

ENGINE COOLING AND LUBRICATION

GENERAL DESCRIPTION

ENGINE COOLING SYSTEM

The Firebird cooling system consists of the radiator, water pump, fan, thermostat, hoses, and suitable passages for water circulation through the engine.

RADIATOR-FIREBIRD

A cross-flow radiator is used on the 1967 Firebird instead of the conventional down-flow type. The cross-flow radiator differs from the conventional down-flow type in the respect that water flows horizontally and the tanks are on the left and right sides of the core instead of above and below the core (Fig. 6A-1).

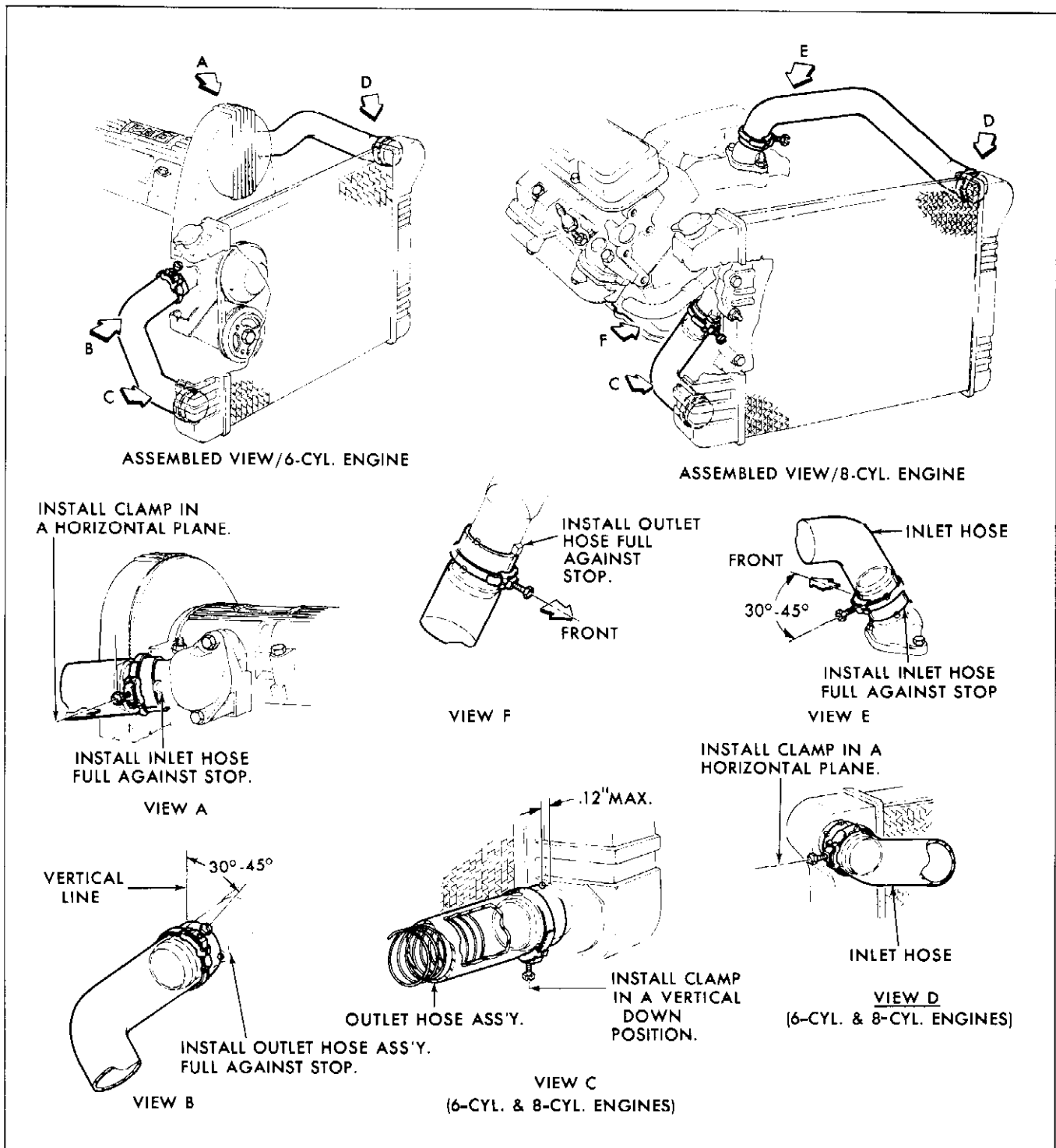


Fig. 6A-1 Radiator and Hose Connections

TRANSMISSION	SERIES AND R.P.O.	STANDARD						HEAVY DUTY COOLING						AIR CONDITIONING					
		ENGINE						ENGINE						ENGINE					
		230		326		400		230		326		400		230		326		400	
		1 Bbl	4 Bbl	2 Bbl	4 Bbl	4 Bbl	4 Bbl Ram-Air	1 Bbl	4 Bbl	2 Bbl	4 Bbl	4 Bbl	4 Bbl Ram-Air	1 Bbl	4 Bbl	2 Bbl	4 Bbl	4 Bbl	4 Bbl Ram-Air
MANUAL TRANSMISSION	223, 225	UT	UG	---	---	---	---	UG	US	---	---	---	---	US	US	---	---	---	---
	224, 226	---	---	UU	UU	UQ	UQ	---	---	UM	UM	---	---	---	---	UQ	UQ	UQ	---
AUTOMATIC TRANSMISSION	223, 225	UT	UT	---	---	---	---	UG	UG	---	---	---	---	US	US	---	---	---	---
	224, 226, W/O AIR	---	---	UV	UW	UP	UP	---	---	UX	UX	---	---	---	---	UP	UP	UP	---
	224, 226, W/AIR	---	---	UW	UW	UP	UP	---	---	UX	UX	---	---	---	---	UP	UP	UP	---
TURBO HYDRAMATIC	224, 226	---	UD	---	---	---	---	UB	---	---	---	---	---	UR	---	---	---	---	

Fig. 6A-2 Radiator Usage Chart

Radiators used with automatic transmissions have oil coolers built into the right tank with inlet and outlet fittings for circulation of transmission fluid.

Cars equipped with A/C and certain cars with A.I.R. system use a radiator with greater cooling capacity for greater cooling demands.

FANS

A four bladed fan is standard on all 230 and 326

engines. A seven bladed fan and fan clutch is used on all A/C equipped engines. A fan clutch is also used on all 400 cubic inch engines and available as an option on 326 engines. A heavy duty five bladed fan without the fan clutch is also available on 326 engines.

All V-8 equipped cars use a fan shroud to assist cooling.

RADIATOR SUPPORT AND MOUNTING PARTS

The radiator is attached by cap screws to the radiator support. The fan shroud on all V-8 models is mounted in two bottom slots and secured at the top by one center bolt.

RADIATOR ASSEMBLY - REMOVE AND REPLACE

REMOVE

1. Disconnect positive battery cable (Fig. 6A-3).
2. Open drain cock at bottom of radiator and drain radiator and cylinder block. Remove filler cap so coolant will flow freely.

NOTE: To save coolant remove radiator overflow hose and connect to drain cock.

3. Loosen hose clamps and disconnect upper and lower radiator hoses at radiator inlet and outlet pipes.

4. On cars equipped with V-8 engines and automatic transmissions, disconnect and plug the transmission cooler lines.

5. Remove upper fan shield (six cylinder) or upper shroud bracket (V-8).

6. Remove radiator attaching screws and lift radiator and shroud out of vehicle.

REPLACE

1. Replace radiator by reversing the above procedure.
2. Torque all mounting screws to 12 lb. ft.
3. Refill radiator with enough coolant to ensure all weather corrosion protection.

COOLING SYSTEM CAPACITIES

	6 Cylinder	326	400
w/o AC	12.1 quarts	17.6 quarts	16.8 quarts
w/ AC	12.4 quarts	18.9 quarts	18.1 quarts

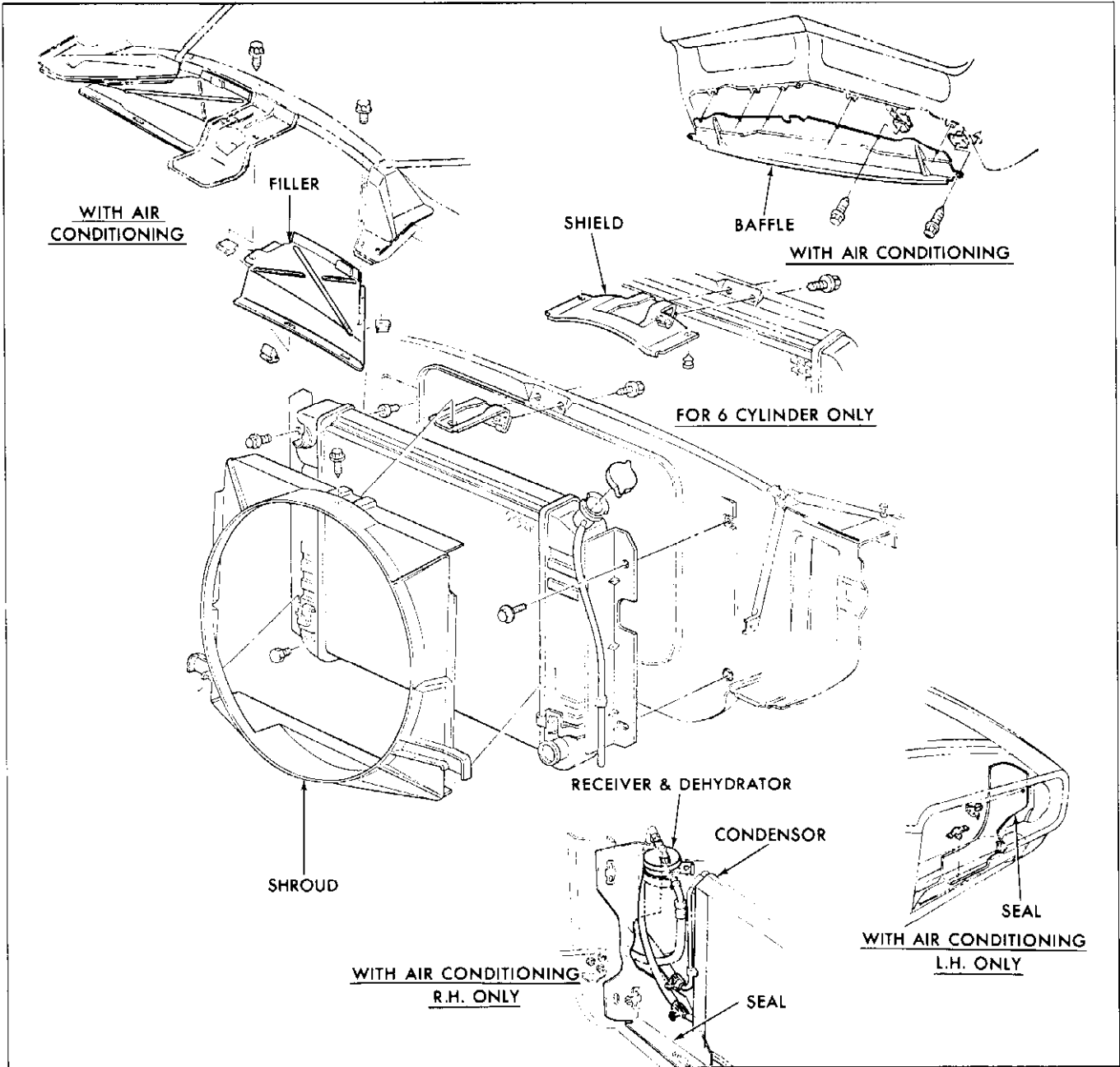


Fig. 6A-3 Radiator Installation

ENGINE LUBRICATION SYSTEMS

OIL CAPACITY -6 CYL.

Refill	w/o filter	5 quarts
	with filter	6 quarts

OIL CAPACITY -8 CYL.

Refill	w/o filter	6 quarts
	with filter	7 quarts

OIL FILTER

A full flow filter is standard on all engines and is mounted on the front side of the accessory drive housing on six cylinder engines and the right rear of the engine block on V-8 engines.

REMOVE AND REPLACE (400 RAM-AIR ONLY)

1. Place new filter cartridge in engine compartment near filter location.

2. Raise vehicle.
3. Disconnect old filter cartridge using filter wrench J 22775.
4. Install new cartridge using J 22775.
5. Lower vehicle.
6. Remove old cartridge from engine compartment.