear for worn, chipped, or broken teeth or splines (Illust. 26). If one side of the teeth is worn, the pinion and gear can be installed on the opposite side of the tractor, providing the correct backlash can be maintained. Refer to Par. 2, "SPECIFICATIONS."

- 6. Inspect the sprocket carrier (Illust. 16), for worn splines. Replace all bent or damaged oil seal guards and dirt deflectors.
- 7. Replace all "O" rings and gaskets with new ones.
- 8. Inspect the track frame pivot oil seal (56 or 57, Illust. 11 or 12) and sprocket carrier oil seal (22 or 23). Both of these seals are diaphragm type (Illust. 27). The diaphragm must be free of cracks, holes or general deterioration. The sealing washer should protrude from the seal to prevent metal to metal contact with the bearing retainer. The friction or sealing



Illust. 26 - Inspecting Pinion Teeth and Splines (Wide Tread Shown).



Illust. 27 - Inspecting Diaphragm Type Oil Seals.



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surface of this washer should be free of glaze and high spots for good sealing. Compress the seal to be sure that the internal springs expand it evenly to its free width and that no springs are broken. Replace the entire oil seal with a new one if examination indicates any part not fit for service.