

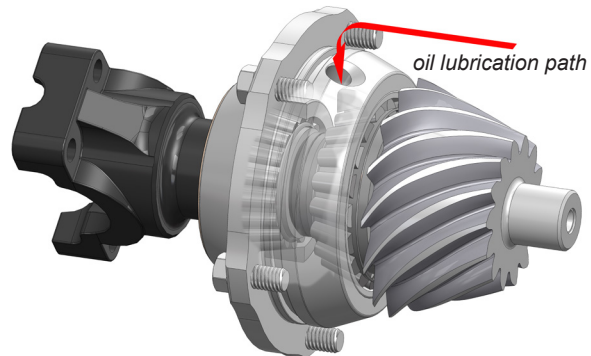
Strange

Kit Summary:

Kit #	N1923 & N1924
Description	Pinion bearing kit
Applications	N1922 pinion support in 9" Strange Pro case
Page	1 of 2 total pages
Date Modified	Jun 3, 2014

RaceStrange

- Larger than stock front and rear tapered pinion bearing
- Oil porting to maximize bearing life
- Ideal for drag applications
- Optimal grain structure
- Significant increase in thrust capacity
- Improved rigidity for pinion shaft



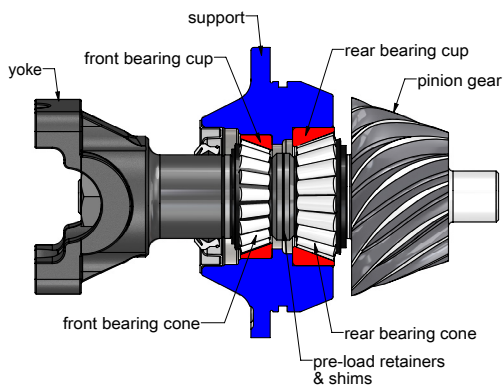
Pinion bearing kits

Part #	Description	Application	Support Weight [lbs] (with races installed)
N1923	28-spline pinion shaft installation kit	track only	3.95
N1924	35-spline pinion shaft installation kit	track only	3.95

Compatible yokes

Part #	Description	Material	U-joint Series	Application
U1603	chrome-moly yoke	4140 steel	1350	28- spline pinion
U1604	chrome-moly yoke	4140 steel	1350	35- spline pinion
U2304	chrome-moly yoke	4340 Hr. Steel	1480	35- spline pinion
U1633	billet aluminum yoke	--	1350	28- spline pinion
U1634	billet aluminum yoke	--	1350	35- spline pinion

Pinion Bearing Preload



Bearing preload is the measure of torque [in-lbs] required to rotate the pinion after the nut has been torqued to spec.

Preload using shim stacks:

Pinion bearing preload is adjusted by the thickness of the shim combinations inside the pre-load retainers. As shims are added the total width of the retainer assembly is increased pushing the bearing cones away from the bearing cups therefore, decreasing the drag. Add shims to decrease pre-load.

Removing shims decreases the total width of the pre-load retainers. The bearing cones experiences a greater drag against the bearing cups at the same pinion nut torque. Remove shims to increase pre-load.

Preload using a solid shim:

One solid steel piece that is oversized in width must be surface ground to the required thickness for proper preload. Usually, the shim pack method is first used to determine the final thickness of the solid shim. Further grinding the shim increases preload.

Application

Preload [in-lbs]
(without seal)

new bearings

20-25

Pinion Nut Torque

28- spline pinion: 200 ft-lbs
35- spline pinion: 250 ft-lbs

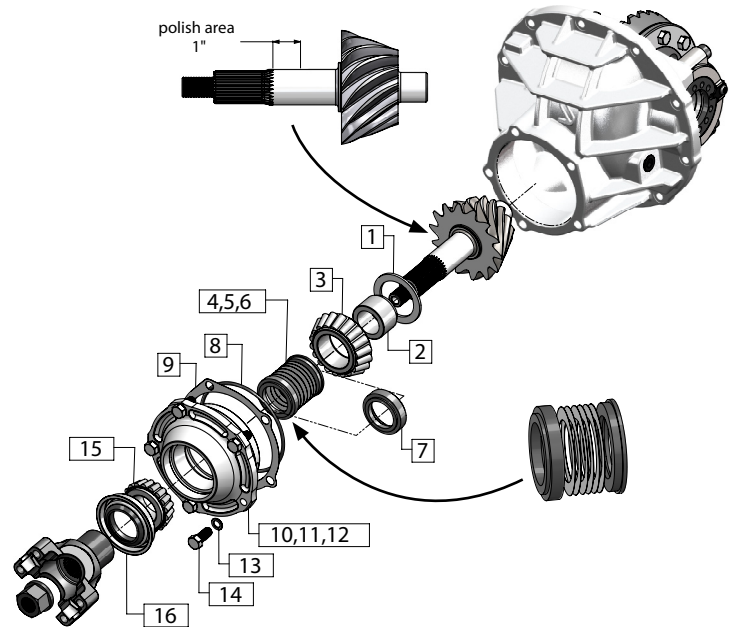


pinion nuts are installed with red loctite
only apply loctite after preload has been established

Pinion Bearing Depth

Pinion depth on 9" rear ends is adjusted by shims between the pinion support and center case. Adding shims moves the pinion gear further away from the center-line of the ring gear.

N1923 & N1924 Bearing kits				
ITEM#	PART#	QTY	DESCRIPTION	
1	N1926D	1	bearing spacer (N1923 kit only)	
2	N1926A	1	pinion adapter sleeve (N1923 kit only)	
3	N1938	1	rear bearing cone (HM804846)	
4	N1919A	1	shim spacer	
5	N1919B	1	shim carrier	
6a	N1927D	1	0.004 x 1- $\frac{3}{8}$ shim	
6b	N1927E	1	0.005 x 1- $\frac{3}{8}$ shim	
6c	N1927F	1	0.006 x 1- $\frac{3}{8}$ shim	
6d	N1927G	1	0.007 x 1- $\frac{3}{8}$ shim	
6e	N1927H	1	0.008 x 1- $\frac{3}{8}$ shim	
6f	N1927I	1	0.010 x 1- $\frac{3}{8}$ shim	
7	N1924A	1	0.580 preload spacer (N1924 kit only)	
15a	N1930	1	front bearing cone (#2790/ N1923 kit only)	
15b	N1936	1	front bearing cone (-2788/ N1924 kit only)	
16a	N1960	1	pinion seal (N1923 kit only)	
16b	N1961	1	pinion seal (N1924 kit only)	
N1922 Pinion support				
8	N1958A	1	o-ring #248	
9	N1962	--	pinion depth shim kit (not included)	
10	N1927A	1	pinion support	
11	N1939	1	rear bearing cup (HM804810, pre-installed)	
12	N1931	1	front bearing cup (#2729, pre-installed)	
13	S3402N	5	$\frac{3}{8}$ washer	
14a	B1737B	5	$\frac{3}{8}$ -24 x 1- $\frac{1}{4}$ HHCS (Not included) (For use with N1901 & N1904 aluminum cases manufactured before 2/24)	
14b	B1320R	5	$\frac{3}{8}$ -16 x 1- $\frac{1}{2}$ HHCS (included with cases) (For use with N1901 & N1904 aluminum cases manufactured 2/24 to current)	
14c	B1757B	5	$\frac{3}{8}$ -16 x 1- $\frac{1}{4}$ HHCS (For use with N1905 & N1906 iron cases)	



Installation:

1. Polish the pinion gear with an emry cloth or sand paper to achieve a slip fit with the front bearing cone (15).
2. Slide the bearing spacer (1) and press the pinion adapter sleeve (2) over the pinion shaft. (28-spline kits only)
3. Press the rear bearing cone (3) over the pinion gear shaft.
4. Slide the pinion preload retainer (4,5) and shims (6) over the pinion gear assembly. Ensure correct orientation of preload retainers. Start with 0.030" total shim thickness. Refer to notes on the first page for pinion preload.
5. Place the pinion support body (10) over the pinion shaft.
6. Slide the front bearing cone (15) over the pinion shaft followed by the pinion yoke. Torque the pinion nut. Refer to the first page for specification. Do not install the seal (16).
7. Apply a small amount of lightweight gear oil to both bearings and check for bearing drag. This indicates an existent preload condition. Refer to the first page for pinion bearing preload specification and instructions.
8. Once the correct preload has been established, remove the pinion nut and yoke.
9. Press the pinion seal (16) into the pinion support body (10) flush with the outside face of the body. Ensure the front bearing cone (15) is still inside the body before the seal is pressed on.
10. Apply a small coating of lightweight gear oil to the inside diameter of the seal (16).
11. Clean and dry the threads on the pinion gear and reinstall the yoke.
12. Clean and dry the threads of the pinion nut before applying red loctite.
13. Install the pinion nut and torque to spec listed on first page.
14. Following your gear manufacture's instructions, install the completed assembly into your Strange Engineering 9" Ford case with the o-ring (8) in the groove machined in the support. The proper amount of depth shims (9) must be determined. Lubricate the o-ring (8) and pinion support bore prior to assembly. Secure the assembly with five pinion support bolts (14) and torque to 35 ft-lbs for aluminium cases and 45 ft-lbs for iron cases.