OAKLAND SERVICE SHOP MANUAL

1932 Supplement to Section Two

REAR AXLE

This Supplement contains full Information and Specifications for the 1932 Pontiac V-8 and Pontiac 6 not included in the 1931 Edition of the "Oakland Service Shop Manual." Specifications not listed herein are the same as for 1931 and will be found in the 1931 Supplement of the "Oakland Service Shop Manual."

Insert this supplement in the "Oakland Service Shop Manual" following the 1931 supplement to Section 2

REAR AXLE

A heavy, new pressed steel rear axle housing with tubular ends ¼″ larger in diameter is used on both the 1932 Pontiac V-8 and Pontiac 6. This new housing does not have the Zerk lubrication fittings at the wheel bearings since these bearings are so designed that they receive sufficient lubrication from the differential.

Specifications—Rear Axle 1932 Pontiac V-8 and Pontiac 6

Type.....Semi-floating
Housing material.....Pressed steel
Drive.....Spiral bevel gears
Axle shafts..$1\frac{1}{16}$″ forged chrome nickel steel
Differential carrier.....
Heavily ribbed, semi-nickel steel casting
Differential pinions.....Hardened steel
Wheel bearings.....Hyatt No. 5307
Pinion shaft bearing, outer..N. D. No. 5306
Pinion shaft bearing, inner.....
.....Hyatt No. C-1307-A
Differential side bearing....N. D. No. 0208
Type of drive.....Hotchkiss
Spacer block—Production—1.133″ x 1.140″
Length.....$2\frac{7}{16}$″
Service.....1.155″ x 1.140″

Differential

A change in the differential ratio has been made in the 1932 Pontiac V-8 and Pontiac 6 as follows:

	Standard	Hill
1932 Pontiac V-8 Ratio	38—9 (4.22)	43—9 (4.78)
1932 Pontiac 6 Ratio	41—9 (4.55)	46—9 (5.12)

For service procedure on differentials consult Section 2 of the 1930 and 1931 Editions of the Oakland Service Shop Manual.

Number of Teeth in Speedometer Gears for use with above Differential Ratios

	Ratio	Driving Gear No. Teeth	Driven Gear No. Teeth
1932 Pontiac V-8	38-9	5	15
	43-9	5	17
1932 Pontiac 6	41-9	5	16
	46-9	5	18

Lubrication

A high grade rear axle lubricant should be used. A viscosity of SAE No. 160 is recommended for temperatures above 0° Fahr. For temperatures which run consistently below 0° Fahr. a lubricant with a viscosity of SAE No. 90 is recommended. 1½ quarts of lubricant are required to fill the differential case to the proper level.

Checking Differential Bearings

When working on differentials the service man is often at a loss to know just how to determine whether or not a bearing is defective. Before any attempt is made to check a bearing it must be thoroughly cleaned by rotating in clean gasoline until free from dirt and oil. This cleaning operation should be repeated several times, after which the bearing may be inspected for fractures, broken balls or rollers and damaged ball retainers. If no defects are seen, the bearing should be lubricated with clean engine oil and rotated in the hand. Any roughness that exists after cleaning and oiling indicates that the bearing must be replaced. If the bearing rotates smoothly it is an indication that all free dirt and chips have been flushed out and the bearing is satisfactory providing no fractures or other defects have been found. Before reinstalling the bearing, the differential housing should be thoroughly cleaned and the unit filled with fresh oil after assembly has been completed.

Bearing Characteristics

The double row pinion shaft ball bearing is built with no looseness. If any looseness is found between the races it is certain that the lubricant contained abrasive material which wore down the balls, and the bearing should be replaced.

The differential side bearings are designed with as high as .020″ end play which disappears when the bearing is pulled into position by the differential bearing adjusting nuts. This looseness does not constitute a defective bearing.

The pinion shaft roller bearing should have a diametrical clearance of from .000″ to .0007″. If any greater clearance is found the unit should be checked very carefully to determine where the error lies.

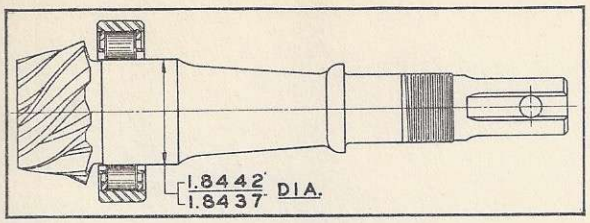

Illustration 32-2-1. Pinion Shaft Used on 41-9 and 38-9 Ratio Differentials

On 41-9 and 38-9 ratio differentials the pinion shaft itself serves as the bearing inner race and should be carefully checked to insure correct dimensions. At the roller contact point the pinion shaft diameter is from 1.8437″ to 1.8442″.

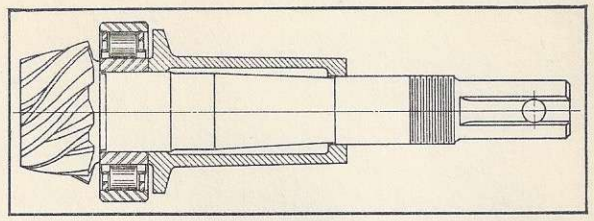

Illustration 32-2-2. Pinion Shaft with Bearing Inner Race and Spacer Used on 46-9 and 43-9 Ratio Differentials

On 46-9 and 43-9 ratio differentials the pinion shaft does not act as the bearing inner race. In these units the bearing inner race must be used on the pinion shaft together with the pinion shaft bearing spacer.