INTERNATIONAL HARVESTER CO. EMISSION SYSTEMS

DESCRIPTION

Several systems are used to control emission of pollutants. System usage depends on model, engine and transmission combinations. Each eystem is designed to control a particular vehicle emission. In addition, specially calibrated carburetors, distributors and modified combustion chambers are used with these systems.

Air Injection – Used on some models. Positive displacement pump adds air to each exhaust port to further burning of combustion mixture.

Exhaust Gas Recirculation (EGR) – This system recirculates exhaust gases into intake manifold and combustion chambers. This has the effect of lowering combustion temperatures and thereby lowering NOx emissions.

Electric Assist Choke – This unit is designed to give faster, more efficient choke opeations to engine requirements and help reduce carbon monoxide (CO) emissions during engine warm-up.

Vacuum Pull-Off Automatic Choke – A system used on some 1974 California V8 engines with automatic transmission to override choke bi-metal thermostat spring operation. System will fully open choke when coolant temperature exceeds 60°F and automatic transmission is in high gear.

Hot Idle Compensator – Device is a thermostatically operated air bleed valve which relieves an overrich condition at idle during high engine temperatures.

Speed Controlled Spark (SCS) System – System is used to reduce level of carbon monoxide (CO) and oxides of nitrogen (NOx) by delaying vacuum spark advance until a preset vehicle speed is reached. Incorporated within system are high and low temperature vacuum control valves which will allow ignition advance when vehicle is either cold or hot. These valves improve driveability or cooling depending on engine temperature.

Throttle Modulator System – System is used to reduce emissions during vehicle deceleration. Normally an engine will emit relatively high levels of unburned hydrocarbons during (closed throttle) deceleration. Overrich condition is overcome by maintaining a slightly greater throttle opening (high idle) during initial decelerartion, which permits intake of just enough additional air/fuel mixture, to promote combustion and eliminate misfire.

Thermostatic Air Cleaner – This unit is designed to aid carburetor in more complete burning of air/fuel mixture and smoother operation by controlling the temperature of intake air. Heated or cooled portions of air are fed into air cleaner assembly as temperature sensor regulates.

Evaporation Emission Control – This system is used on all late model vehicles and is designed to keep fuel system vapors from escaping to the atmosphere. This sealed system separates fuel vapors and routes them to engine to be burned, while retaining liquid fuel in the tank. A carbon canister stores vapors until engine draws them off for burning. *For additional information, see appropriate article in FUEL EVAPORATION Section.*

Positive Crankcase Ventilation (PCV) – System removes engine crankcase vapors which result from normal combustion. Vapors are drawn through a metered PCV valve and are routed back to intake manifold to be reburned in combustion chamber. *For additional information, see appropriate article in CRANKCASE VENTILATION Section.*

SERVICE PROCEDURES

IGNITION TIMING

See appropriate article in TUNE-UP Section.

CARBURETION

Carburetor Models

Application	Model
4-Cyl. Engines	
152" (1965-68)	Holley 1904 1-Bbl.
196" (1967, 1969-70)	Holley 1904 1-Bbl.
196" (1968-72)	Holley 1920 1-Bbl.
6-Cyl. Engines	
220" (1965-68)	Holley 1904 1-Bbl.
232" (1969-70)	Holley 1904 1-Bbl.
241" (1965-68)	Holley 1904 1-Bbl.
241" (LPG) (1965-71)	Ensign 1-Bbl.
258" (1972-73)	Holley 1920 1-Bbl.
258" (1974)	Holley 1940C 1-Bbl.
265" (1965-67)	Holley 2110 2-Bbl.
265" (1968)	Holley 1904 1-Bbl.
265" (LPG) (1965-71)	Ensign 1-Bbl.
V8 Engines	
266" (1965-68)	Holley 2300 2-Bbl.
304" (1965-74)	Holley 2300 2-Bbl.
304" (1974)	Holley 2210 2-Bbl.
304" (LPG) (1965-71)	Century 1-Bbl.
345" (1967-74)	Holley 2300 2-Bbl.
345" (1974)	Holley 2210 2-Bbl.
345" (LPG) (1965-71)	Century 1-Bbl.
345" (1974)	Carter Thermo-Quad 4-Bbl.
392" (1969-73)	Holley 2300 2-Bbl.
392" (1969-74)	Holley 4150 4-Bbl.
392" (1974)	Carter Thermo-Quad 4-Bbl.
400" (1973-74)	Holley 2210 2-Bbl.

IDLE SPEED & MIXTURE

See appropriate article in TUNE-UP Section.