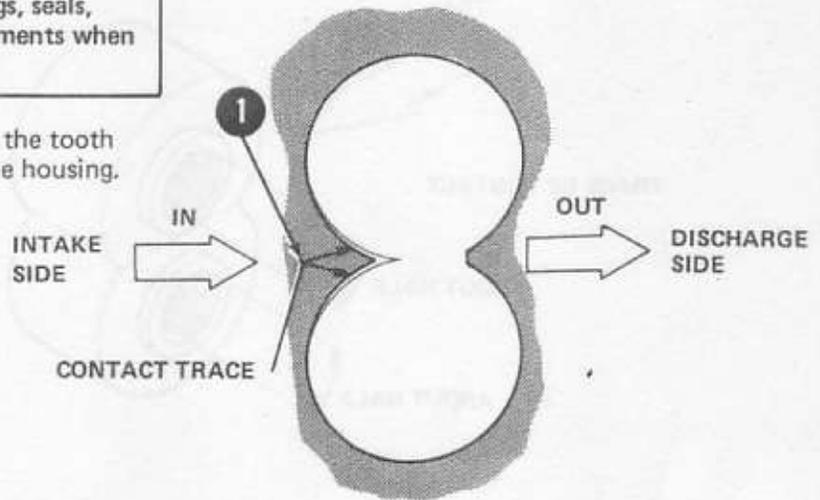


OVERHAUL

Oil Pump – Inspection

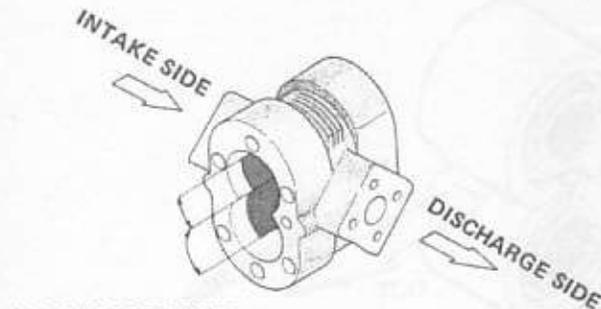
**IMPORTANT:** After inspection, if replacement is required, replace housing, front bushings, rear bushings, drive gear and driven gear as a set. Only use authorized O-rings, seals, back-up rings, and seal elements when replacements are required.

- 1 The gear pump rotates with the tooth top in slight contact with the housing.



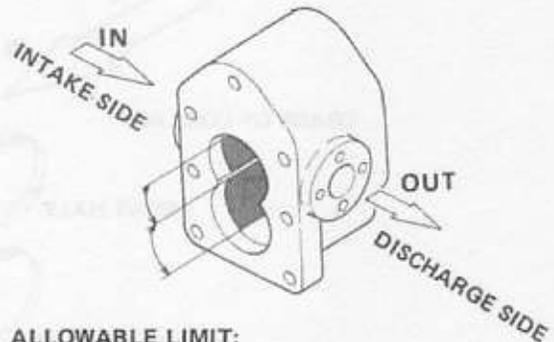
Oil Pump – Housing Inspection

The gear tooth contact on the housing is normally a trace of about one-third of the inner circumference of the housing. If the trace exceeds one-half of the circumference, replacement of gears, housing and bushings is required.



ALLOWABLE LIMIT:  
HALF OF CIRCUMFERENCE

Models 1300-1500



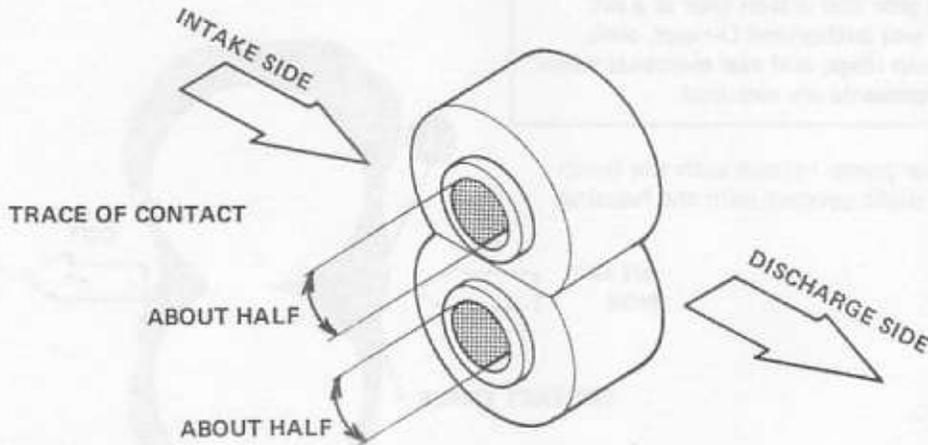
ALLOWABLE LIMIT:  
HALF OF CIRCUMFERENCE

Models 1700-1900

OVERHAUL

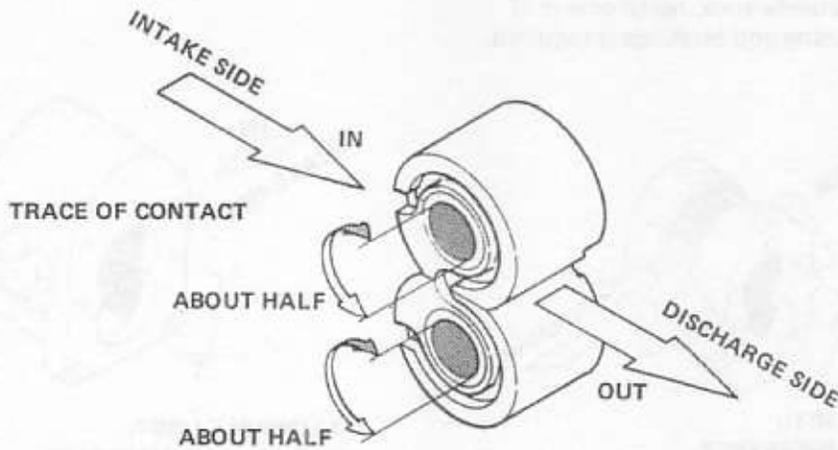
Oil Pump — Bushing Inspection

- 1 A glossy trace of gear shaft contact is normal on the intake half of the bushings.



Models 1300-1500

- 2 If the contact trace extends over the entire inner surface of the bushings, or the inner surface is not smooth, replace parts.



Models 1700-1900

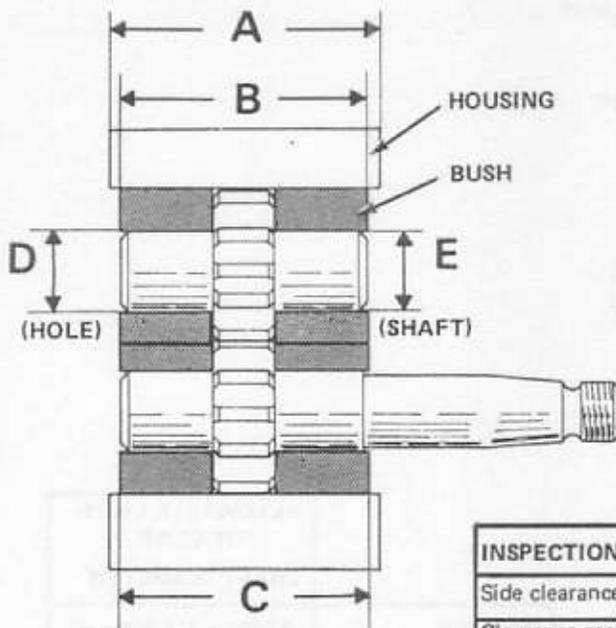
OVERHAUL

Oil Pump – Bushing Inspection

- 1 Any trace of foreign matter on the inside or on the outside friction surface of bushings requires replacement of housing, bushings and gears.
- 2 If wear exceeds the limits shown here, replacement of housing, bushings and gears is required.



Models 1300-1500



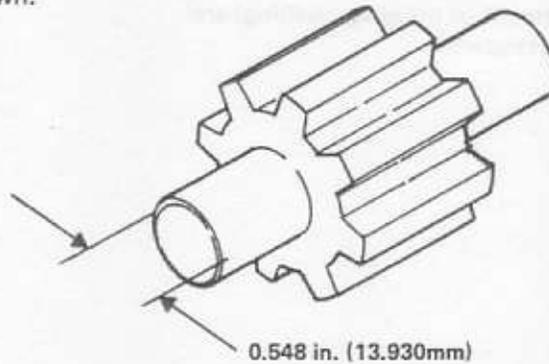
Models 1700-1900

INSPECTION ITEM	MARK	ALLOWABLE
Side clearance of bushes	(A-B) or (A-C)	0.010 in. (0.25mm)
Clearance gear shaft to bush	D-E	0.006 in. (0.15mm)

**OVERHAUL**

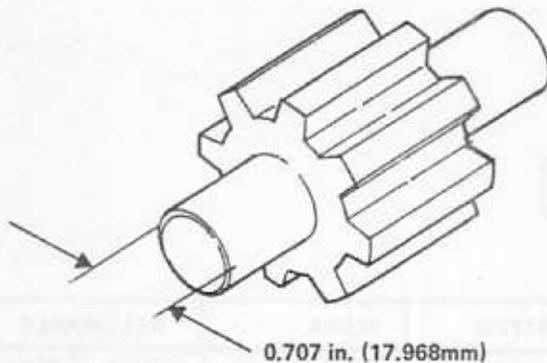
**Oil Pump – Gear and Seal Inspection**

- 1 Replace gears if tooth surface wear is uneven or if tooth is cracked.
- 2 Roughened or discolored gear surface is indication of bushing damage or wear. Check bushings.
- 3 Replace gears if shaft exceeds limits shown.



Models 1300-1500

- 4 Inspect oil seals visually. Replace when lip is worn or cracked.
- 5 Inspect O-rings, back-up rings, and seal elements for wear, scrapes, cuts, or other damage.
- 6 All seals and O-rings should be replaced when disassembling and assembling pump.



Models 1700-1900

	ALLOWABLE LIMIT OF GEAR SHAFT DIAMETER
Drive Gear	0.707 in. (17.968mm)
Driven Gear Shaft	0.707 in. (17.968mm)