



04-05-2010,
01:22 PM

#[1](#)

[tdog](#)
Grenade Inspector

Join Date: Nov
2009
Location: Omaha,
NE
Posts: 123

[Early Ford Banjo Rear End Rebuild](#)

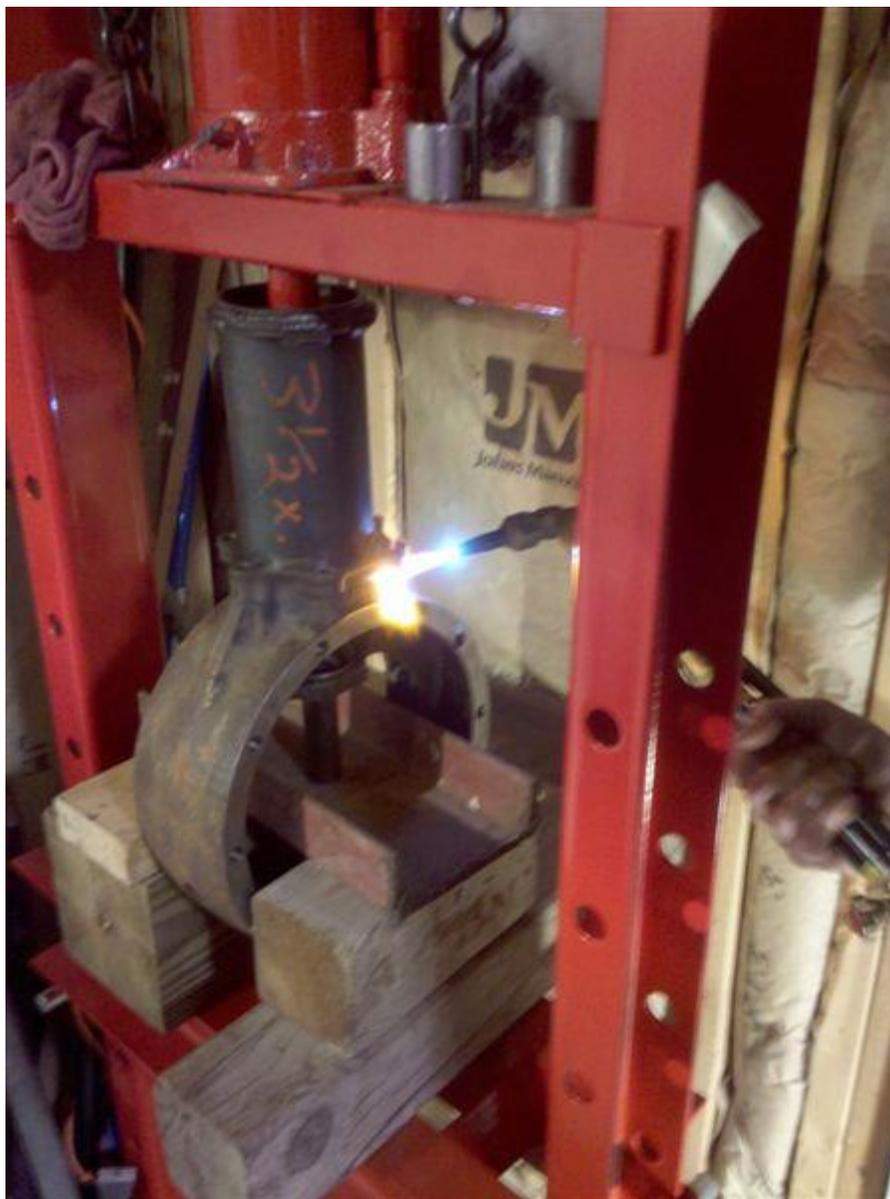
About 6 years ago my dad purchased a banjo rear end for 100 bucks from a Junkyard down by the Kansas Boarder. It was compete with brakes and a torque tube. But what he was really after were the Chrome Bells it had. He brought it home and stored in the garage. Last Nov he was hot rod'n and broke an axle in his 32 Cabriolet. It had been howling for a couple months before he broke it. Dude is 65 years old and still breaking shit. Its likes have a 16 year old kid around LOL. He wanted to upgrade with a set of 3:54's so He took the banjo rear end (w/ 3:77s?) out of the car and put in the corner. Decided to build the rear end with the Chrome Bells. When he took it apart it was very rusty inside. At some point it must have sat upright with the torque tube standing straight up in the air. So he scrounged around in his shop for some extra rear end parts that we had left over from when I built a Columbia two speed banjo rear end for a 28 Model A roadster that he and I built. He brought over all the parts to my house so I could start the process of rebuilding a rear end that will hopefully hold up to his Right foot.

Before reading on let me say I work in an office for living. I used to wrench for a couple summers during college. I have a lot of experience building 8.8s in Mustangs and have done some 9" rear ends. I only have one Banjo rear end under my belt before building this one. Also I am looking for input from the folks who are experts on this. I am looking for tips and help for what I may be doing wrong. After I get this one done I have a buddy who needs help with a 46 ford rear end. I am always looking to learn and do better. Also trying to help the guy/gal who wants to run a banjo but may not have any experience in building one and help give some confidence that it can be done. My Dad had already had partially taken the rear end apart and I am taking apart two center sections so in the end I can choose which case I like better. One center section was very rusty and the other was very clean and not rusty.

Taking apart the center section:

First order of Business was to get the old pinion, bearings and race out. Using a 5/8" deep well socket I used to push up. And a 3 1/2" piece of pipe with a cap of 1/4 steel welded on top. I got some pressure on the press to hold everything in place and then I used the torch to put some heat into the housing. Not a lot of heat just got her warm. Not even close to cherry red. With some pumps of the handle the whole pinion assembly started moving and she was out. (One picture shows the pinion still in the case about 3/4 of the way out) Clean case or rusty case I would suggest a little heat to get the pinion assembly out. As info I will be using all new bearings and a new gear set.







Next order of business was to get the pinion snout bearing out. If the rear end has not seen lot moisture or a failure where a bunch of shavings and chunks of metal have run through the bearing via the fluid. I would say this bearing could stay in place if the rollers look good. In my case I am planning on have the Center section (Banjo Portion) powder coated. I needed to the have the case completely gutted.

I drilled both rivets out and pushed them through with a punch and the retainer dropped. Then ready to press the bearing out.

Using a 36mm socket was used to push the bearing up and pipe used to press against the other side of the housing. On the "clean" case it pushed out cold no heat. (Came out easy). On the rusty case I used heat on the case around the pinion snout housing. Then it came out.







ffice 😊ffice" /><O 😊></O 😊>

After getting both center housings stripped I used a 3/8 x 24 thread tap to chase all the holes for the banjo bell bolt holes and where the torque tube bolts up. One of the housings had some messed up threads in the torque tube flange. Somewhere along its life someone took some wrong bolts and tried to make them fit. The tap cleaned them up with no problem. After the tap the Factory Ford bolts went in just fine. For some reason a 3/8 24 dia did not seem to work on the bolts? Ford must have used a non standard thread pitch on the bell and torque tube bolts? Regardless the 3/8 x 24 tap did the job on cleaning up all the holes. The set up on these require a lot of assembly and disassembly so making sure the bolt and holes have good threads is important.

The Bells:

I knocked out the old axle seals. The first one I used a punch and tapping on the seal in a circle. It was not a good method for me. The seal came apart in three pieces. And was a fight. On the other bell and the second seal I used a 15/16 impact socket with an extension to tap on. This method work great. Pushed the seal out in one piece.

The chrome bells seemed to looked rusty on the inside. I ran a telescoping magnet down the inside of the bells and same out with a bunch of rusty flakes. I took the bells to the car wash and sprayed as much as the grease out 2 bucks would allow. Then took brakleen and rags and a pipe to

get the bells clean enough to get them in my buddies blasting cabinet. My friend Josh owns Trails performance coatings located in Papillion Ne. Josh and his right hand guy Jeremy are the guys who are going to powder coat the center section when its time. After I taped up the outside of the bells the insides were ready to blast. (Tape was used to protect the already not so perfect chrome during the media blasting process) After the inside of the bells were clean from rust I used compressed air to get most of the media out and then back to the car wash to spray out the last of the blasting media.



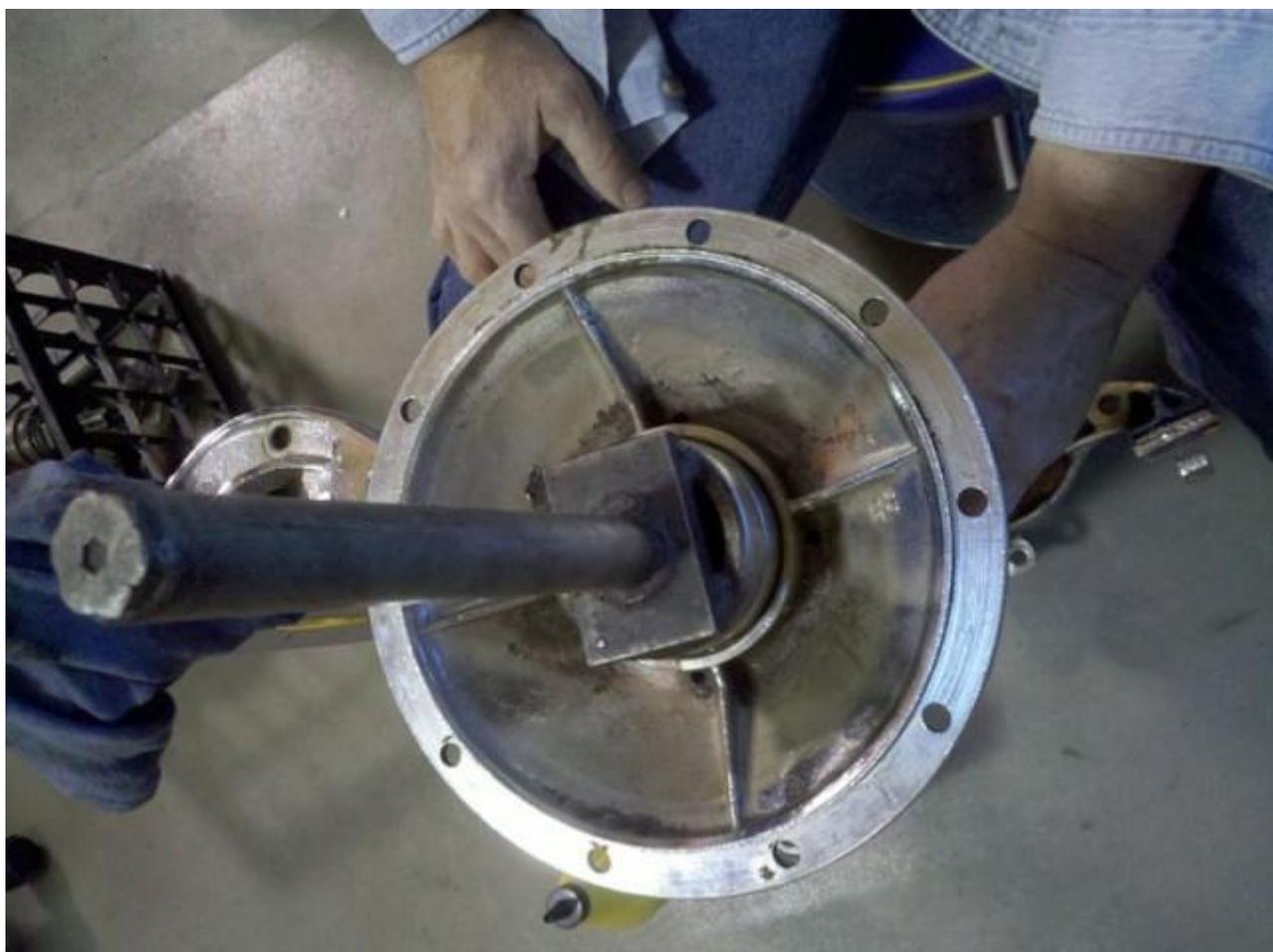


Remove the bell diff bearing races:

With a pieces of 4' long by $\frac{1}{2}$ rebar we used to tap out the old races. There is "groove" on the inside of that exposes the edge of the race. This is where you need to have the rebar rest while the other end gets taped. In one of the pictures I am using a hammer handle to keep force on the rebar so it will not jump out of the "groove" while my dad hits on the other end. Rotate the bell around while tapping to spread the force. After that I used race installer I made from an old race and tapped the races in place. I will not install the new seals until the end of the build. The axles going in and out of the bells during set up could cause damage to the seals if installed now.







<O 😊></O 😊>

That's it for now more to come. I almost have it together. It's all set up and I used a rope to hold the spider gears and set up the preload on the diff bearings with an inch lb torque wrench with one axle installed. Worked out great. Just need to find the time to put together the write up.

<O 😊></O 😊>



"QUOTE"

04-05-2010,
01:41 PM

#2

[bct](#)
Senior Member

Re: Early Ford Banjo Rear End Rebuild

looking forward to the rest....

a time to weld , a time to grind.



Join Date: Apr
2005
Location: b.c.
Posts: 1,282



"QUOTE"

04-05-2010, 08:09 PM

#3

[butch27](#)
Senior Member

Re: Early Ford Banjo Rear End Rebuild

Great help. I'm changing from 4:11 gears to 3:25 right now.

Join Date: Dec 2004
Location: Garden City,
MI
Posts: 2,118



"QUOTE"

04-05-2010, 08:42 PM

#4

[Fred A](#)
Grenade Inspector

Re: Early Ford Banjo Rear End Rebuild

One Mistake! Those tight bolts are supposed to be that way from the factory. That's what keeps them from leaking when the assembly is all together. Hope you don't get it all together and curse the design that leaks when you are the cause. Banjo's are cheap as dirt and might be worth the effort to head off any problems. Even the Late Great Richard Johnson of Burbank didn't know about the tight holes until I had him do some machine work on my Model A banjos and told me what he'd done. Luckily the A banjo is even cheaper than the V8 style and easier to pull the pinion. Good Luck: Fred A



Join Date: May 2005
Location: Encino CA
Posts: 113



QUOTE

04-05-2010, 08:50 PM

#5

cvstl

Alliance Member



Join Date: Apr 2009
Location: StL MO
Posts: 597

Re: Early Ford Banjo Rear End Rebuild

Perfect timing.... getting ready to rebuild one w/ 3.54s. Thanks.

H.A.M.B. CHAPEL

CROSS MEMBERS CC



QUOTE

04-05-2010, 09:33 PM

#6

fab32

Alliance Member



Join Date: May 2002
Location: Bay City, Mi.
USA
Posts: 13,447

Re: Early Ford Banjo Rear End Rebuild

Great timing on this. I'm in the process of changing the rearend in my '38. going from 4.11's to 3.54's. the tip about the factory interference fit of the bolts is especially timely as It has been a practice of mine for over 40 years to chase the threads on everything that I'm reassembling.

Frank

"What we got here is failure to communicate"



QUOTE

04-05-2010, 09:44 PM

#7

hotrod40coupe

Alliance Member



Join Date: Apr 2007

Re: Early Ford Banjo Rear End Rebuild

Thanks for the tech, this one is getting saved.

Location:
HENDERSON, NV
Posts: 2,437



"QUOTE"

04-05-2010, 09:48 PM

#8

[tdog](#)
Grenade Inspector

Join Date: Nov 2009
Location: Omaha, NE
Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Fred A, Thanks for the knowledge that is great help. At least I wont screw up the next one. I did add a dab of sealant on all the banjo bolts during final assembly so hopefully this thing wont leak like siv when my ol man fills her up.



"QUOTE"

04-06-2010,
10:11 AM

#9

[tdog](#)
Grenade Inspector

Join Date: Nov 2009
Location: Omaha, NE
Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Remove old pinion and diff bearings:

If you are opening up the rear end to inspect, re-adjust the bearing preloads and/or replace gaskets you may not have to replace any bearings. If the bearings look to be in good shape and the rollers are NOT blue in color (Been Hot) and your not sure if they are good enough to run?. A rule of thumb I have followed: If you can feel an imperfection on the rollers or the race with your finger nail the bearing should be replaced.

On the pinion gear the one bearing by the splines should slide right off and then the race will come off. The bearing next to the gear end of the pinion needs to be pressed off.



To remove a good pinion bearing for re-use: Take an air chisel and get the point down between the Bearing race and the base of a tooth on the gear. Give the trigger on the air chisel a couple pulls. Get the race to move about an 1/8 of an inch or more. You are making room to get the bearing splitter to grab the back side of the race. After the splitter fits down in the space you just made tighten it up using the big nuts on the threaded shafts. Make sure the cage of the bearing cage still spins. If it does not spin you may need to use the air chisel again. In some cases you may need to grind a little meat off the splitter to make clearance. Then take it to the press. While its in the press keep checking to make sure the cage rotates freely if you bend the cage. You will ruin the bearing.





To remove a bad bearing: I cut the cage off with a cut off wheel and put a little heat on the race

this will really get it moving. Then use the air hammer to make room for the splitter. Then put in the press and fire up the torch again and put some more heat on it. Don't go crazy with the heat. (Not cherry red) it will not take much to make a big difference once its in the press. I like to use heat when I am removing junk bearings so I do not have to put a big strain on my bearing splitter when I don't have to. I figure the less strain the longer it will last. And with the cost of a good bearing splitter I need to make mine last a long time.....Tip: Don't by the Harbor Freight Bearing splitter. I tried to go cheap and broke it on its first use. Got mine at Napa. Spent close to \$200. Try to find a friend that has one you can borrow. Save all your old races. They come in handy for installing the new bearings and on other projects you may come across in your press.





Remove the bearing on the None ring gear side of the differential: Just use the bearing splitter to catch the back side and get in the press. . I used a deepwell socket to go between the press and the diff. If saving the bearing no heat. If the bearing is junk, cut the cage and get some heat in it.



I did not have to remove the bearing on the side of the ring gear. I made a Gear change and purchased new bearings. But if I had too I would repeat the above instructions. More to come.....



"QUOTE"

04-06-2010,
10:45 PM

#[10](#)

[tdog](#)
Grenade Inspector

Join Date: Nov
2009

Location: Omaha,
NE

Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Next thing to do is the get the bearing on the ring gear and the bearing on the big half of the diff. To press the bearing on the ring gear I used some wood on the press to protect the teeth of the ring gear. I also took rear end oil and lubed up the inside of the race and the ring gear portion where the bearing presses on.

Never install bearings or races dry. I think I may have not mentioned that above in the bell race installation section? Sorry

Then with an old race flipped upside down to push down on my new bearing I pressed it on. Pay close attention. I had to readjust the bearing a couple times before it was exactly square. (I started pressing and had to stop right away and pull the bearing off and re-adjust)





Then I repeated the above steps to press the bearing on for the big half of the diff.



"QUOTE"

04-06-2010, 11:09 PM

#11

[Fordguy321](#)

Grenade Inspector

 **Re: Early Ford Banjo Rear End Rebuild**

Im lookin for a banjo for my sedan and probably gonna have to go through it like this, do they have bearing kits? How much does a overhaul cost on these?



Join Date: Oct 2009

Location: Arizona

Posts: 395



"QUOTE"

04-06-2010, 11:18 PM

#12

[tdog](#)

Grenade Inspector

Join Date: Nov 2009

Location: Omaha, NE

Posts: 123

 **Re: Early Ford Banjo Rear End Rebuild**

Fordguy321 I think the Bearing kits are around \$325 -\$340 and a ring and pinion if you desire to change yours I believe are around \$350 and then there are some seals and gaskets. I heard have you can spend around \$800 for parts. My dad scored a whole rebuild kit of ebay for \$415 that included everything new with a set of new 3:54 gears. So guy bought the stuff and decided he did not need it. So we got lucky. I seen on a web page a company will go through a banjo for \$465 just for labor. A guy could buy a press and bearing splitter and build some race installers and be money ahead. good luck

Last edited by tdog; 04-06-2010 at 11:27 PM.



QUOTE

04-06-2010, 11:25 PM

#13

[tdog](#)

Grenade Inspector

Inspector

r

Join Date:

Nov 2009

Location:

Omaha, NE

Posts:

123

 **Re: Early Ford Banjo Rear End Rebuild**

Temporarily bolt together the Differential with ring gear for set up:

First thing I did was get one of the bells to mount vertically on a my rolling work Cart. Got it mounted with a wide jaw vise grip and a ratchet strap.



I pushed two diff bolts through the back side of the ring gear and took the small half of the diff and tapped it into the ring gear with a rubber mallet.



Then I set the other half of the diff (Big Half) with the bearing in place and set it in the vertical bell on the Cart. Slid an axle in it (Down into the bell) and placed the spider gears in the diff. I took a $\frac{1}{4}$ nylon rope with a knot on each end. (Burnt the ends so it would not fray and untie). Total length measured about 5".

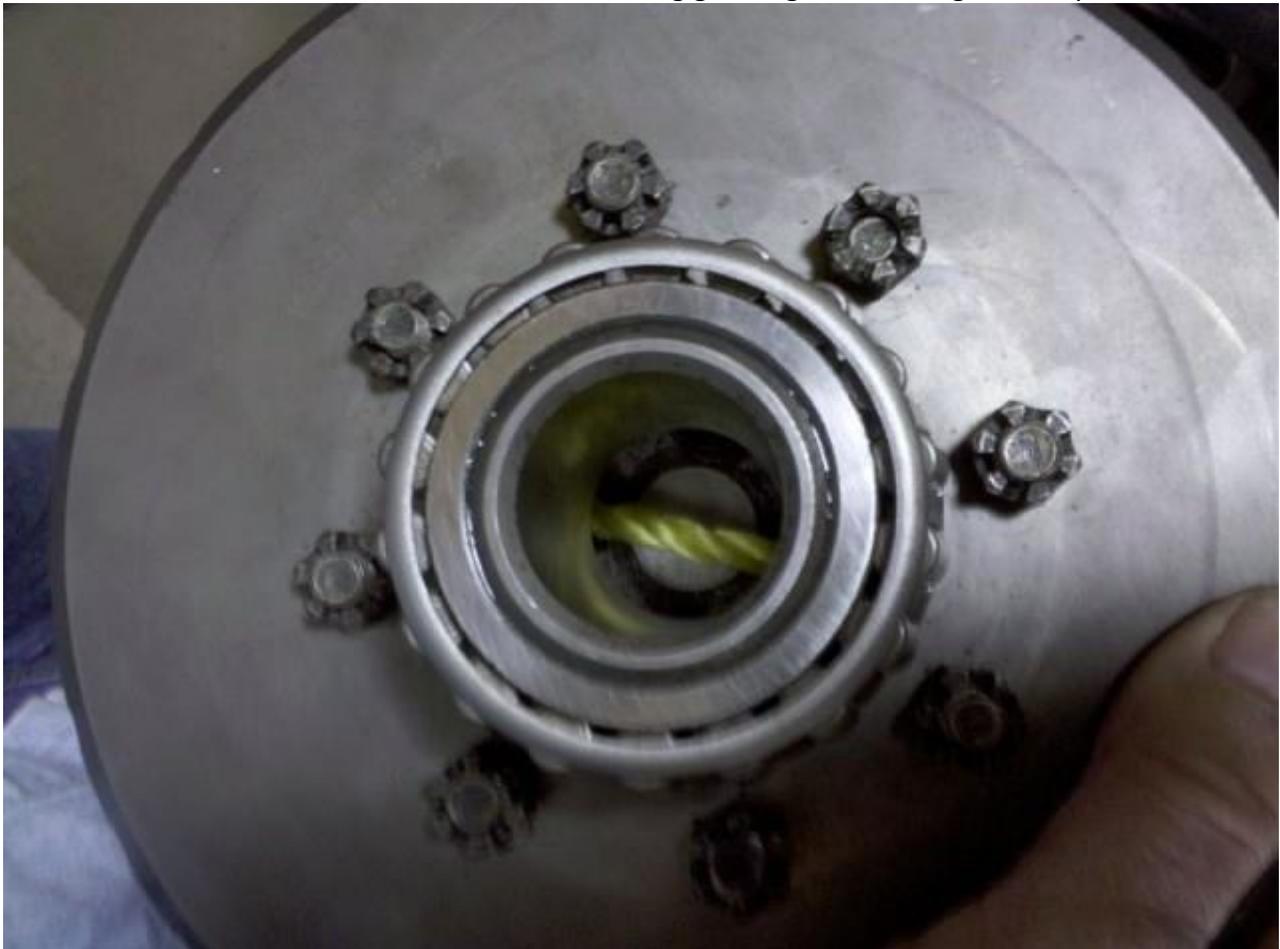




Took the knots and wedged them in between the spider gears and the axle end. Make sure this does not hold up the spider gears from fitting down in the correct position. This rope will temporarily lock the one axle into the diff while I set the preload on the diff bearings.



With the 8 diff bolts, bolt the two diff halves and ring gear together and tighten it up.



Take the assembly out of the bell (Axle was pointing down) and set in back in the bell so ring gear is on the

bottom and the axle is straight up in the air. This the time to make sure the roller in the bearings and the races have plenty of oil on them. When the preload is being set up its important to have them saturated





"QUOTE"

04-06-2010, 11:39 PM

#14

[tdog](#)
Grenade
Inspect
or

Re: Early Ford Banjo Rear End Rebuild

Shim the Bells for correct Differential bearing Preload:
Make sure all banjo flange surfaces are free of debris.

Join
Date:
Nov
2009
Locatio
n:
Omaha,
NE
Posts:



Bolt the center section to the bell with no gasket.



Now slide the other bell over the axle (Do not use gaskets at this time) and put about 4 bolts in to get it square and measure the gap. My gap measured about .020. So I took the bell off and I placed three gaskets shims .007, .007 and .005 back on the center section and bolted the bell back down tight.



gasket
sort
system

BEST *gasket*
...sealing history!

REAR AXLE & U-JOINT
SET

10051

Ford B, V8 1932-48

white-.003, ivory-.005, green-.007, blue-.009
bestgasket.com

RESTORATION
PERFORMANCE



I threaded an axle nut on the axle threads at the top. And put my inch pound torque wrench on the top of the axle I jumped up on to a stool to be able to read the top side of the torque wrench. The rotating assemble measured 10 in lbs. Not being able to find any preload specs for the diff preload I used the preload specs for a pinion bearing from some Ford Motorsports read end instructions. With new bearings I was shooting for a number between 16 in lbs and 28 in lbs. I needed to take more shim out. Took the top bell off and removed the .005 shim gasket. And left the two .007's Bolted the bell back on and came up with 22 in lbs of for the preload on the diff bearings. That sounded good to me. The two .007,s shim gaskets gave me the total shim of .014 total to achieve the preload I was looking for.

to obtain correct pinion bearing preload

Differential ring gear bolts	111 lb-ft	70-84 lb-ft
Differential pinion shaft lock bolt	22 lb-ft	15-30 lb-ft
Differential bearing cap bolts	77 lb-ft	76-89 lb-ft
Differential housing cover bolts	33 lb-ft	28-38 lb-ft

SPECIFICATIONS

Description	9.75" and 10.25" Ring Gear	7.5" and 8.8" Ring Gear
Backlash between ring gear and pinion teeth	0.203 mm-0.381 mm (0.008 in-0.012 in)	0.203 mm-0.381 mm (0.008 in-0.012 in)
Ring gear maximum variation between teeth	0.102 mm (0.004 in)	0.102 mm (0.004 in)
Differential case maximum runout	0.076 mm (0.003 in)	0.076 mm (0.003 in)
Pinion bearing preload (used pinion bearings)	0.9-1.5 Nm (8-14 lb-in)	0.9-1.5 Nm (8-14 lb-in)
Pinion bearing preload (new pinion bearings)	1.8-3.3 Nm (16-29 lb-in)	1.8-3.3 Nm (16-28 lb-in)



Side note: My bells have been chromed and the chroming process added a thickness of .005 to each bell flange. (I had a piece of chrome flake off in it measured .005) If my axles were bare steel I would have added .010 to all my numbers

Another side note: I have read posts about checking the preload on diff bearings by assembling the rear end with both axles and then loosening the pinion and doing it by feel. Probably works fine I did not think my arms would reach to turn both axle ends at the same rate to get a feel for the rotating resistance.

When I built my first banjo, I used the by feel method but I had the pinion out and did not have the axles in the bells. I spun the ring gear through pinion hole with my fingers to get a feel for the rotating resistance. "Bearing Preload" It works good too. I just decided to use the rope because it was an idea I came up with so I would be able to use inch pound torque bearing specs.

I am use to working on are Ford 9" and Ford 8.8s I have not seen preload bearing specs for differential bearings on these rear ends. That's why I had to use specs from a pinion bearing chart.

On the 8.8s you set the diff preload up by shimming the bearings If you can get a cast Ford shims in without breaking a shim (Tight fit) your good. And the spanner rings on the 9"s are done by feel with no real way of check the resistance. However To get the "feel" of a 9" and the 8.8s you can put your hand on the ring gear itself to get a good "feel". In a banjo style rear end is either through the pinion hole if the pinion is out and using a finger to turn the ring gear or turning a tiny axle end. So I tried the rope. And I liked the way it worked. Sorry if I am getting off track just trying to explain why I used the rope idea.

Still more to come.....



"QUOTE"

04-06-2010, 11:46 PM

#15

[-Brent-](#)
Old School HAMBer

 **Re: Early Ford Banjo Rear End Rebuild**

Wow... informative tech! But really, all I learned is THAT I WANT CHROME BELLS!



Beautiful!

[Pre-war 1920 Model T build](#) Reassembly has begun!

WANTED:
- 1933/34 Drive Shaft and Torque Tube

Join Date: Nov 2006
Location: Salt Lake City
Posts: 4,118



"QUOTE"

04-07-2010, 12:01 AM

#[16](#)

[ss34coupe](#)
Alliance Member



 **Re: Early Ford Banjo Rear End Rebuild**

great tech!!

Join Date: May 2007
Location: British
Columbia
Posts: 2,463



"QUOTE"

04-07-2010, 03:13 AM

#[17](#)

[34GAZ](#)
Senior Member



 **Re: Early Ford Banjo Rear End Rebuild**

Better subscribe to this. I have about 10 rear ends in the shed that need help.

Join Date: Nov 2003
Location: TIEL, fruit
capital of The
Netherlands
Posts: 2,148



"QUOTE"

04-07-2010, 07:54 AM

#18

[dirtbag13](#)

Old School HAMBer



Join Date: Jun 2008

Location: Marshalltown

iowa

Posts: 2,520

 **Re: Early Ford Banjo Rear End Rebuild**

nice tech ! saving this one

*One hand on the wheel and one on the bottle one foot in the grave
the other the throttle !*



QUOTE

04-07-2010,
12:39 PM

#19

[tdog](#)

Grenade

Inspector

Join Date: Nov
2009

Location:
Omaha, NE

Posts: 123

 **Re: Early Ford Banjo Rear End Rebuild**

Prepare the pinion to install in banjo:

The gear set I am using is brand new and a problem I found with the pinion is that the pinion was not machined enough from the factory to get the bearing on the splined end to slide freely. This bearing needs to be able to move back and forth during the preload set up. The bearing on the Gear end needs to be pressed on.

I needed to take some material off the pinion gear to make the bearing slide back and forth. (See red arrow in picture)



This could have been done by hand with some emery cloth but it was much faster chucking into my small lathe. I would take some material off with emery cloth and check. This was back and forth process. As soon as the bearing would slide I was good. You do not want to take too much off. Then it was time to press on the bearing on the gear end of the pinion. Using an old bearing race a piece of pipe and some gear oil I pressed it on.





Side Note: To my knowledge these pinions were not shimmed from the factory and shims are not available specific for this application? The only time I would add shim or machine material off the pinion is if your final pattern check showed the pattern running off the toe or the heel of the drive side or coast side of the teeth of the ring gear. But will go more into that later.

I slid the race on the pinion and then slid the other bearing that now slides freely into place. I installed the round washer and big nut. The assembly is now ready to take to the powder coaters along with the freshly cleaned and blasted center section.



<O🤔



<O🤔>



Josh and Jeremy up at trails powder coating took care of my while the pinion was put into the freezer and the banjo was masked to keep powder out of the insides and out of all bearing races and bell attachment areas. After two coats of kick ass red powder the center section was removed at 400 degrees and the cold pinion assembly with a skim coat of oil was slid right into the hole while it still hung from the wires. UUUUNG! Talk about a pretty site!



If you not going to powder coat you center section a torch will work. (Not cherry red) just some heat just like was needed to get the pinion bearing out. Still put the pinion assembly in the freezer. You may want to wait to paint you center after the pinion is installed. Don't want to burn the paint. I did take off all the over spray on the areas where the bells mount. Don't want it to interfere with my set up.

<0 🤖 >



</o 🤖>

Stil more to come.....



"QUOTE"

POST REPLY

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POST REPLY

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04-07-2010, 12:48 PM

#[21](#)

[tdog](#)

Grenade Inspector

Join Date: Nov 2009

Location: Omaha, NE

Posts: 123

 **Re: Early Ford Banjo Rear End Rebuild**

Thanks for all the positives on this guys. I am glad your finding it helpful. I will try to add more tonight



"QUOTE"

04-07-2010, 09:55 PM

#22

[HellsHotRods](#)

Senior Member



Join Date: Jul 2009

Location: So Cal

Posts: 1,077



"QUOTE"

 **Re: Early Ford Banjo Rear End Rebuild**

EXCELLENT TECH ARTICLE!!!!, very detailed. Thank you for posting this. Everyone building a traditional-period correct hot rod has to rebuild one of these at some point.

Check out my traditional parts for sale in the HAMB classifieds.

04-07-2010, 10:26 PM

#23

[tinmann](#)

Senior Member



Join Date: Nov 2005

Location: B.C., Canada

Posts: 1,504



"QUOTE"

 **Re: Early Ford Banjo Rear End Rebuild**

Well written, excellent photography..... and good timing as I need to have peek into the '39 banjo under my '32. Thank you sir!!!

You can touch the coupe, just don't fondle my chicken!!

04-08-2010, 11:15 AM

#24

[butch27](#)

Senior Member

Join Date: Dec 2004

Location: Garden City,
MI

Posts: 2,118



"QUOTE"

 **Re: Early Ford Banjo Rear End Rebuild**

Where did you buy the gasket(shim) kit?

04-08-2010, 12:04 PM

#25

[thesupersized](#)

Senior Member



 **Re: Early Ford Banjo Rear End Rebuild**

awesome tech, thanks! i will definitely be using this in the near future!

I like real customs.

Join Date: Aug 2004
Location: Bloomfield,
NJ
Posts: 1,367



"QUOTE"

04-08-2010, 12:11 PM

#26

[RDR](#)

Senior Member



Join Date: May 2009
Location: LaPine, OR.
Posts: 1,134



"QUOTE"

04-08-2010, 12:25 PM

#27

[392 hemi](#)

Alliance Member



Join Date: Jun 2004
Location: Deerfield IL
Posts: 1,742



"QUOTE"

04-08-2010, 12:46 PM

#28

[tdog](#)

Grenade Inspector

Join Date: Nov 2009
Location: Omaha, NE
Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Me too...want this one handy..thanx [MR](#) tdog

if it won't go;force it....if it breaks;it needed replacing anyway ~Goodell log truck shop 😊

Re: Early Ford Banjo Rear End Rebuild

Nice tech, but the side bell gaskets are supposed to be used to adjust the gear lash and there's a specific procedure for doing that. The early manuals have specs for pinion preload and gear lash.

Re: Early Ford Banjo Rear End Rebuild

392 Hemi I have done all that I just have not had time to post it all up yet. I m going to try to get some more up tonite. I am about 2/3 done with the post. I dont have the old Ford specs. I set the pre load on the pinion between between 16 and 28 in lbs (New Bearings) This is the same as 9" or an 8.8 Ford rearend. My Gear lash is .006 on the splines on the pinion but I figure the actual gear back lash at the teeth of the gear is at .009 or .011. These are also within the specs of a 9" and 8.8

Does the old Ford manual spell exactly how to measure the backlash? I would like to the point the old books say to measure from. Since you can not see the ring gear when a banjo is all together you can't measure the actual back lash like you can on a 9" or 8.8

If you had the pinion info from the old manuals to share that would be great

Thanks

Last edited by tdog; 04-08-2010 at 01:09 PM.



"QUOTE"

04-08-2010, 03:29 PM

#[29](#)

[rustymetal](#)

Alliance Member



Join Date: Feb 2003
Location: nova scotia
canada
Posts: 407

Re: Early Ford Banjo Rear End Rebuild

just what i was looking for .
tdog do you have some more to add



"QUOTE"

04-08-2010, 03:58 PM

#[30](#)

[butch27](#)

Senior Member

Join Date: Dec 2004
Location: Garden City,
MI
Posts: 2,118

Re: Early Ford Banjo Rear End Rebuild

Yeah: That WOULD help us all.



"QUOTE"

04-08-2010, 04:06 PM

#[31](#)

[allstarderrick](#)

Member



Join Date: Jul 2007
Location: connecticut
Posts: 584

Re: Early Ford Banjo Rear End Rebuild

Great tech. Just did the rear in my sedan (quickchange). I just wanted to pass along a quick thing I did. Instead of pressing the bearing on the carrier, I heated it in the oven and it literally dropped right on. I'm sure there will be someone arguing that technique, but it worked for me. Good luck.



"QUOTE"

04-08-2010, 04:29 PM

#32

[tdog](#)
Grenade Inspector

Join Date: Nov 2009
Location: Omaha, NE
Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Quote:

Originally Posted by [rustymetal](#)
*just what i was looking for .
tdog do you have some more to add*

RustyMetal. You know I do son! Just trying to find the time to write it up . The wife got me doing all kinds of non car related stuff. You know the boring shit. I am on it. Hopefully tonight. I think I may have a kitchen pass and have time. 😊



"QUOTE"

04-08-2010, 04:36 PM

#33

[ago](#)
Member



Join Date: Oct 2005
Location: pgh. pa.
Posts: 995

Re: Early Ford Banjo Rear End Rebuild

Instead of turning the pinion shaft so the bearing will slide on you can use a brake hone to open up the inside of the bearing.

Ago
<input id="gwProxy" type="hidden"><!--Session data--><input onclick="jsCall();" id="jsProxy" type="hidden">



"QUOTE"

04-08-2010, 05:08 PM

#34

[Fe26](#)
Member



Join Date: Dec 2006
Location: Sydney
Australia
Posts: 543

Re: Early Ford Banjo Rear End Rebuild

Damm! Now there are no excuses left for me not to get into my pile 'o' shit. 5 of the dirty buggers.

Nothing is more terrible than ignorance in action.



"QUOTE"

04-08-2010,
05:14 PM

#35

[rockabillybass
man](#)

Old School
HAMBER



Join Date: Jul
2005
Location:
Napier, New
Zealand
Posts: 2,712

 **Re: Early Ford Banjo Rear End Rebuild**

One thing I'd like to add. I've just done my 47 banjo, and I think patience needs to be added to the list of parts you'll need. Ford banjos require a fair amount of assembly / disassembly / assembly to do the job right.



"QUOTE"

04-08-2010,
11:31 PM

#[36](#)

[tdog](#)

Grenade
Inspector

Join Date: Nov
2009
Location:
Omaha, NE
Posts: 123

 **Re: Early Ford Banjo Rear End Rebuild**

Install the pinion snout bearing:

I did not get an overall pic of the set up pressing the pinion snout bearing in the press but it looked very similar to when I pressed out the pinion.

I put the new pinion snout bearing in the freezer and while the center section was set up in the press I took the torch and heated up the housing around the pinion snout both sides. Again don't go crazy just a little is all you need. It pressed in easy with hardly any effort from the press. Possibly could be done with room temp center section and cold bearing.



I put the retainer on and attached it in place with two 3/16 rivets.



"QUOTE"

04-08-2010, 11:36 PM

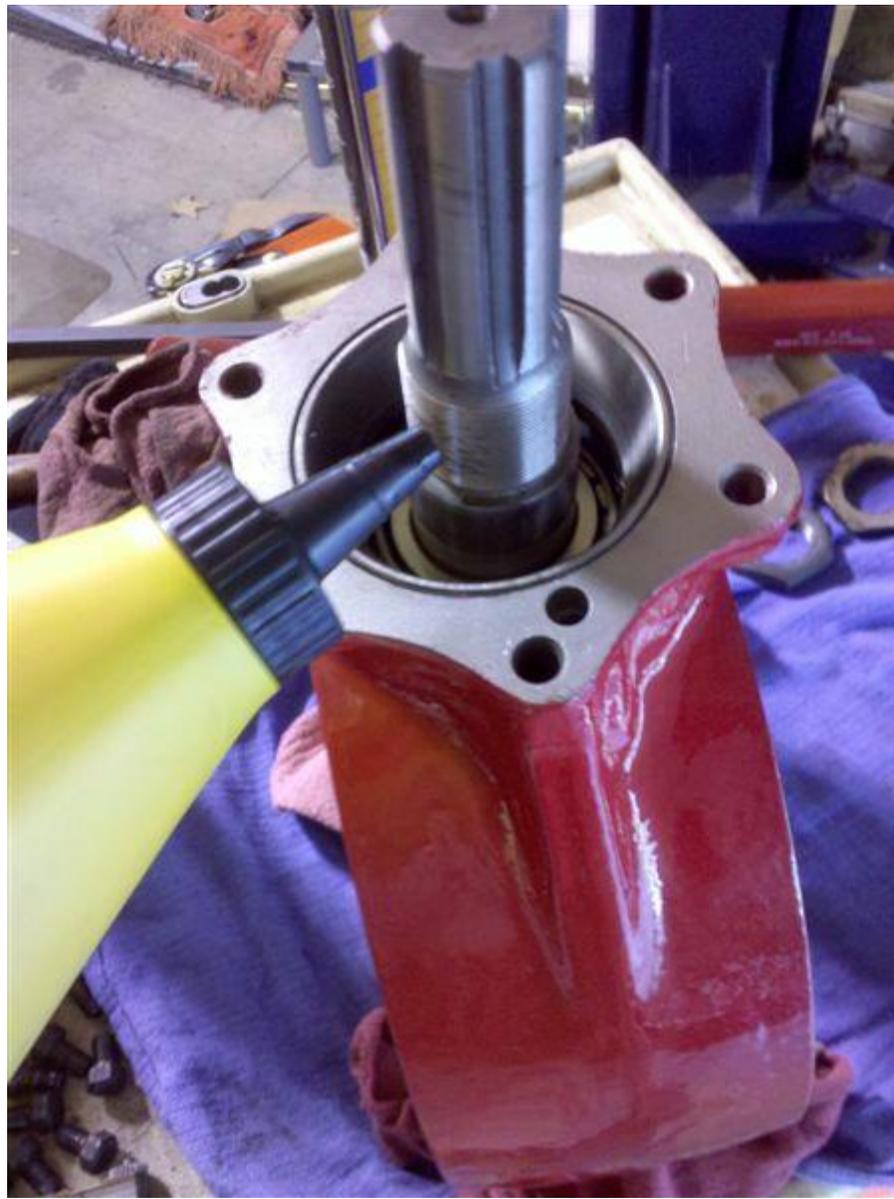
[#37](#)

[tdog](#)
Grenade
Inspect
or

Re: Early Ford Banjo Rear End Rebuild

Time to tighten up the pinion for preload. First I put on the flat washer with a pinion notch tab. (Tab prevents washer from spinning), then a big nut, Then the lock washer with a pinion notch tab and last the other big nut. I put a 6 point impact socket over the splines that I could use a ½ ratchet on. Then I tightened up the big nut.

Join Date: Nov 2009
Location: Omaha, NE
Posts:







And check with my inch pound torque wrench. Till I got between 16 – 28 in lbs (new bearing specs) used bearings would be less. I ended up with 27 in lbs. then I tighten up the last big nut I used lock tight on the threads.



Because the lock washer had a pinion notch tab the first nut used to set preload will not spin when you tighten the outer nut. So you preload should stay the same as you tighten the out nut. Make sure to check preload when finished tightening.

<?xml:namespace prefix = o ns = "urn:schemas-microsoft-com:office:office" /><o:smiley></o:smiley>



"QUOTE"

04-08-2010, 11:38 PM

#38

[tdog](#)
Grenade Inspector

Re: Early Ford Banjo Rear End Rebuild

Next I need to match the Hubs to the axles. I was told by an old timer when I was building my first banjo the trick to getting a strong bond between the axle the hub was to get the axle in vise (Without the key). Then you take the hub and put it on the axle and it should lock on as you spin and push. Like a machinist's collet (Spell?) And it should be difficult to get it off. If it will not stick to the axle there are high spots on the axle that need to be taken down with a file. Once you get them knocked down you are set. To get the hub off the axle in the picture I had to take the hub out of the vise and turn it upside down and gently drop in on a block

Join Date: Nov 2009

Location:
Omaha,
NE
Posts:
123

of wood to get off. I then Marked both drums one with L and one with R with stamp and marked the axles to match out on the ends so the rear end would be assembled as they paired together. As info this can be done with the axle horizontally but I don't big enough bench to hold my vise.



"QUOTE"

04-08-2010, 11:41 PM

#39

[tdog](#)
Grenade Inspector

Join Date: Nov 2009
Location: Omaha, NE
Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Now that the axles are checked for hub fitment I was ready to assemble the diff with both axles and spiders gears for the final time. Using plenty of gear oil inside the spider gears and axle ends. Don't want this to be dry on the first drive around the block. I put a dab of oil on each bolt and torque the nuts down to 30 ft lbs. My chart said a 3/8 bolt 24 thread w oil should be 35 to 40 ft lbs but 35 ft lbs seemed like too much of stress on the bolt (Stretching more then I wanted it to) I used a pry-bar to hold the assembly from turning while I torqued them down. Then safety wired them.







"QUOTE"

04-08-2010, 11:48 PM

#40

[392 hemi](#)

Alliance Member



Join Date: Jun 2004

Location: Deerfield IL

Posts: 1,742

Re: Early Ford Banjo Rear End Rebuild

Pinion preload spec is 12-17 lb. The manual shows a spring loaded tool with a scale that's used for the measurement, but I've never seen one in person. So I made up a tool from a 6 spline coupler that I bored out to accept a 3/8" drive deep socket which I pinned in place. I use that with a standard torque wrench.

Here's the procedure for adjusting the gear lash direct from the manual:

HOW TO REASSEMBLE AND ADJUST DRIVE GEAR: Assemble the differential including the axles and drive gear and bolt the unit securely together. Be sure to check the clearance between the differential pinion gear and spider shaft to see that it does not exceed the limits of .005" to .008". If these parts are worn in excess of these limits, they should be replaced.

When the differential assembly is ready to install in the axle housing, bolt the banjo housing with the pinion assembly installed to the right axle housing

with an .008" to .010" gasket between members.

Slide the differential assembly into the right axle housing and slide the left axle housing into position over the left axle shaft.

Bolt the left axle housing to the banjo with an .008" to .010" gasket between these two housings.

HOW TO ADJUST DIFFERENTIAL SIDE BEARINGS: COMMERCIAL AND PASSENGER CARS ONLY: With both the right and left axle housings bolted to the banjo, the differential side bearing clearance may be checked by rotating both axles in the same direction at the same time. The differential should show a perceptible bearing drag yet be free enough to turn by hand. If the clearance is too great, reduce gasket thickness between the right hand housing, and the banjo housing, Fig. 33. If the adjustment is too tight, increase the gasket thickness. The adjustment should be made entirely by adding or removing gaskets between the right axle housing and the banjo.

CAUTION: Do not disturb the gasket thickness between the left axle housing and the banjo while making this adjustment.

* * *

HOW TO ADJUST DRIVE AND PINION GEAR BACKLASH: PASSENGER CARS ONLY: The backlash measurement should be taken with a dial indicator as shown in Fig. 34. The dial indicator should be placed in such a position against the splines of the pinion gear shaft that it will measure the free movement of the shaft when rocked back and forth without turning the drive gear. The backlash should be within the limits of .006" to .010".

Too much backlash between the gears will cause the teeth to break off while too little will cause a gear hum or noise and galling of the teeth.

The amount of backlash between the gears can be increased or decreased by adding or removing gaskets between the left axle housing and the banjo.

CAUTION: If the gasket thickness on the left side of the banjo is reduced, the gasket thickness on the right side of the banjo should be increased by an equal amount and vice versa. If this precaution is not taken, the differential carrier bearing adjustment will be changed.

Last edited by 392_hemi; 04-08-2010 at 11:59 PM.



QUOTE

POST REPLY

Page 2 of 4 < 1 2 3 4 >

POST REPLY

Page 3 of 4 < 1 2 3 4 >

[Thread Tools](#) ▾ [Display Modes](#) ▾

04-08-2010, 11:50

#41

PM

[zgears](#)

Senior Member



Join Date: Nov 2003

Location: North Carolina

Posts: 1,486

 **Re: Early Ford Banjo Rear End Rebuild**

Well done!



QUOTE

04-08-2010,
11:51 PM

#[42](#)

[tdog](#)

Grenade Inspector

Join Date: Nov 2009

Location: Omaha, NE

Posts: 123

 **Re: Early Ford Banjo Rear End Rebuild**

Now I am ready to check the back lash between the pinion and the ring gear. First I set everything on the floor so I could mark all the pieces to make sure I bolted them together correctly. Center section drain plug down, Pinion toward the front, spring perches 180 degrees to the back. (Humps in the spring perch arms up. Then used my .007 gasket on one bell and my other .007 gasket on the other bell and bolted the whole thing together. Then I set up my dial indicator. To read from the splines. I got .008



then I set it up to read from the Lock washer (That has not yet been bent over)and I got .016



When you check from the splines I believe you are too close to the center line of the pinion from where the gears are touching inside the case. And when you check from the lock washer I think you are too far away from the center line pinion compared where the gears are touching inside the case. So I was shooting for a number in the middle closer to the spline number. (I hope I am explaining this so you guys understand what the hell I m talking about. That's my own take. I would like to see an old service manual on how to measure correctly.

I thought .008 was too much. I wanted to tighten her up a bit. So I went to the gasket kit and pulled out a .005 and .009 (Total still .014 like my two .007s)I took the two .007s out and I put the .005 on the ring gear side which moved the center section and pinion gear closer into the ring gear to tighten up the back lash. I Added some gear pattern check "white stuff"(Not sure name) also seen it come in yellow. I applied it to three teeth on the ring gear. So I could check the pattern when I ran it around after I check the back lash. I bolted it all up and check the back lash again from both points (Splines and Lock washer). I ended up with .006 at the splines and .014 on the lock washer. I figure where the actual teeth are touching I am around .009 or .011 ish. The back lash of 9" or 8.8 Ford rear end specs are .008 to .012 Then I beat over the tabs of the lock washer.

<?xml:namespace prefix = o ns = "urn:schemas-microsoft-com office office" /><o office></o office>
 Pulled the whole thing apart and checked the pattern.





The pattern looked great. You don't want to see the pattern run off the ends at the toe or the heel of the drive or the coast side if you do. It will most likely howl. Either on acceleration or on deceleration depending if runs off the drive or the coast side.

As far as I know these pinions were not meant to shim like all the newer rear ends are. However I read in one of the recent Goodguys magazine a company who sells banjo parts say they do change add shims or machine material off the pinion. I would almost try a new center section before machining on a pinion gear. The article had nice pics but no real info about putting a banjo together. It was almost like they did not want to let the cat out of the bag on how to build one. They also said they sell special tools to work on these. Hot rodders I know build thier own special tools or are welcome to borrow mine. I built all my stuff to work on the banjos. And believe me if I built the race installers and seal installers it ain't to tough. That article is the main reason I wrote this up. These aint hard fellas but doing a banjo right does take time.

<o 🤪 ></o 🤪 >



"QUOTE"

04-09-
2010,
12:03
AM

#43

[tdog](#)

Grenad

e

Inspect

or

Join

Date:

Nov

2009

Locatio

n:

Omaha,

NE

Posts:

123

Re: Early Ford Banjo Rear End Rebuild

Now time for the final assembly

I was now ready to install the bell seals. I fabricated a seal installer from a pc of pipe with smaller pcs of pipe on the end that will hold the seal. The seal gets pulled in with a pc of all-thread. I added wheel bearing grease to the rubber of the seal and the outside of the seal to help it pull into place better. Also smeared a litte on the axles where the seals will ride.









I put a bead of silicon sealant on the bells I went with a small bead because I did not want the sealant to interfere with my preload settings. When I put the gasket on I squeezed it up around the gasket to the top side of the gasket so silicone would be on both sides of the gasket. Geez this is taking me a long time to type. Almost done.





Then I installed the bells and put a dab of sealant on each bolt. And put it all together for the final time.





It probably took close to 20 hours to do this rearend. That includes taking two center sections apart and dealing with the rusty bells.

DONE!

Thank goodness (Tired of typing)



"QUOTE"

04-09-
2010,
12:07
AM

#44

[tdog](#)
Grenade
Inspector

 **Re: Early Ford Banjo Rear End Rebuild**

Quote:

Originally Posted by [rockabillybassman](#) 

One thing I'd like to add. I've just done my 47 banjo, and I think patience needs to be added to the list of parts you'll need. Ford banjos require a fair amount of assembly / disassembly / assembly to do the job right.

Join
Date:
Nov
2009

Location: Omaha, NE
Posts: 123

Hit the nail on the head!



"QUOTE"

04-09-2010, 12:10 AM

#45

[tdog](#)
Grenade Inspector

Join Date: Nov 2009
Location: Omaha, NE
Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Quote:

Originally Posted by [butch27](#)
Where did you buy the gasket(shim) kit?

Not sure? We got everything in kit off of ebay. I would search for the name sticker. Vintage Ford I think located in Sacramento may have them?



"QUOTE"

04-09-2010, 12:35 AM

#46

[tdog](#)
Grenade Inspector

Join Date: Nov 2009
Location: Omaha, NE
Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Quote:

Originally Posted by [392_hemi](#)
Pinion preload spec is 12-17 lb. The manual shows a spring loaded tool with a scale that's used for the measurement, but I've never seen one in person. So I made up a tool from a 6 spline coupler that I bored out to accept a 3/8" drive deep socket which I pinned in place. I use that with a standard torque wrench.

Here's the procedure for adjusting the gear lash direct from the manual:

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When the differential assembly is ready to install in the axle housing, bolt the banjo housing with the pinion assembly installed to the right axle housing with an .008" to .010" gasket between members.

Slide the differential assembly into the right axle housing and slide the left axle housing into position over the left axle shaft.

Bolt the left axle housing to the banjo with an .008" to .010" gasket between these two housings.

***HOW TO ADJUST DIFFERENTIAL SIDE BEARINGS: COMMERCIAL AND PASSENGER CARS ONLY:** With both the right and left axle housings bolted to the banjo, the differential side bearing clearance may be checked by rotating both axles in the same*

direction at the same time. The differential should show a perceptible bearing drag yet be free enough to turn by hand. If the clearance is too great, reduce gasket thickness between the right hand housing, and the banjo housing, Fig. 33. If the adjustment is too tight, increase the gasket thickness. The adjustment should be made entirely by adding or removing gaskets between the right axle housing and the banjo.

CAUTION: Do not disturb the gasket thickness between the left axle housing and the banjo while making this adjustment.

* * *

HOW TO ADJUST DRIVE AND PINION GEAR BACKLASH: PASSENGER CARS ONLY:
The backlash measurement should be taken with a dial indicator as shown in Fig. 34. The dial indicator should be placed in such a position against the splines of the pinion gear shaft that it will measure the free movement of the shaft when rocked back and forth without turning the drive gear. The backlash should be within the limits of .006" to .010".

Too much backlash between the gears will cause the teeth to break off while too little will cause a gear hum or noise and galling of the teeth.

The amount of backlash between the gears can be increased or decreased by adding or removing gaskets between the left axle housing and the banjo.

CAUTION: If the gasket thickness on the left side of the banjo is reduced, the gasket thickness on the right side of the banjo should be increased by an equal amount and vice versa. If this precaution is not taken, the differential carrier bearing adjustment will be changed.

That good stuff! Thanks for taking the time post. It looks my specs for setting up the pinion follow what you have posted that is good news since my ol has already installing and I really don't want to pull it apart again.

The preload on the pinion seems more the settings for used bearings? Maybe that how they did back then all the spec I have see for bearing for newer style rear end are higher 16 -28 inch pounds? These old bearings are bigger then pinion bearings in a 9" and 8.8. I set my first banjo with these same spec 16-28 and I have not had any problems that rearend had been on the road for two years.

Either way that is some good info and thanks again for posting. That some hard info find. I searched awhile and did not find much on banjo specs or detailed instructions on how to put one together



QUOTE

04-09-2010, 01:58 AM

#47

[BobbedT](#)
Member

 **Re: Early Ford Banjo Rear End Rebuild**

Great, thanks for the info & the typing



Join Date: May 2001
Location: Blue Ridge
Mountains of Katoomba,
Australia
Posts: 577



"QUOTE"

04-09-2010, 06:42 AM

#48

rustymetal
Alliance Member



Join Date: Feb 2003
Location: nova scotia
canada
Posts: 407

 **Re: Early Ford Banjo Rear End Rebuild**

thanks tdog , now you can do the wifes chores



"QUOTE"

04-09-2010, 07:52 AM

#49

butch27
Senior Member

Join Date: Dec 2004
Location: Garden City,
MI
Posts: 2,118

 **Re: Early Ford Banjo Rear End Rebuild**

This is the best one yet. Now we all know how to do it. I've got 2 more and one open drive ring /pinion and housing to mes with. Don't know what i need all of these for?



"QUOTE"

04-12-2010, 09:37 AM

#50

tdog
Grenade Inspector

Join Date: Nov 2009
Location: Omaha, NE
Posts: 123

 **Re: Early Ford Banjo Rear End Rebuild**

Can anybody tell me what kind of fluid to put in this thing?



"QUOTE"

04-12-2010, 11:54 AM

#51

392 hemi

Alliance Member



Join Date: Jun 2004
Location: Deerfield IL
Posts: 1,742



QUOTE

04-13-2010, 12:54 PM

#52

Richard D

Old School HAMBer



Join Date: Jul 2006
Location: Texas City,
Texas Between Houston
& Galveston
Posts: 11,810



QUOTE

04-14-2010, 06:53 PM

#53

lowsquire

Senior Member



Join Date: Feb 2002
Location:
Collingwood, Vic,
Australia
Posts: 2,497

Re: Early Ford Banjo Rear End Rebuild

Best stuff going is LE 90 or 140. Speedway sells it.

Re: Early Ford Banjo Rear End Rebuild

I'm at work and don't have time right now to read every response, so please forgive me if it has been brought up already. How much power/torque can a banjo rear handle if properly set up?

Re: Early Ford Banjo Rear End Rebuild

I have an old ford manual (32-39 V8) that shows a pic of the dial indicator resting on the splines to set backlash, so I assume the specs are measured at that point, not the lock washer. your method of going halfway to where the actual backlash is on the gear makes sense to me, the wording of the manual doesnt really clarify this point.

www.ranchodeluxe.com.au



"QUOTE"

04-18-2010, 06:06 PM

#54

[tdog](#)

Grenade Inspector

Join Date: Nov 2009

Location: Omaha, NE

Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Quote:

Originally Posted by **Richard D**

I'm at work and don't have time right now to read every response, so please forgive me if it has been brought up already. How much power/torque can a banjo rear handle if properly set up?

Not sure about how much torque they will handle? I think its more how they are driven. If you looking to tear the tires off and side step the clutch often a factory style banjo is probably not for you. I do believe the 9" stye axle conversions would be a big help. The ends of the bells are reworked to take an axle set up with pressed in type alxe bearings. No more hubs for the rear use a brake drum instead. Not sure if the axles are thicker in diameter then the factory axles? This set up will keep your wheel on if you break an axle. assuming the break occurs on the inside of the bearing. (Not right at the wheel stud flange). I do believe the banjo ring and pinion set up is a really strong design. all the bearings are huge and the biggest plus is the pinion snout bearing out on the end of the pinion. This keeps the end of the pinion from trying walk up the ring gear during hard acceleration. This set up if just like the 9" ford set up. One of the reasons the 9" is stronger then most rearends is because of this pinoin snout bearing. I hope that helps.



"QUOTE"

04-18-2010, 06:13 PM

#55

[tdog](#)

Grenade Inspector

Join Date: Nov 2009

Location: Omaha, NE

Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Quote:

Originally Posted by **392_hemi**

Best stuff going is LE 90 or 140. Speedway sells it.

Thanks for info. This last week my ol man spoke with some place back East Dick Sparrow? (spell) He is sending my Dad the rear end greese he suggests and sells. I will post it up when I find out what it is.

I put that Speedway oil in my 9" in a roadrace car and seems to be work well.



"QUOTE"

04-18-2010, 06:15 PM

#56

[tdog](#)

Grenade Inspector

Join Date: Nov 2009

Location: Omaha, NE

Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Quote:

Originally Posted by **rustymetal**

thanks tdog , now you can do the wifes chores

Hahahah. I hear ya!



"QUOTE"

04-21-2010, 07:44 PM

#57

[freebird101](#)
Senior Member



Join Date: Feb 2009
Location: Glen Head, NY
Posts: 1,205

Re: Early Ford Banjo Rear End Rebuild

awesome



"QUOTE"

04-28-2010, 08:50 AM

#58

[zgears](#)
Senior Member



Join Date: Nov 2003
Location: North Carolina
Posts: 1,486

Re: Early Ford Banjo Rear End Rebuild

maybe im way off but. considering the amount of work, is it that much more time/money to just go with a quickchange center?



"QUOTE"

04-28-2010,
12:20 PM

#59

[tdog](#)
Grenade Inspector

Join Date: Nov 2009
Location: Omaha, NE
Posts: 123

Re: Early Ford Banjo Rear End Rebuild

My dad bought this oil for the banjo from Dick Spadaro Early Ford Reproductions. Almont, New York. 1-800-222-3248

Front of one of the Jugs he purchased



Back of Jug

600W Oil was originally produced by the Vacuum in the second half of the 19th century and was a product of its time. Continual upgrading and applying latest base oil and additive technology has made our product series as a leader in its application area. A common belief of 600W oil is its "molasses" consistency giving the allusion that it will affix to anything. In terminology "molasses" is referred to as gooeyness. So with all the changes over the last 70 years you can still count on our 600W Oil meeting the highest standards and rest assured that our 600w Oil carries a Viscosity Index of 2270, contains no additives that cause damage soft yellow metals (bushing/bearing), excellent and low friction properties.

"QUOTE"

04-28-2010,
12:41 PM

#60

[TBone69](#)
Grenade Inspector

Re: Early Ford Banjo Rear End Rebuild

Great tech thread! This will help a lot when I get to freshening up my banjo rear.

Thanks for sharing.



Join Date: Aug
2007
Location: NJ
Posts: 368



"QUOTE"

✓ POST REPLY

Page 3 of 4 ≤ 1 2 3 4 ≥ ▾

✓ POST REPLY

Page 4 of 4 ≤ 1 2 3 4 ▾



[Thread Tools](#) ▾ [Display Modes](#) ▾

04-28-2010, 12:43 PM

#61

[tdog](#)

Grenade Inspector

Join Date: Nov 2009

Location: Omaha, NE

Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Quote:

Originally Posted by [zgears](#)

maybe im way off but. considering the amount of work, is it that much more time/money to just go with a quickchange center?

I think you would be looking at just a little more time for set up and a lot more money.

If your already had the banjo rearend and you wanted to rebuild it with a new gear set and bearings you could possible spend around \$800. (If you provide all the labor of the rebuild)

If you wanted to throw a quick change in it I think they are around \$1200 to \$1500? not sure if they come with a gear set?

Also I think on a 32 you may need to notch the stock gas tank to make room to clear the rear section of the quick change?

If you tearing apart a banjo. Possibly because its a leaker or you have a set of different gears (Different ratio) you want to change out. Possibly your bearings may be good and all you would be out is a gasket set.

Last edited by tdog; 04-28-2010 at 01:13 PM.



"QUOTE"

04-28-2010, 02:57 PM

#62

[jeffh355](#)

Alliance Member



Join Date: Feb 2009

Location: West Covina,

CA

Posts: 130

Re: Early Ford Banjo Rear End Rebuild

Not meaning to high jack the thread, but good place to insert question for the group. My banjo has 140W in it and VERY small annoying leak where the axle housing meets the center housing (a couple drops a week on the floor). Would switching to 600W stop that?



"QUOTE"

04-28-2010, 05:22 PM

#63

392 hemi

Alliance Member



Join Date: Jun 2004
Location: Deerfield IL
Posts: 1,742

Re: Early Ford Banjo Rear End Rebuild

No such thing as 600W. Stuff sold as 600W today is not the same as back in the day. If it's leaking with 140W, it's probably going to leak no matter what you put in it.



"QUOTE"

05-25-2010, 09:50 PM

#64

greasemunkee

Grenade Inspector



Join Date: Jul 2009
Location: San Diego
Posts: 181

Re: Early Ford Banjo Rear End Rebuild

This thread is outstanding! This is exactly what I've been looking for. Thanks for posting, and to those who shared their knowledge on this one. Will be doing a banjo here in the next few weeks, and this will help out a lot.

`<input id="gwProxy" type="hidden"><!--Session data--><input onclick="jsCall();" id="jsProxy" type="hidden">`



"QUOTE"

05-26-2010, 12:02 AM

#65

howco

Grenade Inspector



Join Date: Apr 2010
Location: South Sound
Washington

Re: Early Ford Banjo Rear End Rebuild

Tdog
thanks for writing this 'book' , it is a saver, I will need to go into my 37 Ford truck some day....very useful.

Favorite bumper sticker;
YES It is my truck
NO I won't help you move!

Posts: 295



"QUOTE"

06-02-2010, 10:12 PM

#66

[tdog](#)

Grenade Inspector

Join Date: Nov 2009

Location: Omaha, NE

Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Quote:

Originally Posted by [392_hemi](#)

No such thing as 600W. Stuff sold as 600W today is not the same as back in the day. If it's leaking with 140W, it's probably going to leak no matter what you put in it.

Yea I am not sure about that 600w oil he bought? He was sold on it though and dumped it in. My dad did say it appeared to be a little thicker then the 140. But it may be his imagination getting the better of him. He is getting up in age LOL. Either way this maybe the reason all the bearing preload specs from the old build instructions from the vintage manuals seem to be less then todays specs. I think the reason would be the 600w of yesteryear vrs the 140w of today. I would think the thick oil back in the day would require less pre load on the bearings. And todays bearings would require more preload due to the lighter oils used today. In this article I matched "newer" standard of rearend preloads matching what is used in the 9" and 8.8" set ups. Which in my opinion would go with the lighter oils of today. Of course this is just an opinion. I m no chemist just an office guy who did not want to pay someone else to work on my shit.



"QUOTE"

06-02-2010, 10:16 PM

#67

[tdog](#)

Grenade Inspector

Join Date: Nov 2009

Location: Omaha, NE

Posts: 123

Re: Early Ford Banjo Rear End Rebuild

Quote:

Originally Posted by [howco](#)

*Tdog
thanks for writing this 'book' , it is a saver, I will need to go into my 37 Ford truck some day....very useful.*

Howco and greesemonkey, I am glad you guys found this usefull. I remember when I open up my first banjo I was lost at first. But when you break it down they are not that tuff. They just take time. Good luck on your rebuilds. Let me know if you have any questions and I will help if I can.



"QUOTE"

06-06-2010, 06:01 PM

#68

[Chris Casny](#)

Old School HAMBer

Re: Early Ford Banjo Rear End Rebuild

Man, just what I was looking for since I'm gonna rebuild my banjo tomorrow.

Moderators: Please, put this thread in the TECH section!!!!!!!!!!!!!!



I know nothing

Join Date: Mar 2006
Location: Hollywood
CA/Burbank CA/Austin
TX
Posts: 4,551



"QUOTE"

06-06-2010,
06:55 PM

#69

[zgears](#)
Senior Member

 **Re: Early Ford Banjo Rear End Rebuild**

Quote:



Originally Posted by [chris casny](#) 
moderators: Please, put this thread in the tech section!!!!!!!!!!!!!!

x2

Join Date: Nov
2003
Location: North
Carolina
Posts: 1,486



"QUOTE"

07-14-2010,
07:37 PM

#70

[tdog](#)
Grenade Inspector

 **Re: Early Ford Banjo Rear End Rebuild**

Here it is installed in the car. He has been running it for a couple months now and loving it. Been on some 3 hours road trips with it and all over town. Drives it weekly.

Join Date: Nov
2009
Location: Omaha,
NE
Posts: 123



"QUOTE"

POST REPLY

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