TUNE-UP

Arrow Pickup
Challenger
Champ
Colt
Ram-50 Pickup
Sapporo

ENGINE IDENTIFICATION

Engine code numbers are stamped on top edge of right front side of cylinder block.

Engine Code

Application	Code
1400 cc	G12B
1600 cc	G32B
2000 cc	G52B
2600 cc	G54B

COMPRESSION PRESSURE

Check compression pressure with engine at normal operating temperature, choke and throttle valves wide open and engine at cranking speed (250 RPM). Crank engine at least 6 "puffs" per cylinder to determine engine compression.

Compression Pressure Specifications

Application	Pressure psi (kg/cm²)
Normal (New Engine)	149 (10.5)
Maximum Variation	15 (1.1)

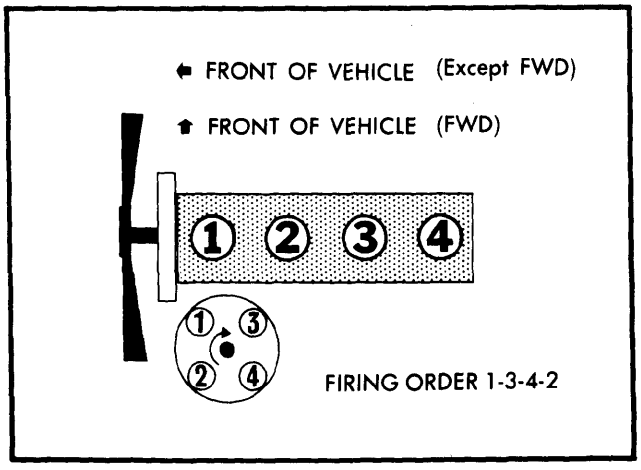

Fig. 1 Firing Order and Distributor Rotation

VALVE CLEARANCE

CAUTION – *Jet valve clearance must be adjusted before adjusting intake valve clearance. Loosen intake valve adjusting screw at least 2 full turns before adjusting jet valve.*

Check or adjust valve clearance with engine off and at normal operating temperature. To adjust valves, loosen lock nut and turn adjusting screw until specified clearance is obtained.

Valve Clearance Specifications

Application	Clearance
Jet	.006" (.15 mm)
Intake	.006" (.15 mm)
Exhaust	.010" (.25 mm)

VALVE ARRANGEMENT

Right Side – All Exhaust.
Left Side – All Intake.

SPARK PLUGS

Application	Gap In. (mm)	Torque Ft. Lbs. (N·m)
All Models	.041 (1.0)	20 (27)

Spark Plug Type

Application	NGK	Champion
2600 cc	BPR-5ES-11	RN-12Y
All Others	BPR-6ES-11	RN-9Y

HIGH TENSION WIRE RESISTANCE

Carefully remove high tension wires from spark plugs and distributor cap. Using an ohmmeter, check resistance of wire while gently twisting wire. If resistance is not to specification, or fluctuates from infinity to any value, replace wire.

Resistance (Ohms) Per Wire

Application	Resistance
All Models	Less Than 22,000

DISTRIBUTOR

All models use Mitsubishi electronic, breakerless ignition systems with an electronic control unit.

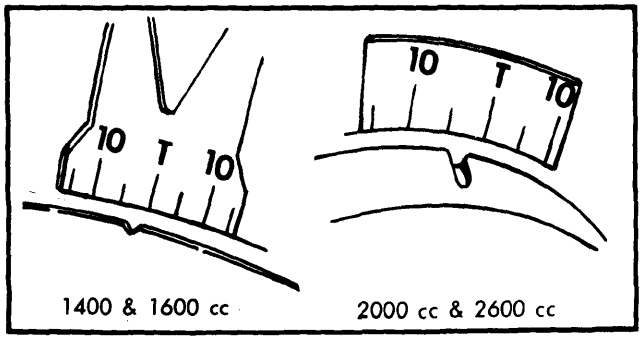

Fig. 2 Ignition Timing Mark Location

TUNE-UP (Cont.)

IGNITION TIMING

1) With engine at normal operating temperature, turn A/C controls and headlights off. Connect tachometer and timing light.

2) Loosen distributor nut and rotate distributor as necessary to adjust timing. Tighten mounting nut when timing is set to basic timing specification.

Ignition Timing Specifications (Degrees BTDC@RPM)

Application	Timing
1400 cc	5@700
1600 cc	①5@700
2000 cc	5@750
2600 cc	7@800

① – Auto. Trans. – 750 RPM.

IDLE SPEED & MIXTURE

NOTE – *Mixture adjustment is NOT a part of normal tune-up procedure and should not be performed unless carburetor is disassembled or vehicle fails emission testing.*

1) Remove carburetor from engine and place on bench in suitable holder. Drill out concealment plug and remove from carburetor. See *Fig. 3*. Drive out roll pin. With concealment plug and roll pin removed, reinstall carburetor on engine.

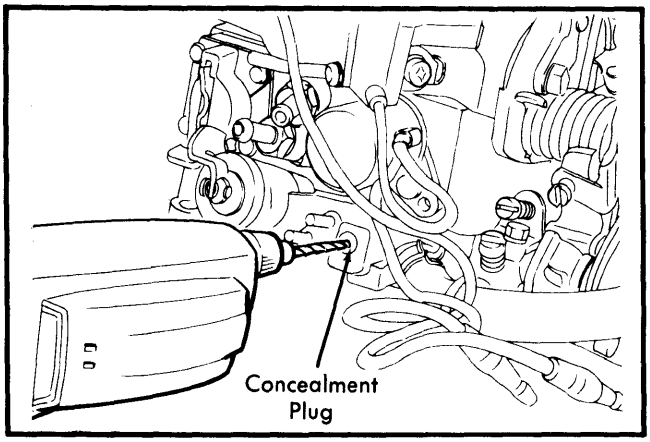

Fig. 3 Drilling Out Concealment Plug

2) Warm engine to normal operating temperature. Adjust idle speed with speed adjusting screw on throttle lever. If equipped with air conditioning, turn system on with blower at low speed. Adjust screw on side of throttle opener to obtain "A/C RPM".

3) Remove air cleaner-to-reed valve hose and plug inlet side of reed valve. Accelerate engine to 3000 RPM for 10 seconds, then allow to idle for 2 minutes. Adjust CO level to 0.5% using idle mixture screw. Unplug reed valve air inlet and reconnect air hose.

4) If necessary, reset idle speed with idle speed adjusting screw. Install roll pin and concealment plug into their respective holes to seal idle mixture adjusting screw. See *Fig. 4*.

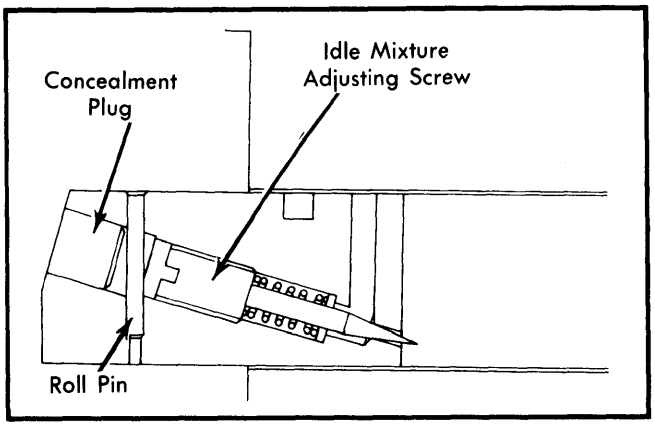

Fig. 4 Exploded View of Tamper-Proof Idle Mixture System

Idle Speed & CO Level

Application	Idle RPM	A/C RPM	①CO%
1400 cc	700	③850	0.5
1600 cc	②700	③850	0.5
2000 cc	750	900	0.5
2600 cc	800	900	0.5

① – With air injection disconnected.
② – Set Auto. Trans. to 750 RPM.
③ – Set Auto. Trans. to 900 RPM.

FUEL PUMP PRESSURE & VOLUME

Pressure (At Idle)
- 1400 cc & 1600 cc ..... 3.7-5.1 psi (.26-.36 kg/cm²)
- 2000 cc & 2600 cc ..... 4.6-6.0 psi (.32-.42 kg/cm²)

Volume (At Cranking Speed)
- 1400 cc ..... 1.4 pts. in 30 sec.
- 1600 cc ..... 1.7 pts. in 30 sec.
- 2000 cc & 2600 cc ..... 2.1 pts. in 30 sec.

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

All models use Mitsubishi electronic, breakerless ignition systems with an electronic control unit.

IGNITION COIL

Resistance Specifications (Ohms@68°F)

Application	Primary	Secondary
All Models	.70-.85	9000-11,000

GENERAL SERVICING (Cont.)

FUEL SYSTEMS

CARBURETORS

Application	Model
1400 cc & 1600 cc	Solex 30-32 DIDTA 2-Bbl.
2000 cc & 2600 cc	Solex 28-32 DIDTA 2-Bbl.

ELECTRICAL

BATTERY

Application	Amp. Hr. Capacity
All Models	45

Battery Location – Engine compartment.

STARTER

All models use Mitsubishi overrunning clutch type starters.

Starter Specifications

Application	Volts	Amps	Test RPM
1400 cc & 1600 cc			
Man. Trans.	11.5	60	6500
Auto. Trans.	11.5	60	6600
2000 cc & 2600 cc			
Man. Trans.	11.5	60	6600
Auto. Trans.	11.5	90	3300

ALTERNATOR

All models are equipped with Mitsubishi alternators.

Application	Rated Amp. Output
1400 cc, 1600 cc & 2000 cc	45
2600 cc	
Arrow & Ram-50 Pickups	45
Challenger & Sapporo	50

ALTERNATOR REGULATOR

All models use Mitsubishi alternator regulators with the regulator mounted internally to the brush holder.

Operating Voltage	14.1-14.7@68°F (20°C)

BELT ADJUSTMENT

Pull belt between alternator and water pump pulley, using 22 lbs. force. Belt should deflect ¼-⅜" (7-10 mm).

FILTERS

Filter	Service Interval (Miles)
Oil Filter	①Replace every 15,000
Air Filter	Replace every 30,000
Fuel Filter	Replace every 50,000
Canister Filter	Replace every 50,000

① – At first 7,500 miles, then every other oil change.

CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	
1400 cc	3.7 qts.
1600 cc	4.2 qts.
2000 cc	4.5 qts.
2600 cc	4.5 qts.
Cooling System (Includes Heater)	
1400 cc & 1600 cc	5.0 qts.
2000 cc	9.5 qts.
2600 cc	9.7 qts.
Manual Transaxle (SAE 80)	2.4 qts.
Manual Transmission (SAE 90)	
2000 cc	2.2 qts.
2600 cc	2.4 qts.
Automatic Transaxle (Dexron)	6.0 qts.
Automatic Transmission (Dexron)	7.2 qts.
Rear Axle (SAE 80W-90)	2.7 qts.
Fuel Tank	
Arrow & Ram-50 Pickups	
2000 cc	
Standard	15.1 gals.
Optional	18.0 gals.
2600 cc	18.0 gals.
Challenger & Sapporo	15.8 gals.
Champ & Colt	
Luxury & Rally Sports	13.2 gals.
All Others	10.6 gals.