

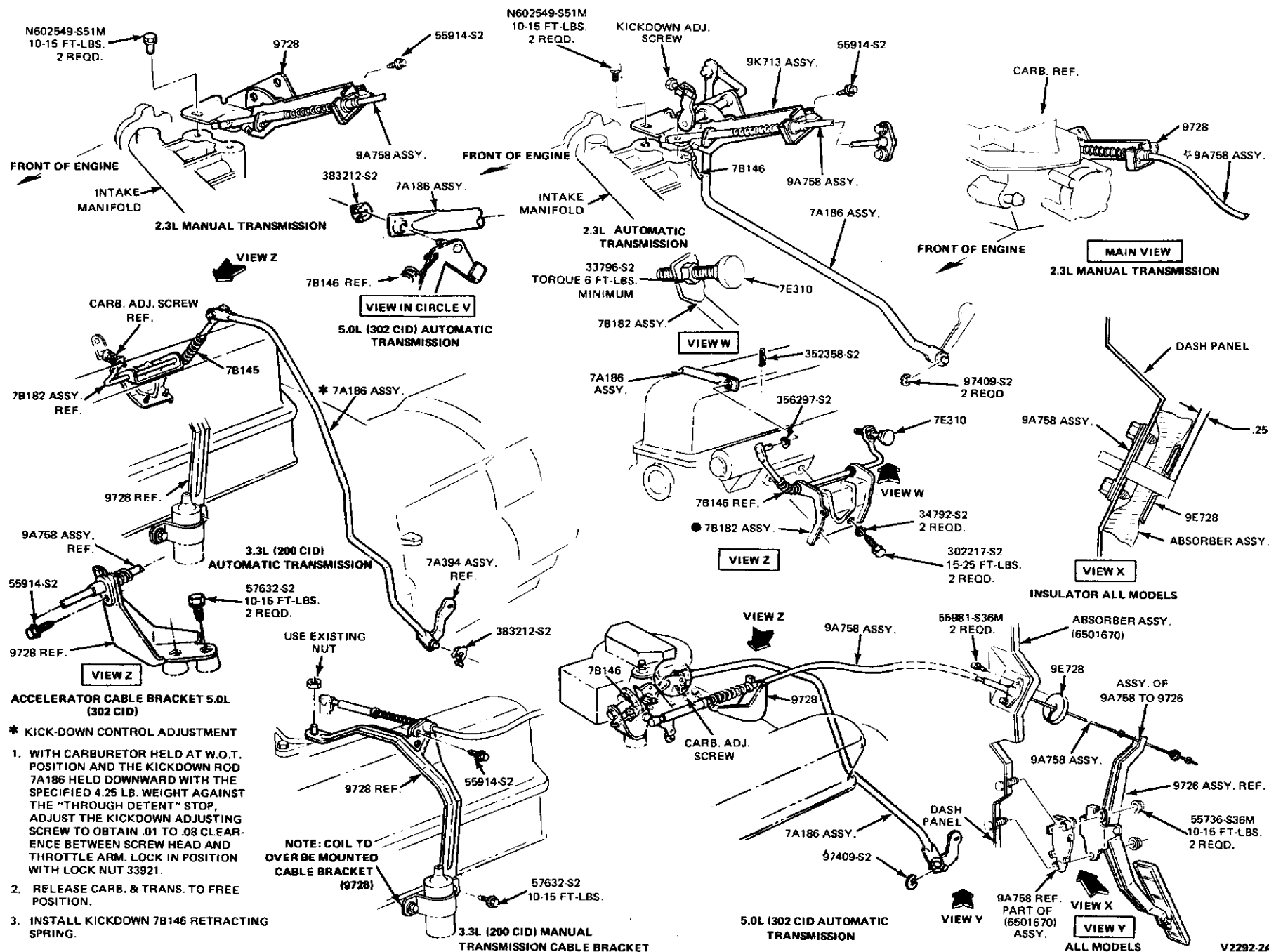
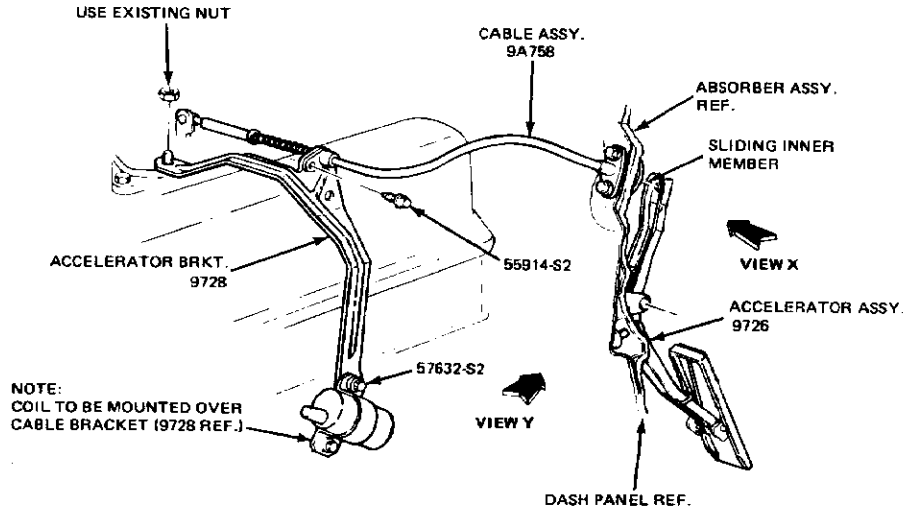
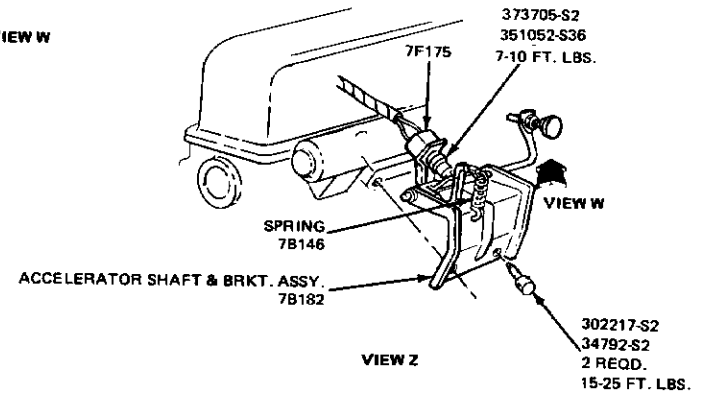
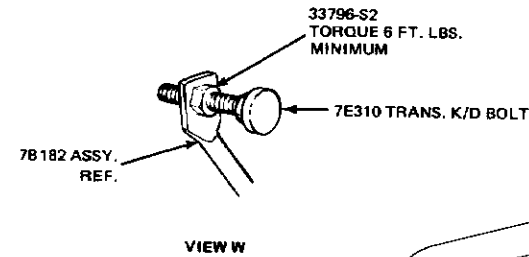
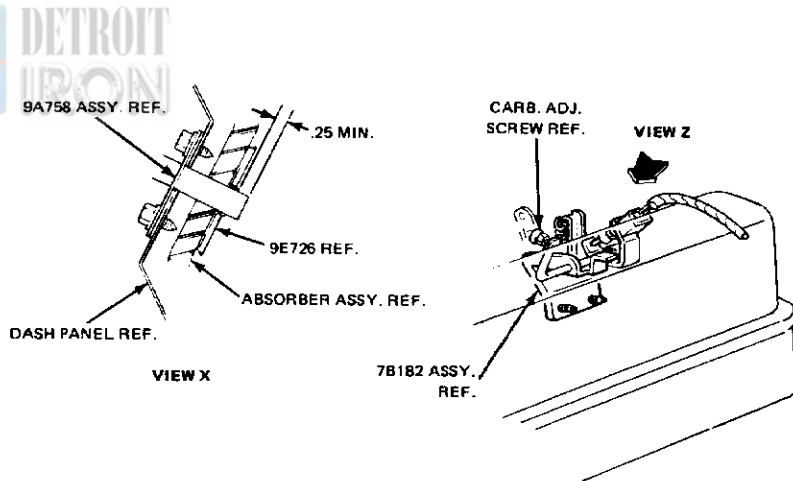


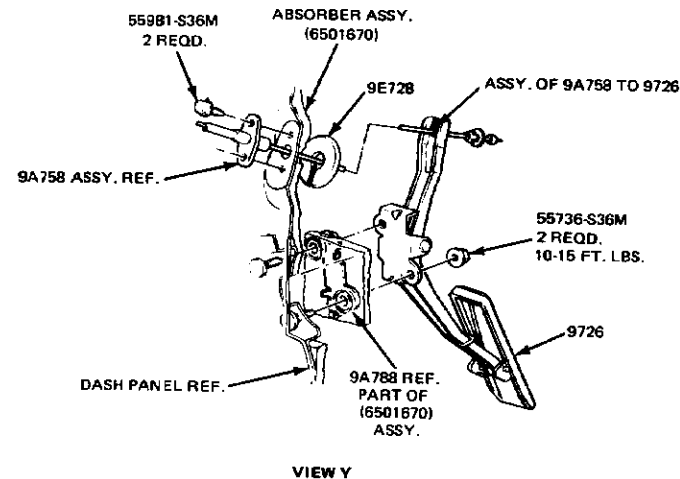
FIG. 3 Throttle and Downshift Linkage—Fairmont and Zephyr



NOTE:
COIL TO BE MOUNTED OVER
CABLE BRACKET (9728 REF.)

KICK-DOWN CONTROL ADJUSTMENT

1. WITH CARBURETOR HELD AT W.O.T. POSITION AND SWITCH 7F175 AT FULL DETENT ADJUST THE KICKDOWN ADJUSTING SCREW TO OBTAIN .01 TO .08 CLEARANCE BETWEEN BOLT HEAD AND THROTTLE ARM. LOCK IN POSITION WITH LOCK NUT 33796.
2. RELEASE CARB. & TRANS. TO FREE POSITION.
3. INSTALL KICKDOWN 7B146 RETRACTING SPRING.



SHAFT ASSY. 9726 MUST BE INSTALLED ON DASH PANEL PLATE PRIOR TO ATTACHING CABLE ASSY. 9A758 TO 9726.

V2323-2A

FIG. 4 Throttle and Downshift Linkage—Monarch and Granada W/4.1L (250 CID) I-6 and JATCO Transmission

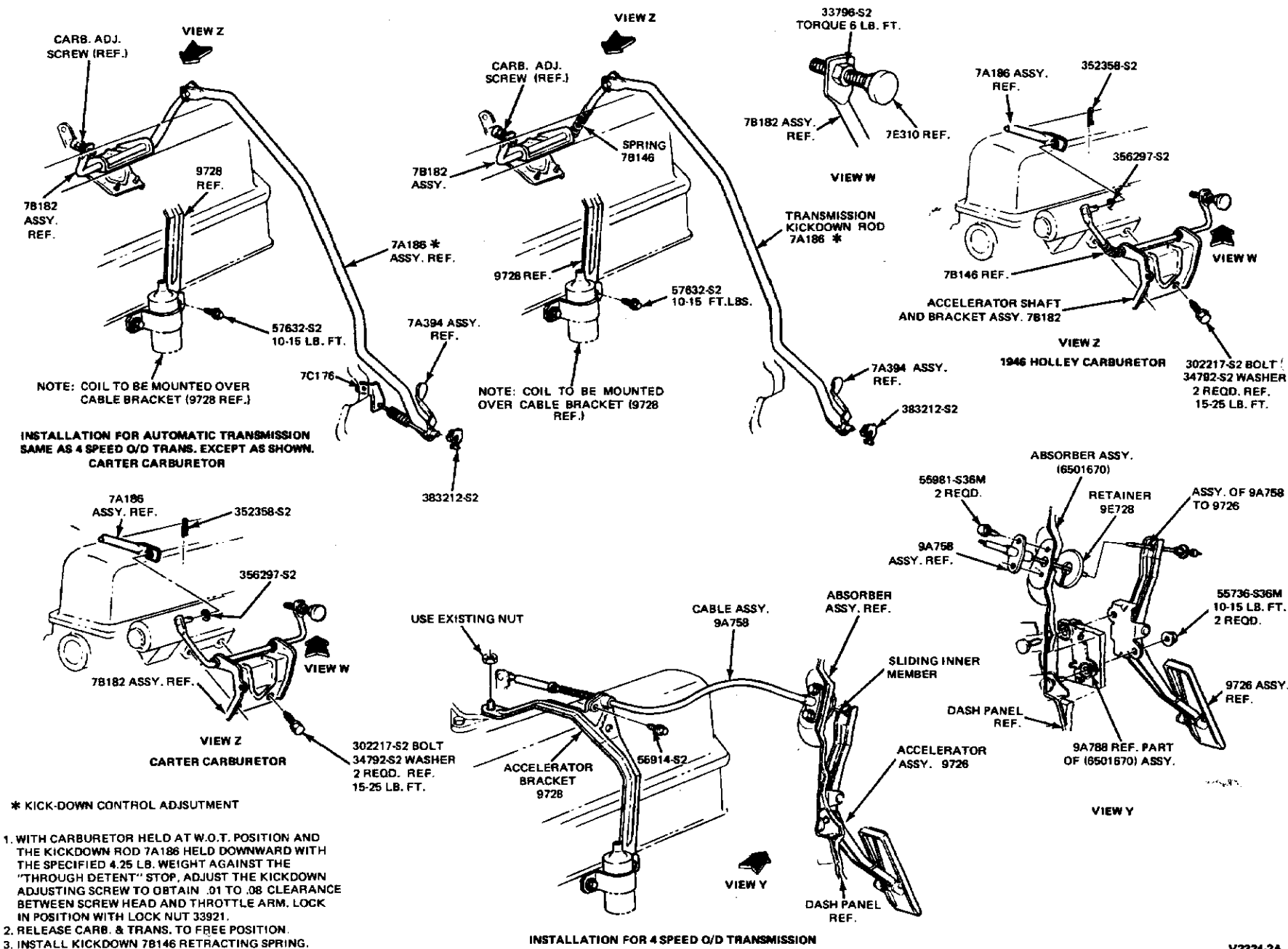
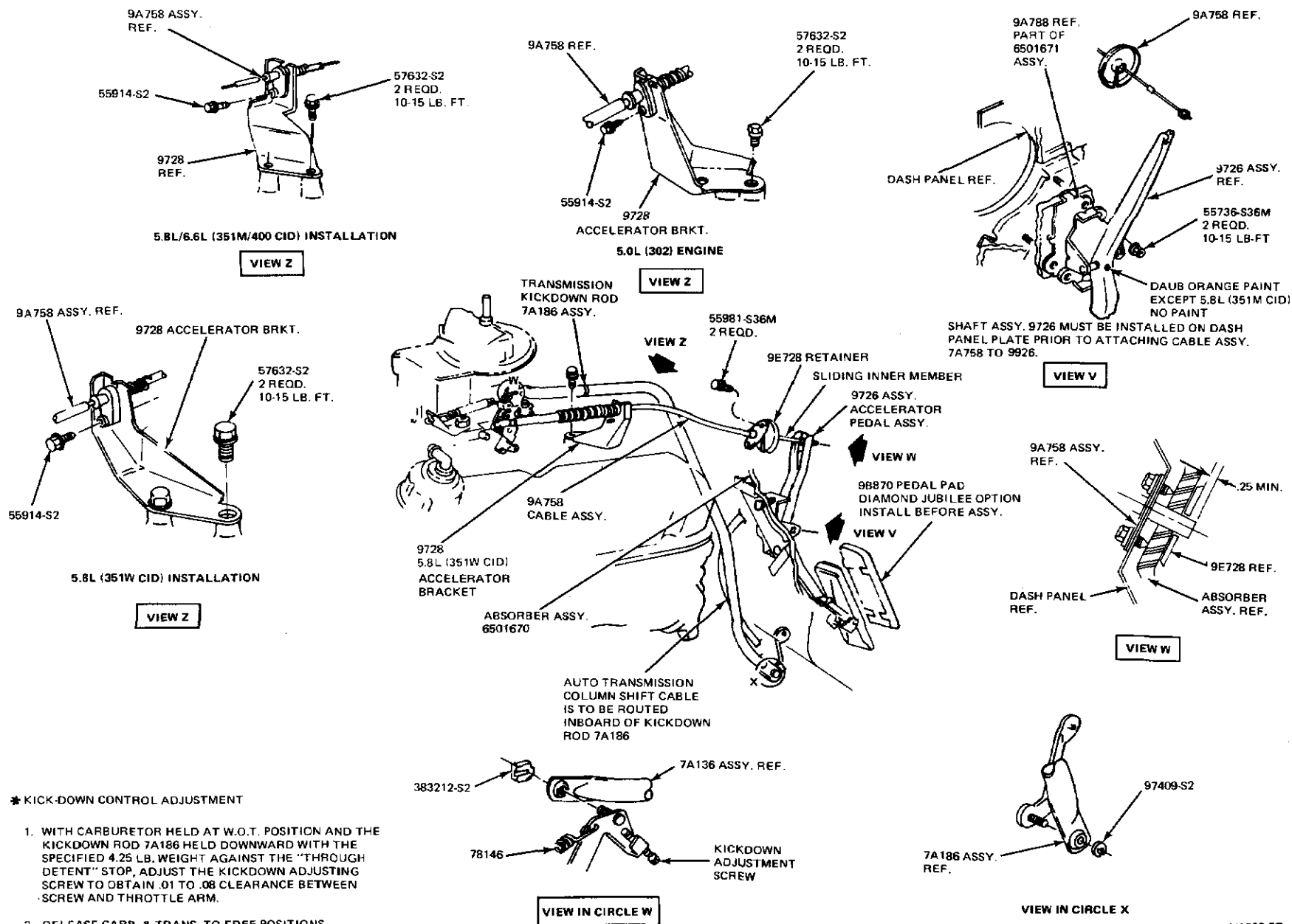
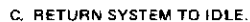


FIG. 5 Throttle and Downshift Linkage—Monarch and Granada W/4.1L (250 CID) I-6 and Holley or Carter Carburetor



V1609-2G

FIG. 7 Throttle and Downshift Linkage—LTD II, LTD II Ranchero, Thunderbird and Cougar



V1610-2G

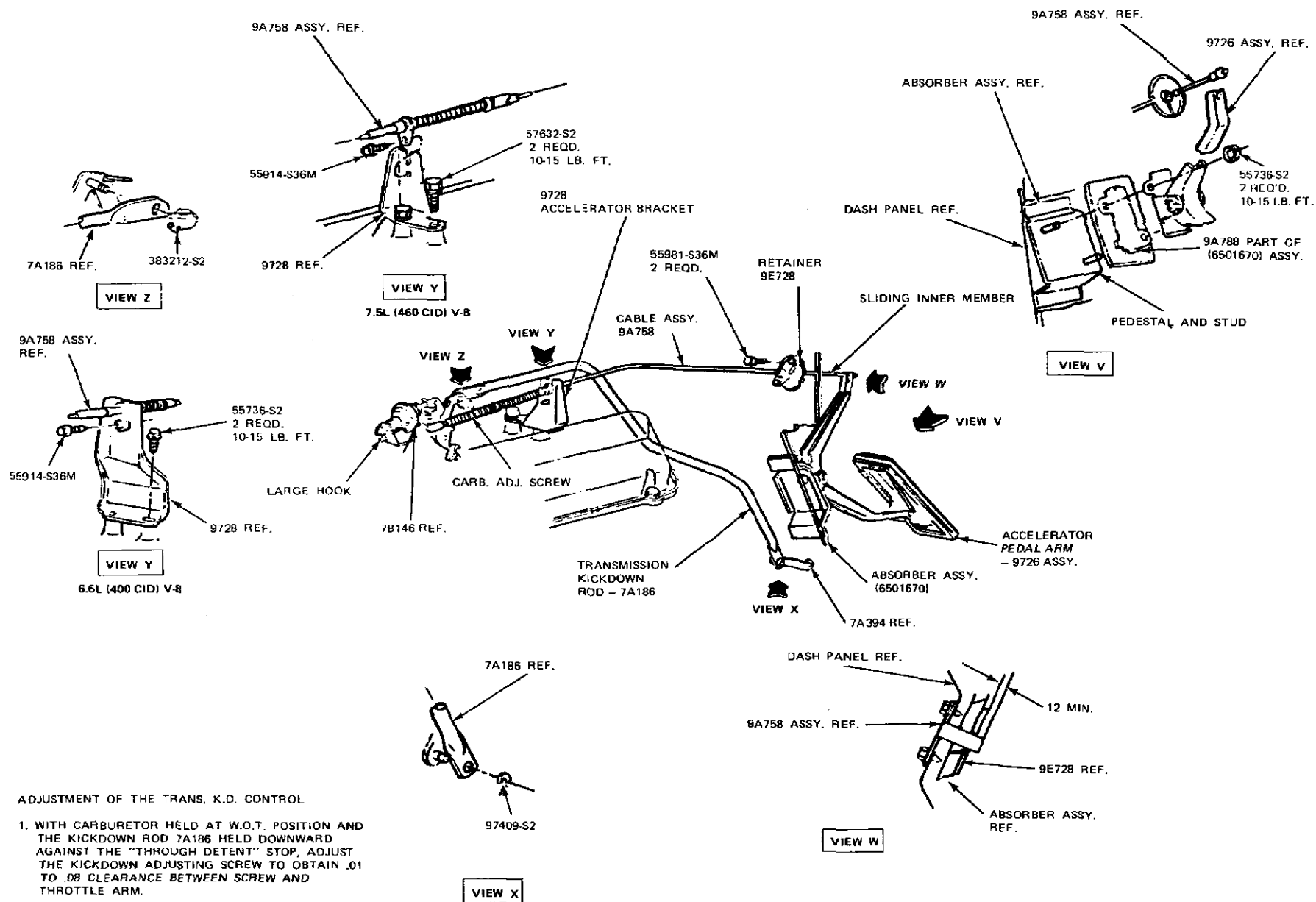


FIG. 9 Throttle and Downshift Linkage—Lincoln Continental

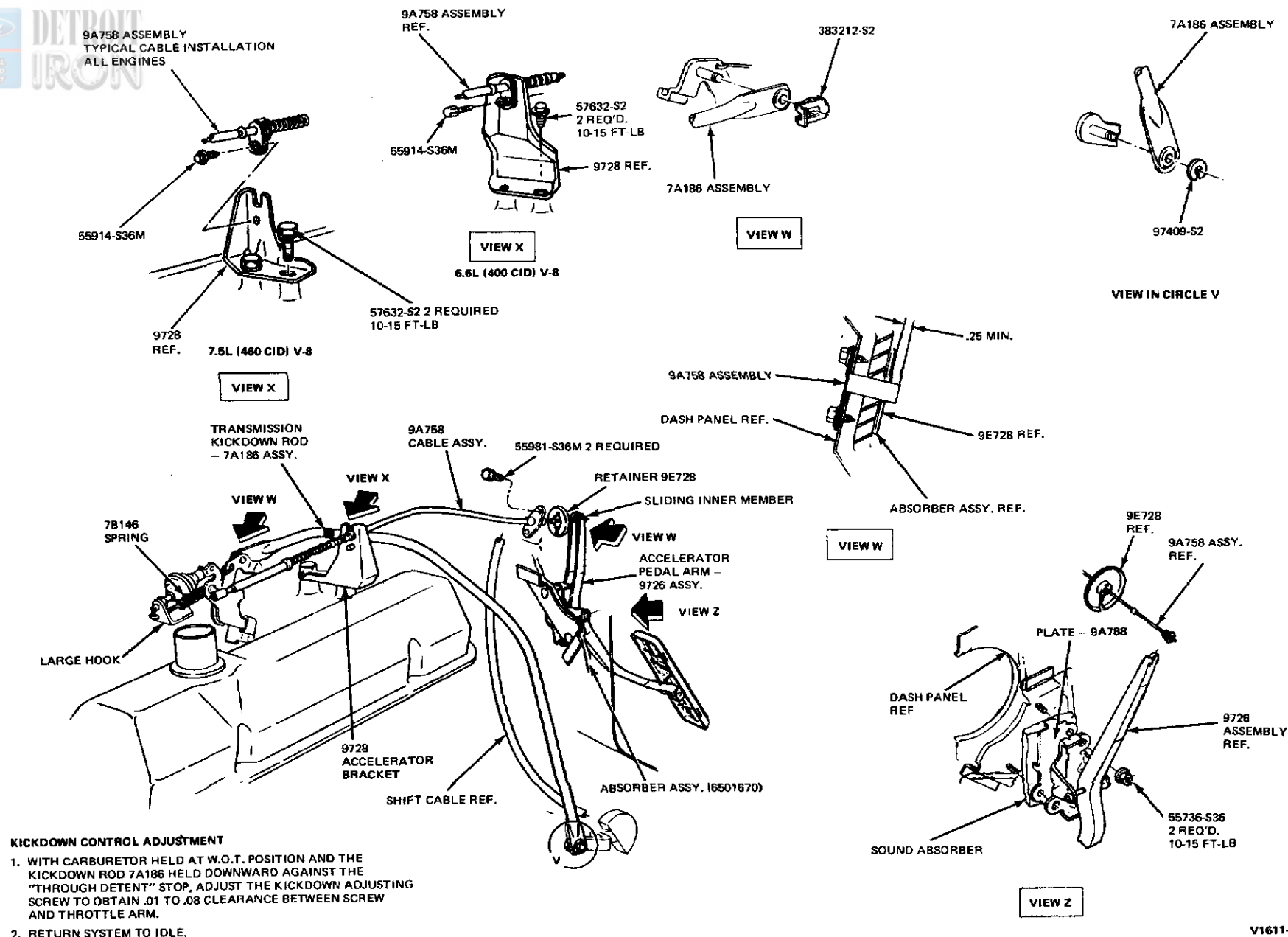


FIG. 10 Throttle and Downshift Linkage—Continental Mark V

EXHAUST SYSTEM

GROUP
26
(5000)

PART TITLE	PART NO.	PART TITLE	PART NO.
I-4 Engine		V-8 Dual Exhaust System	26-22
Single Exhaust System	26-02	V-8 Single Exhaust System	26-20
General Exhaust System	26-01	V-6 Exhaust Systems	26-03
Six Cylinder Engine Single Exhaust System	26-10		

CN4033-2B

General Exhaust System

PART
26-01

CN4034-2B

GENERAL INFORMATION

This Part covers the general exhaust system, adjustments and repair procedures.

Always refer to the master parts catalog for parts usage and interchangeability before replacing a component part of the exhaust system.

The exhaust system must be free of leaks, binding, grounding and excessive vibrations.

These conditions are usually caused by loose, broken or misaligned clamps, shields, brackets or pipes. If any of these conditions exist, check the exhaust system components and alignment. Adjust or replace as necessary to maintain the specified clearances (refer to the illustrations in each Part).

Brackets, clamps and insulators should be replaced if they are damaged or badly corroded. Do not attempt to repair these parts.

Inspect the inlet pipe(s), outlet pipe(s), catalytic converters, resonator(s) and muffler(s) for cracked joints, broken welds and corrosion damage that would result in a leaking exhaust system. Inspect the clamps, brackets and insulators for cracks and stripped or badly corroded bolt threads. When pipe clamp(s) are loosened and/or removed to replace a pipe, muffler or resonator, replace the clamp(s) if there is reasonable doubt that its service life is limited.

DESCRIPTION AND APPLICATION

Fig. 1 lists the various exhaust system applications.

SINGLE EXHAUST SYSTEMS

The factory-installed single exhaust system consists of a catalytic converter, inlet pipe assembly, muffler and supporting hangers. A resonator and/or two catalytic converters are required on some systems (see Fig. 1).

INLET PIPE EXTENSION AND MUFFLER ASSEMBLY

Some exhaust systems include a catalytic converter. Refer to the individual Parts for appropriate replacement procedures.

DUAL EXHAUST SYSTEMS

Dual exhaust systems used with the V-8 engine consist of two one-piece catalytic converter and inlet

pipe extension assemblies connecting the exhaust manifolds to the muffler inlet "H" pipe which is connected to the muffler.

The dual exhaust system may or may not be equipped with a resonator. Refer to Part 16-22 for replacement procedures.

EXHAUST SHIELD REPAIR AND/OR REPLACEMENT—ALL VEHICLES SO EQUIPPED

Exhaust shields, consisting of formed metal sheets, attach to the exhaust system or the catalytic converter connections using various methods.

Car Line	Model			System	Number of Converters			Engines						Released For		
	Sedan	Sta. Wagon	Ran- chero		D	1	2	2.3L	2.8L	3.3L (200 CID)	4.1L (250 CID)	5.0L (302 CID)	5.8L (351 CID)	49S	Can.	Cal.
Pinto/ Bobcat	X	X		Single		X		X	X					X	X	
	X	X		Single		X		X	X							X
	X	X		Single	X			X								
Mustang II	X			Single		X		X	X			X		X	X	X
	X			Single		X		X						X	X	
Fairmont/ Zephyr	X	X		Single		X		X		X		X		X	X	
	X	X		Single		X		X		X		X				X
	X	X		Single	X			X						X		
Granada/ Monarch	X			Single		X				X	X	X		X	X	
	X			Single		X					X	X				X
	X			Single	X							X		X		
Versailles	X			Single		X							X	X	X	
	X			Single		X						X				X

								5.0L (302 CID)	5.8L (351W CID)	5.8L (351M CID)	6.6L (400 CID)	7.5L (460 CID)	7.5L (460 CID) P.I.			
LTD II	X		X	Single			X	X						X	X	
	X		X	Single			X		X	X				X		X
	X		X	Single			X		X	X						X
	X		X	Single	X				X	X					X	
Cougar	X			Single			X	X						X	X	
	X			Single			X		X	X				X		X
	X			Single	X		X		X	X					X	
	X			Single			X		X	X						X
Thunder- bird	X			Single			X	X						X	X	
	X			Single			X							X	X	
	X			Single	X										X	X
Ford/ Mercury	X			Single			X		X	X				X	X	
	X	X		Single			X				X			X	X	X
	X	X		Single			X							X	X	
	X	X		Single			X							X	X	
	X			Dual Single	X					X			X		X	X

								6.6L (400 CID)	7.5L (460 CID)							
Lincoln	X			Single			X	X						X	X	X
	X			Single			X		X					X	X	
Mark V	X			Single			X		X					X	X	
	X			Dual			X		X					X	X	
	X			Single			X	X						X	X	X

CU1497-2F

FIG. 1 Exhaust System Applications

Exhaust shields are not subject to repair other than replacing missing or damaged attaching parts such as clamps or screws, and removing debris that may collect in the shield area. If an exhaust shield is damaged or shows evidence of deterioration it should be replaced rather than repaired.

Removal/Installation procedures are, in most cases, a matter of removing the shield attachments and shield; installation is the reverse process using new parts. The illustrations in each Part indicate the types and proper positioning of exhaust shields and clamps.

REPAIR

CATALYTIC CONVERTER FASTENER

Catalytic converters need not be replaced just because they have broken studs, stripped threads or loose nuts. The following procedure is recommended for repairing these fasteners:

Converters with Threaded Flanges

Remove damaged studs and install new studs or a bolt of suitable length. If the flange thread has minor damage, retap the hole with a 3/8"-16 tap. If the flange thread cannot be repaired, resize the hole with a 13/32" drill and use a 3/8" diameter bolt of suitable

length and a locking nut. See the following chart for replacement studs and appropriate lengths.

Converter	Flange	Stud Thread and Length
4" Round	Outlet	3/8 - 16 X 2.83"
	Inlet	3/8 - 16 X 1.50"
5" Round	Outlet	3/8 - 16 X 1.50"
4" x 7"	Outlet	3/8 - 16 X 3.25"
	Inlet	3/8 - 16 X 2.00"

Note: Use 45358-S7 Nut for all applications.

CN4040-1A

Converters with Loose Clinch or Weld Nuts in the Flange

1. Remove the loose nut.
2. Dress the flange surface upon which the bolt and washer will rest.
3. Fasten the joint with a suitable 3/8" bolt, lock nut and flat washer between the bolt head and the dressed flange surface.

I-4 Single Exhaust System

PART
26-02

Pinto, Bobcat, Mustang II, Fairmont and Zephyr

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION	02-1	REMOVAL AND INSTALLATION (Cont'd.)	
REMOVAL AND INSTALLATION		Non-Catalytic System	02-1
Catalytic Converter	02-5	Muffler Assembly	02-5
Inlet Pipe — (Front) With			
Catalytic Converter	02-1		

CN4055-2B

DESCRIPTION

All four-cylinder I-4 engines use a single-pipe type exhaust system. The production exhaust system shown in the illustrations in this Part differs from the service replacement system in the number of basic pieces used.

Factory installed exhaust systems have two pieces for a non-converter system and three pieces for a converter system. The non-converter System has an inlet pipe which connects to the engine exhaust manifold, and a muffler inlet pipe, muffler and tailpipe, all welded together. On catalytic converter system, the converter

assembly is a bolt on unit connected between the inlet pipe and the muffler. Flat flange connections are used between the inlet pipe and the converter, while ball joint connections are used between the converter and the muffler.

The exhaust system is usually serviced in three pieces for a non-converter system and four pieces for a converter system. The rear section of the muffler inlet pipe (intermediate muffler inlet) is furnished separate from the muffler. For exact service replacement parts information, refer to the master parts catalog.

REMOVAL AND INSTALLATION

Typical factory installed exhaust systems for the 2.3L I-4 engines are shown in Figs. 1 thru 3.

NON-CATALYTIC SYSTEM

Removal

1. Raise the vehicle.
2. Remove the screws that attach the front hanger insulator to the inlet pipe bracket.
3. Support the muffler assembly with a soft wire and remove the inlet pipe to muffler assembly slip joint clamp.
4. Remove the attaching nuts securing the inlet pipe to the exhaust manifold and remove the inlet pipe.
5. Replace any damaged parts.

Installation

1. Clean the exhaust manifold outlet seat.
2. Insert the inlet pipe in the muffler pipe and install but do not tighten the clamp.
3. Position the inlet pipe to the manifold flange and loosely install the attaching nuts.
4. Loosely attach the front hanger insulator to the inlet pipe bracket.
5. Align the exhaust system to conform to clearance specifications. Starting at the rear of the system, torque all nuts, screws or bolts.
6. Check the system for leaks and lower the vehicle.

INLET PIPE—(FRONT) WITH CATALYTIC CONVERTER

Removal

1. Raise the vehicle.
2. Support the muffler assembly with a soft wire.
3. Remove the bolts that attach the converter inlet flange to the inlet pipe.
4. Remove the screws that attach the front hanger to the inlet pipe.
5. Remove the nuts attaching the inlet pipe flange to the exhaust manifold and remove the inlet pipe.
6. Replace any damaged parts.

Installation

1. Clean the exhaust manifold and catalytic converter flange seats.
2. Position the inlet pipe to the manifold and install but do not tighten the attaching nuts.
3. Install the front hanger to inlet pipe. Do not tighten the attaching screws.
4. Using a new gasket, position the inlet pipe to the catalytic converter. Align the upper (and lower if so equipped) heat shield, to the converter inlet flange and loosely start the attaching bolts.
5. Remove the wire support for the muffler assembly.

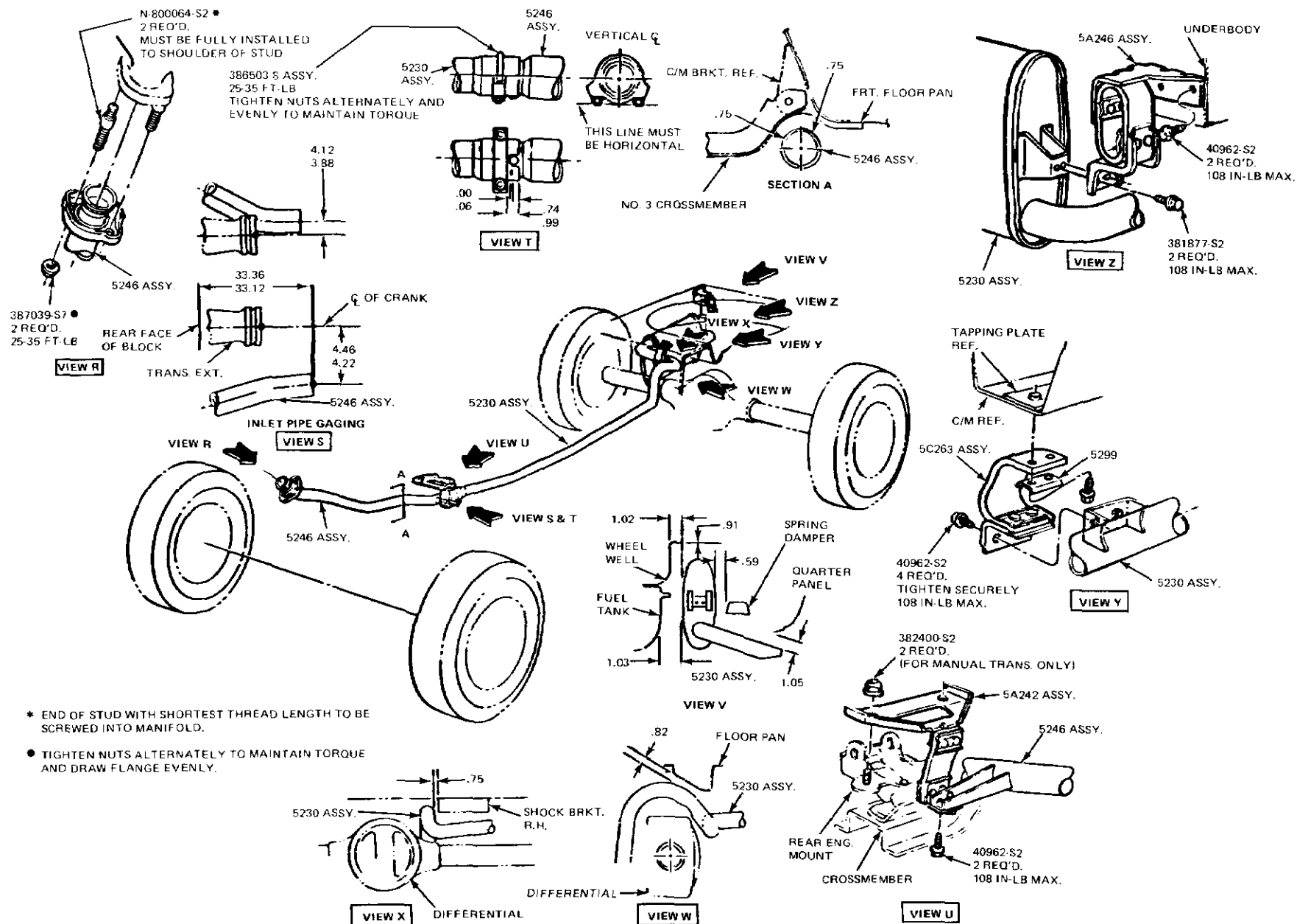


FIG. 3 Exhaust System—Pinto/Bobcat Station Wagon Without Converter

6. Align the exhaust system to proper clearance specifications and starting at the front, tighten all nuts, screws, and bolts to specification.
7. Check the exhaust system for leaks and lower the vehicle.

MUFFLER ASSEMBLY

Removal

1. Raise the vehicle by means of the frame lift points to allow the axle full downward travel. This will provide the clearance necessary to remove and replace the muffler and pipe.
2. Non-catalytic converter vehicles—loosen and remove the inlet pipe clamp.
3. Catalytic converter equipped vehicles—remove the rear converter to muffler pipe flange connection attaching nuts.
4. Remove the attaching screws from the rear hanger assembly to muffler support.
5. Slide the muffler assembly rearward to disconnect it from the catalytic converter.
6. Remove the attaching screws from the intermediate support on the muffler inlet pipe and remove the muffler assembly.
7. Replace any damaged parts.

Installation

1. Position the muffler assembly over the rear axle and loosely attach the intermediate support bracket.
2. Non-catalytic converter vehicles—assemble the muffler assembly to the inlet pipe from the manifold and loosely attach the retaining clamp.

3. Catalytic converter vehicles—position the muffler inlet pipe flange to the converter flange. Install but do not tighten the attaching nuts.
4. Position the muffler rear support bracket and loosely install the attaching screws.
5. Align the exhaust system to conform to the proper clearance specifications and, starting from the muffler inlet pipe connection, torque all nuts and screws to specifications.
6. Check the system for leaks and lower the vehicle.

CATALYTIC CONVERTER

Removal

1. Raise the vehicle.
2. Remove the upper and lower heat shields, if so equipped, attached to the converter.
3. Remove the front and rear catalytic converter flange fasteners.
4. Separate the catalytic converter inlet and outlet flange connections.
5. Remove the converter.

Installation

1. Align the heat shield brackets to the inner flanges on the converter and position the catalytic converter to the inlet pipe using a new gasket. Loosely install the attaching bolts.
2. Install the muffler inlet flange to the converter outlet flange. Loosely install the attaching nuts.
3. Attach the heat shields to the converter.
4. Align the exhaust system to specification and starting at the front of the system, tighten all nuts and bolts to specification.
5. Check the system for leaks and lower the vehicle.

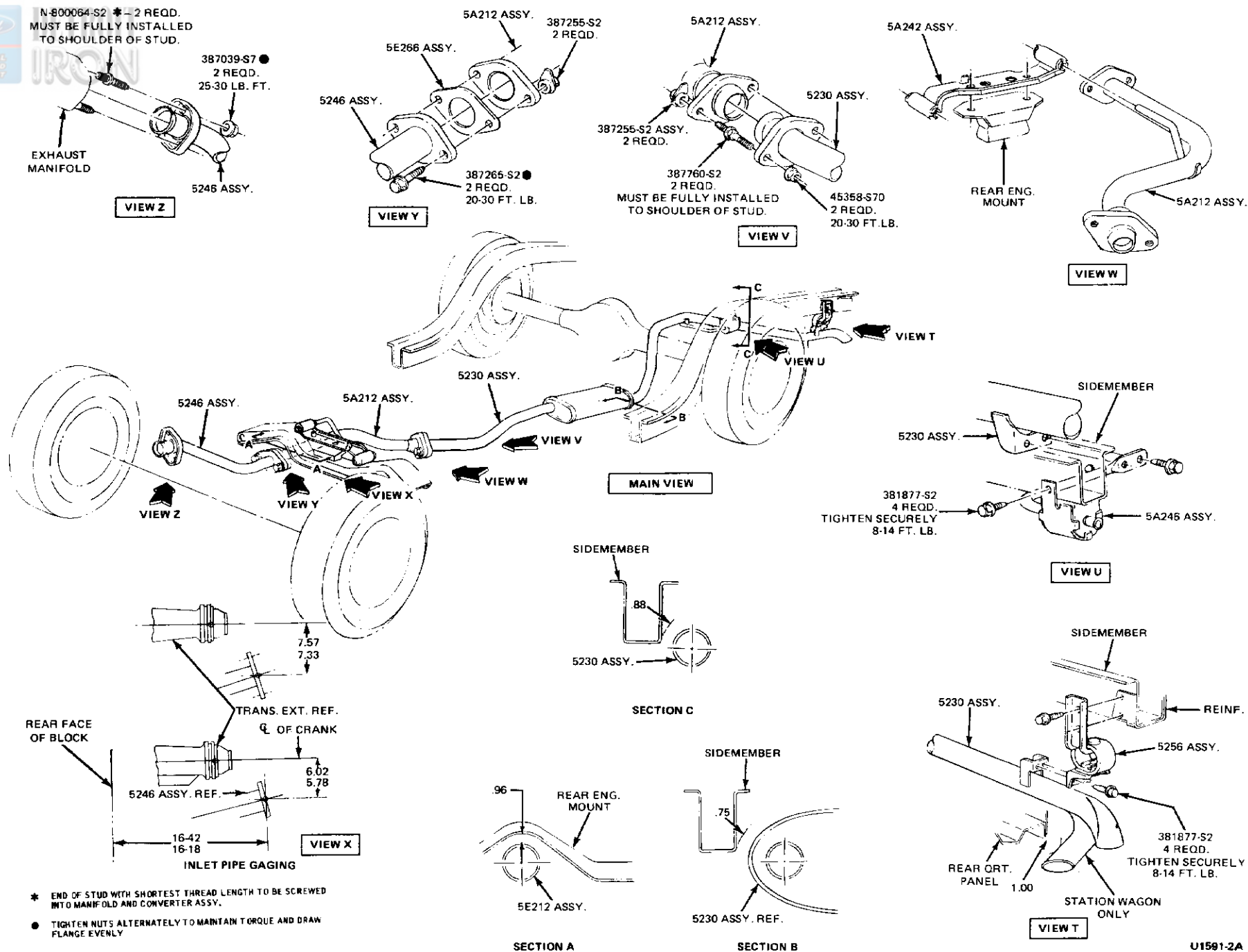


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FIG. 6 Exhaust System—Pinto/Bobcat Sedan with Converter

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V-6 Single Exhaust System

PART
26-03

Pinto, Bobcat and Mustang II

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION	03-1	REMOVAL AND INSTALLATION (Cont'd.)	
REMOVAL AND INSTALLATION		Inlet Pipe	03-1
Catalytic Converter	03-1	Muffler and Resonator	03-1

CN4059-2B

DESCRIPTION

All 2.8L V-6 engines are equipped with a single exhaust system. The factory installed system shown in the illustrations in this Part consists of the welded "Y"-pipe, one catalytic converter and either a muffler assembly or muffler and resonator assembly (used only on the Mustang II). The exhaust system is

usually serviced in separate pieces consisting of an inlet pipe, catalytic converter, resonator and inlet pipe assembly (if so equipped) and a muffler and tailpipe assembly. For exact service replacement parts information, refer to the master parts catalog.

REMOVAL AND INSTALLATION

INLET PIPE—(FRONT)

Removal

1. Raise the vehicle.
2. Support the muffler assembly with a soft wire.
3. Remove the screws that attach the front hanger insulator to the inlet pipe bracket.
4. Remove the bolts that attach the converter inlet flange to the inlet pipe.
5. Remove the nuts attaching the inlet pipe flange to the exhaust manifold and remove the inlet pipe.
6. Replace any damaged parts.

Installation

1. Clean the exhaust manifold and catalytic converter flange seats.
2. Position the inlet pipe to the manifold and install but do not tighten the attaching nuts.
3. Install the front hanger bracket insulator to inlet pipe bracket. Do not tighten the attaching screws.
4. Using a new gasket, position the inlet pipe to the catalytic converter. Align the upper and lower heat shield to the converter inlet flange and loosely start the attaching bolts.
5. Remove the wire support for the muffler assembly.
6. Align the exhaust system to proper clearance specifications and starting at the front, tighten all nuts, screws, and bolts to specification.
7. Check the exhaust system for leaks and lower the vehicle.

MUFFLER AND RESONATOR

Removal

1. Raise the vehicle by means of the frame lift points to allow the axle full downward travel. This will

provide the clearance necessary to remove and replace the muffler and pipe.

2. Catalytic converter equipped vehicles—remove the rear converter to muffler or resonator pipe flange connection attaching nuts.
3. Remove the attaching screws from the rear hanger assembly to muffler support.
4. Slide the muffler assembly rearward to disconnect it from the catalytic converter.
5. Remove the attaching screws from the intermediate support on the muffler inlet pipe and remove the muffler assembly.
6. Replace any damaged parts.

Installation

1. Position the muffler assembly over the rear axle and loosely attach the intermediate support bracket.
2. Catalytic converter vehicles—position the muffler inlet pipe flange to the converter flange. Install but do not tighten the attaching nuts.
3. Position the muffler rear support bracket and loosely install the attaching screws.
4. Align the exhaust system to conform to the proper clearance specifications and, starting from the muffler inlet pipe connection, torque all nuts and screws to specifications.
5. Check the system for leaks and lower the vehicle.

CATALYTIC CONVERTER

Removal

1. Raise the vehicle.
2. Remove the upper and lower heat shields, if so equipped, attached to the converter.
3. Remove the front and rear catalytic converter flange fasteners.

4. Separate the catalytic converter inlet and outlet flange connections.
5. Remove the converter.
6. Replace any damaged parts.

Installation

1. Align the heat shield brackets to the inner flanges on the converter and position the catalytic converter to the inlet pipe using a new gasket. Loosely install the attaching bolts.
2. Install the muffler inlet flange to the converter outlet flange. Loosely install the attaching nuts.
3. Attach the heat shields to the converter.
4. Align the exhaust system to specification and starting at the front of the system, tighten all nuts and bolts to specification.
5. Check the system for leaks and lower the vehicle.

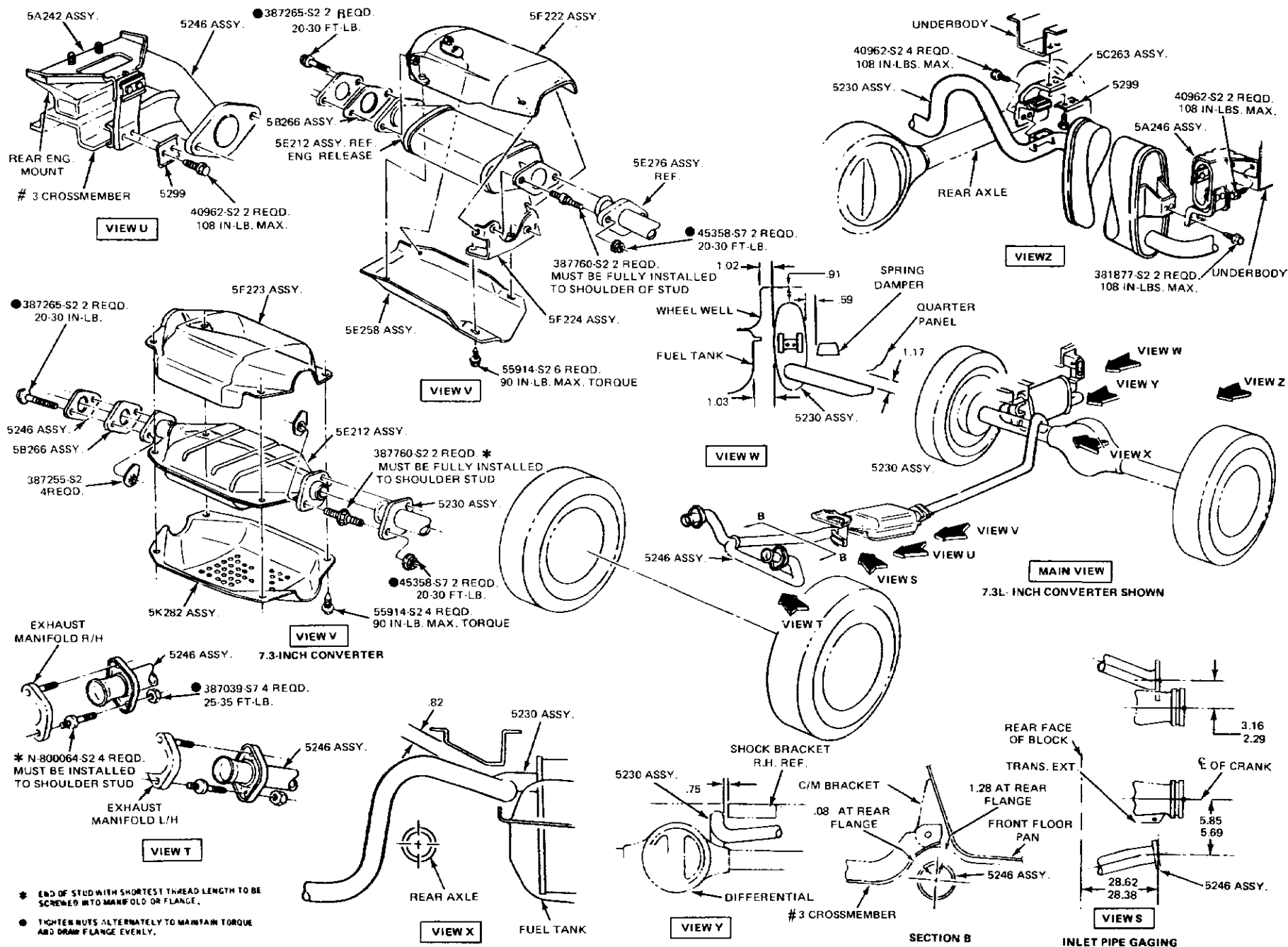


FIG. 2 Exhaust System—Pinto/Bobcat Station Wagon—with Converter



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6-Cylinder Engine Single Exhaust System

**PART
26-10**

Granada, Monarch, Fairmont and Zephyr

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION	10-1	REMOVAL AND INSTALLATION (Cont'd.)	
REMOVAL AND INSTALLATION		Muffler and Resonator	10-2
Resonator Inlet Pipes	10-1	Catalytic Converter	10-2

CN4035-2B

DESCRIPTION

All 3.3L (200 CID) and 4.1L (250 CID) I-6 engines have basically the same type single muffler exhaust system. (See illustrations in this Part.) These systems have a resonator inlet pipe, resonator, resonator outlet pipe and a muffler. On some systems, a catalytic converter is used between the resonator inlet pipe and the resonator.

Service replacement parts for these exhaust systems usually consist of more pieces than do the factory-installed systems shown in the illustrations. Refer to the master parts catalog for information on the available service assemblies.

REMOVAL AND INSTALLATION

RESONATOR INLET PIPE (FRONT) WITHOUT CATALYTIC CONVERTER

Removal

1. Raise the vehicle.
2. Support the resonator/muffler assembly with soft wire.
3. Remove the bolts that attach the inlet pipe to the resonator/muffler flange.
4. Remove the bolts that attach the front hanger bracket to the inlet pipe (Granada and Monarch). Remove the bolts that attach the inlet pipe extension to the inlet pipe and slide the extension pipe rearward out of the front hanger (Fairmont/Zephyr).
5. Remove the inlet pipe to exhaust manifold attaching nuts and remove the inlet pipe from the vehicle.

Installation

1. Clean the exhaust manifold outlet seat.
2. Position the inlet pipe to the exhaust manifold and loosely install the attaching nuts. Be sure the gasket is properly seated in the exhaust manifold.
3. Install the bolts that attach the front hanger bracket to the inlet pipe and tighten (Granada and

Monarch). Slide the extension pipe mounting rod into the front hanger, align the inlet pipe to the extension pipe, install bolts and tighten (Fairmont and Zephyr).

4. Align the resonator/muffler assembly to flange on the inlet pipe or inlet extension pipe and loosely assemble bolts.
5. Align the exhaust system to conform to clearance specifications shown.
6. Starting from the exhaust manifold, tighten all screws, nuts or bolts to specification.
7. Check the exhaust system for leaks and lower the vehicle.

RESONATOR INLET PIPES (FRONT) WITH CATALYTIC CONVERTER

Removal

1. Raise the vehicle.
2. Support the resonator/muffler assembly with a soft wire.
3. Remove the bolts that attach the converter inlet flange to the inlet pipe.
4. Remove the bolts that attach the front hanger bracket to the inlet pipe bracket (Granada and Monarch).

5. Remove the nuts attaching the inlet pipe flange to the exhaust manifold and remove the inlet pipe.
6. Replace any damaged parts.

Installation

1. Clean the exhaust manifold and catalytic converter flange seats.
2. Position the inlet pipe to the exhaust manifold and loosely install the attaching nuts. Be sure the gasket is properly seated in the exhaust manifold.
3. Install the front hanger bracket to inlet pipe bracket. Do not tighten the attaching bolts (Granada and Monarch).
4. Using a new gasket, position the inlet pipe to the catalytic converter. Align the upper and lower heat shield, (if so equipped) to the converter inlet flange and loosely start the attaching bolts.
5. Remove the wire support from the resonator/muffler assembly.
6. Align the exhaust system to conform to clearance specifications and starting at the front, tighten all nuts, screws, and bolts to specification.
7. Check the exhaust system for leaks and lower the vehicle.

MUFFLER AND RESONATOR ASSY

Removal

1. Raise the vehicle by means of the frame lift points to allow the axle full downward travel. This will provide the clearance necessary to remove and replace the resonator and muffler assembly.
2. Non-catalytic converter vehicles—loosen and remove bolts that attach muffler/resonator to inlet pipe flange.
3. Catalytic converter equipped vehicles—remove the rear converter to resonator pipe flange connection attaching nuts.
4. Remove the attaching screws from the rear hanger assembly to muffler support (on vehicles so equipped).
5. Slide the resonator and muffler assembly rearward until the resonator pipe is separated from the inlet pipe or catalytic converter.
6. Remove the attaching screws from the intermediate support bracket to resonator and remove the resonator and muffler assembly.
7. Replace any damaged parts.

Installation

1. Position the resonator and muffler assembly over the rear axle and loosely attach the intermediate support bracket.

2. Non-catalytic converter vehicles—assemble the resonator assembly to the inlet pipe and loosely attach resonator/muffler.
3. Catalytic converter vehicles—position the resonator inlet pipe flange to the converter flange. Install but do not tighten the attaching nuts.
4. Position the muffler rear support bracket and loosely install the attaching screws.
5. Align the exhaust system to conform to the proper clearance specifications and, starting from the resonator inlet pipe connection, torque all nuts and screws to specifications.
6. Check the system for leaks and lower the vehicle.

CATALYTIC CONVERTER

Removal

1. Raise the vehicle.
2. Loosen the intermediate and rear exhaust system hanger bracket attaching bolts.
3. Remove the upper and lower heat shields, if so equipped, attached to the converter (Granada and Monarch).
4. Remove the front and rear catalytic converter flange fasteners.
5. Slide the resonator/muffler assembly rearward and separate the catalytic converter inlet and outlet flange connections.
6. Remove the converter.
7. Remove upper heat shield/hanger assembly and grass shield from catalytic converter (Fairmont and Zephyr).

Installation

1. (Granada and Monarch) Align the heat shield brackets to the inner flanges on the converter and position the catalytic converter to the inlet pipe using a new gasket. Loosely install the attaching bolts. (Fairmont and Zephyr) Install heat shield/hanger assembly and grass shield to catalytic converter and slide assembly into front hanger. Position new gasket between catalytic converter and inlet pipe and install attaching bolts to the specified torque.
2. Install the resonator inlet flange to the converter outlet flange. Loosely install the attaching nuts.
3. Attach the heat shields to the converter (Granada and Monarch).
4. Align the exhaust system to specification and starting at the front of the system, tighten all nuts and bolts to specification.
5. Check the system for leaks and lower the vehicle.

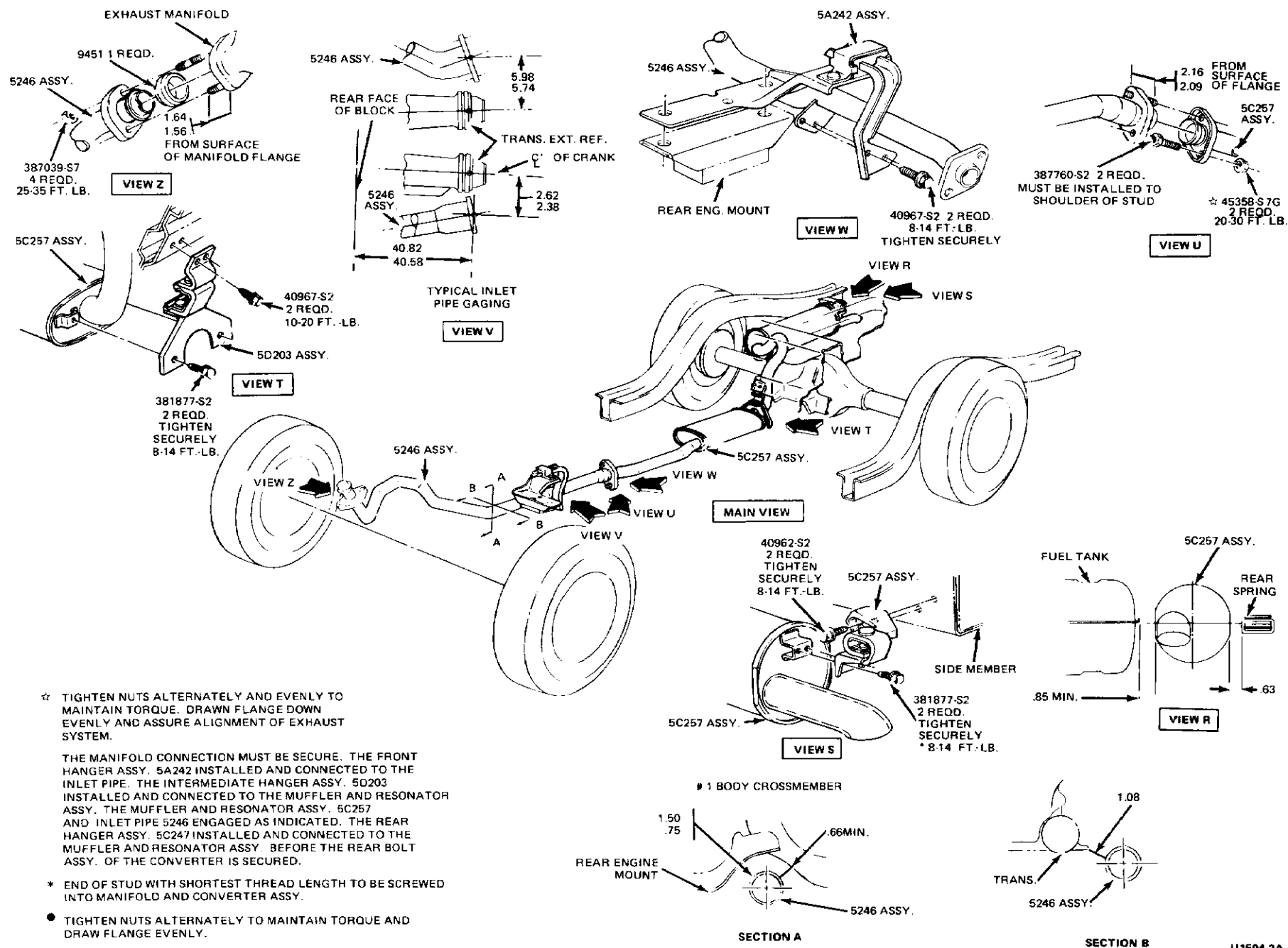


FIG. 1 Exhaust System—Granada and Monarch without Converter



FIG. 2 Exhaust System—Granada and Monarch with Converter

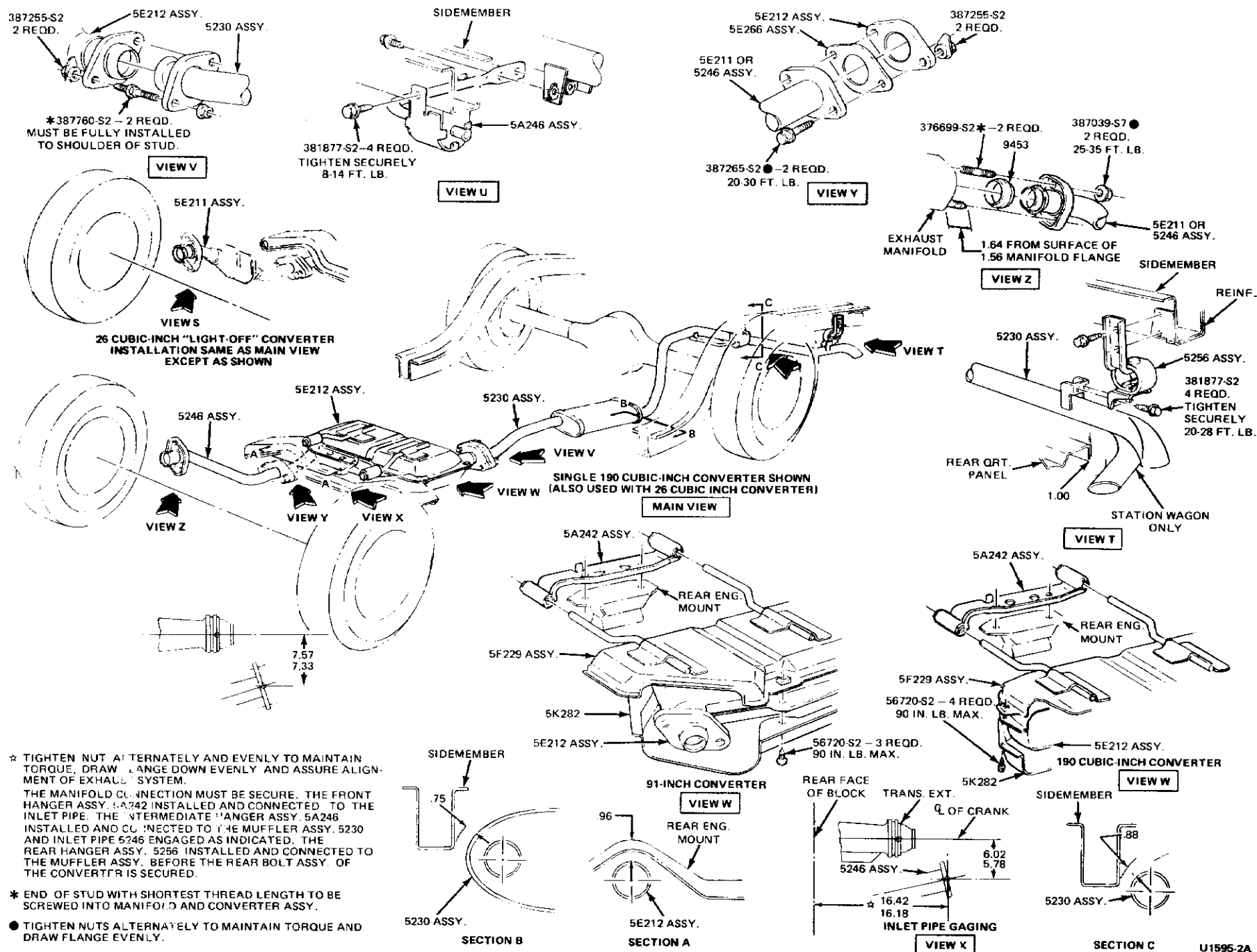


FIG. 3 Exhaust System—Fairmont and Zephyr with Converter(s)

V-8 Single Exhaust System

PART
26-20

Except Pinto/Bobcat

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION	20-1	REMOVAL AND INSTALLATION	20-1

CN4044-2B

DESCRIPTION

The basic single exhaust system used with V-8 engines consists of a muffler and a resonator and/or diffuser. This basic system is subject to the addition of one or two catalytic converters as indicated in the exhaust systems application chart, Section 26-01.

The factory-installed exhaust systems shown in the illustrations in this Part differ from the service

replacement systems in the number of pieces used. When making a service replacement, refer to the master parts catalog for the current assemblies.

Detailed illustrations of the various V-8 Single Exhaust Systems are found in Figs. 1 through 10.

REMOVAL AND INSTALLATION

The removal and installation procedures given apply to all vehicle models unless otherwise noted. Refer to the appropriate system illustration when servicing exhaust system.

RESONATOR "Y" PIPE (FRONT) WITHOUT CATALYTIC CONVERTER—GRANADA, MONARCH AND VERSAILLES

Removal

1. Raise the vehicle.
2. Remove the bolts which attach the muffler/resonator to the inlet pipe.
3. Loosen the attaching screws at the muffler rear hanger support.
4. Slide the resonator/muffler assembly rearward to disengage the "Y" pipe.
5. Remove the attaching nuts securing the resonator inlet "Y" pipe to the exhaust manifolds and front hanger and remove the "Y" pipe from the vehicle.

Installation

1. Clean the exhaust manifold outlet seat.
2. Position the "Y" pipe to the exhaust manifold and loosely install the attaching nuts. Be sure the gasket is properly seated in the exhaust manifold.
3. Secure the "Y" pipe to the front hanger and tighten to specified torque. Install muffler/resonator to inlet pipe and install but do not tighten bolts.
4. Align the exhaust system to conform to clearance specifications shown in (Fig. 2).

5. Starting from the exhaust manifold, tighten all screws, nuts or bolts to specifications.
6. Check the exhaust system for leaks and lower the vehicle.

RESONATOR INLET PIPE (FRONT) WITH CATALYTIC CONVERTER

Removal

1. Raise the vehicle.
2. Support the resonator/muffler assembly with a soft wire (Granada, Monarch and Versailles).
3. Remove the bolts that attach the converter inlet flange to the "Y" pipe.
4. Remove the bolts that attach the front hanger bracket to the inlet pipe bracket. (Granada, Monarch and Versailles).
5. Remove the nuts attaching the "Y" pipe flange to the exhaust manifold and remove the inlet pipe.
6. Replace any damaged parts.

Installation

1. Clean the exhaust manifold and catalytic converter flange seats.
2. Position the inlet "Y" pipe to the exhaust manifold and loosely install the attaching nuts. Be sure the gasket is properly seated in the exhaust manifold.
3. Install the front hanger bracket to inlet pipe bracket. Do not tighten the attachment bolts. (Granada, Monarch and Versailles).
4. Using a new gasket, position the inlet pipe to the catalytic converter. Align the upper and lower heat

- shield (if so equipped) to the converter inlet flange and loosely start the attaching bolts.
- Remove the wire support from the resonator/muffler assembly. (Granada, Monarch and Versailles).
 - Align the exhaust system to conform to clearance specifications shown in Fig. 2 and starting at the front, tighten all nuts, screws, and bolts to specification.
 - Check the exhaust system for leaks and lower the vehicle.

RESONATOR INLET PIPE—MUSTANG II

Removal

- Raise the vehicle.
- Support the resonator/muffler assembly with a soft wire. (See Fig. 1.)
- Remove the bolts that attach the converter inlet flange to the inlet pipe.
- Remove the bolts that attach the front hanger bracket to the inlet pipe bracket.
- Remove the nuts attaching the inlet pipe flange to the exhaust manifold and remove the inlet pipe.
- Replace any damaged parts.

Installation

- Clean the exhaust manifold and catalytic converter flange seats.
- Position the inlet pipe to the exhaust manifold and loosely install the attaching nuts. Be sure the gasket is properly seated in the exhaust manifold.
- Install the front hanger bracket to inlet pipe bracket. Do not tighten the attachment bolts.
- Using a new gasket, position the inlet pipe to the catalytic converter. Align the upper and lower heat shield (if so equipped) to the converter inlet flange and loosely start the attaching bolts.
- Remove the wire support from the resonator/muffler assembly.
- Align the exhaust system to conform to clearance specifications shown in Fig. 1 and starting at the front, tighten all nuts, screws, and bolts to specification.
- Check the exhaust system for leaks and lower the vehicle.

MUFFLER INLET "Y" PIPE SINGLE EXHAUST—LTD II, COUGAR, THUNDERBIRD, FORD, MERCURY, LINCOLN CONTINENTAL AND CONTINENTAL MARK V

Removal

- Raise the vehicle.
- Units equipped with exhaust shields

Remove the screws and clamps that secure the shields to the right hand and left hand catalytic converter assemblies and remove shields.
- Support the muffler in car position with a soft wire.
- Remove the "U" bolt clamp at the muffler inlet connection and discard.
- Units without catalytic converters

Remove and discard the nuts attaching the inlet "Y" pipe to the right hand and left hand manifolds.

Disengage the inlet "Y" pipe from the manifolds.

- Units with catalytic converters

Remove and discard the bolts attaching the inlet "Y" pipe flat flanges to the converter flat flanges.
- Units with shields

Remove the brackets used to attach the flat flanges and shields.
- Units without shields

Remove and discard the flag nut assemblies.

Disengage the inlet "Y" pipe from the catalytic converter and discard gaskets (both sides).
- Separate the inlet "Y" pipe from the muffler slip joint connection. If it is necessary to obtain clearance to separate the inlet pipe joints, remove the rear hanger to outlet pipe attachments.

Installation

- Units without catalytic converters

Clean manifold spherical gasket faces.
- Units with catalytic converters

Clean converter flat flange faces.

Loosen manifold nuts, right hand and left hand, enough to allow converter movement without binding.
- Slide a new "U" bolt clamp over the outlet end of the inlet "Y" pipe.
- Insert the inlet pipe into the muffler slip joint and loosely secure the "U" bolt clamp. The inlet pipe tab must fully engage the muffler alignment slot.
- Units without catalytic converters

Position the inlet pipe to the manifolds and loosely install new attaching nuts.
- Units with catalytic converters

Install new gaskets between the inlet "Y" pipe flat flange and the right hand and left hand catalytic converters and position the converter to the "Y" pipe.

Install new bolts at each of the right hand and left hand catalytic converter/inlet pipe flat flange joints.
- On units without shields

Install a new flag nut to each bolt and alternately torque the bolts to specification.
- On units with shields

Install a bracket assembly (shield and flange attaching) to the forward side of the left hand and right hand catalytic converter flat flange. Engage the bolts and alternately torque to specification.
- Align the system to specification, see Figs. 4 through 10.
- With the system held to alignment specification:

Assure that the inlet pipe tab is fully engaged into the muffler alignment slot and alternately torque the "U" bolt nuts to specification.

Alternately torque the right hand and left hand manifold nuts to specification.

Tighten the rear hanger to outlet pipe attachments to specification, if required.

NOTE: Alternate torque of joint fasteners is required to provide uniform clamping in order

to prevent joint distortion, a major cause of leaks and system misalignment.

11. Remove alignment restraints and soft wire muffler supports.
12. Check the exhaust system for leaks and proper alignment.
13. On applicable models, install catalytic converter exhaust shields, left hand and right hand, to specification.
14. Lower the vehicle.

MUFFLER AND RESONATOR—GRANADA, MONARCH, FAIRMONT, ZEPHYR AND VERSAILLES

Removal

1. Raise the vehicle on a hoist that permits the axle to lower to the full extent of its travel. This will provide the clearance necessary to replace the muffler and resonator.
2. Without catalytic converter—remove the inlet flange attaching bolts at the connection with resonator pipe.
3. With catalytic converter—remove the rear converter flange attaching nuts.
4. Remove the attaching screws from the rear hanger assembly to muffler support (if so equipped).
5. Slide the resonator and muffler assembly rearward to disconnect it from the inlet pipe or the catalytic converter flange.
6. Remove the attaching screws from the intermediate support to resonator assembly and remove resonator, connecting pipe and muffler.
7. Replace damaged parts.

Installation

1. Position the muffler to the rear hanger bracket and loosely install the screws (if so equipped).
2. Position the resonator and muffler assembly to the inlet "Y" pipe or converter flange connection. The converter seat must be cleaned prior to attaching the resonator pipe. Loosely install flange attaching nuts.
3. Position the resonator in the intermediate hanger bracket and loosely install the attaching screws.
4. Align the exhaust system to conform to the clearance specifications.
5. Starting from the inlet "Y" pipe outlet end, torque all nuts and bolts to specifications.
6. Check the system for leaks.
7. Lower the vehicle.

MUFFLER AND RESONATOR ASSEMBLY—MUSTANG II

Removal

1. Raise the vehicle by means of the frame lift points to allow the axle full downward travel. This will provide the clearance necessary to remove and replace the muffler, resonator and pipe.
2. Remove the rear converter to resonator pipe flange and U-bolt connection attaching nuts (Fig. 1).

3. Remove the attaching screws from the rear hanger assembly to muffler support.
4. Slide the muffler and resonator assembly rearward to disconnect it from the catalytic converter pipe.
5. Remove the attaching screws from the intermediate support on the muffler inlet pipe and remove the resonator/muffler assembly.
6. Replace any damaged parts.

Installation

1. Clean the catalytic converter flange seat.
2. Position the resonator and muffler assembly over the rear axle and loosely attach the intermediate support bracket.
3. Position the muffler rear support bracket and loosely install the attaching screws.
4. Position the resonator pipe and flange to the converter flange and slip joint. Install but do not tighten the attaching nuts.
5. Align the exhaust system to conform to the proper clearance specifications and, starting from the resonator pipe connection, torque all nuts and screws to specifications.
6. Check the system for leaks and lower the vehicle.

MUFFLER ASSEMBLY—LTD II, THUNDERBIRD, COUGAR, FORD, MERCURY, LINCOLN CONTINENTAL AND CONTINENTAL MARK V

Removal

1. Raise the vehicle on a hoist that permits the rear axle to lower to the full extent of its travel. This will provide the clearance necessary to remove the muffler assembly.
2. Support the muffler inlet pipe with a soft wire and remove the "U" bolt clamp at the inlet pipe to muffler inlet connection.
3. Remove the rear support bracket to muffler assembly attachment screws.
4. Remove the screws securing the intermediate support bracket to the muffler.
5. Separate the muffler to inlet pipe connection and remove the muffler assembly.

Installation

1. Slide a new "U" bolt clamp over the outlet end of the inlet pipe.
2. Position the muffler assembly on the inlet pipe and loosely install the clamp. Be sure that the tab is fully inserted into the locating slot and muffler.
3. Position the muffler to the intermediate support bracket. Install the attaching screws to specification.
4. Attach the screws holding the rear support bracket and tighten to specification.
5. Align the exhaust system to conform to the clearance specifications.

NOTE: If specified alignment specifications cannot be obtained, the right hand and left hand manifold attachments should be loosened. After specifications are obtained, tighten the manifold

attaching nuts to specification while holding clearances.

6. Position and alternately torque the "U" bolt clamp nuts at the inlet pipe to muffler connection to specification. Be sure the tab and slot are properly engaged.
7. Remove the temporary wire supports, check the system for leaks, and lower the vehicle.

CATALYTIC CONVERTER—MUSTANG II/ GRANADA/MONARCH/FAIRMONT/ ZEPHYR

Removal

1. Raise the vehicle.
2. Remove the upper and lower heat shields, if so equipped, attached to the converter.
3. Remove the front and rear catalytic converter flange fasteners.
4. Separate the catalytic converter inlet and outlet flange connections.
5. Remove the converter.
6. Remove the heat shield/hanger assembly and grass shield from the catalytic converter (Fairmont and Zephyr).
7. Replace any damaged parts.

Installation

1. Secure heat shield/hanger assembly and grass shield to catalytic converter (Fairmont and Zephyr).
2. Align the heat shield brackets to the inner flanges on the converter (if so equipped) and position the catalytic converter to the inlet pipe using a new gasket. Loosely install the attaching bolts.
3. Install the muffler inlet flange to the converter outlet flange. Loosely install the attaching nuts.
4. Attach the heat shields to the converter.
5. Align the exhaust system to specification and starting at the front of the system, tighten all nuts and bolts to specification.
6. Check the system for leaks and lower the vehicle.

CATALYTIC CONVERTER—LTD II, THUNDERBIRD, COUGAR, FORD, MERCURY, CONTINENTAL MARK V AND LINCOLN CONTINENTAL

Removal

1. Raise the vehicle.

2. Remove the exhaust shield(s), if so equipped, from the catalytic converter(s). (See Figs. 4-10.)
3. Support the exhaust inlet pipe in its relative position by securing the pipe to the No. 3 frame crossmember with soft wire.
4. Remove and discard bolts attaching the converter and inlet "Y" pipe flat flanges (both sides).
Units with shields, remove the brackets that attach the shields and flat flanges (both sides).
Units without shields, remove and discard flag nut assemblies (both sides).
5. Remove the converter flange attaching nuts holding the converters to the exhaust manifold (both sides).
6. Slide the inlet pipe rearward until the catalytic converter(s) can be removed. It may be necessary to disconnect the rear hanger-to-outlet pipe attachment to obtain sufficient clearance to separate the converter at manifold connection(s).
7. Discard gasket(s) and damaged parts.

Installation

1. Clean the inlet "Y" pipe flange face.
2. Position the catalytic converter(s) to the exhaust manifold. Loosely install the attaching nuts.
3. Install new gaskets between the inlet "Y" pipe/converter flat flanges. Position the inlet pipe flange to the converter outlet flange connections and insert new attaching bolts. On units without shields, loosely install flag nuts to the bolts, and on units with shields, position attaching brackets forward of the converter flat flange and loosely engage the bolts.
4. Alternately tighten the converter to inlet pipe flange connection(s) to specification.
5. Align the system to proper clearance specifications.
6. Alternately tighten the manifold nuts to specification.
7. Check the system for leaks.

NOTE: Alternate torque of joint fastener is required to provide uniform clamping in order to prevent joint distortion, a major cause of system leaks and misalignment.

8. Install the exhaust shield(s) to the catalytic converter(s) to specification. See Figs. 4-10.
9. Lower the vehicle.

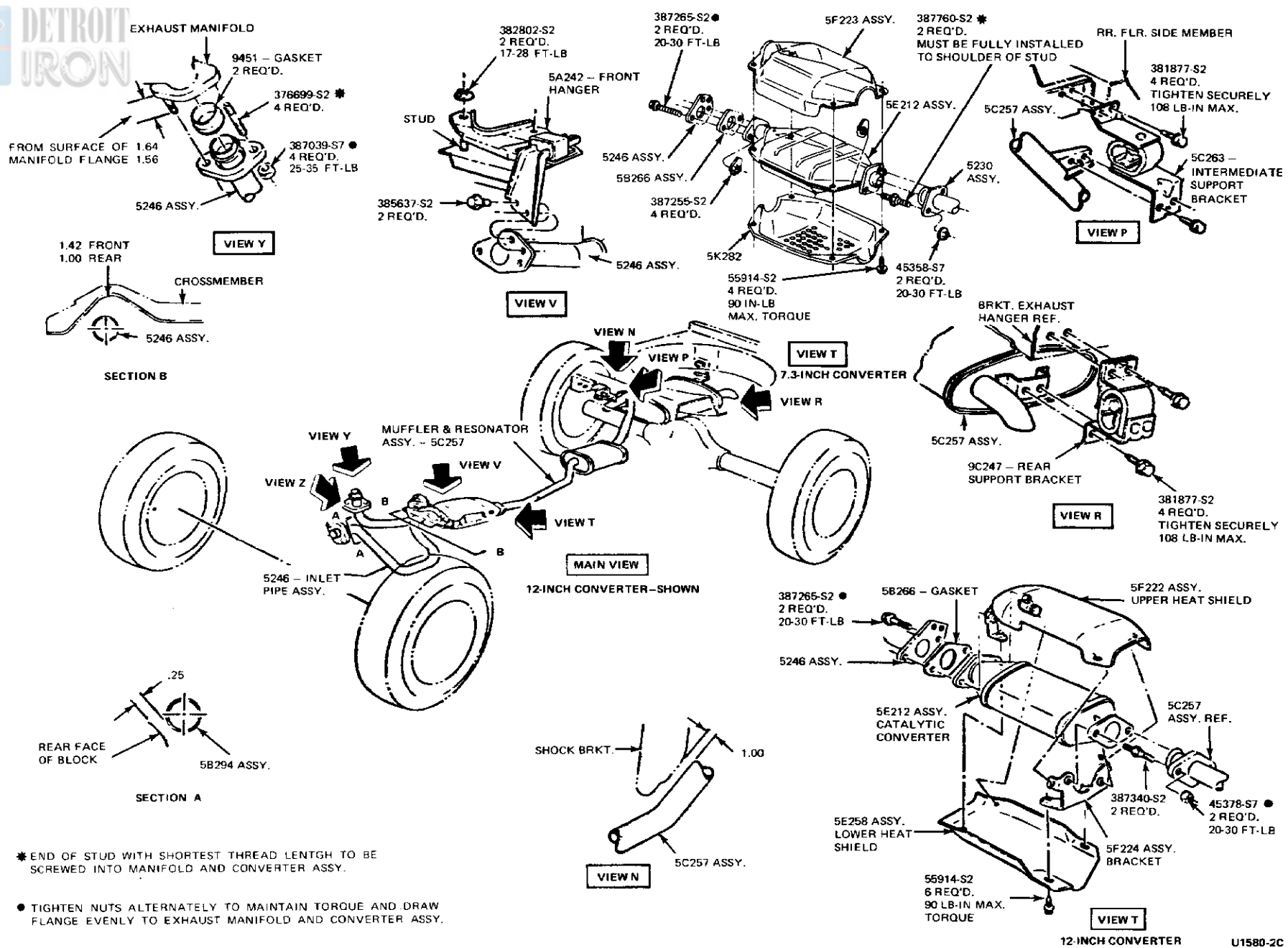


FIG. 1 Exhaust System—Mustang II with 5.0L (302 CID) V-8 (No Catalytic Converter)

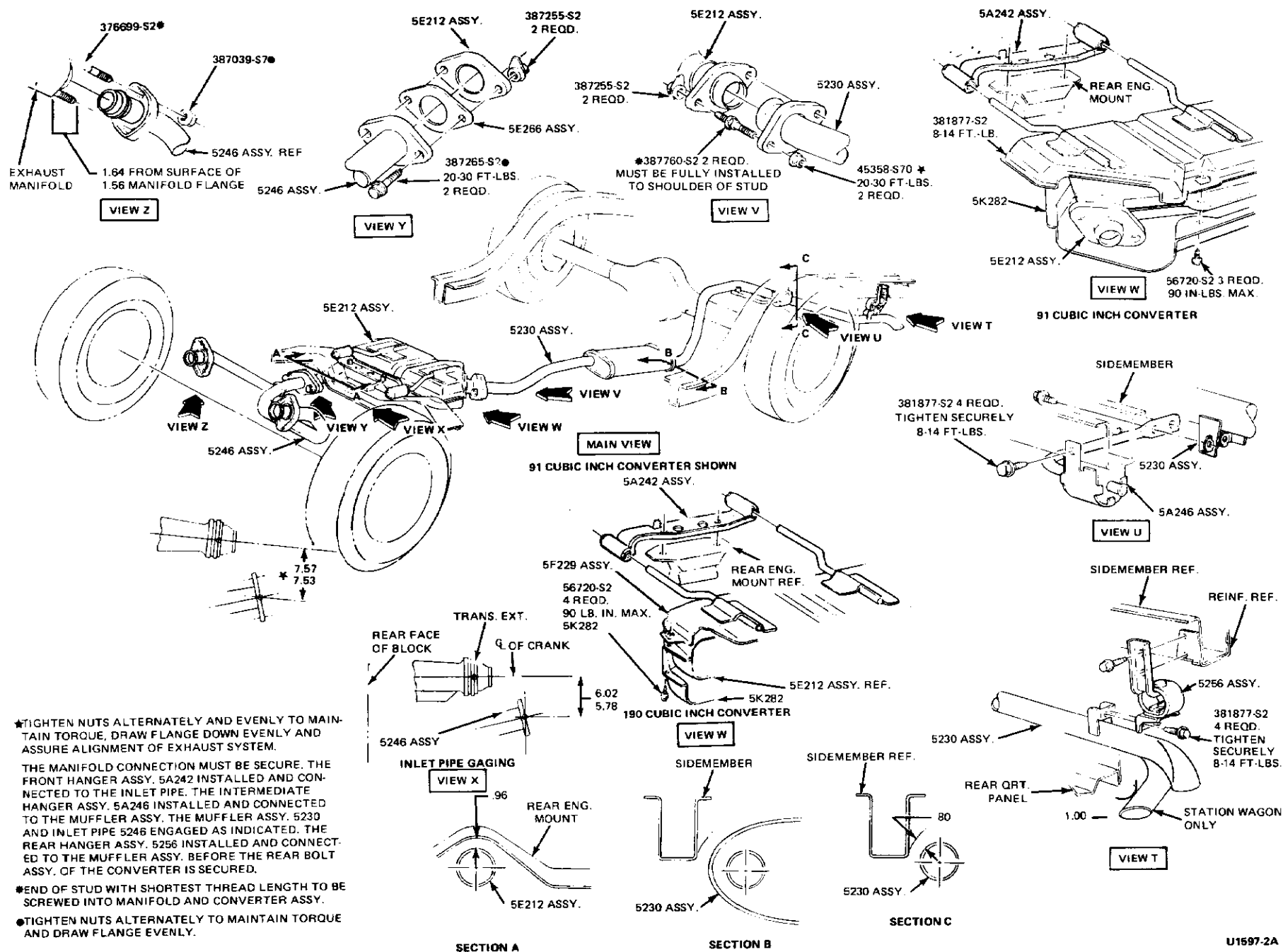


FIG. 2 Exhaust System—Fairmont and Zephyr with Converter

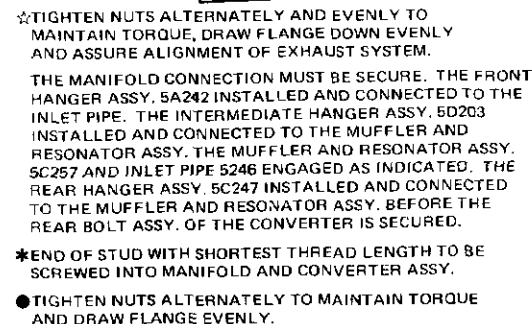
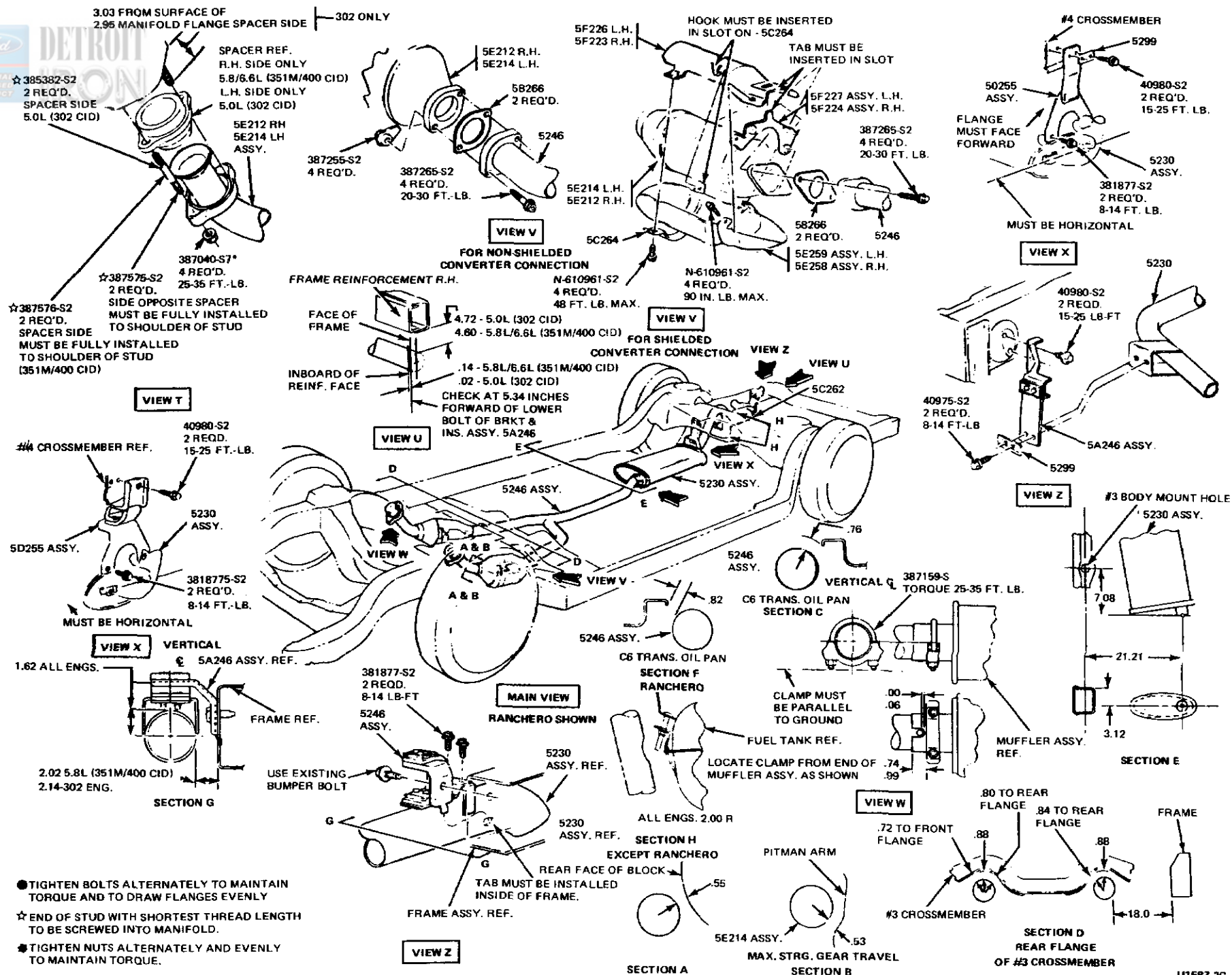


FIG. 3 Exhaust System—Granada, Monarch and Versailles with Converter



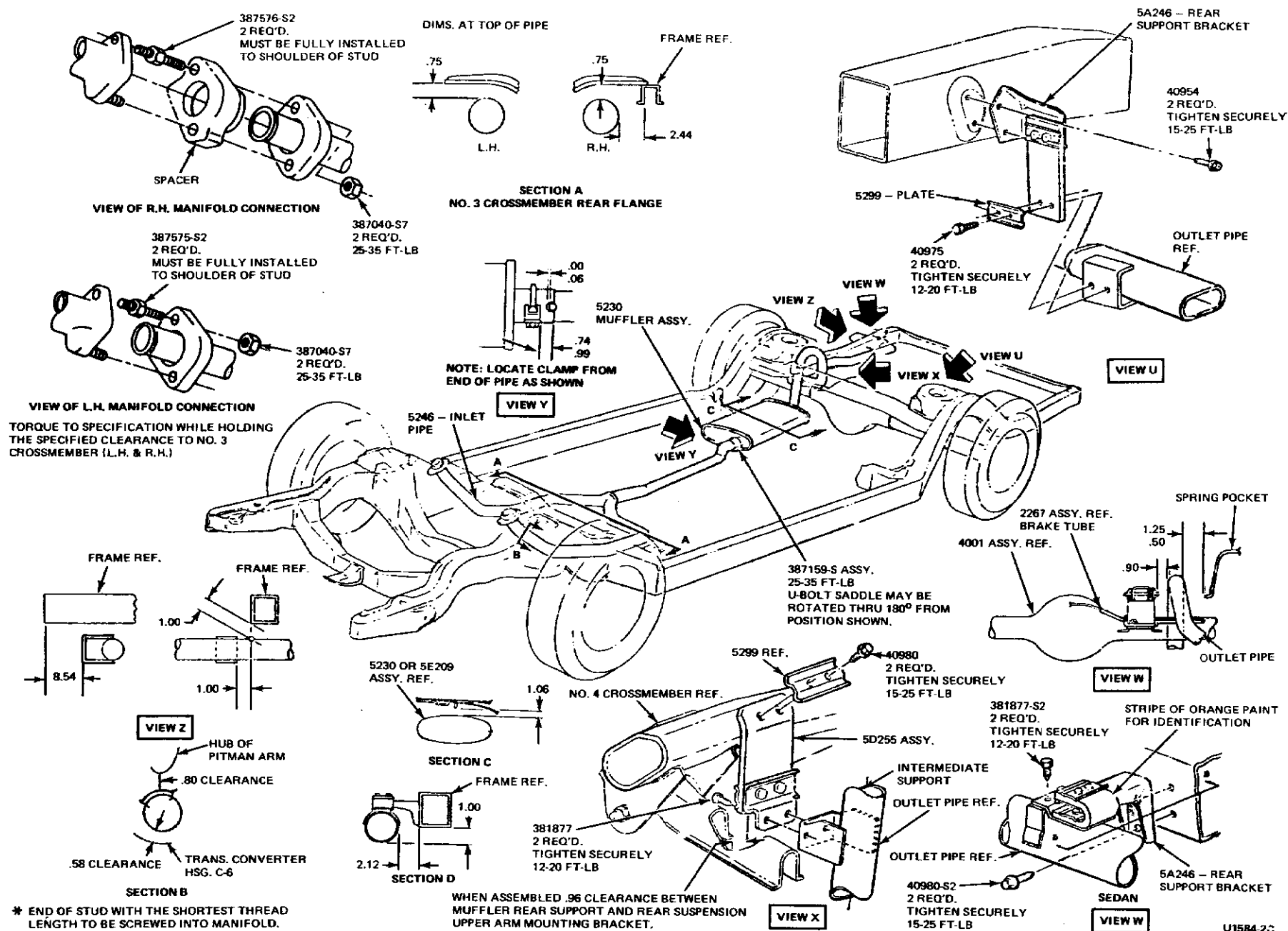


FIG. 6 Exhaust System—Ford/Mercury Sedan and Station Wagon—with no Catalytic Converters

385382-S2
2 REQ'D.
FOR 5.0L (302 CID) ONLY
387576-S2
2 REQ'D.
MUST BE FULLY INSTALLED
TO SHOULDER OF STUD.

NON-SHIELDED CONVERTER

HEAT VALVE OR SPACER

3.03 FROM SURFACE OF
2.95 MANIFOLD FLANGE
FOR 5.0L (302 CID) ENG. ONLY
VIEW OF R.H. MANIFOLD CONNECTION
5.8L (351M CID) AND 6.6L (400 CID)

N610961-S2
3 REQ'D.
90 IN.-LB.
5E212 ASSY. R.H.
5E214 ASSY. L.H.

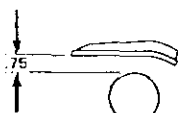
5C264
5F226 L.H. ONLY
5F224 ASSY.
2 REQ'D.

PART OF 5E259
& 5E258 ASSY.

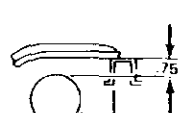
58266
2 REQ'D.
387265-S2
4 REQ'D.
20-30 FT.-LB.

5E259 ASSY. L.H.
5E258 ASSY. R.H.

HOOK OF - 5C264 MUST BE INSERTED IN
SLOT IN - 5E258 L.H. & 5E259 R.H. ASSY.



L.H.



R.H.

● TIGHTEN NUTS EVENLY AND
ALTERNATELY TO MAINTAIN TORQUE.

● END OF STUD WITH THE SHORTEST THREAD
LENGTH TO BE SCREWED INTO MANIFOLD.

● TIGHTEN BOLTS ALTERNATELY TO MAINTAIN
TORQUE AND TO DRAW FLANGE EVENLY.

5E212 ASSY. R.H.
5E214 ASSY. L.H.

58266
2 REQ'D.

VIEW Z

TORQUE TO SPECIFICATION WHILE HOLDING THE
SPECIFIED CLEARANCE TO NO. 3 CROSSMEMBER.
(L.H. & R.H.)

EXHAUST
MANIFOLD

STRIPE OF ORANGE
PAINT FOR IDENTIFICATION

5E212 ASSY. R.H.
5E214 ASSY. L.H.

VIEW T

387575-S2
2 REQ'D. ALL EXCEPT
7.5L (460 CID)
4 REQ'D. FOR 7.5L (460 CID)
MUST BE FULLY INSTALLED
TO SHOULDER OF STUD

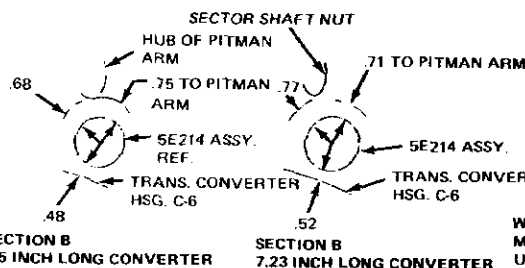
387040-S7
2 REQ'D. FOR 5.8L (351 CID)
4 REQ'D. FOR 7.5L (460 CID)
20-35 FT.-LB.

5E209 FOR 7.5L (460 CID)
5230 FOR 5.8L (351 CID) AND 6.6L (400 CID)

VIEW T

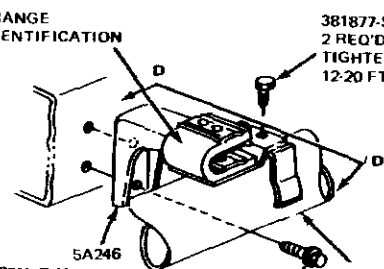
VIEW Y

VIEW Z



SECTION B
5.5 INCH LONG CONVERTER

SECTION B
7.23 INCH LONG CONVERTER



381877-S2
2 REQ'D.
TIGHTEN SECURELY
12-20 FT.-LB.

NOTE: LOCATE CLAMP FROM
END OF PIPE AS SHOWN

VIEW Y

OUTLET PIPE REF.

40980
2 REQ'D.
TIGHTEN SECURELY
15-25 FT.-LB.

4001 ASSY.

2267 ASSY.
BRAKE TUBE

1.25
.50
.92

SPRING POCKET

OUTLET PIPE

VIEW U

FRAME ASSY.

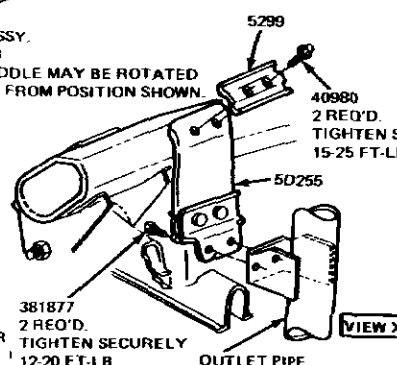
7.5L (460 CID)
5.8L (351 CID) AND 6.6L (400 CID)

SECTION D 1.00

FRT. FLR. PAN

SECTION C
5230 ASSY.
5E209 ASSY.

387159-S ASSY.
25-35 FT.-LB.
U-BOLT SADDLE MAY BE ROTATED
THRU 180° FROM POSITION SHOWN.



WHEN ASSEMBLED .96 CLEARANCE BETWEEN
MUFFLER REAR SUPPORT AND REAR SUSPENSION
UPPER ARM MOUNTING BRACKET

VIEW X

FIG. 7 Exhaust System—Ford/Mercury Sedan with Two Converters

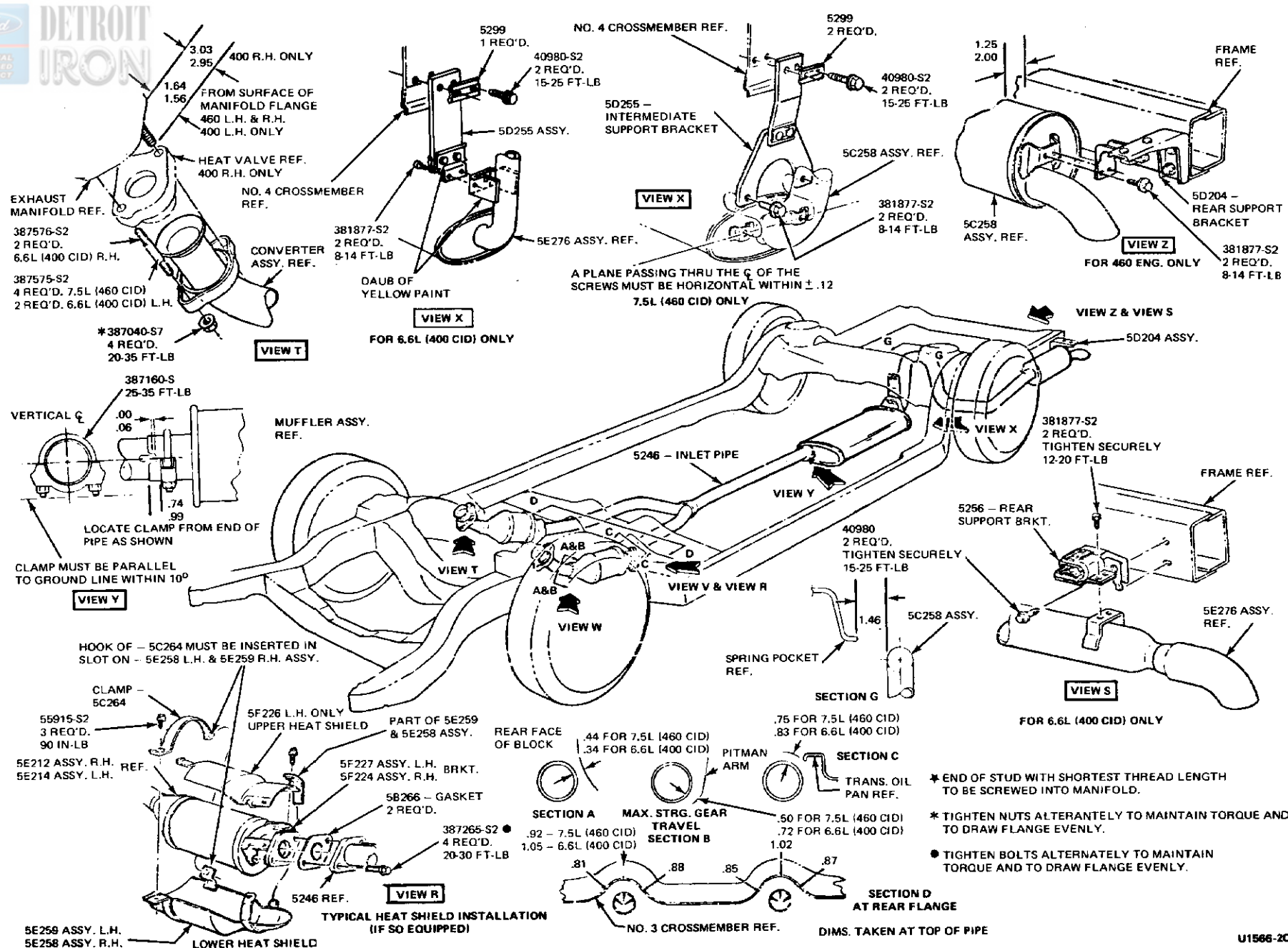


FIG. 9 Exhaust System—Continental Mark V



FIG. 10 Exhaust System—Lincoln Continental

V-8 Dual Exhaust Systems

PART
26-22

Ford and Mercury Police Interceptor and Continental Mark V w/7.5L (460 CID) V-8

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION		REMOVAL AND INSTALLATION (Cont'd.)	
Dual Exhaust System –		Inlet H-Pipe –	
Without Resonator	22-1	Ford/Mercury/Mark V	22-1
Dual Exhaust System –		Muffler – Ford/Mercury	22-2
With Resonator	22-1	Muffler and Resonator Assembly	
REMOVAL AND INSTALLATION		– Mark V	22-2
Catalytic Converter – Ford/Mercury/Mark V . . .	22-2		

CN4032-2B

DESCRIPTION

DUAL EXHAUST SYSTEM WITHOUT RESONATOR

The dual-pipe exhaust systems without resonators are of all the same basic design. The H-shaped inlet pipe assembly is of one-piece construction. Muffler and outlet pipe on the factory installation is a welded assembly.

Normal service parts procedure is to furnish the H-pipe as a single, welded assembly, while the muffler and outlet pipe are serviced separately and assembled with clamps. Refer to the master parts catalog for current service parts systems.

DUAL EXHAUST SYSTEM WITH RESONATOR

As factory-installed, this system consists of a welded H-pipe assembly connected to two welded muffler-resonator assemblies (Fig. 2).

For service replacement, the H-pipe is furnished as a single welded assembly, but the muffler/resonator, and outlet pipe are available separately. Refer to the master parts catalog for current service parts.

Two catalytic converters are connected to most dual exhaust systems. These converters are located between the exhaust manifold and the inlet "H" pipe.

REMOVAL AND INSTALLATION

The replacement procedures given apply to all vehicle models and to right and left assemblies of dual exhaust systems unless otherwise noted.

INLET "H" PIPE—FORD, MERCURY AND CONTINENTAL MARK V

Removal

1. Raise the vehicle.
2. Remove the "U" bolt clamps at the muffler inlet connections.
3. Support the mufflers in their proper position using soft wire.
4. Remove the nuts attaching the inlet pipe to converter flat flange connections. Do not remove the inlet pipe to right hand or left hand manifold connection nuts.
5. Slide the inlet pipe rearward until the catalytic converter can be disconnected from the "H" inlet pipe.
6. Disconnect the inlet pipe from the catalytic converter connection. It may be necessary to disconnect the rear hanger to outlet pipe

attachment in order to obtain sufficient clearance to separate the converter connection.

Installation

1. Clean converter flat flanges. Loosen manifold nuts (right hand and left hand) enough to allow converter movement without binding.
2. Slide the "U" bolt clamp(s) over the muffler end(s) of the "H" inlet pipe.
3. Position the inlet pipe to the muffler slip joint connection(s) and loosely install the "U" bolt clamp(s). Be sure the tab(s) on the inlet pipe is properly located in the muffler slot(s).
4. Install a new gasket or exhaust restrictor plate to the right hand and left hand converter flat flange to "H" pipe connections.
5. Position the inlet pipe to the converter flat flange connections and loosely install the attaching nuts.
6. Tighten the left hand and then the right hand flat flange connection attaching nuts to specification.

NOTE: If a catalytic converter(s) is being replaced along with the inlet pipe, the

converter(s) should be installed to the manifold(s) loosely, then the inlet pipe to converter(s) flat flange connection attaching nuts must be installed and tightened to specification **BEFORE** the manifold to converter attaching nuts to insure proper alignment.

7. Tighten the "U" bolt clamp(s) at the muffler slip joint(s) to specification. Be sure the tab and slot are properly engaged.
8. Tighten the rear hanger to muffler outlet pipe attachment to specification, if required.
9. Check the exhaust system for leaks and alignment and install the exhaust shields to inlet pipe(s) as required.
10. Lower the vehicle.

CATALYTIC CONVERTER—FORD, MERCURY AND CONTINENTAL MARK V

Removal

1. Raise the vehicle.
2. Remove the exhaust shield(s), if so equipped, from the catalytic converter(s).
3. Support the exhaust inlet pipe in its relative position by securing the pipe to the No. 3 frame crossmember with soft wire.
4. Remove and discard bolts attaching the converter and inlet "Y" pipe flat flanges (both sides).
Units with shields, remove the brackets that attach the shields and flat flanges (both sides).
Units without shields, remove and discard flag nut assemblies (both sides).
5. Remove the converter flange attaching nuts holding the converters to the exhaust manifold and inlet pipe (both sides).
6. Slide the inlet pipe rearward until the catalytic converter(s) can be removed. It may be necessary to disconnect the rear hanger-to-outlet pipe attachment to obtain sufficient clearance to separate the converter at manifold connection(s).
7. Discard gasket(s) or exhaust restrictor plate(s) and damaged parts.

Installation

1. Clean the inlet "Y" pipe flange face.
2. Position the catalytic converter(s) to the exhaust manifold. Loosely install the attaching nuts.
3. Install new gaskets or exhaust restrictor plate(s) between the inlet "Y" pipe/converter flat flanges. Position the inlet pipe flange to the converter outlet flange connections and insert new attaching bolts. On units without shields, loosely install flag nuts to the bolts, and on units with shields, position attaching brackets forward of the converter flat flange and loosely engage the bolts.
4. Alternately tighten the converter to inlet pipe flange connection(s) to specification.
5. Align the system to proper clearance specifications.
6. Alternately tighten the manifold nuts to specification.
7. Check the system for leaks.

NOTE: Alternate torque of joint fastener is required to provide uniform clamping in order to prevent joint distortion, a major cause of system leaks and misalignment.

8. Install the exhaust shield(s) to the catalytic converter(s) to specification.
9. Lower the vehicle.

MUFFLER—FORD AND MERCURY

Removal

1. Raise the vehicle on a hoist that permits the rear axle to lower to the full extent of its travel. This will provide the clearance necessary to remove the muffler assembly.
2. Support the muffler inlet pipe with a soft wire and remove the "U" bolt clamp at the inlet pipe to muffler inlet connection(s).
3. Remove the rear support bracket screws.
4. Remove the screw securing the intermediate support bracket to the muffler(s).
5. Separate the muffler to inlet pipe connection(s) and remove the muffler assembly.
6. Replace "U" bolt clamps and any other worn or damaged parts.

Installation

1. Slide the "U" bolt clamp(s) over the outlet end(s) of the inlet pipe.
2. Position the muffler assembly on the inlet pipe and loosely install the clamp(s). Be sure that the tab is fully inserted into the locating slot.
3. Position the muffler to the intermediate support bracket. Loosely install the attaching screws.
4. Attach the screws holding the rear support bracket and tighten to specification.
5. Align the exhaust system to conform to the clearance specifications. **NOTE: If specified alignment specifications cannot be obtained, the right hand and left hand manifold attachments should be loosened. After specifications are obtained, tighten the manifold attaching nuts to specification while holding clearances.**
6. Tighten intermediate support bracket screws to specification.
7. Position and secure the "U" bolt(s) at the inlet pipe to muffler connection(s) to specification. Be sure the tab and slot are properly engaged.
8. Remove the temporary wire support, check the system for leaks, and lower the vehicle.

MUFFLER AND RESONATOR ASSEMBLY—CONTINENTAL MARK V

Removal (Refer to Fig. 2) For Service System Replacement

1. Raise the vehicle on a hoist that permits the axle to lower to the full extent of its travel. This will provide the clearance necessary to remove the muffler and outlet pipe.
2. Support the inlet pipe with a soft wire.
3. Cut the muffler outlet pipe(s) at the kick-up area just above the muffler(s).

4. Remove the screws which attach the resonator(s) to the rear hanger(s). Remove the resonator(s) and pipe(s).
5. Remove the screws securing the muffler(s) to the intermediate support bracket(s).
6. Remove the clamp(s) securing the inlet pipe(s) to the muffler(s).
7. Separate the muffler(s) from the inlet pipe(s) and remove the muffler(s).
8. Replace any damaged or badly rusted parts and the "U" bolt clamps.

Installation

1. Position the muffler(s) and outlet pipe(s) to the intermediate support bracket(s) and loosely install the attaching screws.
2. Slide the muffler(s) onto the inlet pipe(s) and properly position the clamp(s). Be sure to maintain the specified clearances for the clamp and locating tab and be sure that the tab is fully inserted into the locating slot.

3. Install a clamp on each resonator inlet and slide each resonator onto the muffler outlet. Loosely install the "U" bolt clamp(s) snug, but not tight.
4. Attach the resonator(s) to the rear hanger bracket(s), install and tighten the attaching screws to specification.
5. Align the exhaust system to conform to the clearance specifications.

NOTE: If the alignment clearances cannot be obtained, loosen the right hand and left hand manifold attachments until the necessary clearance can be obtained. Tighten the manifold bolts to specification.

6. Tighten intermediate support bracket screws to specification.
7. Tighten the "U" bolt clamps at the inlet pipe(s) to muffler connection(s) and at the muffler outlet(s) to resonator inlet connection(s) to specification.
8. Remove the temporary support wire, check the exhaust system for leaks and lower the vehicle.

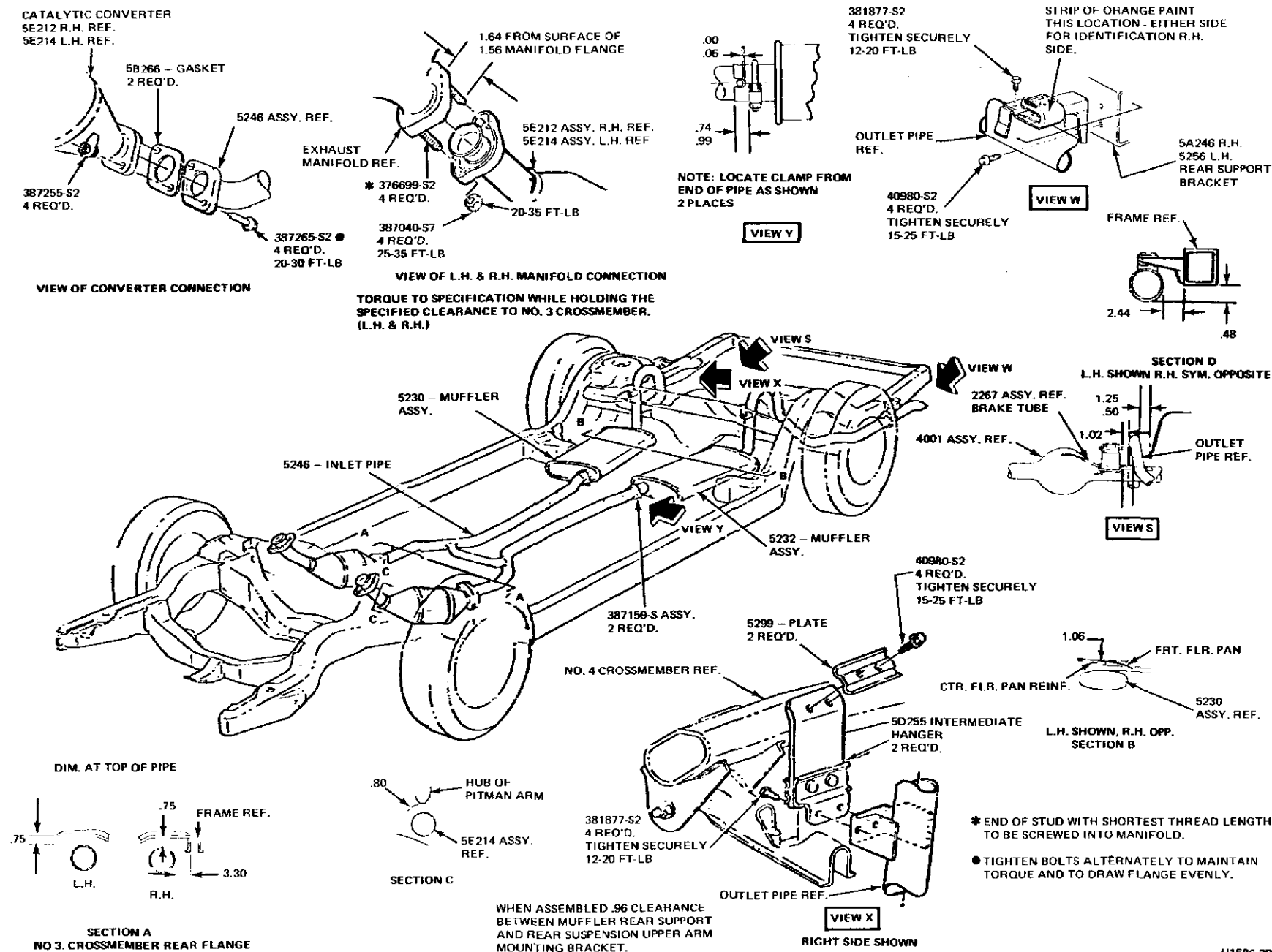


FIG. 1 Exhaust System—Ford/Mercury Sedan with 7.5L (460 CID) Police Interceptor V-8



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COOLING SYSTEM

GROUP
27
(8000)

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Flex-Blade Fan	27-06	Radiators	27-03

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General Cooling System Service

PART
27-01

SUBJECT	PAGE	SUBJECT	PAGE
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TESTING		Four and Six-Cylinder Engine	
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GENERAL INFORMATION

This part covers general cooling system diagnosis service. For cooling system component removal, disassembly, assembly, installation and repair procedures and specifications, refer to the pertinent Part of this Group.

CAUTION: Do not operate the engine with the hood open until the fan has been first examined for possible cracks and separation.

DIAGNOSIS

Refer to the following Diagnosis Chart for cooling system complaints, their possible cause and recommended resolution. Refer to the pertinent Part for testing and repair.

The most frequent cooling system complaints concern leakage and overheating. Either of these problems will soon render the vehicle inoperable.

Most vehicles use an Ethylene glycol base anti-freeze solution to which the manufacturers have added a dye color. The dye color makes the anti-freeze solution an excellent leak detector. If this type of solution is not being used in the cooling system, a vegetable dye may be added to aid in locating external leakage.

Complaint	Possible Cause	Resolution
Loss of coolant.	- Pressure cap and gasket. - Leakage. - External Leakage. - Internal Leakage.	- Inspect, wash gasket and test. Replace only if cap will not hold pressure test specification. - Pressure test system. - Inspect hose, hose connection, radiator, edges of cooling system gaskets, core plugs and drain plugs, transmission oil cooler lines, water pump, heater system components. Repair or replace as required. - Disassemble engine as necessary – check for: cracked intake manifold, blown head gaskets, warped head or block gaskets surfaces, cracked cylinder head or engine block.
Engine overheats.	- Low coolant level. - Loose fan belt. - Pressure cap. - Radiator or A/C condenser obstruction. - Closed thermostat. - Fan drive clutch. - Ignition. - Temp gauge or cold light. - Engine	- Fill as required. Check for coolant loss. - Adjust. - Test. Replace if necessary. - Remove bugs, leaves, etc. - Test, replace if necessary. - Test, replace if necessary. - Check timing and advance. Adjust as required. - Check electrical circuits and repair as required. Refer to Volume 3. - Check water pump, block for blockage.
Engine fails to reach normal operating temperature.	- Open thermostat. - Temperature gauge or cold light.	- Test, replace if necessary. - Check electrical circuits and repair as required. Refer to electrical section.

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TESTING

GENERAL TEST PROCEDURES

Visual Inspection

- A. Check for leakage at:
 1. All hoses and hose connections.
 2. Radiator seams, radiator core, and radiator drain petcock.
 3. All block core plugs and drain plugs.
 4. Edges of all cooling system gaskets.
 5. Transmission oil cooler.
 6. Vehicle heating system components.
 7. Water pump.
- B. Examine oil dipstick for evidence of coolant contaminated with engine oil.
- C. Check radiator for evidences of oil in coolant (leakage at transmission oil cooler).

COOLING SYSTEM PRESSURE TEST

1. Shut the engine off.

WARNING—Never remove the radiator cap under any conditions while the engine is operating. Failure to follow these instructions could result in damage to the cooling system or engine and/or personal injury. To avoid having scalding hot coolant or steam blow out of the radiator, use extreme care when removing the cap from a hot radiator. If possible, wait until the engine has cooled, then wrap a thick cloth around the radiator cap and turn it slowly to the first stop. Step back while the pressure is released from the cooling system. When you are sure all the pressure has been released, press down on the cap (still with a cloth), turn and remove it.

2. Adjust the radiator coolant (Fill or drain) to one inch below the filler neck opening before testing. Wet the rubber sealing surface of the cap before installing the cap tightly on the radiator.

3. Disconnect the electrical connector from the coolant temperature sending unit and remove the temperature sending unit from the engine.

With the radiator cap installed and the cooling system pressure relieved, only a small amount of coolant will be lost when the sending unit is removed.

4. Install the adapter fitting from the pressure tester 21-0012 (or equivalent) (male thread on one end, and a hose connector on the other end) tightly into the intake manifold or cylinder head in place of the sending unit. (See Fig. 1).
5. Remove the radiator overflow hose from the retainer clips. If vehicle is equipped with an expansion bottle system, use a separate hose. Make sure the hose is firmly installed on the radiator overflow nipple and is in good condition. Insert the free end of the overflow hose into a container of water.
6. Attach the pressure pump and gauge (Fig. 1) to the adapter fitting and pressurize the cooling system to the cap LOWER LIMIT as shown in the test chart.

No bubbles should appear in the water container when the system is pressurized to the LOWER LIMIT. If the system is satisfactory at the lower limit, gradually increase the system pressure until a slight stream of bubbles appears in the water container. This is the upper limit of the pressure cap.

Replace any radiator cap that exceeds the specified UPPER LIMIT pressure without discharging bubbles.

7. If the radiator cap does not hold pressure, remove and wash the cap in clean water to dislodge all foreign particles from the gaskets. Check the sealing surface in the radiator filler neck.

Inspect the cam lock flanges on both sides of the filler neck for maximum cap engagement.

8. Pressurize the cooling system as outlined in Step 6 (using a radiator cap that operates within the specified upper and lower pressure limits) and

observe the gauge reading for approximately two minutes. See Specifications. Pressure should not drop during this time.

RESULTS: If the pressure drops, check for leaks at the engine to heater core hoses, engine to radiator hoses, bypass hose, water valve hose (if applicable), thermostat housing gasket, radiator and heater core, etc. Also refer to engine system checks if a leak cannot be located in the cooling system. Any leaks which are found must be corrected and the system rechecked.

If the system holds pressure proceed to Step 9.

9. Release the system pressure by loosening the radiator cap and remove the adapter. Reinstall the temperature sending unit, check coolant level and replenish (if necessary) with the correct coolant solution.

RADIATOR CAP PRESSURE TEST

Refer to Fig. 1

1. Remove the radiator cap from the radiator filler neck.
2. Use water to clean the cap in the area of the rubber seal and the vacuum relief valve. Refer to Cleaning and Inspection for procedure. Immerse the radiator cap in water and install on the shallow filler neck of the 21-0012 Radiator Cap Pressure Test Adapter or equivalent adapter.

NOTE: The adapter is designed to accept both deep and shallow neck radiator caps.

3. Immerse the filler neck seal in water and install in the filler neck adapter.

NOTE: The filler neck seal is reversible so that it may be used on either a deep or shallow radiator filler neck. It will also fit either end of the radiator cap pressure test adapter.

4. Install the filler neck adapter with filler neck seal on the deep filler neck end to the radiator cap pressure test adapter.
5. Connect the female quick disconnect fitting of the pressure test pump to the male quick disconnect fitting of the filler neck adapter.
6. SLOWLY depress the plunger of the pressure test pump until the pressure gauge reading stops increasing and note the highest pressure reading obtained.

NOTE: If the plunger of the pump is depressed too fast, an erroneous pressure reading will result.

7. Release the pressure by turning the pressure relief screw counterclockwise. Then tighten the pressure relief screw and repeat Step 6 (at least twice) to be sure the pressure test reading is repeatable within the acceptable gauge reading limits of the radiator cap and is not erratic. Refer to Specifications.
8. If the pressure test gauge readings are not within the acceptable gauge reading limits, replace the radiator cap. If the pressure test gauge readings are within the acceptable gauge reading limits, perform the Cooling System Pressure Test.

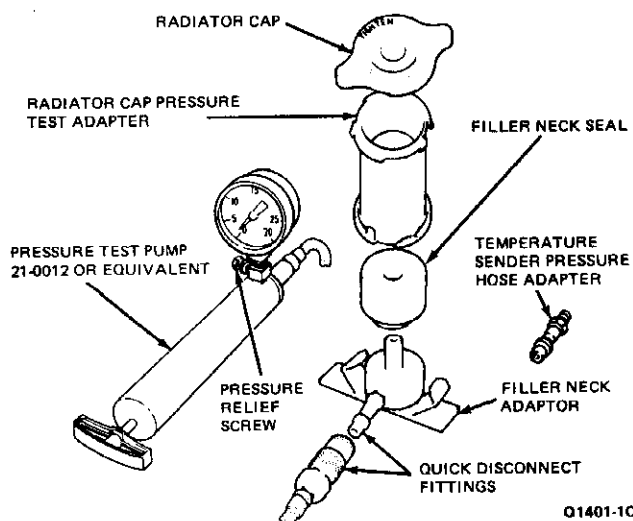


FIG. 1 Pressure Test Pump and Attachments