

PARTS LIST

Ref.#	Part No.	Qty.	Item Description
T-1005			
A1	T-1005-A *	1	Fuel Tank (Basic)
B	T-1005L	1	Hardware Kit (Bolt, Screws, etc.)
E	G-8024	1	Auxiliary Gas Tank Fuel Fill Neck
F	T-1005	1	Gas Cap (Stant G23 Pressure/Vac)
G	T-1005F	2	Hose Clamps (Inter-connection Hose (V))
H	T-1005H	2	"J" Hook Mount
I	T-1005Z	1	Manual 3 Way Valve Mount
J	T-1005C	2	Strap Mount
K	T-1005J	1	"Cut-Out" Template
V	T-1005E	1	10" Connector Hose
N/S	T-1005G	1	Installation Instruction Sheets (All FJ40 Auxiliary Gas Tanks)

T-1006

Includes Above T-1005 Items *Except A1* — (see list below) Plus:

A2	T-1006A *	1	Fuel Tank With Sender Gauge Provisions
C	N/A	1	Sender Gauge Gasket (Included and Priced With Sender Gauge)
D	T-1006E	10ft.	14 gauge Electrical Wire
Q	T-1006B	1	Sender Gauge (Sender Gauge Gasket (C) - Included)
SW1	T-1006G	1	Switch

T-1177

Includes All T-1005 Items (see above list) Plus:

P	T-1076	1	Skid Plate
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T-1162

Includes All T-1006 Items (see above list) Plus:

P	T-1076	1	Skid Plate
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If missing any of the above items, contact the selling dealer ***IMMEDIATELY*** to obtain the missing parts, or if the item was shipped to you and the box is opened and reclosed, torn, or damaged in any way report the damage to the carrier at once — ***DO NOT DELAY IN REPORTING LOSSES OR DAMAGE TO THE CARRIER! DELAYS IN REPORTING LOSSES OR DAMAGE TO THE CARRIER COULD RESULT IN THE CUSTOMER BECOMING RESPONSIBLE FOR ALL ITEM REPLACEMENT COSTS.*** ****NOTE:*** All Prices Shown In This Instruction Sheets Are FOB Our Factory - Burbank, CA, USA And ARE Subject To Change Without Notice — CA Residents MUST Add Current Taxes.

Con-Ferr® — Where Quality Is A Family Tradition - Not Just A Company Sales Pitch

CON-FERR PRODUCTS, INC.

Wheel Drive & R. V. Accessories

— SINCE 1961 —



MAILING ADDRESS & OFFICE

1843 VICTORY PLACE

BURBANK, CALIFORNIA 91504

Telephone: (818) 848-2025

INSTALLATION INSTRUCTIONS FOR CON-FERR® AUXILIARY FUEL TANK

(1963-UP Toyota FJ40 Model Land Cruiser)

This Fuel Tank Kit Part Number IS:

☐ T-1005 ☐ T-1006 ☐ T-1177 ☐ T-1162

IMPORTANT WARRANTY INFORMATION:

All Con-Ferr® Skid Plates, including our T-1076 Skid Plate that is sold separately and is included in some of our Fuel Tank Kits; no matter the vehicle year/make/model or usage listing in our catalogs and sales materials are the only products that we manufacture that will be subject to knowing abuse and damage and are therefore; under all circumstances, excluded from our Warranty. Since all off-roading and off-road vehicles have enormous variables as to what exact circumstances will cause any given Con-Ferr® Skid Plate and all models of Skid Plates to suffer damage, it is impossible to offer the customer or user any kind of warranty whatsoever. A Skid Plate and all models of Skid Plates are designed with the thought in mind that you will become involved in an unavoidable situation that will inflict a damaging force (hopefully and entirely) on the Skid Plate and all models of Skid Plates instead of a vital yet vulnerable piece of vehicle running gear that if damaged could disable the vehicle completely. Con-Ferr® cannot and does not guaranty nor imply that any Skid Plate and all models of Skid Plates it manufactures is an impregnable "shield" that guarantees that vehicle components will not be damaged or free of damage in any or all vehicle usage situations. Our customers have told us that it was more economical to replace a damaged Skid Plate and all models of Skid Plates rather than the transfer case, and/or transmission, etc. costing 20x or 30x as much plus the many miles of "hiking out" for help.

All other components in this Fuel Tank Kit that are manufactured by Con-Ferr®, Inc. are subject to the terms and conditions of our standard limited warranty policy; except our T-1076 Skid Plate.

Installation of this Con-Ferr® product should be performed by person(s) with the experience of a 12th grade high school graduate of Automotive Mechanics course, or certified Automotive Mechanic.

Move vehicle to a level "working" area. Apply the emergency brake, with front wheels properly to insure that the vehicle WILL NOT ROLL EITHER FORWARD OR BACKWARD DURING THE INSTALLATION OF THIS CON-FERR® PRODUCT. DO NOT USE A POWERED TORQUE WRENCH TO TIGHTEN NUTS TO BOLTS. DO NOT PERFORM INSTALLATION IN AN AREA CONTAINING EQUIPMENT WITH OPEN FLAME OR PILOT LIGHTS (e.g., WATER HEATER etc.).

TOOLS: Complete set of Factory Service/Repair Manuals including the Emissions Control System Service/Repair Manuals. It is very important that you have these manuals as they contain information vital to the installation of this item and IS NOT AVAILABLE FROM OUR TECHNICAL DEPT. Floor Jack; Open End Wrench Set: metric sizes 5mm to 22mm, and American 7/16" to 13/16"; complete set of 'slot' and 'Phillips' screw drivers; knife; electrical wire stripper and crimper tools; pencil, metal scribe or other marking device; roll of masking tape; sand paper 'fine grit'; and eye protection: safety glasses or clear face and eye shield. Wear eye protection at all times during installation. Observe all safety rules and manufacturer's usage instructions for each tool.

READ ALL INSTRUCTIONS THROUGH AT LEAST ONCE BEFORE STARTING INSTALLATION.

This Con-Ferr® Auxiliary Gas Tank has been designed to fit behind the rear axle and against the rear cross member. The Fill Neck will be mounted on the right hand (passenger) side. We suggest that the factory Gas Tank and all lines be carefully drained of gasoline — observe all safety regulations in your area that apply to gasoline.

MODEL VARIATION NOTES:

These situations occur so rarely that it is not feasible for Con-Ferr® to make special kits for these situations and can only give suggestions to "get around" these problems:

- I. A body brace is located and interferes with the installation of the Con-Ferr® Fuel Neck (E). The body brace will have to be removed, and if possible, relocated. We suggest that you have an Auto Body Repair Shop do this for you.
- II. The T-1076 Optional Skid Plate mounting brackets (F1) hit the lower shock absorber mounts. The T-1076 Skid Plate (F) cannot be mounted without major modification. Therefore, the standard mounting straps (J) must be used. The straps can be adjusted inward or outward as needed.
- III. Exhaust system occupies the area for tank mounting. The total exhaust system will have to be rerouted. Remove all muffler, bracketing, and piping from tank mounting area. After tank is installed have your muffler shop reinstall the exhaust system to accommodate the Auxiliary Tank installation.

Con-Ferr® manufactures two types of basic Auxiliary Gas tanks:

- A. Auxiliary Gas Tank Kits WITHOUT Sender Gauge Unit provisions: CF#s T-1005 (basic fuel tank kit), or T-1177 (T-1005 basic fuel tank kit and T-1076 skid plate combination kit)
- B. Auxiliary Gas Tank Kits WITH Sender Gauge Unit provisions: CF#s T-1006 (basic fuel tank kit — Tank "A1" has a pre-punched hole, a sender gauge and gasket is provided with installation screws and instructions), or T-1162 (T-1006 basic fuel tank kit and T-1076 skid plate combination kit)

If you did not order your Con-Ferr® Auxiliary Gas Tank with an Optional Fuel Line Installation Kit, you will need to obtain additional customer optional components. Please consult your Factory Vehicle Service/Repair Manuals and Emissions Control System Service/Repair Manuals; and review Appendixes: C, D, E, and F, to determine which fuel system configuration your vehicle is equipped with. After confirming which fuel system configuration your vehicle is equipped with, you will find a customer optional items list that you should purchase at your local automotive or hardware supply house.

If you are installing either Con-Ferr® Auxiliary Gas Tank with Sender Gauge Kit part numbers: T-1006 or T-1162 then skip to **APPENDIX E page 18** and complete installation of the Sender Gauge to the Tank (A1) prior to continuing with step 1. If you are installing either Con-Ferr® Auxiliary Gas Tank without Sender Gauge Kit part numbers: T-1005 or T-1177; continue with step 1, below.

TANK (A1) MOUNTING — ALL TANK MODELS

- 1. Drill two holes (7/16" drill bit) in the bottom of rear cross member (G) 14" apart from center to center. Insert 3/8" x 1 1/4" bolts and tighten nuts against rear cross member (G). Once tightened the nuts will hold the bolts in place and act as spacers, see drawing "A".
- 2. Hook the two Hangers (H), facing forward, over tube cross member, see drawing "A".
- 3. Install to the Tank (A1) fuel line fittings into Tank ports (B) & (C) and (D), straight type (Ca, see drawing "K" on page 7) are suggested. REVIEW THE SUB-STEPS BELOW TO DETERMINE WHAT SIZE FITTING SHOULD BE INSTALLED INTO THE TANK PORTS ACCORDING TO THE VEHICLE'S FUEL SYSTEM CONFIGURATION:
 - A. If your vehicle is equipped WITH an Emission Control System (E.C.S. / "SMOG") and WITH Return Line (see **Appendix — A, pages 8-11**): install Brass 1/4" male pipe thread - 180° 5/16" OD BARB fitting (Ca) (see drawing "K" page 7) into Tank (A1) Ports (B) and (C). Install Brass 1/4" male pipe thread - 180° 1/2" OD BARB fittings (Ca) (see drawing "K" page 7) into Tank Port (D).
 - B. If your vehicle is equipped WITH an Emission Control System (E.C.S. / "SMOG") and WITHOUT Return Line (see **Appendix — B, pages 11-14**): install Brass 1/4" male pipe thread - 180° 5/16" OD BARB fitting (Ca) (see drawing "K" page 7) into Tank Port (B). Install Brass 1/4" male pipe thread - 180° 1/2" OD BARB fitting (Ca) (see drawing "K" page 7) into Tank Ports (C) and (D).
 - C. If your vehicle is equipped WITHOUT an Emission Control System (E.C.S. / "SMOG") and WITH Return Line (see **Appendix — C, pages 14-16**): install fitting Brass 1/4" male pipe thread - 180° 5/16" OD BARB fittings (Ca) (see drawing "K" page 7) into Tank Port (B). Install Brass 1/4" male pipe thread - 180° 1/2" OD BARB fittings (Ca) (see drawing "K" page 7) into Tank (A1) Ports (C) and (D).
 - D. If your vehicle is equipped WITHOUT an Emission Control System (E.C.S. / "SMOG") and WITHOUT Return Line (see **Appendix — D, pages 16-18**): install Brass 1/4" male pipe thread - 180° 5/16" OD BARB fitting (Ca) (see drawing "K" page 7) into Tank (A1) Port (B). Install Brass 1/4" male pipe thread - 180° 1/2" OD BARB fittings (Ca) (see drawing "K" page 7) into Tank Port (C). Install standard Brass 1/4" male pipe thread plug fitting (Cf) (see drawing "K" page 7) into Tank Port (D).
- 4. Insert Tank (A1) by fitting the Tank Fill Neck (A) between the right (passenger) side frame rail (K2) and the body (L). Keep the Tank all the way back. See drawing "A" and "B".
- 5. Hold the Tank in place with a floor jack, fit mounting straps (J) to bolts (step 1) in rear cross member (G). If using Con-Ferr® Optional Skid Plate (F) (T-1076), fit the Skid Plate under the Tank, with the jack, align Skid Plate mounting holes with the bolts (Step 1) in rear cross member.
- 6. Install the two 3/8" x 3" bolts in the front hanger (H) to hook the mounting straps (J) or Con-Ferr® Optional Skid Plate (T-1076) (F1). Keep the Tank to the right (passenger) side so that at least 3/4" of the Fill Neck Tube (A) extends into the wheel compartment. Tighten all mounting hardware.

MOUNTING THE RECESSED FUEL NECK — ALL TANK MODELS

- 7. Use the paper Template provided. Align the Template against the right (passenger) side as noted.

8. Mark and cut out the section approximately 5 3/4" x 5 3/4".
9. Fit the Recessed Filler Neck (E) into the cutout so that the Neck Tube slants downward, and points to the Tank (A1). See drawing "B".
10. Drill the mounting holes (#21 drill bit) in the Neck flagging into the body and install and tighten mounting screws.
11. Slip the Connector Hose (V), provided, over the Tank Filler Neck (A) and clamp in place. Slide the other clamp onto the Connector Hose (V), then slip Connector Hose onto the Recessed Filler Neck Tube. Clamp tightly.
12. Install Gas Cap.

WARNING:

PRIOR TO ANY FUEL TANK SENDER, SELECTOR VALVE INSTALLATION, OR ANY MODIFICATIONS ARE MADE TO THE VEHICLE'S ELECTRICAL SYSTEM - **DISCONNECT** THE MAIN BATTERY CABLES CONNECTIONS IN ACCORDANCE WITH THE FACTORY REPAIR MANUALS. THIS WILL ENSURE THAT THERE WILL BE NO POWER SUPPLIED TO THE VEHICLE ELECTRICAL SYSTEM MAKING IT SAFE TO PERFORM INSTALLATION MODIFICATIONS.

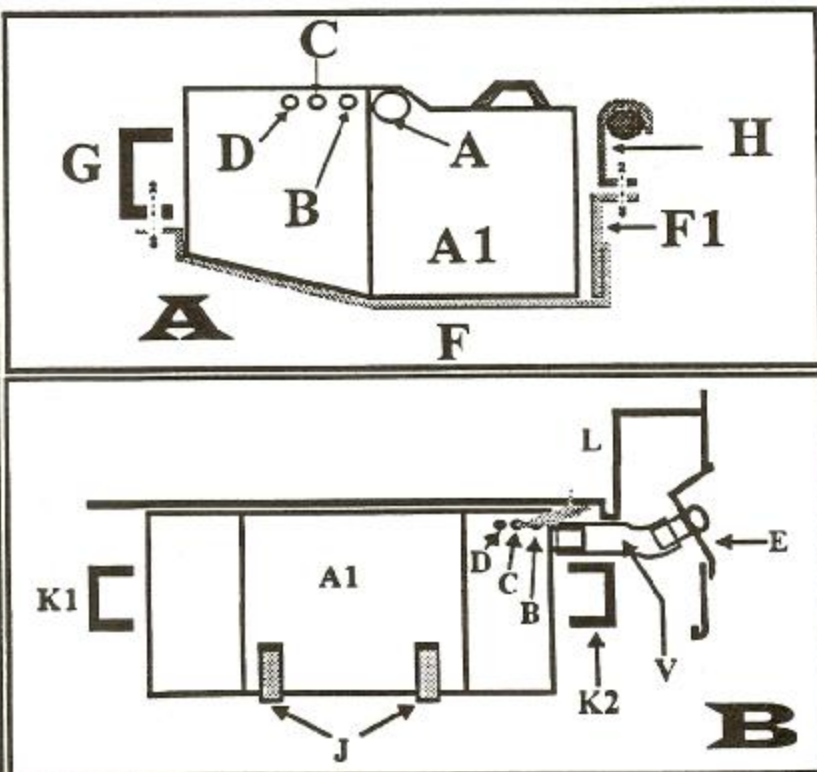
Compare your vehicle's current configuration of: fuel lines, return line, and Emissions Control System lines (consult your Factory Repair and E.C.S. Manuals for the year and model of your vehicle) to the drawings "C"~"F" on page 5. If your current configuration matches drawing "C" continue tank kit installation with Appendix — A, page 8. If your current configuration matches drawing "D" continue tank kit installation with Appendix — B, page 11. If your current configuration matches drawing "E" continue tank kit installation with Appendix — C, page 14. If your current configuration matches drawing "F" continue tank kit installation with Appendix — D, page 17.

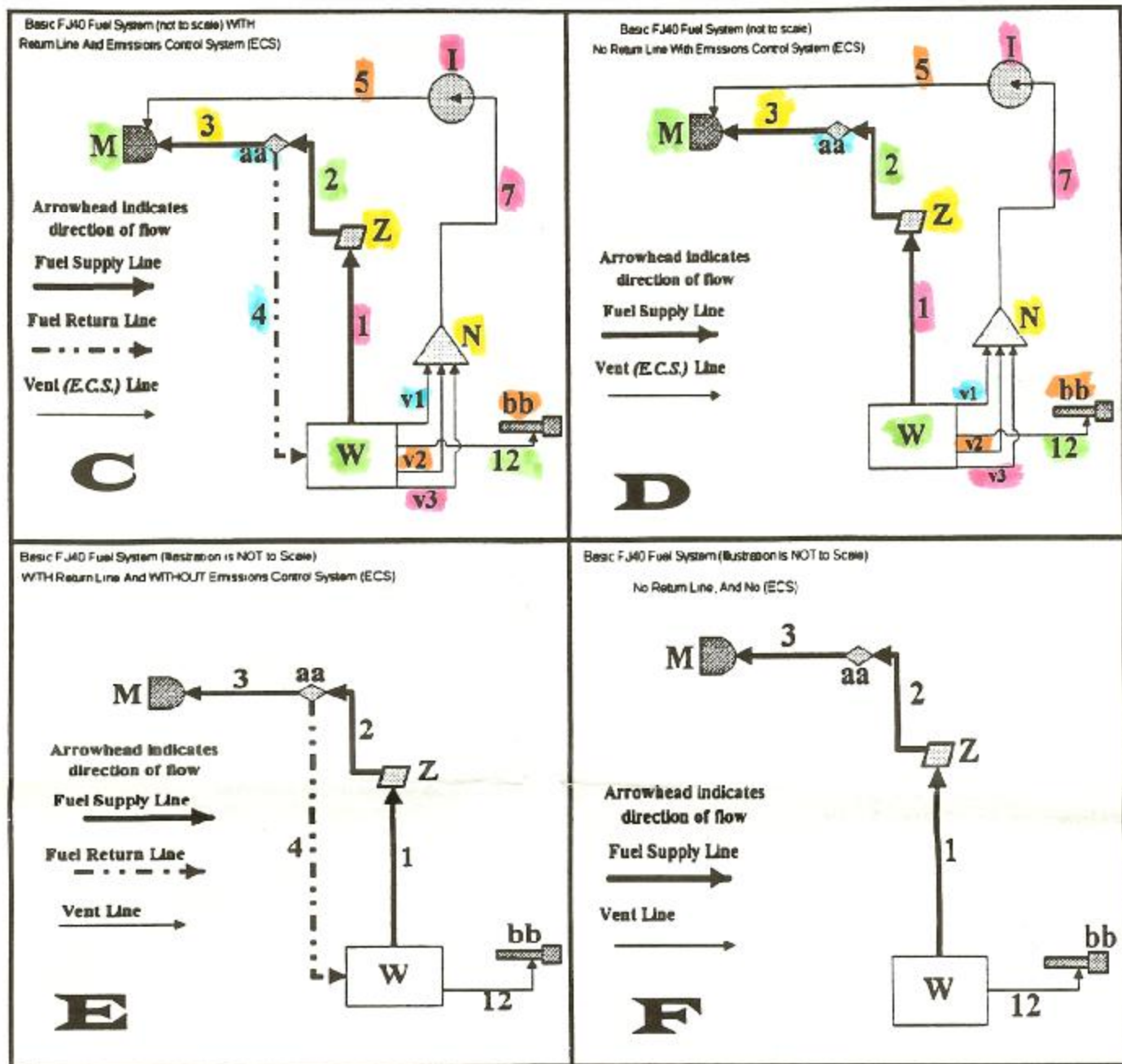
SPECIAL NOTICE — READ IN FULL

In the following pages are shown configurations of Fuel Systems that do not include Emission Control Systems and/or Return Line Systems. In doing so Con-Ferr®, Inc. is NOT advocating that a vehicle equipped with an existing Emission Control Systems and/or Return Line Systems be modified in ANY MANNER THAT WILL DISABLE THE Emission Control Systems and/or Return Line Systems. **DISABLING THE Emission Control Systems (E.C.S.) and/or Return Line Systems MAY (AND MOST OFTEN DO) CAUSE SEVERE DAMAGE TO THE VEHICLE AND PRECIPITATE DANGEROUS "SAFETY" SITUATION(S); IN ADDITION TO SUBJECTING YOU TO EXTREME FINANCIAL AND LEGAL LIABILITIES.** The following pages illustrate fuel line and E.C.S. line modification/hook ups which generally is in compliance with most State's and Federal's Emissions regulations; however, it is the customer's responsibility to ensure that the installation of this Gas Tank Kit meets complete compliance with your area's Local, State, and Federal Emissions regulations. If none of our recommended fuel line and E.C.S. line modification/hook ups DO NOT meet complete compliance with your area's Local, State, and Federal Emissions regulations - stop installation, and have a certified mechanic complete the installation of the fuel line and E.C.S. line modification/hook ups in accordance with your area's Local, State, or Federal Emissions regulations.

Reference Key:

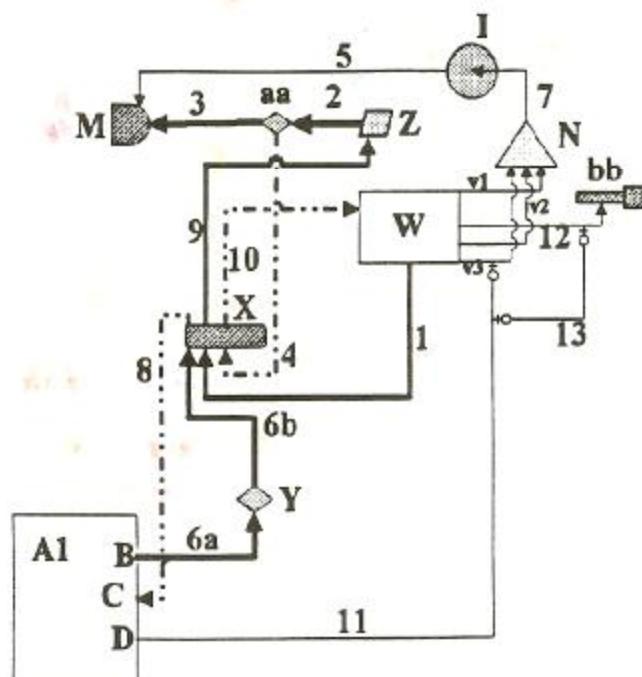
- (A) FILLER NECK ON AUXILIARY GAS TANK
- (A1) AUXILIARY GAS TANK UNIT
- (B) PORT, FUEL PICKUP
- (C) PORT, RETURN / (E.C.S.) VENTING
- (D) (E.C.S.) PORT, VENTING
- (E) RECESSED FUEL NECK [CF PART NO. G-8024]
- (F) OPTIONAL SKID PLATE [CF PART NO. T-1076]
- (F1) MOUNTING BRACKETS ON OPTIONAL SKID PLATE [PART NO. T-1076]
- (G) REAR CROSS MEMBER
- (H) HANGERS
- (J) MOUNTING STRAPS [STANDARD/INCLUDED]
- (K1) FRAME RAIL - LEFT
- (K2) FRAME RAIL - RIGHT
- (L) BODY FLOORBOARD AREA
- (V) CONNECTION HOSE



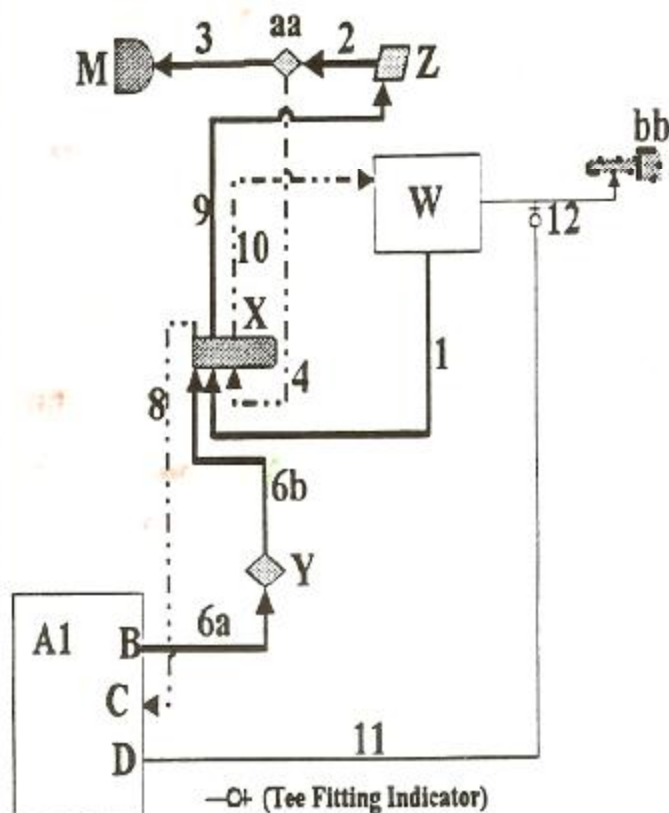


Reference Descriptions:

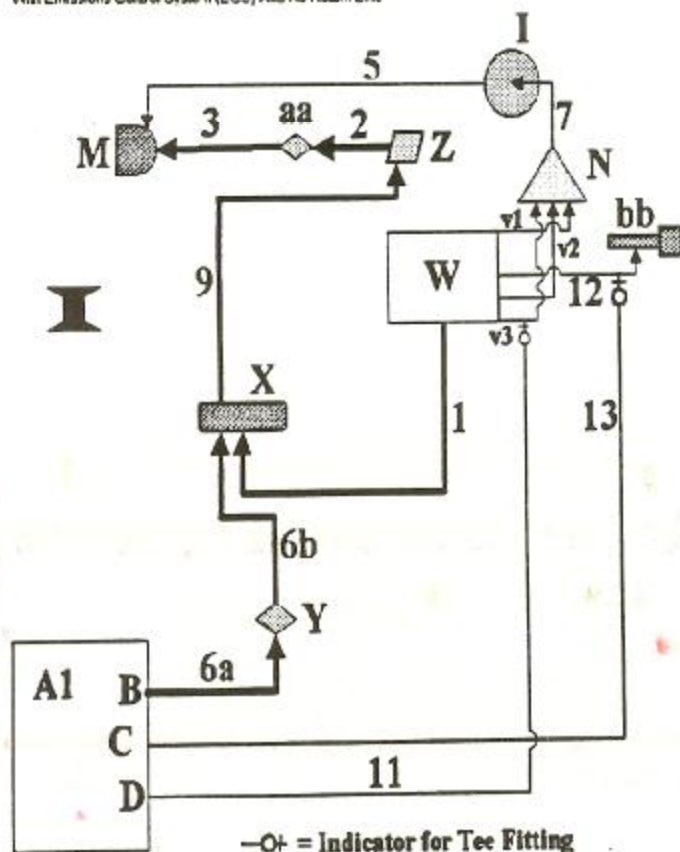
(I) (E.C.S.) "SMOG" CANISTER (M) CARBURETOR (N) LIQUID / VAPOR SEPARATOR VALVE (v1) E.C.S. VENT HOSE - FACTORY FUEL TANK TO "INLET" FUEL LIQUID / VAPOR SEPARATOR VALVE (v2) E.C.S. VENT HOSE - FACTORY FUEL TANK TO "INLET" FUEL LIQUID / VAPOR SEPARATOR VALVE (v3) E.C.S. VENT HOSE - FACTORY FUEL TANK TO "INLET" FUEL LIQUID / VAPOR SEPARATOR VALVE (W) FACTORY (MAIN) FUEL TANK (Z) FUEL PUMP (aa) ENGINE FUEL FILTER (bb) FACTORY FUEL TANK NECK (1) FACTORY FUEL LINE FROM (MAIN) FUEL TANK TO FUEL PUMP (2) FACTORY FUEL LINE FROM FUEL PUMP TO FACTORY FUEL FILTER (3) FACTORY FUEL LINE FROM FACTORY FUEL FILTER TO CARBURETOR (4) FACTORY "RETURN" FUEL LINE (5) FACTORY VENT (E.C.S.) LINE FROM (E.C.S.) "SMOG" CANISTER TO CARBURETOR (7) FACTORY VENT (E.C.S.) LINE FROM FUEL LIQUID / VAPOR SEPARATOR VALVE TO (E.C.S.) "SMOG" CANISTER NEVER "T" INTO THIS LINE FOR ANY REASON!!! (12) FACTORY VENT LINE FROM (MAIN) FUEL TANK TO FACTORY FUEL TANK NECK



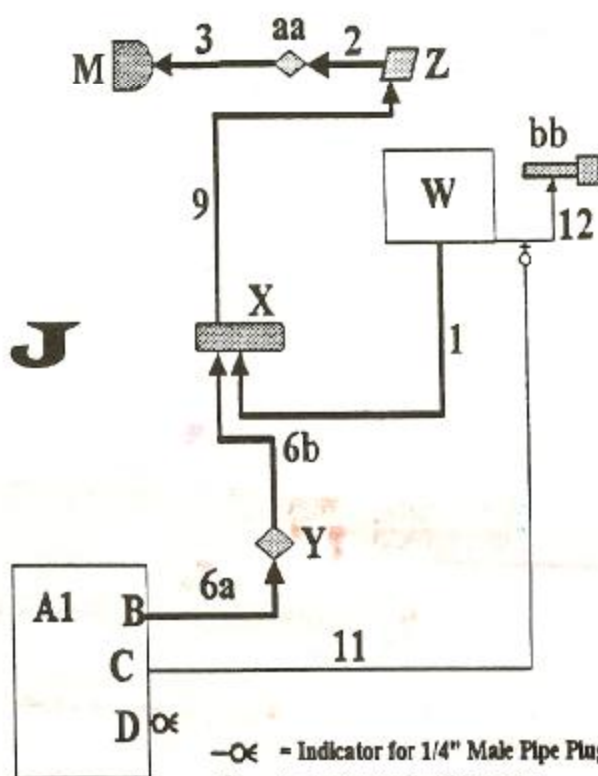
—D+ (Tee Fitting Indicator)



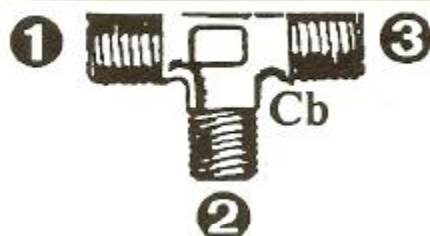
—O+ (Tee Fitting Indicator)



—O+ = Indicator for Tee Fitting



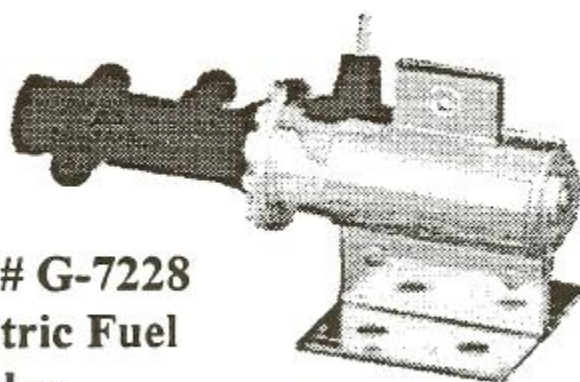
-⊗ = Indicator for 1/4" Male Pipe Plug
 -⊕ = Indicator for Tee Connector



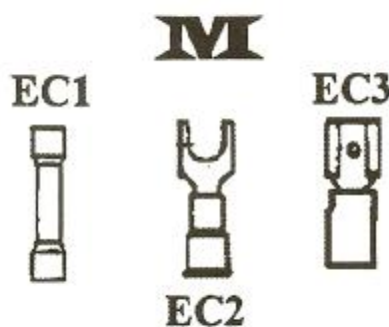
K



L



(X) — CF# G-7228
3 Port Electric Fuel
Selector Valve

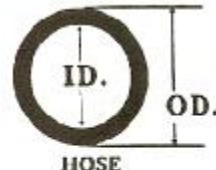


M

EC1

EC3

EC2



N FITTING OD. = HOSE ID.



O

(X) — CF# G-7234
6 Port Electric
Selector Valve

**Partial View of
Liquid/Vapor
Separator
Valve (N)**

P

11

v3

v1

v3

v2

**"Tee"
Fitting**

INSTALLATION AND ROUTING OF FUEL LINE SYSTEM FOR FJ40 YEAR MODELS WITH EMISSIONS CONTROL SYSTEM (E.C.S. / "SMOG" CONTROL) AND RETURN LINE.

There are other types of optional Fuel Line Kits that employ "manual" selector valves; however, we strongly recommend the Electric type Selector Valve systems over the manual valve. Electric type Selector Valve systems can be easily activated by a switch allowing the driver to maintain their attention on the current driving situation; whereas, a manual valve requires the driver to locate a "handle" to twist causing the driver to avert their attention from the safe operation of the vehicle. Electric type Selector Valve systems are easier to mount under the vehicle and keeping most of the fuel system hosing out of the vehicle's passenger compartment. For these reasons our Fuel Line / E.C.S. "Hookup" Instructions will only describe installations with Electric type Selector Valves.

WARNING!!

READ AND FOLLOW ALL INSTRUCTIONS PRECISELY. NEVER TEE OR CROSS-CONNECT INTO E.C.S. HOSE (7) - VERY SERIOUS AND POSSIBLE 'LIFE THREATENING' DAMAGE WILL OCCUR.

DO NOT 'BLOCK OFF' RETURN LINE (4), THIS ACTION WILL CAUSE FUEL PUMP FAILURE.

THE FOLLOWING INSTALLATION INSTRUCTIONS FOR FUEL LINE AND E.C.S. LINE MODIFICATION / HOOKUP WHICH ARE GENERALLY IN COMPLIANCE WITH MOST STATES AND FEDERAL EMISSIONS REGULATIONS; HOWEVER, IT IS THE CUSTOMER'S RESPONSIBILITY TO ENSURE THAT THE INSTALLATION OF THIS GAS TANK KIT INSTALLATION MEETS COMPLETE COMPLIANCE WITH YOUR AREA'S LOCAL, STATE, AND FEDERAL EMISSIONS REGULATIONS. IF NONE OF OUR RECOMMENDED FUEL LINE AND E.C.S. LINE MODIFICATION / HOOKUP INSTRUCTIONS DO NOT MEET COMPLETE COMPLIANCE WITH YOUR AREA'S LOCAL, STATE, AND FEDERAL EMISSIONS REGULATIONS - STOP THIS INSTALLATION, AND HAVE A CERTIFIED MECHANIC COMPLETE THE INSTALLATION OF THE FUEL LINE AND E.C.S. LINE MODIFICATION/HOOK UPS IN ACCORDANCE WITH YOUR AREA'S LOCAL, STATE, OR FEDERAL EMISSIONS REGULATIONS.

1. FJ40 Fuel System WITH Emissions Control System And WITH Fuel Return Line (most 1966-up consult your Factory Repair Manual for the year and model vehicle)

If your Tank (A1) is without a Fuel Line Kit, you will have to obtain the following additional CUSTOMER OPTIONAL parts:

- 1 each Con-Ferr® part number G-7234 Electronic 6 Port Selector Valve (X) or equivalent (see photo (O) page 7)
- 20 ft. 5/16" ID Hose {approximate footage - footage required may vary from vehicle model to model} (Rated For ALL Types of Automotive Fuel compositions - State to State / Nation to Nation)
- 15 ft. 1/2" ID Hose {approximate footage - footage required may vary from vehicle model to model} (Rated For ALL Types of Automotive Fuel compositions - State to State / Nation to Nation)
- 2 each Brass 1/4" male pipe thread - 180° 5/16" OD BARB fittings (Ca) (see drawing "K" page 7)
- 3 each Brass 1/4" male pipe thread Tee fittings (Cb) (see drawing "K" page 7)
- 1 each Brass 1/4" male pipe thread - 180° 1/2" OD BARB fittings (Ca) (see drawing "K" page 7)
- 5 each Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce) (see drawing "K" page 7)
- 2 each Brass 1/4" Female Pipe Thread Adapter - 7/8" OD BARB Fittings (Ce) (please refer to drawings "K" and "N" page 7; and step 7B — the OD of the barb on these fittings will be determined by the ID size hose you will be "Teeing" into at the Liquid Vapor Separator Hose (v3))
- 2 each Brass 1/4" Female Pipe Thread Adapter - 7/8" OD BARB Fittings (Ce) (please refer to drawings "K" and "N" page 7; and step 9B — the OD of the barb on these fittings will be determined by the ID size hose you will be "Teeing" into at the Factory Fuel Neck Vent Hose (12))
- 18 hose clamps in sizes to match the OD hose size to be used during the installation
- 1 each "in-line" fuel filter (Y)**

****NOTE:** EVERY EFFORT HAS BEEN TAKEN TO INSURE THAT THE INSIDE OF YOUR NEW FUEL TANK IS CLEAN AND FREE OF FOREIGN MATTER. HOWEVER, DURING INSTALLATION THERE IS A GREAT POSSIBILITY OF METAL SHAVINGS OR SUCH MATERIAL FALLING INTO THE TANK. THEREFORE WE ADVISE THE CUSTOMER TO PURCHASE AND INSTALL AN "IN-LINE" FUEL FILTER AS SHOWN IN DRAWINGS "G", "H", "I", AND "J. INSTALLING AN ECONOMICAL CUSTOMER OPTIONAL "IN-LINE FUEL FILTER" BEFORE FUEL CAN ENTER INTO THE "GENERAL" FUEL SYSTEM MAY HELP PREVENT VEHICLE METAL FUEL LINES AND OTHER 'EXPENSIVE' COMPONENTS FROM BEING CLOGGED. DO NOT REMOVE FACTORY FUEL FILTER FROM FUEL SYSTEM — BOTH MUST BE USED.

HINT: Before installing any hose to fittings; slip the appropriate size hose clamp down the end of the hose. Once the hose is slipped or squeezed onto the fitting, slip the hose clamp back into its proper position and tighten. TIGHTENING HOSE CLAMPS: Tighten hose clamp (any and all used in this installation) only enough to insure leakproof seal — do not over tighten a clamp. Over tightening a hose clamp will cause it to cut into the hose causing leakage and / or premature hose failure.

1. Install Electric type Selector Valve (X) under vehicle floorboards, and related electrical wiring in accordance with installation instructions supplied with the Valve from the Valve manufacturer.
2. Insure that all factory fuel lines are drained of gasoline. Cut the factory tank (W) main fuel line (1), drawing "C", very close to Selector Valve (X), see drawing "G".
 - A. Slip the end of hose (1) coming from the factory "main" tank (W) onto the Fuel 'input port' of the Selector Valve (X), in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp.
 - B. Slip the "fuel pump (Z)" end of the fuel line, now referenced as (9), onto the "outlet" port of the Selector Valve (X), in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp. See drawing "G".
3. Slip one end of a 6 inch length of 5/16" ID hose (6a), onto "IN-LINE" FUEL FILTER (Y) and clamp. Install the other end of that hose (6a) onto the Tank fitting at port (B), and clamp with appropriate size hose clamp. Slip one end of remaining 5/16" ID hose (6b) onto the remaining "inlet" port on Selector Valve (X), see installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp. Route the other end of hose (6b) to the open end of in-line fuel filter (Y) mounted to Con-Ferr Auxiliary Fuel Tank (A1). *When routing the hose, provide protection from heat, cutting or other hazards.* Cut excess hose and slip the end of the hose (6b) onto the open fitting of in-line fuel filter (Y), and clamp with appropriate size hose clamp.
4. Cut the factory RETURN line (4), drawing "C", very close to Selector Valve (X), see drawing "G". *Please Note: On Some vehicle models the RETURN line (4) does not originate from the factory fuel filter. The RETURN line origination point is not of importance — its modification to various destinations is.*
 - A. Slip the end of RETURN line now referenced as (10) coming from the factory "main" tank (W), shown in drawing "G", onto one of the "Return" 'outlet ports' of the Selector Valve (X) in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp.
 - B. Slip the factory "fuel filter" (aa) side of the RETURN line (4) you just cut onto the 'Return' "inlet" port of the Selector Valve (X) in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp.
 - C. Slip one end of an adequate length of 5/16" ID hose (8) onto the Tank (A1) fitting at port (C) and clamp with appropriate size hose clamp. Route the hose to the remaining "Return" 'outlet ports' of the Selector Valve (X) in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp. When routing the hose, provide protection from heat, cutting or other hazards.

The above, and following steps are VERY IMPORTANT! FAILURE TO PROPERLY PERFORM THE STEPS CAN RESULT IN LIQUID GASOLINE FILLING THE "SMOG" CANISTER (I) DAMAGING IT - CREATE A POSSIBLE FIRE CONDITION, AND REQUIRING THE "SMOG" CANISTER (I) REPLACEMENT (This IS a very expensive \$\$\$ part to have to replace).

5. Determine the location for your model vehicle of the "Fuel Liquid / Vapor Separator Valve" (N); consult factory Emissions Control System Repair Manual For Vehicle Year-Model. Slip one end of an adequate length of 1/2" ID hose (11) onto Con-Ferr® Auxiliary Fuel Tank (A1) fitting at port (D) and clamp with appropriate size hose clamp. Route the hose to, and into the passenger compartment to the factory "Fuel Liquid / Vapor Separator Valve" (N); when routing the hose, provide protection from heat, cutting or other hazards. See drawings "C" and "G".
 - A. When routing hose (11) into the passenger compartment; you should find an access hole in the floor where other factory hoses enter for the factory "Fuel Liquid / Vapor Separator Valve" (N). If there is not enough space to allow you to thread hose (11) through the access hole: inspect the nearby floor area; where there are no hoses or wires that may be damaged, drill an entrance hole for the hose (11). To protect the hose (11) from cuts, de-burr the hole and install a weather tight grommet large enough to accommodate the hose diameter you are working with.
 - B. Most vehicle models have the "Fuel Liquid / Vapor Separator Valve" (N) housed behind a cover plate by the rear passenger door jam. Remove the cover plate and expose the Valve (N).
6. You will note that there are a number of hoses (v1-v3 or more); see drawings "C", "G", and consult factory Emissions Control System Repair Manual For Vehicle Year-Model, connected to the BOTTOM of the "Fuel Liquid / Vapor Separator Valve" (N). You will also note there is only one hose (7) connected to the TOP of the "Fuel Liquid / Vapor Separator Valve" (N). NEVER CUT OR "T" INTO THE TOP HOSE (7) - DAMAGE TO THE "SMOG" CANISTER (I) WILL RESULT AND REPLACEMENT OF THE CANISTER WILL BECOME NECESSARY.

7. After consulting your factory repair manual for your Emission Control System, determine which **BOTTOM** hose connected to the "Fuel Liquid / Vapor Separator Valve" (N) is an "inlet" with a hose ID size close to the 1/2" ID of hose (11) that you had routed in step 5. Mark that hose as (v3), for cutting.
 - A. Cut the **BOTTOM** factory "inlet" hose you have marked as (v3) about 4 inches below "Fuel Liquid / Vapor Separator Valve" (N).
 - B. Measure the ID (*Inside Diameter*) of hose (v3), and purchase two each Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce) [1/2" = closest American size to ID of hose (v3)], please refer to drawing "N" page 7). Purchase two hose clamps in the size to match the OD size of hose (v3).
8. **Assembling "Tee" fitting:** Install the Brass 1/4" Female Pipe Thread Adapter - 1/2" (closest American size to ID of hose (v3) OD BARB Fittings (Ce) that you have purchased to positions 1 and 3 of a Brass 1/4" male pipe thread Tee fitting (Cb). To the remaining position 2 install a Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce).
 - A. Insert the "Tee" fitting barb end at position 3 into the end of the cut hose (v3) coming off the **BOTTOM** factory "inlet" of the "Fuel Liquid / Vapor Separator Valve" (N), cut in step 7A, and clamp with appropriate size hose clamp.
 - B. Insert the "Tee" fitting barb end at position 1 into the end of the cut hose (v3) coming off the factory Main Tank "outlet" side hose (v3), cut in step 7A, and clamp with appropriate size hose clamp.
 - C. Insert the end of hose (11), routed in step 5 ~ 5A, onto the barbed end at position 2 of the "Tee" fitting and clamp with appropriate size hose clamp. *Venting of the Con-Ferr Auxiliary Fuel Tank into Factory E.C.S. closed system is now complete.*
9. Determine the location for your model vehicle of the factory fuel neck vent hose (12); see drawings "C", "G", and consult factory Emissions Control System Repair Manual For Vehicle Year-Model.
 - A. Inside the passenger compartment, if possible, cut the factory fuel neck vent hose (12).
 - B. Measure the ID of hose (12), and purchase two each Brass 1/4" Female Pipe Thread Adapter - 1/2" (closest American size to ID of hose (12) OD BARB Fittings (Ce) (please refer to drawings "K" and "N" page 7). Purchase two hose clamps in the size to match the OD of factory fuel neck vent hose (12).
10. **Assembling "Tee" fitting:** Install the Brass 1/4" Female Pipe Thread Adapter - 1/2" (closest American size to ID of hose (12) OD BARB Fittings (Ce) that you have purchased to positions 1 and 3 of a Brass 1/4" male pipe thread Tee fitting (Cb). To the remaining position 2 install a Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce).
 - A. Insert the "Tee" fitting barb end at position 3 into the end of the cut hose (12) going to the factory fuel neck (bb), and clamp with appropriate size hose clamp.
 - B. Insert the "Tee" fitting barb end at position 1 into the end of the cut hose (12) coming from the factory Main Tank "outlet" side of hose (12), and clamp with appropriate size hose clamp.
 - C. Measuring 5 inches down from the end (connection to the "Tee" fitting installed in steps 8A ~ 8C) of hose (11); mark the cut hose (11).
 - D. Cut a length of 1/2" ID hose (13) that will reach from the "Tee" fitting you have just installed into the factory fuel neck vent hose (12) to hose (11) where you have just cut it. Slip one end of hose 13 onto position 2 of the "Tee" fitting installed into the factory fuel neck vent hose (12), and clamp with appropriate size hose clamp.
 - E. **Assembling "Tee" fitting:** Install Brass 1/4" Female Pipe Thread Adapter - 1/2 OD BARB Fittings (Cc) to positions 1, 2 and 3 of a Brass 1/4" male pipe thread Tee fitting (Cb).
 - F. Insert the "Tee" fitting barb end at position 3 into the end of the cut hose (11) going to "Fuel Liquid / Vapor Separator Valve" (N), and clamp with appropriate size hose clamp.
 - G. Insert the "Tee" fitting barb end at position 1 into the end of the cut hose (11) coming from the Con-Ferr Auxiliary Fuel Tank, and clamp with appropriate size hose clamp.
 - H. Insert the "Tee" fitting barb end at position 2 into the end of hose (13) coming from the "Tee" fitting installed into the factory fuel neck vent hose (12), and clamp with appropriate size hose clamp. *Pressure Equalization Venting of the Con-Ferr Auxiliary Fuel Tank And Factory Main Fuel Tank is now complete.*

Recheck all mounting hardware, and hose clamps for tightness. Recheck all hoses to insure correct and safe routing. Replace the gasoline into the factory tank (W) (only 1/2 full) for the next test. Fill the Con-Ferr Auxiliary Gas Tank (A1) with 4 to 5 gallons of gasoline. RECONNECT BATTERY TERMINALS TO BATTERY CABLES, DISCONNECTED IN STEP 1.

11. Set your Fuel Selector Valve (X), so that the fuel pump (Z) draws gasoline from the factory main fuel tank (W). Start your vehicle. **Note:** The vehicle will not start as quickly as it would normally, because all fuel lines were drained and will take some time to refill.
12. Let the vehicle "idle" for 20 minutes. Check all hose connections for leaks. If leaks are found, shut off the engine and repair them. Once repaired repeat steps 11 and this step.
13. If no leaks are found, after running the vehicle for at least 20 minutes, set the Fuel Selector Valve (X) so that the fuel pump (Z) will now draw gasoline from the Con-Ferr® Auxiliary Gas Tank (A1). — Repeat Steps 11~12. If installing T-1006 or T-1162 continue on page 20 with sender hookup. If installing T-1005 or T-1177 **INSTALLATION IS COMPLETE.**

WARNING:

IT IS THE CUSTOMER'S RESPONSIBILITY TO INSURE AND CORRECT ANYTHING EFFECTING THE SAFE OPERATION OF THE VEHICLE AND; THAT ALL MOUNTING HARDWARE ARE TIGHT, ALL HOSE CLAMPS ARE TIGHT, ALL HOSES ARE IN GOOD SERVICEABLE CONDITION AND LEAK FREE, BEFORE, DURING AND AFTER USE. CONNECTION OF THE CON-FERR® (E.C.S.) VENT PORT (D) INTO FACTORY VEHICLE MODELS EQUIPPED WITH FACTORY EMISSION CONTROL SYSTEM IS MANDATORY AND NOT OPTIONAL. THIS IS A REQUIREMENT BY LAW — IF IN DOUBT CONTACT YOUR LOCAL AUTHORIZED REGULATORY BOARD CONCERNING REGULATIONS FOR YOUR AREA. IT IS THE CUSTOMER'S RESPONSIBILITY, AS WELL AS BEING HELD LIABLE, TO INSURE THAT THE VEHICLE MEETS COMPLETE COMPLIANCE WITH YOUR AREA'S LOCAL, STATE, AND FEDERAL EMISSIONS REGULATIONS.

APPENDIX — B

INSTALLATION AND ROUTING OF FUEL LINE SYSTEM FOR FJ40 YEAR MODELS WITH EMISSIONS CONTROL SYSTEM [E.C.S. / "SMOG" CONTROL] AND WITHOUT RETURN LINE.

There are other types of optional Fuel Line Kits that employ "manual" selector valves; however, we strongly recommend the Electric type Selector Valve systems over the manual valve. Electric type Selector Valve systems can be easily activated by a switch allowing the driver to maintain their attention on the current driving situation; whereas, a manual valve requires the driver to locate a "handle" to twist causing the driver to avert their attention from the safe operation of the vehicle. Electric type Selector Valve systems are easier to mount under the vehicle and keeping most of the fuel system housing out of the vehicle's passenger compartment. For these reasons our Fuel Line / E.C.S. "Hookup" Instructions will only describe installations with Electric type Selector Valves.

WARNING!!

READ AND FOLLOW ALL INSTRUCTIONS PRECISELY. NEVER TEE OR CROSS-CONNECT INTO E.C.S. HOSE (7) - VERY SERIOUS AND POSSIBLE 'LIFE THREATENING' DAMAGE WILL OCCUR.

THE FOLLOWING INSTALLATION INSTRUCTIONS FOR FUEL LINE AND E.C.S. LINE MODIFICATION / HOOKUP WHICH ARE GENERALLY IN COMPLIANCE WITH MOST STATES AND FEDERAL EMISSIONS REGULATIONS; HOWEVER, IT IS THE CUSTOMER'S RESPONSIBILITY TO ENSURE THAT THE INSTALLATION OF THIS GAS TANK KIT INSTALLATION MEETS COMPLETE COMPLIANCE WITH YOUR AREA'S LOCAL, STATE, AND FEDERAL EMISSIONS REGULATIONS. IF NONE OF OUR RECOMMENDED FUEL LINE AND E.C.S. LINE MODIFICATION / HOOKUP INSTRUCTIONS DO NOT MEET COMPLETE COMPLIANCE WITH YOUR AREA'S LOCAL, STATE, AND FEDERAL EMISSIONS REGULATIONS - STOP THIS INSTALLATION, AND HAVE A CERTIFIED MECHANIC COMPLETE THE INSTALLATION OF THE FUEL LINE AND E.C.S. LINE MODIFICATION/HOOK UPS IN ACCORDANCE WITH YOUR AREA'S LOCAL, STATE, OR FEDERAL EMISSIONS REGULATIONS.

2. FJ40 Fuel System WITH Emissions Control System And WITHOUT Fuel Return Line (consult your Factory Repair Manual for the year and model vehicle)

- 1 each G-7228 Electronic 3 Port Selector Valve (X) or equivalent (see photo (L) page 7)
- 10 ft. 5/16" ID Hose {approximate footage - footage required may vary from vehicle model to model} (Rated For ALL Types of Automotive Fuel compositions - State to State / Nation to Nation)
- 30 ft. 1/2" ID Hose {approximate footage - footage required may vary from vehicle model to model} (Rated For ALL Types of Automotive Fuel compositions - State to State / Nation to Nation)
- 1 each Brass 1/4" male pipe thread - 180° 5/16" OD BARB fittings (Ca) (see drawing "K" page 7)
- 2 each Brass 1/4" male pipe thread Tee fittings (Cb) (see drawing "K" page 7)
- 2 each Brass 1/4" male pipe thread - 180° 1/2" OD BARB fittings (Ca) (see drawing "K" page 7)
- 2 each Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce) (see drawing "K" page 7)
- 2 each Brass 1/4" Female Pipe Thread Adapter - 7/8" OD BARB Fittings (Ce) (please refer to drawings "K" and "N" page 7; and step 9C — the OD of the barb on these fittings will be determined by the ID size hose you will be "Teeing" into at the Liquid Vapor Separator Hose)
- 2 each Brass 1/4" Female Pipe Thread Adapter - 7/8" OD BARB Fittings (Ce) (please refer to drawings "K" and "N" page 7; and step 9B — the OD of the barb on these fittings will be determined by the ID size hose you will be "Teeing" into at the Factory Fuel Neck Vent Hose)

14 each hose clamps in sizes to match the OD hose size to be used during the installation

1 each "in-line" fuel filter (Y)**

****NOTE: EVERY EFFORT HAS BEEN TAKEN TO INSURE THAT THE INSIDE OF YOUR NEW FUEL TANK IS CLEAN AND FREE OF FOREIGN MATTER. HOWEVER, DURING INSTALLATION THERE IS A GREAT POSSIBILITY OF METAL SHAVINGS OR SUCH MATERIAL FALLING INTO THE TANK. THEREFORE WE ADVISE THE CUSTOMER TO PURCHASE AND INSTALL AN "In-line" FUEL FILTER AS SHOWN IN DRAWINGS "G", "H", "I", AND "J. INSTALLING AN ECONOMICAL CUSTOMER OPTIONAL "IN LINE FUEL FILTER" BEFORE FUEL CAN ENTER INTO THE "GENERAL" FUEL SYSTEM MAY HELP PREVENT VEHICLE METAL FUEL LINES AND OTHER 'EXPENSIVE' TO REPLACE' COMPONENTS FROM BEING CLOGGED. DO NOT REMOVE FACTORY FUEL FILTER FROM FUEL SYSTEM — BOTH MUST BE USED.**

HINT: Before installing any hose to fittings; slip the appropriate size hose clamp down the end of the hose. Once the hose is slipped or squeezed onto the fitting, slip the hose clamp back into its proper position and tighten. **TIGHTENING HOSE CLAMPS:** Tighten hose clamp (any and all used in this installation) only enough to insure leakproof seal — do not over tighten a clamp. Over tightening a hose clamp will cause it to cut into the hose causing leakage and / or premature hose failure.

1. Install Electric type Selector Valve (X) under vehicle floorboards, and related electrical wiring in accordance with installation instructions supplied with the Valve from the Valve manufacturer.
2. Insure that all factory fuel lines are drained of gasoline. Cut the factory tank (W) main fuel line (1), drawing "D", very close to Selector Valve (X), see drawing "I".
 - A. Slip the end of hose (1) coming from the factory "main" tank (W) onto the Fuel 'input port' of the Selector Valve (X), in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp.
 - B. Slip the "fuel pump (Z)" end of the fuel line, now referenced as (9), onto the "outlet" port of the Selector Valve (X), in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp. See drawing "I".
3. Slip one end of a 6 inch length of 5/16" ID hose (6a), onto "IN-LINE" FUEL FILTER (Y) and clamp. Install the other end of that hose (6a) onto the Tank fitting at port (B), and clamp with appropriate size hose clamp. Slip one end of remaining 5/16" ID hose (6b) onto the remaining "inlet" port on Selector Valve (X), see installation instructions supplied with the Valve from the manufacturer, and clamp with appropriate size hose clamp. Route the other end of hose (6b) to the open end of in-line fuel filter (Y) mounted to Con-Ferr® Auxiliary Fuel Tank (A1). *When routing the hose, provide protection from heat, cutting or other hazards.* Cut excess hose and slip the end of the hose (6b) onto the open fitting of in-line fuel filter (Y), and clamp with appropriate size hose clamp.

The above, and following steps are VERY IMPORTANT! FAILURE TO PROPERLY PERFORM THE STEPS CAN RESULT IN LIQUID GASOLINE FILLING THE "SMOG" CANISTER (I) DAMAGING IT - CREATE A POSSIBLE FIRE CONDITION, AND REQUIRING THE "SMOG" CANISTER (I) REPLACEMENT (This IS a very expensive \$\$\$ part to have to replace).

4. Determine the location for your model vehicle of the "Fuel Liquid / Vapor Separator Valve" (N); consult factory Emissions Control System Repair Manual For Vehicle Year-Model. Slip one end of an adequate length of 1/2" ID hose (11) onto Con-Ferr® Auxiliary Fuel Tank (A1) fitting at port (D) and clamp with appropriate size hose clamp. Route the hose to, and into the passenger compartment - if necessary, the factory "Fuel Liquid / Vapor Separator Valve" (N); when routing the hose, provide protection from heat, cutting or other hazards. See drawings "D" and "I".
 - A. When routing hose (11) into the passenger compartment; you should find an access hole in the floor where other factory hoses enter for the factory "Fuel Liquid / Vapor Separator Valve" (N). If there is not enough space to allow you to thread hose (11) and hose (13), to be routed in steps 9~9A, through the access hole; inspect the nearby floor area; where there are no hoses or wires that may be damaged, and drill an entrance hole large enough for the hoses (11) and (13). To protect the hoses from cuts de-burr the hole and install a weather tight grommet large enough to accommodate both hose diameters that you are working with.
 - B. Most vehicle models have the "Fuel Liquid / Vapor Separator Valve" (N) housed behind a cover plate by the rear passenger door jam. Remove the cover plate and expose the Valve (N).
5. You will note that there are a number hoses (v1~v3 or more); see drawings "D", "I", and consult factory Emissions Control System Repair Manual For Vehicle Year-Model, connected to the BOTTOM of the "Fuel Liquid / Vapor Separator Valve" (N). You will also note there is only one hose (7) connected to the TOP of the "Fuel Liquid / Vapor Separator Valve" (N). **NEVER CUT OR "T" INTO THE TOP HOSE (7) - DAMAGE TO THE "SMOG" CANISTER (I) WILL RESULT AND REPLACEMENT OF THE CANISTER WILL BECOME NECESSARY.**
6. After consulting your factory repair manual for your Emission Control System, determine which BOTTOM hose connected to the "Fuel Liquid / Vapor Separator Valve" (N) is an "inlet" with a hose ID size close to hose line (11) that you had routed in step 5. Mark hose as (v3) for cutting.

- A. Cut the **BOTTOM** factory "inlet" hose (v3) about 4 inches below "Fuel Liquid / Vapor Separator Valve" (N).
 - B. Measure the ID (*Inside Diameter*) of hose (v3), and purchase two each Brass 1/4" Female Pipe Thread Adapter - ?/?" OD BARB Fittings (Ce) [?/?" = closest American size to ID of hose (v3)], please refer to drawings "K", and "N" page 7). Purchase two hose clamps in the size to match the OD size of hose (v3).
7. **Assembling "Tee" fitting:** Install the Brass 1/4" Female Pipe Thread Adapter - ?/?" (closest American size to ID of hose (v3) OD BARB Fittings (Ce) that you have purchased to positions 1 and 3 of a Brass 1/4" male pipe thread Tee fitting (Cb). To the remaining position 2 install a Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce). See drawing "K".
- A. Insert the "Tee" fitting barb end at position 3 into the end of the cut hose (v3) coming off the **BOTTOM** factory "inlet" of the "Fuel Liquid / Vapor Separator Valve" (N), cut in step 7A, and clamp with appropriate size hose clamp.
 - B. Insert the "Tee" fitting barb end at position 1 into the end of the cut hose (v3) coming off the factory Main Tank "outlet" side hose (v3), cut in step 7A, and clamp with appropriate size hose clamp.
 - C. Insert the end of hose (11), routed in step 5 ~ 5A, onto the barbed end at position 2 of the "Tee" fitting and clamp. *Venting of the Con-Ferr Auxiliary Fuel Tank into Factory E.C.S. closed system is now complete.*
8. Determine the location for your model vehicle of the factory fuel neck vent hose (12); See drawings "D" and "I", and consult factory Emissions Control System Repair Manual For Vehicle Year-Model.
9. Slip one end of an adequate length of 1/2" ID hose (13) onto Con-Ferr® Auxiliary Fuel Tank (A1) fitting at port (C) and clamp with appropriate size hose clamp. Determine the location for your model vehicle of the factory fuel neck vent hose (12); and consult factory Repair Manual For Vehicle Year-Model. Route hose (13) to, and into the passenger compartment to the factory main fuel tank neck vent hose (12). When routing the hose, provide protection from heat, cutting or other hazards. See drawings "E" and "H".
- A. When routing hose (13) into the passenger compartment; you should find an access hole in the floor where other factory hoses enter for the factory "Fuel Liquid / Vapor Separator Valve" (N). If there is not enough space to allow you to thread hose (13) through the access hole; then thread hose (13) through 'access hole' created in step 4A, and continue to route hose (13) to the factory fuel neck vent hose (12).
 - B. Inside the passenger compartment cut the factory fuel neck vent hose (12).
 - C. Measure the hose (12) ID and purchase two each Brass 1/4" Female Pipe Thread Adapter - ?/?" (closest American size to ID of hose (12) OD BARB Fittings (Ce) (please refer to drawing "N" page 7). Purchase two hose clamps in the size to match the OD of factory fuel neck vent hose (12).
10. **Assembling "Tee" fitting:** Install the Brass 1/4" Female Pipe Thread Adapter - ?/?" (closest American size to ID of hose (12) OD BARB Fittings (Ce) that you have purchased to positions 1 and 3 of a Brass 1/4" male pipe thread Tee fitting (Cb). To the remaining position 2 install a Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce).
- A. Insert the "Tee" fitting barb end at position 3 into the end of the cut hose (12) going to the factory fuel neck (bb), and clamp with appropriate size hose clamp.
 - B. Insert the "Tee" fitting barb end at position 1 into the end of the cut hose (12) coming from the factory Main Tank "outlet" side of hose (12), and clamp with appropriate size hose clamp.
 - C. Insert the "Tee" fitting barb end at position 2 into the end of hose (13) coming from the Con-Ferr Auxiliary Fuel Tank, and clamp with appropriate size hose clamp. *Pressure Equalization Venting of the Con-Ferr Auxiliary Fuel Tank And Factory Main Fuel Tank is now complete.*
- Recheck all mounting hardware, and hose clamps for tightness. Recheck all hoses to insure correct and safe routing. Replace the gasoline into the factory tank (W) (only 1/2 full) for the next test. Fill the Con-Ferr Auxiliary Gas Tank (A1) with 4 to 5 gallons of gasoline. RECONNECT BATTERY TERMINALS TO BATTERY CABLES, DISCONNECTED IN STEP 1.
11. Set your Fuel Selector Valve (X), so that the fuel pump (Z) draws gasoline from the factory main fuel tank (W). Start your vehicle. **Note:** *The vehicle will not start as quickly as it would normally, because all fuel lines were drained and will take some time to refill.*
 12. Let the vehicle "idle" for 20 minutes. Check all hose connections for leaks. If leaks are found, shut off the engine and repair them. Once repaired repeat steps 11 and this step.

13. If no leaks are found, after running the vehicle for at least 20 minutes, set the Fuel Selector Valve (X) so that the fuel pump (Z) will now draw gasoline from the Con-Ferr® Auxiliary Gas Tank (A1). — Repeat Steps 11~12. *If installing T-1006 or T-1162 continue on page 20 with sender hookup. If installing T-1005 or T-1177 INSTALLATION IS COMPLETE.*

WARNING:

IT IS THE CUSTOMER'S RESPONSIBILITY TO INSURE AND CORRECT ANYTHING EFFECTING THE SAFE OPERATION OF THE VEHICLE AND; THAT ALL MOUNTING HARDWARE ARE TIGHT, ALL HOSE CLAMPS ARE TIGHT, ALL HOSES ARE IN GOOD SERVICEABLE CONDITION AND LEAK FREE, BEFORE, DURING AND AFTER USE. CONNECTION OF THE CON-FERR® (E.C.S.) VENT PORT (D) INTO FACTORY VEHICLE MODELS EQUIPPED WITH FACTORY EMISSION CONTROL SYSTEM IS MANDATORY AND NOT OPTIONAL. THIS IS A REQUIREMENT BY LAW — IF IN DOUBT CONTACT YOUR LOCAL AUTHORIZED REGULATORY BOARD CONCERNING REGULATIONS FOR YOUR AREA. IT IS THE CUSTOMER'S RESPONSIBILITY, AS WELL AS BEING HELD LIABLE, TO INSURE THAT THE VEHICLE MEETS COMPLETE COMPLIANCE WITH YOUR AREA'S LOCAL, STATE, AND FEDERAL EMISSIONS REGULATIONS.

APPENDIX — C

INSTALLATION AND ROUTING OF FUEL LINE SYSTEM FOR FJ40 YEAR MODELS WITH EMISSIONS CONTROL SYSTEM (E.C.S. / "SMOG" CONTROL) AND RETURN LINE.

There are other types of optional Fuel Line Kits that employ "manual" selector valves; however, we strongly recommend the Electric type Selector Valve systems over the manual valve. Electric type Selector Valve systems can be easily activated by a switch allowing the driver to maintain their attention on the current driving situation; whereas, a manual valve requires the driver to locate a "handle" to twist causing the driver to avert their attention from the safe operation of the vehicle. Electric type Selector Valve systems are easier to mount under the vehicle and keeping most of the fuel system hosing out of the vehicle's passenger compartment. For these reasons our Fuel Line / E.C.S. "Hookup" instructions will only describe installations with Electric type Selector Valves.

WARNING!!

DO NOT 'BLOCK OFF' RETURN LINE (4), THIS ACTION WILL CAUSE FUEL PUMP FAILURE.

3. FJ40 Fuel System WITHOUT Emissions Control System And WITH Fuel Return Line (consult your Factory Repair Manual for the year and model vehicle)

- 1 each CF# G-7234 Electronic 6 Port Selector Valve (X) or equivalent (see photo (O) page 7)
- 20 ft. 5/16" ID Hose {approximate footage - footage required may vary from vehicle model to model} (Rated For ALL Types of Automotive Fuel compositions - State to State / Nation to Nation)
- 15 ft. 1/2" ID Hose {approximate footage - footage required may vary from vehicle model to model} (Rated For ALL Types of Automotive Fuel compositions - State to State / Nation to Nation)
- 2 each Brass 1/4" male pipe thread - 180° 5/16" OD BARB fittings (Ca) (see drawing "K" page 7)
- 1 each Brass 1/4" male pipe thread Tee fittings (Cb) (see drawing "K" page 7)
- 1 each Brass 1/4" male pipe thread - 180° 1/2" OD BARB fittings (Ca) (see drawing "K" page 7)
- 1 each Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce) (see drawing "K" page 7)
- 2 each Brass 1/4" Female Pipe Thread Adapter - 7/8" OD BARB Fittings (Ce) (please refer to drawings "K" and "N" page 7; and step 5C — the OD of the barb on these fittings will be determined by the ID size hose you will be "Teeing" into at the Factory Fuel Neck Vent Hose (12))
- 12 hose clamps in sizes to match the OD hose size to be used during the installation
- 1 each "in-line" fuel filter (Y)**

****NOTE: EVERY EFFORT HAS BEEN TAKEN TO INSURE THAT THE INSIDE OF YOUR NEW FUEL TANK IS CLEAN AND FREE OF FOREIGN MATTER. HOWEVER; DURING INSTALLATION THERE IS A GREAT POSSIBILITY OF METAL SHAVINGS OR SUCH MATERIAL FALLING INTO THE TANK. THEREFORE WE ADVISE THE CUSTOMER TO PURCHASE AND INSTALL AN "IN-LINE" FUEL FILTER AS SHOWN IN DRAWINGS "G", "H", "I", AND "J. INSTALLING AN ECONOMICAL CUSTOMER OPTIONAL "IN-LINE FUEL FILTER" BEFORE FUEL CAN ENTER INTO THE "GENERAL" FUEL SYSTEM MAY HELP PREVENT VEHICLE METAL FUEL LINES AND OTHER 'EXPENSIVE TO REPLACE' COMPONENTS FROM BEING CLOGGED. DO NOT REMOVE FACTORY FUEL FILTER FROM FUEL SYSTEM — BOTH MUST BE USED.**

HINT: Before installing any hose to fittings; slip the appropriate size hose clamp down the end of the hose. Once the hose is slipped or squeezed onto the fitting, slip the hose clamp back into its proper position and tighten. **TIGHTENING HOSE CLAMPS:** Tighten hose clamp (any and all used in this installation) only enough to insure leakproof seal — do not over tighten a clamp. Over tightening a hose clamp will cause it to cut into the hose causing leakage and / or premature hose failure.

1. Install Electric type Selector Valve (X) under vehicle floorboards, and related electrical wiring in accordance with installation instructions supplied with the Valve from the Valve manufacturer.
2. Insure that all factory fuel lines are drained of gasoline. Cut the factory tank (W) main fuel line (1), drawing "E", very close to Selector Valve (X), see drawing "H".

- A. Slip the end of hose (1) coming from the factory "main" tank (W) onto the Fuel "input port" of the Selector Valve (X), in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp.
 - B. Slip the "fuel pump (Z)" end of the fuel line, now referenced as (9), onto the "outlet" port of the Selector Valve (X), in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp. See drawing "H".
3. Slip one end of a 6 inch length of 5/16" ID hose (6a), onto "IN-LINE" FUEL FILTER (Y) and clamp. Install the other end of that hose (6a) onto the Tank fitting at port (B), and clamp with appropriate size hose clamp. Slip one end of remaining 5/16" ID hose (6b) onto the remaining "inlet" port on Selector Valve (X), see installation instructions supplied with the Valve from the manufacturer, and clamp with appropriate size hose clamp. Route the other end of hose (6b) to the open end of in-line fuel filter (Y) mounted to Con-Ferr Auxiliary Fuel Tank (A1). *When routing the hose, provide protection from heat, cutting or other hazards.* Cut excess hose and slip the end of the hose (6b) onto the open fitting of in-line fuel filter (Y), and clamp with appropriate size hose clamp.
 4. Cut the factory RETURN line (4), drawing "C", very close to Selector Valve (X), see drawing "G". *Please Note: Some vehicle models the RETURN line (4) does not originate from the factory fuel filter. The RETURN line origination point is not of importance — its modification to various destinations is.*
 - A. Slip the end of RETURN line now referenced as (10) going to the factory "main" tank (W), shown in drawing "H", onto one of the "Return" "outlet ports" of the Selector Valve (X) in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp.
 - B. Slip the factory "fuel filter" (aa) side of the RETURN line (4) you just cut onto the 'Return' "inlet" port of the Selector Valve (X) in accordance with installation instructions supplied with the Valve from the manufacturer, and clamp with appropriate size hose clamp.
 - C. Slip one end of an adequate length of 5/16" ID hose (8) onto the Tank (A1) fitting at port (C) and clamp with appropriate size hose clamp. Route the hose to the remaining "Return" "outlet ports" of the Selector Valve (X) in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp. When routing the hose, provide protection from heat, cutting or other hazards.
 5. Slip one end of an adequate length of 1/2" ID hose (11) onto Con-Ferr® Auxiliary Fuel Tank (A1) fitting at port (D) and clamp with appropriate size hose clamp. Determine the location for your model vehicle of the factory fuel neck vent hose (12); and consult factory Repair Manual For Vehicle Year-Model. Route hose (11) to, and into the passenger compartment to the factory main fuel tank neck vent hose (12). When routing the hose, provide protection from heat, cutting or other hazards. See drawings "E" and "H".
 - A. Inspect the floor area, where there are no hoses or wires that maybe damaged, drill an entrance hole for the hose (11) to be routed from Con-Ferr Auxiliary Fuel Tank (A1) port (D). To protect the hose from cuts, de-burr the hole and install a weather tight grommet large enough to accommodate the hose diameter you are working with.
 - B. Inside the passenger compartment, if possible, cut the factory fuel neck vent hose (12).
 - C. Measure the hose (12) ID and purchase two 2 each Brass 1/4" Female Pipe Thread Adapter - 7/8" (closest American size to ID of hose (12) OD BARB Fittings (Ce) (please refer to drawings "K" and "N" page 7). Purchase two hose clamps in the size to match the OD of factory fuel neck vent hose (12).
 6. **Assembling "Tee" fitting:** Install the Brass 1/4" Female Pipe Thread Adapter - 7/8" (closest American size to ID of hose (12) OD BARB Fittings (Ce) that you have purchased to positions 1 and 3 of a Brass 1/4" male pipe thread Tee fitting (Cb). To the remaining position 2 install a Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce).
 - A. Insert the "Tee" fitting barb end at position 3 into the end of the cut hose (12) going to the factory fuel neck (bb), and clamp with appropriate size hose clamp.
 - B. Insert the "Tee" fitting barb end at position 1 into the end of the cut hose (12) coming from the factory Main Tank "outlet" side of hose (12), and clamp with appropriate size hose clamp.
 - C. Insert the "Tee" fitting barb end at position 2 into the end of hose (11) coming from the Con-Ferr Auxiliary Fuel Tank, and clamp with appropriate size hose clamp. *Pressure Equalization Venting of the Con-Ferr Auxiliary Fuel Tank And Factory Main Fuel Tank is now complete.*

Recheck all mounting hardware, and hose clamps for tightness. Recheck all hoses to insure correct and safe routing. Replace the gasoline into the factory tank (W) (only 1/2 full) for the next test. Fill the Con-Ferr® Auxiliary Gas Tank (A1) with 4 to 5 gallons of gasoline. RECONNECT BATTERY TERMINALS TO BATTERY CABLES, DISCONNECTED IN STEP 1.

7. Set your Fuel Selector Valve (X), so that the fuel pump (Z) draws gasoline from the factory main fuel tank (W). Start your vehicle. **Note:** The vehicle will not start as quickly as it would normally, because all fuel lines were drained and will take some time to refill.
8. Let the vehicle "idle" for 20 minutes. Check all hose connections for leaks. If leaks are found, shut off the engine and repair them. Once repaired repeat steps 7 and this step.
9. If no leaks are found, after running the vehicle for at least 20 minutes, set the Fuel Selector Valve (X) so that the fuel pump (Z) will now draw gasoline from the Con-Ferr® Auxiliary Gas Tank (A1). — Repeat Steps 7 and 8. If installing T-1006 or T-1162 continue on page 20 with sender hookup. If installing T-1005 or T-1177 INSTALLATION IS COMPLETE.

WARNING:

IT IS THE CUSTOMER'S RESPONSIBILITY TO INSURE AND CORRECT ANYTHING EFFECTING THE SAFE OPERATION OF THE VEHICLE AND; THAT ALL MOUNTING HARDWARE ARE TIGHT, ALL HOSE CLAMPS ARE TIGHT, ALL HOSES ARE IN GOOD SERVICEABLE CONDITION AND LEAK FREE, BEFORE, DURING AND AFTER USE. CONNECTION OF THE CON-FERR® (E.C.S.) VENT PORT (D) INTO FACTORY VEHICLE MODELS EQUIPPED WITH FACTORY EMISSION CONTROL SYSTEM IS MANDATORY AND NOT OPTIONAL. THIS IS A REQUIREMENT BY LAW — IF IN DOUBT CONTACT YOUR LOCAL AUTHORIZED REGULATORY BOARD CONCERNING REGULATIONS FOR YOUR AREA. IT IS THE CUSTOMER'S RESPONSIBILITY, AS WELL AS BEING HELD LIABLE, TO INSURE THAT THE VEHICLE MEETS COMPLETE COMPLIANCE WITH YOUR AREA'S LOCAL, STATE, AND FEDERAL EMISSIONS REGULATIONS.

APPENDIX — D

INSTALLATION AND ROUTING OF FUEL LINE SYSTEM FOR FJ40 YEAR MODELS WITH EMISSIONS CONTROL SYSTEM (E.C.S. / "SMOG" CONTROL) AND RETURN LINE.

There are other types of optional Fuel Line Kits that employ "manual" selector valves; however, we strongly recommend the Electric type Selector Valve systems over the manual valve. Electric type Selector Valve systems can be easily activated by a switch allowing the driver to maintain their attention on the current driving situation; whereas, a manual valve requires the driver to locate a "handle" to twist causing the driver to avert their attention from the safe operation of the vehicle. Electric type Selector Valve systems are easier to mount under the vehicle and keeping most of the fuel system housing out of the vehicle's passenger compartment. For these reasons our Fuel Line / E.C.S. "Hookup" Instructions will only describe installations with Electric type Selector Valves.

4. FJ40 Fuel System WITHOUT Emissions Control System And WITHOUT Fuel Return Line (consult your Factory Repair Manual for the year and model vehicle)

- 1 each CF# G-7228 Electronic 3 Port Selector Valve (X) or equivalent (see photo (L) page 7)
- 10 ft. 5/16" ID Hose {approximate footage - footage required may vary from vehicle model to model} (Rated For ALL Types of Automotive Fuel compositions - State to State / Nation to Nation)
- 15 ft. 1/2" ID Hose {approximate footage - footage required may vary from vehicle model to model} (Rated For ALL Types of Automotive Fuel compositions - State to State / Nation to Nation)
- 1 each Brass 1/4" male pipe thread - 180° 5/16" OD BARB fittings (Ca) (see drawing "K" page 7)
- 1 each Brass 1/4" male pipe thread Tee fittings (Cb) (see drawing "K" page 7)
- 1 each Brass 1/4" male pipe thread - 180° 1/2" OD BARB fittings (Ca) (see drawing "K" page 7)
- 1 each Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce) (see drawing "K" page 7)
- 2 each Brass 1/4" Female Pipe Thread Adapter - 7/8" OD BARB Fittings (Ce) (please refer to drawings "K" and "N" page 7; and step 4C — the OD of the barb on these fittings will be determined by the ID size hose you will be "Teeing" into at the Factory Fuel Neck Vent Hose (12))
- 1 each Brass 1/4" male pipe thread - Plug (Cf) (see drawing "K" page 7)
- 10 each hose clamps in sizes to match the OD hose size to be used during the installation
- 1 each "in-line" fuel filter (Y)**

****NOTE:** EVERY EFFORT HAS BEEN TAKEN TO INSURE THAT THE INSIDE OF YOUR NEW FUEL TANK IS CLEAN AND FREE OF FOREIGN MATTER. HOWEVER, DURING INSTALLATION THERE IS A GREAT POSSIBILITY OF METAL SHAVINGS OR SUCH MATERIAL FALLING INTO THE TANK. THEREFORE WE ADVISE THE CUSTOMER TO PURCHASE AND INSTALL AN "IN-LINE" FUEL FILTER AS SHOWN IN DRAWINGS "G", "H", "I", AND "J. INSTALLING AN ECONOMICAL CUSTOMER OPTIONAL "IN-LINE FUEL FILTER" BEFORE FUEL CAN ENTER INTO THE "GENERAL" FUEL SYSTEM MAY HELP PREVENT VEHICLE METAL FUEL LINES AND OTHER 'EXPENSIVE' TO REPLACE COMPONENTS FROM BEING CLOGGED. DO NOT REMOVE FACTORY FUEL FILTER FROM FUEL SYSTEM — BOTH MUST BE USED.

HINT: Before installing any hose to fittings; slip the appropriate size hose clamp down the end of the hose. Once the hose is slipped or squeezed onto the fitting, slip the hose clamp back into its proper position and tighten. **TIGHTENING HOSE CLAMPS:** Tighten hose clamp (any and all used in this installation) only enough to insure leakproof seal — do not over tighten a clamp. Over tightening a hose clamp will cause it to cut into the hose causing leakage and / or premature hose failure.

1. Install Electric type Selector Valve (X) under vehicle floorboards, and related electrical wiring in accordance with installation instructions supplied with the Valve from the Valve manufacturer.
 2. Insure that all factory fuel lines are drained of gasoline. Cut the factory tank (W) main fuel line (1), drawing "F", very close to Selector Valve (X), see drawing "J".
 - A. Slip the end of hose (1) coming from the factory "main" tank (W) onto one of the Fuel 'input ports' of the Selector Valve (X), in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp.
 - B. Slip the "fuel pump (Z)" end of the fuel line, now referenced as (9), onto the "outlet" port of the Selector Valve (X), in accordance with installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp. See drawing "J".
 3. Slip one end of a 6 inch length of 5/16" ID hose (6a), onto "IN-LINE" FUEL FILTER (Y) and clamp. Install the other end of that hose (6a) onto the Tank fitting at port (B), and clamp with appropriate size hose clamp. Slip one end of remaining 5/16" ID hose (6b) onto the remaining "inlet" port on Selector Valve (X), see installation instructions supplied with the Valve from the Valve manufacturer, and clamp with appropriate size hose clamp. Route the other end of hose (6b) to the open end of in-line fuel filter (Y) mounted to Con-Ferr Auxiliary Fuel Tank (A1). *When routing the hose, provide protection from heat, cutting or other hazards.* Cut excess hose and slip the end of the hose (6b) onto the open fitting of in-line fuel filter (Y), and clamp with appropriate size hose clamp.
 4. Slip one end of an adequate length of 1/2" ID hose (11) onto Con-Ferr® Auxiliary Fuel Tank (A1) fitting at port (C) and clamp with appropriate size hose clamp. Determine the location for your model vehicle of the factory fuel neck vent hose (12); and consult factory Repair Manual For Vehicle Year-Model. Route hose (11) into the passenger compartment to the factory main fuel tank neck vent hose (12). When routing the hose, provide protection from heat, cutting or other hazards. See drawings "F" and "J".
 - A. Inside the passenger compartment as near the factory fuel neck vent hose (12); inspect the floor area, where there are no hoses or wires that maybe damaged. Mark and drill an entrance hole for the hose (11) to be routed from Con-Ferr Auxiliary Fuel Tank (A1) port (C). To protect the hose from cuts, deburr the hole and install a weather tight grommet large enough to accommodate the hose diameter you are working with.
 - B. Inside the passenger compartment, cut the factory fuel neck vent hose (12).
 - C. Measure the hose (12) ID and purchase two 2 each Brass 1/4" Female Pipe Thread Adapter - 7/8" (closest American size to ID of hose (12) OD BARB Fittings (Ce) (please refer to drawings "K" and "N" page 7). Purchase two hose clamps in the size to match the OD of factory fuel neck vent hose (12).
 5. **Assembling "Tee" fitting:** Install the Brass 1/4" Female Pipe Thread Adapter - 7/8" (closest American size to ID of hose (12) OD BARB Fittings (Ce) that you have purchased to positions 1 and 3 of a Brass 1/4" male pipe thread Tee fitting (Cb). To the remaining position 2 install a Brass 1/4" Female Pipe Thread Adapter - 1/2" OD BARB Fittings (Ce).
 - A. Insert the "Tee" fitting barb end at position 3 into the end of the cut hose (12) going to the factory fuel neck (bb), and clamp with appropriate size hose clamp.
 - B. Insert the "Tee" fitting barb end at position 1 into the end of the cut hose (12) coming from the factory Main Tank "outlet" side of hose (12), and clamp with appropriate size hose clamp.
 - C. Insert the "Tee" fitting barb end at position 2 into the end of hose (11) coming from the Con-Ferr Auxiliary Fuel Tank, and clamp with appropriate size hose clamp. ***Pressure Equalization Venting of the Con-Ferr Auxiliary Fuel Tank And Factory Main Fuel Tank is now complete.***
- Recheck all mounting hardware, and hose clamps for tightness. Recheck all hoses to insure correct and safe routing. Replace the gasoline into the factory tank (W) (only 1/2 full) for the next test. Fill the Con-Ferr Auxiliary Gas Tank (A1) with 4 to 5 gallons of gasoline. RECONNECT BATTERY TERMINALS TO BATTERY CABLES, DISCONNECTED IN STEP 1.
6. Set your Fuel Selector Valve (X), so that the fuel pump (Z) draws gasoline from the factory main fuel tank (W). Start your vehicle. **Note:** *The vehicle will not start as quickly as it would normally, because all fuel lines were drained and will take some time to refill.*
 7. Let the vehicle "idle" for 20 minutes. Check all hose connections for leaks. If leaks are found, shut off the engine and repair them. Once repaired repeat steps 6 and this step.
 8. If no leaks are found, after running the vehicle for at least 20 minutes, set the Fuel Selector Valve (X) so that the fuel pump (Z) will now draw gasoline from the Con-Ferr® Auxiliary Gas Tank (A1). — Repeat Steps 6 ~ 7. *If installing T-1006 or T-1162 continue on page 20 with sender hookup. If installing T-1005 or T-1177 INSTALLATION IS COMPLETE.*

WARNING:

IT IS THE CUSTOMER'S RESPONSIBILITY TO INSURE AND CORRECT ANYTHING EFFECTING THE SAFE OPERATION OF THE VEHICLE AND; THAT ALL MOUNTING HARDWARE ARE TIGHT, ALL HOSE CLAMPS ARE TIGHT, ALL HOSES ARE IN GOOD SERVICEABLE CONDITION AND LEAK FREE, BEFORE, DURING AND AFTER USE. CONNECTION OF THE CON-FERR® (E.C.S.) VENT PORT (D) INTO FACTORY VEHICLE MODELS EQUIPPED WITH FACTORY EMISSION CONTROL SYSTEM IS MANDATORY AND NOT OPTIONAL. THIS IS A REQUIREMENT BY LAW — IF IN DOUBT CONTACT YOUR LOCAL AUTHORIZED REGULATORY BOARD CONCERNING REGULATIONS FOR YOUR AREA. IT IS THE CUSTOMER'S RESPONSIBILITY, AS WELL AS BEING HELD LIABLE, TO INSURE THAT THE VEHICLE MEETS COMPLETE COMPLIANCE WITH YOUR AREA'S LOCAL, STATE, AND FEDERAL EMISSIONS REGULATIONS.

APPENDIX — E

FUEL SENDER GAUGE INSTALLATION INSTRUCTIONS FOR CON-FERR® AUXILIARY FUEL TANK PART NUMBERS T-1006 AND T-1162

1. Position Fuel Tank (A1) in your work area as shown in drawing; and locate the following items and set with the tank: 1 each Sender Gauge (Q) [Toyota part number 83320-35020], 1 each Sender Gauge Gasket (not shown) [Toyota part number 83361-20030], 5 each 10-32 self tapping machine screws, 1 each (10 ft.) roll - 14 gauge electrical wire, 1 each electrical female spade connector, 1 each std. electrical connector, and two crimp on barrow connector.
2. Refer to drawing "R" and position the Sender Gauge (Q) on the 'outside' across from the Sender Mounting Hole, on the side of Tank (A1) as shown. Allow the Float Arm (Q2) and Float (Q3), see drawing "Q", to come to rest in the lowest factory "preset" position. If the bottom of the Float (Q3) is not $\frac{3}{4}$ " from the bottom edge of Tank (A1); carefully re-bend Float Arm (Q2) until it is $\frac{3}{4}$ " from the bottom of the Tank as shown in drawing "R".

Warning: DO NOT alter the Sender Gauge Float Arm "Stops" that are built into Sender Housing, or any other part of the Sender Gauge other than the Float Arm (Q2). Any other alterations may damage the Sender Gauge requiring its replacement.

3. Insert the modified Fuel Sender (Q) into mounting hole provided in Tank (A1), with the float arm pointing to the 'Rear Crossmember' end of Tank (A1), see drawing "A". Align the electrical tab (S), on the Sender Gauge, so that it points to the vehicle front bumper, see drawing "S".
4. Hold Sender Gauge firmly in place; using the Sender Gauge as a template guide, mark all five mounting holes to Tank (A1).
5. Remove the Sender Gauge, center punch on marks, and drill holes with a #21 drill bit.
 - A. Clean the interior of the Fuel Tank (A1) of all drill filings and any other dirt or debris.
6. Cut two pieces of electrical wire 12 inches long; strip about a $\frac{1}{4}$ " of insulation from each end of the two pieces.
 - A. On one end of each 12" piece of wire, crimp on a barrow connector (EC1) (see drawing "M" page 7).
 - B. On the other end of one of the 12" piece of wire, crimp on a female spade connector (EC3) (see drawing "M" page 7). This piece will now be referred to as (Q4). Set aside for later use.
 - C. On the other end of one of the remaining 12" piece of wire, crimp on a standard electrical connector (EC2) (see drawing "M" page 7). This piece will now be referred to as (Q5). Set aside for later use.
7. Fit and align the Sender Gasket to the Sender Gauge. Reinsert Sender Gauge into mounting hole provided in Tank (A1), with the float arm pointing to the 'Rear Crossmember' end of Tank (A1) and align Sender mounting hole with those you drill into the Tank in step 5, see drawing "Q".
8. Install 10-32 self tapping machine screws into all Sender Gauge (Q) mounting holes EXCEPT the mounting hole position (Q5), see drawing "S". DO NOT OVER TIGHTEN - OVER TIGHTENING THE SCREWS WILL DEFORM SENDER GAUGE AND PREVENT PROPER GAUGE TO TANK SEALING AND REQUIRE THE REPLACEMENT OF THE SENDER GAUGE WITH A NEW UNDAMAGED UNIT.
9. With a piece of 'fine grit' sand paper - rough a small area around the Sender Gauge mounting hole at position (Q5). This action will aid electrical contact.

APPENDIX — F

FUEL SENDER GAUGE "HOOKUP" INSTALLATION INSTRUCTIONS

FOR CON-FERR® AUXILIARY FUEL TANK #s T-1006 AND T-1162

Con-Ferr® provides, and the following instructions are for, a switch (SW1) that will allow you to read our Auxiliary Fuel Tank (A1) and the factory (main) fuel tank (W), independently and without switching the electronic selector valve (X). A separate customer optional switch, for the electronic selector valve (X) control "activation", would have to be installed. Consult the electronic selector valve (X) manufacturer's installation instructions. IF YOU WISH TO READ THE AMOUNT OF FUEL THAT IS IN THE TANK THAT THE SELECTOR VALVE (X) IS ROUTING TO FUEL PUMP (aa) — DISREGARD THE FOLLOWING "HOOKUP" INSTRUCTIONS AND INSTALL AND "HOOKUP" SENDER UNITS WITH THE CUSTOMER OPTIONAL ELECTRICAL SWITCH AS RECOMMENDED IN THE MANUFACTURER'S INSTRUCTIONS FOR SELECTOR VALVE (X).

BEFORE MODIFYING THE ELECTRICAL SYSTEM DISCONNECT THE BATTERY CABLES FROM THE BATTERY IN ACCORDANCE WITH THE FACTORY REPAIR MANUAL.

1. Install electrical switch (SW1), provided, into the dash board.
2. Disconnect portion (2b-OLD), of wire (2A) coming from the factory fuel tank (W), to the receiver "fuel gauge" and connect it to post (C) of Switch (SW1). **DO NOT DISCONNECT WIRE (8).** See drawing below.
 - A. Depending on where you have located Switch (SW1), you may find it necessary to 'extend' wire (2b-OLD). Install an electrical connector (EC1) [see drawing "M" page 7] to the end of (2b-OLD). Provide, and insert the striped end, and crimp, of a length of wire (same gauge as (2b-OLD) wire) sufficient to connect to post (C) of Switch (SW1).
3. Connect one end of the remaining electrical wire (1) to post (A) of Switch (SW1). Route wire through fire wall down to the frame rail back to the Con-Ferr® Auxiliary Fuel Tank (A1) to connector (EC1) of Q4 that should be taped to the side of Auxiliary Fuel Tank (A1), Appendix — E in step 10. When routing wire (1) provide protection from heat, cutting or other hazards, and clamp to frame rail or floorboards wherever possible. **DO NOT MOUNT CLAMPS TO FUEL TANK (A1).**
4. Carefully remove masking tape that holds wire (Q4) to Auxiliary Fuel Tank (A1). Cut excess length from wire (1) strip the end of enough installation to insert the end into the barrow connector (EC1) on the end of wire (Q4), and crimp.
5. Return to Switch (SW1) location and install a sufficient length of wire (3) from post (B) of Switch (SW1) and then connect the other end to fuel gauge (G1) post that (2b-OLD) wire had been removed from in step 2.
6. Install a sufficient length of wire (7) to act as a 'grounding' strap for the Auxiliary Fuel Tank (A1). Strip about 2 inches off one end of wire (7). Locate a frame rail or body bolt or screw, remove it from it's mount and wrap the stripped end of wire (7) tightly around it. Reinstall the bolt or screw back into it's mount.
 - A. Carefully remove masking tape that holds wire (Q5) to Auxiliary Fuel Tank (A1). Cut excess length from wire (7) strip the end of enough installation to insert the end into the barrow connector (EC1) on the end of wire (Q5) and crimp.
7. RECONNECT THE BATTERY CABLES FROM THE BATTERY IN ACCORDANCE WITH THE FACTORY REPAIR MANUAL. Installation is now complete.

