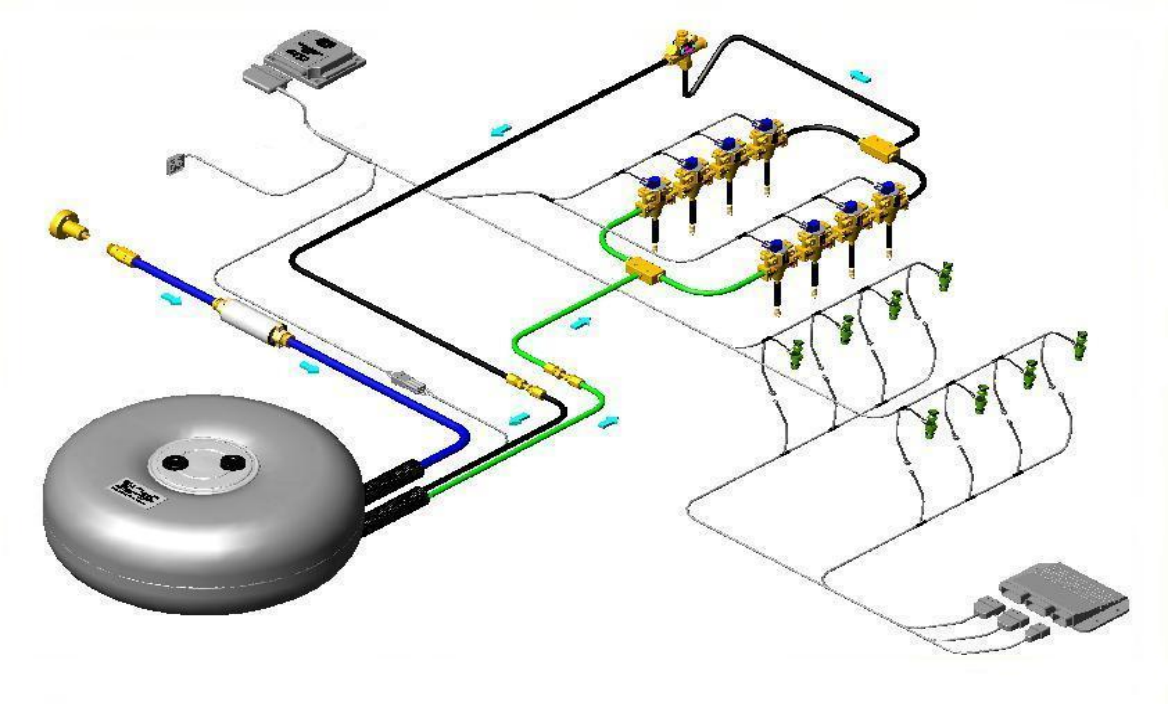
GM FUEL PRESSURE SENSOR BY-PASS INSTALLATION INSTRUCTIONS



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Revision: F - Dated 10/3/13

Replaces: E - Dated 5/31/13

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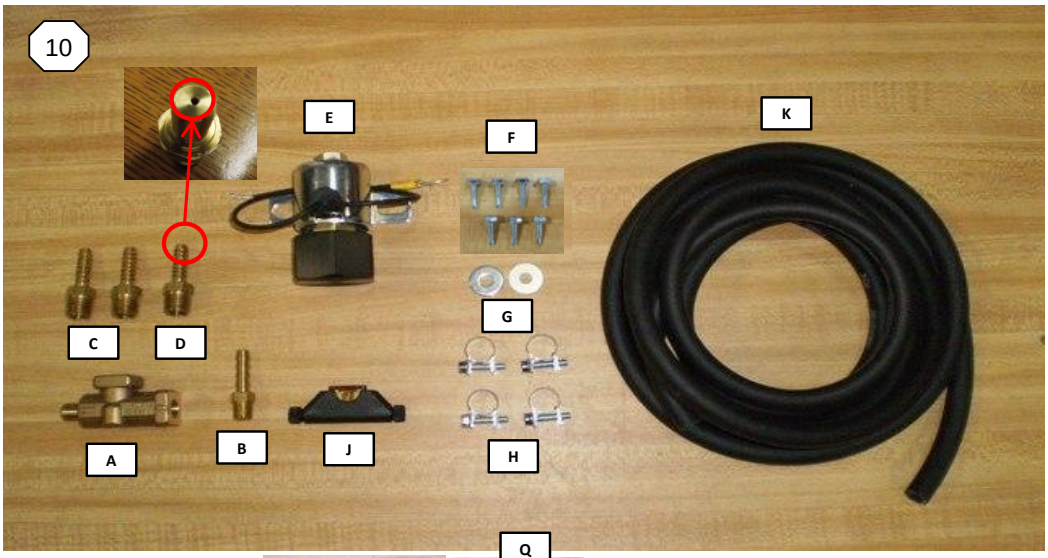

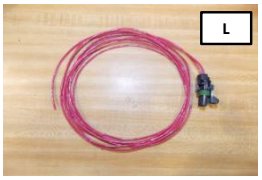

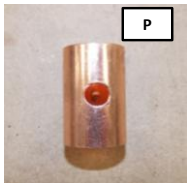

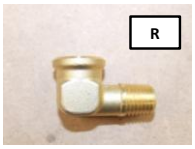

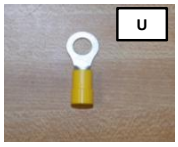

10) THE FOLLOWING IS A LIST OF COMPONENTS CONTAINED WITHIN THE GM FUEL PRESSURE SENSOR BY-PASS KIT (P11X4-2105-AD)

- **A** FUEL PRESSURE SENSOR ADAPTOR
- **B** 1/8" NPT X 1/4" HOSE BARB
- **C** 1/4" NPT X 1/4" HOSE BARB
- **D** 1/4" NPT X 1/4" HOSE BARB W/1.0 ORIFICE
- **E** SOLENOID ASSEMBLY
- **F** SELF TAP SCREW
- **G** FLAT WASHER
- **H** 1/4" FUEL HOSE CLAMP
- **J** FUSE HOLDER W/5 AMP FUSE
- **K** 1/4" FUEL HOSE - L-15'
- **L** WIRE ASSY - FUEL PRESSURE SENSOR BY-PASS
- **M** 18 GA. BLACK WIRE (L=10')
- **N** 1/4" SPLIT CORRUGATE (L=14')
- **P** 1-1/2" x 3/4" COPPER PIPE WITH 1/8" NPT HOLE
- **Q** #16 HOSE CLAMP
- **R** 90° STREET ELBOW
- **S** 1/4" SHRINK TUBE
- **T** 1/2" CABLE CLAMP
- **U** RING TERMINAL

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
A	19290100	1	FUEL PRESSURE SENSOR ADAPTOR			
B	600006	1	1/8" NPT X 1/4" HOSE BARB			
C	600005	3	1/4" NPT X 1/4 HOSE BARB			
D	19290200	1	1/4" NPT X 1/4 HOSE BARB (W/1.0 ORIFICE)			
E	435000	1	SOLENOID ASSEMBLY			
F	950000	7	SELF TAP SCREW			
G	700000	2	FLAT WASHER			
H	330008	4	1/4" FUEL HOSE CLAMP			
J	410000	1	FUSE HOLDER W/5 AMP FUSE			
K	300011	1	1/4" FUEL HOSE - L=15"			
L	490002	1	WIRE ASSY - FUEL PRESS. SENSOR BY-PASS			
M	490003	1	18GA. BLACK WIRE W/ICU TERMINAL (L=10')			
N	350034	1	1/4" SPLIT CORRUGATE (L=14')			
P	600010	1	1-1/2" x 3/4" COPPER PIPE WITH 1/8" NPT HOLE			
Q	330006	2	#16 HOSE CLAMP			
R	600011	1	90° STREET ELBOW			
S	440001	1	1/4" SHRINK TUBE (L=3")			
T	330002	5	1/2" CABLE CLAMP			
U	480000	1	RING TERMINAL			

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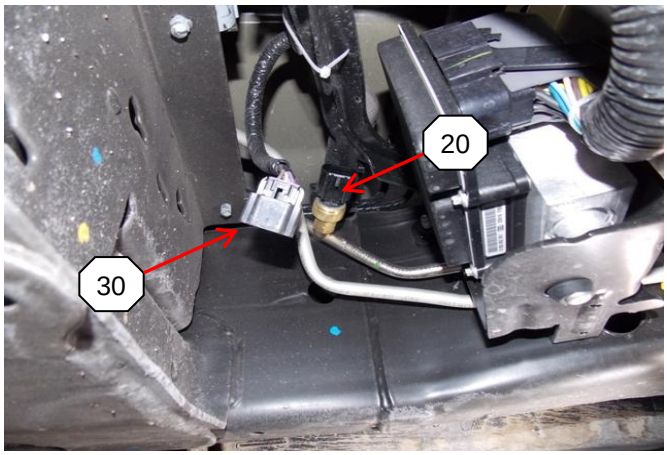
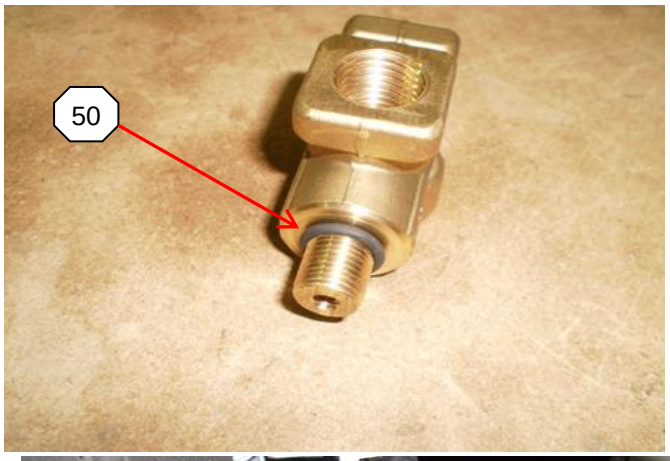


20) LOCATE THE FUEL PRESSURE SENSOR ATTACHED TO THE FUEL LINE ON THE INBOARD SIDE OF THE FRAME BELOW THE DRIVER SIDE DOOR

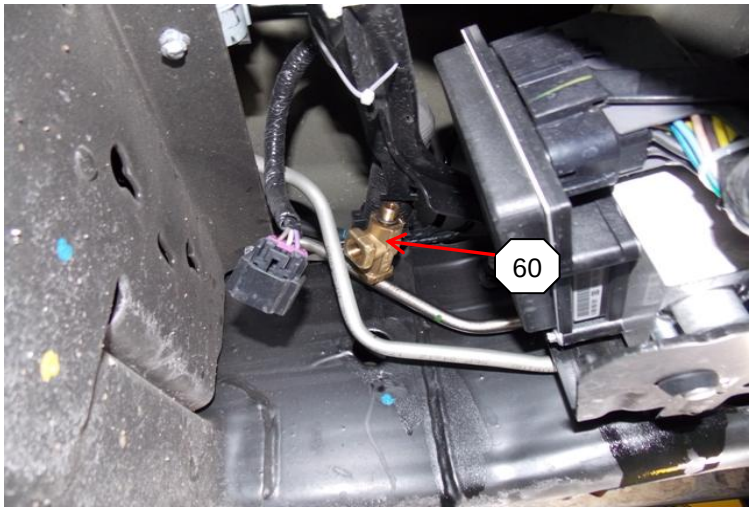
30) DISCONNECT THE OEM WIRE HARNESS CONNECTION FROM THE SENSOR

40) CAREFULLY REMOVE THE FUEL PRESSURE SENSOR FROM THE GASOLINE FUEL TUBE



50) OBTAIN THE FUEL PRESSURE SENSOR ADAPTOR (A); APPLY APPROVED LUBRICANT ONTO O-RING

60) INSTALL AND GENTLY TIGHTEN ADAPTOR ONTO THE GASOLINE FUEL TUBE AS SHOWN



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
A	19290100	1	FUEL PRESSURE SENSOR ADAPTOR			

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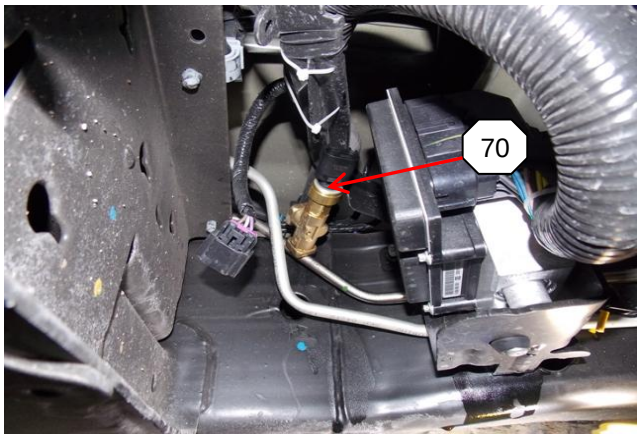
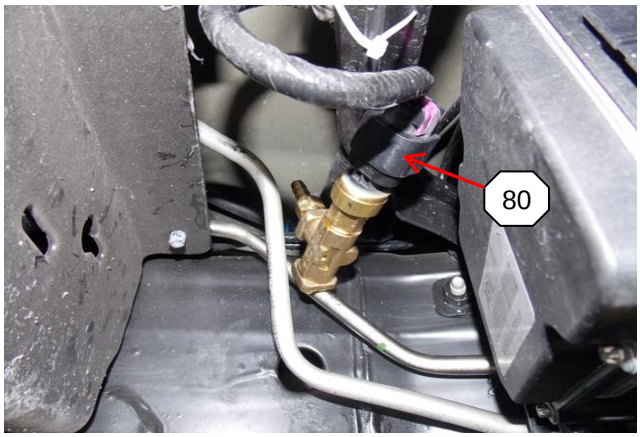


70) REINSTALL AND GENTLY TIGHTEN THE FUEL PRESSURE SENSOR ONTO THE ADAPTOR

80) REINSTALL THE WIRE HARNESS CONNECTOR ONTO THE FUEL PRESSURE SENSOR

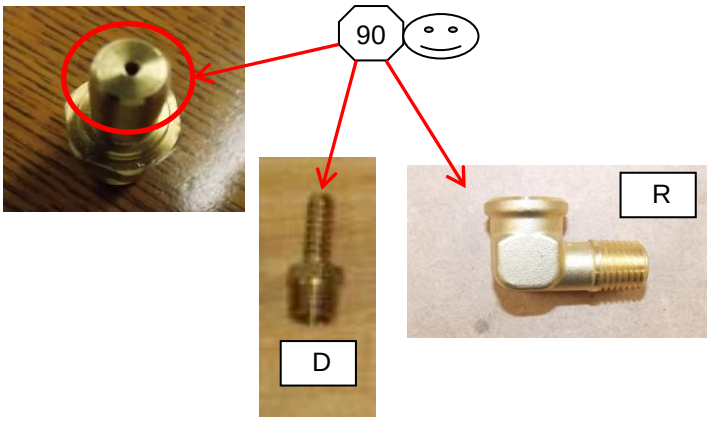


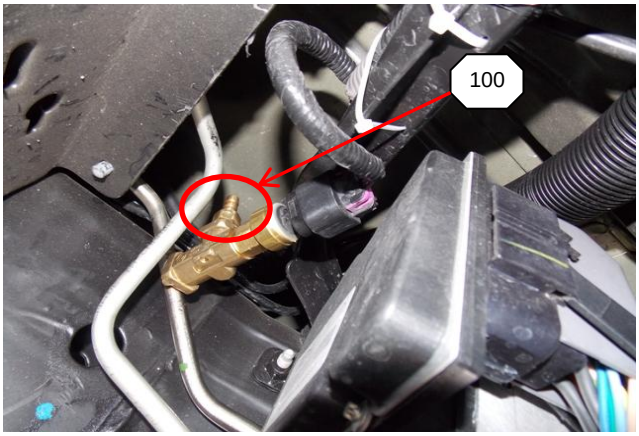
90) OBTAIN (1) 1/4" NPT X 1/4" HOSE BARB WITH 1.0/ORIFICE (D)
(VERIFY CORRECT HOSE BARB WITH 1.0 ORIFICE)

FOR APPLICATIONS WHERE AN OBSTRUCTION WILL NOT ALLOW ACCESS TO THE HOSE BARB ONCE INSTALLED INTO THE ADAPTOR, USE THE SUPPLIED 90° STREET ELBOW ®
APPLY APPROVED THREAD SEALER TO ELBOW THREADS BEFORE INSTALLING INTO ADAPTOR

100) APPLY APPROVED THREAD SEALER TO HOSE BARB THREADS

INSTALL AND FULLY TIGHTEN HOSE BARB INTO ADAPTOR AS SHOWN





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
A	19290100	1	FUEL PRESSURE SENSOR ADAPTOR			7/16" OPEN END WRENCH
D	19290200	1	1/4" NPT X 1/4 HOSE BARB (W/1.0 ORIFICE)			THREAD SEALER
R	600011	1	90° STREET ELBOW			O-RING LUBRICANT

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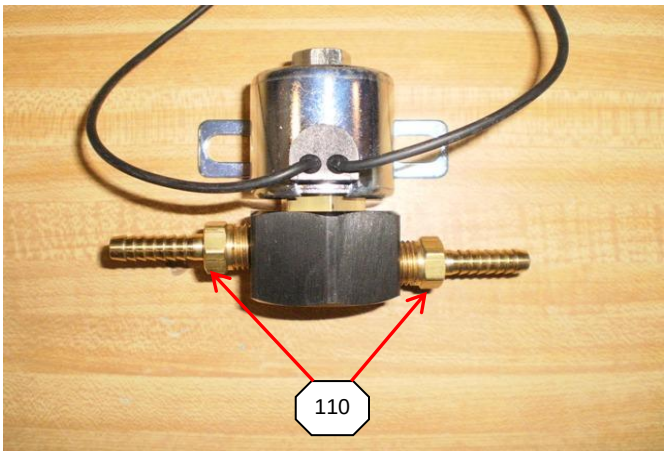
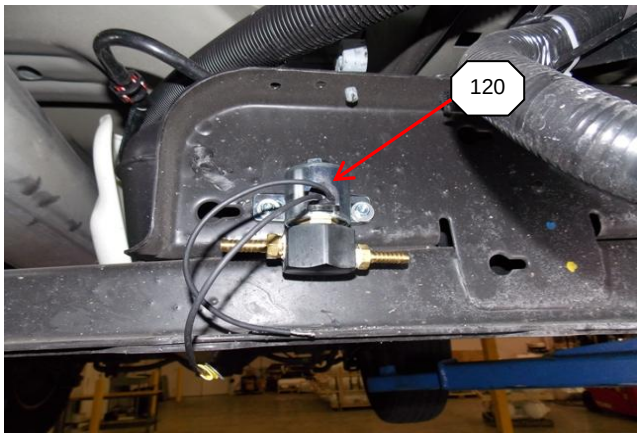


110) OBTAIN THE FOLLOWING: (1) SOLENOID ASSY (E), (2) 1/4" NPT x 1/4" HOSE BARB (C)

APPLY APPROVED THREAD SEALER TO HOSE BARB THREADS

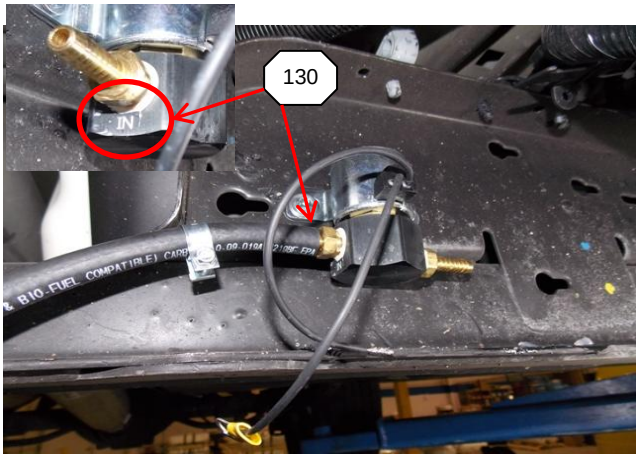
INSTALL AND FULLY TIGHTEN HOSE BARBS INTO SOLENOID PORTS AS SHOWN



120) OBTAIN (2) SELF TAP SCREWS (F) AND (2) FLAT WASHERS (G)

DETERMINE MOUNTING LOCATION ON THE VEHICLE FRAME CLOSE TO THE GASOLINE FUEL PRESSURE SENSOR

MOUNT THE SOLENOID ONTO THE FRAME WITH THE SOLENOID POSITIONED 'UP' USING THE (2) SELF TAP SCREWS W/WASHERS



130) OBTAIN 1/4" FUEL HOSE (K) AND (2) 1/4" FUEL HOSE CLAMPS (H)

INSTALL (1) FUEL HOSE CLAMP ONTO END OF FUEL HOSE; FULLY INSERT HOSE ONTO THE HOSE BARB ON THE INLET SIDE OF THE SOLENOID; POSITION CLAMP OVER BARB; FULLY TIGHTEN CLAMP TO SECURE HOSE

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
C	600005	2	1/4" NPT X 1/4" HOSE BARB			9/16" OPEN END WRENCH
E	435000	1	SOLENOID ASSY			THREAD SEALER
F	950000	2	SELF TAP SCREW			
G	700000	2	FLAT WASHER			
H	330008	4	1/4" FUEL HOSE CLAMP			
K	300011	1	1/4" FUEL HOSE - L=15"			

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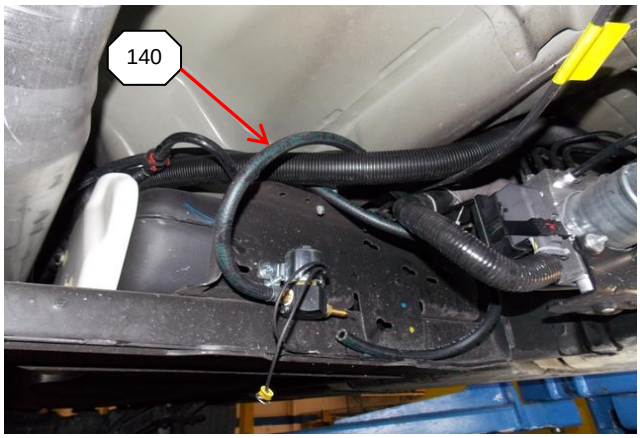
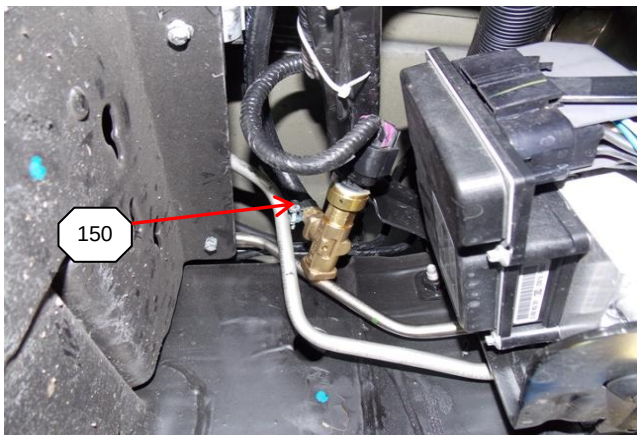


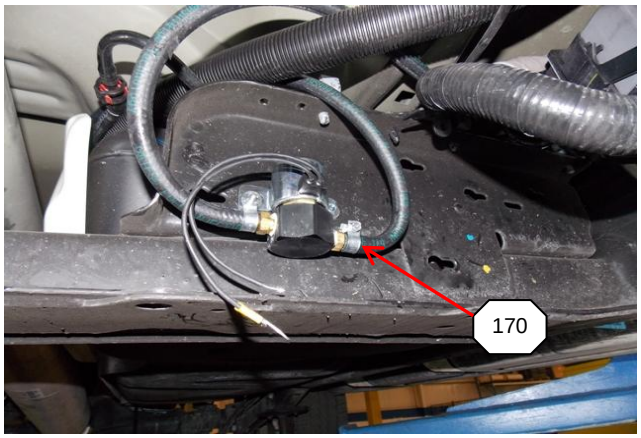
140) CAREFULLY ROUTE THE HOSE TO THE HOSE BARB ON THE FUEL PRESSURE SENSOR ADAPTOR, INSURING THE HOSE ROUTING DOES NOT CREATE SHARP BENDS OR KINKS IN THE HOSE

CUT HOSE TO REQUIRED LENGTH WITH APPROPRIATE HOSE CUTTER

150) INSTALL (1) FUEL HOSE CLAMP ONTO END OF FUEL HOSE; FULLY INSERT HOSE ONTO FUEL PRESSURE SENSOR ADAPTOR HOSE BARB AND POSITION CLAMP OVER BARB; FULLY TIGHTEN CLAMP TO SECURE HOSE



160) OBTAIN REMAINING HOSE FROM PREVIOUS STEP 120 AND (2) 1/4" FUEL HOSE CLAMPS (H)



170) INSTALL (1) FUEL HOSE CLAMP ONTO END OF FUEL HOSE; FULLY INSERT HOSE ONTO REMAINING SOLENOID HOSE BARB AND POSITION CLAMP OVER BARB; FULLY TIGHTEN CLAMP TO SECURE HOSE

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
H	330008	4	1/4" FUEL HOSE CLAMP			7mm NUT DRIVER
						HOSE CUTTER
				PROCESS NAME: GM FUEL PRESSURE SENSOR BY-PASS INSTALLATION INSTRUCTIONS		REV: F
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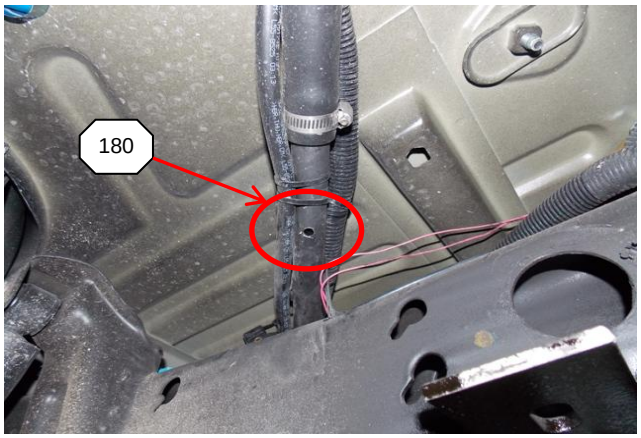
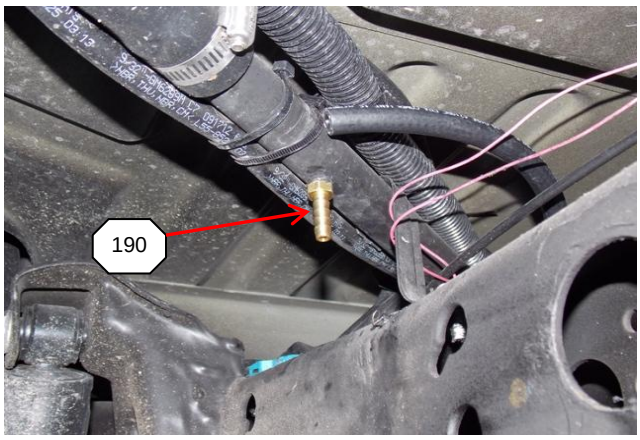
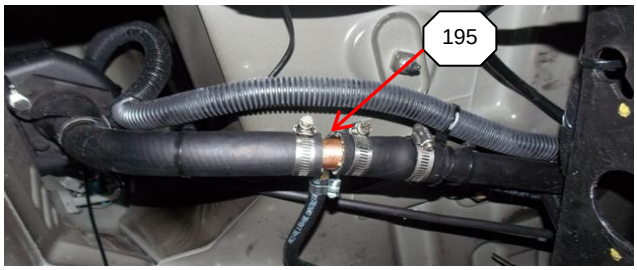
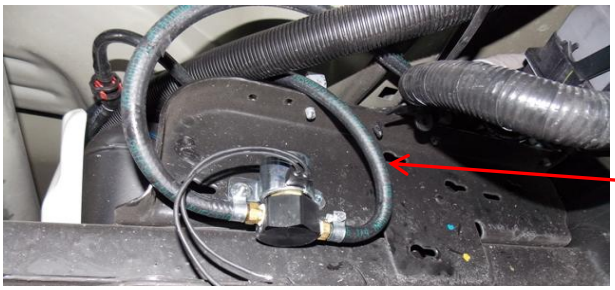








180) LOCATE METAL PORTION OF GASOLINE FUEL FILLER TUBE

DRILL AND TAP TO 1/8" NPT THE GASOLINE TANK FUEL FILLER TUBE

190) OBTAIN (1) 1/8" NPT x 1/4" HOSE BARB (B); APPLY APPROVED THREAD SEALER TO HOSE BARB THREADS

INSTALL AND TIGHTEN HOSE BARB INTO FUEL FILLER TUBE

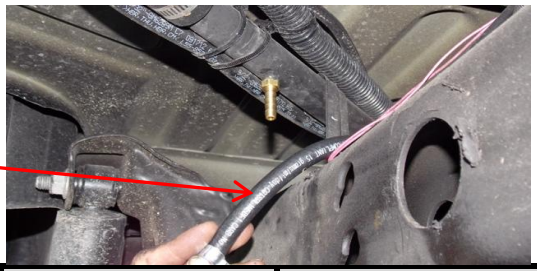
195) FOR VEHICLES EQUIPPED WITH AN ALL RUBBER GASOLINE FUEL FILLER TUBE, OBTAIN THE 1-1/2" x 3/4" COPPER PIPE (P) AND (2) #16 HOSE CLAMP (Q)

APPLY JB WELD TO THE THREADS ON THE 1/8" NPT x 1/4" HOSE BARB (B); INSTALL HOSE BARB INTO THREADED HOLE IN THE COPPER PIPE AND FULLY TIGHTEN AS SHOWN

CUT THE GASOLINE FUEL FILLER HOSE IN HALF AT THE DESIRED LOCATION; INSTALL A #16 HOSE CLAMP (Q) ONTO EACH END OF THE CUT HOSE; INSTALL EACH END OF THE CUT FILLER HOSE ONTO THE COPPER PIPE; POSITION CLAMPS OVER THE COPPER PIPE AND FULLY TIGHTEN

200) CAREFULLY ROUTE HOSE TO THE HOSE BARB ON THE GASOLINE FUEL FILLER TUBE, INSURING THE HOSE ROUTING DOES NOT CREATE SHARP BENDS OR KINKS IN THE HOSE

CUT HOSE TO THE REQUIRED LENGTH



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
B	600006	1	1/8" NPT X 1/4" HOSE BARB			DRILL
P	600010	1	1-1/2" x 3/4" COPPER PIPE WITH 1/8" NPT HOLE			1/8" NPT TAP
Q	330006	2	#16 HOSE CLAMP			THREAD SEALER
						JB WELD

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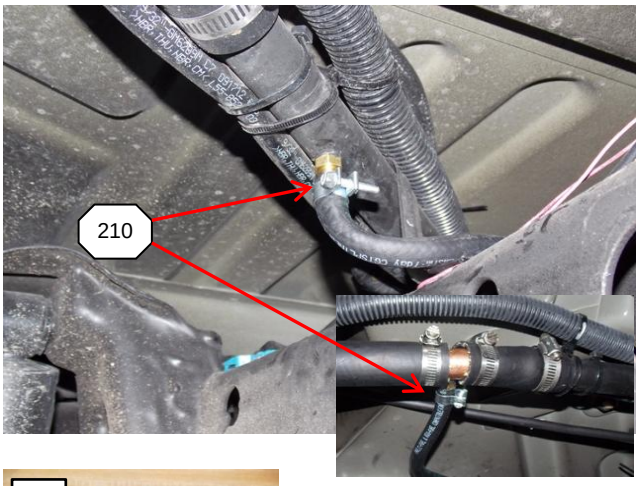
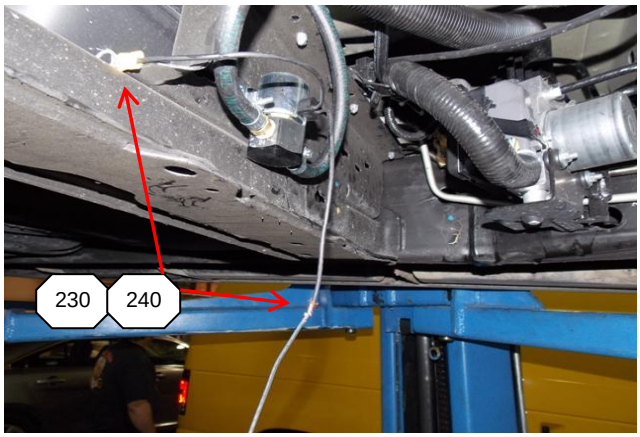


210) INSTALL (1) FUEL HOSE CLAMP ONTO END OF FUEL HOSE; FULLY INSERT HOSE ONTO HOSE BARB AND POSITION HOSE CLAMP OVER BARB: FULLY TIGHTEN CLAMP TO SECURE HOSE

215) SECURE FUEL HOSE TO VEHICLE WHERE NEEDED USING THE PROVIDED 1/2" CABLE CLAMP (U) AND SELF TAP SCREW (F)

220

220) OBTAIN THE WIRE ASSY - FUEL PRESS. SENSOR BY-PASS (L) AND THE 18 GA. BLACK WIRE (10') (M)



230) USING WIRE STRIPPERS, REMOVE APPROXIMATELY 1/2" OF INSULATION FROM THE END OF THE LONG RED WIRE (L=10') AND BLACK WIRE

240) SOLDER THE RED WIRE TO ONE OF THE SOLENOID LEADS AND THE BLACK WIRE TO THE REMAINING SOLENOID LEAD; SEAL BOTH SOLDER CONNECTIONS WITH ELECTRICAL TAPE

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
F	950000		SELF TAP SCREW			SOLDER IRON
L	490002	1	18GA. RED WIRE W/TERMINAL (L=10')			WIRE CUTTER / STRIPPER
N	490003	1	18GA. BLACK WIRE (L=10')			ELECTRICAL TAPE
U	330002		1/2" CABLE CLAMP			

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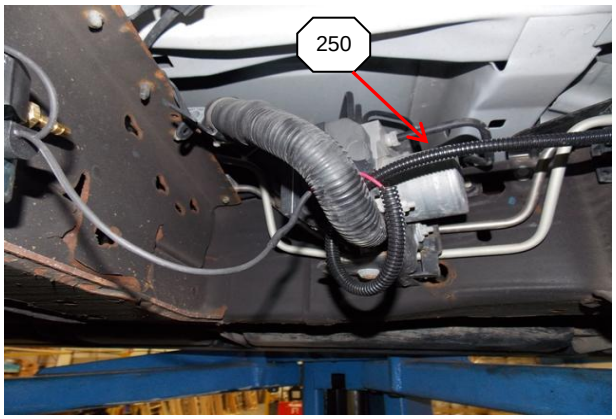
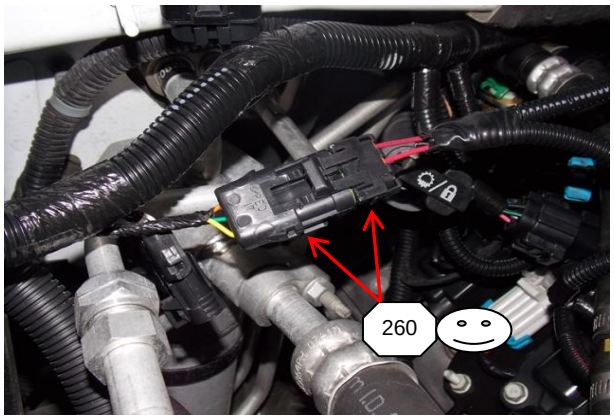
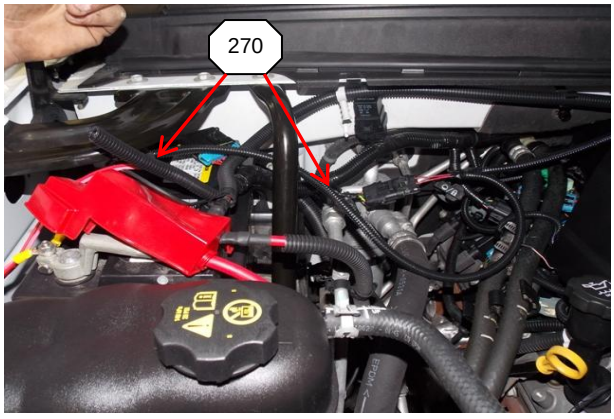


250) CAREFULLY ROUTE THE WIRE ASSY AND BLACK WIRE FROM THE SOLENOID TOWARD THE FRONT OF THE VEHICLE AND INTO THE ENGINE COMPARTMENT



260) FROM INSIDE THE ENGINE COMPARTMENT, LOCATE THE 3-PIN CONNECTOR WIRE LEAD ATTACHED TO THE ICOM ENGINE WIRE HARNESS ASSY WITH THE ORANGE, GREEN AND YELLOW WIRES; ALIGN AND SEAT THE WIRE ASSY (RED WIRES) INTO THE CONNECTOR WIRE LEAD ON THE ICOM ENGINE WIRE HARNESS
(PUSH/PULL CONNECTORS TO VERIFY FULLY LOCKED)



270) ROUTE THE SHORT RED WIRE ON THE WIRE ASSY TOWARD THE POSITIVE CABLE ON THE BATTERY AS SHOWN

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
U	480000	1	RING TERMINAL			WIRE CUTTER / STRIPPER
						WIRE CRIMPER

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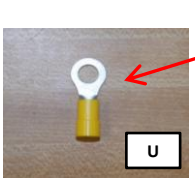
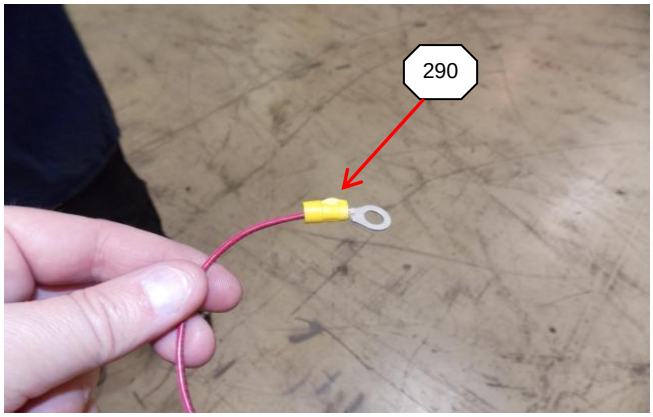
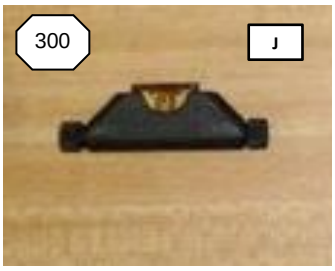


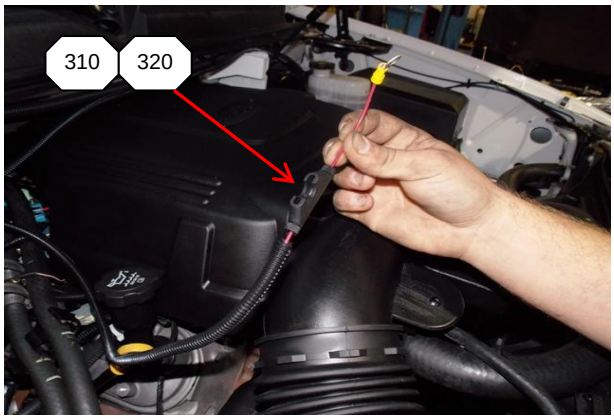
280) OBTAIN THE RING TERMINAL (U)



290) CAREFULLY REMOVE APPROXIMATELY 1/2" OF WIRE INSULATION FROM THE END OF THE SHORT RED WIRE; INSTALL THE RING TERMINAL ONTO THE END OF THE WIRE AS SHOWN



300) OBTAIN THE FUSE HOLDER W/5 AMP FUSE (J)



310) USING WIRE CUTTERS, CUT THE SHORT RED WIRE IN HALF APPROXIMATELY 6-8 INCHES DOWN FROM THE RING TERMINAL

320) INSTALL FUSE HOLDER ONTO THE CUT WIRES PER ICOM FUSE HOLDER INSTALLATION INSTRUCTION P11X-9208-AA

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
J	410000	1	FUSE HOLDER W/5 AMP FUSE			WIRE CUTTER / STRIPPER
						SOLDER
						ELECTRICAL TAPE

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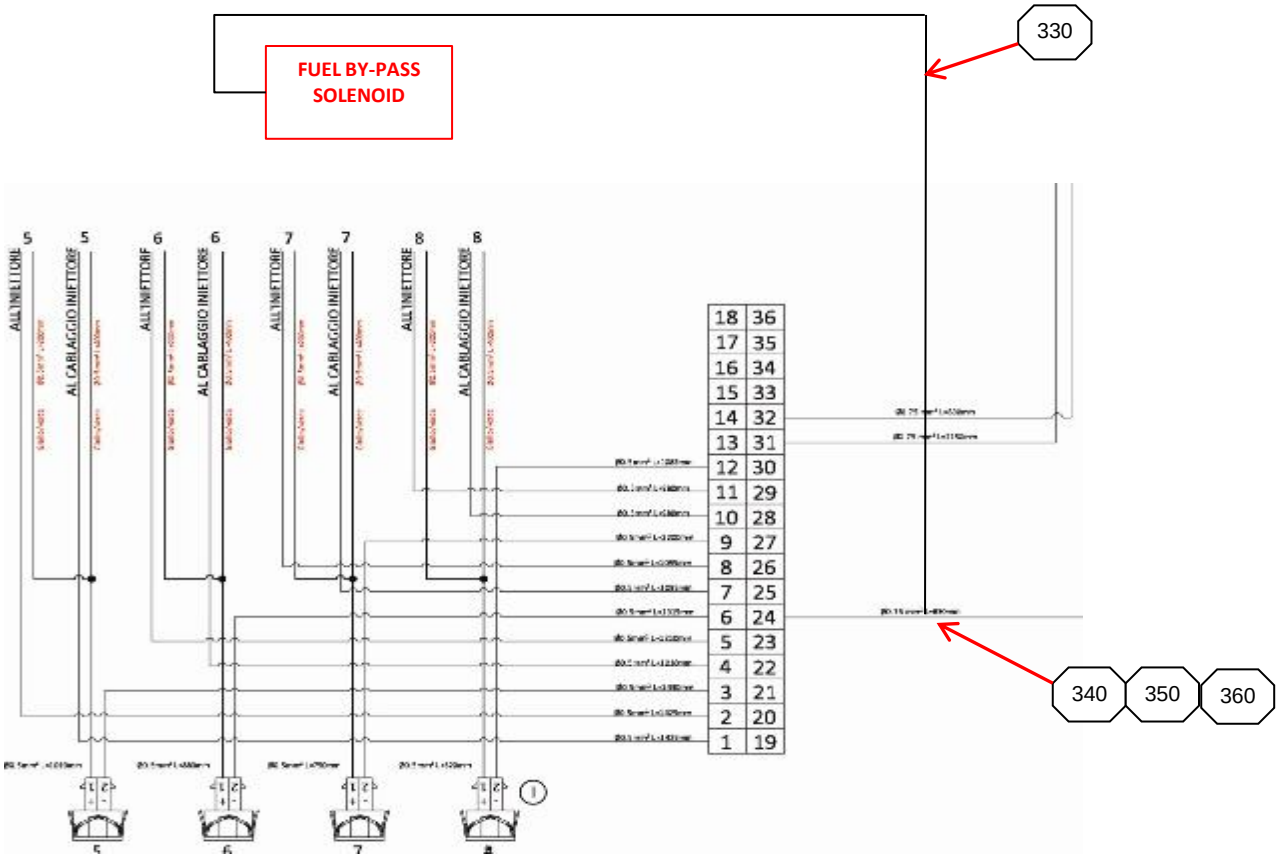
330) LOCATE AND GRASP THE BLACK SOLENOID WIRE LEAD

CAREFULLY REMOVE APPROXIMATELY 1/2" OF WIRE INSULATION FROM THE END OF THE BLACK WIRE

340) LOCATE THE BROWN WIRE ON THE MAIN WIRE HARNESS GOING TO PIN #24 IN THE FOLLOWER MODULE CONNECTOR

350) CAREFULLY REMOVE APPROXIMATELY 1/2" OF WIRE INSULATION FROM THE BROWN WIRE **(DO NOT CUT WIRE)**

360) ATTACH THE BLACK WIRE (M) ONTO THE STRIPPED BROWN WIRE COMING FROM PIN #24; SOLDER CONNECTION TOGETHER AND SEAL WITH ELECTRICAL TAPE



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
H						WIRE CUTTER / STRIPPER
						SOLDER IRON
						ROSIN CORE SOLDER
						ELECTRICAL TAPE

PROCESS NAME	REV
GM FUEL PRESSURE SENSOR BY-PASS INSTALLATION INSTRUCTIONS	F
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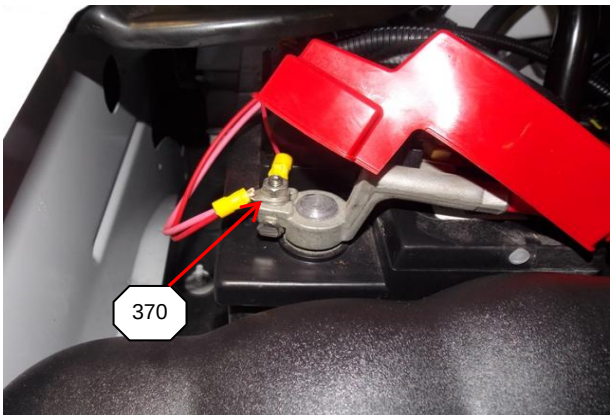
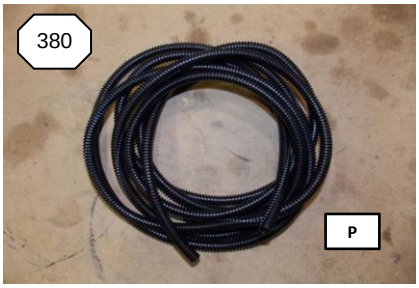


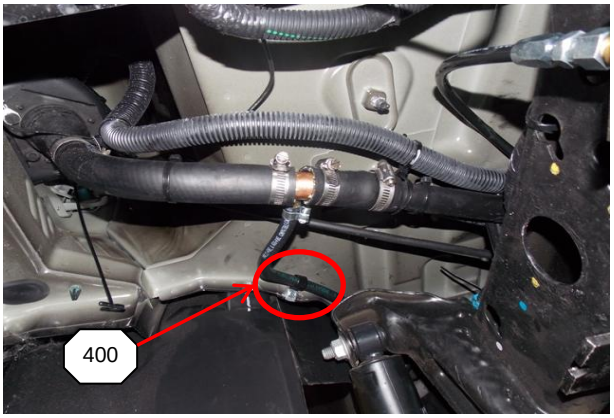
370) ATTACH THE RING TERMINAL ON THE SHORT RED WIRE WITH THE FUSE HOLDER ONTO THE POSITIVE SIDE OF THE BATTERY AS SHOWN



380) OBTAIN THE 1/4" CORRUGATE (P)

390) INSTALL THE 1/4" SPLIT CORRUGATE ONTO THE RED AND BLACK WIRES BETWEEN THE FUEL BY-PASS SOLENOID AND THE ICU/FOLLOWER MODULES; CUT THE CORRUGATE TO THE REQUIRED LENGTH

400) SECURE CORRUGATE & FUEL HOSE TO VEHICLE WHERE NEEDED USING THE PROVIDED 1/2" CABLE CLAMP (T) AND SELF TAP SCREW (F)



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
F	950000	7	SELF TAP SCREW			WIRE CUTTER / STRIPPER
T	330002	5	1/2" CABLE CLAMP			

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REVISIONS

OPERATION NUMBER	REVISION LEVEL	DESCRIPTION OF CHANGE	DATE	APPROVED BY
	A	INITIAL RELEASE	9/24/2012	M. STEPPEY
	B	UPDATED PHOTOS AND FOLLOWER MODULE WIRING INSTRUCTIONS	12/5/2012	M. STEPPEY
400	C	THE INSTRUCTION TO SOLDER THE RED WIRE TO PIN # 32 IS INCORRECT AND WAS CHANGED TO THE BLACK WIRE AND PIN #24	12/12/2012	M. STEPPEY
250, 260	D	ADD PART NUMBER 70303001 TO FOLLOWER MODULE DESCRIPTION FOR BETTER CLARIFICATION	5/10/2013	M. STEPPEY
195 215, 400	E	ADD ADDITIONAL COMPONENTS REQUIRED FOR VEHICLES EQUIPPED WITH AN ALL RUBBER GASOLINE FUEL FILLER TUBE ADD 1/2" CABLE CLAMPS TO SECURE FUEL HOSE AND WIRING IF NEEDED	5/31/2013	M. STEPPEY
220 260 - 320	F	ADD WIRE ASSY WITH 3-PIN CONNECTOR CHANGE CONNECTION OF SOLENOID POWER LEADS TO ICOM ENGINE WIRE HARNESS ASSY	10/3/2013	M. STEPPEY

Author:	Marc Steppey	Approval:	Date:	10/3/2013
Title:	Technical Manager	Title:		

Initials						