SERVICE BULLETIN # 1022

SUBJECT: Carburetion

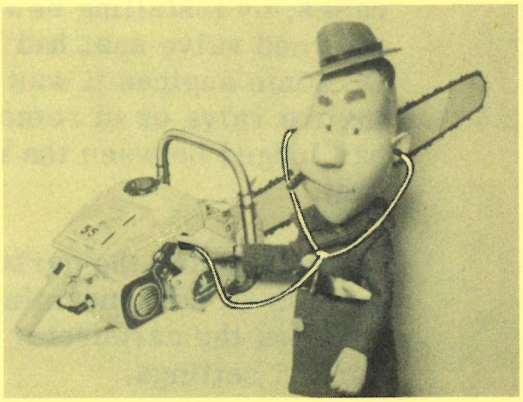
Lean Running - Hard Starting - Trouble Shooting.

MODEL: S44, D44, 55, S55 DATE: 6-2-58

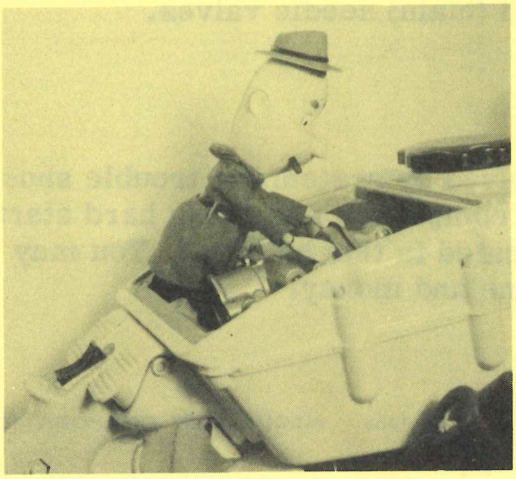


PROBLEM: Some difficulty has been reported by D44, Super 44, 55, and Super 55 chain saw users regarding hard starting and uncontrollable leanness, and overheating.

SYMPTOMS: We have checked into these reported difficulties and found the following symptoms to be general. Carburetor adjustment, main needle valve, 3/8 to 1/2 turn open (Normal: 1 to 1-1/8 turns); Idle needle, 1-1/2 to 2-1/2 turns open (Normal: 3/4 to 1 turn). Upon correcting the settings the engines became run-away lean at idle, lacked acceleration and power and were difficult to start.



CAUSE: Using general trouble shooting practices, based on the theory of operation of two-cycle engines and carburetion, these symptons indicated an air leak and possible reed valve malfunctioning. We checked and found that air leaks did exist around the carburetor adaptor mounting flange areas. Disassembly of the carburetor adapter from the engine and carburetor, and examination of the mounting flange areas indicated that they were uneven and that the gaskets used on these surfaces were hard and brittle. After checking the carburetor adapter, we checked the reed valves to make certain they were seating properly. We found a few reed valves that were

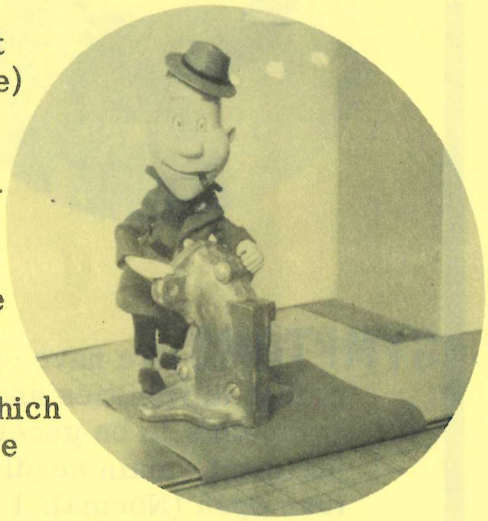


LITHO IN U.S.A.

not seating correctly. We found, too, that on some of the early model D44 and 55 chain saws, the early-type (narrow) reed valves were still being used and that some of these had worn the fuel tank to such extent as to make proper seat impossible.

An improperly seating reed valve, as you know, can cause hard starting, loss of power at high speeds and poor acceleration.

REMEDY: We resurfaced the carburetor adapter mounting flange faces by polishing them on a piece of emery cloth which was secured to a flat surface (We used a chain bar for the flat surface) until the flanges were smooth and even.



We corrected the reed valve problem by installing the latest large reed valves, (See Service Bulletin #1016) where possible, and, in some cases, by installing new fuel tank bottoms where the reed valve seat had been worn excessively. On some engines it was just a matter of adjusting the valve or of removing foreign material which had lodged between the reed valve and reed valve seat.

We reinstalled the carburetor adapter using new gaskets on both mounting flange surfaces, and adjusted the carburetor needle valves to their normal settings.

RESULTS: Every engine thus checked idled perfectly, accelerated well and obtained peak power performance at high speeds with but fractional adjustments of either the idle or high speed (main) needle valves.

SUMMARY: Any service problem can be solved by systematic trouble shooting of the systems affected. If you receive complaints regarding hard starting or lean operation, check the points indicated in this bulletin. You may save yourself and your customer a lot of time and money.

© 1958 McCULLOCH CORPORATION