

FORD FULL-FLOATING TRUCK TYPE HOTCHKISS DRIVE

Used On:

V8 '60', TRUCK MODELS (1940)

V8 '90' & '100' (1940-41-42)

4 CYL. & 6 CYL. TRUCK MODELS (1941-42)

TYPE:—Spiral bevel, full-floating type with Hotchkiss drive. Axle is similar to design used on previous truck models except that no torque tube is used and Hotchkiss Drive is used. New type grease retainer and bearing retainer is bolted on front face of axle housing in same position as torque tube flange on previous models.

$\frac{3}{4}$ & 1 Ton Truck—Axle used on these models same as on other trucks except that pinion bearing sleeve (double bearing cup) is not flanged and is retained in housing by separate bearing retainer which is bolted on front end of housing with separate grease retainer assembly.

SERVICING:—Gear Adjustment—Backlash should be .004-.016". No adjustment provided.

Axle Shafts—Shafts can be removed without disturbing wheels and hubs as follows: Take out two screws in hub cap, remove cap. Remove nuts on 8 studs on axle shaft flange, turn two bolts (located between studs) in evenly to loosen axle shaft flange from hub. Then back off these two bolts, strike sharp blow on center of axle shaft flange to loosen locking cones on studs. Remove locking cones, pull axle shaft out. When installing shaft, see that gasket in place under axle shaft flange, back off loosening bolts sufficiently to allow axle shaft to seat on hub, install locking cones on studs, tighten stud nuts evenly and securely, then tighten the two loosening bolts just enough to prevent their loosening in service.

Wheel Bearing Adjustment—Remove axle shaft (above), remove outer locknut, lockplate, and grease retainer (except on $\frac{3}{4}$ and 1 Ton). Turn inner bearing adjusting nut up tight, then back nut off $\frac{1}{4}$ turn, install lockplate being certain that locking pin in nut engages notch in lockplate (except $\frac{3}{4}$ & 1 Ton), bend lockplate tang against nut ($\frac{3}{4}$ & 1 Ton). Install outer locknut and tighten securely. Rotate wheel by hand and see that it turns freely. Re-install axle shafts.

Wheel Bearing Assembly—To disassemble wheel bearings, remove axle shafts, remove outer locknut, grease retainer, lockplate and inner adjusting nut, remove wheel hub. Remove snap ring in inner end of hub, use puller BB-139 to remove grease retainer, remove inner bearing roller assembly, use puller BB-148 to remove inner bearing cup from hub. Remove outer bearing roller assembly from hub, use puller BB-148 to remove bearing cup from hub. Re-install parts in same manner using BB-150 to install both bearing cups in hub and to install grease retainer. Make certain that grease retainer snap ring installed in inner end of hub. Adjust bearings after hub installed on axle (see above).

OVERHAUL:—Disassembly—Remove axle shafts and wheel hubs, take out capscrews holding left hand

axle housing on right hand housing, remove left hand housing using care not to lose thrust pin and plate. Withdraw ring gear and differential assembly from housing (differential side bearing roller and cone assembly will come out on differential case hubs, bearing cones will remain in housing halves). Remove and service pinion assembly and differential assembly as directed below.

Pinion Bearing Assembly (Except $\frac{3}{4}$ & 1 Ton):—To disassemble, take out screws mounting grease retainer and pinion sleeve flange on forward end of axle housing, remove grease retainer and pinion assembly. To disassemble pinion, remove locknut, lockplate, adjusting nut, and washer on end of pinion shaft, use tool AATA13 to remove pinion from sleeve (rear bearing roller and cone will come out with shaft). Use BB-142 to remove and install this rear bearing on pinion shaft. If bearing cups to be removed from sleeve, use puller BB-143 to remove cups and BB-144 press to install bearing cups. Use puller BB-145 to remove outboard bearing from axle housing and BB-147 to install this bearing. Re-install pinion and bearings in sleeve in this same manner, tighten adjusting nut until force required to turn pinion shaft is 12-16 inch lbs. (use ABV-129 gauge which reads directly in in. lbs.). Tighten locknut securely and see that lockplate tangs turned over against both nuts.

$\frac{3}{4}$ & 1 Ton Models—Pinion bearing sleeve is not flanged and pinion assembly should be removed from axle housing with special driver (after grease retainer and bearing retainer removed). Bearings are removed from pinion shaft as an assembly with special puller (after pinion bearing adjusting nut and locknut have been taken off). When installing bearings, install rear bearing first, then install front bearing and bearing sleeve or cone as an assembly. Heat axle housing before installing pinion assembly and check bearing adjustment only after assembly installed in housing. Force required to turn shaft should be 16-20 inch lbs. (same as other models) and is adjusted in same manner.

Pinion Setting:—Pinion position not adjustable. If pinion mesh with ring gear not correct, replace all worn parts.

Differential Assembly:—To disassemble take out capscrews holding right hand half of differential case on left hand half, remove right half of case and lift out differential gears, pinions and pinion shaft. To remove differential bearing rollers and cones from differential case hubs, use special puller AATA1. Replace these bearings with tool BB-147. Use BB-148 to remove bearing cups from axle housing and BB-149 to install these bearing cups. Ring gear is serviced as a unit with the differential case and should not be removed. Differential bearings are not adjustable and use of additional gaskets between axle housing halves to control bearing adjustment is not recommended.

Assembly Note:—When reassembling axle, see that thrust block and thrust pin not worn and properly installed in left hand axle housing, use one 61-4035 gasket ($\frac{3}{4}$ & 1 Ton), BB-4035 gasket (Others) between axle housing halves.