

FORD 291b
SPECIAL SHOP NOTES

Camshaft Gear Replacement Sizes:—44 Tooth Gear (4 Cyl., '90' & '100' V8), 48 Tooth Gear (6 Cyl.) furnished standard .006" & .010" Oversize. On V8, malleable iron furnished std., .003" & .005" Oversize.

VALVE SYSTEM

1934-42 MODELS

VALVE SERVICING (ALL FORD AND MERCURY ENGINES):—Complete valve assembly (valve, spring, guide) should be removed as follows:

Valve Assembly Removal:—Use special bar type lifter V-78 (All Fords and Mercury) inserting the end of lifter through valve spring coils to engage flanged lower end of guides, pull guide down slightly, withdraw 'C' type guide retainer, lift valve assembly out of engine.

Valve Assembly Dismantling:—Use special bench fixture Part No. V-130 (All Engines). Fixture consists of special press by which valve spring can be compressed to free spring retainer (fixture has stop which prevents excessive valve spring compression).

Valve Grinding and Tappet Clearance Note (for all V8 Models):—To perform these operations with minimum amount of hand cranking, note which valves are fully open (first column in table below), grind or check valves listed on same line of table—then turn shaft 'til next 'valve open' point reached.

Valves Open	Valves to Grind
1. 4X & 1N.....	3X, 8N, 6N, 7X, 3N, 2X
2. 3X & 8N.....	1X, 7N, 5X, 2N, 4X, 1N
3. 1X & 7N.....	8X, 5N, 6X, 4N

OR

1. 8X & 5N.....	1X, 7N, 6N, 7X, 3N, 2X
2. 6N & 7X.....	5X, 2N, 4X, 1N, 8X, 5N
3. 5X & 2N.....	6X, 4N, 3X, 8N

NOTE—'X' Exhaust Valve. 'N' Intake Valve.

Tappet Clearance:—See Ford & Mercury car pages.

Valve Seat Insert Grinding Note:—Valve seat inserts are exceedingly hard (high-tungsten, chrome-alloy steel). Manufacturer recommends eccentric-grinding equipment be used to reface these inserts.

OIL PAN REMOVAL

1934-42 V8 MODELS

OIL PAN REMOVAL:—To remove oil pan, drain cooling system, disconnect upper and lower radiator hoses, disconnect exhaust pipe and remove cross-pipe, disconnect radius rods at rear end, push rear end of rods down and block in this position. Remove front engine support bolts, attach hoist and raise front end of engine. Remove oil pan screws, remove pan. NOTE—Pan removal will be facilitated by removing starter motor and engine side pans, disconnecting steering tie rod, and turning crankshaft so that #4 piston is at top dead center.

STARTER SUPPORT BRACE

1938 MODELS

STARTER SUPPORT BRACE:—To correct thump or pound in engine when accelerated between 18 and 28 M.P.H., special starter motor to oil pan brace 82-A-11140-B (60 Engine), 81-A-11140-B (90 Engine) should be installed. Fasten this brace or bracket to starter through-bolt at starter end, remove one oil pan to cylinder block bolt and replace with special bolt 20426-S (60 Engine), 20426-S2 (90 Engine) to hold opposite end.
