

RUCKSTELL REAR AXLE SPECIFICATIONS

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Axle

Axle diameter 1.062
acceptable .002 under
Axle bearing to sleeve clearance max .006
Axle gear shoulder dia. 1.806 - 1.807
Axle end play (within diff. housing) not detectable
Hyatt roller bearing dia. .500
acceptable .002 under no pitting
Axle tube O.D.
prior to 1920 2.380 - 2.390
after 1920 2.430 - 2.440
increase .050

Differential Spider Assembly

diff gear on spider arms clearance .005 - .007
Spider gear I.D. .752 - .753
Spider arm bearing dia. .746 - .747
Spider mounting stub dia .622
Spider axle bearing hole I.D. 1.065

Differential Assembly

Large half

Hole for Axle Gear shoulder I.D. 1.812
Clearance with axle gear .005 - .006
serviceable to .010
Planetary gear pins (3) dia, .493 - .494
Planet Gear hole I.D. .498 - .499
Planet gear to pin clearance .005 - .006
serviceable to .010
Ruckstell thrust plate thickness .354 - .355
Dowel pin (3) hole dia. .374 - .375
serviceable to .376

Small half

Hole for Axle Gear shoulder I.D. 1.812
Clearance .005 - .006
serviceable to .010

Bronze Thrust Plate

Dia. Of shoulder at plate 2.3625
Depth of main thrust surface .340
Oil groove width at outer circumference .200 - .250
Depth .350
Clearance between differential Gear Carrier
Housing assembly and Bronze Plate bearing
surface .005 - .006 max. .010
With bearing pressed on plate:
Clearance between outer race shoulder and top
surface of bronze plate .020 - .050
With bearing down on flat surface:
runout at outer shoulder less than .002
max runout but not desirable .005
RUCKSTELL SPECS. PUB

Bell Housing

Hole I.D. 1.812
Clearance with Axle Gear shoulder .005 - .006
Max serviceable clearance .010
O.D. of outer shoulder surrounding 2.240 - 2.250
Protrusion .270 - .280
Top of Housing shoulder to inner thrust washer surface
3.584 - 3.586
Housing wall thickness between 2 thrust washers mounting
surfaces .358 - .360

Differential Assembly Installation

Thrust washer assembly

Thickness of 2 steel thrust washers .090
Bronze thrust washer .200 - .203
Differential clearance (with housing gasket in place) .005

Sliding Clutch Gear

Width of teeth .600 - .650
Half of width engages with Thrust Plate
Other half engages with Sun Gear

Ring and Pinion Gear Assembly

Ring to pinion clearance (ideal) .005 - .006
Max clearance (check every 90 degrees) .008 - .012
Ring Gear runout with .010 clearance .003 - .004
Ring Gear Bolt torque (special high strength) 35 ft-lbs

Universal Joint

Rivets must be tight - do not rivet
If loose, replace with larger rivets or replace u-joint
Bearing clearance max .010 - .020

Drive Shaft

Front Bearing surface diameter 1.000
Max wear .005 (no taper or egg shape)
Rear Thrust Bearing
Inner bearing sleeve (must be a press fit on drive shaft)
Sleeve O.D. 1.250, sleeve length 3 1/16 long
Max wear .002 (no pits or cracks)
Tighten pinion gear at least 70 ft-lbs on drive shaft taper
No space between sleeve and pinion gear
Drive shaft roller bearings dia. .562
Max wear .002, no pitting on rollers
Drive Shaft Spool
I. D. 2.375 max wear .003
Drive Shaft Front Bushing
Driveshaft to Bushing clearance .002 - .003
With u-joint installed, drive shaft end play max .005

SOURCE: MTFCA Manual, Repairing and restoring the
Model T Ford Ruckstell Axle, 2002