

1968 International V8 Tune-Up

TUNE-UP

ENGINE IDENTIFICATION

Engine Identification Number is located on right bank, upper front corner. The first four digits indicate displacement.

Application	① Digits
266"	V-266
304"	V-304
345"	V-345

① - Suffix "E", if present, indicates an emission controlled engine.

MODEL IDENTIFICATION

Number is located on rear face of left front door.

613105H587201

- First Four Digits - Model Code.
- Fifth Digit - Engine Type.
- Sixth Digit - Cab or Body Type.
- Remaining Digits - Chassis Serial Number.

TUNE-UP NOTES

► **IDLE SPEED ADJUSTMENT CAUTION** - Procedures and specifications for idle speed adjustment must be followed exactly as outlined. See "Hot (Slow) Idle RPM" under Tune-Up.

NOTE - For other items affecting Tune-Up, see CARBURETION Section or EMISSION CONTROL Section.

COMPRESSION PRESSURE

With engine warm, all spark plugs removed and throttle wide open, the variation between cylinders should not exceed 10 psi.

Application	PSI
266"	150
304"	145
345"	140

VALVE TAPPET CLEARANCE

Application	Clearance (Hot)
Hydraulic Lifters.....	Zero Lash

VALVE ARRANGEMENT

E-I-E-I-E-I-E-I (Front to rear, right bank.)
 I-E-I-E-I-E-I-E (Front to rear, left bank.)

SPARK PLUGS

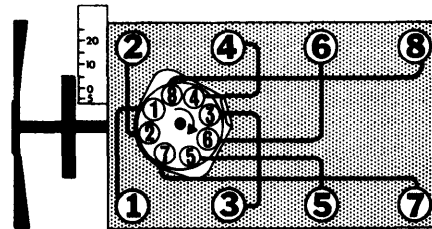
Gap	
Gas025-.030"
LPG016"
Torque.....	28-30 ft. lbs.

Spark Plug Type

Application	Champion No.
Gas	J-10Y
LPG	J-6

DISTRIBUTOR

Point Gap	
W/O Emission Control.....	New .017", Used .014"
W/Emission Control	New .019", Used .016"
Cam Angle	
W/O Emission Control.....	25-29°
W/Emission Control	28-32°
Breaker Arm Spring Tension	17-21 ozs.
Condenser Capacity21-.25 mfd.



81HA01

FIRING ORDER & TIMING MARKS

IGNITION TIMING

Check or adjust timing with engine at normal operating temperature, distributor vacuum advance line disconnected and plugged, transmission in Neutral and speed set at 300 RPM or as slow as possible. Connect timing light to number "8" cylinder.

Application	Timing
All (Exc. LPG & 266" W/O Emission Control).....	TDC
LPG 304"	① 8° BTDC
LPG 345"	① 10° BTDC
266" W/O Emission Control.....	4° BTDC

① - It may be necessary to alter this setting depending on the blend of LPG used.

HOT (SLOW) IDLE RPM

Gas Only - With truck level, gently seat each idle mixture screw then back off each screw one full turn. Operate engine until it reaches normal operating temperature, and adjust idle speed to specifications. Connect tachometer and adjust one

TUNE-UP (Cont.)

idle mixture screw for the maximum engine RPM. Repeat adjustment with second screw and check that screws do not have more than 1/2 turn difference between them. Readjust idle speed to specifications and check idle mixture.

Idle Speed

Application	RPM
All	450-500
All Emission Controlled.....	600

LPG Only — Set throttle for fast idle by turning idle speed screw in three or four turns. Start engine and adjust idle adjusting screw on drag link until engine runs smooth. Turn idle speed screw out until engine idles at 600 RPM. Readjust idle adjusting screw to obtain maximum idle speed. Readjust idle speed screw to specified idle speed.

Idle Speed

Application	RPM
All	400

COLD (FAST) IDLE RPM

Gas Only, Without Governor — Set idle speed screw so that screw just touches fast idle cam at hot (slow) idle.

Gas Only, With Governor — Adjust fast idle stud for specified clearance between stud and fast idle cam with choke plate full open and hot (slow) idle set.

Application	Clearance
All018-.020"

LPG Only — There is no choke or fast idle adjustment on Century LPG carburetors.

FUEL PUMP PRESSURE & VOLUME

Pressure (At 1000 RPM)	4.5-5.75 psi
Volume (At 4000 RPM).....	3.6 pts. in 1 min.

EMISSION CONTROL

See appropriate article in EMISSION CONTROL Section.

GOVERNOR ADJUSTMENTS

NOTE — All governor adjustments are made with engine tuned and at normal operating temperature.

VELOCITY-TYPE GOVERNOR

Connect tachometer and race engine to determine maximum, no-load RPM. If adjustment is necessary, stop engine and remove cover band from governor valve housing. Turn valve adjusting screw holding opposite end of shaft as adjusting nut is turned. To increase engine RPM, turn adjusting nut clockwise; to decrease engine RPM, turn adjusting nut counterclockwise. Replace band.

Governed Speed (No Load)

Application	RPM
IHC Model 2300G Carburetor.....	4000

CENTRIFUGAL-TYPE GOVERNOR

Connect tachometer and race engine to determine maximum, no-load RPM. If adjustment is necessary, stop engine, remove governor clamp and gasket assembly. Turn engine over until adjusting screw hole plug appears in the opening. Remove plug and insert suitable tool (SE-2072-2) engaging adjusting tang. Turn tool handle clockwise to decrease speed and counterclockwise to increase speed; 1/4 turn will change engine RPM approximately 100 RPM.

Governed Speed (No Load)

Application	RPM
IHC Model 1510 Distributor	
304"	3900
345"	3800

IGNITION

DISTRIBUTOR

Application	IHC Model 1500	① IHC Part No.
Gasoline & LPG		359206-C91
W/Governor.....		359217-C91
W/Governor & Tachometer.....		359220-C91

① — Manufactured by Holley.

Electronic Ignition

Application	Delco Part No.
266" & 304"	1111197
304" & 345" W/Governor & Tachometer.....	1111316

Other Data & Specifications — See *Holley* or *Delco Distributors* in *ELECTRICAL* Section.

IGNITION COIL

Application	Delco Part No.
All	1115202

Resistance	Ohms @ 80°F
Primary	1.28-1.42
Secondary.....	7,200-9,500
Ballast Resistor (Loom).....	1.75-1.85

CARBURETION

CARBURETORS

Holley Series 2300 & 2300G 2-Bbl.

Application	Holley Part No.	
	Man. Choke	Auto. Choke
266" & 304"	R-1710	R-2520
304"	R-1706	N/A
345"	R-1707	R-3936

LPG Carburetors

Application	Century Model No.
304"	3C-705DTL-2101
345"	3C-G705DTL-2090

Other Data & Specifications – See *Tune-Up and Holley or Century Carburetors in CARBURETION Section.*

ACCELERATOR AND DOWNSHIFT LINKAGE ADJUSTMENT

Accelerator Adjustment – With accelerator linkage clean and lubricated, adjust pedal stop screw so that pedal will just strike screw when carburetor throttle plate is wide open.

Downshift Adjustment – The downshift switch is located under pedal. Loosen lock nut and adjust screw so that there is $\frac{1}{4}$ " between switch and pedal when it is lightly depressed to the floor.

CHOKE ADJUSTMENT

Man. Choke – Loosen choke cable adjusting screw on choke lever at carburetor. With choke knob in cab all the way in, pull choke cable at carburetor to remove excess slack. Release cable and tighten screw. Work knob in and out several times and check that choke is full open when knob is all the way in.

Auto. Choke – Loosen cover retaining screws and rotate assembly to 1 notch rich. Tighten cover retaining screws.

DASHPOT ADJUSTMENT

With hot (slow) idle RPM set, loosen dashpot jam nut and rotate complete dashpot to obtain specified clearance between dashpot and throttle lever.

Dashpot Clearance

Application	Clearance
All	$\frac{1}{16}$ "

ELECTRICAL

BATTERY

12 Volt – Negative Ground.

STARTER

Application	Delco Part No.
All	1107709

Other Data & Specifications – See *Delco Starters in ELECTRICAL Section.*

ALTERNATOR

Application	Amps.	Delco Part No.
All	37	1100688

Other Data & Specifications – See *Delco Alternators in ELECTRICAL Section.*

ALTERNATOR REGULATOR

Application	Delco Part No.
All	1119507

Other Data & Specifications – See *Delco Alternator Regulators in ELECTRICAL Section.*

ENGINE

INTAKE MANIFOLD TIGHTENING

Manifold bolts are tightened to 40-45 ft. lbs.

BELT ADJUSTMENT

Adjust power steering belt tension to obtain $\frac{3}{8}$ inch deflection at belt midpoint; adjust all other belts for $\frac{1}{2}$ inch deflection.

COOLING CAPACITIES

Application	Quantity
266" W/Heater	20 qts.
304" W/Heater	21 qts.
All W/Increased Cooling	①

① – Fill to one inch below top of radiator upper tank.

ENGINE (Cont.)

FILTERS & CLEANERS

Filter or Cleaner	Service Interval (Miles)
Oil Filter.....	① Replace 3,000-4,000
Air Filter	
Oil Bath.....	② Clean 5,000
Dry Type.....	③ Clean 5,000
Fuel Filter.....	④
Distributor Shaft & Pivot Point.....	Oil 3,000-5,000
Distributor Cam.....	Lubricate 3,000-5,000

- ① - Or every oil change.
- ② - Oil with same viscosity oil in crankcase.
- ③ - Replace at 15,000-20,000 miles.
- ④ - Clean when bowl shows sediment.

CAPACITIES (EXCEPT COOLING)

Application	Quantity
Crankcase (Includes Filter).....	6 qts.
Automatic Transmission.....	9.5 qts.
Man. Trans. & Rear Axle.....	①
Front Axle & Transfer Case.....	①
Four-Wheel Drive Knuckle Ends.....	①
Fuel Tank	
Scout.....	10 gals.
1000.....	17 gals.
Metro	
700 to 1100.....	15 gals.
1200.....	17 gals.
All Others.....	19 gals.
Oil Bath Air Cleaner.....	1 qt.

① - Fill to bottom of filler plug hole.