ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION INSTRUCTIONS

P13R-9230-AC

Revision: C - Dated 9/9/14

Replaces: B - Dated 9/5/14

E-SERIES INTERNAL MECHANICAL FILL VALVE INSTALLATION INSTRUCTIONS

PART #	COMPONENT	QTY
P13R - 9904 - CA	ROUSH INTERNAL MECHANICAL FILL VALVE KIT	1

TOOLS REQUIRED

3mm HEX T-HANDLE
4mm HEX T-HANDLE
5mm HEX T-HANDLE
6mm SOCKET & WRENCH
10mm SOCKET & WRNECH
15mm OPEN END WRENCH
19mm OPEN END WRENCH
5mm HEX SOCKET
TORQUE WRENCH (5 Nm CAPABILITY)
ROCOL O-RING LUBRICANT
LEAK DETECTION SOLUTION
WIRE CUTTERS
FLAT TIP SCREWDRIVER
1/4" DRILL BIT
1/2" DRILL BIT
BLUE LOCTITE

INTRODUCTION

SAFETY WARNING

READ BEFORE STARTING ANY SERVICING OF THE PROPANE FUEL SYSTEM.
ENSURE THAT ALL PERSONNEL IN THE IMMEDIATE AREA ARE AWARE OF THESE WARNINGS.

PROPANE IS A NONTOXIC, NONPOISONOUS GAS THAT IS EXTREMELY FLAMMABLE. IF SOMETHING IGNITES IT, YOU COULD BE BADLY BURNED. KEEP SPARKS, OPEN FLAMES AND SMOKING MATERIAL AWAY FROM PROPANE.

LIQUID PROPANE IS EXTREMELY COLD (-40° F) AND CAUSE SERIOUS BURNS WHEN CONTACTING YOUR SKIN OR EYES. PREVENT CONTACT WHEN HANDLING LPG BY WEARING APPROVED PROTECTIVE GLOVES AND EYE PROTECTION.

PROPANE IS STORED UNDER PRESSURE. THE FUEL SYSTEM OPERATES AT PRESSURES OF UP TO 312 PSI. A SUDDEN RELEASE OF PROPANE CAN CAUSE SERIOUS INJURIES.

THESE INSTRUCTIONS ARE INTENDED FOR TECHNICIANS WHO ARE CERTIFIED BY ALL AGENCIES THAT GOVERN PROPANE INSTALLATIONS AND THE TRANSPORTATION OF PROPANE. THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) PUBLISHES A CODE BOOK OF RULES (NFPA 58) THAT APPLY TO THE STORAGE, HANDLING, TRANSPORTATION AND USE OF LIQUEFIED PETROLEUM GAS (LPG). LOCAL PROPANE SUPPLIERS SUCH AS FERRELGAS AND AMERIGAS, AS WELL AS SOME AGENGIES SUCH AS THE TEXAS RAILROAD COMMISION AND PERC (PROPANE EDUCATION & RESEARCH COUNCIL) OFFER INFORMATIVE COURSES TO HELP PREVENT SEVERE INJURY OR DEATH TO YOU OR SOMEONE ELSE IF YOU DON'T FULLY UNDERSTAND LPG AND ITS PROPERTIES.

LIMITED LIABILITY DISCLAIMER

The information in this instruction manual was approved at the time it was released for publication. ICOM North America reserves the right to revise information contained in this manual and to make changes or discontinue production of described parts at any time.

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CRITICAL PROCESS
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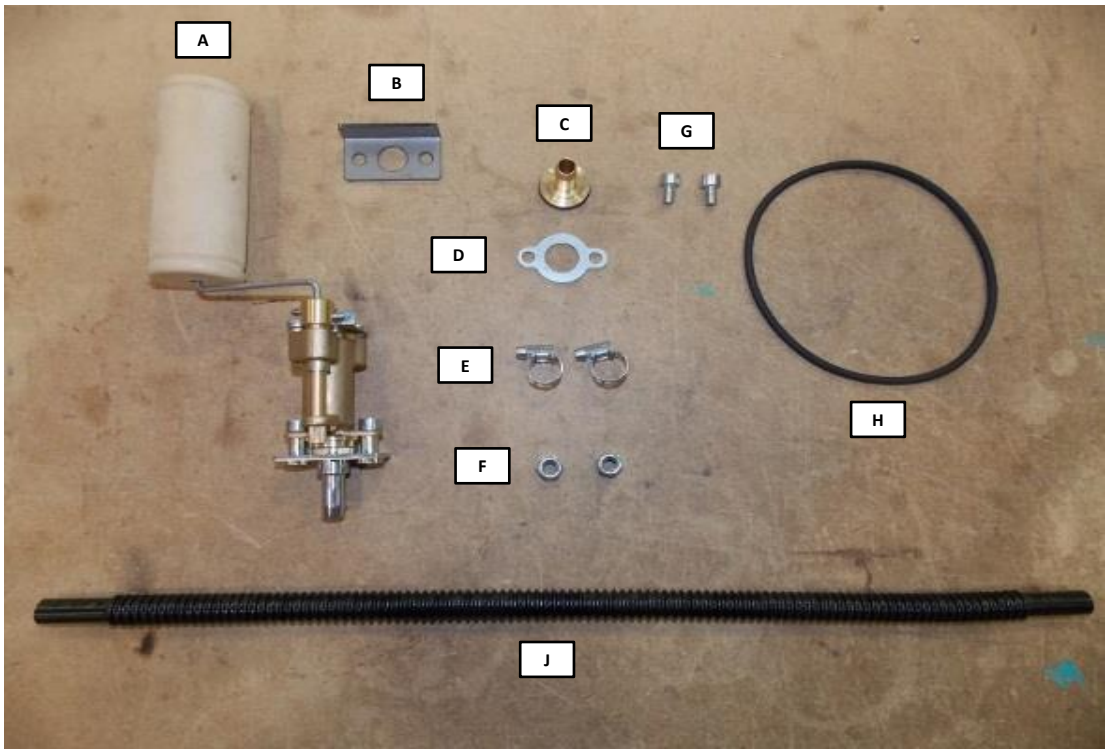
OPERATION



THE FOLLOWING IS A LIST OF THE COMPONENTS CONTAINED WITHIN THE ROUSH INTERNAL MECHANICAL FILL VALVE KIT (P13R-9904-CA)

A MECHANICAL FILL VALVE ASSY
B BRACKET - MECHANICAL FILL VALVE
C NOZZLE - MULTIVALVE FILL
D RETAINER - MULTIVALVE FILL NOZZLE
E HOSE CLAMP 10-16
F NUT - M6 x 1.0 NYLOCK
G SCREW - M5 x 8
H O-RING - MULTIVALVE
J CORRUGATED HOSE - L=395mm
K TIE STRAP 8"

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
A	17143500	1	MECHANICAL FILL VALVE ASSY			
B	200023	1	BRACKET - MECHANICAL FILL VALVE			
C	19295800	1	NOZZLE - MULTIVALVE FILL			
D	19296100	1	RETAINER - MULTIVALVE FILL NOZZLE			
E	20003708	2	HOSE CLAMP - 10-16			
F	810001	2	NUT - M6 x 1.0 NYLOCK			
G	20000202	2	SCREW - M5 x 8	PROCESS NAME		REV
H	90007201	1	O-RING - MULTIVALVE	ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		C
J	88300101	1	CORRUGATE HOSE - L=395mm			
K	150000	3	TIE STRAP 8"	PROCESS NUMBER		PAGE
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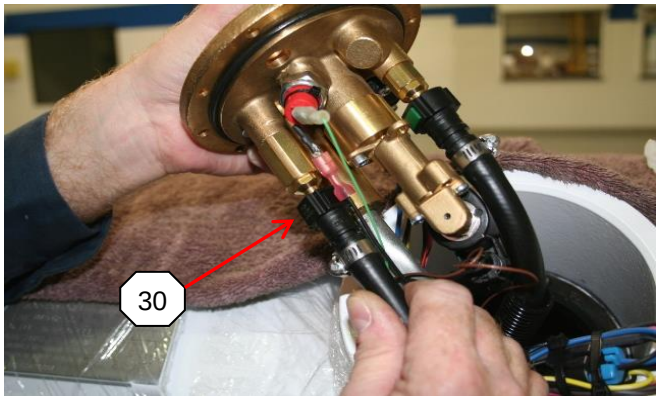
NOTE - THE FUEL TANK MUST BE COMPLETELY EMPTIED BEFORE STARTING THIS INSTALLATION.

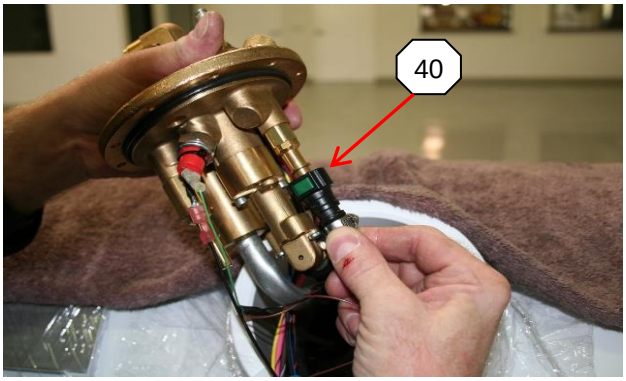
10) USING A 5mm HEX T-HANDLE, CAREFULLY LOOSEN AND REMOVE THE (10) MULTIVALVE SOCKET HEAD SCREWS AND SET ASIDE

20) CAREFULLY REMOVE THE MULTIVALVE FROM THE TANK

30) DISCONNECT & REMOVE THE FUEL RETURN HOSE (BLACK BUTTON ON CONNECTOR) FROM THE MULTIVALVE

40) DISCONNECT & REMOVE THE FUEL SUPPLY HOSE (GREEN BUTTON ON CONNECTOR) FROM THE MULTIVALVE





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
						5mm HEX T-HANDLE
				PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		REV: C
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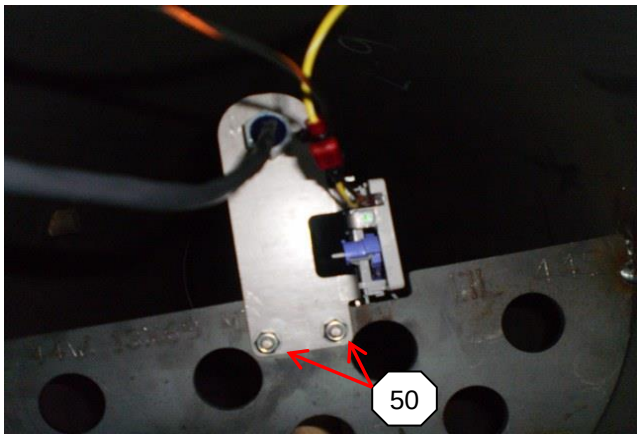
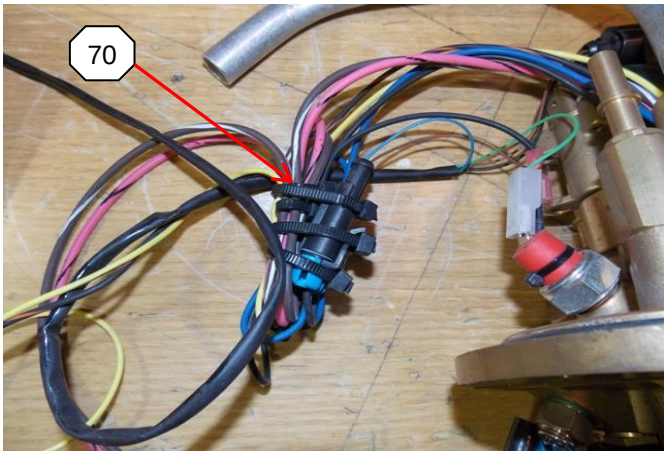


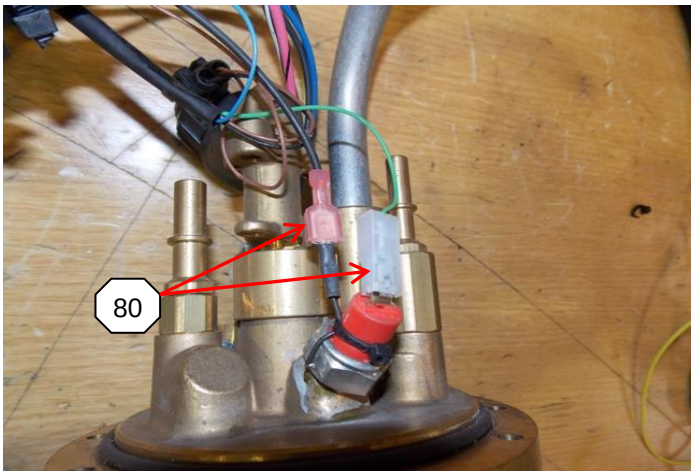
50) FROM INSIDE THE TANK, LOCATE THE SENDING UNIT / 80% SENSOR BRACKET ATTACHED TO THE FUEL TANK BAFFLE; USING A 10mm SOCKET, REMOVE AND DISCARD THE (2) M6 x 1.0 NYLOCK NUTS

60) CAREFULLY REMOVE THE SENDING UNIT ASSEMBLY FROM THE TANK; PLACE THE MULTIVALVE AND SENDING UNIT ASSEMBLY ONTO A WORK BENCH

70) CAREFULLY CUT & DISCARD THE TIE STRAPS FROM THE BUNDLED PORTION OF THE WIRE HARNESS

80) DISCONNECT THE (2) SPADE CONNECTOR LEADS FROM THE RED PRESSURE SWITCH





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
						WIRE CUTTERS
						10mm SOCKET & WRENCH

PROCESS NAME ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION	REV C
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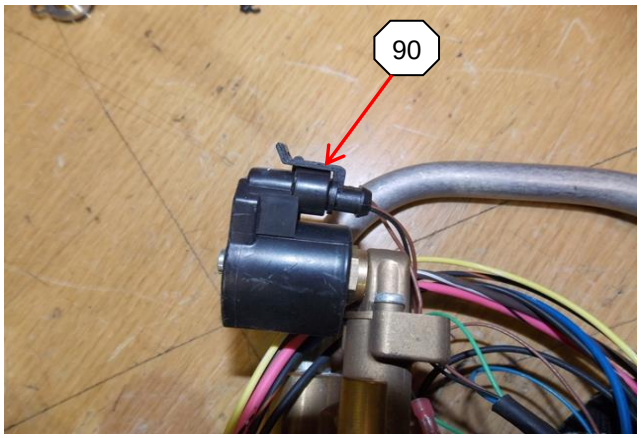
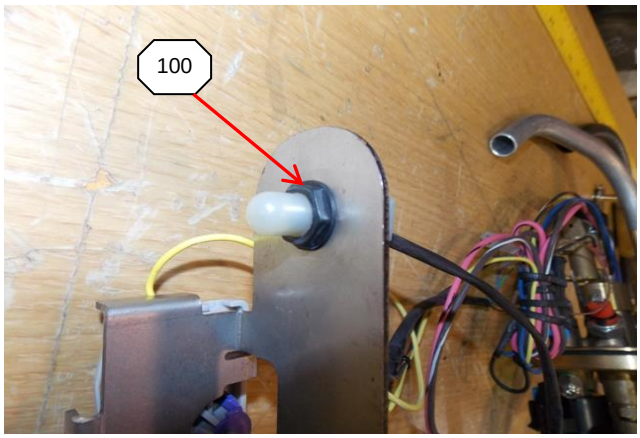


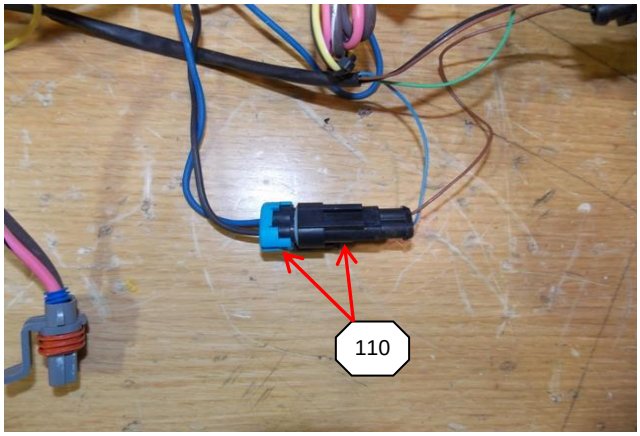
90) DISCONNECT THE 80% SENSOR WIRE LEAD FROM THE FILL SOLENOID

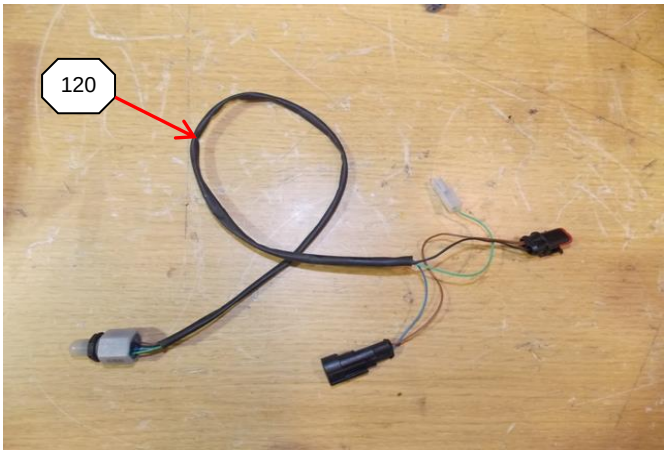


100) USING A 15mm OPEN END WRENCH, LOOSEN & REMOVE THE ATTACHMENT NUT FROM THE 80% SENSOR; REMOVE THE SENSOR FROM THE BRACKET

110) DISCONNECT THE 80% SENSOR WIRE LEAD FROM THE MULTIVALVE WIRE HARNESS

120) SEPARATE THE 80% SENSOR FROM THE SYSTEM AS SHOWN





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
						15mm OPEN END WRENCH
				PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		REV: C
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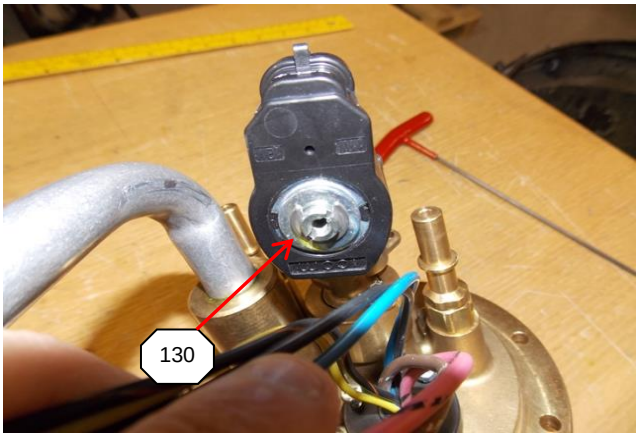
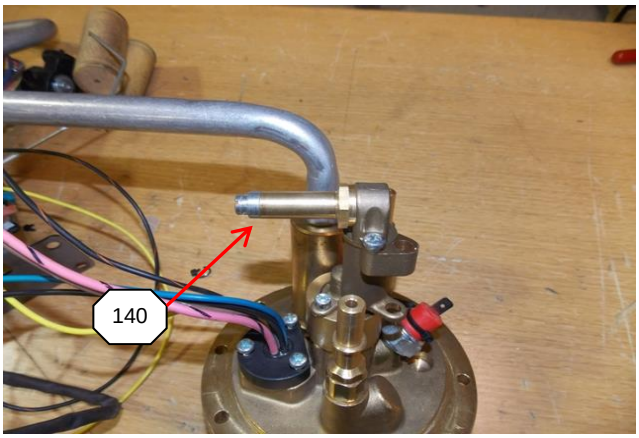


130) REMOVE THE C-CLIP & WASHER FROM THE FUEL FILL SOLENOID POST

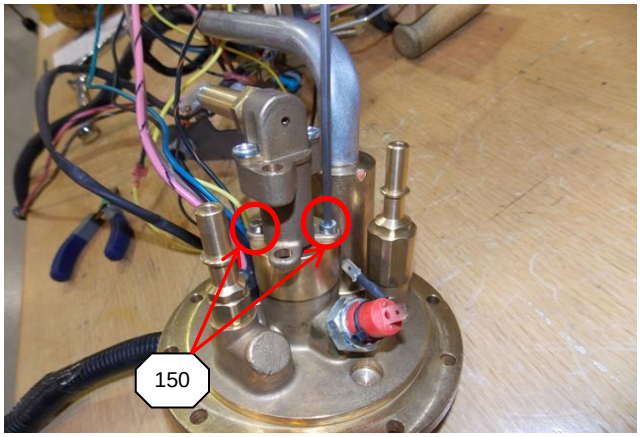
140) REMOVE THE FUEL FILL SOLENOID FROM THE POST

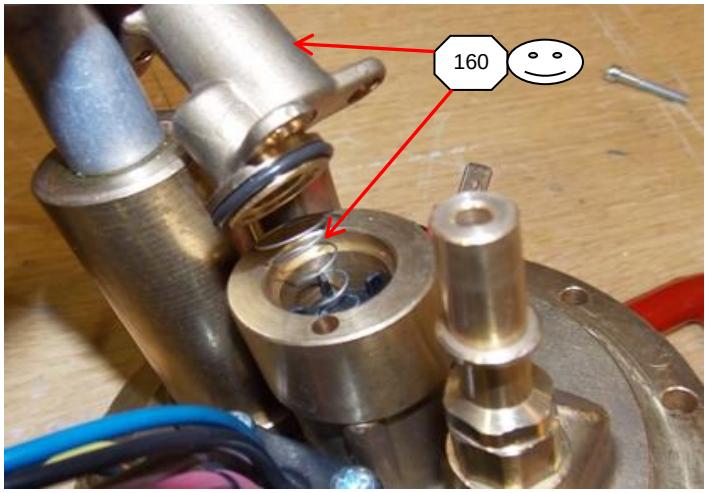


150) USING A 3mm HEX T-HANDLE, REMOVE THE (2) SCREWS THAT SECURES THE FILL STANCHION TO THE MULTIVALVE CHECK VALVE HOUSING

160) CAREFULLY REMOVE THE FILL STANCHION FROM THE CHECK VALVE HOUSING

(MAKE SURE THE CHECK VALVE SPRING STAYS IN PLACE WHILE REMOVING THE FILL STANCHION)





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
						3mm HEX T-HANDLE
				PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		REV: C
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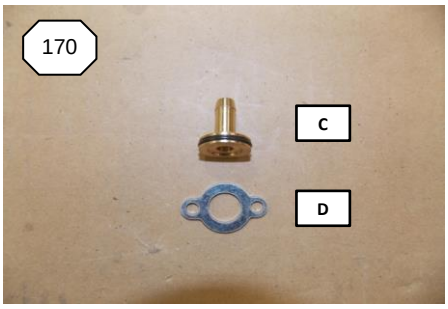
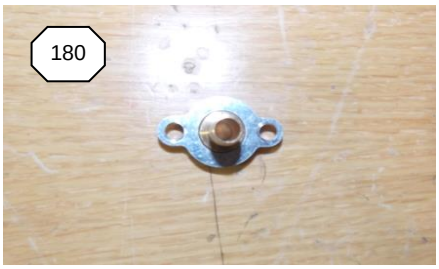
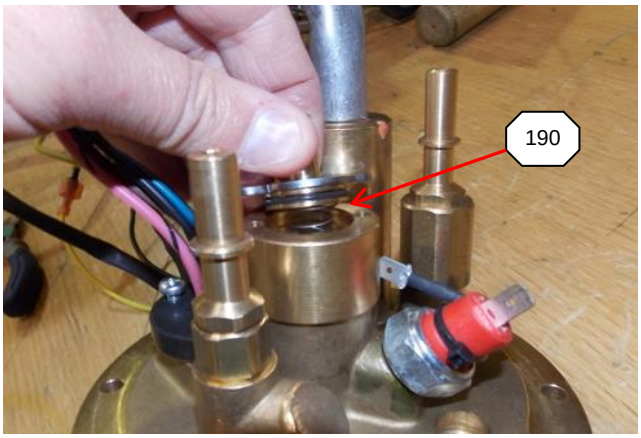


170) OBTAIN THE MULTIVALVE FILL NOZZLE (C) AND THE FILL NOZZLE RETAINER (D) FROM THE FILL VALVE KIT

180) INSTALL THE FILL NOZZLE RETAINER ONTO THE FILL NOZZLE AS SHOWN

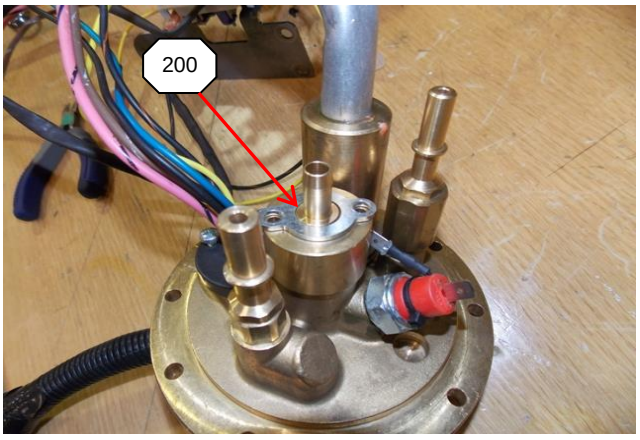


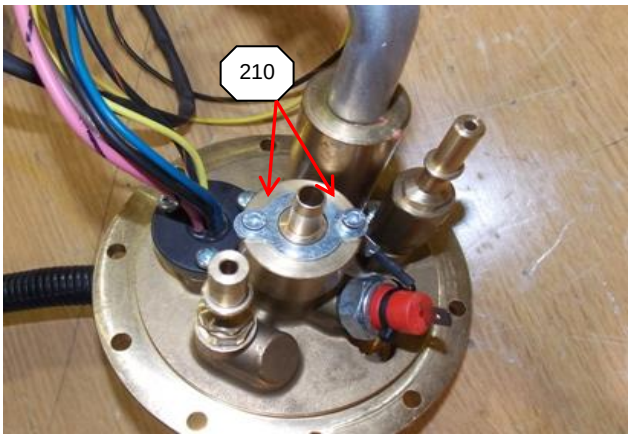
190) ALIGN AND SEAT THE CHECK VALVE SPRING ONTO THE BOTTOM OF THE MULTIVALVE FILL NOZZLE AS SHOWN



200) ALIGN AND SEAT THE MULTIVALVE FILL NOZZLE INTO THE CHECK VALVE HOUSING AS SHOWN

210) OBTAIN THE (2) SCREWS REMOVED IN STEP #150 THAT SECURED THE FILL STANCHION TO THE CHECK VALVE HOUSING; ALIGN THE HOLES IN THE FILL VALVE RETAINER TO THE HOLES IN THE CHECK VALVE HOUSING; HANDSTART AND FULLY TIGHTEN SCREWS USING A 3mm HEX T-HANDLE





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
C	19295800	1	NOZZLE - MULTIVALVE FILL			3mm HEX T-HANDLE
D	19296100	1	RETAINER - MULTIVALVE FILL NOZZLE			

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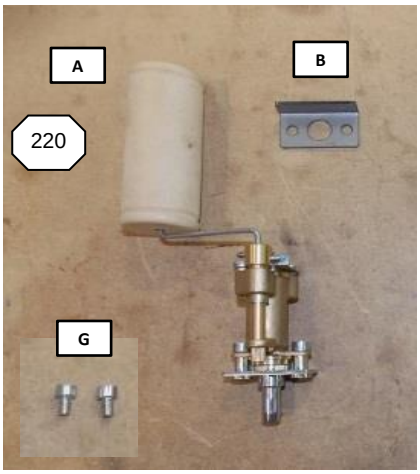
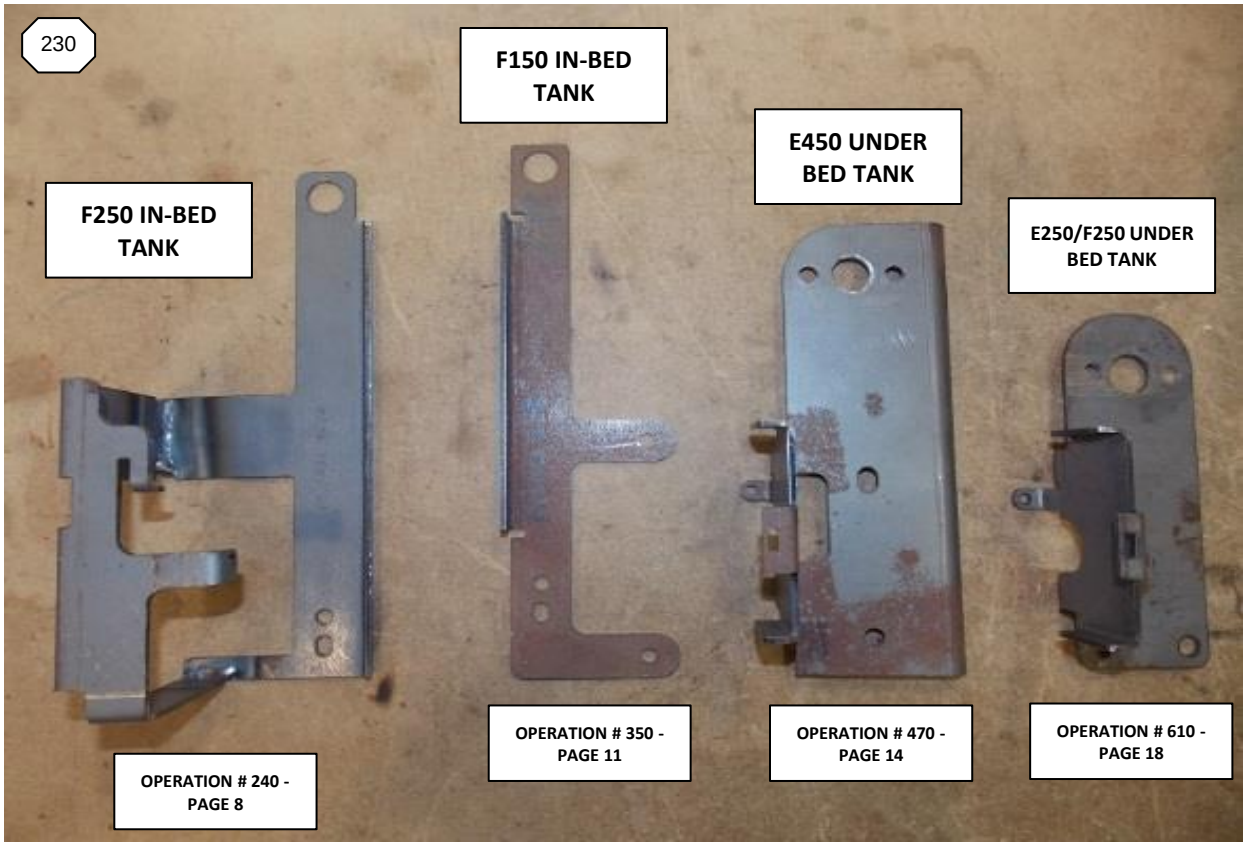


220) OBTAIN THE FOLLOWING FROM THE FILL VALVE KIT:
- MECHANICAL FILL VALVE ASSY (A)
- BRACKET - FILL VALVE (B)
- SCREW - M5 x 8 (QTY - 2) (G)

230) SELECT FROM ONE OF THE SENDING UNIT BRACKETS PICTURED BELOW FOR INSTALLATION OF THE MECHANICAL FILL VALVE ASSY



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
A	17143500	1	MECHANICAL FILL VALVE ASSY			
B	200023	1	BRACKET - MECHANICAL FILL VALVE			
G	20000202	2	SCREW - M5 x 8			

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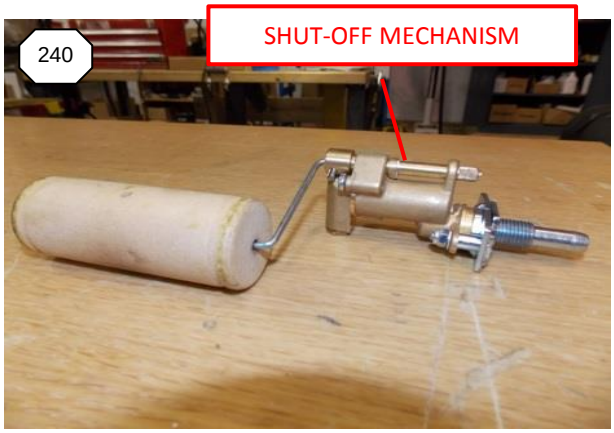
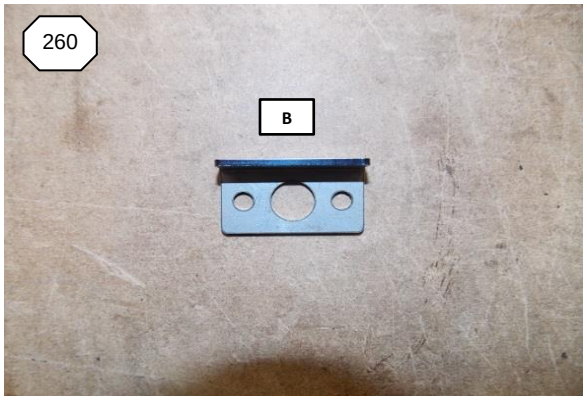
F250 IN-BED FUEL TANK



240) POSITION THE MECHANICAL FILL VALVE WITH THE 'SHUT-OFF' MECHANISM FACING 'UP' AS SHOWN

250) LOCATE THE 80% SENSOR HOLE ON THE BRACKET; POSITION THE FILL VALVE FACING AWAY FROM THE SENDING UNIT; INSERT THE NOZZLE ON THE FILL VALVE INTO THE 80% SENSOR HOLE AS SHOWN

260) OBTAIN THE MECHANICAL FILL VALVE BRACKET (B)



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
B	200023	1	BRACKET - MECHANICAL FILL VALVE			

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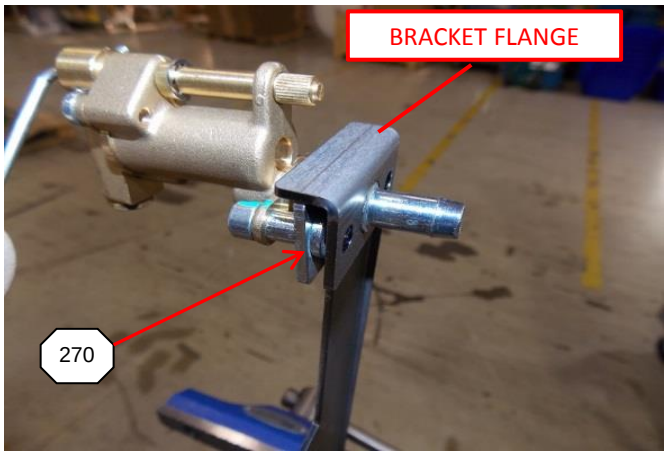
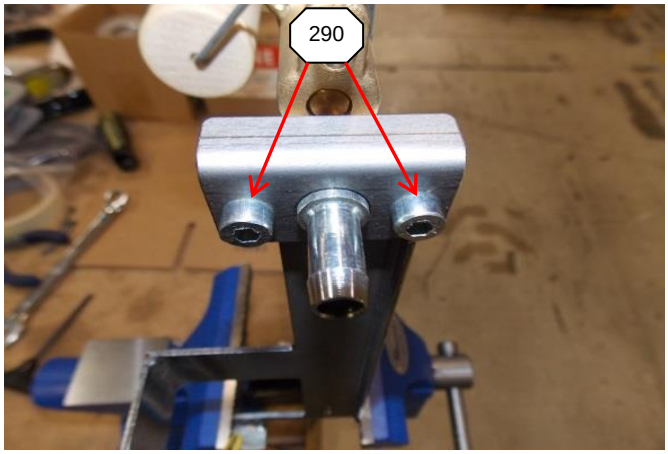


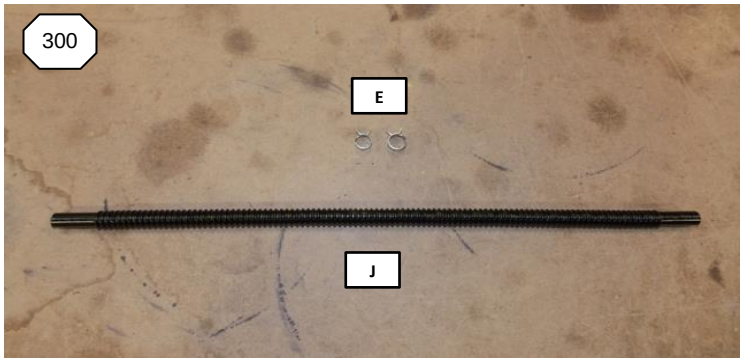
270) POSITION THE MECHANICAL FILL VALVE BRACKET WITH THE FLANGE ON THE BRACKET AT THE TOP AND FACING TOWARD THE MECHANICAL FILL VALVE; INSERT THE NOZZLE ON THE FILL VALVE INTO THE CENTER HOLE ON THE BRACKET AND FULLY SEAT BRACKET ONTO THE FILL VALVE PLATE AS SHOWN

280) OBTAIN THE (2) M5 X 8 SCREWS (G); APPLY A SMALL AMOUNT OF BLUE LOCTITE ONTO THE THREADS OF BOTH SCREWS

290) ALIGN THE (2) MOUNTING HOLES IN FILL VALVE BRACKET TO THE (2) MOUNTING HOLES IN FILL VALVE; USING A 4mm HEX T-HANDLE WRENCH, INSTALL & FULLY TIGHTEN THE (2) M5 x 8 SCREWS INTO THE FILL VALVE



300) OBTAIN THE CORRUGATE HOSE (J) AND (2) HOSE CLAMPS (E) FROM THE FILL VALVE KIT



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
E	20003708	2	HOSE CLAMP - 10-16			4mm HEX T-HANDLE
G	20000202	2	SCREW - M5 x 8			BLUE LOCTITE
J	88300101	1	CORRUGATE HOSE - L=395mm			

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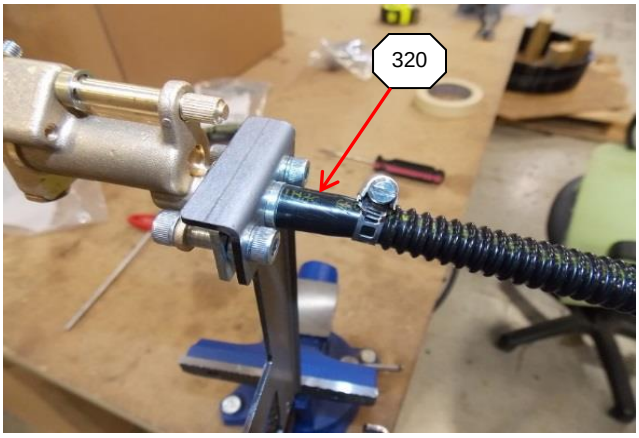
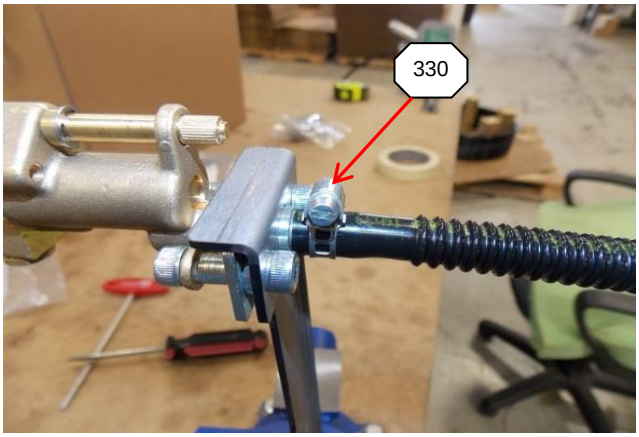
310) FULLY INSERT (1) HOSE CLAMP (E) ONTO ONE END OF THE CORRUGATE HOSE (J) AS SHOWN



320) ALIGN AND FULLY SEAT THE HOSE END WITH THE CLAMP INSTALLED ONTO THE FILL VALVE NOZZLE AS SHOWN



330) POSITION THE HOSE CLAMP (E) BETWEEN THE FILL VALVE BRACKET AND THE BARB ON THE FILL VALVE NOZZLE AS SHOWN; FULLY SECURE CLAMP INTO PLACE

340) PROCEED TO OPERATION #730 ON PAGE 22

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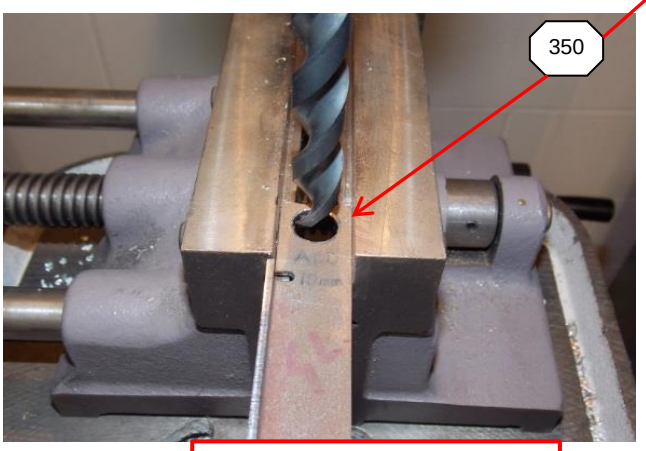
F150 IN-BED FUEL TANK

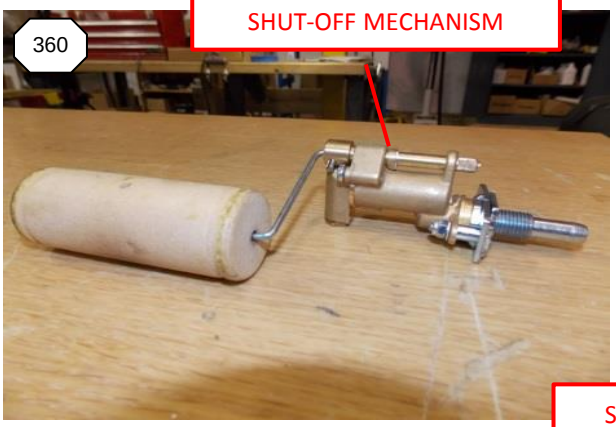
NOTE
VERIFY FITMENT OF MECHANICAL FILL VALVE TO 80% SENSOR HOLE - IF THE MECHANICAL FILL VALVE FITS PROPERLY, PROCEED TO OPERATION # 360

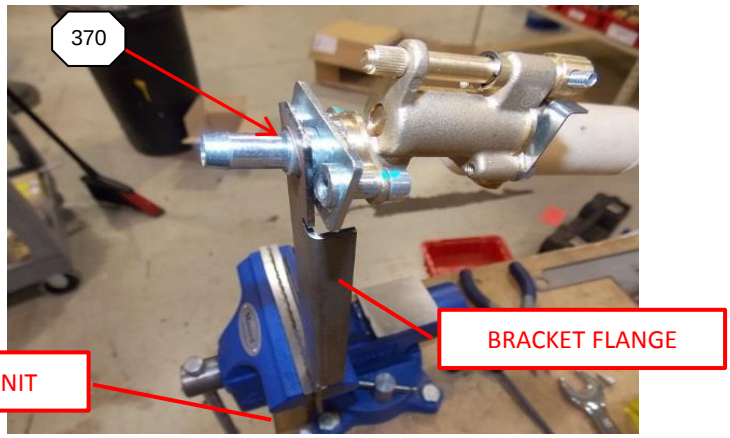


350) USING A 1/2" DRILL BIT, ENLARGE THE 80% SENSOR HOLE IN THE SENDING UNIT BRACKET AS SHOWN

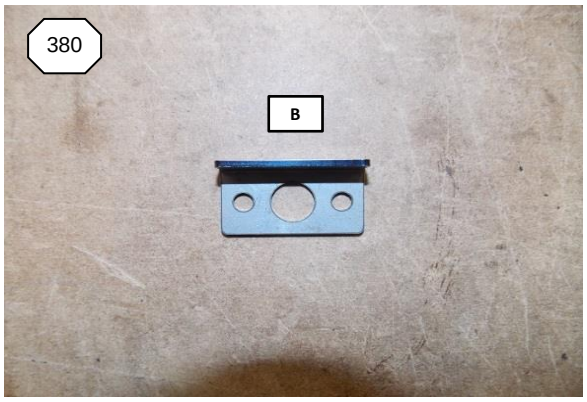
360) POSITION THE MECHANICAL FILL VALVE WITH THE 'SHUT-OFF' MECHANISM FACING 'UP' AS SHOWN

370) POSITION THE FILL VALVE ON THE SIDE OF THE BRACKET WITH THE FLANGE AND FACING AWAY FROM THE SENDING UNIT; INSERT THE NOZZLE ON THE FILL VALVE INTO THE 80% SENSOR HOLE AS SHOWN

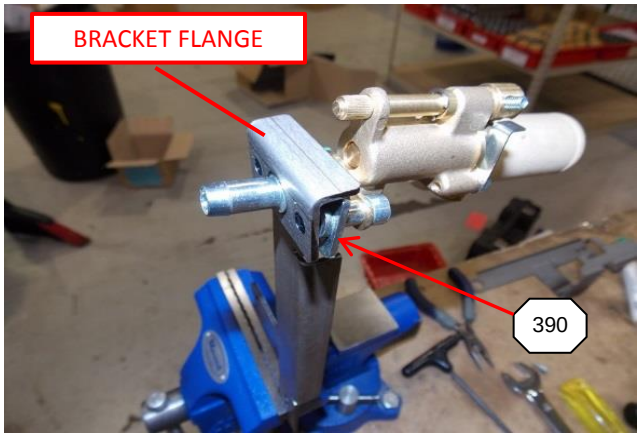




ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
						1/2" DRILL BIT
				PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		REV: C
				PROCESS NUMBER: P13R-9230-AC		PAGE: 11 OF 29



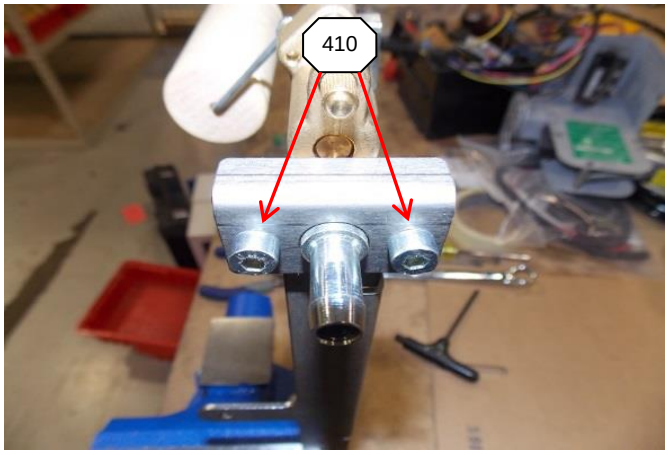
380) OBTAIN THE MECHANICAL FILL VALVE BRACKET (B)



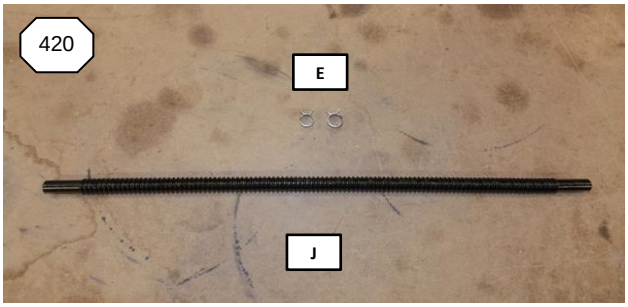
390) POSITION THE MECHANICAL FILL VALVE BRACKET WITH THE FLANGE ON THE BRACKET AT THE TOP AND FACING TOWARD THE MECHANICAL FILL VALVE; INSERT THE NOZZLE ON THE FILL VALVE INTO THE CENTER HOLE ON THE BRACKET AND FULLY SEAT BRACKET ONTO THE FILL VALVE PLATE AS SHOWN

400) OBTAIN THE (2) M5 X 8 SCREWS (G); APPLY A SMALL AMOUNT OF BLUE LOCTITE ONTO THE THREADS OF BOTH SCREWS

410) ALIGN THE (2) MOUNTING HOLES IN FILL VALVE BRACKET TO THE (2) MOUNTING HOLES IN FILL VALVE; USING A 4mm HEX T-HANDLE WRENCH, INSTALL & FULLY TIGHTEN THE (2) M5 x 8 SCREWS INTO THE FILL VALVE



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
B	200023	1	BRACKET - MECHANICAL FILL VALVE			4mm HEX T-HANDLE
G	20000202	2	SCREW - M5 x 8			BLUE LOCTITE



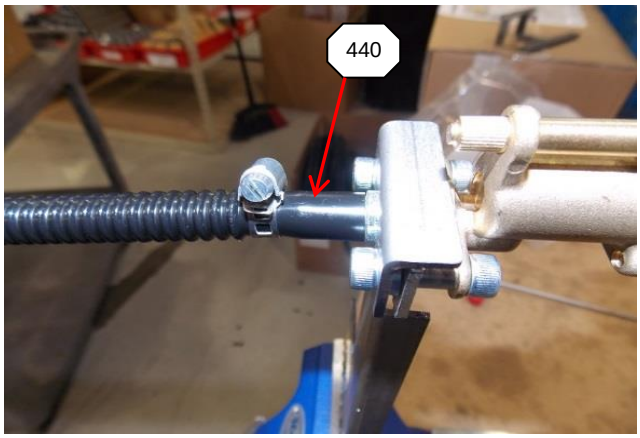
420) OBTAIN THE CORRUGATE HOSE (J) AND (2) HOSE CLAMPS (E) FROM THE FILL VALVE KIT

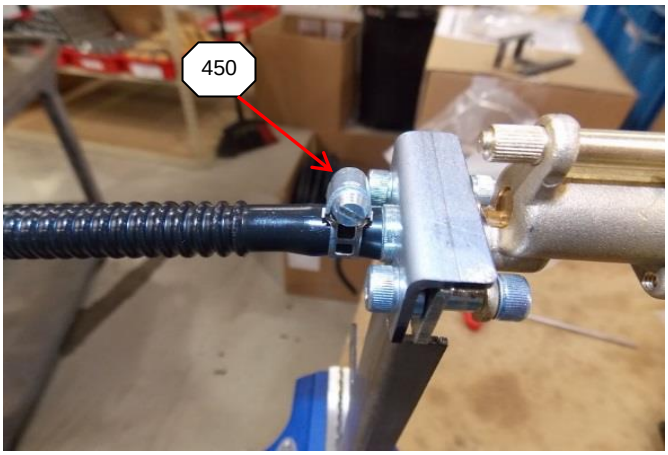
430) FULLY INSERT (1) HOSE CLAMP (E) ONTO ONE END OF THE CORRUGATE HOSE (J) AS SHOWN

440) ALIGN AND FULLY SEAT THE HOSE END WITH THE CLAMP INSTALLED ONTO THE FILL VALVE NOZZLE AS SHOWN

450) POSITION THE HOSE CLAMP (E) BETWEEN THE FILL VALVE BRACKET AND THE BARB ON THE FILL VALVE NOZZLE AS SHOWN; FULLY SECURE CLAMP INTO PLACE

460) PROCEED TO OPERATION #730 ON PAGE 22





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
E	20003708	2	HOSE CLAMP - 10-16			
J	88300101	1	CORRUGATE HOSE - L=395mm			

PROCESS NAME ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION	REV C
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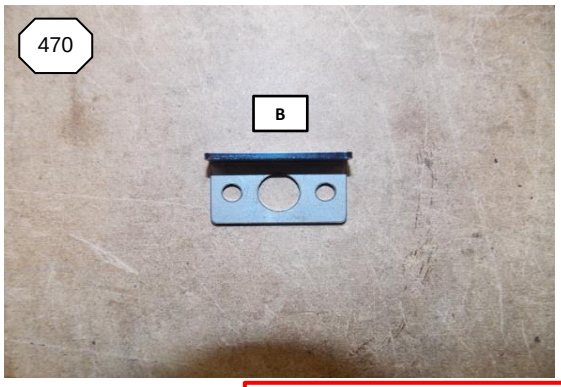
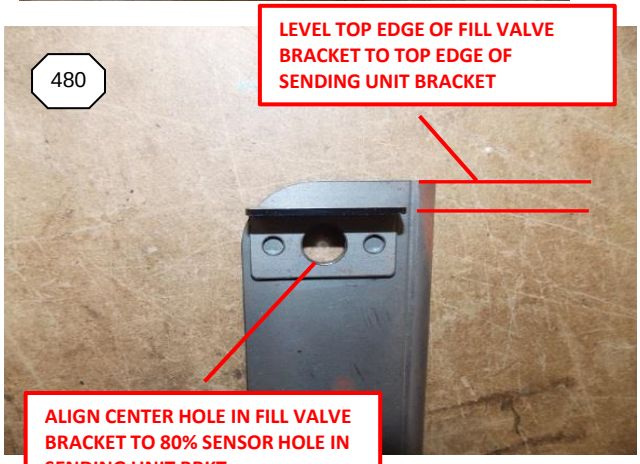
E450 UNDER VEHICLE FUEL TANK



470) OBTAIN THE MECHANICAL FILL VALVE BRACKET (B)

480) PLACE THE FILL VALVE BRACKET (B) ONTO THE SENDING UNIT BRACKET; ALIGN THE LARGE CENTER HOLE ON THE FILL VALVE BRACKET TO THE 80% SENSOR HOLE ON THE SENDING UNIT BRACKET; LEVEL THE TOP EDGE OF THE FILL VALVE BRACKET TO THE TOP EDGE OF THE SENDING UNIT BRACKET



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
B	200023	1	BRACKET - MECHANICAL FILL VALVE			

PROCESS NAME ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION	REV C
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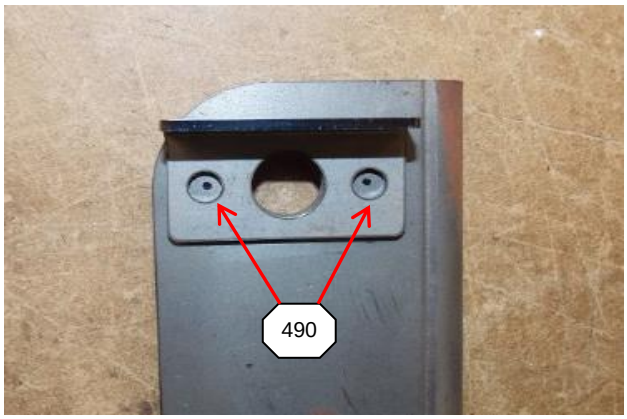
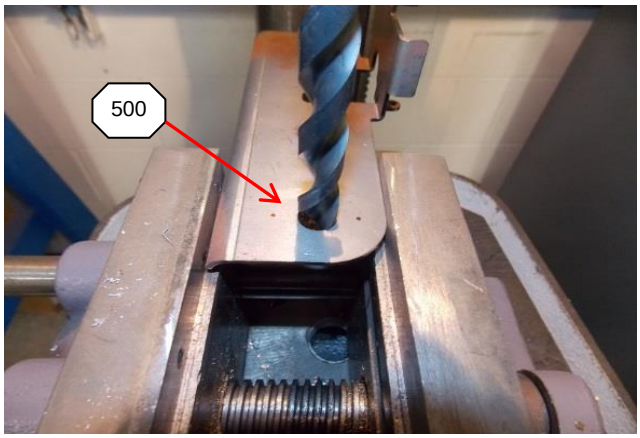


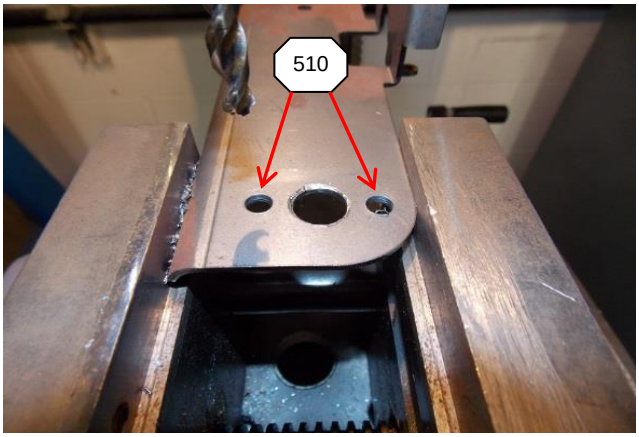
490) MARK THE CENTER POINTS OF THE (2) OUTBOARD HOLES ON THE MECHANICAL FILL VALVE BRACKET ONTO THE SENDING UNIT BRACKET AS SHOWN

NOTE
VERIFY FITMENT OF THE MECHANICAL FILL VALVE TO THE 80% SENSOR HOLE IN THE BRACKET - IF THE MECHANICAL FILL VALVE FITS PROPERLY, PROCEED TO OPERATION # 510

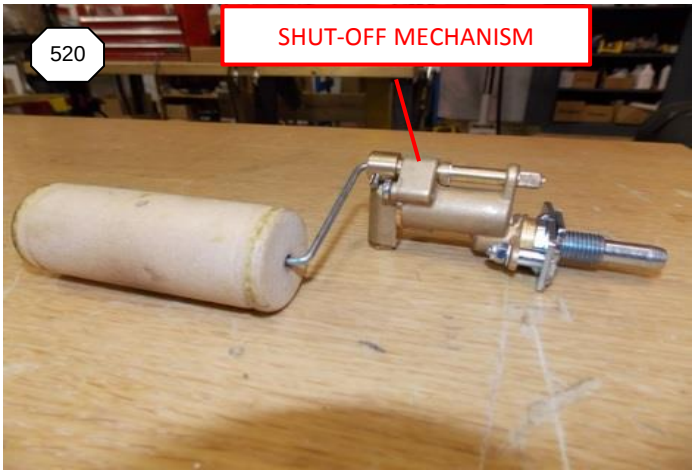


500) USING A 1/2" DRILL BIT, ENLARGE THE 80% SENSOR HOLE IN THE SENDING UNIT BRACKET AS SHOWN

510) USING A 1/4" DRILL BIT, DRILL THE (2) CENTER POINTS MARKED ON THE SENDING UNIT BRACKET AS SHOWN



520) POSITION THE MECHANICAL FILL VALVE WITH THE 'SHUT-OFF' MECHANISM FACING 'UP' AS SHOWN



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
						1/4" DRILL BIT
						1/2" DRILL BIT
				PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		REV: C
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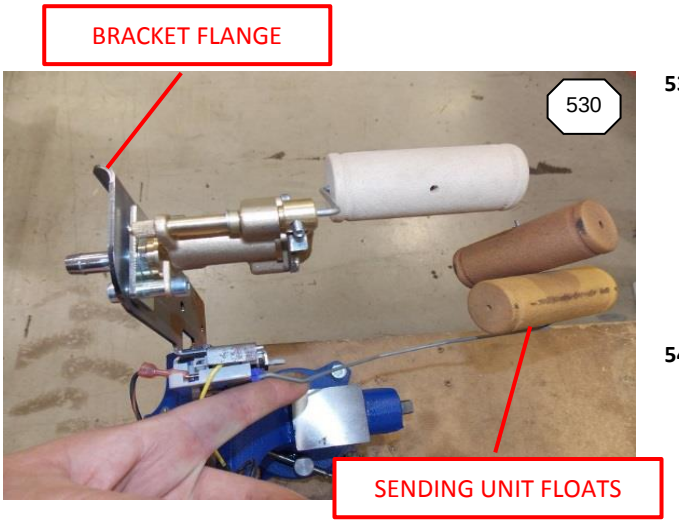
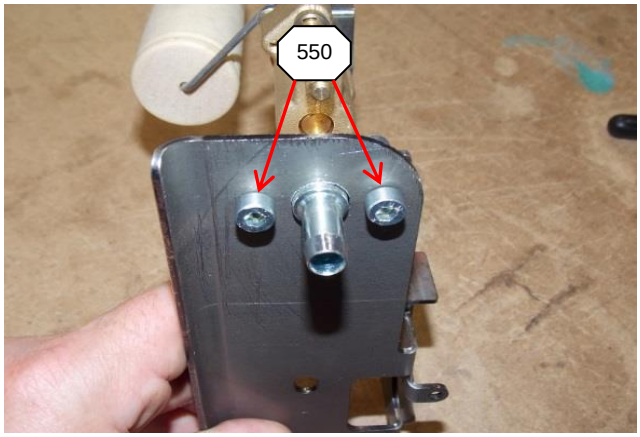


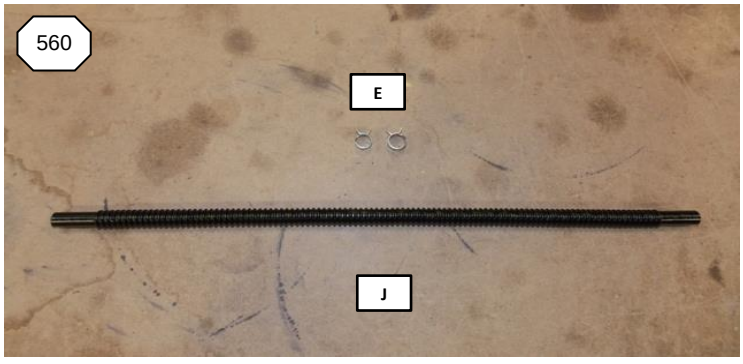
530) POSITION THE FILL VALVE ON THE SIDE OF THE BRACKET AWAY FROM THE FLANGE AND FACING TOWARDS THE SENDING UNIT FLOATS; INSERT THE NOZZLE ON THE FILL VALVE INTO THE 80% SENSOR HOLE ON THE SENDING UNIT BRACKET AS SHOWN

540) OBTAIN THE (2) M5 X 8 SCREWS (G); APPLY A SMALL AMOUNT OF BLUE LOCTITE ONTO THE THREADS OF BOTH SCREWS

550) ALIGN THE (2) MOUNTING HOLES IN FILL VALVE TO THE (2) DRILLED HOLES IN THE SENDING UNIT BRACKET; USING A 4mm HEX T-HANDLE WRENCH, INSTALL & FULLY TIGHTEN THE (2) M5 x 8 SCREWS INTO THE FILL VALVE AS SHOWN

560) OBTAIN THE CORRUGATE HOSE (J) AND (2) HOSE CLAMPS (E) FROM THE FILL VALVE KIT





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
E	20003708	2	HOSE CLAMP - 10-16			4mm HEX T-HANDLE
G	20000202	2	SCREW - M5 x 8			BLUE LOCTITE
J	88300101	1	CORRUGATE HOSE - L=395mm			

PROCESS NAME	REV
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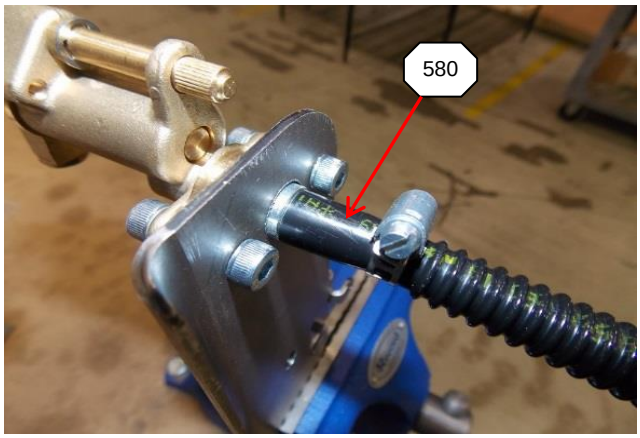
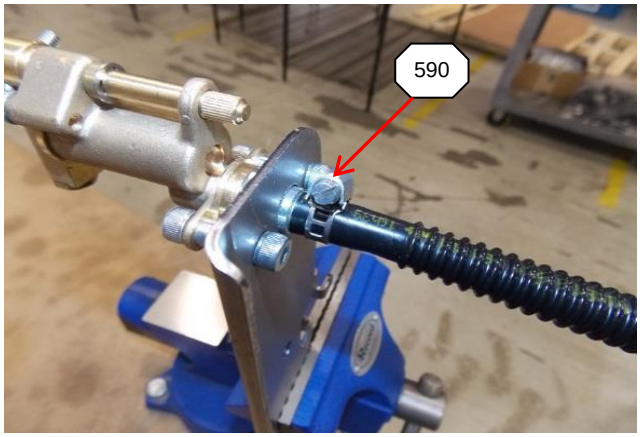
570) FULLY INSERT (1) HOSE CLAMP (E) ONTO ONE END OF THE CORRUGATE HOSE (J) AS SHOWN

580) ALIGN AND FULLY SEAT THE HOSE END WITH THE CLAMP INSTALLED ONTO THE FILL VALVE NOZZLE AS SHOWN



590) POSITION THE HOSE CLAMP (E) BETWEEN THE FILL VALVE BRACKET AND THE BARB ON THE FILL VALVE NOZZLE AS SHOWN; FULLY SECURE CLAMP INTO PLACE

600) PROCEED TO OPERATION #730 ON PAGE 22

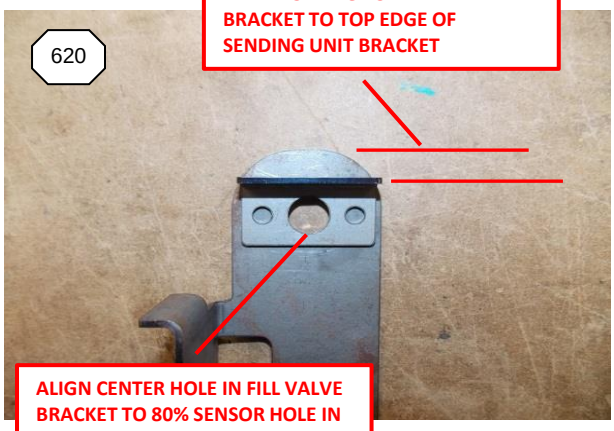


ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
				PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		REV: C
				PROCESS NUMBER: P13R-9230-AC		PAGE: 17 OF 29

E250 / F250 UNDER VEHICLE FUEL TANK

610) OBTAIN THE MECHANICAL FILL VALVE BRACKET (B)

620) PLACE THE FILL VALVE BRACKET (B) ONTO THE SENDING UNIT BRACKET; ALIGN THE LARGE CENTER HOLE ON THE FILL VALVE BRACKET TO THE 80% SENSOR HOLE ON THE SENDING UNIT BRACKET; LEVEL THE TOP EDGE OF THE FILL VALVE BRACKET TO THE TOP EDGE OF THE SENDING UNIT BRACKET



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
B	200023	1	BRACKET - MECHANICAL FILL VALVE			
				PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		REV: C
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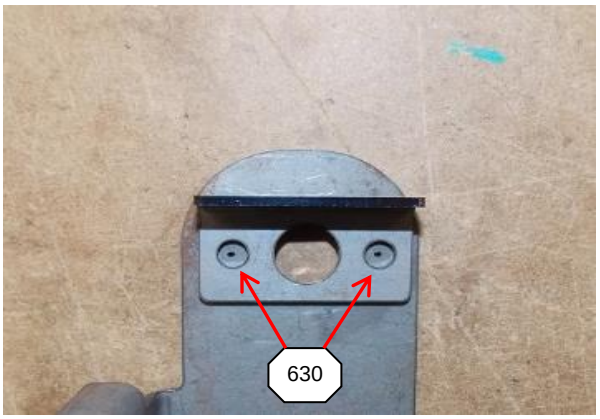
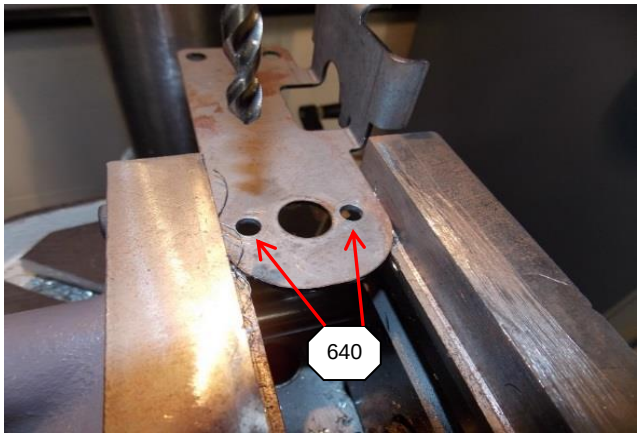
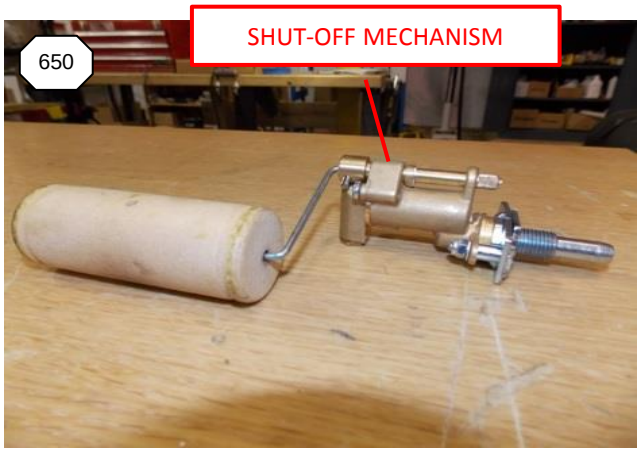


630) MARK THE CENTER POINTS OF THE (2) OUTBOARD HOLES ON THE MECHANICAL FILL VALVE BRACKET ONTO THE SENDING UNIT BRACKET AS SHOWN

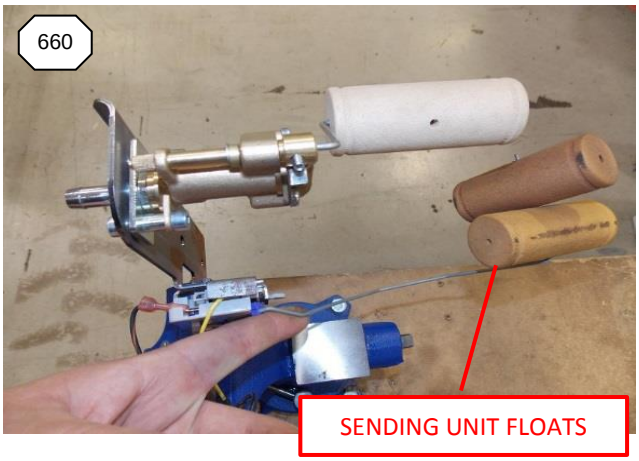


640) USING A 1/4" DRILL BIT, DRILL THE (2) CENTER POINTS MARKED ON THE SENDING UNIT BRACKET AS SHOWN



650) POSITION THE MECHANICAL FILL VALVE WITH THE 'SHUT-OFF' MECHANISM FACING 'UP' AS SHOWN

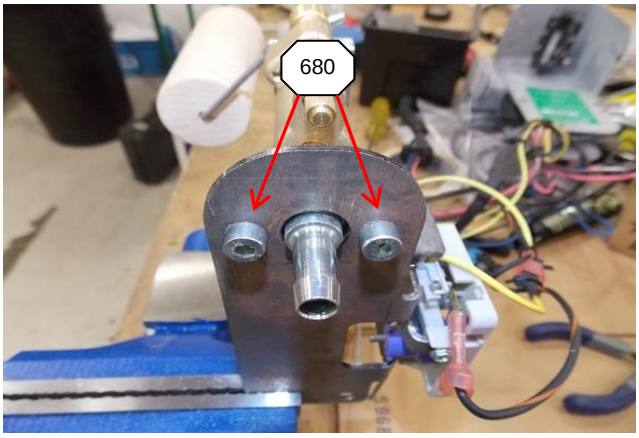
ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
						1/4" DRILL BIT
				PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		REV: C
				PROCESS NUMBER: P13R-9230-AC		PAGE: 19 OF 29



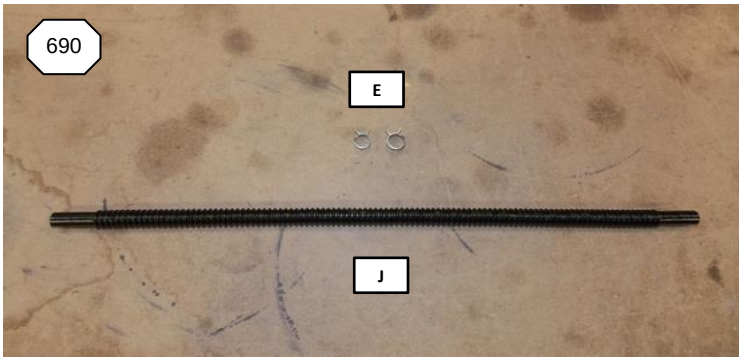
660) POSITION THE FILL VALVE ON THE SIDE OF THE BRACKET FACING TOWARDS THE SENDING UNIT FLOATS; INSERT THE NOZZLE ON THE FILL VALVE INTO THE 80% SENSOR HOLE ON THE SENDING UNIT BRACKET AS SHOWN

670) OBTAIN THE (2) M5 X 8 SCREWS (G); APPLY A SMALL AMOUNT OF BLUE LOCTITE ONTO THE THREADS OF BOTH SCREWS

680) ALIGN THE (2) MOUNTING HOLES IN FILL VALVE TO THE (2) DRILLED HOLES IN THE SENDING UNIT BRACKET; USING A 4mm HEX T-HANDLE WRENCH, INSTALL & FULLY TIGHTEN THE (2) M5 x 8 SCREWS INTO THE FILL VALVE AS SHOWN



690) OBTAIN THE CORRUGATE HOSE (J) AND (2) HOSE CLAMPS (E) FROM THE FILL VALVE KIT



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
E	20003708	2	HOSE CLAMP - 10-16			4mm HEX T-HANDLE
G	20000202	2	SCREW - M5 x 8			BLUE LOCTITE
J	88300101	1	CORRUGATE HOSE - L=395mm			

PROCESS NAME	REV
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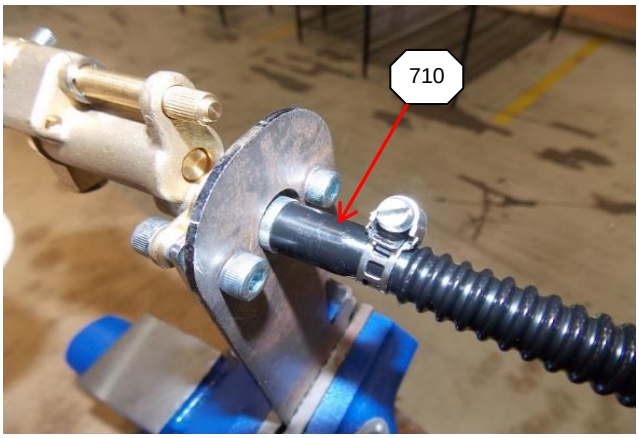
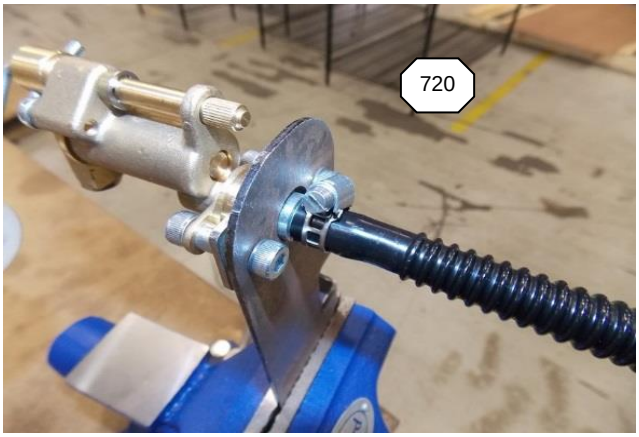
700) FULLY INSERT (1) HOSE CLAMP (E) ONTO ONE END OF THE CORRUGATE HOSE (J) AS SHOWN

710) ALIGN AND FULLY SEAT THE HOSE END WITH THE CLAMP INSTALLED ONTO THE FILL VALVE NOZZLE AS SHOWN



720) POSITION THE HOSE CLAMP (E) BETWEEN THE FILL VALVE BRACKET AND THE BARB ON THE FILL VALVE NOZZLE AS SHOWN; FULLY SECURE CLAMP INTO PLACE

725) PROCEED TO OPERATION #730 ON PAGE 22



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS

PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION	REV: C
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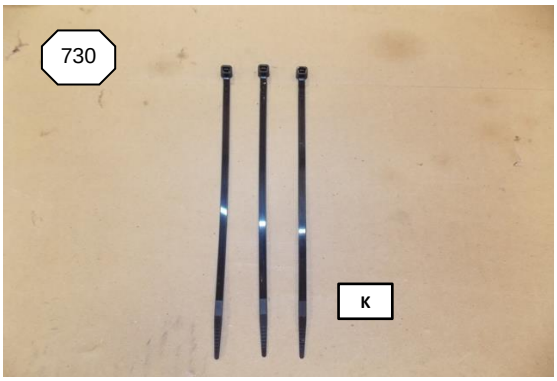
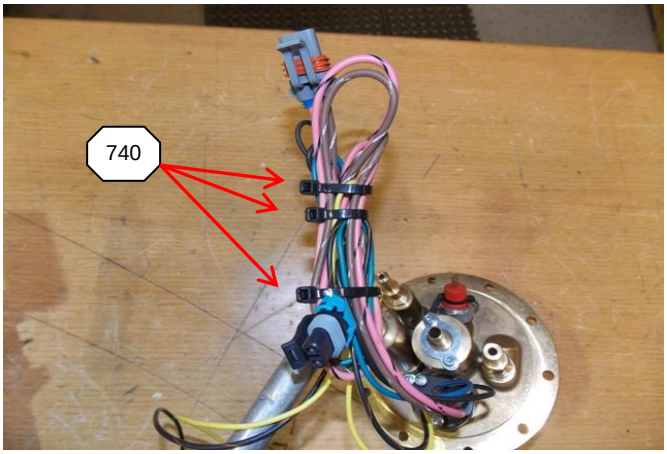
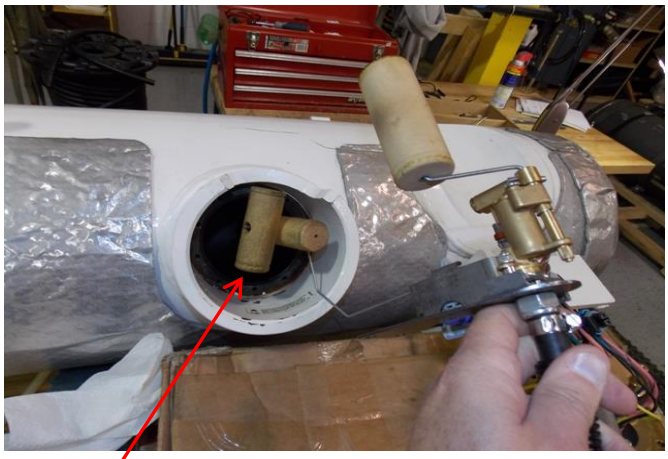


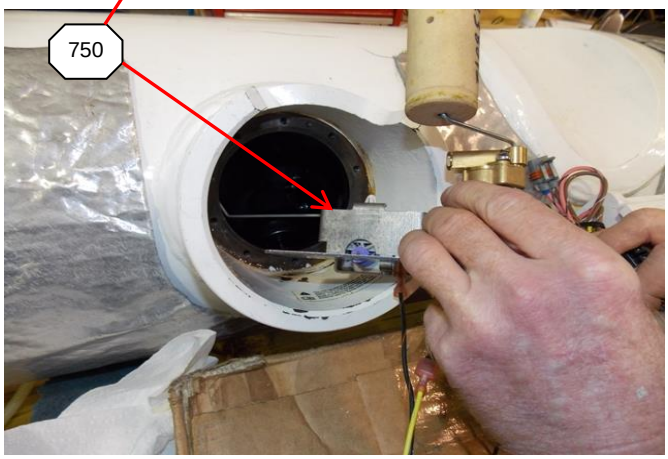
730) OBTAIN THE (3) 8" TIE STRAPS (K) FROM THE FILL VALVE KIT



740) BUNDLE THE MULTIVALVE WIRE HARNESS LEADS TOGETHER AND SECURE WITH THE TIE STRAPS AS SHOWN

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
K	150000	3	TIE STRAP 8"			
				PROCESS NAME: ROUSH INTERNAL MECHANICAL FILL VALVE INSTALLATION		REV: C
				PROCESS NUMBER: P13R-9230-AC		PAGE: 22 OF 29

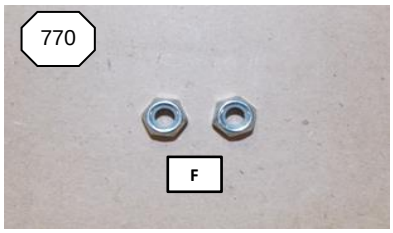




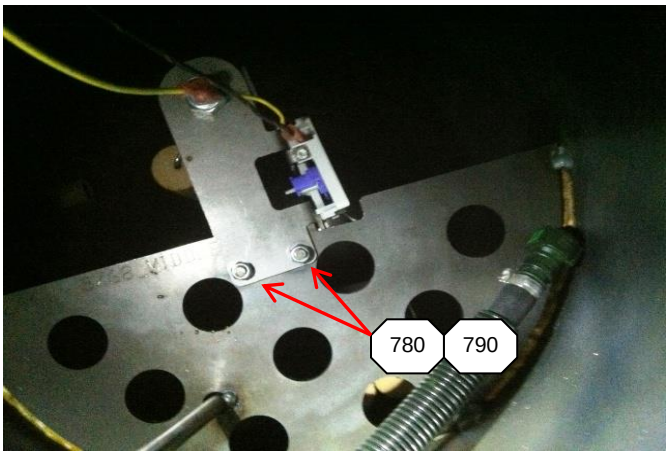
750) CAREFULLY INSERT THE SENDING UNIT FLOATS INTO THE MULTIVALVE OPENING FOLLOWED BY THE SENDING UNIT ASSY AS SHOWN

760) ROTATE THE SENDING UNIT BRACKET AND INSERT THE MECHANICAL FILL VALVE (NOZZLE END FIRST) FOLLOWED BY THE FILL VALVE FLOAT INTO THE MULTIVALVE OPENING AS SHOWN

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS



770) OBTAIN THE (2) M6 x 1.0 NYLOCK NUTS (F) FROM THE FILL VALVE KIT



780) FROM INSIDE THE FUEL TANK, POSITION THE SENDING UNIT FLOAT ARM AND MECHANICAL FILL VALVE FLOAT ARM TOWARD THE CENTER OF THE FUEL TANK

ALIGN AND SEAT THE SENDING UNIT BRACKET ONTO THE (2) STUDS ATTACHED TO THE BAFFLE OF THE FUEL TANK AS SHOWN

790) HANDSTART THE (2) M6 x 1.0 NYLOCK NUTS ONTO THE STUDS; USING A 10mm SOCKET AND WRENCH, FULLY TIGHTEN THE NYLOCK NUTS TO SECURE THE SENDING UNIT BRACKET TO THE BAFFLE

ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
F	810001	2	NUT - M6 x 1.0 NYLOCK			10mm SOCKET & WRENCH

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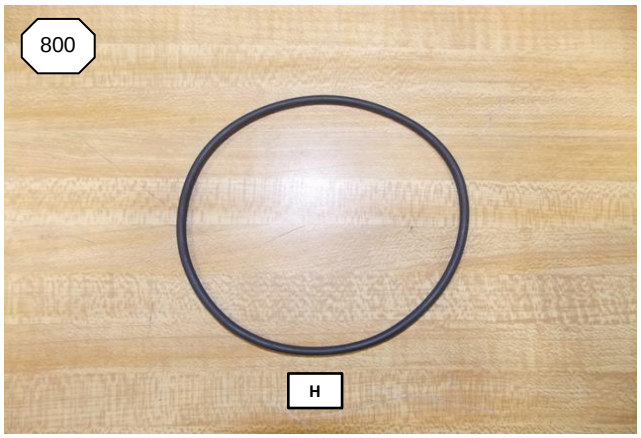
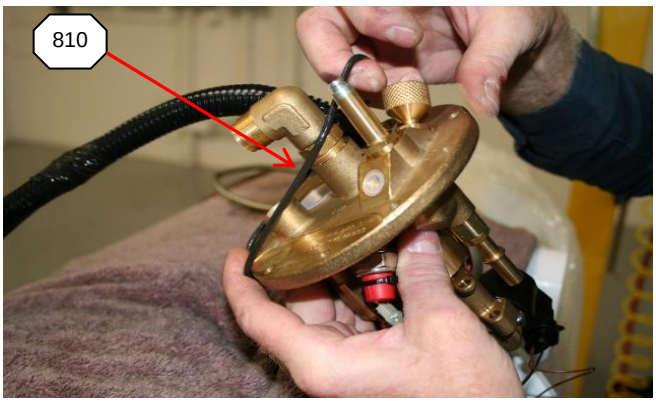


800) OBTAIN THE MULTIVALVE O-RING (H) FROM THE FILL VALVE KIT

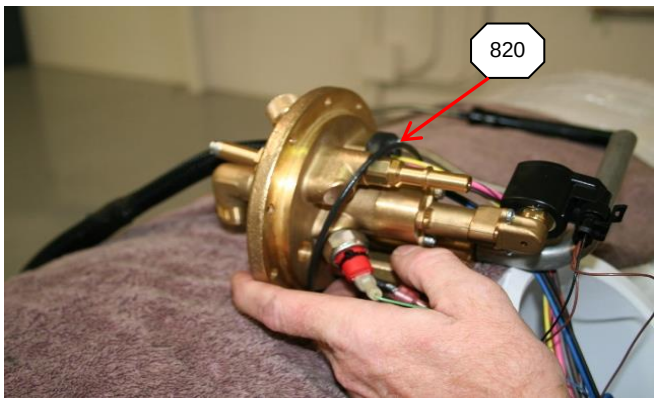
810) CAREFULLY INSTALL THE O-RING OVER THE TOP SIDE OF THE MULTIVALVE AS SHOWN

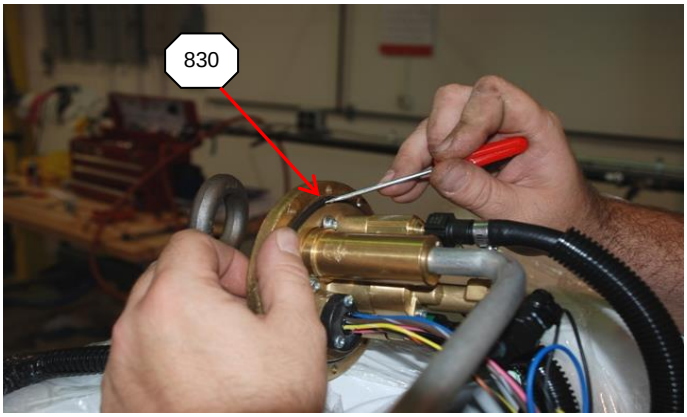


820) POSITION THE O-RING TO THE UNDERSIDE OF THE MULTIVALVE

FULLY LUBRICATE O-RING WITH ROCOL LUBRICANT

830) USING A FLAT TIP SCREWDRIVER, CAREFULLY ALIGN AND SEAT THE O-RING ONTO THE MULTIVALVE FLANGE AS SHOWN
(DO NOT ROLL THE O-RING ONTO THE MULTIVALVE AS DAMAGE TO THE O-RING MAY OCCUR)





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
H	90007201	1	O-RING - MULTIVALVE			FLAT TIP SCREWDRIVER
						ROCOL LUBRICANT

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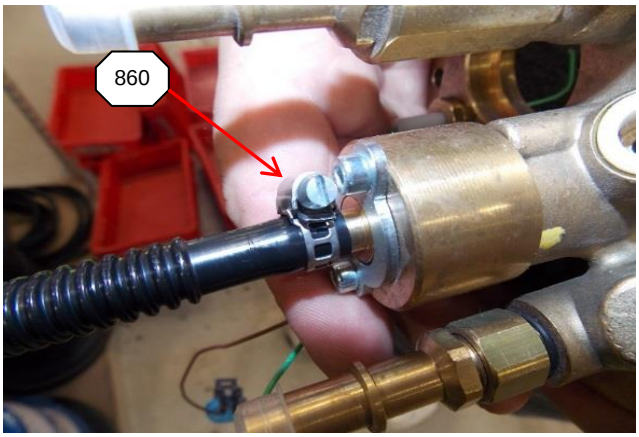
840) PLACE THE MULTIVALVE IN CLOSE PROXIMITY TO THE MULTIVALVE COLLAR ON THE TANK

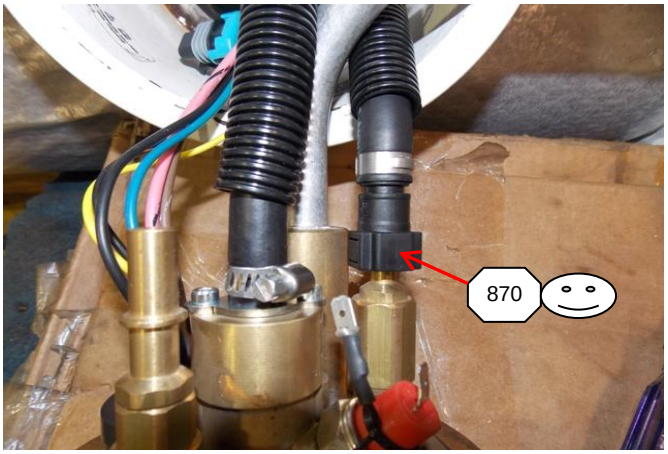
850) FROM INSIDE THE TANK, LOCATE AND GRASP THE CORRUGATE HOSE ATTACHED TO THE MECHANICAL FILL VALVE; FULLY INSERT (1) HOSE CLAMP (E) ONTO THE END OF THE CORRUGATE HOSE AS SHOWN

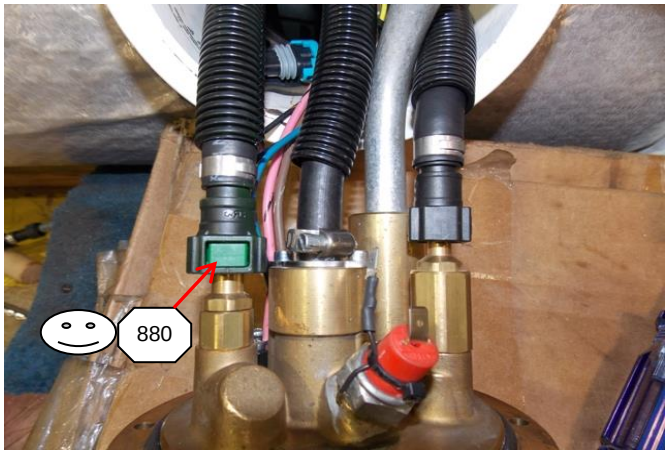
860) FULLY INSERT THE CORRUGATE HOSE ONTO THE FILL VALVE NOZZLE ON THE MULTIVALVE; POSITION THE HOSE CLAMP BETWEEN THE BARB ON THE NOZZLE & THE NOZZLE RETAINER; FULLY SECURE CLAMP IN PLACE



870) FROM INSIDE THE TANK, LOCATE AND GRASP THE RETURN HOSE WITH THE 'BLACK' BUTTON ON THE CONNECTOR; ALIGN AND SEAT THE CONNECTOR ONTO THE SMALLER DIAMETER NOZZLE ON THE MULTIVALVE
(PUSH / PULL CONNECTOR TO VERIFY FULLY SEATED ONTO NOZZLE)

880) FROM INSIDE THE TANK, LOCATE AND GRASP THE SUPPLY HOSE WITH THE 'GREEN' BUTTON ON THE CONNECTOR; ALIGN AND SEAT THE CONNECTOR ONTO THE LARGER DIAMETER NOZZLE ON THE MULTIVALVE
(PUSH / PULL CONNECTOR TO VERIFY FULLY SEATED ONTO NOZZLE)





ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
E	20003708	1	HOSE CLAMP - 10-16			

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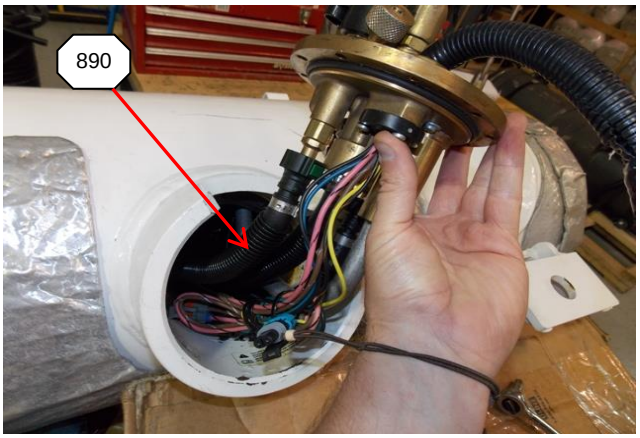
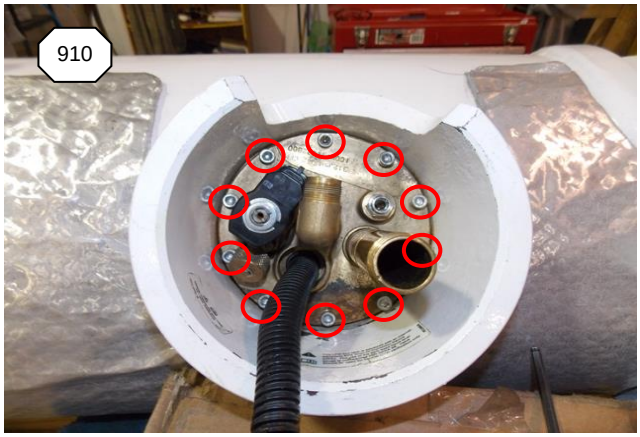


890) CAREFULLY INSERT THE MULTIVALVE ASSY INTO THE MULTIVALVE OPENING ON THE TANK

900) CAREFULLY SEAT THE MULTIVALVE TO THE TANK FLANGE (MAKE SURE THAT NO WIRE HARNESS LEADS GET TRAPPED BETWEEN THE MULTIVALVE AND FLANGE)

ALIGN THE HOLES IN THE MULTIVALVE TO THE ATTACHMENT HOLES IN THE FLANGE



910) OBTAIN THE (10) MULTIVALVE SOCKET HEAD SCREWS THAT WERE REMOVED IN STEP #10 AND INSERT SCREWS INTO THE (10) ATTACHMENT HOLES IN THE MULTIVALVE AS SHOWN

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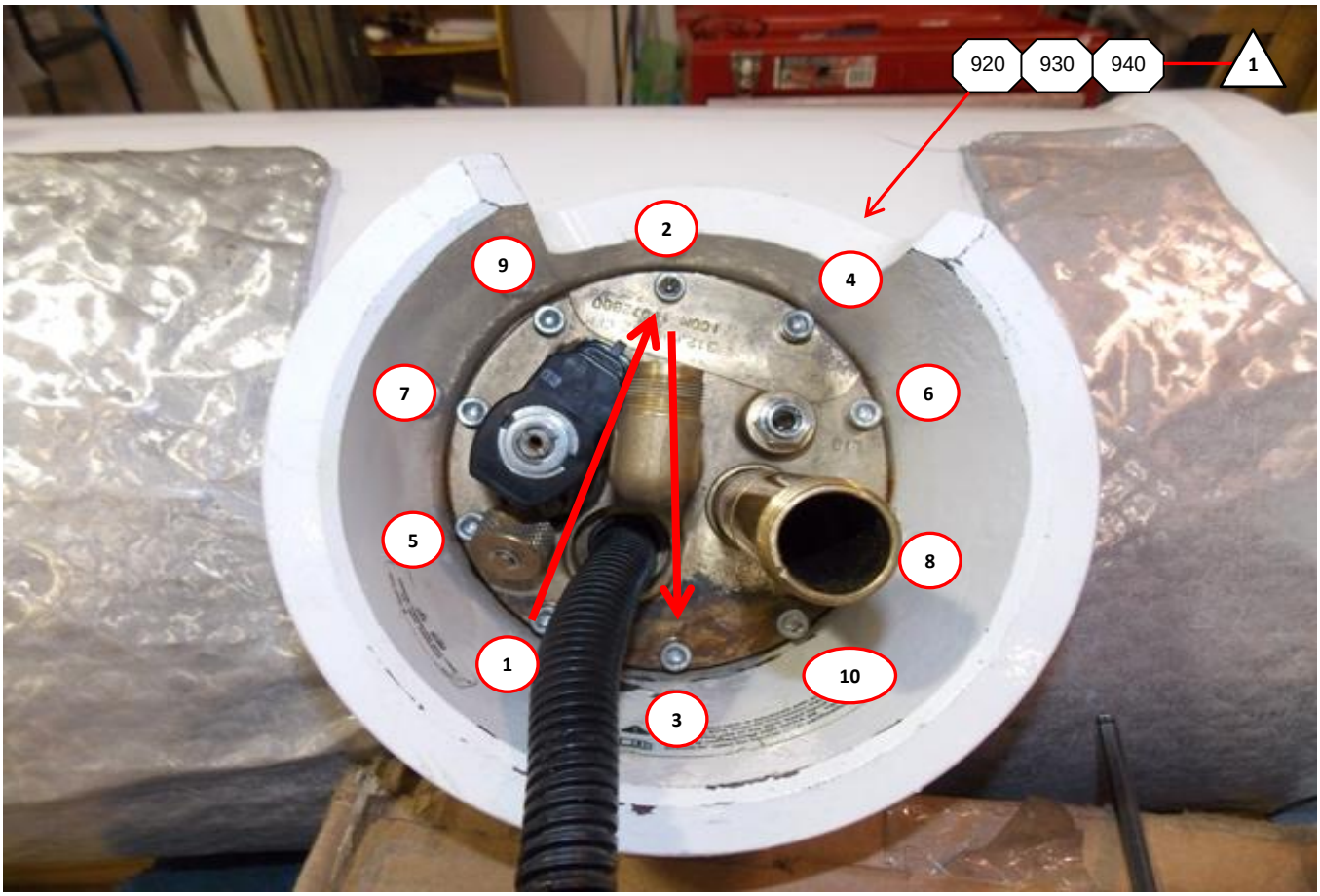
920) HANDSTART (10) SCREWS DIAMETRICALLY INTO THE MULTIVALVE USING A 5mm HEX T-HANDLE

930) USING A TORQUE WRENCH WITH A 5mm HEX SOCKET, TORQUE THE (10) SCREWS DIAMETRICALLY TO 5.5 Nm +/- .25

940) RE-TORQUE THE (10) SCREWS DIAMETRICALLY TO 5.5 Nm +/- .25



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
				1	5.5Nm +/- .25	5mm HEX T-HANDLE
						5mm HEX SOCKET
						TORQUE WRENCH

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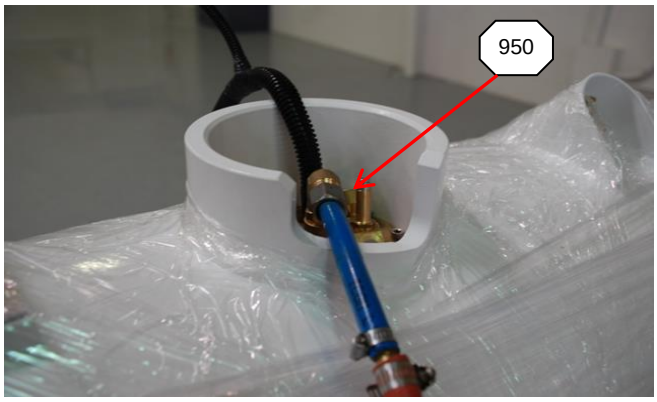
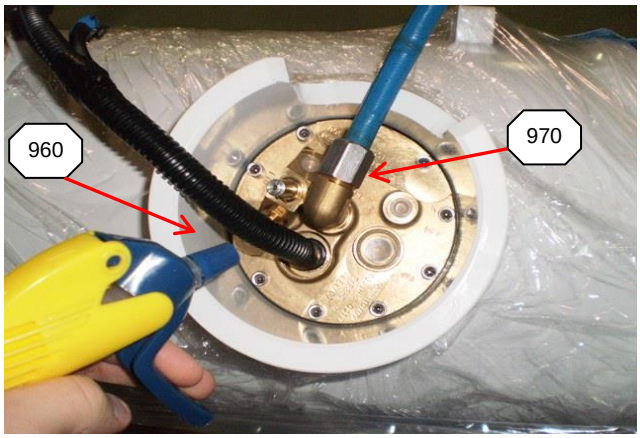


950) ATTACH AIR HOSE TO FUEL FILLER NECK ON MULTIVALVE; TURN ON AIR AND PRESSURIZE FUEL TANK TO 6 Bar (88 psi)

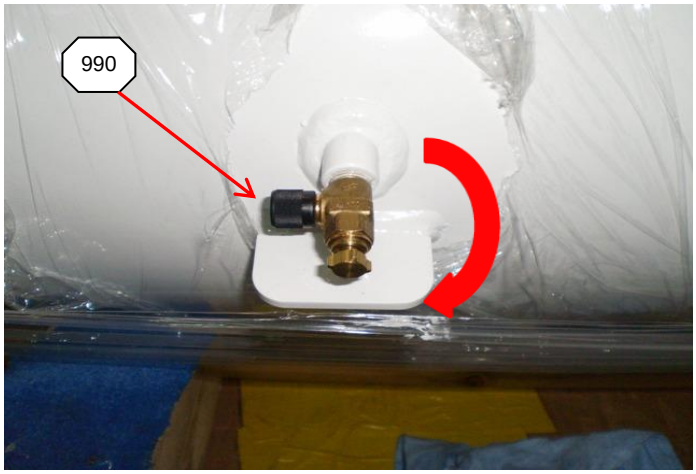
960) WHILE FUEL TANK IS PRESSURIZED, APPLY LEAK DETECTION SOLUTION AROUND THE MULTIVALVE AND VERIFY NO LEAKS ARE PRESENT



970) DISCONNECT AIR HOSE FROM FUEL FILLER NECK ON MULTIVALVE

980) REMOVE BLEEDER CAP FROM BLEEDER VALVE; OPEN BLEEDER VALVE TO RELEASE AIR PRESSURE

990) AFTER ALL AIR PRESSURE HAS BEEN RELEASED FROM THE TANK, CLOSE BLEEDER VALVE; RE-INSTALL BLEEDER CAP



ITEM	PART NUMBER	QTY	DESCRIPTION	TORQUE		TOOLS
						LEAK DETECTION SOLUTION
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